



FEU ROOSEVELT
J.P. Rizal St., Lamuan, Marikina City
Tel No: +632 8941-4093

**DEVELOPING AN INTERACTIVE PLATFORM FOR PROMOTING LOCAL
TOURISM AND ENHANCING VISITOR EXPERIENCE IN MARIKINA CITY**

A Capstone Project
presented to the Faculty of the
Information Technology

In Partial Fulfillment of the
Requirements for the Degree of
Bachelor of Science in Information Technology

Proponents
Carbon, Myla Janna
Esclares, Euriel
Muñoz, Lyeonnie
Pelegrin, Charity
Pelegrin, Lovely

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APPROVAL SHEET

This Capstone Project entitled “*Developing an Interactive Platform for Promoting Local Tourism and Enhancing Visitor Experience in Marikina City*” was prepared and submitted by:

Carbon, Myla Janna Q.

Proponent Member 1

Esclares, Euriel A.

Proponent Member 2

Muñoz, Lyeonnie Aquisha G.

Proponent Member 3

Pelegrin, Charity F.

Proponent Member 4

Pelegrin, Lovely F.

Proponent Member 5

has been approved by the REVIEW COMMITTEE as a partial fulfillment of the requirements for the subject Capstone Project 1.

Julito Velasco

Capstone Adviser

REVIEW COMMITTEE

Rodel John Dawal

Panelist Chair

Accepted and approved by:

Sarah Andrea Viana

Program Head

Faculty of Information Technology and Multimedia Arts

Dr. Victor Tabuzo

College Dean

FEU Roosevelt

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ABSTRACT

Developing an Interactive Platform for Promoting Local Tourism and Enhancing Visitor Experience in Marikina City addresses the need for digital transformation in local tourism management. This study responds to the challenges faced by Marikina City's current tourism promotion methods, which rely heavily on manual, fragmented systems that limit accessibility and user engagement. The research questions focus on how an interactive mobile application can centralize tourism information, improve navigation, support tour bookings, and enhance visitor satisfaction.

The study utilized a descriptive quantitative research design, employing surveys with a 5-point Likert scale to gather feedback from tourists, local residents, business owners, and administrators regarding the app's usability and effectiveness. System-generated data complemented this primary data collection. The population consisted of diverse stakeholders engaged with Marikina's tourism sector, with data collected through purposive sampling of app users and related local stakeholders.

Data analysis involved quantitative evaluation of survey responses and interpretation of usage statistics from the app's backend, focusing on functional suitability, performance efficiency, user interaction, and security aspects. Statistical treatment followed the ISO/IEC 25010 software quality model to assess key software attributes.

Findings indicate that the developed platform successfully consolidates information on local attractions and businesses, offers interactive mapping and booking features, and encourages user-generated reviews, thereby enriching the visitor experience. The application supports sustainable tourism promotion by improving accessibility, facilitating trip planning, and increasing exposure for local enterprises. The project deliverable, an interactive mobile app with secure authentication, CMS for content management, and analytics dashboards, demonstrates practical implications for enhancing local tourism through digital innovation in Marikina City. The platform's user-centered design and agile development methodology underscore its adaptability and potential for future scalability.

TABLE OF CONTENTS

Chapter I. The Problem and Its Background	Page Number
1.0 Introduction.....	1
1.1 Project Context.....	2
1.2 Statement of the Problem.....	3
1.3 Objective of the Study.....	3
1.3.1 General Objective of the Study.....	3
1.3.2 Specific Objectives of the Study.....	4
1.4 Scope and Delimitation of the Study.....	5
1.3.1 Scope.....	5
1.3.2 Limitation	5
1.5 Significance of the Study.....	6
Chapter II. Review of Related Literature and Studies	
2.1 Theoretical Background.....	8
2.2 Review of Related Literature and Studies.....	10
2.3 Technical Background.....	15
2.3.1 Conceptual Framework.....	15
2.4 Definition of Terms.....	16
Chapter III. Research Design and Methodology	
3.1 Research Design.....	17
3.1.1 Software Development Life Cycle.....	18
3.1.2 Software Architecture.....	21
3.1.3 Data Flow Diagram.....	23
3.1.4 System Flowchart.....	27
3.1.5 Entity Relationship Diagram.....	29

3.1.6 Use Case Diagram.....	31
3.1.7 System Screenshots.....	36
3.2 Statistical Treatment of Data.....	47
3.2.1 Data Gathering Technique.....	47
3.2.2 Setting of the Study.....	48
3.2.3 Subject of the Study.....	49
3.2.4 Sampling Technique.....	49
3.2.5 Statistical Treatment of Data.....	50

Chapter IV. Presentation of Data Analysis and Interpretation

4.1 Evaluation Procedure.....	52
4.2 System Test Plan.....	53
4.3 Statistical Analysis.....	62
4.3.1 Respondents Profile.....	62
4.3.2 Questionnaire Results.....	64
4.4 Statistical Result Interpretation.....	83

Chapter V. Summary of Findings, Conclusion, and Recommendation

5.1 Summary.....	87
5.2 Conclusion.....	88
5.3 Recommendations.....	89

Appendices

Appendix A: References

Appendix B: Source Codes

Appendix C: Informed Consent

Appendix D: Accomplished Survey Form

Appendix E: Curriculum Vitae

LIST OF FIGURES

Figure

Figure 1: Conceptual Framework of the Existing System.....	15
Figure 2: Conceptual Framework of the Proposed System.....	15
Figure 3: Agile Software Development Cycle.....	18
Figure 4: Client-Server Architecture Overview.....	21
Figure 5: Level 0 Data Flow Diagram	23
Figure 6: Level 1 Data Flow Diagram.....	24
Figure 7: Level 2 Data Flow Diagram.....	26
Figure 8: System Flowchart.....	27
Figure 9: ERD of the Booking System.....	29
Figure 10: User Login & Log In Use Case.....	31
Figure 11: View Map and Destinations Use Case.....	31
Figure 12: Browse and Book Tours Use Case.....	32
Figure 13: Update Content and Process Transaction Use Case.....	33
Figure 14: Order Transaction Details Use Case.....	33
Figure 15: Manage Users Use Case.....	34
Figure 16: Log In/Sign in and Sign Up.....	36
Figure 17: Home Page.....	37
Figure 18: Explore Page (Selected Destinations & Tour Packages).....	38
Figure 19: Explore Page (Description, Reviews & Location).....	37
Figure 20: Mapping System.....	40
Figure 21: Booking Page (Guest & Data Selection).....	41
Figure 22: Profile Page (Account Details).....	41
Figure 23: Admin Login Page.....	44
Figure 24: Admin Dashboard (Users Panel).....	45
Figure 25: Admin Dashboard (Bookings Panel).....	45

Figure 26: Admin Dashboard (Analytics Panel).....	46
Figure 27: Admin Dashboard (Add Admin).....	47
Figure 28: Stratified Sampling.....	49

LIST OF TABLES

Table

Conceptual Framework of the Existing System.....	15
Conceptual Framework of the Proposed System.....	15
Client-Server Architecture Overview.....	21
Level 0 Data Flow Diagram.....	23
Level 1 Data Flow Diagram.....	24
Level 2 Data Flow Diagram.....	26
System Flowchart.....	27
ERD of the Booking System.....	29
User Login & Log In Use Case.....	31
View Map and Destinations Use Case.....	31
Browse and Book Tours Use Case.....	32
Update Content and Process Transaction Use Case.....	33
Order Transaction Details Use Case.....	33
Manage Users Use Case.....	34
Table 1: Scale and Interpretation.....	51
Table 2: ISO/IEC 25010 standards.....	52
Table 3: Process of Making An Account.....	53
Table 4: Process of the Homepage and Connections of Exploration.....	54
Table 5: Explore Page (Destination/Tour Packages/Filter & Sorting).....	55
Table 6: Process of the Mapping System and Locations.....	56
Table 7: Process of Booking System and Selecting.....	57

Table 8: Input and Output of User Profile.....	58
Table 9: Process and Usage of the Admin Dashboard.....	59
Table 10: Respondents Gender Identity.....	62
Table 11: Respondents Age.....	63
Table 12: Frequency and Percentage Distribution of the Respondents.....	63
Table 13: Theoretical Data for Frequency and Percentage Distribution of the Respondents... 64	64
Table 14: Ranking.....	64
Table 15: Tourist Response in Functional Suitability.....	65
Table 16: Local Response in Functional Suitability.....	66
Table 17: Tourist Response in Performance Efficiency.....	67
Table 18: Local Response in Performance Efficiency.....	68
Table 19: Tourist Response in Compatibility.....	69
Table 20: Local Response in Compatibility.....	70
Table 21: Tourist Response in Interaction Capability.....	71
Table 22: Local Response in Interaction Capability.....	72
Table 23: Tourist Response in Reliability.....	74
Table 24: Local Response in Reliability.....	75
Table 25: Tourist Response in Security.....	76
Table 26: Local Response in Security.....	78
Table 27: Administrator Response in Security.....	80
Table 28: Tourist Response in Maintainability.....	81
Table 29: Local Response in Maintainability.....	82
Table 30: Numerical Rating using Likert Scale.....	83
Table 31: Tourist Result Interpretation.....	83
Table 32: Tourist Theoretical Result Interpretation.....	84
Table 33: Local Result Interpretation.....	85
Table 34: Local Theoretical Result Interpretation.....	86

CHAPTER I

INTRODUCTION

1.0 Introduction

The tourism industry has evolved significantly through the advancement of technology and digital platforms. Information Technology (IT) has transformed traditional tourism into smart tourism, where information is accessible instantly, transactions are streamlined, and navigation is efficient. Digital tools such as mobile applications, interactive maps, online booking systems, and real-time reviews have reshaped how tourists plan, explore, and experience their journeys.

However, despite the widespread integration of digital technologies across the tourism sector globally, some local tourism initiatives continue to rely on outdated, manual systems for providing information and services to visitors. This results in fragmented data access, inefficient trip planning, and missed opportunities for improving visitor engagement and local business promotion.

To address this gap, the study proposes the development of an interactive mobile application that utilizes digital technology to enhance the tourism experience in local communities. The project focuses on building a unified, user-friendly platform where tourists and residents can access real-time information, navigate destinations with ease, and efficiently organize their visits. By integrating features such as digital mapping, booking systems, and user-driven content, the project highlights the critical role of IT in revolutionizing tourism management. It aligns with global trends towards smart, data-driven, and user-centered tourism systems, promoting digitalization as a key strategy for strengthening local tourism industries and enhancing overall visitor satisfaction.

1.1 Project Context

Marikina City, known as the "Shoe Capital of the Philippines," is rich with cultural heritage, local businesses, and historical landmarks. However, despite its potential as a vibrant tourist destination, the city still relies heavily on traditional and manual methods for tourism promotion and visitor information. Brochures, physical maps, and word-of-mouth remain the primary means for guiding visitors, which limits accessibility, efficiency, and the ability to meet the expectations of today's digitally inclined travelers.

This creates challenges such as limited exposure of local attractions, fragmented information sources, difficulty in navigating the city, and lost opportunities for economic growth and visitor engagement. The absence of a centralized digital system prevents Marikina from fully capitalizing on its tourism potential.

In response to these challenges, the proposed project introduces an interactive mobile application specifically designed to modernize Marikina's tourism engagement.

This project operates within the Information and Communication Technology(ICT) sector, specifically in the field of smart tourism. By integrating digital tools such as interactive maps, secure authentication, dynamic content, and booking functionalities, the application modernizes how Marikina manages its tourism activities. The project emphasizes the importance of IT in driving digital transformation, helping local governments shift from manual processes to more efficient, accessible, and data-driven tourism management systems. Ultimately, it supports the city's goal to enhance visitor experience while promoting sustainable economic growth.

Through this project, Marikina City aims to transition from manual, fragmented tourism management to a modernized, ICT-based system that reflects current technological standards and

meets the expectations of today's digital tourists. It emphasizes how Information Technology plays a vital role in shaping efficient, accessible, and sustainable tourism ecosystems.

1.2 Statement of the Problem

The local government of Marikina City is currently facing challenges in promoting its local tourism sector, particularly in the proper dissemination and organization of information regarding attractions, events, and establishments. The lack of a centralized and interactive platform makes it difficult for both tourists and residents to access updated and reliable tourism-related data. As a result, many potential visitors remain unaware of the city's wide range of cultural, historical and recreational destinations. This limited accessibility and coordination hinder the city's ability to fully highlight its local identity, which plays a vital role in encouraging community participation and supporting economic growth.

Furthermore, the existing methods of tourism promotion such as printed brochures, posters, and social media posts are not sufficient to meet the growing demand for digital innovation in tourism management. These traditional strategies often fail to provide real-time updates or interactive features that can enhance visitor experience. Therefore, there is a need to develop an interactive and user-friendly digital platform that can centralize tourism information, support navigation, and promote user engagement. Through this initiative, the local government can strengthen its tourism efforts, attract more visitors, and improve the overall accessibility and visibility of Marikina City's attractions.

1.3 Objective of the Study

1.3.1 General Objective

The primary aim of *Developing an Interactive Platform for Promoting Local Tourism and Enhancing Visitor Experience in Marikina City* is to enhance sightseeing and visitor engagement in Marikina by creating an interactive application. This application will showcase

various areas and locations in Marikina, categorized into restaurants, hotels, museums, shops, and other points of interest.

The platform will include a map for users, sightseers, or visitors that allows them to navigate to specific places they want to visit. Users can select a location they wish to explore, and the platform will provide detailed descriptions of the area, along with pictures, ratings, and comments from other users to gather insights and opinions about each location.

To make visits to Marikina more engaging, the platform will feature a different kinds of tour packages, allowing guests to choose the date, number of participants, and type of tour they want to go through.

1.3.2 Specific Objectives of the Study

- To compile and categorize a comprehensive list of attractions in Marikina. Developing and integrating an interactive mapping system that enables visitors to navigate these specific locations, such as restaurants, hotels, museums, shops, and other points of interest.
- To facilitate user-generated reviews and feedback in order to enhance the visitor experience and continuously improve the platform, by analyzing destination and booking reports that highlight the most viewed destinations and most selected packages.
- To collect user feedback and activity reports from registered users after booking tours, in order to monitor user satisfaction, identify system improvements, and guide updates to enhance the functionality of the application and promote a better tourism environment in Marikina.
- To implement a user registration and login system that restricts access to the booking feature to registered users only, enabling them to reserve tours, select preferred dates, and organize their plans efficiently, thereby enhancing the overall user experience.

- To promote Marikina's recognition as a leading tourist destination through effective marketing and user engagement strategies.

1.4 Scope and Delimitation of the Study

1.4.1 Scope

The study will focus on the development of an interactive mobile application designed to promote local tourism and enhance visitor engagement in Marikina City. The application will feature a mapping system with GPS tracking, a booking system, and user-generated reviews, serving as a user-friendly platform where individuals can explore and locate various attractions and establishments such as restaurants, hotels, museum, stores, and other points of interest. It will also provide detailed descriptions, historical backgrounds, images, ratings, and comments for each location to help users gain valuable insights about different destinations. By centralizing information about Marikina's tourist spots and local businesses, the system aims to make navigation and trip planning more convenient for both residents and visitors. Ultimately, the project seeks to improve sightseeing experiences and strengthen the city's tourism visibility and engagement efforts.

The application will also provide descriptions, historical backgrounds, images, ratings, and comments for each place to help users gain insights about different locations. The system will be tested to ensure its usability. The main goal of the project is to improve sightseeing and visitor engagement by making it easier for users to navigate and explore Marikina's tourist spots.

1.4.2 Limitation

This study is limited to the development and implementation of the mobile application within Marikina City. It will not cover attractions outside the city or include advanced features beyond the mapping and booking system provided. Moreover, the application does not include

any built-in online payment features. All payment transactions and booking confirmation will be managed by the Marikina City local government. The system does not support 360-degree panoramic or virtual reality views of tourist spots. Multimedia content is limited to static images, text descriptions, and videos.

The researchers' study focuses on the development and implementation of the system within the project timeline. Future maintenance, updates and funding of the application will be under the responsibility of the concerned local government offices or authorized administrator. It will also not measure the exact increase in tourism revenue, but will focus only on user engagement and the effectiveness of the application in promoting Marikina. The study is also limited by time constraints, the number of users for testing, and the availability of complete historical data for some locations.

1.5 Significance of the Study

The study is significant as it aims to enhance tourism in Marikina through the development of a mobile application that provides users with accessible and reliable information. The system will serve as a centralized platform that allows users to easily navigate destinations, check operating hours, and find nearby restaurants, shops, and accommodations.

The study also benefits local entrepreneurs by increasing their visibility to potential customers, encouraging business growth and community engagement. It supports the local government in promoting Marikina's culture, heritage, and tourism initiatives in a more modern and user-friendly manner which can contribute to the growth of Marikina's tourism sector and local economy.

TOURIST

The application will be a helpful guide, making it easier for them to find attractions, events, and places to visit. It will also provide directions and recommendations to improve their experience.

LOCAL BUSINESS

The application can help them reach more customers by promoting their products and services. Restaurants, shops, and other businesses can gain more visitors and boost their sales.

LOCAL GOVERNMENT AND TOURISM OFFICES

The application will be a useful tool to promote Marikina as a travel destination. It can also help improve the use of technology in promoting local attractions.

FUTURE RESEARCHERS AND DEVELOPERS

This study can serve as a guide for creating similar tourism applications. It can also help improve the use of technology in promoting local attractions.

CHAPTER II

REVIEW OF RELATED LITERATURE AND STUDIES

This chapter indicates the ideas and concepts relevant to the present subject relating to the other studies and is discussed to provide the foundation of the proposed study. In order to find the correct method and procedures, careful review of literature and studies must be done for the development of the study.

2.1 Theoretical Background

The theoretical foundation of this study is built on major theories from a variety of fields, including tourist studies, adoption of technology, user engagement, and digital interaction. These theories aim to give insights into the experiences of local tourists and visitors to Marikina City, therefore proposing a framework for developing an interactive mobile platform for the city's tourism industry. This study's key theories include the Place Attachment Theory, Social Exchange Theory, and Location-Based Theory, all of which are especially important to the development of the proposed mobile application.

Place Attachment Theory emphasizes the emotional bonds that people create with locations as a result of their experiences. The use of historical content, descriptions, photos, and multimedia within the app, as highlighted by Cheng et al. (2023), demonstrates that social media platforms and digital tools provide more time- and cost-effective ways to engage diverse audiences, including marginalized groups, thereby helping users form stronger emotional connections with cultural heritage sites like those in Marikina. The app's design can inspire visitors to create long-lasting memories of the city by delivering rich, engaging knowledge about its history, culture, and significance.

This theory is equally relevant to how social media and user-generated content influence connection to places. According to Li (2020), tourists are motivated to share photos and experiences on social media due to factors such as status, recognition, information exchange, popularity, and

enjoyment. Such social interactions on digital platforms help build a community that fosters stronger emotional links with Marikina, supporting the idea that user-generated content enhances place attachment.

Social Exchange Theory highlights the value of shared experiences and social relationships in tourism. The suggested applications allow user-generated evaluations, ratings, and the sharing of travel experiences, which is closely related to social exchange in tourism. Tourists who submit comments on their experiences affect how other users view various attractions in Marikina. This sharing of information improves the entire visitor experience by encouraging and developing a community around Marikina's attractions.

Lin, Z., and Rasoolimanesh, S. discuss the effect of social media on travel decisions (2023). Demonstrates that sharing historical tourism experiences is critical for raising awareness and creating positive publicity about locations. Introducing these features into the Marikina tourism app can help the city's status as a thriving tourist destination.

Location-Based Services (LBS) Theory focuses on improving the user experience by using real-time, context-specific information. In this study, such services are critical to developing Marikina City's mobile application. By providing travelers with quick access to data on attractions, the platform enables them to make decisions based on their present location. This dynamic, location-aware information improves the travel experience by allowing users to explore more effectively and efficiently.

Furthermore, location-based technology helps to promote more sustainable travel choices by emphasizing and primarily focusing on solutions. Gosela, R.R. U, and Encarnacion, R.E. (2024) to create a consistent booking and reservation system that promotes tourist networks in the proposed software, the platform encourages tourists, which benefits both visitors and the Marikina neighborhood.

2.2 Review of Related Literature and Studies

Social Media Trends and Their Effect on Tourism Applications

The growing use of social media has significantly influenced how tourists share their experiences. According to Li (2020), tourists are motivated to share photos on social media due to factors such as status, recognition, information exchange, popularity, and enjoyment. However, there remains limited research on how an individual's subjective well-being affects their likelihood of sharing tourism experiences online.

Additionally, Lin and Rasoolimanesh (2022) discussed the factors influencing individuals' participation in the sharing economy, particularly in Malaysia. Their study identified key determinants such as perceived economic benefits, social influence, and trust in platforms. These findings highlight the opportunity for influencers and tourists to promote destinations like Marikina City by engaging in sharing-based activities. Social media also serves as an efficient and inclusive platform for gathering tourism data. Cheng et al. (2023) emphasized that social media platforms are more time and cost-effective compared to traditional survey methods, allowing for broader participation, including marginalized groups. Furthermore, Qu, Wang, Zhang, and Wang (2022) pointed out that while short video platforms are becoming popular, their study focuses on the importance of photo-sharing, which remains a relevant strategy for tourism applications like the proposed project.

The Role of Mobile Applications in Enhancing Tourism

Mobile applications play an increasingly important role in enhancing tourism experiences. Gosela and Encarnacion (2024) noted that mobile apps can educate and entertain tourists by providing information about landmarks and cultural heritage. Their study highlights various innovations that can be integrated into tourism applications to improve user engagement, such as interactive features and location-based services. While augmented reality (AR) is one potential feature, the overall focus remains on creating mobile apps that offer informative, engaging, and user-friendly experiences for tourists.

The development process of tourism mobile applications must also consider user needs such as pricing, availability, and security. As discussed by Gosela and Encarnacion (2025), a structured approach during the preparation and maintenance phases ensures that apps remain efficient, reliable, and updated according to user feedback and new technologies. Moreover, understanding tourist experiences is crucial; Inmor, Na-Nan, Phanniphong, Jaturat, and Hirnšal (2025) emphasized that flow experience, emotional involvement, and satisfaction significantly influence how tourists judge the quality and value of their trips.

Mapping, Navigation, and Smart Tourism Technologies

Navigation and mapping are essential features of mobile tourism applications. Bashir et al. (2024) emphasized how digitalization, especially through mobile apps and information communication technology (ICT), has enhanced tour management and planning in Pakistan. Their findings showed that features like interactive maps and real-time information contribute to a more satisfying and sustainable tourism experience. Similarly, Ke and Wu (2020) developed an intelligent tourism service platform designed to lower advertising costs and improve the speed and efficiency of tourism information sharing. To ensure sustainable development, Jokar et al. (2020, 2021) stressed the importance of using Geographic Information Systems (GIS) as decision-making tools for land suitability and structured tourism development. Hamouda (2022) further noted that embracing technology within the tourism sector can stimulate economic growth by fostering viable businesses and supporting equitable spatial development.

Booking Systems and Sustainability in Tourism

The integration of sustainability into booking systems is another crucial aspect of modern tourism. Raggi et al. (2018) and Arzoumanidis et al. (2018, 2020) proposed the use of life cycle-based sustainability indicators within online platforms, enabling users to make environmentally responsible choices. The proposed project aligns with this approach by including a booking system that promotes sustainable tourism practices. Alshammare et al. (2022) also found a positive relationship between

website quality, customer loyalty, and e-trust. Their findings support the idea that user-friendly digital platforms can enhance customer engagement and support sustainable tourism development.

Firebase as a Backend Service for Tourism Apps

Firebase has emerged as a highly efficient and reliable backend service, making it a strategic choice for the development of modern mobile applications like the Interactive Marikina Tourism App. According to Tyagi et al. (2024), Firebase Authentication plays a critical role in securing web applications through robust user authentication mechanisms, user experience design, and protective permission protocols. These features are essential for applications that handle sensitive user data, such as booking details and personal information, which are integral to the functionality of a tourism platform. Firebase App Check further strengthens this security by ensuring that only verified and trusted app instances can access Firebase resources, thereby minimizing potential abuse from unauthorized clients. Abdalla et al. (2024) also emphasize Firebase's ability to provide a secure, cloud-hosted real-time database, allowing developers to build collaborative applications where data is locally stored for offline use and automatically synced when reconnected to the internet. This ensures that user content and feedback are managed efficiently and securely. While Firebase Cloud Messaging is known for enabling real-time communication, Singh et al. (2024) highlight that Firebase offers much more, including real-time data synchronization, feedback handling, and personalized content management. Its broad support for platforms such as Android, iOS, and web technologies makes it a flexible and scalable solution. By utilizing Firebase's robust ecosystem, the Marikina Tourism App can offer users a secure, dynamic, and engaging experience across various devices and connectivity conditions.

Tourism Marketing Strategies and Smart Tourism

A well-planned marketing strategy is crucial for promoting tourist destinations. Susanto et al. (2022) illustrated the success of marketing strategies in boosting tourism at Lokawisata Baturraden, emphasizing that clear, targeted promotions can significantly grow natural tourism sectors. Sustainable tourism practices also involve promoting alternative local products. According to Fusté-Forné and

Jamal (2020), creative tourist strategies can support local economies while ensuring resource efficiency and sustainability. Jauhari, Mufarroha, and Rofi (2020) discussed the concept of smart tourism, which focuses on optimizing resources, enhancing visitor experiences, and utilizing data to drive innovative business models in tourism.

Impact of Mapping Technologies on Tourism

Mapping technologies continue to play an essential role in tourism. Khalil and Kobra (2021), along with Any et al. (2024), found that the adoption of mapping systems enhances access to tourism information and improves service delivery, making tourism experiences more efficient and user-centered.

Frameworks for UX Design in Digital Tourism Systems

According to Khandelwal and Chaudhary (2023), color psychology plays a significant role in shaping user perception, behavior, and satisfaction within UI/UX design. Their study indicates that warm colors, such as red and yellow, can evoke urgency and excitement, whereas cool colors, such as blue and green, promote feelings of calmness and trust qualities that are particularly suitable for tourism and navigation applications. In alignment with these principles, the development team also considered the preferences of the client, who ultimately determined the application's color scheme which is the color blue for highlighting the marikina city. This collaborative approach ensured that the selected palette remained user-friendly and that interface elements, including buttons, did not appear visually overwhelming. By integrating theoretical insights with client-directed design choices, the application is able to emphasize key features, such as booking options and highlighted destinations, while maintaining an intuitive and aesthetically cohesive interface. These considerations informed the overall design strategy, ensuring that the platform is both functional and emotionally engaging for tourists and local users.

Integrating Web CMS Platforms for Dynamic Mobile App Content Updates

Lastly, According to L. P. Jie, R. Ramelan, R. Hassan (2020), a Content Management System (CMS) is defined as a web-base program that enables administrators to manage and modify digital content through an interactive interface. As applied to the developed mobile application, the CMS feature plays a vital role in maintaining and organizing the platform's content. It allows moderators to manage tour packages, destinations, and user feedback efficiently. This supports various functions such as adding, editing, and deleting tour packages, as well as managing destinations that include categories like hotels, parks, shops, restaurants, culture, museum, and churches. It also provides search and filter functions that help moderators easily organize, locate, and manage tour packages and destinations, ensuring that the information presented to users remains accurate and up to date. Furthermore, the CMS includes a comment moderation feature where administrators can view or delete user-submitted feedback. Each comment displays essential details such as the user's name, User ID, destination reference, and the date and time of posting. The system also allows the modification of profane words and the collective deletion of offensive comments, which allows faster removal of multiple inappropriate entries for faster moderation. These features highlight the role of a CMS in ensuring efficient content management and data accuracy, which contribute to the system's reliability and the overall quality of user experience in digital platforms.

2.3 Technical Background

2.3.1 Conceptual Framework of the Existing System

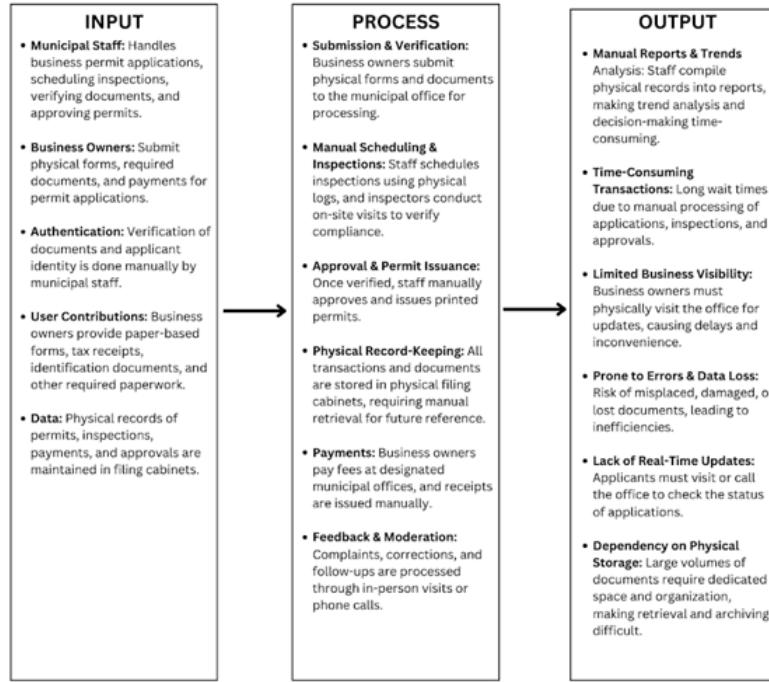


Figure 1: Conceptual Framework of the Existing System

2.3.2 Conceptual Framework of the Proposed System

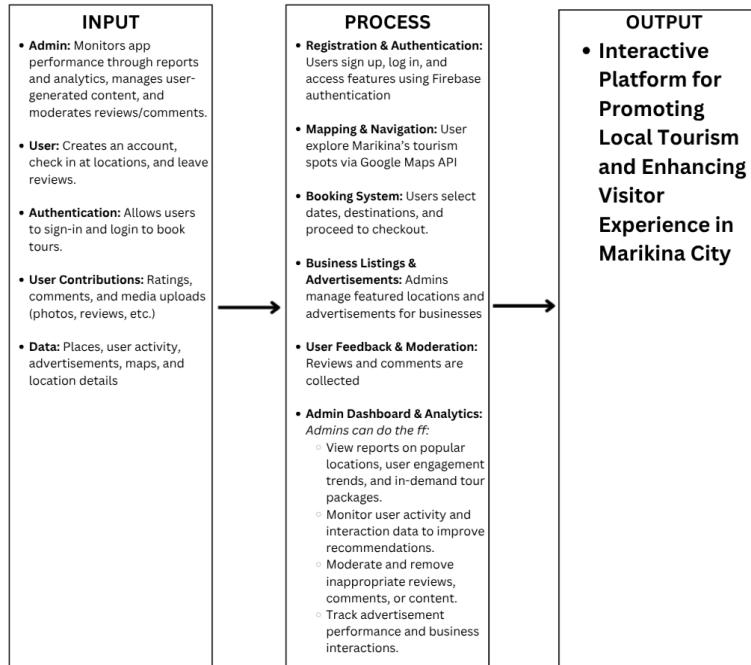


Figure 2: Conceptual Framework of the Proposed System

2.4 Definition of Terms

Account Management – A system that allows users to create, update, and manage their profiles to personalize their experience.

Analytics Dashboard - A visual tool used by administrators to monitor system performance, user activity, and booking statistics.

Business Listings – A directory of restaurants, hotels, museums, stores, and other points of interest in Marikina.

Content Management System (CMS) - A web-based tool that allows administrators to add, edit, and update digital content within the platform.

Data-Driven System - A system that collects and processes data to provide insights and improve user experience.

Navigation System – A system that provides users with directions and detailed information about various locations in Marikina.

Promotion System – A feature that allows local businesses to advertise their services and gain visibility through the platform.

Review and Rating System – A feature that allows users to rate attractions and provide written reviews based on their experiences.

Smart Tourism - The use of technology to enhance the tourism experience by providing interactive and data-driven solutions.

CHAPTER III

RESEARCH DESIGN AND METHODOLOGY

In this chapter, the System and Program flowchart, Data Flow Diagram, Use Case Diagram, Software Architecture, and other project diagrams are indicated. These diagrams are important so that the study is readable to anyone.

3.1 Research Design

This study used a descriptive quantitative research design to help evaluate the tourism mobile application developed for Marikina City. This research aims to collect information and data that can help measure how useful and effective the app is for its users.

The descriptive method is used to gather specific feedback from different groups of users, such as tourists, local residents, business, and administrators. The researchers used survey questionnaires and system-generated data to understand how people interact with the app and how satisfied they are with its features. The feedback of the respondents was measured using a 5-point Likert scale, which assessed different aspects of the system based on the ISO/IEC 25010 software quality model, including functional suitability, performance efficiency, compatibility, interaction capability, reliability, security, maintainability.

Using this research design helped the team identify which parts of the app are working well and which parts need improvement. It also gave the researchers a better understanding of the overall experience of the users. This method provided important information that can help improve the app and make it more helpful for promoting tourism in Marikina.

3.1.1 Software Development Life Cycle

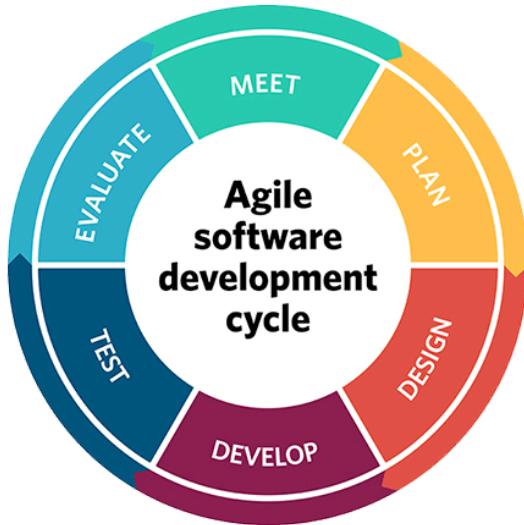


Figure 3: Agile Software Development Cycle

Agile is a better approach to software development that involves every step of the way throughout the project's progress, which emphasizes adjustment, collaboration, and continual improvement for the system. Agile is useful for projects to develop regular updates and ongoing feedback from users, accordingly, to plan out creating an interactive platform for a mapping and booking system.

1. Meet

The meetings between the development team and stakeholders are to discuss project objectives to meet the requirements for the tourism sector. The discussion assists in ensuring that the platform promotes local tourism and visitors align with the requirements of tourists, local businesses, and experience in Marikina City, along with the local government and tourism offices.

2. Plan

The planning phase focuses on common features like signing up or logging in and managing profiles, then essential needs for the tourism app like a homepage for categories, an explore page to

check out recommendations or places to see, including interactive maps, a booking system, browsing the app, and posting reviews.

3. Design

Afterwards, on planning, the team began to design multiple drafts for wireframes and prototypes. The team focuses on designing essential components of the tourism app for browsing capabilities, such as a homepage that categorizes attractions, an explore page to showcase recommendations, including the photos, description, ratings, and comments for the location, and then interactive maps for navigation and a booking system. This step made the design meet what was discussed in the development team's planning, to guarantee that it's a user-friendly interface, easy to use, and accessible.

4. Develop

Development begins with the team building the platform according to the design phase. The platform begins with basic functionalities, allowing users to access and manage profiles, along with interactive maps and a booking system. To browse the app and allow users to begin using the platform while further improvements are made.

5. Test

Testing focused on ensuring the platform's functionality, security, and user experience. Manual functional testing was conducted using Android Studio, verifying key features such as user registration, Google Sign-In, profile management, the homepage, explore page, interactive mapping, booking system, and review features.

Backend operations were tested through the Firebase Console, monitoring real-time updates in Firestore Database and Firebase Authentication behavior. Firebase AppCheck was also integrated and tested to ensure only verified and authorized app instances could interact with Firebase services. In addition, Firestore Security Rules were customized and tested to restrict data access to authenticated users only, preventing unauthorized reads or writes.

For security testing, tools like Burp Suite, HTTPS Toolkit, MITMproxy, and Wireshark were used to intercept network traffic and analyze it for vulnerabilities. To enable deeper dynamic testing, a rooted Genymotion Android emulator was used, allowing tools like Frida to attempt runtime analysis and simulate advanced attacks such as memory manipulation or bypassing security mechanisms. Although some limitations were encountered during dynamic analysis, the use of these tools helped reinforce the security practices implemented during development.

In addition to application-level assessments, network layer verification was conducted to examine hosting security and communication protocols. DNS resolution of the admin dashboard indicated that the application is hosted on Google-managed infrastructure under Firebase Hosting. Port scan analysis confirmed that only the standard web ports were active, with port 80(HTTP) serving as a CDN(Content Delivery Network) cache or proxy and port 443 (HTTPS) providing encrypted communication through Transport Layer Security. Inspection of HTTP response headers revealed the presence of Strict Transport Security and CDN related metadata, while certificate validation confirmed that a valid TLS certificate issued by Google Trust Services was in use. These observations verified that communication between the client and server remains encrypted and that the system is protected by Firebase's secure hosting infrastructure. The network analysis was conducted using passive and non intrusive methods to avoid interference with the operational environment.

Overall, the testing phase ensured that the application was not only functional and user-friendly but also maintained strong security standards.

6. Evaluate

Following testing, the platform was evaluated based on functionality, security, and user experience. Manual testing confirmed that all core functionalities operated smoothly, while backend testing validated that data storage and user authentication worked correctly.

Firebase AppCheck integration was successful in limiting backend access to legitimate instances, and Firestore Security Rules effectively restricted unauthorized operations.

Network analysis through Burp Suite, HTTPS Toolkit, MITMproxy, and Wireshark verified that user credentials and sensitive data were encrypted and not exposed over insecure transmissions.

Although full dynamic runtime attacks using Frida were partially limited due to emulator constraints, the rooted Genymotion environment still provided valuable insights into the app's memory protection and behavior under potential attacks.

The Agile methodology allowed continuous improvements throughout testing cycles, making it possible to address findings immediately and enhance the app's robustness before moving to the final deployment phase. The project ensures the final product is both functional and user-friendly for quicker delivery of basic functionalities, allowing users to begin using the application. Overall, the Agile approach helps the project achieve its goal of developing a dynamic and engaging tourism platform for Marikina City by highlighting flexibility, efficiency, and ongoing improvement.

3.1.2 Software Architecture

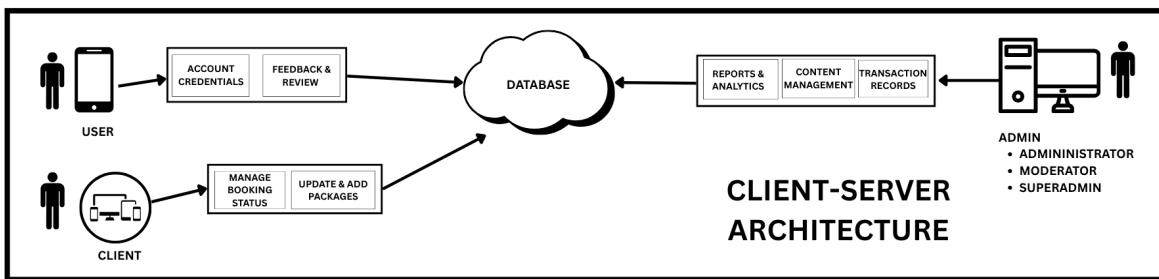


Figure 4: Client-Server Architecture Overview

This study can be implemented using a multi-tier (three-tier) client-server software architecture to create an interactive mobile application that would boost tourism engagement in Marikina. The

three-tier architecture enhances flexibility, scalability, and manageability of the application by dividing the system into three separate layers around the central database.

The multi-tier (three-tier) represents the user interface, which will be used by a variety of stakeholders, including users (visitors), clients (local business owners), and system administrators.

Users (visitors) interact with the application through the presentation layer, which provides the user interface. They can manage their account credentials through essential functions such as signing up or logging in, and updating their profiles. exploring categorized attractions, booking tours, and submitting feedback and reviews. This tier focuses on delivering a seamless and engaging user experience.

Meanwhile, Clients (local business owners) operate primarily within the application or middle tier, where business logic resides. They manage tour packages, update or add booking statuses. This tier processes client requests, enforces business rules, and communicates with the data tier to handle transactions and updates.

Administrator encompasses three distinct roles: Administrator, Moderator, and Superadmin. Administrators are responsible for Users & Analytics Page managing user data, reports, analytics, and transaction records, using a dashboard within the application to monitor system performance and user activity, to ensure the operation is smooth and the system is well-secured.

Moderators handle Booking Page to oversee content management within the system, such as adding, editing, or removing tour packages and destination listings, managing user-submitted comments to foster a respectful environment, and updating filters to prevent offensive language. This aligns from L. P. Jie, R. Ramelan, and R. Hassan (2020) in the RRL, where CMS provides users with full control over modifying website content by a web-based interface. The Superadmin holds

comprehensive authority over the entire dashboard access to all system pages, including the critical Account Management Page for administering user accounts. This role is designed to provide ultimate control, allowing the superadmin to oversee system configurations, content moderation, user management, and security protocols seamlessly. It ensures that all operational workflows are aligned with the platform's standards and client directives, maintaining system integrity and security.

At the core is the data tier, a centralized part of the database that safely stores all of the application's ongoing data, including user profiles, information on attractions, tour packages, booking records, and user-generated reviews. This tier guarantees that the system users can be assured of data availability and integrity according to the database layer's reliable data storage and retrieval services. By using this three-tier design, a strong, scalable, and maintainable system and meeting the functional needs of boosting tourism in Marikina.

3.1.3 Data Flow Diagram

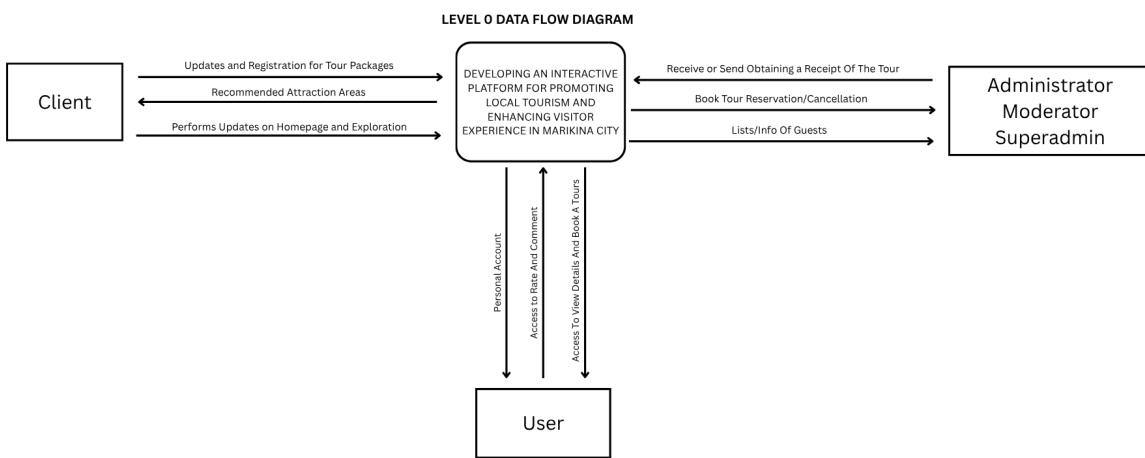


Figure 5: Level 0 Data Flow Diagram

The Level 0 Data Flow Diagram breaks down the system into three entities: Client, Admin, and User. The Client responsible for managing platform deployment and monitoring tour package statuses while Users who interact with the platform and the Admin entity includes three distinct roles: Administrator, Moderator, and Superadmin. Administrators primarily handle user management and analytics, Moderators oversee the content management system (CMS) and booking page

functionalities, while Superadmins have overarching control of the entire dashboard and system settings. This initial diagram helps the researchers brainstorm and understand the overall system before creating the more detailed Level 1 DFD, guiding the researchers in order to move forward with the app's design process.

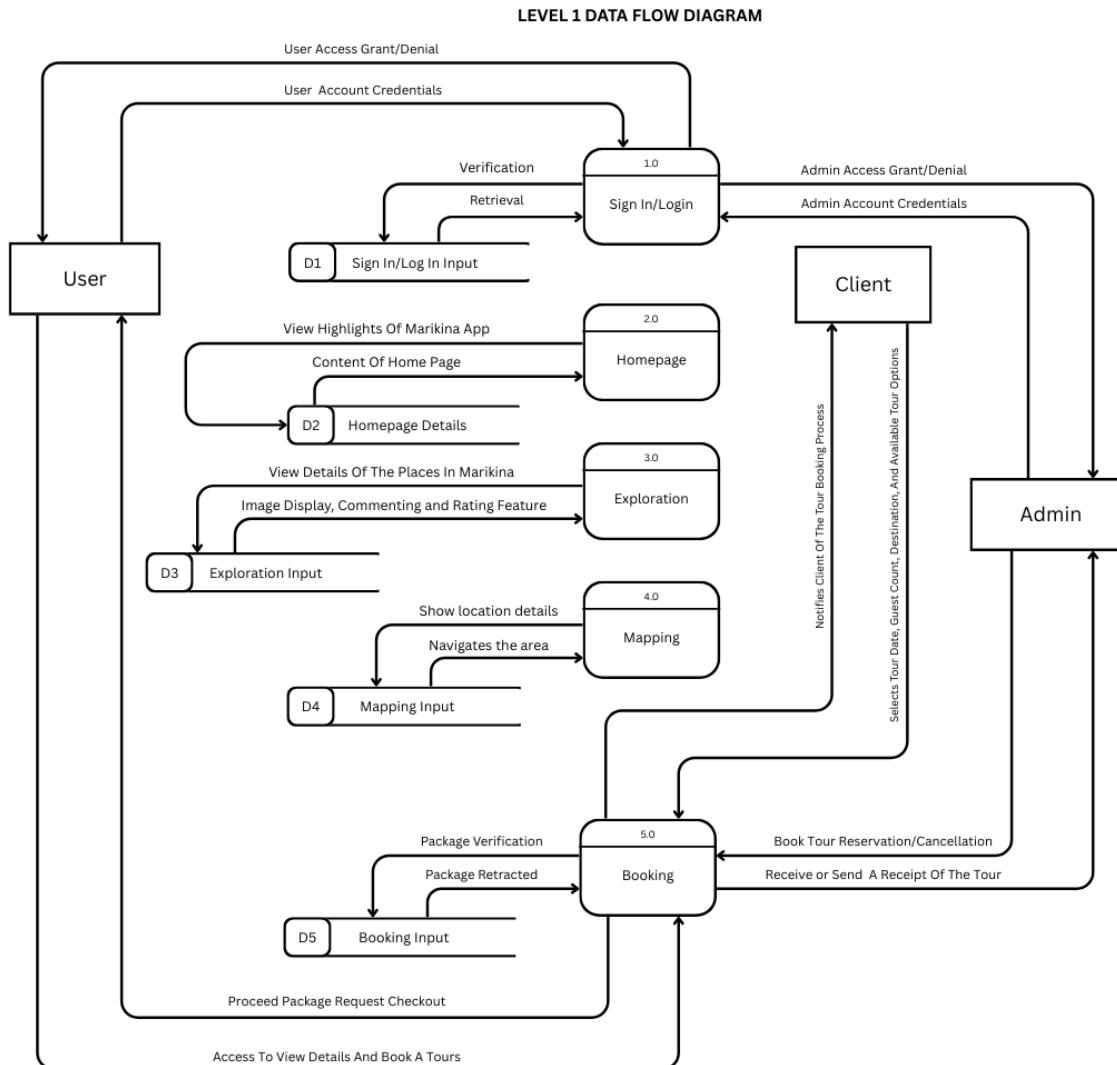


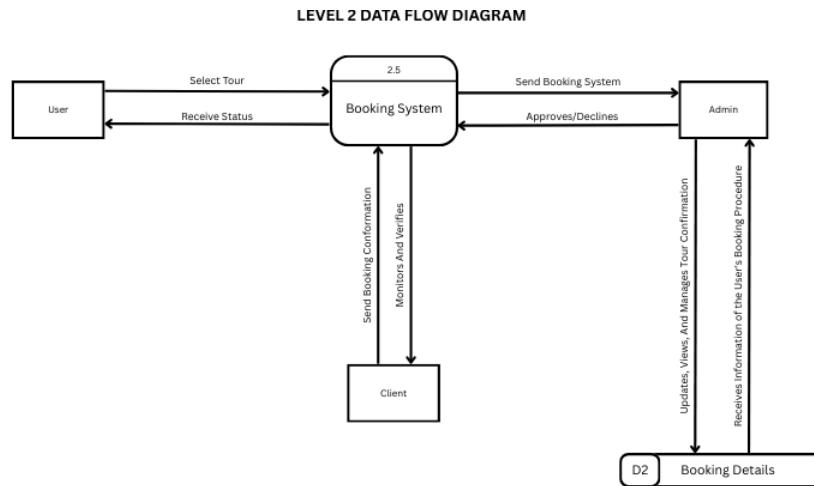
Figure 6: Level 1 Data Flow Diagram

The Level 1 Data Flow Diagram provides more detailed components for each entity, data store, and process in the system. Both Users and Admins go through the Sign In & Log In process: users can reserve tours, manage personal profiles, and provide reviews, while Admins as Administrator,

Moderator, or Superadmin access role specific dashboards. The Client who updated on booking status and receives oversight data.

The Homepage highlights the best of Marikina, displaying categories such as Restaurants, Churches, Shops, Museums, and more. The Exploration feature offers recommended places to visit in Marikina, with various options to choose from. The Mapping System provides a destination to help users locate or navigate to their desired location. Finally, the Booking System lets users select and reserve different tour packages and view available tours.

This breakdown in the Level 1 DFD helps the researchers visualize the main features and data flows of the interactive tourism platform, guiding the development process and ensuring a user-friendly experience.



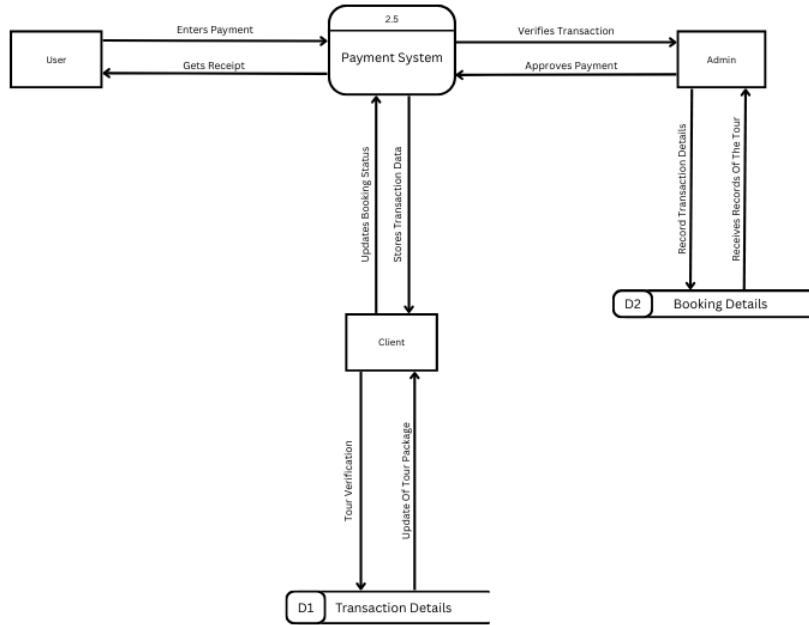


Figure 7: Level 2 Data Flow Diagram

The Level 2 Data Flow Diagram, which is the final one, focuses specifically on the Booking System and Payment System, and their detailed processes for each entity's data flow. In the Booking System, the User selects tours to book. The Admin (which includes Administrator, Moderator, and Superadmin roles) then verifies and approves the User's tour package, which includes managing the booking details, confirmation, and related procedures. Meanwhile, the Client monitors the status of the tour package.

For the Payment System, the User proceeds to checkout their booked tour and receives a digital receipt. The Admin verifies the transaction and approves the payment, providing a receipt at the end of the checkout process. The Client, on the other hand, focuses on managing the transaction details.

This detailed Level 2 diagram helps the researchers understand exactly how the booking and payment processes work for each entity, ensuring smooth operation of the platform.

3.1.4 System Flowchart

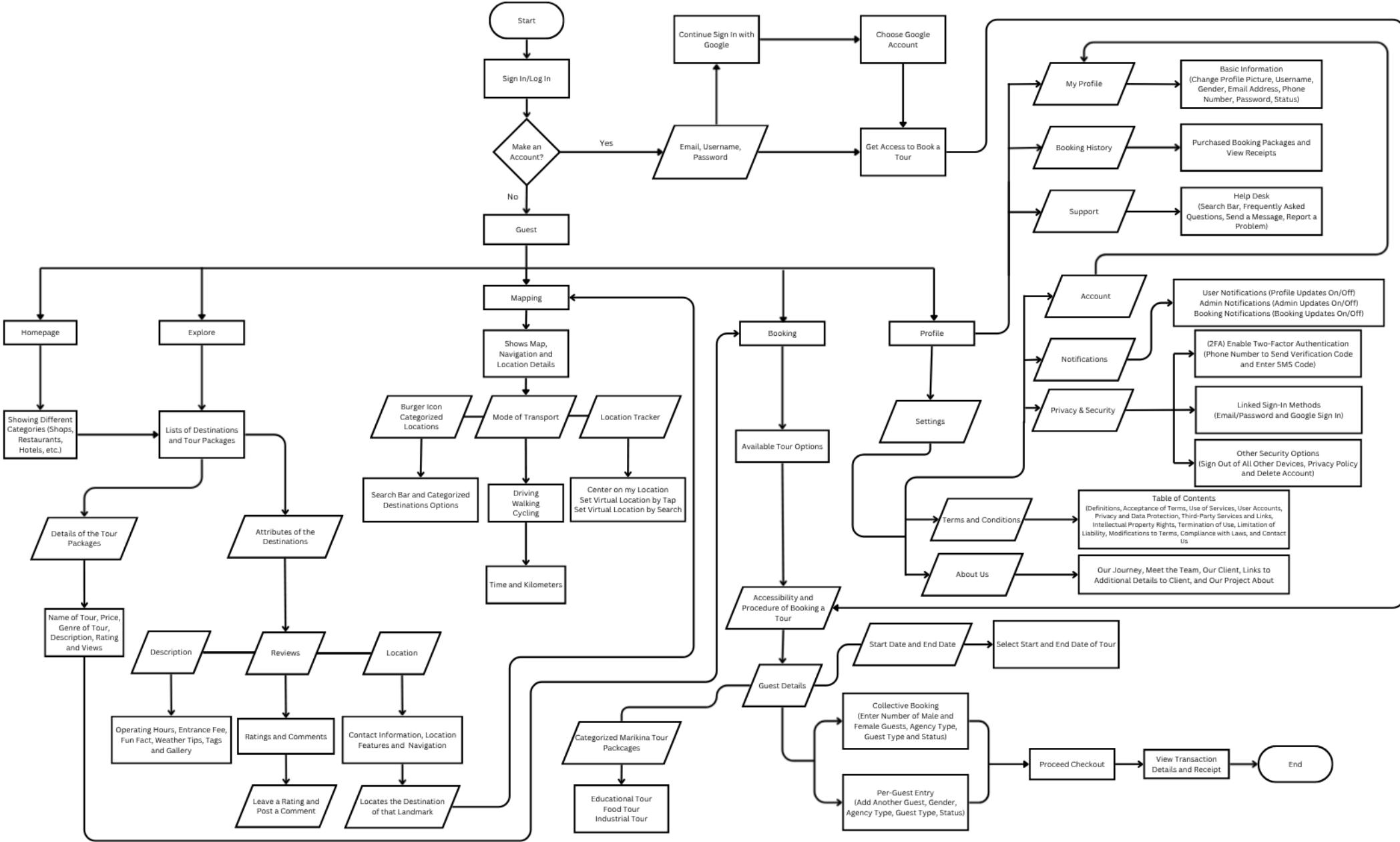


Figure 8: System Flowchart

The system begins with a Sign In/Login process. Users have the option to proceed as a Guest or register for an account, where they can choose to Sign In with an existing account or use Google Sign-In. Users can access and browse the "Homepage," which displays a categorized carousel of places from Marikina, such as restaurants, hotels, shops, and more.

The "Explore" section showcases a list of destinations in Marikina, providing descriptions such as operating hours, entrance fees, fun facts, weather tips, tags, and a gallery of pictures of the area. It also includes reviews from other users, location details with contact options, location features, and a navigation button that directs the user to the mapping system. Additionally, there is a list of tour packages, showing the tour names, prices, genres, descriptions, ratings, and views.

The "Mapping" feature displays various categorized locations accessible through the burger icon, with each landmark showing the destinations of that place. For the mode of transport, users can choose to follow directions on the map while driving, walking, or cycling. The Location Tracker includes 'Center on My Location,' which centers the map on the user's current area or any location they tap. The 'Set Virtual Location by Tap' feature allows users to select a point on the map to indicate their current location. Users also have the option to search for locations, addresses, streets, and more.

The "Booking" section provides details for reserving a tour in Marikina. Before purchasing a tour, the user selects the start and end dates. In the 'Collective Booking' option, the user enters the number of male and female guests, their agency, guest type, and status. There is also a 'Per-Guest Entry' option, which allows guests with different agency types, guest types, and statuses to be entered separately from the group. Users can choose from categorized tour packages, educational, food, and industrial tours. After selecting a tour, they could proceed to checkout views, the transaction details and receipt.

The "Profile Page" serves as the user's personal account in the MarikinaGo app. Users can enter their personal details in the Basic Information section. The Booking History displays the tours they have purchased and allows them to view receipts. The Support Help Desk helps resolve user problems or issues, offering options to read FAQs, send messages, or report to the admin. The Settings section provides more app details, including a notification option where users can turn notifications on or off. Privacy and Security features include two-factor authentication (2FA) for safety, options to link sign-in methods, other security settings for account access, privacy policies, and an option to delete an account. The Terms and Conditions section showcases the app's table of contents. Finally, the About Us section provides information about the app's creators, the client, and details of the project.

3.1.5 Entity Relationship Diagram

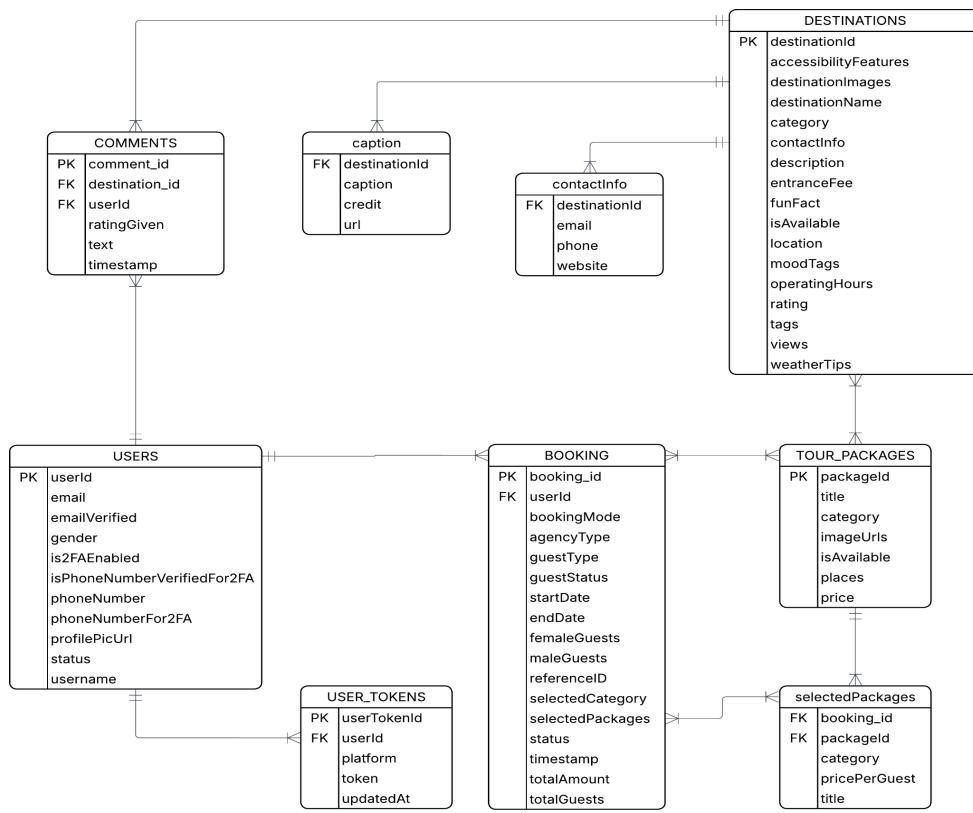


Figure 9: ERD of the Booking System

This study, titled *Developing an Interactive Platform for Promoting Local Tourism and Enhancing Visitor Experience in Marikina City*, presents the database design for the MarikinaGo

application. The database serves as the foundation for managing user accounts, booking records, destination details, and tour package information. It supports the app's core functions by organizing data efficiently and showing how information flows between different parts of the system.

The database uses one-to-many relationships to connect a single record on the “one” side with multiple related records on the “many” side. This structure allows MarikinaGo to handle complex interactions such as multiple bookings and user feedback while maintaining accuracy and scalability. Through this design, the system ensures that each operation is traceable and properly linked among users, destinations, and top packages.

The relationship between Users and Bookings is one-to-many, meaning one user can create several booking transactions. This setup allows the application to record and display each user's booking history, supporting features such as past bookings and user-based analytics. Likewise, Booking and Tour Packages are linked through the selected packages table, showing that one booking may include multiple packages, while each package can be reserved in different transactions. This provides flexibility for users and helps monitor package availability and popularity.

In addition, Destinations and Comments share a one-to-many relationship, where each destination can receive multiple reviews from different users. The Users entity also connects to Comments in a similar way, allowing users to leave feedback on several destinations. These relationships encourage engagement, gather meaningful insights and guide system enhancements through analysis and insights gained from user activity.

Finally, each Destination is connected to caption and contactInfo through one-to-many relationships, allowing the system to store multiple image captions and relevant contact details for every location. The Users entity is also linked to User Tokens, which helps manage secure access across platforms and supports features like token-based login and session tracking. This setup strengthens

user authentication and contributes to a safer and more reliable experience. Together, these relationships form a well-structured and integrated database that supports efficient data handling, promotes user interactivity and reinforces the overall security and functionality of the MarikinaGo system.

3.1.6 Use Case Diagram

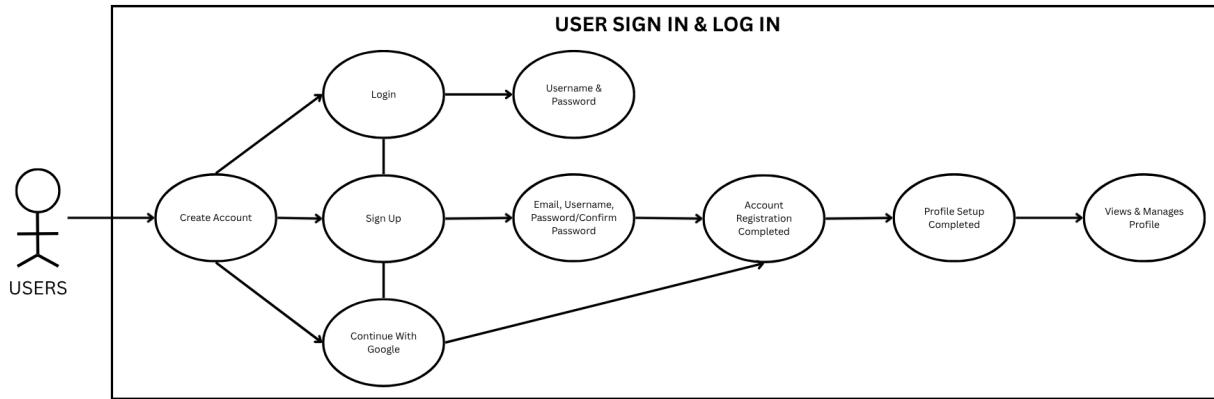


Figure 10: User Login & Log In Use Case

In this use case, the User Sign In & Log In covers how users create accounts and access the system. Users may register by signing in their email address or username and password to open their account. The process starts when the user opens the app and chooses either “Sign up” or “Log in”. For Registration, the user fills out the required details such as email address, username, and password, or alternatively uses Google Sign-In. The system validates the information entered, displaying error messages if any input is incomplete or incorrect. After successful registration, user data is saved and the user is directed to profile setup. Once logged in, users can manage and update their profiles and access all app features, such as viewing destinations and booking tours.

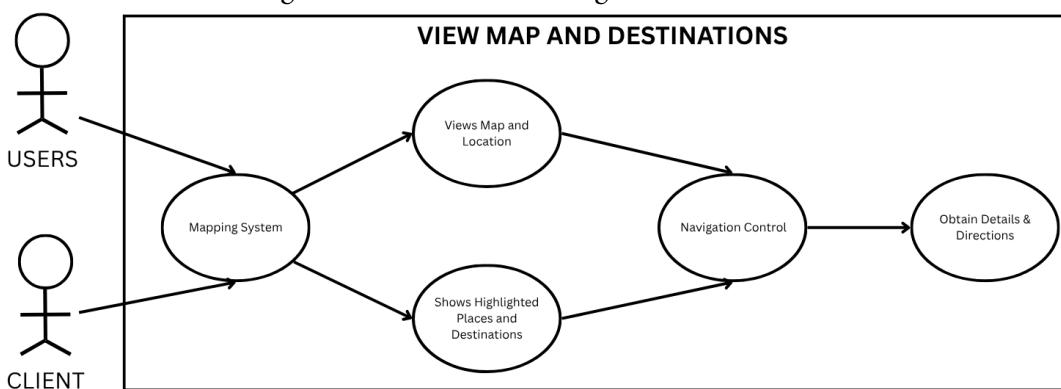


Figure 11: View Map and Destinations Use Case

The View Map and Destinations use case involves both Users and Clients (Moderators) interacting with the mapping system. Users interact with the map feature and explore various tourist destinations in Marikina City. Both account holders and guest users have access to the mapping system, allowing them to browse the map and view different types of destinations in Marikina, which are categorized by location. As for Clients (Moderators), they are responsible for managing the contents of the locations, adding and editing destinations, showcasing the accessibility, viewability and availability of the map.

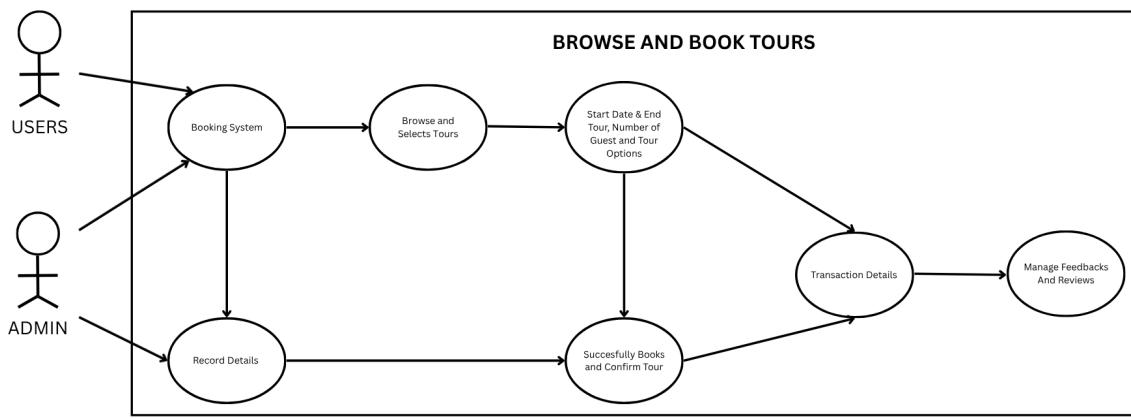


Figure 12: Browse and Book Tours Use Case

The Browse and Book Tours use case involves both Users and distinct administrators roles interacting with the booking system to select and confirm tours. Users can browse available tours, specify details such as start and end dates, and provide guest information for either group or individual bookings. They can then finalize their chosen tour options, complete the booking and confirmation process, and view the corresponding transaction details. The administrative side is divided among three roles: Administrator, Moderators, and Superadmins. Administrators are responsible for booking details, browse tours, confirm bookings, and manage transaction records. Moderators oversee the management of tour packages, comments, and content filters to ensure quality service. Superadmins hold full authority over the system including user access, security settings, and overall content management.

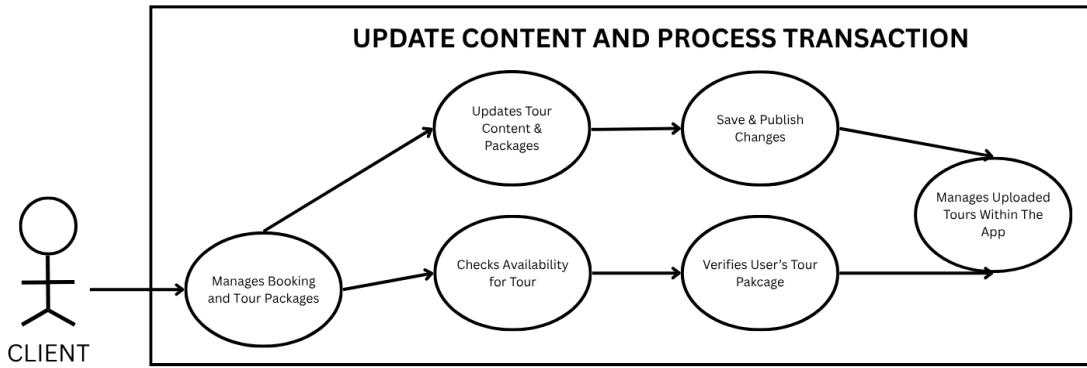


Figure 13: Update Content and Process Transaction Use Case

The Update Content and Process Transaction use case involves Clients (Moderators) managing their bookings and tour packages within the system. Clients (Moderators) can update tour contents and packages, save and publish changes, and manage their uploaded tours directly within the app. Additionally, Clients (Moderators) check availability and verify their selected tour packages to ensure accurate bookings. This use case empowers moderators to maintain up-to-date tour information and manage transactions efficiently, enhancing the overall user experience.

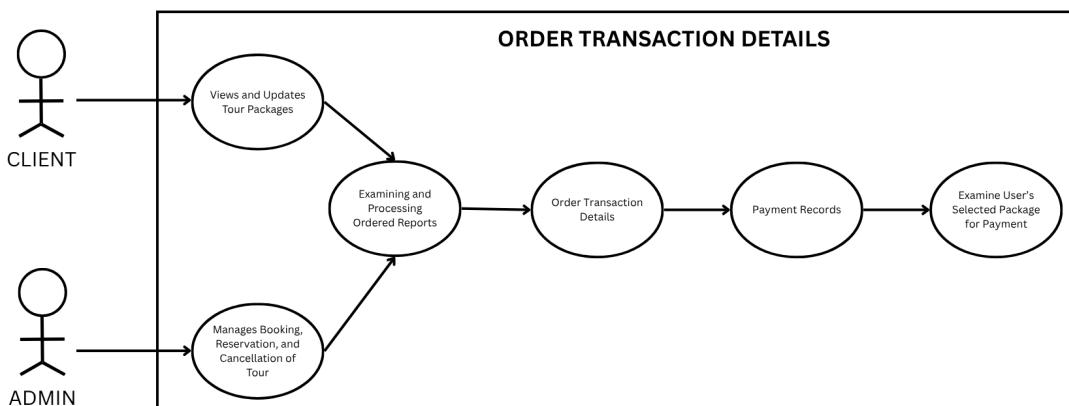


Figure 14: Order Transaction Details Use Case

The Order Transaction Details use case involves Clients (Moderators) and Admins (Administrators) part of the tourism booking system for detailed information about orders placed within the system. Administrators can view and edit the user's transaction details, reservations, cancellations of the tour, viewing payment records and tour packages. This transparency keeps clients

informed by the bookings and payments. Moderators, on the other hand, are the ones who handle the contents of bookings, showcasing categorized tour packages that users can browse and select.

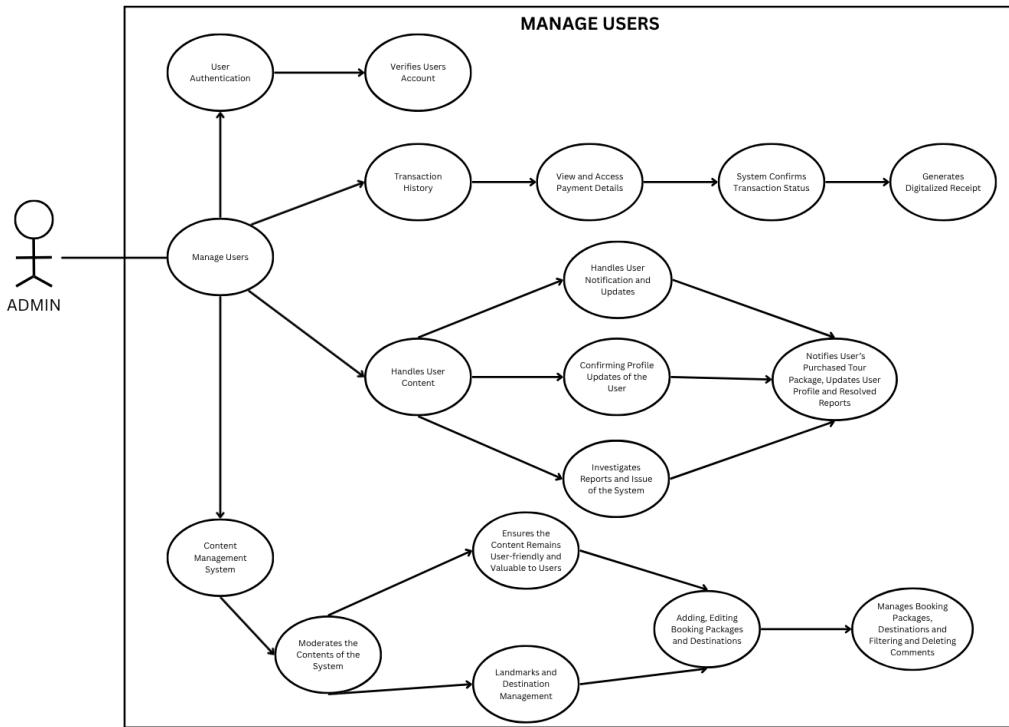


Figure 15: Manage Users Use Case

The Manage Users use case is divided into three distinct roles: Administrator, Moderator, and Superadmin. Each role has specific responsibilities in managing the MarikinaGo system.

The Administrator is primarily responsible for handling user bookings, notifications, and support reports. Their duties include verifying user accounts, resolving system issues reported by users, and managing requests for assistance. Additionally, administrators generate and analyze reports, which provide demographic breakdowns of guests, revenue summaries, booking statistics, agency types, and ranking highlights.

The Moderator focuses on content management within the system, specifically overseeing the booking packages related to user bookings. Their responsibilities include adding and updating tour packages, such as educational, industrial, and food tours, while ensuring that package availability is

clearly indicated. Moderators can also edit or delete packages. For destinations, moderators set and maintain informational details for each categorized landmark, allowing for edits, updates, and deletions as needed. Moderators also review user comments, edit inappropriate content, and ensure all public interactions comply with platform standards.

The Superadmin has full access to the entire MarikinaGo dashboard. They oversee all administrative management, including users, bookings, notifications, and support reports. Superadmins manage both booking packages and destinations in the content management system, and have the authority to add, edit, or delete packages and user comments. They review comprehensive system analytics and are empowered to create new admin accounts assigning roles as Administrator, Moderator, or Superadmin. Superadmins maintain complete oversight and control of the system, ensuring all components function smoothly and efficiently.

3.1.7 System Screenshots

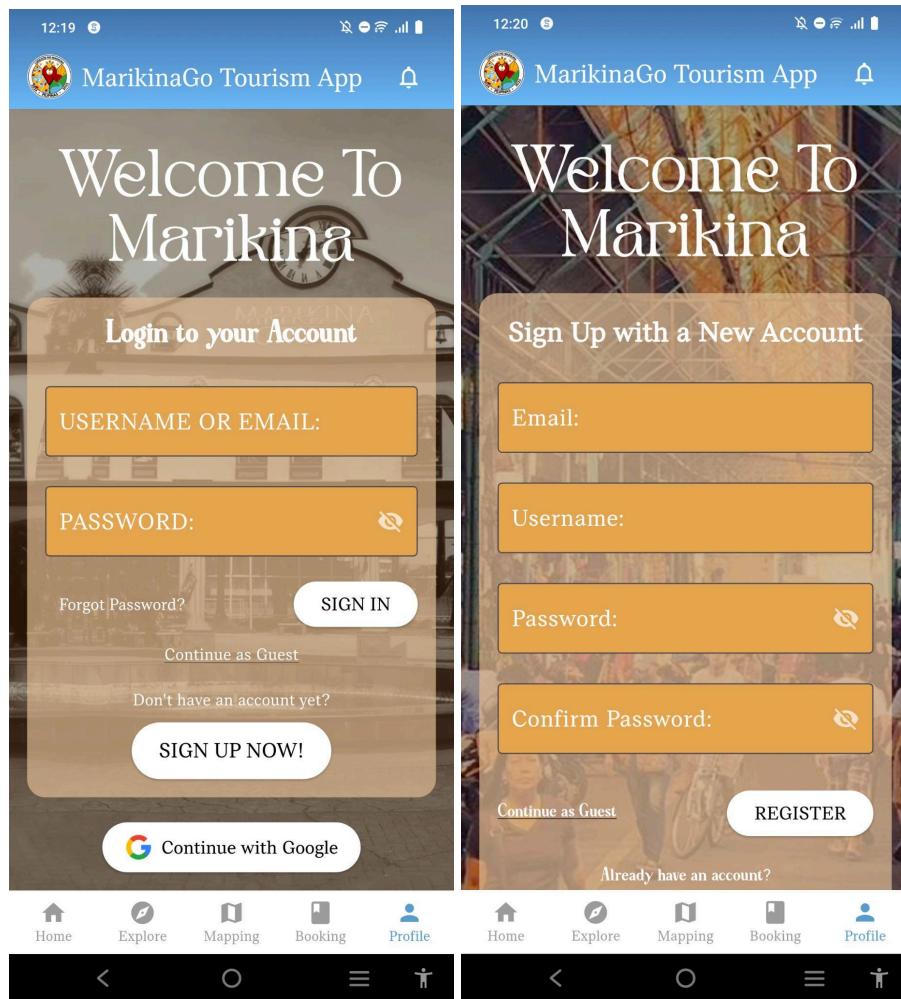


Figure 16: Log In/Sign in and Sign Up

The Login screen allows users to sign in using their username or email and password or via Google Sign-In for faster access. These credentials are handled by Firebase which is the user authentication. The Sign Up screen enables new users to create an account by entering their email, username, password, and confirming the password. Only verified email can only have access to the app which is required before users can proceed to book tours or view personal data in the app.

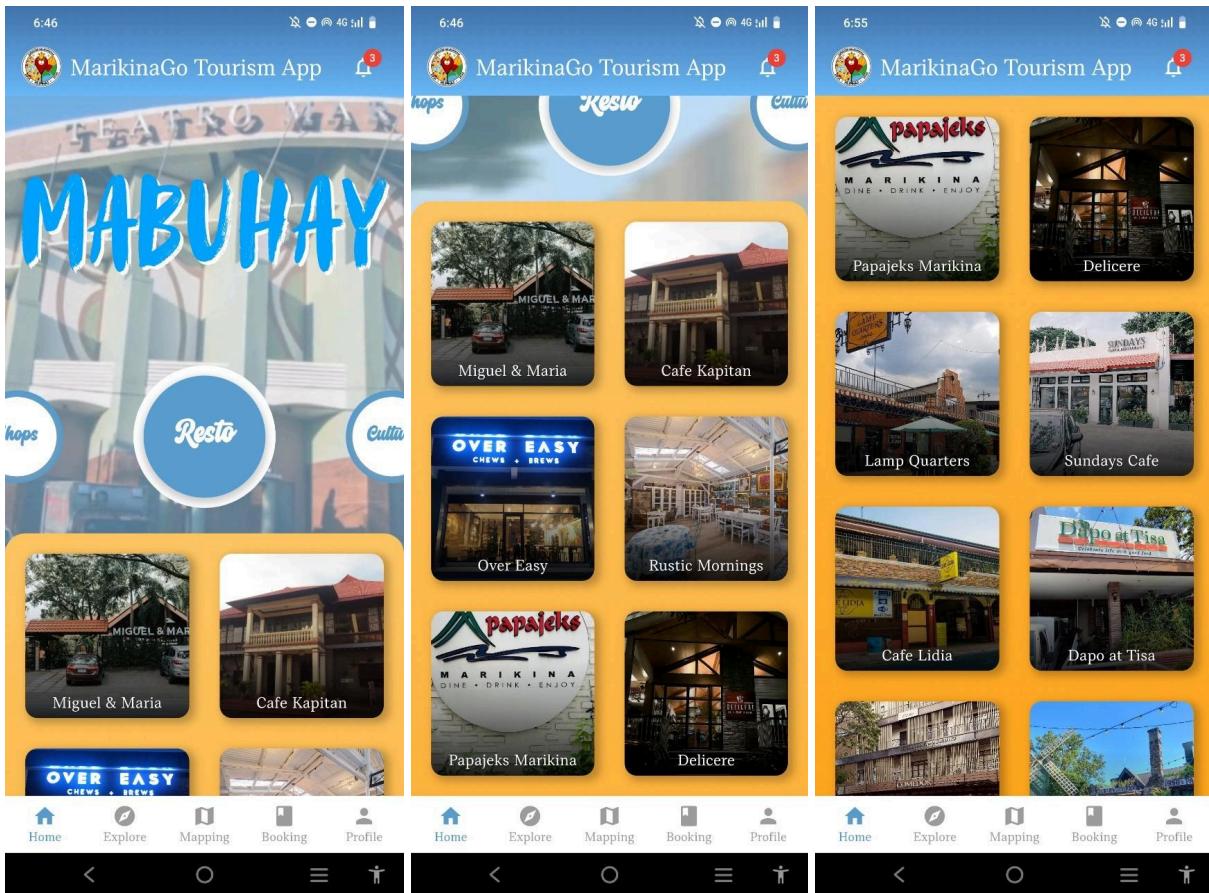


Figure 17: Home Page

This is the home page of the application that features a looping background video, a category carousel for exploring different tour types, and a grid displaying available destinations fetched from the Firestore database. Users can scroll smoothly through featured categories and navigate to other parts of the app using the bottom navigation bar.

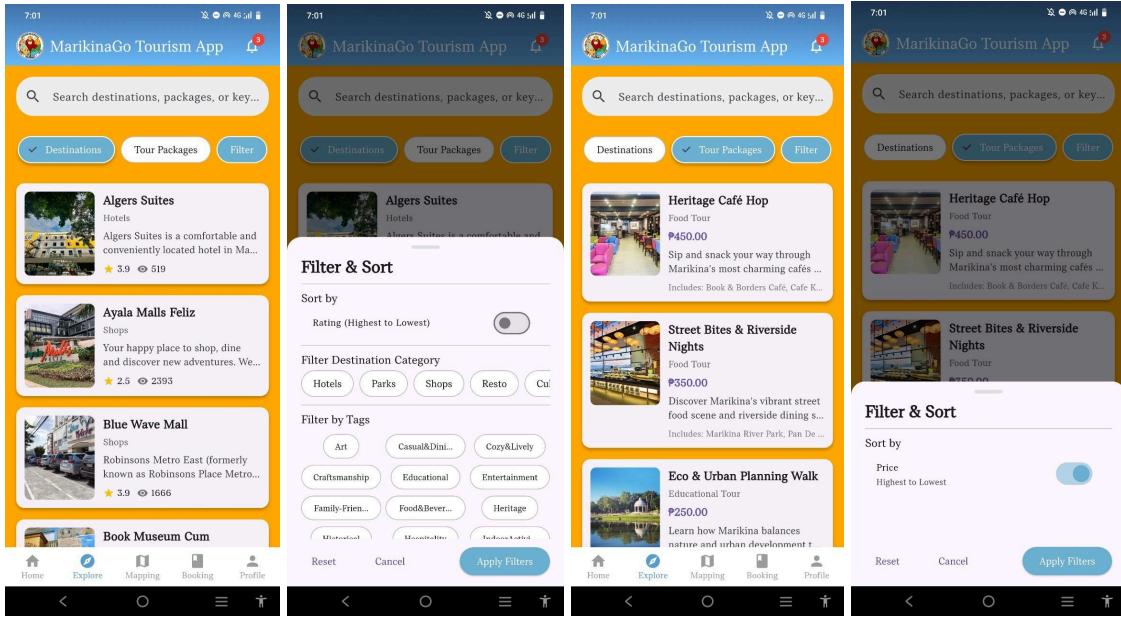
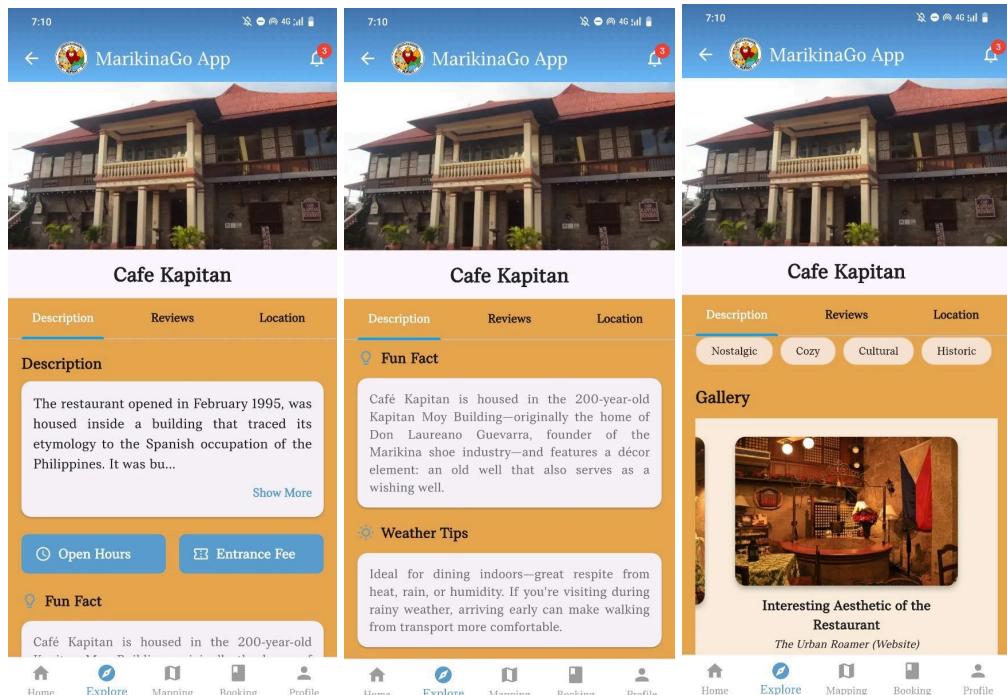


Figure 18: Explore Page (Selected Destinations & Tour Packages)

The Explore Page allows users to discover various recommended or popular destinations within Marikina. This section showcases each destination and tour packages with visuals that includes an image, title, and a brief description of the place. This page plays a key role in encouraging discovery, offering users a preview of Marikina's top attractions and tours before proceeding to the booking page.



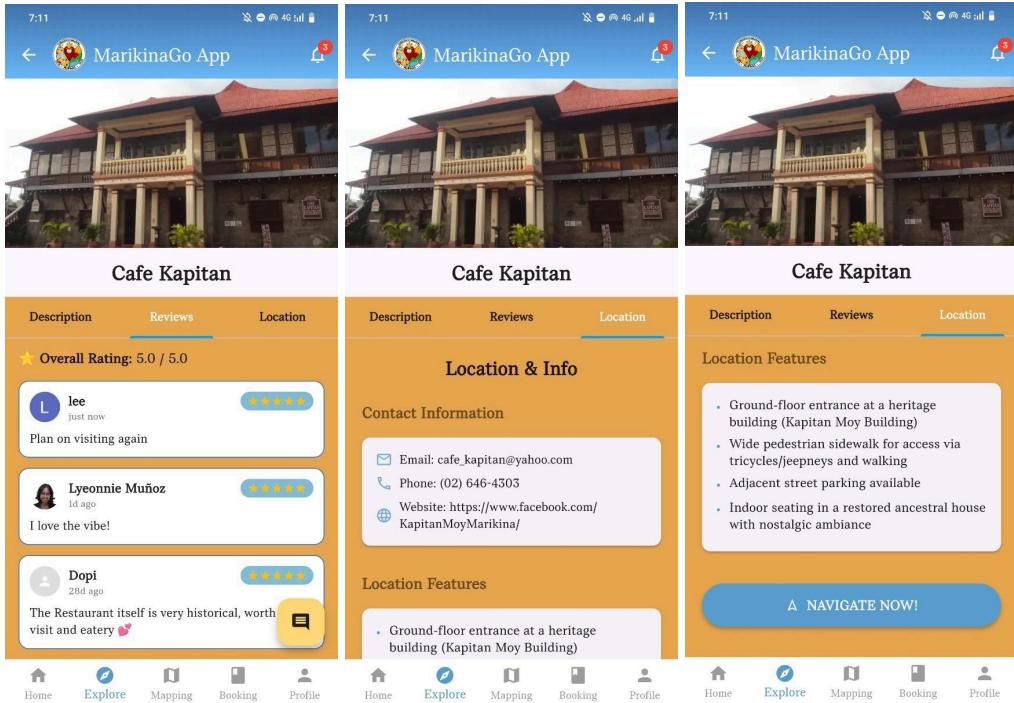


Figure 19: Explore Page (Description, Reviews & Location)

The Explore page provides more details about the place, including a description of the location to help users learn about the area. It also displays the open hours, entrance fees, and a fun fact to make the information more engaging. Weather tips are included to help users stay safe and be alert for sudden storms or temperature changes. A gallery showcases the place to convey its atmosphere. Users can leave ratings and comments. The location section has a list of contact information such as email, phone number, and a website for more details. Location features are shown, along with a navigation button that opens the mapping system and guides users to the destination.

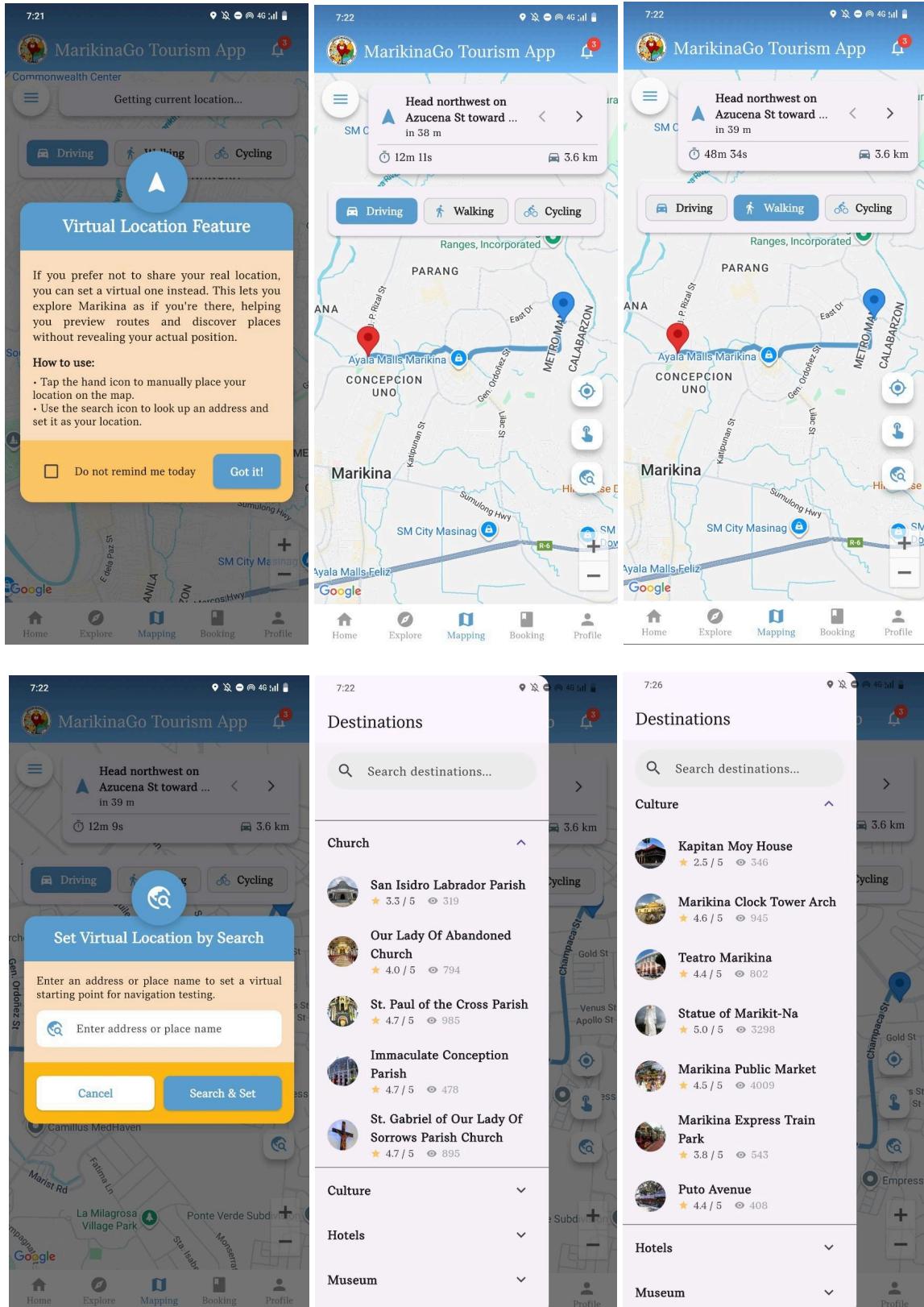


Figure 20: Mapping System

The Mapping system is a page where users can navigate to the specific destination they want to go to, whether by driving, walking, or cycling. A burger menu icon will provide categorized locations to explore or visit. Location Trackers helps the app provide precise directions, by setting your actual or virtual location by search that ensures it displays the users current location on the map, allowing them to navigate to their desired destination.

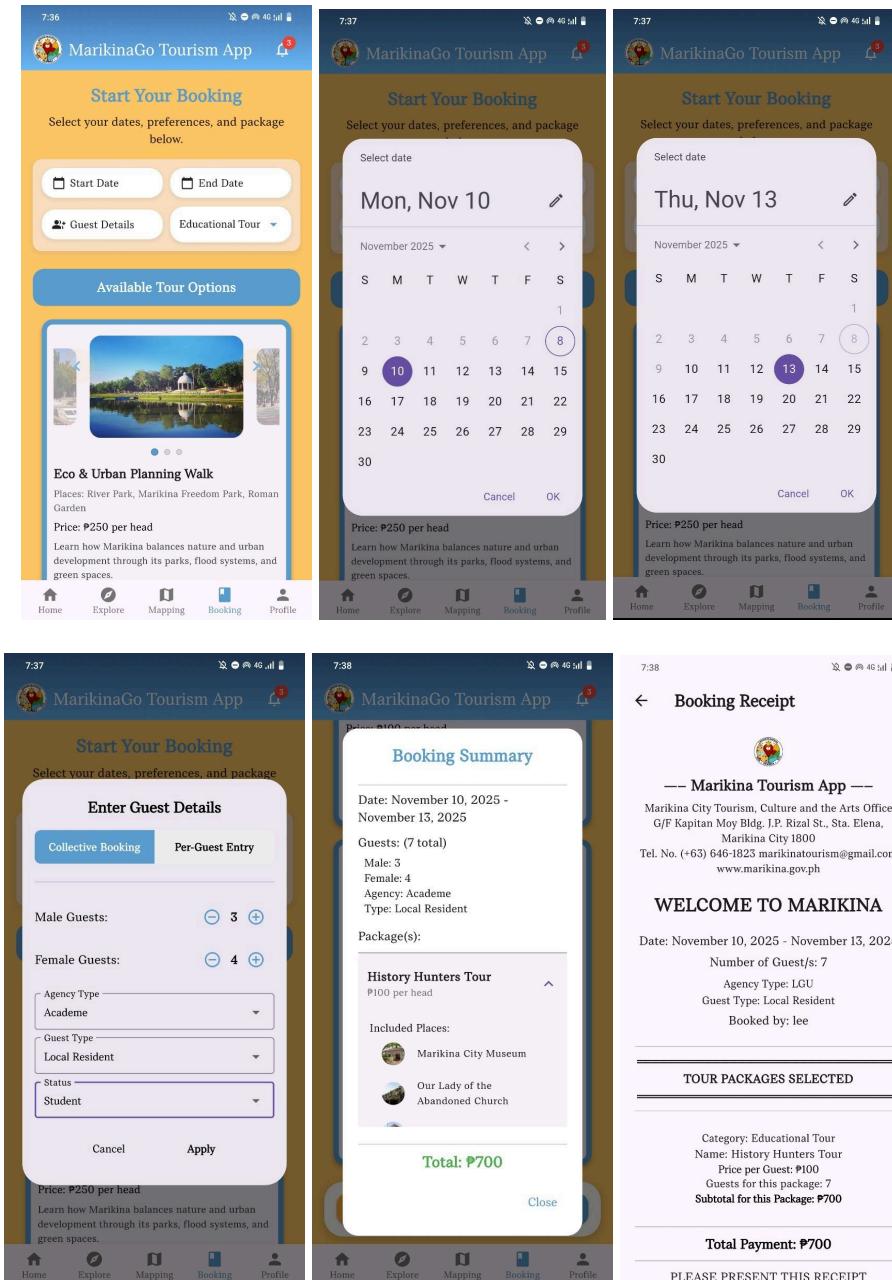
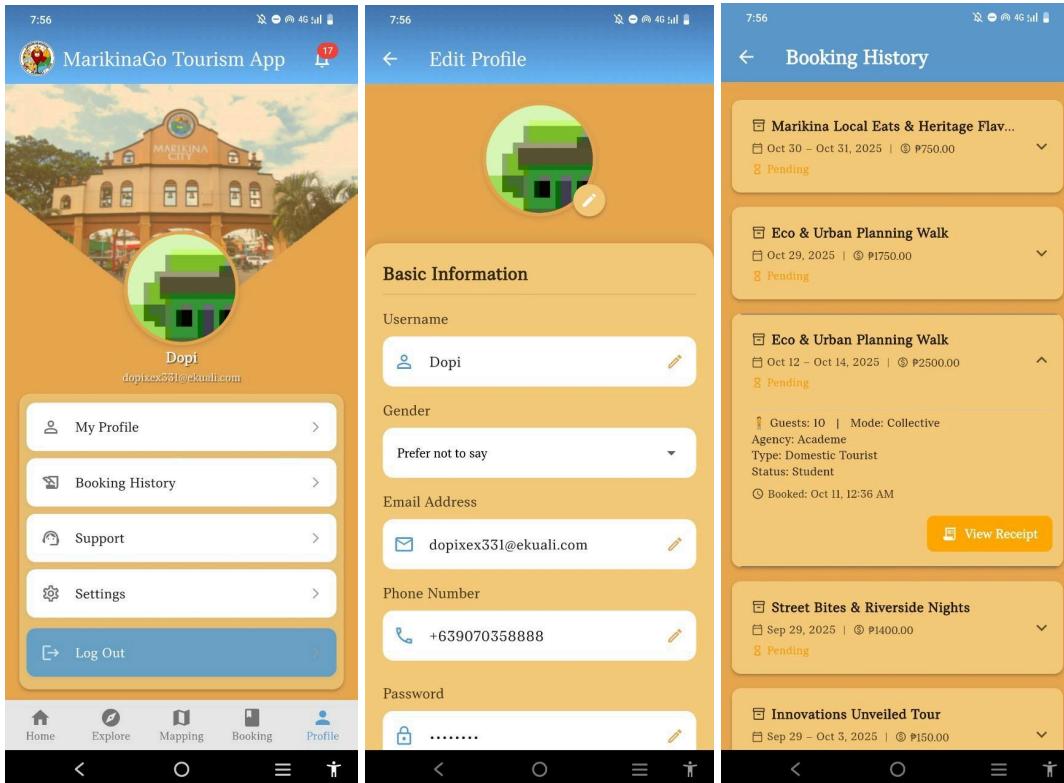


Figure 21: Booking Page (Guest & Data Selection)

Users can browse through available tour packages, view details, and select one or more packages to book. The design features a picture displaying the package name, locations, and a “View Details” button that opens a pop-up with additional information and images. After choosing a package, users can input the number of guests, select the start and end dates, and provide guest details before proceeding to checkout. The system ensures that only registered users that have Sign In or Log In can have access to book a tour.



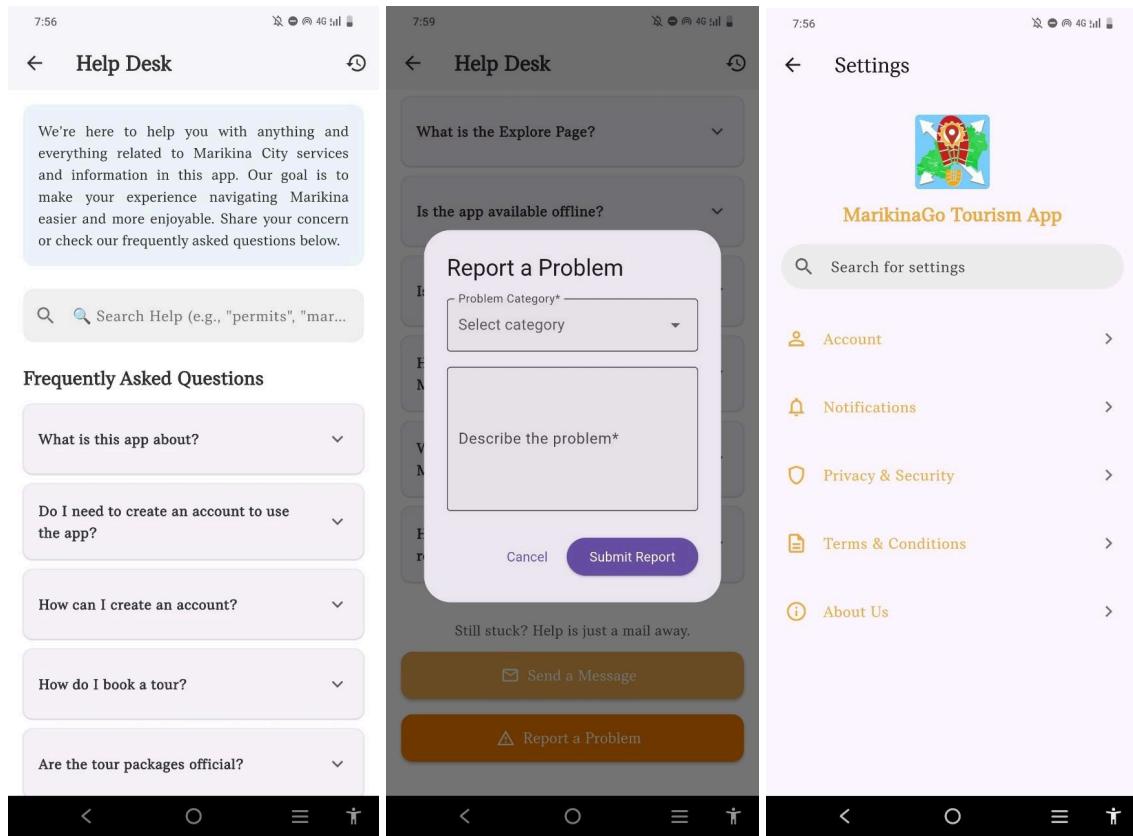


Figure 22: Profile Page (Account Details)

The Profile Page is where users can view their personal account details after logging in. It displays basic information of the user changing profile picture, username, gender, email address, phone number, password, and status. The booking history section lists all confirmed tour packages along with details like date, destination, and guest details. It has a support system where they can file a report or a problem and Frequently Asked Questions. This page ensures users have control over their accounts and serves as a secure gateway to personalized features within the application. To learn more details about the app itself, the settings section will show additional information about the system. Users can also have the choice to log out of the app.

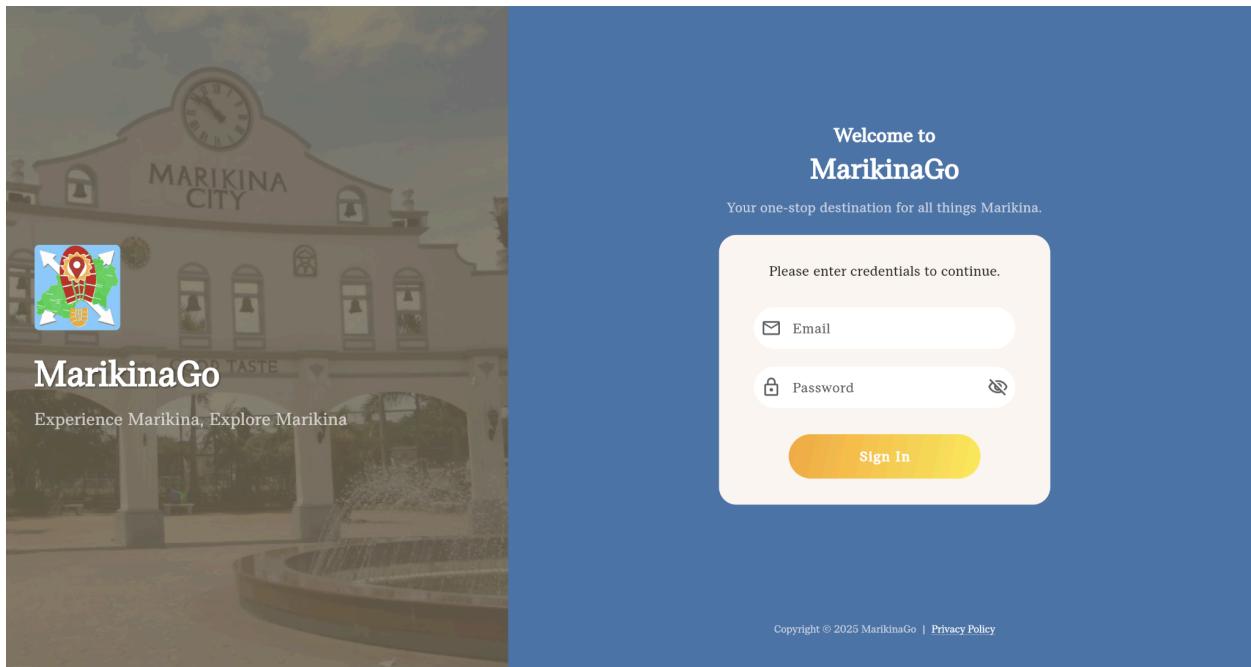


Figure 23: Admin Login Page

The Admin Login Page serves as a secure entry point exclusively for authorized personnel. Unlike the previous version that required a manual UID input, the updated system now uses standard email and password authentication integrated with role-based access control. Each account is assigned a specific role such as Admin, Moderator or Super Admin, which defines the level of access granted within the dashboard. Upon successful login, the system verifies the Administrative Roles and their assigned role before granting access. This ensures that only authorized admin with the appropriate role can manage user data booking records and app analytics, providing a more secure and scalable administrative experience.

Figure 24: Admin Dashboard (Users Panel)

The User Panel provides an overview of all registered users within the system. From this panel, administrators can monitor user activity, check booking history, manage account details, notifications, and support reports. The interface is designed for easy navigation and includes tools for editing or disabling accounts when necessary. It also serves as a central hub for understanding how the platform is being used by different users. This dashboard is essential for maintaining the integrity and organization of the user base.

Figure 25: Admin Dashboard (Bookings Panel)

The Booking Panel allows editing of tour packages and destinations via the Dashboard or Firebase. It supports adding new tour packages and destinations, and editing destination and tour

details (title, destination name, description, category, image, etc.). It also provides the option to delete tour packages and destinations. For comments, it enables editing profanities and deleting inappropriate comments.

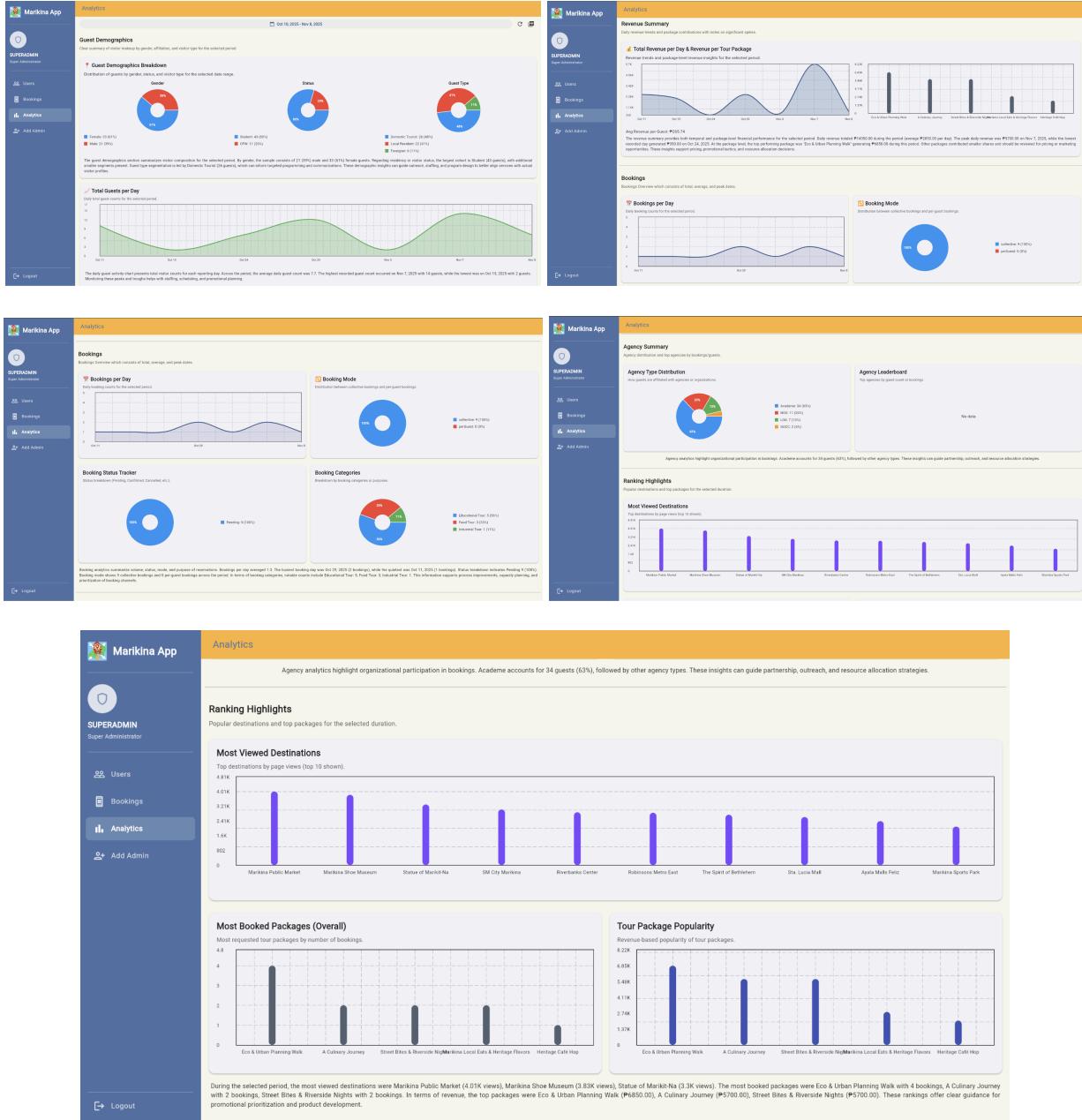


Figure 26: Admin Dashboard (Analytics Panel)

The Analytics Panel within the Admin Dashboard provides a visual overview of key usage metrics for the application. It displays valuable data such as the number of daily logins, the most booked tour packages, and the most viewed destinations. These insights help administrators monitor

user engagement and identify trends over time. The panel uses charts and graphs for easier interpretation of the data, making it efficient for decision-making and performance evaluation. This feature supports continuous improvement of the app by giving admins the tools to understand how users interact with the platform.

The screenshot shows the 'Add Admin' section of the Marikina App's admin dashboard. The left sidebar includes icons for SUPERADMIN, Users, Bookings, Analytics, and Add Admin. The main area has a yellow header 'Add Admin' and a sub-header 'Create Admin Account'. It contains fields for 'Email' and 'Password', a dropdown for 'Select role' (set to 'Admin'), and a blue 'Create Account' button. Below this is a section titled 'Existing Admins by Role' with dropdown menus for 'Admin (1)', 'Moderator (1)', and 'Superadmin (1)'. At the bottom is a 'Logout' link.

Figure 27: Admin Dashboard (Add Admin)

The Add Admin (Account Management) panel is for creating new Admin, Moderator, and Superadmin accounts. It allows these users to access and review the system by entering their email, password, and selecting a role that determines which areas they can access, such as user accounts, bookings, and analytics. Based on the Superadmin's authorization for security purposes.

3.2 Statistical Treatment of Data

3.2.1 Data Gathering Technique

The primary data gathering technique used in this study is a post-evaluation questionnaire designed to assess the quality of the developed interactive tourism application for Marikina City. The instrument is based on the ISO/IEC 25010 software quality model and is organized into seven criteria: Functional Suitability, Performance Efficiency, Compatibility, Interaction Compatibility, Reliability, Security, and Maintainability.

The instrument will be administered after the completion of the system, either through direct usage or by viewing a recorded demo, to ensure that the feedback is grounded in actual user experience. The questionnaire will be distributed online through Google Forms, allowing participants to conveniently access and answer the survey using their personal devices. This method enabled efficient collection of data and wider reach within the target population. The questionnaire makes use of a five-point Likert scale to measure the degree of agreement with each statement related to system quality. To ensure validity and reliability, the instrument will undergo expert validation by three professors with advanced academic degrees in Information Technology or related fields. Although the respondents were identified as locals, tourists, or administrators, these categories were not used as sampling bases. Instead, they were utilized only during the interpretation of results to provide a clearer understanding of how different user groups evaluated the system.

3.2.2 Setting of the Study

The study *Developing an Interactive Platform for Promoting Local Tourism and Enhancing Visitor Experience in Marikina City*, was conducted in Marikina City, a well-known area in Metro Manila recognized for its shoe industry and clean environment. The main focus of the mobile tourism application is Marikina, which was developed to help users discover its tourist attractions, local cuisine, and locally made products.

The researchers chose Marikina City because of the places that tourists visit, such as the Marikina River Park, the Shoe Museum, and the Our Lady of the Abandoned Church. These places were also used when the researchers tested the app to see how it works in real situations. The team also talked to local people, tourists, and some city workers to get ideas and suggestions that helped the researchers improve the mobile application.

By doing the study in Marikina, the researchers were able to understand what people need when visiting the city and how technology can help promote local tourism.

3.2.3 Subject of the Study

This study focuses on people who are directly connected to tourism in Marikina City. These include local tourists, visitors from nearby areas, and residents who have visited different tourist spots, events, or cultural places in the city. Their feedback will help in understanding what features they would like to see in a digital tourism platform.

The study also includes local business owners and workers in tourism-related places like museums, restaurants, souvenir shops, and local guides. Their opinions are important to know how the platform can help promote their services and attract more visitors.

The goal of the study is to gather useful information that will help build a platform that is easy to use, informative, and helpful to both tourists and local businesses. This will support the growth of tourism in Marikina City and improve the experience of visitors.

3.2.4 Sampling Technique

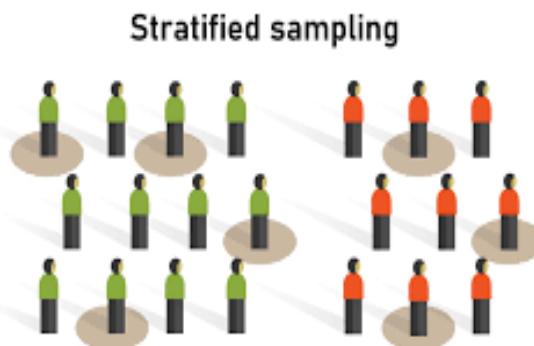


Figure 28: Stratified Sampling

This study used a stratified sampling technique to ensure that all relevant user groups were fairly represented in the data collection process. Stratified sampling divides the population into smaller groups called strata based on shared characteristics. In this case, the population was

grouped into three main strata: tourists (38 respondents), local residents (31 respondents), and administrators (1 respondents) involved in the tourism sector of Marikina. By selecting participants from each of these groups, the study aimed to reduce bias and ensure that each perspective was taken into account.

By using stratified sampling, the study was able to collect more accurate and reliable data. It also made sure that no important group was left out. This helped the researchers understand how each group interacts with the tourism app and how it can be improved for everyone.

3.2.5 Statistical Treatment of Data

The responses gathered from the 70 selected respondents will be analyzed using descriptive statistics, which is consistent with the study's descriptive quantitative research design.

Since the instrument makes use of a five-point Likert scale, the weighted mean will be used to measure the overall perception of respondents regarding the system based on the ISO/IEC 25010 quality model. The formula for the weighted mean is:

$$\bar{X} = \frac{\sum f \times x}{N}$$

Where:

- f = frequency of responses
- x = scale value
- N = total number of responses

The following scale and interpretation will be used:

Scale	Range of Weighted Mean	Interpretation
5	4.21 - 5.00	Strongly Agree / Very high
4	3.41 - 4.20	Agree / High
3	2.61 - 3.40	Neutral / Moderate
2	1.81 - 2.60	Disagree / Low
1	1.00 - 1.80	Strongly Disagree / Very Low

Table 1: Scale and Interpretation

To analyze the demographic profile of respondents (e.g., age, gender, type of respondents such as local, tourist, or administrators), the percentage formula will also be applied:

$$P = \frac{f}{N} \times 100$$

Where:

- P = percentage of respondents
- f = frequency of a given category
- N = total number of respondents

The combined use of weighted mean and percentage will allow the researchers to present both the overall system evaluation and the demographic profile of the respondents.

CHAPTER IV

PRESENTATION OF DATA ANALYSIS AND INTERPRETATION

This chapter discusses the analysis and interpretation of data as well as the findings of the conducted evaluation.

4.1 Evaluation Procedure

This section presents the demographic profile of the respondents who participated in the evaluation of the developed interactive tourism application for Marikina City, described by variables such as age, gender, and type of respondents (local residents, tourists, and administrator). The distribution of respondents is illustrated through tables and figures to provide clarity on the sample composition, which is essential for analyzing how different user groups perceive the quality of the system. The evaluation is conducted in accordance with ISO/IEC 25010 standards, assessing key quality attributes including functional suitability, performance efficiency, compatibility, interaction capability, usability, reliability, security, and maintainability. By leveraging this systematic framework, the study highlights the platform's strengths and areas for improvement, ensuring it addresses the needs of tourists, residents, and local businesses. This approach underscores the project's commitment to delivering a high-quality, reliable, and user-friendly platform that effectively promotes local tourism and enhances visitor experience.

SOFTWARE PRODUCT QUALITY									
FUNCTIONAL SUITABILITY	PERFORMANCE EFFICIENCY	COMPATIBILITY	INTERACTION CAPABILITY	RELIABILITY	SECURITY	MAINTAINABILITY	FLEXIBILITY	SAFETY	
FUNCTIONAL COMPLETENESS	TIME BEHAVIOUR	CO-EXISTENCE	APPROPRIATENESS RECOGNIZABILITY	FAULTLESSNESS	CONFIDENTIALITY	MODULARITY	ADAPTABILITY	OPERATIONAL CONSTRAINT	
FUNCTIONAL CORRECTNESS	RESOURCE UTILIZATION	INTEROPERABILITY	LEARNABILITY	AVAILABILITY	INTEGRITY	REUSABILITY	SCALABILITY	RISK IDENTIFICATION	
FUNCTIONAL APPROPRIATENESS	CAPACITY	OPERABILITY	USER ERROR PROTECTION	FAULT TOLERANCE	NON-REPUDIATION	ANALYSABILITY	INSTALLABILITY	FAIL SAFE	
		USER ENGAGEMENT	INCLUSIVITY	RECOVERABILITY	ACCOUNTABILITY	MODIFIABILITY	REPLACEABILITY	HAZARD WARNING	
		SELF-DESCRIPTIVENESS	USER ASSISTANCE		AUTHENTICITY	TESTABILITY		SAFE INTEGRATION	
					RESISTANCE				

Table 2: ISO/IEC 25010 standards

4.2 System Test Plan

The ‘MarikinaGo’ clearly lists and separates each function under its respective category. It covers key areas including the Homepage and Exploration Connections, Explore section, Booking System and Selection, User Profile input and output, and the Admin Dashboard usage.

This testing table specifies which features are complete, which are still in progress, and which are yet to be developed. It helps track development status, organize updates, and identify areas needing improvement. This comprehensive function overview supports effective data collection to keep development organized and ensures all system functions operate as intended. By clearly monitoring each part, any system issues or errors can be quickly detected and resolved. Testing functionality, compatibility, and usability consistently ensures the Marikina app remains reliable, user-friendly, and ready for launch.

Sign Up

The sign-up and login features ensure that users can access the booking system within the app. Users have the option to create an account by providing their email, username, password, and password confirmation. If they already have an account, they can log in using their username and password. Alternatively, users can sign up quickly using their Google account and select which account to use.

For users who prefer not to create an account, the app can still be used as a guest. Guests can access the homepage, explore recommended destinations, and use the mapping system without signing in.

Functions		Working	In Progress
Sign Up with a New Account	Email	✓	
	Username	✓	
	Password	✓	
	Register	✓	

Log in to your Account	Username	✓	
	Password	✓	
	Forgot Password	✓	
Google Sign In	Continue with Google	✓	

Table 3: Process of Making An Account

Homepage

The Homepage displays categorized landmarks in Marikina City, such as restaurants, hotels, shops, malls, parks, and more. Each landmark within a category provides detailed information, including a gallery of pictures, a description of the area, and options for users to leave comments with ratings from 1 to 5 stars. Additionally, the location of each place has the destinations that will offer assistance to help users find their way.

Functions		Working	In Progress
Homepage	Home Button	✓	
	Categories	✓	
	List of Destinations for Each Category	✓	
Description	Description of Place	✓	
	Operating Hours	✓	
	Entrance Fee	✓	
	Fun Facts	✓	
	Weather Tips	✓	
	Tags	✓	
	Gallery	✓	
Reviews	Ratings	✓	

	Reviews/Comments	✓	
	Post	✓	
Location	Contact Info	✓	
	Location Features	✓	
	Navigate Now	✓	

Table 4: Process of the Homepage and Connections of Exploration

Explore Page

The Explore page of the app displays a list of different destinations in Marikina, with filtering options that allow users to sort by highest and lowest ratings, as well as by preferred categories. Similarly, the list of tour packages can be filtered based on their ratings, showing both the highest and lowest rated options.

Functions	Working	In Progress
Explore Page	Destinations	✓
	Tour Packages	✓
	Lists of Tour Packages	✓
	Search Bar	✓
Destination Filter and Sort	Rating (Highest to Lowest)	✓
	Filter Destination Category	✓
	Filter by Tags	✓
	Reset	✓
	Apply Filters	✓
Tour Packages Filter and Sort	Price (Highest to Lowest)	✓

	Apply Filters	✓	
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Table 5: Explore Page (Destination/Tour Packages/Filter & Sorting)

Mapping System

The Mapping System showcases various locations in Marikina, allowing users to easily find specific places they want to visit. It features a variety of attractions accessible through an interactive app. Users can use the burger icon to access categorized locations available in Marikina. Additionally, there is a mode of transport or route planner, giving users the option to choose their preferred way to get around, whether to drive, walk and enjoy the sights, or cycle.

Functions		Working	In Progress
Mapping System	Access Device's Location	✓	
	Centered on your Location	✓	
	Virtual Location Mode	✓	
	Zoom In/Zoom Out	✓	
	Burger Icon	✓	
	Showing Different Locations	✓	
	Search Bar	✓	
Mode of Transport	Driving	✓	
	Walking	✓	
	Cycling	✓	

Table 6: Process of the Mapping System and Locations

Booking System

The system allows users to book tours available in Marikina, offering different types of tours to choose from, such as educational, food-related, and industrial. Each booking package displays detailed

information about the tour. Before booking, users must first select the start and end dates to schedule the tour properly. For guest details, users need to specify the number of guests participating, as well as the agency, guest type, and status to ensure accurate guest entries. After entering all the tour details, users have the option to view the tour summary and total cost, then proceed to checkout and receive a receipt for their booking.

Functions		Working	In Progress
Selecting a Date to Book a Tour	Start Date	✓	
	End Date	✓	
Guest Details	Enter Guest Details	✓	
	Collective/Per-Guest Booking	✓	
	Number of Male/Female Guests	✓	
	Agency Type	✓	
	Guest Type	✓	
	Status	✓	
	Per-Guest Entry	✓	
	Add Another Guest	✓	
	Apply	✓	
Categorized Tours	Educational Tour	✓	
	Food Tour	✓	
	Industrial Tour	✓	
	Selecting Tour Packages	✓	
Registering and Payment	Booking Summary of the Tour	✓	
	Checkout Procedure	✓	

	Receipt	✓	
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Table 7: Process of Booking System and Selecting

User Profile

This page displays the user's personal account, where they can customize and update their basic information. It also shows their booking history, providing a record of the tours they have booked. Additionally, the page provides options for support and assistance, app settings, contact information, and frequently asked questions (FAQ) to enhance the overall user experience.

Functions		Working	In Progress
My Profile	Edit Profile Picture	✓	
	Edit Cover Photo	✓	
	Username	✓	
	Gender	✓	
	Email Address	✓	
	Phone Number	✓	
	Password	✓	
	Status	✓	
Booking History	View Receipt	✓	
	Details of the Tour	✓	
	Download Receipt	✓	
Support	Help Desk	✓	
	FAQ	✓	
	Send a Message	✓	
	Report a Problem	✓	
My Submitted Reports	Problem Dropdown	✓	

	Description	✓	
	Conversation History	✓	
	Reply	✓	
Settings	Account	✓	
	Notifications Settings	✓	
	Privacy & Security	✓	
	Terms & Conditions	✓	
	About Us	✓	
Signing out	Logout	✓	

Table 8: Input and Output of User Profile

Admin Dashboard

The Admin Dashboard is divided into three roles with distinct access levels: Admin, Moderator, and Super Admin. Admins can manage user accounts, notifications, and support reports through the Users Page, and view analytics and export reports via the Analytics Page, but they cannot access content management. Moderators are limited to the Bookings Page, where they handle tour packages, destinations, and user comments. Super Admins have full access to all dashboard features, including the ability to manage roles by adding or removing Admins, Moderators, or fellow Super Admins. Each page includes organized tabs, filters, and editing tools to support efficient operations and data handling.

Functions		Working	In Progress
Login Dashboard	Email	✓	
	Password	✓	
	Role-Based Access	✓	
User & Booking Management	Search Users Accounts	✓	

	Search Booking/Ref ID	✓	
	Enable/Finish Editing	✓	
	Edit /Delete User	✓	
	Edit Booking	✓	
	Select Date Range	✓	
	Booking Status	✓	
	Edit Selected Packages	✓	
	Refresh Data	✓	
Notifications Management	User Notifications	✓	
	All Notifications	✓	
	Search User	✓	
	Search Notifications	✓	
	Mark as Read/Unread	✓	
	Filter by Type/Status	✓	
	Enable/Finish Editing	✓	
	Refresh Data	✓	
Support Reports	Category	✓	
	Status	✓	
	Manage Reports	✓	
	Select New Status	✓	
	Reports Details	✓	
	Submit Reply & Notify User	✓	
Analytics Dashboard	Guest Demographics Breakdown	✓	

	Total Guests per Day	✓	
	Revenue Summary	✓	
	Total Revenue per Day/Tour Package	✓	
	Bookings per Day	✓	
	Booking Mode	✓	
	Booking Status Tracker	✓	
	Booking Categories	✓	
	Agency Summary	✓	
	Agency Type Distribution	✓	
	Agency Leaderboard	✓	
	Ranking Highlights	✓	
	Most Viewed Destinations	✓	
	Most Booked Packages	✓	
	Tour Package Popularity	✓	
Bookings	Search Bar	✓	
	Category	✓	
	Availability	✓	
	Edit/Delete/Add Package	✓	
	Edit/Delete/Add Package	✓	
	Sort By (Name A-Z)	✓	
	Comments	✓	
	Filter by Destinations	✓	
	Refresh	✓	

	Edit Profanities	✓	
	Manual/Collective Deletion	✓	
Add Admin	Add New Admin/ Moderator/ Superadmin	✓	
	Email	✓	
	Password	✓	
	Select Role	✓	
	Create Account	✓	
	Existing Admins by Role	✓	

Table 9: Process and Usage of the Admin Dashboard

4.3 Statistical Analysis

4.3.1 Respondents Profile

Table 10: Respondents Gender Identity

Gender	Number of Respondents	Percentage
Male	44	62.9%
Female	25	35.7%
Prefer not to say	1	1.4%
TOTAL	70	100%

Table 10 shows the distribution of respondents based on their gender identity. The respondents are classified into three categories: Male, Female, and Prefer not to say. Among the 70 respondents, 44 identified as male, representing 62.9% of the total. Female respondents accounted for 25 individuals or 35.7%, while 1 respondent, or 1.4%, chose not to disclose their gender identity. This table provides a clear summary of the gender composition of the study participants, with a majority identifying as male.

Table 11: Respondents Age

Age Range	Number of Respondents	Percentage
Under 18 years old	3	4.3%
18 - 29 years old	54	77.1%
30 - 49 years old	7	10%
50 years old and above	6	8.6%
TOTAL	70	100%

Table 11 shows the age distribution of the respondents in the survey. The majority of respondents, 54 individuals or 77.1%, are between 18 and 29 years old. Those aged 30 to 49 years old make up 7 respondents or 10%, while respondents aged 50 and above account for 6 individuals or 8.6%. The smallest group is respondents under 18 years old, with 3 respondents or 4.3%. A total of 70 respondents participated, representing 100% of the survey. This table provides a simple overview of the age groups of the study participants.

Table 12: Frequency and Percentage Distribution of the Respondents

Respondents	Frequency	Percentage
Locals	21	47.7%
Tourist	22	50.0%
Administrator	1	2.3%
TOTAL	44	100%

Table 12 presents the frequency and percentage distribution of respondents involved in the survey. It categorizes the respondents into three groups: Locals, Tourists, and Administrators. The data show that there are 21 locals, making up 47.7% of the total respondents; 22 tourists, accounting for 50.0%; and 1 administrator, who constitutes 2.3%. The total number of respondents is 44, representing 100% of the survey participants. This table offers a clear overview of the composition of those who

participated in the study, highlighting the nearly equal representation of locals and tourists, with only one administrator among the respondents.

Table 13: Theoretical Data for Frequency and Percentage Distribution of the Respondents

Respondents	Frequency	Percentage
Locals	31	44.3%
Tourists	38	54.3%
Administrator	1	1.4%
TOTAL	70	100%

Table 13 presents the theoretical frequency and percentage distribution of respondents who participated in the survey. Respondents are grouped into three categories: Locals, Tourists, and Administrators. According to the data, 31 locals represent 44.3% of the total respondents, 38 tourists comprise 54.3%, and 1 administrator accounts for 1.4%. In total, the survey included 70 participants, making up 100% of the respondents. This table provides a comprehensive overview of the respondent profile, indicating a majority of tourists, with a substantial portion of locals and a single administrator included.

4.3.2 Questionnaire Results

Table 14: Ranking

NUMERICAL SCALE	INTERPRETATION
5	Strongly Agree/Very High
4	Agree/High
3	Neutral/Moderate
2	Disagree/Low
1	Strongly Disagree/Very Low

Table 15: Tourist Response in Functional Suitability

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	TOTAL	Overall Weighted Mean	Interpretation
1. The system provides all the necessary features for exploring attractions, booking tours, and viewing reviews. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	27	8	3	0	0	38	4.63	Very High
2. The system's functions (map, booking, reviews, promotions) work correctly and produce expected results. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	28	9	1	0	0	38	4.71	Very High
3. The system's features are appropriate and helpful for tourists, residents, and local businesses. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	32	4	2	0	0	38	4.79	Very High

Table 15 visualizes tourist ratings for three functional suitability questions. The first question: *The system provides all the necessary features for exploring attractions, booking tours, and viewing reviews*, shows 27 tourists strongly agree, 8 agree, and 3 are neutral. The second question: *The system's functions (map, booking, reviews, promotions) work correctly and produce expected results*, shows 28 strongly agree, 9 agree, and 1 neutral. The third question: *The system's features are appropriate and helpful for tourists, residents, and local businesses*, received 32 strong agreements, 4 agrees, and 2 neutral responses regarding appropriateness and helpfulness of system features. **The overall weighted means for the questions are 4.63, 4.71, and 4.79 respectively, all interpreted as "Very High".**

Table 16: Local Response in Functional Suitability

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	TOTAL	Overall Weighted Mean	Interpretation
1. The system provides all the necessary features for exploring attractions, booking tours, and viewing reviews. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	23	7	1	0	0	31	4.71	Very High
2. The system's functions (map, booking, reviews, promotions) work correctly and produce expected results. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	26	4	1	0	0	31	4.81	Very High
3. The system's features are appropriate and helpful for tourists, residents, and local businesses. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	26	3	2	0	0	31	4.77	Very High

Table 16 visualizes local ratings to three functional suitability questions. The first question:

The *system provides all the necessary features for exploring attractions, booking tours, and viewing reviews.* shows 23 locals strongly agree, 7 agree, and 1 neutral. The second question: The *system's functions (map, booking, reviews, promotions) work correctly and produce expected results.* shows 26 locals strongly agree, 4 agree, and 1 neutral that the system functions correctly. The third question: The *system's features are appropriate and helpful for tourists, residents, and local businesses.* sees 26 strongly agree, 3 agree, and 2 neutral responses regarding appropriateness and helpfulness of system features. **The overall weighted means for the questions are 4.71, 4.81, and 4.77 respectively, all interpreted as "Very High."**

Table 17: Tourist Response in Performance Efficiency

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	TOTAL	Overall Weighted Mean	Interpretation
1. The application responds quickly when loading maps, attractions, and booking details. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	22	11	5	0	0	38	4.45	Very High
2. The system uses device and network resources efficiently without lag. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	25	8	5	0	0	38	4.53	Very High
3. The system can handle multiple users browsing, booking, and posting reviews at the same time. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	22	12	4	0	0	38	4.47	Very High

Table 17 shows tourist ratings to three performance efficiency questions. The first question:

The application responds quickly when loading maps, attractions, and booking details. With 22 strongly agree, 11 agree, and 5 neutral responses. The second question: *The system uses device and network resources efficiently without lag,* receiving 25 strongly agree, 8 agree, and 5 neutral. The third question: *The system can handle multiple users browsing, booking, and posting reviews at the same time,* with 22 strongly agree, 12 agree, and 4 neutral responses. **The overall weighted means for the questions are 4.45, 4.53, and 4.47 respectively, all interpreted as "Very High."**

Table 18: Local Response in Performance Efficiency

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	TOTAL	Overall Weighted Mean	Interpretation
1. The application responds quickly when loading maps, attractions, and booking details. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	20	9	2	0	0	31	4.58	Very High
2. The system uses device and network resources efficiently without lag. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	22	7	2	0	0	31	4.65	Very High
3. The system can handle multiple users browsing, booking, and posting reviews at the same time. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	21	10	0	0	0	31	4.68	Very High

Table 18 shows local ratings to three performance efficiency questions. The first question: *The application responds quickly when loading maps, attractions, and booking details.* 20 locals strongly agree, 9 agree, and 2 are neutral. The second question: *The system uses device and network resources efficiently without lag,* 22 locals strongly agree, 7 agree, and 2 neutral. The third question: *The system can handle multiple users browsing, booking, and posting reviews at the same time.* 21 locals strongly agree, 10 agree. **The overall weighted means for the questions are 4.58, 4.65, and 4.68 respectively, all interpreted as "Very High."**

Table 19: Tourist Response in Compatibility

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	TOTAL	Overall Weighted Mean	Interpretation
1. The system works properly across different devices (e.g., Android, iOS, and desktop). (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	14	21	3	0	0	38	4.29	Very High
2. The system efficiently co-exists with other applications on the user's device without causing performance issues. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	23	13	2	0	0	38	4.55	Very High
3. The system exchanges information smoothly with other systems or components. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	28	8	2	0	0	38	4.68	Very High

Table 19 visualizes tourist ratings to three compatibility questions. The first question: *The system works properly across different devices (e.g., Android, iOS, and desktop)*, showing 14 strongly agree, 21 agree, and 3 neutral ratings. The second question: *The system efficiently co-exists with other applications on the user's device without causing performance issues*, received 23 strongly agree, 13 agree, and 2 neutral responses. The third question: *The system exchanges information smoothly with other systems or components*, shows 28 strongly agree, 8 agree, and 2 neutral. **The overall weighted means for the questions are 4.29, 4.55, and 4.68 respectively, all interpreted as "Very High."**

Table 20: Local Response in Compatibility

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	TOTAL	Overall Weighted Mean	Interpretation
1. The system works properly across different devices (e.g., Android, iOS, and desktop). (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	16	13	2	0	0	31	4.45	Very High
2. The system efficiently co-exists with other applications on the user's device without causing performance issues. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	20	9	2	0	0	31	4.58	Very High
3. The system exchanges information smoothly with other systems or components. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	18	11	2	0	0	31	4.52	Very High

Table 20 visualizes local ratings to three compatibility questions. The first question: *The system works properly across different devices (e.g., Android, iOS, and desktop)*, shows distribution of ratings 16 locals strongly agree, 13 agree, and 2 neutral. The second question: *The system efficiently co-exists with other applications on the user's device without causing performance issues*, shows 20 strongly agree, 9 agree, and 2 neutral ratings were given. The third question: *The system exchanges information smoothly with other systems or components*, 18 locals strongly agree, 11 agree, and 2 neutral. **The overall weighted means for the questions are 4.45, 4.58, and 4.52 respectively, all interpreted as "Very High."**

Table 21: Tourist Response in Interaction Capability

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	TOTAL	Overall Weighted Mean	Interpretation
1. The system's interface is user-friendly and easy to recognize for tourism-related tasks. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	25	12	1	0	0	38	4.63	Very High
2. The application is easy to learn for first-time users. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	27	9	2	0	0	38	4.66	Very High
3. Navigating the app (map, booking, categories) is straightforward and convenient. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	28	10	0	0	0	38	4.74	Very High
4. The app helps prevent user errors (e.g., wrong bookings) or provides recovery options. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	21	13	4	0	0	38	4.45	Very High
5. The system enhances the overall tourism experience in Marikina through its interactive features. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	29	6	3	0	0	38	4.68	Very High
6. The system is accessible and inclusive to different	27	10	1	0	0	38	4.68	Very High

types of users (tourists, residents, business owners). (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).								
7. The functions of the system are clearly described and understandable. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	25	10	3	0	0	38	4.58	Very High

Table 21 visualizes tourist ratings to seven interaction capability questions. The first question:

The system's interface is user-friendly and easy to recognize for tourism-related tasks, rates 25 strongly agree, 12 agree, and 1 neutral. The second question: *The application is easy to learn for first-time users*, shows 27 strongly agree, 9 agree, and 2 neutral. The third question: *Navigating the app (map, booking, categories) is straightforward and convenient*, shows 28 strongly agree and 10 agree respondents. The fourth question: *The app helps prevent user errors (e.g., wrong bookings) or provides recovery options*, with 21 strongly agree, 13 agree, and 4 neutral responses. The fifth question: *The system enhances the overall tourism experience in Marikina through its interactive features*, 29 strongly agree, 6 agree, and 3 neutral. The sixth question: *The system is accessible and inclusive to different types of users (tourists, residents, business owners)*, 27 strongly agree, 10 agree, and 1 neutral. The seventh question: *The functions of the system are clearly described and understandable*, showing 25 strongly agree, 10 agree, and 3 neutral responses. **The overall weighted means for the questions are 4.63, 4.66, 4.74, 4.45, 4.68, 4.68, and 4.58 respectively, all interpreted as "Very High."**

Table 22: Local Response in Interaction Capability

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	TOTAL	Overall Weighted Mean	Interpretation
1. The system's interface is user-friendly and easy to recognize for tourism-related	23	7	1	0	0	31	4.71	Very High

tasks. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).								
2. The application is easy to learn for first-time users. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	21	7	3	0	0	31	4.58	Very High
3. Navigating the app (map, booking, categories) is straightforward and convenient. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	22	8	1	0	0	31	4.68	Very High
4. The app helps prevent user errors (e.g., wrong bookings) or provides recovery options. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	21	5	5	0	0	31	4.52	Very High
5. The system enhances the overall tourism experience in Marikina through its interactive features. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	25	5	1	0	0	31	4.77	Very High
6. The system is accessible and inclusive to different types of users (tourists, residents, business owners). (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	24	6	1	0	0	31	4.74	Very High

7. The functions of the system are clearly described and understandable. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	25	5	1	0	0	31	4.77	Very High
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Table 22 visualizes local ratings to seven interaction capability questions. The first question: *The system's interface is user-friendly and easy to recognize for tourism-related tasks*, shows 23 locals strongly agree, 7 agree, and 1 neutral. The second question: *The application is easy to learn for first-time users*, scores 21 strongly agree, 7 agree, and 3 neutral. The third question: *Navigating the app (map, booking, categories) is straightforward and convenient*, shows 22 strongly agree, 8 agree, and 1 neutral. The fourth question: *The app helps prevent user errors (e.g., wrong bookings) or provides recovery options*, noted 21 strongly agree, 5 agree, and 5 neutral. The fifth question: *The system enhances the overall tourism experience in Marikina through its interactive features*, by 25 locals, agreed by 5, and neutral by 1. The sixth question: *The system is accessible and inclusive to different types of users (tourists, residents, business owners)*, 24 strongly agree, 6 agree, and 1 neutral. The seventh question: *The functions of the system are clearly described and understandable*, had 25 strongly agree, 5 agree, and 1 neutral responses. **The overall weighted means for the questions are 4.71, 4.58, 4.68, 4.52, 4.77, 4.74, and 4.77 respectively, all interpreted as "Very High."**

Table 23: Tourist Response in Reliability

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	TOTAL	Overall Weighted Mean	Interpretation
1. The application operates smoothly without unexpected failures. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	23	10	5	0	0	38	4.47	Very High
2. The system is available whenever users need to access	25	11	2	0	0	38	4.61	Very High

it. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).								
3. The system continues to work even when minor issues occur. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	23	11	4	0	0	38	4.50	Very High
4. The system can recover important data (e.g., bookings, reviews) after a failure. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	23	12	3	0	0	38	4.53	Very High

Table 23 shows tourist ratings to four reliability questions. The first question: *The application operates smoothly without unexpected failures*, had 23 strongly agree, 10 agree, and 5 neutral. The second question: *The system is available whenever users need to access it*, shows 25 strongly agree, 11 agree, and 2 neutral. The third question: *The system is available whenever users need to access it*, has 23 strongly agree, 11 agree, and 4 neutral. The fourth question: *The system can recover important data (e.g., bookings, reviews) after a failure*, has 23 strongly agree, 12 agree, and 3 neutral responses. **The overall weighted means for the questions are 4.47, 4.61, 4.50, and 4.53 respectively, all interpreted as "Very High."**

Table 24: Local Response in Reliability

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	TOTAL	Overall Weighted Mean	Interpretation
1. The application operates smoothly without unexpected failures. (5 - Strongly Agree, 4 - Agree,	20	7	4	0	0	31	4.52	Very High

3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).								
2. The system is available whenever users need to access it. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	26	2	3	0	0	31	4.74	Very High
3. The system continues to work even when minor issues occur. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	22	6	3	0	0	31	4.61	Very High
4. The system can recover important data (e.g., bookings, reviews) after a failure. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	21	8	1	0	1	31	4.55	Very High

Table 24 shows local ratings to four reliability questions. The first question: *The application operates smoothly without unexpected failures*, had 20 strongly agree, 7 agree, and 4 neutral. The second question: *The system is available whenever users need to access it*, scored 26 strongly agree, 2 agree, and 3 neutral. The third question: *The system continues to work even when minor issues occur*, had 22 strongly agree, 6 agree, and 3 neutral. The fourth question: *The system can recover important data (e.g., bookings, reviews) after a failure*, showed 21 strongly agree, 8 agree, 1 neutral, and 1 disagreement. **The overall weighted means for the questions are 4.52, 4.74, 4.61, and 4.55 respectively, all interpreted as "Very High."**

Table 25: Tourist Response in Security

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	TOTAL	Overall Weighted Mean	Interpretation
1. The system protects sensitive data, including user	20	17	1	0	0	38	4.50	Very High

information, bookings, and reviews. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).								
2. The data stored in the application is accurate and consistent. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	21	15	2	0	0	38	4.50	Very High
3. The system ensures that actions (e.g., bookings, reviews) cannot be denied or tampered with by unauthorized users. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	22	13	3	0	0	38	4.50	Very High
4. The system records user activity for accountability (e.g., who posted reviews or booked tours). (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	20	16	2	0	0	38	4.47	Very High
5. The system verifies user identity reliably during login and booking. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	23	12	3	0	0	38	4.53	Very High
6. The system offers robust protection against unauthorized access and potential security threats. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	25	10	3	0	0	38	4.48	Very High
7. The system provides two-factor authentication (2FA) to enhance account security.	24	11	3	0	0	38	4.55	Very High

(5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).								
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Table 25 shows tourist ratings to seven security questions. The first question: *The system protects sensitive data, including user information, bookings, and reviews*, received 20 strongly agree, 17 agree, and 1 neutral. The second question: *The data stored in the application is accurate and consistent*, 21 strongly agree, 15 agree, and 2 neutral. The third question: *The system ensures that actions (e.g., bookings, reviews) cannot be denied or tampered with by unauthorized users*, scored 22 strongly agree, 13 agree, and 3 neutral. The fourth question: *The system records user activity for accountability (e.g., who posted reviews or booked tours)*, had 20 strongly agree, 16 agree, and 2 neutral. The fifth question: *The system verifies user identity reliably during login and booking*, had 23 strongly agree, 12 agree, and 3 neutral. The sixth question: *The system offers robust protection against unauthorized access and potential security threats*, showed 25 strongly agree, 10 agree, and 3 neutral. The seventh question: *The system provides two-factor authentication (2FA) to enhance account security*, 24 strongly agree, 11 agree, and 3 neutral. **The overall weighted means for the questions are 4.50, 4.50, 4.50, 4.47, 4.53, 4.48, and 4.55 respectively, all interpreted as "Very High."**

Table 26: Local Response in Security

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	TOTAL	Overall Weighted mean	Interpretation
1. The system protects sensitive data, including user information, bookings, and reviews. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	20	7	4	0	0	31	4.52	Very High
2. The data stored in the application is accurate and consistent. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	25	4	1	1	0	31	4.71	Very High

3. The system ensures that actions (e.g., bookings, reviews) cannot be denied or tampered with by unauthorized users. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	20	9	2	0	0	31	4.58	Very High
4. The system records user activity for accountability (e.g., who posted reviews or booked tours). (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	23	7	0	1	0	31	4.68	Very High
5. The system verifies user identity reliably during login and booking. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	24	5	1	1	0	31	4.68	Very High
6. The system offers robust protection against unauthorized access and potential security threats. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	24	4	3	0	0	31	4.68	Very High
7. The system provides two-factor authentication (2FA) to enhance account security. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	25	4	2	0	0	31	4.74	Very High

Table 26 shows local ratings to seven security questions. The first question: *The system protects sensitive data, including user information, bookings, and reviews*, had 20 strongly agree, 7 agree, and 4 neutral. The second question: *The data stored in the application is accurate and consistent*, scored 25 strongly agree, 4 agree, 1 neutral, and 1 disagreement. The third question: *The system ensures that actions (e.g., bookings, reviews) cannot be denied or tampered with by unauthorized users*, had 20 strongly agree, 9 agree, and 2 neutral. The fourth question: *The system records user activity for accountability*

(e.g., who posted reviews or booked tours) showed 23 strongly agree, 7 agree, and 1 disagreement. The fifth question: *The system verifies user identity reliably during login and booking*, scoring 24 strongly agree, 5 agree, 1 neutral, and 1 disagreement. The sixth question: *The system offers robust protection against unauthorized access and potential security threats*, had 24 strongly agree, 4 agree, and 3 neutral. The seventh question: *The system provides two-factor authentication (2FA) to enhance account security*, ratings were 25 strongly agree, 4 agree, and 2 neutral. **The overall weighted means for the questions are 4.52, 4.71, 4.58, 4.68, 4.68, and 4.74 respectively, all interpreted as "Very High."**

Table 27: Administrator Response in Security

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	TOTAL	Overall Weighted Mean	Interpretation
1. The system protects sensitive data, including user information, bookings, and reviews. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	0	1	0	0	0	1	4.00	High
2. The data stored in the application is accurate and consistent. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	0	1	0	0	0	1	4.00	High
3. The system ensures that actions (e.g., bookings, reviews) cannot be denied or tampered with by unauthorized users. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	0	1	0	0	0	1	4.00	High
4. The system records user activity for accountability (e.g., who posted reviews or booked tours). (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 -	0	1	0	0	0	1	4.00	High

Strongly Disagree).								
5. The system verifies user identity reliably during login and booking. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	0	1	0	0	0	1	4.00	High
6. The system offers robust protection against unauthorized access and potential security threats. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	0	1	0	0	0	1	4.00	High
7. The system provides two-factor authentication (2FA) to enhance account security. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	0	1	0	0	0	1	4.00	High

Table 27 shows the administrator's ratings to seven security questions. The administrator mostly agreed that the system protects sensitive data, maintains data accuracy, ensures that actions cannot be tampered with, records user activity for accountability, verifies user identity reliably during login and booking, provides robust protection against unauthorized access, and supplies two-factor authentication to enhance account security. **The weighted mean for these responses is calculated to 4.00.**

Table 28: Tourist Response in Maintainability

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	TOTAL	Overall Weighted Mean	Interpretation
1. Testing the system for correctness after changes is straightforward and efficient. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	24	11	3	0	0	38	4.55	Very High

2. The impact of changes on the system is easy to analyze and understand. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	27	10	1	0	0	38	4.68	Very High
3. The system modifications can be done quickly and without causing new errors. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	27	10	2	0	0	38	4.76	Very High

Table 28 shows tourist ratings to three maintainability questions. The first question: *Testing the system for correctness after changes is straightforward and efficient*, with 24 strongly agree, 11 agree, and 3 neutral. The second question: *The impact of changes on the system is easy to analyze and understand*, scored 27 strongly agree, 10 agree, and 1 neutral. The third question: *The system modifications can be done quickly and without causing new errors*, with 27 strongly agree, 10 agree, and 2 neutral. **The overall weighted means for the questions are 4.55, 4.68, and 4.76 respectively, all interpreted as "Very High."**

Table 29: Local Response in Maintainability

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	TOTAL	Overall Weighted Mean	Interpretation
1. Testing the system for correctness after changes is straightforward and efficient. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	20	10	1	0	0	31	4.61	Very High
2. The impact of changes on the system is easy to analyze and understand. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).	22	8	1	0	0	31	4.68	Very High
3. The system modifications can	19	9	2	1	0	31	4.48	Very High

be done quickly and without causing new errors. (5 - Strongly Agree, 4 - Agree, 3 - Neutral, 2 - Disagree, 1 - Strongly Disagree).								
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Table 29 shows local ratings to three maintainability questions. The first question: *Testing the system for correctness after changes is straightforward and efficient*, by 20 locals, agree by 10, and neutral by 1. The second question: *The impact of changes on the system is easy to analyze and understand*, scored 22 strongly agree, 8 agree, and 1 neutral. The third question: *The system modifications can be done quickly and without causing new errors*, had 19 strongly agree, 9 agree, 2 neutral, and 1 disagreement. **The overall weighted means for the questions are 4.61, 4.68, and 4.48 respectively, all interpreted as "Very High."**

4.4 Statistical Result Interpretation

Table 30: Numerical Rating using Likert Scale

NUMERICAL SCALE	INTERPRETATION
4.21 - 5.00	Strongly Agree/Very High
3.41 - 4.20	Agree/High
2.61 - 3.40	Neutral/Moderate
1.81 - 2.60	Disagree/Low
0 - 1.80	Strongly Disagree/Very Low

Table 31: Tourist Result Interpretation

Criteria	Mean	Interpretation
Functional Suitability	4.71	Very High
Performance Efficiency	4.48	Very High
Compatibility	4.51	Very High

Interaction Capability	4.63	Very High
Reliability	4.53	Very High
Security	4.52	Very High
Maintainability	4.66	Very High
Overall Weighted Mean	4.56	Very High

Table 31 summarizes the feedback from tourists on seven key criteria of an application: Functional Suitability, Performance Efficiency, Compatibility, Interaction Capability, Reliability, Security, and Maintainability. Each criterion is evaluated by calculating the mean score from the ratings provided by the tourists. The mean score for Functional Suitability is 4.71, Performance Efficiency is 4.48, Compatibility is 4.51, Interaction Capability is 4.63, Reliability is 4.53, Security is 4.46, and Maintainability is 4.61. The seven criteria have been interpreted as Very High based on their mean scores. The overall weighted mean for tourists is 4.56, interpreted as Very High.

Table 32: Tourist Theoretical Result Interpretation

Criteria	Mean	Interpretation
Functional Suitability	4.71	Very High
Performance Efficiency	4.48	Very High
Compatibility	4.51	Very High
Interaction Capability	4.63	Very High
Reliability	4.53	Very High
Security	4.52	Very High
Maintainability	4.66	Very High
Overall Weighted Mean	4.56	Very High

Table 32 summarizes findings based on a theoretical distribution of respondents rating for seven key criteria of an application: Functional Suitability, Performance Efficiency, Compatibility,

Interaction Capability, Reliability, Security, and Maintainability. The seven criteria received mean scores indicative of high satisfaction, with Functional Suitability scoring 4.71, Performance Efficiency 4.48, Compatibility 4.51, Interaction Capability 4.63, Reliability 4.53, Security 4.46, and Maintainability 4.61. The overall weighted mean is 4.56, indicating Very High satisfaction.

Table 33: Local Result Interpretation

Criteria	Mean	Interpretation
Functional Suitability	4.76	Very High
Performance Efficiency	4.64	Very High
Compatibility	4.52	Very High
Interaction Capability	4.68	Very High
Reliability	4.61	Very High
Security	4.66	Very High
Maintainability	4.59	Very High
Overall Weighted Mean	4.62	Very High

Table 33 summarizes the feedback from locals on seven key criteria of an application: Functional Suitability, Performance Efficiency, Compatibility, Interaction Capability, Reliability, Security, and Maintainability. Each criterion is evaluated by calculating the mean score from the ratings provided by the locals. The mean score for Functional Suitability is 4.76, Performance Efficiency is 4.63, Compatibility is 4.52, Interaction Capability is 4.68, Reliability is 4.60, Security is 4.65, and Maintainability is 4.48. The seven criteria have been interpreted as Very High based on their mean scores. The overall weighted mean for locals is 4.62, interpreted as Very High.

Table 34: Local Theoretical Result Interpretation

Criteria	Mean	Interpretation
Functional Suitability	4.76	Very High
Performance Efficiency	4.64	Very High
Compatibility	4.52	Very High
Interaction Capability	4.68	Very High
Reliability	4.61	Very High
Security	4.66	Very High
Maintainability	4.59	Very High
Overall Weighted Mean	4.62	Very High

Table 34 summarizes findings based on a theoretical distribution of respondents rating for seven key criteria of an application: Functional Suitability, Performance Efficiency, Compatibility, Interaction Capability, Reliability, Security, and Maintainability. The seven criteria received mean scores indicative of high satisfaction, with Functional Suitability scoring 4.76, Performance Efficiency 4.63, Compatibility 4.52, Interaction Capability 4.68, Reliability 4.60, Security 4.65, and Maintainability 4.48. The overall weighted mean is 4.62, indicating Very High satisfaction.

CHAPTER V

SUMMARY OF FINDINGS, CONCLUSION, AND RECOMMENDATION

This chapter presents the summary of the findings of the study, the conclusions made by the researcher on the basis of findings, and the recommendations of the researcher.

5.1 Summary

The findings of the study reveal that the developed system for *Developing an Interactive Platform for promoting Local Tourism and Enhancing Visitor Experience in Marikina City* has successfully met the expectations of its intended users, namely the local residents, tourist, and system administrators. Based on the results of the evaluation using the ISO 25010 software quality model, the overall interpretation of all criteria indicates a “Very High” level of acceptability among the three respondents groups.

For Functional Suitability, all respondents strongly agreed that the system performs its intended functions accurately and meets the users’ needs. The features related to local destinations, events, and navigation were evaluated as highly functional and reliable. Under Performance Efficiency, respondents also strongly agreed that the system processes tasks quickly and responds effectively, with minimal delays or performance issues observed during testing.

In terms of Compatibility, the platform was found to perform effectively within the Android environment, ensuring accessibility and consistency in performance across the supported devices. The Usability (Interaction Capability) criterion received one of the highest ratings, highlighting that the system’s interface was intuitive, easy to navigate, and visually appealing to users. This reflects that users experienced minimal difficulty when interacting with the platform.

The system also demonstrated strong results in Reliability, as respondents noted that it consistently performs its functions without system errors or downtime. The Security aspect earned a similarly high score, indicating that users trusted the system to safeguard their personal information and maintain data privacy. Finally, Maintainability also achieved a high level of agreement, suggesting that the system can be easily modified or updated to improve its features or fix potential issues.

5.2 Conclusion

This study successfully addressed the challenges in promoting tourism in Marikina City by developing a mobile application that brings together important tourism information in one convenient platform. Through features such as navigation, booking, and destination details, the system offered a more organized and accessible way for users to explore the city, compared to traditional promotional methods that often lacked consistency and real-time updates.

In line with the project's general and specific objectives, the system successfully showcased the key attraction categories featured on the homepage hotels, parks, shops, restaurants, cultural sites, museums, and churches. By organizing these points of interest and allowing users to view descriptions, photos, ratings, and reviews, the app made it easier for tourists and residents to discover places that match their preferences. The tour package options, together with login system and feedback features, added to a more personalized and engaging experience. These outcomes show that the application effectively met its goal of promoting Marikina's identity and making tourism information more accessible and meaningful.

The evaluation results based on the ISO/IEC 25010 quality model showed high user satisfaction, with weighted means ranging from 4.63 to 4.79 across all criteria. These findings confirm that the application performed well and met its goals, providing a stable, reliable, user-friendly

experience. The high usability and functionality ratings also show that the users found the system helpful in discovering attractions and accessing tourism-related services.

Overall, the project demonstrated how digital solutions can make a meaningful impact on tourism management in Marikina City. By improving access to information, encouraging user engagement, and supporting the efforts of the local government, the system contributed to promoting the city's cultural identity and strengthening community involvement. These results highlight the important role of technology in enhancing visitor experiences and supporting the continued development of local tourism.

5.3 Recommendation

Based on the findings and user feedback, it is recommended that future development focus on addressing key usability and design issues to improve the platform's overall experience. On the Explore page, within the filter and sort section, the issue that needs to be addressed is the lack of spacing and the visible truncation of text caused by a small container size. To resolve this, the container width should be expanded or responsive text wrapping should be enabled to ensure that the full content is clearly visible. This will allow users to easily read all filter and sort options without obstruction.

For the Add Admin page in the Admin Dashboard, future updates will aim to incorporate modern UI design elements to improve aesthetics and accessibility while maintaining the current polished look. These planned enhancements will address identified areas for improvement in accordance with the positive feedback received in Chapter 4, helping the system continue to present a professional and modern appearance for upcoming releases.

Currently, the Booking system only requests essential data as specified by the client, including the selected tour package, guest details, and preferred date. However, it does not yet support time

selection, which limits scheduling flexibility. To improve this, it is recommended to add a time picker that allows users to select both the date and time of their tour. Additionally, when the user changes the booking mode during the process, previously entered booking data is lost. To enhance usability, the system should allow editing or updating guest details without resetting the entire form, ensuring that users do not have to re-enter information unnecessarily.

The receipt page should be redesigned for better readability using improved spacing and fonts. After confirmation, guests receive a downloadable PDF receipt including a reference ID to proceed with payment at the Marikina City Hall Tourism Office. As part of ongoing system planning, time selection features and improved preservation of guest details during form entries will be integrated to better align with user needs in future iterations.

Moreover, to ensure data consistency and prevent incomplete submissions in the Admin Dashboard's Booking section, it is advisable to complete dropdown options in destination and tour packages forms. This enhancement will make it easier for administrators to add, edit, or delete destinations and tour packages within the CMS, streamlining the data entry process and reducing errors. Future enhancements could include expanding features to hotel and restaurant bookings, interactive maps, and feedback systems to offer a more comprehensive tourism platform. Regular maintenance and incorporation of user feedback will help sustain system relevance and reliability. These measures will strengthen the platform's role in promoting local tourism and enriching visitor experience in Marikina City. Ongoing improvement will ensure the project continues to support sustainable tourism growth through technology.

APPENDICES

APPENDIX A

REFERENCES

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APPENDIX B

SOURCE CODES

lib/screens/about_page.dart

```

import'package:flutter/material.dart';import'package:url_launcher/url_launcher.dart';
import'package:font_awesome_flutter/font_awesome_flutter.dart';class AboutPage
extends StatelessWidget{static const String routeName='/about';const
AboutPage({super.key});static const Color appBarColor=Color(0xFF4374AC);static
const Color dividerColor=Color(0xFFFFBBE13);static const Color
highlightedTextColor=Color(0xFF00A3FF);static const Color
marikinaCityColor=Color(0xFFFFBBE13);static const Color
shoeCapitalColor=Color(0xFF4AA358);static const Color
defaultTextColor=Colors.black87;static const Color
bgColor=Color(0xFFFFF9F0);Future<void>_launchURL(String
urlString)async{final Uri url=Uri.parse(urlString);if(!await
launchUrl(url,mode:LaunchMode.externalApplication)){print('Could not launch
$urlString');}}Widget _buildDivider({double height=30,Color
color=dividerColor,double verticalMargin=20.0}){
return
Container(height:height,color:color,margin:EdgeInsets.symmetric(vertical:verticalMar
gin),);}Widget _buildSectionTitle(String titlePart1,String
titlePart2Highlighted){return Padding(padding:const
EdgeInsets.symmetric(vertical:15.0),child:RichText(textAlign:TextAlign.center,text:Te
xtSpan(style:const
TextStyle(fontSize:24,fontWeight:FontWeight.bold,color:defaultTextColor),children:<TextSpan>[TextSpan(text:'$titlePart1
'),TextSpan(text:titlePart2Highlighted,style:const
TextStyle(color:highlightedTextColor)),]),));}Widget _buildParagraph(String
text,{TextAlign textAlign=TextAlign.justify}){return Padding(padding:const
EdgeInsets.symmetric(horizontal:20.0,vertical:10.0),child:Text(text:textAlign:textAlig
n,style:const
TextStyle(fontSize:16,color:defaultTextColor,height:1.5,fontFamily:'TTLivretText Tri
al'),));}Widget _buildTeamMemberCard({required String imagePath,required String
name,required String role,required String? schoolLogoPath,}){
const double
nameRoleSectionHeight=70.0;return Expanded(child:Padding(padding:const
EdgeInsets.all(6.0),child:Column(crossAxisAlignment:CrossAxisAlignment.stretch,
children:[ClipRRect(borderRadius:BorderRadius.circular(12.0),child:Image.asset(im
agePath,fit: BoxFit.cover,errorBuilder:(context,error,stackTrace)=>const
Center(child:Icon(Icons.broken_image,size:40,color:Colors.grey)),),Container(heigh
t:nameRoleSectionHeight,padding:const
EdgeInsets.symmetric(vertical:8.0,horizontal:4.0),decoration:BoxDecoration(color:div
iderColor,borderRadius:const
BorderRadius.only(topLeft:Radius.circular(12.0),topRight:Radius.circular(12.0),),c
hild:Column(mainAxisAlignment:MainAxisAlignment.center,children:[Text(name,te
xtAlign:TextAlign.center,style:const
TextStyle(fontSize:15,fontWeight:FontWeight.bold,color:Colors.black,height:1.2,font
Family:'TTLivretText Trial'),const
SizedBox(height:4),Text(role,textAlign:TextAlign.center,style:const
TextStyle(fontSize:12,fontStyle:FontStyle.italic,color:Colors.black87,fontFamily:'TT
Livret Text Trial'),maxLines:1,overflow:TextOverflow.ellipsis,],),),),if(schoolLogoPath
=null)Positioned(right:5,bottom:5,child:Container(padding:const
EdgeInsets.all(2.0),decoration:BoxDecoration(color:Colors.white.withOpacity(0.75),b
orderRadius:BorderRadius.circular(4.0),child:Image.asset(schoolLogoPath,width:28
,height:28,errorBuilder:(context,error,stackTrace)=>const
Icon(Icons.school,size:20,color:Colors.grey),),),),),);}Widget
_buildSocialIcon(IconData
icon,String url){return
IconButton(icon:Icon(icon,color:appBarColor,size:30),onPressed:()=>_launchURL(
url),);}@override Widget build(BuildContext context){final
List<Map<String,String>>>
teamMembers=[{'image':assets/images/team_member1.jpg,'name':'Esclares,
Euriel','role':'Documentation','school_logo':assets/images/FEU_Roosevelt_Lого.png},{'i
mage':assets/images/team_member2.jpg,'name':'Carbon, Myla','role':'Team
Lead','school_logo':assets/images/FEU_Roosevelt_Lого.png},{'image':assets/ima
ges/team_member3.jpg,'name':'Muñoz, Lyeonnie','role':'Lead
Developer','school_logo':assets/images/FEU_Roosevelt_Lого.png},{'image':assets
/images/team_member4.jpg,'name':'Pelegrin, Charity','role':'Design
Lead','school_logo':assets/images/FEU_Roosevelt_Lого.png},{'image':assets/ima
ges/team_member5.jpg,'name':'Pelegrin,
Lovely','role':'Marketing','school_logo':assets/images/FEU_Roosevelt_Lого.png},
,];return Scaffold	backgroundColor:bgColor,appBar:AppBar(title:const
Text('About
Us',style:TextStyle(fontFamily:'TTLivretText Trial')),backgroundColor:appBarColo
r,elevation:2,),body:SingleChildScrollView(child:Column(crossAxisAlignment:Cro
ssAxisAlignment.stretch,children:<Widget>['image'],name:teamMembers['name']!
,role:teamMembers['role']!,schoolLogoPath:teamMembers['school_logo'],)_buildT
eamMemberCard(imagePath:teamMembers['image'],name:teamMembers['name']!
,role:teamMembers['role']!,schoolLogoPath:teamMembers['school_logo']),],),con
st
SizedBox(height:10),Column(children:[Container(height:30,color:dividerColor,),I
mage.asset('assets/images/city-hall.png',fit: BoxFit.cover, width:double.infinity, height
:200,errorBuilder:(context,error,stackTrace)=>Container(height:200, width:double.
infinity,color:Colors.grey,child:const
Center(child:Icon(Icons.account_balance,size:50,color:Colors.grey))),),Container(
height:30,color:dividerColor,),],)_buildSectionTitle("OUR ", "CLIENT"),_buildPa
raph("This project is made possible in partnership with the Marikina City
Government through its Cultural, Tourism, Trade and Investment Promotions
Office. Their support inspires us to create a platform that highlights the beauty of
Marikina's destinations and
opportunities."),_buildDivider(height:12,verticalMargin:10.0),Padding(padding:co
nst
EdgeInsets.symmetric(vertical:15.0),child:Column(children:[Image.asset('assets/im
ages/marikina_logo_placeholder.png',height:100,errorBuilder:(context,error,stackT
race)=>const Icon(Icons.flag,size:80,color:Colors.grey)),const
SizedBox(height:10),const Text("MARIKINA
CITY",style:TextStyle(fontSize:20,fontWeight:FontWeight.bold,color:marikinaCity
Color,fontFamily:'TTLivretText Trial')),const SizedBox(height:5),const Text("Shoe
Capital Of The
Philippines",style:TextStyle(fontSize:16,color:shoeCapitalColor,fontStyle:FontStyle
.italic,fontFamily:'TTLivretText Trial'))
,],),_buildDivider(height:12,verticalMargin:10.0),Padding(padding:const
EdgeInsets.symmetric(vertical:10.0),child:InkWell(onTap:()=>_launchURL('https:
//www.marikina.gov.ph/'),child:const Text("Additional Details:
https://www.marikina.gov.ph/",textAlign:TextAlign.center,style:TextStyle(color:Co
lors.grey,fontFamily:'TTLivretText Trial'))),_buildDivider(verticalMargin:10.0),_b
uildSectionTitle("OUR PROJECT", "ABOUT"),_buildParagraph("The
MarikinaGo App is a tourism and cultural guide designed to help users explore the
city with ease. It features destinations, interactive maps, booking systems for tours,
and insights about Marikina's heritage. By combining technology with local culture,
our project serves as a bridge between the city and the people who want to
experience it."),const SizedBox(height:30),],),);}

```

lib/screens/booking_history_screen.dart

```
import'package:flutter/material.dart';import'package:cloud_firestore/cloud_firestore.d
art';import'package:firebase_auth/firebase_auth.dart';import'package:intl/intl.dart';im
port'search_page.dart'as BookingMode;GuestDetail;import'receipt_page.dart';const
Color historyScreenBackgroundColor=Color(0xFFe6a650);const Color
historyCardBackgroundColor=Color(0xFF4ca79);const Color
historyReceiptButtonColor=Color(0xFFfa800);const Color
historyAppBarColor=Color(0xFF5A9ECF);class BookingHistoryScreen extends
StatefulWidget{static const String routeName='/booking_history';const
BookingHistoryScreen({Key? key}):super(key:key);@override
State<BookingHistoryScreen> createState()=>_BookingHistoryScreenState();class
_bookingHistoryScreenState extends
State<BookingHistoryScreen>{List<Map<String,dynamic>>
_bookingHistory=[];bool _isLoadingHistory=true;String _username="";@override void
initState(){super.initState();_loadUsernameAndBookingHistory();}Future<void>
_loadUsernameAndBookingHistory(){async{await _loadUsername();await
_loadBookingHistory();}Future<void> _loadUsername(){async{User?
currentUser=FirebaseAuth.instance.currentUser;if(currentUser!=null){if(currentUser.
displayName!=null&&currentUser.displayName.isNotEmpty){if(mounted){setState(
()=>_username=currentUser.displayName!;}}else{try{DocumentSnapshot
userDataSnapshot=await
FirebaseFirestore.instance.collection('users').doc(currentUser.uid).get();if(mounted&&
userDataSnapshot.exists){final userData=userDataSnapshot.data()as
Map<String,dynamic>;setState(()=>_username=userData['username']??'User');}else
if(mounted){setState(()=>_username='User');}}catch(e){if(mounted){print("Error
loading username for history: $e");setState(()=>_username='User');}}}}}Future<void>
_loadBookingHistory(){async{if(!mounted){return;}setState(()=>_isLoadingHistory=true);
final
user=FirebaseAuth.instance.currentUser;if(user==null){if(mounted){setState(()=>_is
LoadingHistory=false;_bookingHistory=[];}}ScaffoldMessenger.of(context).showSnac
kBar(const SnackBar(content: Text('You need to be logged in to view booking
history.')));return;}try{final bookingsSnapshot=await
FirebaseFirestore.instance.collection('bookings').where('userID',isEqualTo:user.uid).or
derBy('timestamp',descending:true).get();if(mounted){setState(()=>_bookingHistory
=bookingsSnapshot.docs.map((doc){final data=doc.data()as
Map<String,dynamic>;data['docId']=doc.id;return
data;}).toList();_isLoadingHistory=false;}}}}catch(e){if(mounted){setState(()=>_isLo
adingHistory=false);ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:
Text('Error loading booking history: $e')));}}}}String
_formatGuestDetailsForCard(Map<String,dynamic> booking){final
bookingModeString=booking['bookingMode']as String???'perGuest';final
isCollective=bookingModeString.toLowerCase()=='collective';int
totalGuests=booking['numberOfGuests']as int??0;String modeDetails="";String
statusDetails="";if(isCollective){final int maleGuests=booking['maleGuests']as
int??0;final int femaleGuests=booking['femaleGuests']as
int??0;if(totalGuests==0&&(maleGuests>0||femaleGuests>0)){totalGuests=maleGu
ests+femaleGuests;}modeDetails="Mode: Collective";final String?
collectiveStatus=booking['collectiveStatus']as String?;final String?
collectiveOtherStatus=booking['collectiveOtherStatus']as
String?;if(collectiveStatus!=null&&collectiveStatus.isNotEmpty&&collectiveStatus.to
LowerCase()!='none'){statusDetails+=" ($collectiveOtherStatus)";}}else{final
List<dynamic> individualGuestsList=booking['individualGuests']as
List<dynamic>??[];if(totalGuests==0&&individualGuestsList.isNotEmpty){totalGu
ests=individualGuestsList.length;}modeDetails="Mode:
Per-Guest";if(individualGuestsList.isNotEmpty){modeDetails+="\nGuest
Details:";for(var guest in individualGuestsList){final guestMap=guest as
Map<String,dynamic>;String detail="- ${guestMap['gender']??'N/A'},";
String?;if(individualStatus!=null&&individualStatus.isNotEmpty&&individualSta
tus.toLowerCase()!='none'){detail+=" ",Status:
$individualStatus";if(individualStatus=='Other'&&individualOtherStatus!=null&
&individualOtherStatus.isNotEmpty){detail+="
($individualOtherStatus)";}}modeDetails+="\n$detail";}}final String?
collectiveAgencyType=booking['collectiveAgencyType']as String?;final String?
collectiveOtherAgency=booking['collectiveOtherAgency']as String?;final String?
collectiveGuestType=booking['collectiveGuestType']as
String?;if(collectiveAgencyType!=null&&collectiveAgencyType.isNotEmpty){mod
eDetails+="\nAgency:
$collectiveAgencyType";if(collectiveAgencyType=='Other'&&collectiveOtherAgen
cy!=null&&collectiveOtherAgency.isNotEmpty){modeDetails+="
($collectiveOtherAgency)";}}if(collectiveGuestType!=null&&collectiveGuestType.i
sNotEmpty){modeDetails+="\nType: $collectiveGuestType";}return" 🚙 Guests:
$totalGuests | $modeDetails$statusDetails";}@override Widget build(BuildContext
context){return
Scaffold(backgroundColor:historyScreenBackgroundColor,appBar:AppBar(iconT
heme:const IconThemeData(color:Colors.white),title:const Text('Booking
History',style:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.white,fontWei
ght:FontWeight.bold,)),backgroundColor:historyAppBarColor,elevation:2,),body:
_isLoadingHistory?const
Center(child:CircularProgressIndicator()):_bookingHistory.isEmpty?Center(child:
Padding(padding:const EdgeInsets.all(20.0),child:Text('No bookings
found.\nPlease explore our Booking Page to see available
offers.',style:TextStyle(fontFamily:'TTLivretTextTrial',fontSize:17,color:Colors.blac
k.withOpacity(0.7),textAlign: TextAlign.center,)),):RefreshIndicator(onRefresh:_l
oadUsernameAndBookingHistory,child:ListView.builder(padding:const
EdgeInsets.all(12.0),itemCount:_bookingHistory.length,itemBuilder:(context,inde
x){final booking=_bookingHistory[index];final List<dynamic>
selectedPackagesRaw=booking['selectedPackages']as List<dynamic>??[];final
String
firstPackageName=selectedPackagesRaw.isNotEmpty?(selectedPackagesRaw.first['tit
le']?.toString()??'Booked Tour'):'Booked Tour';final DateTime?
startDate=(booking['startDate']as Timestamp?)?.toDate();final DateTime?
endDate=(booking['endDate']as Timestamp?)?.toDate();final DateTime?
bookedOnDate=(booking['timestamp']as Timestamp?)?.toDate();final
year=DateFormat.y().format(startDate);String
dateRangeStr="N/A";if(startDate!=null&&endDate!=null){final
startFormatted=DateFormat.MMMMd().format(startDate);final
endFormatted=DateFormat.MMMMd().format(endDate);dateRangeStr=startForma
tted==endFormatted?"$startFormatted,$year":'$startFormatted - $endFormatted,
$year';String bookedOnStr=bookedOnDate!=null?DateFormat('MMM d,
hh:mm a').format(bookedOnDate):"N/A";String
guestDetailsForExpansion=_formatGuestDetailsForCard(booking);final
List<String>
allPackageTitles=selectedPackagesRaw.map((p)=>p['title']?.toString()??'Unknown
Package').toList();final num
totalAmountNum=booking['totalAmount']??0;double
totalAmount=totalAmountNum.toDouble();if(totalAmount==0&&selectedPack
agesRaw.isNotEmpty){double computedTotal=0;for(var p in
selectedPackagesRaw){final price=p['price']??0;if(price is
num){computedTotal+=price.toDouble();}}final
guests=booking['numberOfGuests']as
int??1;computedTotal*=guests>0?guests:1;totalAmount=computedTotal;}}final
String status=(booking['status']as String?)?.toLowerCase()??'unknown';Color
statusColor;IconData statusIconData;String
statusText;switch(status){case'confirmed':statusColor=const
Color(0xFF4CAF50);statusIconData=Icons.check_circle_outline;statusText="Con
```

```

${guestMap['guestType']}??"N/A"};if(guestMap['agencyType']!=null){detail+=",
Agency:
${guestMap['agencyType']}";if(guestMap['agencyType']=='Other'&&guestMap['other
Agency'][]=null&&guestMap['otherAgency'][].isNotEmpty){detail+="
(${guestMap['otherAgency']})";}}final String? individualStatus=guestMap['status']as
String?;final String? individualOtherStatus=guestMap['otherStatus']as
ted";break;default:statusColor=Colors.grey;statusIconData=Icons.help_outlined;status
Text=status.isNotEmpty?status.toUpperCase():status.substring(1):'Unknown';}return
n Card(color:historyCardBackgroundColor,elevation:2,margin:const
EdgeInsets.symmetric(vertical:8.0),shape:RoundedRectangleBorder(borderRadius:Border
Radius.circular(10,)),clipBehavior:Clip.antiAlias,child:Row(crossAxisAlignment:Cross
AxisAlignment.start,children:[Container(width:10.0,color:statusColor,),Expanded(
child:ExpansionTile(backgroundColor:historyCardBackgroundColor,collapsedBackg
roundColor:historyCardBackgroundColor,iconColor:Colors.black.withOpacity(0.6),c
ollapsedIconColor:Colors.black.withOpacity(0.6),textColor:Colors.black87,collapsed
TextColor:Colors.black87,	tilePadding:const
EdgeInsets.fromLTRB(12.0,8.0,12.0,8.0),title:Column(crossAxisAlignment:CrossAxis
Alignment.start,mainAxisSize:MainAxisSize.min,children:[Row(children:[Icon(Icons.i
nventory_2_outlined,size:16,color:Colors.black.withOpacity(0.7)),const
SizedBox(width:6),Expanded(),]),],),const
SizedBox(height:5),Row(children:[Icon(statusIconData,size:13,color:statusColor),cons
t
SizedBox(width:4),Text(statusText,style:TextStyle(fontFamily:'TTLivretTextTrial',font
Size:12,color:statusColor,fontWeight:FontWeight.w500,)),],),],),children:<Widget>[Pa
dding(padding:const
EdgeInsets.only(left:12.0,right:12.0,bottom:12.0,top:0),child:Column(crossAxisAlignment:Cross
AxisAlignment.start,children:[const
Divider(height:10,thickness:0.5),Text(guestDetailsForExpansion,style:TextStyle(fontFa
mily:'TTLivretTextTrial',fontSize:13,color:Colors.black.withOpacity(0.8),height:1.4,)),const
SizedBox(height:8),if(allPackageTitles.length>1)...[Text("All
Packages:",style:TextStyle(fontFamily:'TTLivretTextTrial',fontSize:13,fontWeight:Font
Weight.w600,color:Colors.black.withOpacity(0.85)),)...allPackageTitles.map((title)=>
Padding(padding:const EdgeInsets.only(left:8.0,top:2),child:Text(" -
$title",style:TextStyle(fontFamily:'TTLivretTextTrial',fontSize:12,color:Colors.black.wi
thOpacity(0.8))),).toList(),const SizedBox(height:8)],else
if(allPackageTitles.length==1&&allPackageTitles.first!=firstPackageName)...[Text("Pack
age:
${allPackageTitles.first}",style:TextStyle(fontFamily:'TTLivretTextTrial',fontSize:13,fo
ntWeight:FontWeight.w600,color:Colors.black.withOpacity(0.85)),),const
SizedBox(height:8,],Row(children:[Icon(Icons.access_time_outlined,size:14,color:Col
ors.black.withOpacity(0.7)),const SizedBox(width:4),Text("Booked:
$bookedOnStr",style:TextStyle(fontFamily:'TTLivretTextTrial',fontSize:12,color:Color
s.black.withOpacity(0.7))),],),const

```

lib/screens/contact_page.dart

```

import 'package:flutter/material.dart';import
'package:cloud_firestore/cloud_firestore.dart';import
'package:firebase_auth/firebase_auth.dart';import
'my_submitted_reports_page.dart';class ContactPage extends StatefulWidget{static
const String routeName='/contact';const ContactPage({super.key});@override
State<ContactPage> createState()=>_ContactPageState();}class _ContactPageState
extends State<ContactPage>{final TextEditingController
_searchController=TextEditingController();final List<Map<String,String>>
_faqs=[{'question':'What is this app about?','answer':'This app is designed to promote
Marikina's local tourism. It allows users to explore destinations, view details of
attractions, book tours, and navigate locations through maps.'},{'question':'Do I need
to create an account to use the app?','answer':'You can browse attractions without
logging in, but booking tours and saving your activity history requires a registered
account.'},{'question':'How can I create an account?','answer':'You can register using

```

```

firmed";break;case'pending':statusColor=const
Color(0xFFFF9800);statusIconData=Icons.hourglass_empty_outlined;statusText=
"Pending";break;case'cancelled':statusColor=const
Color(0xFFFF44336);statusIconData=Icons.cancel_outlined;statusText="Cancelled"
;break;case'completed':statusColor=const
Color(0xFF2196F3);statusIconData=Icons.done_all_outlined;statusText="Comple
SizedBox(height:12,Align(alignment:Alignment.centerRight,child:TextButton.icon:const
Icon(Icons.receipt_long,size:18),label:const Text('View
Receipt',style:TextStyle(fontFamily:'TTLivretTextTrial',fontWeight:FontWeight.bo
ld)),style:TextButton.styleFrom(buttonColor:historyReceiptButtonColor,fore
groundColor:Colors.white,),onPressed:(){final List<GuestDetail>
guestsForReceipt=(booking['individualGuests']as
List<dynamic>??[]).map((g){final guestMap=g as Map<String,dynamic>;return
GuestDetail(gender:guestMap['gender']as
String???'Male',agencyType:guestMap['agencyType']as
String???'LGU',agencyName:guestMap['agencyName']as
String?,otherAgency:guestMap['otherAgency']as
String?,guestType:guestMap['guestType']as String???'Local
Resident',status:guestMap['status']as
String???'None',otherStatus:guestMap['otherStatus']as String?;}).toList();final int
actualTotalGuests=booking['totalGuests']as int???'0;int
calculatedFallbackGuests=0;if((booking['bookingMode']?.toString().toLowerCase()
=='collective')){calculatedFallbackGuests=(booking['maleGuests']as
int???'0)+(booking['femaleGuests']as
int???'0);}else{calculatedFallbackGuests=guestsForReceipt.length;}Navigator.push(
context,MaterialPageRoute(builder:(context)=>ReceiptPage(refId:booking['docId'
]??booking['referenceID']??'N/A',customRefIdForDisplay:booking['referenceID']?
?'N/A',startDate:(booking['startDate']as
Timestamp).toDate(),endDate:(booking['endDate']as
Timestamp).toDate(),selectedPackages:List<Map<String,dynamic>>.from(bookin
g['selectedPackages']??[]),userName:booking['userName']as
String??'_username',totalAmount:totalAmount.toInt(),numberOfGuestsForRecei
pt:actualTotalGuests>0?actualTotalGuests:calculatedFallbackGuests,bookingMode
:(booking['bookingMode']?.toString().toLowerCase()=='collective')?BookingMode
.collective:BookingMode.perGuest,collectiveMaleGuests:booking['maleGuests']as
int???'0,collectiveFemaleGuests:booking['femaleGuests']as
int???'0,collectiveAgencyType:booking['collectiveAgencyType']as
String?,collectiveOtherAgency:booking['collectiveOtherAgency']as
String?,collectiveGuestType:booking['collectiveGuestType']as
String?,collectiveStatus:booking['collectiveStatus']as
String?,collectiveOtherStatus:booking['collectiveOtherStatus']as
String?,individualGuests:guestsForReceipt,status:status,));},),),),),);});});});}}

```

```

ius.circular(12.0,),elevation:2,),onPressed:_sendEmail,const
SizedBox(height:16.0),elevation:1,leading:IconButton(icon:const
Icon(Icons.arrow_back,color:marikinaIconColor),onPressed:()=>Navigator.of(con
text).pop(),),title:const Text('Help
Desk',style:TextStyle(color:marikinaDarkText,fontWeight:FontWeight.bold,fontFa
mily:'TTLivretTextTrial'),),actions:[IconButton(icon:const
Icon(Icons.history,color:marikinaIconColor),
import 'package:url_launcher/url_launcher.dart';answer:'The packages displayed
are based on the available tourism data and are intended for informational and
booking purposes. For official arrangements, users may confirm with local tourism
offices or service providers.',),{'question':'Does the app use my
location?','answer':'Yes, the app uses GPS to suggest nearby destinations and
provide navigation. Your location data is not stored or shared beyond the necessary
functionality for these features.',},{'question':'Can I leave reviews or feedback on

```

your email and password or quickly sign in with your Google account.'},{`question`:'How do I book a tour?','answer':'Simply go to the Booking Page, choose a tour package, enter the required details, and confirm your booking. A receipt will be generated for your reference.'},{`question`:'Are the tour packages official?','answer':'You can visit the official Marikina City website or contact their main office. We can provide a general contact number if needed.'},{`question`:'What are the famous tourist spots in Marikina?','answer':'Marikina is known for the Shoe Museum, Marikina River Park, and various food destinations. Our explore section has more details!.'},{`question`:'How can I report a local issue (e.g., road repair)?','answer':'For local issues, it's best to contact the specific barangay hall or the Marikina City Public Information Office. We can guide you to their contact details.'}];List<Map<String,String>> _filteredFaqs=[];final _reportProblemFormKey=GlobalKey<FormState>();final TextEditingController _problemDescriptionController=TextEditingController();String? _selectedProblemCategory;bool _isSubmittingReport=false;@override void initState(){super.initState();_filteredFaqs=_faqs;_searchController.addListener(_filterFaqs);}@override void dispose(){_searchController.removeListener(_filterFaqs);_searchController.dispose();_problemDescriptionController.dispose();super.dispose();}void _filterFaqs(){Marikina Assist Support Team """;String encodeQueryParam(String key,String value){return '\${Uri.encodeComponent(key)}=\${Uri.encodeComponent(value)}';}final String subjectParam=encodeQueryParam('subject',emailSubject);final String bodyParam=encodeQueryParam('body',emailBodyTemplate);final String queryString='\$subjectParam&\$bodyParam';final Uri emailLaunchUri=Uri(scheme:'mailto',path:supportEmail,query:queryString,);print("Attempting to launch: \${emailLaunchUri.toString()}");if(await canLaunchUrl(emailLaunchUri)){print("canLaunchUrl returned true");try{await launchUrl(emailLaunchUri);print("launchUrl call completed.");}catch(e){print("Error during launchUrl: \$e");if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text('Error launching email app: \$e')));}}}else{print("canLaunchUrl returned false");if(mounted){ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content:Text('Could not launch email app. Please ensure you have an email client configured.')));}}}}void _showReportProblemDialog(){_problemDescriptionController.clear();_selectedProblemCategory=null;},validator:(value)=>value==null?'Please select a category':null,);const SizedBox(height:16),TextFormField(controller:_problemDescriptionController,decoration:const InputDecoration(labelText:'Describe the problem*',hintText:'Please provide as much detail as possible.',border:OutlineInputBorder(),filled:true,),maxLines:5,textInputAction:TextInputAction.newline,validator:(value){if(value==null||value.trim().isEmpty){return 'Please describe the problem.';}if(value.trim().length<10){return 'Please provide a bit more detail (at least 10 characters).'};return null;},)],),),),actions:<Widget>[TextButton(child:const Text('Cancel'),onPressed:_isSubmittingReport?null:(){Navigator.of(context).pop();}),ElevatedButton(style:ElevatedButton.styleFrom(backgroundColor:Theme.of(context).colorScheme.primary,),if(mounted){setDialogState((){_isSubmittingReport=false;});},child:_isSubmittingReport?const SizedBox(width:20,height:20,child:CircularProgressIndicator(strokeWidth:2,color:Colors.white,)),const Text('Submit Report'),)],),),).then((_){_isSubmittingReport&&mounted}{setState({_isSubmittingReport=false;});})}]}@override Widget build(BuildContext context){const Color marikinaAppBlue=Color(0xFF5A9ECF);const Color marikinaLightGray=Color(0xFFFF0F0F0);const Color marikinaDarkText=Color(0xFF333333);const Color marikinaAccent=Color(0xFFe6a650);const Color marikinaAppBarColor=Colors.white;const Color marikinaIconColor=marikinaDarkText;return Scaffold(backgroundColor:Colors.white,appBar:AppBar(textAlign: TextAlign.justify,),const SizedBox(height:24.0),TextField(controller:_searchController,style:const

places I visited?','answer':'Yes, you can rate and review attractions once logged in. Your feedback helps other users learn about destinations.'},{`question`:'What is the Explore Page?','answer':'The Explore Page showcases recommended attractions, complete with images, descriptions, ratings, and user comments.'},{`question`:'Is the app available offline?','answer':'No, the app requires an internet connection to function. Features like booking, navigation, and accessing updated content are not available offline.'},{`question`:'Is my personal information safe?','answer':'Yes. The app is designed to follow data privacy best practices, such as the Data Privacy Act of 2012. Personal data (like name, email, booking history) is used only for essential system functions and to enhance your app experience.'},{`question`:'How do I find information about Marikina City Hall?'}final query=_searchController.text.toLowerCase();if(query.isEmpty){setState({_filteredFaqs=_faqs});}else{setState({_filteredFaqs=_faqs.where((faq){return faq['question'].toLowerCase().contains(query)||faq['answer'].toLowerCase().contains(query)}).toList();})}}Future<void>_sendEmail(){async{const String supportEmail='marikinatourismapp@gmail.com';const String emailSubject='Marikina App Support Request';const String emailBodyTemplate="""To help us assist you more efficiently, please include the following details in your message:1. Issue Description - Clearly explain the problem or question you're experiencing. - Include any steps you've taken so far and what you expected to happen.2. Relevant Screenshots or Attachments (if applicable) - You may attach screenshots, error messages, or files that help illustrate the issue.3. Technical Details - App Version: [Include app version if available] - Device Model: [Include device model if available] - Operating System: [e.g., Android 13, iOS 17] - User ID: [Include your user ID if logged in]Please make sure your message is as detailed as possible to help us resolve your concern quickly.Thank you,showDialog(context:context,barrierDismissible:_isSubmittingReport,builder:(BuildContext context){return StatefulBuilder(builder:(context,setDialogState){return AlertDialog(title:const Text('Report a Problem'),content:SingleChildScrollView(child:Form(key:_reportProblemFormKey,child:Column(mainAxisSize:MainAxisSize.min,crossAxisAlignment:CrossAxisAlignment.start,start:children:<Widget>[DropdownButtonFormField<String>(decoration:const InputDecoration(labelText:'Problem Category'),border:OutlineInputBorder(),filled:true,),value:_selectedProblemCategory,hint:const Text('Select category'),items:[Bug/Error in App',Incorrect Information',UI/Layout Issue',Feature Request',Performance Problem',Account Issue',Other'].map((label)=>DropdownMenuItem(value:label,child:Text(label),)).toList(),onChanged:(value){setDialogState((){_selectedProblemCategory=value;for egroudColor:Colors.white,);onPressed:_isSubmittingReport?null:(){async{if(_reportProblemFormKey.currentState!.validate()){setDialogState({_isSubmittingReport=true});String?userId=FirebaseAuth.instance.currentUser?.uid;String?userEmail=FirebaseAuth.instance.currentUser?.email;try{await FirebaseFirestore.instance.collection('problem_reports').add({'userId':userId,'userEmail':userEmail,'category':_selectedProblemCategory,'description':_problemDescriptionController.text.trim(),'timestamp':FieldValue.serverTimestamp(),'status':'New'});}if(mounted){Navigator.of(context).pop();ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content:Text('Problem report submitted. Thank you!'),backgroundColor:Colors.green),);}}}}catch(e){print("Error submitting report to Firestore: \$e");if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text('Failed to submit report: \$e'),backgroundColor:Colors.red),);}}finally{backgroundColor:marikinaAppBarColor,tooltip:'My Submitted Reports',onPressed:(){Navigator.pushNamed(context,MySubmittedReportsPageRoute.name);}},body:SingleChildScrollView(padding:const EdgeInsets.all(16.0),child:Column(crossAxisAlignment:CrossAxisAlignment.start,start:children:<Widget>[Container(padding:const EdgeInsets.all(16.0),decoration:BoxDecoration(color:marikinaAppBlue.withOpacity(0.1),borderRadius:BorderRadius.circular(12.0),),child:const Text("We're here to

```

TextStyle(fontFamily:'TTLivretTextTrial'),decoration:InputDecoration(hintText:'🔍
Search Help (e.g., "permits",
"market")',hintStyle:TextStyle(color:Colors.grey[600],fontFamily:'TTLivretTextTrial'),
prefixIcon:Icon(Icons.search,color:Colors.grey[600]),filled:true,fillColor:marikinaLightGrey,border:OutlineInputBorder(borderRadius:BorderRadius.circular(12.0),borderSide:BorderSide.none,),focusedBorder:OutlineInputBorder(borderRadius:BorderRadius.circular(12.0),borderSide:const BorderSide(color:marikinaAppBlue,width:1.5),)),),const SizedBox(height:24.0),const Text('Frequently Asked
Questions',style:TextStyle(fontSize:20,fontWeight:FontWeight.bold,color:marikinaDarkText),fontFamily:'TTLivretTextTrial'),const SizedBox(height:12.0),if(_filteredFaqs.isEmpty&&_searchController.text.isNotEmpty)Padding(padding:const EdgeInsets.symmetric(vertical:20.0),child:Center(child:Text('No FAQs available at
the
moment.'),textAlign:TextAlign.center,style:TextStyle(fontSize:16,color:Colors.grey[700],fontFamily:'TTLivretTextTrial'))),else if(_filteredFaqs.isNotEmpty&&_searchController.text.isNotEmpty)Padding(padding:const EdgeInsets.symmetric(vertical:20.0),child:Center(child:Text('No FAQs found for
"${_searchController.text}".\nTry different keywords or check all
FAQs.',textAlign:TextAlign.center,style:TextStyle(fontSize:16,color:Colors.grey[700],fontFamily:'TTLivretTextTrial'),fontFamily:children:<Widget>[Padding(padding:const EdgeInsets.fromLTRB(16.0,0,16.0,16.0),child:Text(faq['answer']!),textAlign:TextAlign.left,style:TextStyle(fontSize:14,color:Colors.grey[800],height:1.4,fontFamily:'TTLivretTextTrial')),],),),const SizedBox(height:30.0),Center(child:Text('Still stuck? Help
is just a mail
away.'),style:TextStyle(fontSize:15,color:Colors.grey[700],fontFamily:'TTLivretTextTrial'),textAlign:TextAlign.center,)),const SizedBox(height:12.0),ElevatedButton.icon(icon:const Icon(Icons.mail_outline,size:20),label:const Text('Send a
Message'),style:TextStyle(fontFamily:'TTLivretTextTrial',fontSize:16),style:ElevatedButton.styleFrom(backgroundColor:marikinaAccent,foregroundColor:Colors.white,min
imumSize:const Size(double.infinity,50),shape:RoundedRectangleBorder(borderRadius:BorderRadius.circular(12.0),elevation:2.0),onPressed:_showReportProblemDialog),const
SizedBox(height:20.0),],),);}

```

lib/screens/custom_app_bar.dart

```

import 'package:flutter/material.dart';import
'package:cloud_firestore/cloud_firestore.dart';import
'package:firebase_auth/firebase_auth.dart';import 'user_notifications_page.dart';const
Color appBlue=Color(0xFF5A9ECF);const Color softBlue=Color(0xFF6bbaf9);class
CustomAppBar extends StatefulWidget implements PreferredSizeWidget{const
CustomAppBar({Key? key}):super(key:key);@override State<CustomAppBar>
createState()=>_CustomAppBarState();@override Size get preferredSize=>const
Size.fromHeight(kToolbarHeight,);class _CustomAppBarState extends
State<CustomAppBar>{@override Widget build(BuildContext context){Color
appBarTopColor=const Color(0xFF4374ac);Color
appBarBottomColor=softBlue;final User?
currentUser=FirebaseAuth.instance.currentUser;return
AppBar(backgroundColor:Colors.transparent,elevation:4,automaticallyImplyLeading:
false,flexibleSpace:Container(decoration:BoxDecoration(gradient:LinearGradient(colo
rs:[appBarTopColor,appBarBottomColor],begin:Alignment.topCenter,end:Alignmen
t.bottomCenter,)),),mainAxisAlignment:MainAxisAlignment.spaceBetween,children:
[Row(children:[Image.asset('assets/images/logo.png',width:40,height:40),const
SizedBox(width:8),const Text('MarikinaGo Tourism
App',style:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.white,)],),],curre

```

lib/screens/edit_profile_screen.dart

```

import 'dart:io';import 'package:flutter/material.dart';import
'package:firebase_auth/firebase_auth.dart';import
'package:cloud_firestore/cloud_firestore.dart';import
'package:image_picker/image_picker.dart';import
'package:cloudinary/cloudinary.dart';import '../main.dart';const Color
appBlue=Color(0xFF5A9ECF);const Color

```

help you with anything and everything related to Marikina City services and information in this app. Our goal is to make your experience navigating Marikina easier and more enjoyable. Share your concern or check our frequently asked questions below.

```

,style:TextStyle(fontSize:15,color:marikinaDarkText,height:1.5,fontFamily:'TTLivretTextTrial',TTLivretTextTrial'),),else
if(_filteredFaqs.isEmpty&&_searchController.text.isEmpty)Padding(padding:const
EdgeInsets.symmetric(vertical:20.0),child:Center(child:Text('No FAQs available at
the
moment.'),textAlign:TextAlign.center,style:TextStyle(fontSize:16,color:Colors.grey[700],fontFamily:'TTLivretTextTrial'))),else
ListView.builder(shrinkWrap:true,physics:const
NeverScrollableScrollPhysics(),itemCount: _filteredFaqs.length,itemBuilder:(context,index){final faq=_filteredFaqs[index];return Card(margin:const
EdgeInsets.only(bottom:10.0),shape:RoundedRectangleBorder(borderRadius:BorderRadius.circular(10.0),side:BorderSide(color:Colors.grey.shade300,width:0.5),),elevation:0.5,child:ExpansionTile(iconColor:marikinaAppBlue,collapsedIconColor:Colors.grey[700],tilePadding:const
EdgeInsets.symmetric(horizontal:16.0,vertical:8.0),title:Text(faq['question']!,style:TextStyle(fontWeight:FontWeight.w600,color:marikinaDarkText,fontFamily:'TTLivretTextTrial',fontSize:15),),ElevatedButton.icon(icon:const
Icon(Icons.report_problem_outlined,size:20),label:const Text('Report a
Problem'),style:TextStyle(fontFamily:'TTLivretTextTrial',fontSize:16),style:Elevate
dButton.styleFrom(backgroundColor:Colors.orange.shade700,foregroundColor:C
olors.white,minimumSize:const
Size(double.infinity,50),shape:RoundedRectangleBorder(borderRadius:BorderRad
ius.circular(12.0),),elevation:2.0),onPressed:_showReportProblemDialog),const
SizedBox(height:20.0),],),);}

```

```

ntUser==null?IconButton(icon:const
Icon(Icons.notifications_outlined,color:Colors.white),tooltip:'Notifications',onPre
ssed:(){Navigator.pushNamed(context,UserNotificationsPage.routeName);},)Strea
mBuild
er<QuerySnapshot>(stream:FirebaseFirestore.instance.collection('user_
notifications').where('userId',isEqualTo:currentUser.uid).where('isRead',isEqualTo:false).snaps
hots(),builder:(context,snapshot){int
unreadCount=0;if(snapshot.hasData){unreadCount=snapshot.data!.docs.length;}r
eturn Stack(Positioned(right:6,top:6,child:Container(padding:const
EdgeInsets.symmetric(horizontal:6,vertical:1),constraints:const
BoxConstraints(minWidth:18,minHeight:18),decoration:BoxDecoration(color:Co
lors.red, borderRadius:BorderRadius.circular(10),),child:Center(child:Text(unread
Count>99?'99+':unreadCount.toString()),style:const
TextStyle(color:Colors.white,fontSize:10,fontWeight:FontWeight.bold),),),),childr
en:[IconButton(icon:const
Icon(Icons.notifications_outlined,color:Colors.white),tooltip:'Notifications',onPre
ssed:(){Navigator.pushNamed(context,UserNotificationsPage.routeName);},)if(u
nreadCount>0)],),],),);}

```

```

SnackBar(content:Text('An upload is already in
progress.'));return;if(_cloudinaryCloudName.isEmpty||_cloudinaryUploadPres
ent.isEmpty){ScaffoldMessenger.of(context).showSnackBar(const
SnackBar(content:Text('Image upload service is not configured
correctly.')));return;}_showImageSourceDialog();}Future<void>
_triggerImagePick(ImageSource source) async {try{final ImagePicker

```

```

cardBackgroundColor=Color(0xFFFF4ca79);const Color
screenBackgroundColor=Color(0xFFe6a650);const Color
textFieldFillColor=Colors.white;const Color softBlue=Color(0xFF6bbaf9);const
Color popupBorderColor=Color(0xFFd49a2a);class EditProfileScreen extends
StatefulWidget{static const String routeName='/edit-profile';final bool
triggerPasswordChange;const EditProfileScreen({Key?
key,this.triggerPasswordChange=false});super(key:key);@override
_EditProfileScreenState createState()=>_EditProfileScreenState();}class
>EditProfileScreenState extends State<EditProfileScreen>{final
_formKey=GlobalKey<FormState>();final FirebaseAuth
_auth=FirebaseAuth.instance;final FirebaseFirestore
_firestore=Firestore.instance;User? _currentUser;Map<String,dynamic>? _user
Data;bool _isLoading=true;String? _profilePicUrl;final TextEditingController
_usernameController=TextEditingController();final TextEditingController
_emailController=TextEditingController();final TextEditingController
_phoneController=TextEditingController();final TextEditingController
_passwordController=TextEditingController(text:"*****");final
TextEditingController
_otherStatusController=TextEditingController();String? _selectedGender;String? _selec
tedStatus;bool _isPasswordVisible=false;final List<String>
_genderOptions=['Male','Female','Prefer not to say'];final List<String>
_statusOptions=['None','Student','Senior Citizen','PWD','OFW','Other'];bool
_isUploading=false;late final String _cloudinaryCloudName;late final String
_cloudinaryUploadPreset;late final Cloudinary _cloudinaryClient;final
 GlobalKey<FormState>
_newPhoneNumberFormKey= GlobalKey<FormState>();final TextEditingController
_phoneNumberController=TextEditingController();String? _verificationId;int? _resen
dTken;final TextEditingController
_smsCodeController=TextEditingController();bool
_isVerifyingPhoneNumber=false;final TextEditingController
_currentPasswordController=TextEditingController();final TextEditingController
_newPasswordController=TextEditingController();final TextEditingController
_confirmPasswordController=TextEditingController();final GlobalKey<FormState>
_passwordChangeFormKey= GlobalKey<FormState>();bool
_isCurrentPasswordObscured=true;bool _isNewPasswordObscured=true;bool
_isConfirmPasswordObscured=true;_cloudinaryCloudName="";_cloudinaryUploadP
reset="";if(mounted){ ScaffoldMessenger.of(context).showSnackBar(const
SnackBar(content:Text('Error: Image upload service configuration is missing.'));}void
_initializeCloudinary(){if(_cloudinaryCloudName.isEmpty){print("EditProfileScreen:
Cloudinary client NOT initialized because cloud_name is
missing.");return;}_cloudinaryClient=Cloudinary.unsignedConfig(cloudName:_cloud
inaryCloudName);print("EditProfileScreen: Cloudinary client initialized for unsigned
uploads.");}Future<void> _createProfileUpdateNotification({required String
userId,required String title,required String message,required String type,String?
previousValue,String? currentValue,String? fieldChanged,String? relatedDocId,String
relatedCollection="users",}) async {print("--- _createProfileUpdateNotification:
Method CALLED ---");print("--- _createProfileUpdateNotification: Args:
userId='$userId', title='$title',print("--- _createProfileUpdateNotification:
SUCCESSFULLY ADDED notification. Document ID: ${docRef.id} ---");} catch (e)
{print("--- _createProfileUpdateNotification: ERROR creating profile update
notification: $e ---");print("--- _createProfileUpdateNotification: Error type:
${e.runtimeType} ---");if(e is FirebaseException){print("--- _createProfileUpdateNotification: FirebaseException Code: ${e.code}, Message:
${e.message} ---");}}Future<void> _loadCurrentUserData() async {if(!mounted)
return;setState((){_isLoading=true;});_currentUser=_auth.currentUser;if(_currentUser
!=null){_profilePicUrl=_currentUser!.photoURL;try{DocumentSnapshot
userDoc=await
_firestore.collection('users').doc(_currentUser!.uid).get();if(mounted&&userDoc.exists
){_userData=userDoc.data() as
Map<String,dynamic>;_usernameController.text=_userData['username']??_current
User!.displayName??"_;_emailController.text=_userData['email']??_currentUser!.ema
il}}
```

```

??" ; _phoneController.text=_userData['phoneNumber']??"; _selectedGender=_userData['gender']; _selectedStatus=_userData['status']??'None';if(!_userData?['profilePicUrl']!=null&&_userData!['profilePicUrl'].isNotEmpty){_profilePicUrl=_userData!['profilePicUrl'];}else
if(mounted){usernameController.text=_currentUser!.displayName??'User';Future<void> _showImageSourceDialog() async
{showDialog(context:context,builder:(BuildContext dialogContext){return AlertDialog(backgroundColor:cardBackgroundColor,shape:RoundedRectangleBorder(borderRadius:BorderRadius.circular(16.0),side:const BorderSide(color:popupBorderButtonColor,width:2)),title:const Text("Change Profile Picture",style:TextStyle(fontFamily:'TTLivretTextTrial',fontWeight:FontWeight.bold),content:Column(mainAxisSize:MainAxisSize.min,children:<Widget>[ListTile(leading:const Icon(Icons.photo_library_outlined,color:Colors.black54),title:const Text('Choose from Gallery',style:TextStyle(fontFamily:'TTLivretTextTrial')),onTap:(){Navigator.of(dialogContext).pop();_triggerImagePick(ImageSource.gallery);}),ListTile(leading:const Icon(Icons.camera_alt_outlined,color:Colors.black54),title:const Text('Take a Photo',style:TextStyle(fontFamily:'TTLivretTextTrialTTLivretTextTrial')),onTap:(){Navigator.of(dialogContext).pop();_triggerImagePick(ImageSource.camera);},),]),});}await
_firestore.collection('users').doc(_currentUser!.uid).update({'profilePicUrl':uploadedImageUrl,});await
_createProfileUpdateNotification(userId:_currentUser!.uid,title:"Profile Picture Updated",message:"Your profile picture was successfully changed.",type:"profile_update_picture",)	setState((){_profilePicUrl=uploadedImageUrl;});ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content:Text('Profile picture updated successfully!')));}else
if(mounted){}catch(e){print("Error during image picking or processing: $e");if(mounted){ScaffoldMessenger.of(context).hideCurrentSnackBar();ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text('Error selecting image: ${e.toString()}')));}finally{}ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text('Image upload failed: ${response.error??'Unknown error'}')));}}return null;}catch(e){print('Exception during Cloudinary upload: $e');if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text('Image upload failed: ${e.toString()}')));}}return null;}finally{if(mounted){setState({_isUploading=false});}}}Future<void> _updateProfile() async
if(!_formKey.currentState!.validate()){return;}ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content:Text('Update profile not implemented yet.')));}void _editUsername(){return null;},actions:<Widget>[TextButton(child:const Text('Cancel',style:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black54)), onPressed:(){print("--- _editUsername: Save button PRESSED ---");if(dialogFormKey.currentState.validate()){String newUsername=usernameDialogController.text.trim();String oldUsername=_usernameController.text;if(newUsername==oldUsername){Navigator.of(dialogContext).pop();}else{if(mounted){Navigator.of(dialogContext).pop();ScaffoldMessenger.of(context).hideCurrentSnackBar();ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content:Text('Error: User not found.'));)}}}catch(e){print("Error updating username: $e");if(mounted){Navigator.of(dialogContext).pop();ScaffoldMessenger.of(context).hideCurrentSnackBar();ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text('Failed to update username: ${e.toString()}')));}}},),void _editEmail(){async {print("--- _editEmail: Process started ---");if(_currentUser==null){print("_editEmail: Current user is null. Aborting.");}onPressed:(){print("_editEmail: User cancelled 'Resend Verification' content:Text("Your current email ($_currentUser.email) is not verified. Please verify it before attempting to change your email address. Resend verification email?",style:const TextStyle(fontFamily:'TTLivretTextTrial'),),actions:[TextButton(child:const Text("Cancel",style:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black54),), onPressed:(){return;});print("_editEmail: Current email IS verified. Proceeding to re-authentication.");print("_editEmail: Prompting for current password.");String? currentPassword=await _promptForCurrentPassword();if(currentPassword==null||currentPassword.isEmpty){print("_editEmail: User cancelled or entered no password. Aborting.");return;}print("_editEmail: Password received. Attempting to re-authenticate.");if(!mounted){print("_editEmail: Widget not mounted after password prompt. Aborting.");return;}setState((){_isLoading=true;});try{AuthCredential credential=EmailAuthProvider.credential(email:_currentUser!.email,password:currentPassword);print("_editEmail: Attempting _currentUser!.reauthenticateWithCredential().");await _currentUser!.reauthenticateWithCredential(credential);print("--- _editEmail: User RE-AUTHENTICATED SUCCESSFULLY. ---");}if(!mounted){print("_editEmail: Widget not mounted after re-authentication. Aborting.");return;}print("_editEmail: Prompting for new email.");String? newEmail=await _promptForNewEmail();if(newEmail!=null&&newEmail.isNotEmpty){controller:passwordController,obscureText:isObscured,autoFocus:true,style:TextStyle(fontFamily:'TTLivretTextTrial',color:inputTextColor,),cursorColor:focusedAccentColor,decoration:InputDecoration(labelText:'Current Password',labelStyle:TextStyle(fontFamily:'TTLivretTextTrial',color:unfocusedLabelColor,),floatingLabelStyle:TextStyle(fontFamily:'TTLivretTextTrial',color:focusDAccentColor,),suffixIcon:IconButton(icon:Icon(isObscured?Icons.visibility_off_outlined:Icons.visibility_outlined,color:unfocusedLabelColor,),onPressed:(){setDialogState((){isObscured=!(isObscured);});}),enabledBorder:UnderlineInputBorder(borderSide:BorderSide(color:unfocusedBorderColor,width:1.0),),focusedBorder:OutlineInputBorder(borderRadius:BorderRadius.circular(12.0),borderSide:BorderSide(color:appBlue,width:1.5),),),actions:<Widget>[TextButton(child:Text('Cancel',style:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.grey.shade700),),onPressed:(){>Navigator.of(dialogContext).pop(null);},ElevatedButton(style:ElevatedButton.styleFrom(backgroundColor:popupBorderButtonColor,foregroundColor:Colors.white,fontSize:16,fontWeight:FontWeight.bold),child:Text('Verify Current Password',style:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black54),),onPressed:(){>Navigator.of(dialogContext).pop(null);},),if(_currentUser!=null&&value.trim() ==_currentUser!.email){return 'This is already your current email address.';}return null;},),actions:<Widget>[TextButton(child:const Text('Cancel',style:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black54),),onPressed:(){>Navigator.of(dialogContext).pop(null);},ElevatedButton(style:ElevatedButton.styleFrom(backgroundColor:popupBorderButtonColor,foregroundColor:Colors.white,fontSize:16,fontWeight:FontWeight.bold),child:Text('Submit',style:TextStyle(fontFamily:'TTLivretTextTrial'),),onPressed:(){if(newEmailFormKey.currentState!.validate()){Navigator.of(dialogContext).pop(emailController.text.trim());}}),),],),},);}if(_currentUser!=null&&value.trim() ==_currentUser!.email){return 'This is already your current email address.';}return null;},),actions:<Widget>[TextButton(child:const Text('Cancel',style:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black54),),onPressed:(){>Navigator.of(dialogContext).pop(null);},ElevatedButton(style:ElevatedButton.styleFrom(backgroundColor:popupBorderButtonColor,foregroundColor:Colors.white,fontSize:16,fontWeight:FontWeight.bold),child:Text('Email Change Process Started',style:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black54),),onPressed:(){>Navigator.of(dialogContext).pop(null);},),if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text('Verification email sent, but failed to save pending state: ${fsErr}',),),),},if(mounted){String

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dialog.");Navigator.of(dialogContext).pop();},),ElevatedButton(style:ElevatedButton.styleFrom(backgroundColor:popupBorderColor,foregroundColor:Colors.white,),child:const Text("Resend",style:TextStyle(fontFamily:'TTLivretTextTrial'),),onPressed:() async {print("_editEmail: User tapped 'Resend' verification for current email.");try{await _currentUser!.sendEmailVerification();print("_editEmail: sendEmailVerification() called for current email.");if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text("Verification email sent to ${_currentUser!.email}. Please check your inbox."),));}}catch(e){print("_editEmail: Error sending verification email for current email: ${e.toString()}");}if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text("Failed to send verification email: ${e.toString()}"),));}}Navigator.of(dialogContext).pop();},],print("-----");
-----);print("_editEmail (Try): New email received from dialog: $newEmail");print("_editEmail (Try): Preparing to call _updateUserEmail().");await _updateUserEmail(newEmail);print("_editEmail (Try): _updateUserEmail() call process COMPLETED (control returned to _editEmail).");print("-----");
-----);}else{print("_editEmail: User cancelled or entered no new email.");}on FirebaseAuthException catch (e){print("... _editEmail: RE-AUTHENTICATION FAILED. Code: ${e.code}, Message: ${e.message} ...");String errorMessage="Re-authentication failed. Please try again.";}if(e.code=='wrong-password'){errorMessage='Incorrect password. Please try again.';}else if(e.code=='user-mismatch'){errorMessage='User credentials do not match the current user.';}else if(e.code=='too-many-requests'){errorMessage='Too many re-authentication attempts. Please try again later.';}if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text(errorMessage),));}}catch(e){print("... _editEmail: An UNEXPECTED error occurred during re-authentication or new email prompt: ${e.toString()}");}if(mounted){ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content:Text('An unexpected error occurred.'),));}finally{print("... _editEmail: Finally block reached. Setting _isLoading = false.");
--});if(mounted){setState((){_isLoading=false;});}}Future<String?> _promptForCurrentPassword({String title='Re-authenticate'}) async {final TextEditingController passwordController=TextEditingController();bool isObscured=true;final Color titleColor=popupBorderColor;final Color inputTextColor=Colors.white;final Color focusedAccentColor=appBlue;final Color unfocusedLabelColor=Colors.grey.shade600;final Color unfocusedBorderColor=Colors.grey.shade400;return showDialog<String>(context:context,barrierDismissible:false,builder:(BuildContext dialogContext){return StatefulBuilder(builder:(context,setDialogState){return AlertDialog(backgroundColor:cardBackgroundColor,shape:RoundedRectangleBorder(borderRadius:BorderRadius.circular(16.0),side:BorderSide(color:popupBorderColor,width:2)),title:Text(title,textAlign: TextAlign.center,style:TextStyle(fontFamily:'TTLivretTextTrial',fontWeight:FontWeight.bold,color:titleColor,)),content:TextField(Future<String?> _promptForNewEmail() async {final TextEditingController emailController=TextEditingController();final GlobalKey<FormState> newEmailFormKey=GlobalKey<FormState>();return showDialog<String>(context:context,barrierDismissible:false,builder:(BuildContext dialogContext){return AlertDialog(backgroundColor:cardBackgroundColor,shape:RoundedRectangleBorder(borderRadius:BorderRadius.circular(16.0),side:BorderSide(color:popupBorderColor,width:2)),title:const Text('Enter New Email',style:TextStyle(fontFamily:'TTLivretTextTrial',fontWeight:FontWeight.bold,)),content:Form(key:newEmailFormKey,child:TextFormField(controller:emailController,autoFocus:true,keyboardType:TextInputType emailAddress,style:const TextStyle(fontFamily:'TTLivretTextTrial'),decoration:const InputDecoration(labelText:'New Email Address',labelStyle:TextStyle(fontFamily:'TTLivretTextTrial'),validator:(value){if(value==null||value.trim().isEmpty){return 'Email cannot be empty.';}if(!RegExp(r'^[a-zA-Z0-9]+@[a-zA-Z0-9]+\.[a-zA-Z]+').hasMatch(value)){

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currentUsernameForDialog=_usernameController.text;if(currentUsernameForDialog.isEmpty&&_userData?['username']!=null){currentUsernameForDialog=_userData['username'];}else if(currentUsernameForDialog.isEmpty&&_currentUser?.displayName!=null){currentUsernameForDialog=_currentUser!.displayName;}else if(currentUsernameForDialog.isEmpty){}on FirebaseAuthException catch(e){print("!!! FirebaseAuthException in _updateUserEmail: code=${e.code} message=${e.message}");String message='Failed to update email: ${e.message}?"Unknown error.";}if(e.code=='requires-recent-login'){message='This action requires a recent login. Please sign out and sign in again before changing your email.';}else if(e.code=='invalid-email'){message='The new email address provided is invalid.';}else if(e.code=='email-already-in-use'){message='This email address is already in use by another account.';}else if(e.code=='operation-not-allowed'){message='Email updates are not allowed for this user. Check your Firebase project settings.';}if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text(message),));}}catch(ex){print("!!! Unexpected error in _updateUserEmail: $ex");}if(mounted){ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content:Text('An unexpected error occurred while updating email.'),));}finally{print("### _updateUserEmail END")}}Future<void> syncFirestoreEmailIfNeeded() async {final user=FirebaseAuth.instance.currentUser;if(user==null) return;final docRef=FirebaseFirestore.instance.collection('users').doc(user.uid);return AlertDialog(backgroundColor:cardBackgroundColor,shape:RoundedRectangleBorder(borderRadius:BorderRadius.circular(16.0),side:BorderSide(color:popupBorderColor,width:2)),title:const Text('Enter New Phone Number',style:TextStyle(fontFamily:'TTLivretTextTrial',fontWeight:bold,)),content:Form(key:_newPhoneNumberFormKey,child:TextFormField(controller:_phoneNumberController,autoFocus:true,keyboardType:TextInputType.phone,style:const TextStyle(fontFamily:'TTLivretTextTrial'),decoration:const InputDecoration(labelText:'New Phone Number',labelStyle:TextStyle(fontFamily:'TTLivretTextTrial'),hintText:'+639XX XXXXXX',hintStyle:TextStyle(fontFamily:'TTLivretTextTrial'),validator:(value){if(value==null||value.trim().isEmpty){return 'Phone number cannot be empty.';}final RegExp phoneRegExp=RegExp(r'^+639\d{9}$');if(!phoneRegExp.hasMatch(value.trim())){return 'Please enter a valid E.164 phone number (e.g., +639171234567).';}if(value.trim()==_currentUser?.phoneNumber){return 'This is already your current phone number.';}else{_phoneChangeInitialValue=null;print("Phone number edit cancelled or no input.")}})}))Future<void> _verifyPhoneNumber(String phoneNumber) async {if(!mounted){return;setState((){_isVerifyingPhoneNumber=true;_isLoading=true;});}print("Attempting to verify phone number: $phoneNumber");await _auth.verifyPhoneNumber(phoneNumber:phoneNumber,verificationCompleted:(PhoneAuthCredential credential)async{print("... Phone Verification Completed Automatically --");try{if(!mounted){return;String previousValForNotification=_phoneChangeInitialValue?.isEmpty==true?'phoneChangeInitialValue':'Not set';await _currentUser!.updatePhoneNumber(credential);print("Phone number updated successfully via auto-verification in Auth!");await _firestore.collection('users').doc(_currentUser!.uid).update({'phoneNumber':phoneNumber});print("Firestore phone number updated to $phoneNumber.");}if(mounted){await _createProfileUpdateNotification(userId:_currentUser!.uid,title:"Profile Updated",String errorMessage="Phone verification failed. Please try again.");}if(e.code=='invalid-phone-number'){errorMessage='The phone number provided is not valid.';}else if(e.code=='too-many-requests'){errorMessage='Too

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return 'Please enter a valid email address.';final
user=FirebaseAuth.instance.currentUser;if(user==null){print("_updateUserEmail: no
signed-in user,
abort.");}if(mounted){ScaffoldMessenger.of(context).showSnackBar(const
SnackBar(content:Text('User not found. Please log in again.')),);}}try{final
providerIds=user.providerData.map((p)=>p.providerId).toList();print("_updateUserE
mail: user providers ->
$providerIds");}if(providerIds.contains('password')){print("_updateUserEmail: calling
verifyBeforeUpdateEmail($newEmail).");await
user.verifyBeforeUpdateEmail(newEmail);print("_updateUserEmail:
verifyBeforeUpdateEmail completed - verification sent to $newEmail.");}try{await
FirebaseFirestore.instance.collection('users').doc(user.uid).set({'pendingEmailChange':
{'newEmail':newEmail,'requestedAt':FieldValue.serverTimestamp(),}},SetOptions(merge:true));print("_updateUserEmail: Firestore pendingEmailChange set for ${user.uid}
-> $newEmail");currentUsernameForDialog="your
username";print("_updateUserEmail: WARNING - Could not determine current
username for dialog, using fallback.");}print("_updateUserEmail: Showing instructions
dialog. Username for dialog: $currentUsernameForDialog");}else{print("_updateUserEmail: federated provider detected:
$providerIds.");}if(providerIds.contains('google.com')){if(mounted){ScaffoldMessenger.
of(context).showSnackBar(const SnackBar(content:Text('This account was created
with Google Sign-In. To change the email, please re-sign in with Google or link an
email/password credential to this account.'),duration:Duration(seconds:6),),);}else{
if(mounted){ScaffoldMessenger.of(context).showSnackBar(const
SnackBar(content:Text('This account uses a federated login. Please re-authenticate with
the provider to change email.'),),);}}try{final doc=await docRef.get();final
data=doc.data()??{};final firestoreEmail=data['email'] as String?;final
pending=data['pendingEmailChange'] as
Map<String,dynamic>;if(firestoreEmail!=user.email){print("syncFirestoreEmailIfNee
ded: firestoreEmail($firestoreEmail) != authEmail(${user.email}). Updating
Firestore.");}await
docRef.set({'email':user.email},SetOptions(merge:true));if(pending!=null){await
docRef.set({'pendingEmailChange':FieldValue.delete()},SetOptions(merge:true));}els
e if(pending!=null){await
docRef.set({'pendingEmailChange':FieldValue.delete()},SetOptions(merge:true));}cat
ch(e){print("syncFirestoreEmailIfNeeded: error: $e");}void _editPhoneNumber() async
{_phoneChangeInitialValue=_phoneController.text;final String?
newPhoneNumber=await
showDialog<String>(context:context,barrierDismissible:false,builder:(BuildContext
dialogContext){return null;},),actions:<Widget>[TextButton(child:const
Text('Cancel',style:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black54),),o
nPressed:(){_phoneNumberController.clear();Navigator.of(dialogContext).pop(null);
},),ElevatedButton(style:ElevatedButton.styleFrom(buttonColor:popupBorderBu
ttonColor,foregroundColor:Colors.white,),child:const
Text('Next',style:TextStyle(fontFamily:'TTLivretTextTrial'),),onPressed:(){if(_newPh
oneNumberFormKey.currentState.validate()){Navigator.of(dialogContext).pop(_phon
eNumberController.text.trim());},},);},);}if(newPhoneNumber!=null&&newPhone
Number.isNotEmpty){_verifyPhoneNumber(newPhoneNumber);message:"Your
phone number was updated.";type:"profile_update_phone",fieldChanged:"Phone
Number",previousValue:previousValForNotification,currentValue:phoneNumber,);set
State((){_phoneController.text=phoneNumber});_phoneChangeInitialValue=null;Sc
affoldMessenger.of(context).showSnackBar(const SnackBar(content:Text('Phone
number updated successfully!')),);}on FirebaseAuthException catch(e){print("Error
updating phone number after auto-verification: ${e.code} -
${e.message}");}if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(c
ontent:Text('Failed to update phone:
${e.message}'),);}finally{if(mounted){setState(){_isLoading=false; _isVerifyingPhone
Number=false;},};}verificationFailed:(FirebaseAuthException e){print("--- Phone
Verification Failed: Code: ${e.code}, Message: ${e.message} ---");}if(!mounted)
{return;setState(){_isLoading=false; _isVerifyingPhoneNumber=false;};}Future<void>
many requests. Please try again later.';}else
if(e.message!=null&&e.message!.isNotEmpty){errorMessage=e.message!;}Scaffold
Messenger.of(context).showSnackBar(SnackBar(content:Text(errorMessage)),);},co
deSent:(String verificationId,int? resendToken){print("--- Phone Verification Code
Sent ---");print("Verification ID: $verificationId");print("Resend Token:
$resendToken");}if(!mounted){return;};setState(){_verificationId=verificationId;_resen
dToken=resendToken;_isLoading=false; _isVerifyingPhoneNumber=false;};_prom
ptForSmsCode(phoneNumber);},codeAutoRetrievalTimeout:(String
verificationId){print("--- Phone Verification Code Auto Retrieval Timeout
---");print("Verification ID (Timeout): $verificationId");},style:const
TextStyle(fontFamily:'TTLivretTextTrial',letterSpacing:2.0,fontSize:18),textAlign:
TextAlign.center,decoration:const InputDecoration(labelText:'SMS
Code',labelStyle:TextStyle(fontFamily:'TTLivretTextTrial'),counterText:""
),validat
or:(value){if(value==null||value.isEmpty){return'SMS code cannot be
empty.';}if(value.trim().length<6){return'Please enter the full 6-digit code.';return
null;},},actions:<Widget>[TextButton(child:const
Text('Cancel',style:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black54),
),onPressed:(){Navigator.of(dialogContext).pop(null);},),
ElevatedButton(style:ElevatedButton.styleFrom(buttonColor:popupBorderBu
ttonColor,foregroundColor:Colors.white,),child:const Text('Verify &
Update',style:TextStyle(fontFamily:'TTLivretTextTrial'),),await
_currentUser!.updatePhoneNumber(credential);await
_firestore.collection('users').doc(_currentUser!.uid).update({'phoneNumber':origi
nalPhoneNumberToUpdate});}if(mounted){await
_createProfileUpdateNotification(userId:_currentUser!.uid,title:"Profile
Updated",message:"Your phone number was
updated.",type:"profile_update_phone",fieldChanged:"Phone
Number",previousValue:_phoneChangeInitialValue?.isEmpty==true?_phone
ChangeInitialValue:"Not
set",currentValue:originalPhoneNumberToUpdate,};_phoneController.text=origin
alPhoneNumberToUpdate; _phoneChangeInitialValue=null;ScaffoldMessenger.of(
context).showSnackBar(const SnackBar(content:Text('Phone number updated
successfully!')),);}on FirebaseAuthException catch(e){print("Error updating phone
number with SMS code: ${e.code} - ${e.message}");String errorMessage="Failed to
verify SMS code. Please try
again.";}if(e.code=='invalid-verification-code'){errorMessage="The SMS code
entered is invalid.";}else if(e.code=='session-expired'){errorMessage="The
verification code has expired. Please request a new one.";}else
if(e.message!=null&&e.message!.isNotEmpty){errorMessage=e.message!;}if(mount
ed){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text(errorMessage)),
);}finally{if(mounted){if(!isEmailPasswordUser){if(mounted){ScaffoldMes
senger.of(context).showSnackBar(const SnackBar(content:Text('Password can only
be changed for email/password accounts.'),);}};return;};}final String?
currentPassword=await
showDialog<String>(context:context,barrierDismissible:false,builder:(BuildContext
dialogContext){final GlobalKey<FormState>
currentPasswordFormKey=GlobalKey<FormState>();return
StatefulBuilder(builder:(BuildContext context,StateSetter dialogSetState){return
AlertDialog(backgroundColor:cardBackgroundColor,shape:RoundedRectangleBo
rder(borderRadius:BorderRadius.circular(16.0),side:const
BorderSide(color:popupBorderButtonColor,width:2),),title:const Text('Verify
Current
Password',style:TextStyle(fontFamily:'TTLivretTextTrial',fontWeight:FontWeight.b
old),),content:Form(key:currentPasswordFormKey,child:TextFormField(controller:
_currentPasswordController,obscureText:_isCurrentPasswordObscured,autofocus
:true,style:const
TextStyle(fontFamily:'TTLivretTextTrial'),decoration:InputDecoration(labelText:
'Current
Password',labelStyle:TextStyle(fontFamily:'TTLivretTextTrial',color:unfocusedLab
eColor,),floatingLabelStyle:TextStyle(fontFamily:'TTLivretTextTrial',color:focuse
dAccentColor,),suffixIcon:IconButton(icon:Icon(_isCurrentPasswordObscured?ic

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_promptForSmsCode(String originalPhoneNumberToUpdate) async
{
    _smsCodeController.clear(); if(!mounted) return; final String? smsCode=await
    showDialog<String>(context:context,barrierDismissible:false,builder:(BuildContext
    dialogContext){final GlobalKey<FormState>
    smsFormKey= GlobalKey<FormState>();return
    AlertDialog(backgroundColor:cardBackgroundColor,shape:RoundedRectangleBorde
    r(borderRadius:BorderRadius.circular(16.0),side:const
    BorderSide(color:popupBorderButtonColor,width:2.0)),title:const Text('Enter SMS
    Code',style:TextStyle(fontFamily:'TTLivretTextTrial',fontWeight:FontWeight.bold)),c
    ontent:Form(key:smsFormKey,child:Column(mainAxisSize:MainAxisSize.min,crossA
    xisAlignment:CrossAxisAlignment.start,children:[Text('Enter the 6-digit code sent to
    $originalPhoneNumberToUpdate',style:const
    TextStyle(fontFamily:'TTLivretTextTrial')),const
    SizedBox(height:16),TextFormField(controller: _smsCodeController,autoFocus:true,ke
    yboardType:TextInputType.number,maxLength:6,),onPressed:(){if(smsFormKey.curre
    ntState!.validate()){Navigator.of(dialogContext).pop(_smsCodeController.text.trim()
    ;}}},),),);});if(smsCode!=null&& smsCode.isNotEmpty){if(_verificationId==null){p
    rint("Error: _verificationId is null. Cannot proceed with SMS code
    verification.");if(mounted){ScaffoldMessenger.of(context).showSnackBar(const
    SnackBar(content:Text('Verification process error. Please try again
    later.'));}}};setState(){_isLoading=false;_isVerifyingPhoneNumber=false;};return;};if(!m
    ounted)
    return;setState(){_isLoading=true;_isVerifyingPhoneNumber=true;};try{PhoneAuth
    Credential
    credential=PhoneAuthProvider.credential(verificationId:_verificationId!,smsCode:sms
    Code,);setState(){_isLoading=false;_isVerifyingPhoneNumber=false;_verificationId=n
    ull;_resendToken=null;};}else{print("SMS code entry cancelled or no
    input.");if(mounted){setState(){_isLoading=false;_isVerifyingPhoneNumber=false;};}}
    }void _editPassword() async
    {_currentPasswordController.clear();_newPasswordController.clear();_confirmPasswo
    rdController.clear();bool
    isEmailPasswordUser=false;if(_currentUser!=null){for(UserInfo userInfo in
    _currentUser!.providerData){if(userInfo.providerId=='password'){isEmailPasswordUs
    er=true;break;}}}labelStyle:const
    TextStyle(fontFamily:'TTLivretTextTrial'),suffixIcon:IconButton(icon:Icon(_isCurre
    ntpasswordObscured?Icons.visibility_off_outlined:Icons.visibility_outlined),onPress
    ed:(){dialogSetState(){_isCurrentPasswordObscured!=_isCurrentPasswordObscured;}},),
    ),validator:(value){if(value==null||value.isEmpty){return 'Please enter your current
    password.';return null;},},actions:<Widget>[TextButton(child:const
    Text('Cancel',style:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black54)),o
    nPressed:():>Navigator.of(dialogContext).pop(null),ElevatedButton(style:ElevatedB
    utton.styleFrom(buttonColor:popupBorderButtonColor,foregroundColor:Colo
    rs.white,),child:const
    Text('Next',style:TextStyle(fontFamily:'TTLivretTextTrial')),onPressed:(){if(e.code==
    wrongPassword){errorMessage='Incorrect current password. Please try again.';}else
    if(e.code=='user-mismatch'){errorMessage='User credentials mismatch. This is
    unexpected.';}else if(e.code=='too-many-requests'){errorMessage='Too many attempts.
    Please try again
    later.'};if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:T
    ext(errorMessage)),);}},finally{if(mounted){setState(){_isLoading=false;}}}}Future<vo
    id> _promptForNewPassword() async
    {_newPasswordController.clear();_confirmPasswordController.clear();_isNewPasswor
    dObscured=true;_isConfirmPasswordObscured=true;final bool?
    newPasswordSet=await
    showDialog<bool>(context:context,barrierDismissible:false,builder:(BuildContext
    dialogContext){return StatefulBuilder(builder:(BuildContext context,StateSetter
    dialogSetState){return AlertDialog(return 'Password must be at least 6
    characters.';return null;},const
    SizedBox(height:10),TextFormField(controller: _confirmPasswordController,obscureTe
    xt:_isConfirmPasswordObscured,style:const
    TextStyle(fontFamily:'TTLivretTextTrial'),decoration:InputDecoration(labelText:'Con
    ons.visibility_off_outlined:Icons.visibility_outlined,color:unfocusedLabelColor,),o
    nPressed:(){setDialogState(){_isCurrentPasswordObscured!=_isCurrentPassword
    Obscured;}},enabledBorder:UnderlineInputBorder(borderSide:BorderSide(colo
    r:unfocusedBorderColor,width:1.0),),focusedBorder:OutlineInputBorder(borderR
    adius:BorderRadius.circular(12.0),borderSide:BorderSide(color:appBlue,width:1.5
    )),},actions:<Widget>[TextButton(child:Text('Cancel',style:TextStyle(fontFamily:'T
    TLivretTextTrial',color:Colors.grey.shade700),onPressed:():>Navigator.of(dialog
    Context).pop(null),ElevatedButton(style:ElevatedButton.styleFrom(buttonColor:pu
    pperBorderButtonColor,foregroundColor:Colors.white,fontSize:const
    TextStyle(fontFamily:'TTLivretTextTrial',fontWeight:FontWeight.bold),),child:Text
    (title=='Verify Current
    Password'?Next:'Confirm'),onPressed:():>Navigator.of(dialogContext).pop(_cu
    rrentPasswordController.text,)],),});});if(currentPassword==null||currentPass
    word.isEmpty){print("Password change cancelled at current password
    step.");return;};if(!mounted){return;};setState(){_isLoading=true;};try{AuthCredent
    ial
    credential=EmailAuthProvider.credential(email: _currentUser!.email,password:cur
    rentPassword,);await
    _currentUser!.reauthenticateWithCredential(credential);print("User
    re-authenticated successfully.");_promptForNewPassword();}on
    FirebaseAuthException catch(e){print("Error re-authenticating: ${e.code} -
    ${e.message}");String errorMessage="Failed to verify your current
    password.";backgroundColor:cardBackgroundColor,shape:RoundedRectangleBor
    der(borderRadius:BorderRadius.circular(16.0),side:const
    BorderSide(color:popupBorderButtonColor,width:2.0)),title:const Text('Set New
    Password',style:TextStyle(fontFamily:'TTLivretTextTrial',fontWeight:FontWeight.b
    old),),content:Form(key:_passwordChangeFormKey,child:Column(mainAxisSize:
    MainAxisSize.min,children:<Widget>[TextFormField(controller:_newPasswordCo
    ntroller,obscureText:_isNewPasswordObscured,autoFocus:true,style:const
    TextStyle(fontFamily:'TTLivretTextTrial'),decoration:InputDecoration(labelText:'New
    Password',labelStyle:const
    TextStyle(fontFamily:'TTLivretTextTrial'),suffixIcon:IconButton(icon:Icon(_isNe
    wPasswordObscured?Icons.visibility_off_outlined:Icons.visibility_outlined),onPres
    ed:(){dialogSetState(){_isNewPasswordObscured!=_isNewPasswordObscured;}},),
    ),validator:(value){if(value==null||value.isEmpty){return 'New password cannot
    be empty.';};if(value.length<6){TextButton(child:const
    Text('Cancel',style:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black54),
    ),onPressed:():>Navigator.of(dialogContext).pop(false),ElevatedButton(style:Elev
    atedButton.styleFrom(buttonColor:popupBorderButtonColor,foregroundC
    olor:Colors.white,),child:const
    Text('Update
    Password',style:TextStyle(fontFamily:'TTLivretTextTrial'),onPressed:():>async
    {if(_passwordChangeFormKey.currentState!.validate()){if(!mounted){return;};try{wa
    it _currentUser!.updatePassword(_newPasswordController.text);print("Password
    updated successfully!");};if(mounted){await
    _createProfileUpdateNotification(userId:_currentUser!.uid,title:"Password
    Changed",message:"Your password was successfully changed. If you did not
    authorize this, please secure your account
    immediately.",type:"profile_update_password",);Navigator.of(dialogContext).pop(
    true);ScaffoldMessenger.of(context).showSnackBar(const
    SnackBar(content:Text('Password updated successfully!'),));}};on
    FirebaseAuthException catch(e){print("Error updating password: ${e.code} -
    ${e.message}");try{Map<String,dynamic>
    dataToUpdate={'gender':newGender};await
    _firestore.collection('users').doc(_currentUser!.uid).update(dataToUpdate);print("-
    - _updateUserGenderInFirestore: Firestore update SUCCEEDED
    --");};if(mounted){await
    _createProfileUpdateNotification(userId:_currentUser!.uid,title:"Profile
    Updated",message:"Your gender was
    changed.",type:"profile_update_gender",fieldChanged:"Gender",previousValue:old
    Gender,currentValue:newGender,);}}catch(e){print("Error updating gender in
    Firestore:
    
```

```

firm New Password',labelStyle:const
TextStyle(fontFamily:'TTLivretTextTrial'),suffixIcon:IconButton(icon:Icon(_isConfi
rmPasswordObscured?Icons.visibility_off_outlined:Icons.visibility_outlined,),onPresse
d:(){dialogSetState()},{_isConfirmPasswordObscured!=_isConfirmPasswordObscured;};},),validator:(value){if(value==null||value.isEmpty){return 'Please confirm your new
password.';}if(value!=_newPasswordController.text){return 'Passwords do not
match.';}};},actions:<Widget>[String updateErrorMessage="Failed to
update password.";if(e.code=='weak-password'){updateErrorMessage='The password is
too weak.';}else if(e.code=='requires-recent-login'){updateErrorMessage='Security
check: Please sign out and sign back in, then try
again.';}if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:
Text(updateErrorMessage)),);}}],);},);if(newPasswordSet==true){print("Password
change process completed successfully by user.");}else{print("Password change
cancelled or failed at new password step.");}}Future<void>
_updateUserGenderInFirestore(String? oldGender,String? newGender) async
{print("--- _updateUserGenderInFirestore: Method CALLED with old: $oldGender,
new: $newGender ---");return
showDialog<void>(context:context,barrierDismissible:false,builder:(BuildContext
dialogContext){return
AlertDialog(backgroundColor:cardBackgroundColor,shape:RoundedRectangleBorde
r(borderRadius:BorderRadius.circular(16.0),side:const
BorderSide(color:popupBorderColor,width:2)),title:const Text('Verify Your
New
Email',style:TextStyle(fontFamily:'TTLivretTextTrial',fontWeight:FontWeight.bold),),c
ontent:SingleChildScrollView(child:ListBody(children:<Widget>[Text('A verification
link has been sent to $newEmail.',style:const
TextStyle(fontFamily:'TTLivretTextTrial'),),const SizedBox(height:10),const
Text('Please check your inbox (and spam folder) and click the verification
link.',style:TextStyle(fontFamily:'TTLivretTextTrial'),),const SizedBox(height:20),const
Text('IMPORTANT:',style:TextStyle(fontFamily:'TTLivretTextTrial',fontWeight:Font
Weight.bold),),const Text('After verifying your new email
address:',style:TextStyle(fontFamily:'TTLivretTextTrial'),),)
const Text('1. You will need to SIGN OUT of the
app.',style:TextStyle(fontFamily:'TTLivretTextTrial'),if(_currentUser==null){print("Er
ror: Current user is null. Cannot update
status.");}if(mounted){ScaffoldMessenger.of(context).showSnackBar(const
SnackBar(content:Text('Error: Not signed in. Cannot update
status.'));});return;}print("Attempting to update status in Firestore to:
$newStatus");try{Map<String,dynamic> dataToUpdate={'status':newStatus};await
_firestore.collection('users').doc(_currentUser!.uid).update(dataToUpdate);print("Stat
us updated successfully in Firestore to $newStatus.");}if(mounted){await
_createProfileUpdateNotification(userId:_currentUser!.uid,title:"Profile
Updated",message:"Your status was
changed.",type:"profile_update_status",fieldChanged:"Status",previousValue:oldStatus,
currentValue:newStatus,);}catch(e){print("Error updating status in Firestore:
$e");}if(mounted){saved,'style:TextStyle(fontFamily:'TTLivretTextTrial'),actions:<Wi
dget>[TextButton(child:const
Text('Stay',style:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black54),),onPr
essed:(){Navigator.of(dialogContext).pop(false);}),ElevatedButton(style:ElevatedButt
on.styleFrom(backgroundColor:popupBorderColor,foregroundColor:Colors.
white,),child:const
Text('Leave',style:TextStyle(fontFamily:'TTLivretTextTrial'),),onPressed:(){Navigator.o
f(dialogContext).pop(true);});});return
shouldPop??false;},child:Scaffold(backgroundColor:screenBackgroundColor,appBar:A
ppBar(title:const Text('Edit Profile',style:TextStyle(Container(padding:const
EdgeInsets.all(4.0),decoration:BoxDecoration(color:const
Color(0xFFe6a650),shape:BoxShape.circle,boxShadow:[BoxShadow(color:Colors.blac
k.withOpacity(0.1),blurRadius:3,offset:const
Offset(0,2),)],child:CircleAvatar(radius:60,backgroundColor:Colors.grey[300],backgr
oundImage:_profilePicUrl!=null&&_profilePicUrl!.isNotEmpty?NetworkImage(_pro
filePicUrl!):null,child:(_profilePicUrl==null||_profilePicUrl!.isEmpty)?Icon(Icons.pers
$e");}if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:
Text('Failed to update gender: ${e.toString()}'),);)}Future<void>
_showEmailVerificationInstructionsDialog(String newEmail,String
currentUserUsername) async {if(!mounted){return;}}Text('2. Then,
SIGN BACK IN using your USERNAME ("$currentUserUsername") and your existing
password.',style:const TextStyle(fontFamily:'TTLivretTextTrial'),);const
SizedBox(height:10),const Text('Your email address will be updated in our records
upon your next login with your
username.',style:TextStyle(fontFamily:'TTLivretTextTrial'),),),actions:<Widget>
[ElevatedButton(style:ElevatedButton.styleFrom(backgroundColor:popupBorder
ButtonColor,foregroundColor:Colors.white,minimumSize:const
Size(100,40),),child:const Text('OK, I
Understand',style:TextStyle(fontFamily:'TTLivretTextTrial'),),onPressed:(){Nava
tor.of(dialogContext).pop();}),],actionsAlignment:MainAxisAlignment.center,);}
}Future<void> _updateUserStatusInFirestore(String? oldStatus,String?
newStatus) async
{ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text('Failed to
update status: ${e.toString()}'),);)}@override Widget build(BuildContext
context){return WillPopScope(onWillPop:() async {final bool? shouldPop=await
showDialog<bool>(context:context,barrierDismissible:false,builder:(dialogContext
)=>AlertDialog(backgroundColor:cardBackgroundColor,shape:RoundedRectangl
eBorder(borderRadius:BorderRadius.circular(16.0),side:const
BorderSide(color:popupBorderColor,width:2)),title:const Text('Leave
Page?',style:TextStyle(fontFamily:'TTLivretTextTrial',fontWeight:FontWeight.bold
),),content:const Text('Are you sure you want to go back? Changes you've made
have
been',color:Colors.white,fontFamily:'TTLivretTextTrial'),),backgroundColor:Col
ors.transparent,elevation:2,iconTheme:const
IconThemeData(color:Colors.white),flexibleSpace:Container(decoration:const
BoxDecoration(gradient:LinearGradient(colors:[Color(0xFF4374ac),softBlue],begi
n:Alignment.topCenter,end:Alignment.bottomCenter),),),actions:const
[],body:_isLoading?const
Center(child:CircularProgressIndicator()):_currentUser==null?const
Center(child:Text("User not found. Please log in
again."));SingleChildScrollView(child:Form(key:_formKey,child:Column(crossAx
isAlignment:CrossAxisAlignment.stretch,children:[Padding(padding:const
EdgeInsets.only(top:20.0,bottom:30.0),child:Center(child:Stack(clipBehavior:Clip.
none,children:[height:20,child:CircularProgressIndicator(strokeWidth:2.0,color:C
olors.white),]),);const
Icon(Icons.edit,size:20,color:Colors.white,),),),),),Container(padding:const
EdgeInsets.only(top:20.0,left:20.0,right:20.0,bottom:20.0),decoration:BoxDecorati
on(color:cardBackgroundColor,borderRadius:const
BorderRadius.only(topLeft:Radius.circular(20.0),topRight:Radius.circular(20.0),),
boxShadow:[BoxShadow(color:Colors.black.withOpacity(0.08),blurRadius:6,),const
SizedBox(height:8),DropdownButtonFormField<String>(value:_selectedGender,hi
nt:const Text('Select
Gender',style:TextStyle(fontFamily:'TTLivretTextTrial'),),isExpanded:true,style:con
st
TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black),decoration:InputDec
oration(filled:true,fillColor:textFieldFillColor,border:OutlineInputBorder(border
Radius:BorderRadius.circular(12.0),borderSide:BorderSide.none,),focusedBorder:
OutlineInputBorder(borderRadius:BorderRadius.circular(12.0),borderSide:Border
Side(color:appBlue,width:1.5),),contentPadding:const
EdgeInsets.symmetric(vertical:16.0,horizontal:16.0),),items:_genderOptions.map<
DropdownMenuItem<String>>((String value){return
DropdownMenuItem<String>(value:value,child:Text(value,style:const
TextStyle(fontFamily:'TTLivretTextTrial'),),);}).toList(),onChanged:(String?
newValue){if(newValue==null){return;}}String?
newValue);}if(newValue==null){return;}}String?

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on,size:60,color:Colors.grey[600]):null,)).Positioned(bottom:0,right:-10,child:MaterialColor(const Color(0xFF4ca79),shape:const CircleBorder(),elevation:2,child:InkWell(onTap:_isUploading?null:_handleProfilePicture,customBorder:const CircleBorder(),child:Padding(padding:const EdgeInsets.all(8.0),child:_isUploading?const SizedBox(width:20,offset:const Offset(0,3)),]),child:Column(crossAxisAlignment:CrossAxisAlignment.start,children:[Text('Basic Information',style:TextStyle(fontSize:20,fontWeight:FontWeight.bold,color:Colors.black.withOpacity(0.8),fontFamily:'TTLivretTextTrial')),const Divider(height:16,thickness:0.5,color:Colors.black26),const SizedBox(height:8),_buildEditableTextField(controller:_usernameController,label:'User Name',icon:Icons.person_outline,onEditTap:_editUsername,readonly:true,),const SizedBox(height:15),Text('Gender',style:TextStyle(fontSize:16,color:Colors.black.withOpacity(0.7),fontFamily:'TTLivretTextTrial')),const SizedBox(height:15),_buildEditableTextField(controller:_emailController,label:'Email Address',icon:Icons.email_outlined,onEditTap:_editEmail,readonly:true,keyboardType:TextInputType emailAddress,),const SizedBox(height:15),_buildEditableTextField(controller:_phoneController,label:'Phone Number',icon:Icons.phone_outlined,onEditTap:_editPhoneNumber,readonly:true,keyboardType:TextInputType.phone,placeholder:_phoneController.text.isEmpty?'Add a number (Optional)':null,),const SizedBox(height:25),Text('Password',style:TextStyle(fontSize:16,color:Colors.black.withOpacity(0.7),fontFamily:'TTLivretTextTrial')),const SizedBox(height:8),TextFormField(controller:_passwordController,readonly:true,obscureText:true,style:const TextStyle(fontFamily:'TTLivretTextTrial'),decoration:InputDecoration(filled:true,fillColor:textFieldFillColor,if(_oldStatusValue==newValue)return;setState({_selectedStatus=newValue});_updateUserStatusInFirestore(_oldStatusValue,newValue)},decoration:InputBorder(filled:true,fillColor:textFieldFillColor,border:OutlineInputBorder(borderRadius:BorderRadius.circular(12.0),borderSide:BorderSide.none,),focusedBorder:OutlineInputBorder(borderRadius:BorderRadius.circular(12.0),borderSide:BorderSide(color:appBlue,width:1.5)),contentPadding:const EdgeInsets.symmetric(vertical:12.0,horizontal:16.0)),hint:const Text('Select your status',style:TextStyle(fontFamily:'TTLivretTextTrial')),isExpanded:true,style:const TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black,if(_selectedStatus=='Other')Padding(padding:const EdgeInsets.only(top:10.0,bottom:15.0),child:TextFormField(controller:_otherStatusController,);String?_initialGender,String?_initialStatus,String?_phoneChangeInitialValue;@override void initState(){super.initState();_loadEnvVariables();_initializeCloudinary();_loadCurrentUserData();if(widget.triggerPasswordChange){WidgetsBinding.instance.addPostFrameCallback((_)if(mounted){_editPassword();});}}}@override void dispose(){_usernameController.dispose();_emailController.dispose();_phoneController.dispose();_passwordController.dispose();super.dispose(),}void _loadEnvVariables(){try{_cloudinaryCloudName=EnvConfig.cloudinaryCloudName;_cloudinaryUploadPreset=EnvConfig.cloudinaryUploadPreset;print("EditProfileScreen: Cloudinary Config Loaded - Cloud Name='$_cloudinaryCloudName', Preset='$_cloudinaryUploadPreset");}catch(e){print("EditProfileScreen: FATAL - Could not load Cloudinary env variables: $e");message='$message',type='$type',relatedDocId='$relatedDocId',relatedCollection ='$relatedCollection");if(!mounted){print("--- _createProfileUpdateNotification: Widget NOT MOUNTED. Aborting notification creation. ---");return;}if(userId.isEmpty){print("--- _createProfileUpdateNotification: userId is EMPTY. Aborting notification creation. ---");return;}try{Map<String,dynamic> notificationData={'title':title,'message':message,'type':type,'isRead':false,'relatedCollection':relatedDocId!=null?relatedCollection:null,'relatedDocId':relatedDocId??userId,'timestamp':FieldValue.serverTimestamp(),'userId':userId};if(fieldChanged!=null){notificationData['fieldChanged']=fieldChanged;}if(previousValue!=null){notificationData['previousValue']=previousValue;}if(currentValue!=null){notificationData['currentValue']=currentValue;}oldGenderValue=_selectedGender;if(oldGenderValue==newValue)return;setState({_selectedGender=newValue});_updateUserGenderInFirestore(oldGenderValue,newValue);},hintText:'Tap edit to change',hintStyle:const TextStyle(fontFamily:'TTLivretTextTrial'),prefixIcon:const Icon(Icons.lock_outline,color:appBlue),suffixIcon:IconButton(icon:const Icon(Icons.edit_outlined,color:Color(0xFFE6A650),size:20),tooltip:'Change Password',onPressed:_editPassword,),border:OutlineInputBorder(borderRadius:BorderRadius.circular(12.0),borderSide:BorderSide.none,),focusedBorder:OutlineInputBorder(borderRadius:BorderRadius.circular(12.0),borderSide:BorderSide(color:appBlue,width:1.5)),contentPadding:const EdgeInsets.symmetric(vertical:16.0,horizontal:16.0)),const SizedBox(height:20),Text('Status',style:TextStyle(fontSize:16,color:Colors.black.withOpacity(0.7),fontFamily:'TTLivretTextTrial')),const SizedBox(height:8),DropdownButtonFormField<String>(value:_selectedStatus,items:_statusOptions.map((String value){return DropdownMenuItem<String>(value:value,child:Text(value,style:const TextStyle(fontFamily:'TTLivretTextTrial')))}).toList(),onChanged:(String?newValue){if(newValue==null)return;String?oldStatusValue=_selectedStatus;BorderRadius borderRadius:BorderRadius.circular(12.0),borderSide:BorderSide.none,),focusedBorder:OutlineInputBorder(borderRadius:BorderRadius.circular(12.0),borderSide:BorderSide(color:appBlue,width:1.5)),onChanged:(value){}},const SizedBox(height:20,)],),),),),));}Widget _buildEditableTextField({required TextEditingController controller,required String label,required IconData icon,required VoidCallback onEditTap,bool readOnly=true,TextInputType keyboardType=TextInputType.text,String? placeholder,Function(String?)? Validator,import 'package:flutter/material.dart';import 'package:firebase_auth/firebase_auth.dart';import 'package:cached_network_image/cached_network_image.dart';import 'package:cloud_firestore/cloud_firestore.dart';import 'package:intl/intl.dart';import 'package:url_launcher/url_launcher.dart';import 'package:flutter/services.dart';import '../models/destination_model.dart';import 'home_page.dart';import 'profile_screen.dart';import 'profile_page.dart';import 'package:marikina_project3/screens/mapping_page.dart';hide Destination;import 'explore_app_bar.dart';import 'destination_service.dart';const Color appBlue=Color(0xFF5A9ECF);const Color appOrange=Color(0xFFE6A650);const Color appBeige=Color(0FFE4C097);const Color softBlue=Color(0xFF6bbaf9);const Color softPeach=Color(0xFFFFADEB);const Color orangeBackgroundColor=appOrange;const Color tabSelectedColor=Color(0xFF00a3ff);const Color tabUnselectedColor=Colors.white;const Color tabSelectedTextColor=Colors.white;const Color tabUnselectedTextColor=Colors.black87;const Color commentBoxBorderColor=Color(0xFF4374AC);const Color commentRatingBackgroundColor=Color(0xFF6CB0D2);const Color commentStarActiveColor=Colors.amber;const Color commentStarInactiveColor=Colors.grey;const Color commentInputBarBackgroundColor=Color(0xFF6CB0D2);const Color commentInputButtonColor=Color(0xFFFFFD978);const Color commentInputButtonTextColor=Colors.black87;style:const TextStyle(fontFamily:'TTLivretTextTrial'),decoration:InputDecoration(labelText:'Please specify your status',labelStyle:const TextStyle(fontFamily:'TTLivretTextTrial'),filled:true,fillColor:textFieldFillColor,order:OutlineInputBorder()),);}return Column(crossAxisAlignment:CrossAxisAlignment.start,children:[Text(label,style:TextStyle(fontSize:16,color:Colors.black.withOpacity(0.7),fontFamily:'TTLivretTextTrial')),const SizedBox(height:8),TextFormField(controller:controller,readonly:true,keyboardType:keyboardType,validator:validator,style:const TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black87),decoration:Input

```

```

    ]=currentValue}DocumentReference docRef=await
FirebaseFirestore.instance.collection('user_notifications').add(notificationData);_email
Controller.text=_currentUser!.email??'No
email';_selectedStatus='None';catch(e){if(mounted){ScaffoldMessenger.of(context).sh
owSnackBar(SnackBar(content:Text('Error loading profile data:
${e.toString()}')));}}print("Error loading user data from Firestore:
$e");}else{if(mounted){ScaffoldMessenger.of(context).showSnackBar(const
SnackBar(content:Text('No user logged
in.')),);}}if(mounted){setState((){_isLoading=false;});}}
Future<void> _handleProfilePicEdit() async
{if(_isUploading){ScaffoldMessenger.of(context).showSnackBar(const

```

lib/screens/explore_page.dart

```

class ExplorePage extends StatefulWidget{
static const String routeName = '/explore';const
ExplorePage({Key? key}):super(key:key);@override State<ExplorePage> createState()=>_E
xplorePageState();}class _ExplorePageState extends State<ExplorePage> with SingleTicker
ProviderStateMixin{late final
Future<Destination?> _destinationFuture;bool _isInit=false;final
DestinationService _destinationService=DestinationService();double _userRating=0;fin
al TextEditingController _commentController=TextEditingController();final
FocusNode _commentFocusNode=FocusNode();late
TabController _tabController;final
PageController _galleryPageController=PageController(viewportFraction:0.85);bool _s
howCommentInputArea=false;bool _textFieldRecentlyTapped=false;Destination? _cur
rentDestination;bool _isDescriptionExpanded=false;final
int _shortDescriptionLength=150;@override void
initState(){super.initState();_tabController=TabController(length:3,vsync:this);_tabC
ontroller.addListener((){child:Column(mainAxisSize:MainAxisSize.min,children:[Con
tainer(width:double.infinity,decoration:const
BoxDecoration(color:appBlue,borderRadius:BorderRadius.only(topLeft:Radius.circular
(dialogPadding),topRight:Radius.circular(dialogPadding)),),padding:const
EdgeInsets.symmetric(vertical:18.0,horizontal:16.0),child:Text(title.toUpperCase(),text
Align:TextAlign.center,style:const
TextStyle(fontFamily:'TTLivretText Trial',fontSize:20,fontWeight:FontWeight.bold,col
or:Colors.white,height:1.0,)),),Container(width:double.infinity,color:softPeach,paddi
ng:const EdgeInsets.all(18.0),child:Container(padding:const
EdgeInsets.all(16.0),decoration:BoxDecoration(color:Colors.white,borderRadius:Bord
erRadius.circular(8.0),),child:SingleChildScrollView(color:Colors.white,fontFamily:'T
TLivret Text Trial',fontWeight:FontWeight.bold,),),),),),},);})Widget
_buildInfoPopupButton({required IconData icon,required String title,required String?
content, String?
buttonTextOverride,}){if(content==null||content.trim().isEmpty||content.trim().toLo
werCase()=='n/a'{return Padding(padding:const
EdgeInsets.symmetric(vertical:8.0),child:Row(children:[Icon(icon,color:appBlue.with
Opacity(0.7),size:22),const SizedBox(width:8),Text(title,style:const
TextStyle(fontSize:16,fontWeight:FontWeight.w600,color:Colors.black87),),const
SizedBox(width:8),Expanded(child:Text(?fullDescription:'${fullDescription.substring(
0,_shortDescriptionLength)}...');return
Column(crossAxisAlignment:CrossAxisAlignment.stretch,children:[const
Padding(padding:EdgeInsets.only(bottom:8.0),child:Text("Description",style:TextStyle(
fontSize:18,fontWeight:FontWeight.bold,color:Colors.black87),),Card(elevation:1.2,s
hape:RoundedRectangleBorder(borderRadius:BorderRadius.circular(12.0)),margin:E
dgeInsets.zero,child:Padding(padding:const
EdgeInsets.all(14.0),child:Column(crossAxisAlignment:CrossAxisAlignment.start,child
s:[Text(displayedText,textAlign:TextAlign.justify,style:const
TextStyle(fontSize:16,color:Colors.black87,height:1.5),),if(fullDescription.length>_sh
ortDescriptionLength)Padding(padding:const
EdgeInsets.only(top:8.0),child:Align(alignment:Alignment.centerRight,child:TextButt
on(style:TextButton.styleFrom(padding:EdgeInsets.zero,),const

```

```

Decoration(filled:true,fillColor:textFieldFillColor,hintText:placeholder??(readOnly
&&controller.text.isEmpty?'Tap edit to
add:null),hintStyle:TextStyle(fontFamily:'TTLivretText Trial',color:Colors.grey[60
0]),prefixIcon:Icon(icon,color:appBlue),suffixIcon:IconButton(icon:const
Icon(Icons.edit_outlined,color:Color(0xFFe6a650),size:20),tooltip:'Edit
$label',onPressed:onEditTap,),border:OutlineInputBorder(borderRadius:BorderR
adius.circular(12.0),borderSide:BorderSide.none,),focusedBorder:OutlineInputBorder(b
orderRadius:BorderRadius.circular(12.0),borderSide:BorderSide(color:appBl
ue,width:1.5),),contentPadding:const
EdgeInsets.symmetric(vertical:16.0,horizontal:16.0),),),],);}

```

```

gn.TextAlign:justify,style:const
TextStyle(fontFamily:'TTLivretText Trial',fontSize:15,color:Colors.black87,height:
1.5,)),),Container(width:double.infinity,decoration:const
BoxDecoration(color:appOrange,borderRadius:BorderRadius.only(bottomLeft:R
adius.circular(dialogPadding),bottomRight:Radius.circular(dialogPadding),),),pad
ding:const
EdgeInsets.symmetric(vertical:12.0,horizontal:18.0),child:Align(alignment:Alignm
ent.centerRight,child:ElevatedButton(style:ElevatedButton.styleFrom(background
Color:appBlue,shape:RoundedRectangleBorder(borderRadius:BorderRadius.circu
lar(8.0)), onPressed:()=>Navigator.of(ctx).pop(),child:const
Padding(padding:EdgeInsets.symmetric(horizontal:12.0,vertical:10.0),child:Text("G
o back",style:TextStyle('Not
available',style:TextStyle(fontSize:15,color:Colors.grey[700]),overflow:TextOverflow
.ellipsis,)),),),),return
Column(crossAxisAlignment:CrossAxisAlignment.stretch,children:[TextButton.ic
on(icon:Icon(icon,color:Colors.white,size:20),label:Text(buttonTextOverride??title,
style:const
TextStyle(color:Colors.white,fontWeight:FontWeight.bold,fontSize:16),),style:Text
Button.styleFrom	backgroundColor:appBlue,padding:const
EdgeInsets.symmetric(horizontal:16,vertical:12),shape:RoundedRectangleBorder(b
orderRadius:BorderRadius.circular(8)),alignment:Alignment.centerLeft,),onPresse
d:(){ _showInfoPopup(title,content!);},),);}Widget
_buildExpandableDescription(String
fullDescription){if(fullDescription.isEmpty) return const SizedBox.shrink();String
displayedText=_isDescriptionExpanded||fullDescription.length<=_shortDescripti
onLength minimumSize:const
Size(50,30),tapTargetSize:MaterialTapTargetSize.shrinkWrap,alignment:Alignment
.centerXRight,),child:Text(_isDescriptionExpanded?"Show Less":"Show
More",style:TextStyle(color:appBlue,fontWeight:FontWeight.bold),),onPressed:(){s
etState({ _isDescriptionExpanded!= _isDescriptionExpanded;});},),),),);}Widget
_buildTitledWhiteBox({required String title,required String content,IconData?
icon}){return
Column(crossAxisAlignment:CrossAxisAlignment.stretch,children:[Row(children
:[if(icon!=null) Icon(icon,color:appBlue,size:20),if(icon!=null) const
SizedBox(width:8),Text(title,style:const
TextStyle(fontSize:17,fontWeight:FontWeight.bold,color:Colors.black87),),],);
}return; }try{bool launched=await
launchUrl(url,mode:LaunchMode.externalApplication);if(launched){print("launc
hUrl for '$url' succeeded.");}else{print("launchUrl for '$url' returned false.
Attempting fallback.");}if(isWebsite){await
Clipboard.setData(ClipboardData(text:urlString));if(mounted){ScaffoldMessenger
.of(context).showSnackBar(SnackBar(content:Text('Could not open website. Link
copied:
$urlString')));}else{if(mounted){ScaffoldMessenger.of(context).showSnackBar(Sn
ackBar(content:Text('Could not launch
$urlString')));}}}}catch(e){print("Error during direct launchUrl for

```

```

SizedBox(height:6).Card(elevation:1.2,shape:RoundedRectangleBorder(borderRadius:
BorderRadius.circular(12.0)),margin:const
EdgeInsets.symmetric(vertical:6.0),child:Padding(padding:const
EdgeInsets.all(14.0),child:Text(content:textAlign: TextAlign.justify,style:const
TextStyle(fontSize:15,color:Colors.black54,height:1.4),),),);}Widget
_buildTappableContactItem(IconData icon,String text,String urlString,{bool
isWebsite=false}){return InkWell(onTap:()async{String
launchableUrlString=urlString;if(isWebsite&&urlString.startsWith('http:launchableU
rlString='https:){print("Attempting to launch (direct method):
$launchableUrlString");Uri?url;try{url=Uri.parse(launchableUrlString);}catch(e){print
("Error parsing URL '$launchableUrlString':
$e");if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text
('Invalid URL format: $launchableUrlString')),await
Clipboard.setData(ClipboardData(text:urlString));if(mounted){ScaffoldMessenger.of(
context).showSnackBar(SnackBar(content:Text('Failed to open. Link copied:
$urlString')));}}},child:Row(children:[Icon(icon,color:appBlue.withOpacity(0.8),size:
20),const SizedBox(width:8),Expanded(child:Text(text,style:const
TextStyle(),),),child:Align(alignment:Alignment.center,child:Text(text,style:const
TextStyle(fontWeight:FontWeight.w600),),);]};BottomNavigationBar
_buildBottomNavigationBar(BuildContext context,int selectedIndex){return
BottomNavigationBar(currentIndex:selectedIndex,onTap:(index){if(index==selectedIn
dex&&index==1){return;switch(index){case
0:Navigator.pushNamed(context,HomePage.routeName);break;case 1:final
currentArgs=ModalRoute.of(context)!.settings.arguments;if(currentArgs is
Map<String,dynamic>&&currentArgs.containsKey('destinationId')){Navigator.push
ReplacementNamed(context,ExplorePage.routeName,arguments:currentArgs);}else{pr
int("Explore tab tapped, but no specific destinationId to reload.");}break;case
2:Navigator.pushNamed(context,MappingPage.routeName);break;case
3:Navigator.pushNamed(context,'/search');break;case 4:final
user=FirebaseAuth.instance.currentUser;if(user!=null){bool
isGoogleSignIn=user.providerData.any((userInfo)=>userInfo.providerId=='google.co
m');Row(crossAxisAlignment:CrossAxisAlignment.start,children:[Expanded(child:_b
uildInfoPopupButton(icon:Icons.schedule_outlined,title:"Open
Hours",content:destination.operatingHours?.displayString?"Not available",),const
SizedBox(width:16),Expanded(child:_buildInfoPopupButton(icon:Icons.confirmation
_number_outlined,title:"Entrance
Fee",content:destination.entranceFee?.isNotEmpty??false?destination.entranceFee:"N
ot available",),),],);const
SizedBox(height:20),if(destination.funFact!=null&&destination.funFact!.isNotEmpty
...[_buildTitledWhiteBox(title:"Fun
Fact",content:destination.funFact!,icon:Icons.lightbulb_outline),const
SizedBox(height:12),],if(destination.weatherTips!=null&&destination.weatherTips!.is
NotEmpty)...[_buildTitledWhiteBox(title:"Weather
Tips",content:destination.weatherTips!,icon:Icons.wb_sunny_outlined),const
SizedBox(height:12),],itemBuilder:(context,index){final
destinationImage=destination.galleryImages[index];return Padding(padding:const
EdgeInsets.symmetric(horizontal:12.0),child:GestureDetector(onTap:(){Navigator.pus
h(context,MaterialPageRoute(builder:(_)=>FullScreenImageViewer(images:destinatio
n.galleryImages,
initialIndex:index,)),},child:Column(crossAxisAlignment:CrossAxisAlignment.c
enter,children:[Expanded(child:Card(clipBehavior:Clip.antiAlias,elevation:4.0,shape:R
oundedRectangleBorder(borderRadius:BorderRadius.circular(12.0)),child:CachedNe
tworkImage(imageUrl:destinationImage.url,fit: BoxFit.cover,placeholder:(context,url)=
>const
Center(child:CircularProgressIndicator(strokeWidth:2)),errorWidget:(context,url,error
)=>const Icon(Icons.error,color:Colors.grey),),],final String
destinationName=destination.name;final ContactInfo
contact=destination.contactInfo;final List<String>
accessibility=destination.accessibilityFeatures;return SingleChildScrollView(key:const
PageStorageKey<String>('location TabContent'),padding:const
EdgeInsets.all(20.0),child:Column(crossAxisAlignment:CrossAxisAlignment.stretch,c
onstant:'$url';
$c");if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:
Text('Could not launch URL: ${e.toString()}'),);}if(isWebsite){},);}Widget
_buildDisplayRatingStars(double rating,{double size=16.0}){List<Widget>stars=[];for(int
i=1;i<=5;i++){stars.add(Icon(i<rating?Icons.star:Icons.star_border_outlined,colo
r:i<=rating?commentStarActiveColor:commentStarInactiveColor,size:size,));}return
Row(mainAxisSize:MainAxisSize.min,children:stars);}Widget
_buildInteractiveRatingStars(double currentRating){return
Row(children:List.generate(5,(index){return
GestureDetector(behavior:HitTestBehavior.opaque,onTap:(){setState((){_userRati
ng=index+1.0,});},child:Icon(index<currentRating?Icons.star:Icons.star_border_o
utlined,color:index<currentRating?commentStarActiveColor:commentStarInactive
Color,size:30,),);});}Widget _buildTab(String text){return
Tab(Navigator.pushNamed(context,ProfileScreen.routeName,arguments:{'display
Name':user.displayName,'email':user.email,'isGoogleSignIn':isGoogleSignIn,});}
else{Navigator.pushNamed(context,ProfilePage.routeName);}}break;},background
Color:Colors.white,selectedItemColor:appBlue,unselectedItemColor:Colors.grey,
type:BottomNavigationBarType.fixed,items:const[BottomNavigationBarItem(icon
:Icon(Icons.home),label:'Home'),BottomNavigationBarItem(icon:Icon(Icons.explor
e),label:'Explore'),BottomNavigationBarItem(icon:Icon(Icons.map),label:'Mappin
g'),BottomNavigationBarItem(icon:Icon(Icons.book),label:'Booking'),BottomNavi
gationBarItem(icon:Icon(Icons.person),label:'Profile'),],);}Widget
_buildDescription TabView(Destination destination){return
SingleChildScrollView(key:const
PageStorageKey<String>('description Tab'),padding:const
EdgeInsets.all(16.0),child:Column(crossAxisAlignment:CrossAxisAlignment.start,
children:[_buildExpandableDescription(destination.description),const
SizedBox(height:20),if(destination.moodTags.isNotEmpty)...[Wrap(spacing:8.0,ru
nSpacing:6.0,children:destination.moodTags.map((tag)=>Chip(label:Text(tag,style:
const
TextStyle(fontSize:13,color:Colors.black87)),backgroundColor:appOrange.withOpacity(0.25),padding:const
EdgeInsets.symmetric(horizontal:10.0,vertical:4.0),materialTapTargetSize:Material
TapTargetSize.shrinkWrap,shape:RoundedRectangleBorder(borderRadius:Border
Radius.circular(16),side:BorderSide(color:appOrange.withOpacity(0.5))),).toList()
),const SizedBox(height:18),],if(destination.galleryImages.isNotEmpty)...[const
SizedBox(height:6),const
Text("Gallery",style:TextStyle(fontSize:20,fontWeight:FontWeight.bold,color:Color
s.black87),),const
SizedBox(height:10),Container(width:double.infinity,color:Colors.white.withOpacity(0.80),padding:const
EdgeInsets.symmetric(vertical:18.0),child:SizedBox(height:260,child:PageView.bui
lder(controller:_galleryPageController,itemCount:destination.galleryImages.length,
onPageChanged:(_)={setState((){});}if(destinationImage.caption!=null&&destinationImage.caption!.isNotEmpty)T
ext(destinationImage.caption!,style:const
TextStyle(fontSize:16,fontWeight:FontWeight.w600),textAlign:TextAlign.center,maxLin
es:1,overflow:TextOverflow.ellipsis,);if(destinationImage.credit!=null&&desti
nationImage.credit!.isNotEmpty)Padding(padding:const
EdgeInsets.only(top:2.0),child:Text(destinationImage.credit!,style:const
TextStyle(fontSize:13,fontStyle:FontStyle.italic),textAlign:TextAlign.center,maxLin
es:1,overflow:TextOverflow.ellipsis,),),],const SizedBox(height:16),],const
SizedBox(height:16,)],);}Widget _buildLocationTabView(Destination
destination){final
GeoPoint?location=destination.location;if(contact.email!=null&&contact.email.is
NotEmpty)...[_buildTappableContactItem(Icons.email_outlined,"Email:
${contact.email}","mailto:${contact.email}"),const
SizedBox(height:8),],if(contact.phone!=null&&contact.phone!.isNotEmpty)...[_b
uildTappableContactItem(Icons.phone_outlined,"Phone:
${contact.phone}","tel:${contact.phone}"),const

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children:[const Text("Location &
Info",textAlign: TextAlign.center,style: TextStyle(fontSize:22,fontWeight:FontWeight.bold,color:Colors.black87,),),const SizedBox(height:24),const Text("Contact
Information",style:TextStyle(fontSize:18,fontWeight:FontWeight.w600,color:Colors.bl
ack54,),),const SizedBox(height:8),Card(elevation:1.5,margin:const
EdgeInsets.symmetric(vertical:8.0),shape:RoundedRectangleBorder(borderRadius:BorderRadius.circular(10)),child:Padding(padding:const
EdgeInsets.all(16.0),child:Column(crossAxisAlignment:CrossAxisAlignment.start,children:[Text("Location
Features",style:TextStyle(fontSize:18,fontWeight:FontWeight.w600,color:Colors.black5
4,),),const
SizedBox(height:8),if(accessibility.isNotEmpty)Card(elevation:1.5,margin:const
EdgeInsets.symmetric(vertical:8.0),shape:RoundedRectangleBorder(borderRadius:BorderRadius.circular(10)),child:Padding(padding:const
EdgeInsets.all(16.0),child:Column(crossAxisAlignment:CrossAxisAlignment.start,children:accessibility.map((feature)=>Padding(padding:const
EdgeInsets.only(bottom:6.0),child:Row(crossAxisAlignment:CrossAxisAlignment.star
t,children:[Text("•
",style:TextStyle(color:appBlue,fontSize:16,fontWeight:FontWeight.bold)),Expanded(c
hild:Text(feature,style:const
TextStyle(fontSize:15,color:Colors.black87,height:1.3,),),),).toList(),),),else
Padding(padding:const EdgeInsets.symmetric(vertical:16.0),child:Text("Navigation not
available: Location data missing for
$destinationName.",textAlign: TextAlign.center,style:const
TextStyle(fontSize:15,color:Colors.black54,fontStyle:FontStyle.italic,),),const
SizedBox(height:16,)],);}@override Widget build(BuildContext context){final
dynamic routeArgs=ModalRoute.of(context)!.settings.arguments;String?
routeDestinationId;if(routeArgs is
Map<String,dynamic>){routeDestinationId=routeArgs['destinationId'] as
String?;}if(routeDestinationId==null){return Scaffold(appBar:const
ExploreAppBar(),body:const Center(child:Text('Error: Destination ID is missing in
route
arguments.')),bottomNavigationBar:_buildBottomNavigationBar(context,1),);}final
ValueKey futureBuilderKey=ValueKey<String>("fb_$routeDestinationId");return
Theme(data:Theme.of(context).copyWith(textTheme:Theme.of(context).textTheme.ap
ply(fontFamily:errorWidget:(context,url,error)=>const
Icon(Icons.image_not_supported,size:50,color:Colors.grey,)),else
Container(height:200,color:Colors.grey[300],child:const
Center(child:Icon(Icons.image_not_supported,size:50,color:Colors.grey)),),Padding(p
adding:const
EdgeInsets.symmetric(horizontal:16.0,vertical:12.0),child:Text(destinationName,textAl
ign:TextAlign.center,style:const
TextStyle(fontSize:24,fontWeight:FontWeight.bold,color:Colors.black87,),),Contain
er(color:orangeBackgroundColor,child:TabBar(controller:_tabController,indicatorColo
r:tabSelectedColor,indicatorWeight:3.0,labelColor:tabSelectedTextColor,unselectedLa
belColor:tabUnselectedTextColor,tabs:[_buildTab('Description'),_buildTab('Reviews'
),_buildTab('Location',)],),),_commentFocusNode.canRequestFocus){_commentFocu
sNode.requestFocus();}}},backgroundColor:commentInputButtonColor,child:const
Icon(Icons.comment,color:commentInputButtonTextColor),tooltip:'Add a
review',);null,bottomNavigationBar:_buildBottomNavigationBar(context,1),);}Widget
_buildFloatingCommentInputCard(String currentDestinationId){final String
destinationNameForComment=_currentDestination?.name?"Destination";final
String? heroImageForComment=_currentDestination?.heroImageUrl;return
Material(elevation:8.0,shape:const
RoundedRectangleBorder(borderRadius:BorderRadius.only(topLeft:Radius.circular(16.0),topRight:Radius.circular(16.0),),),child:Container(padding:EdgeInsets.fromLT
RB(16.0,12.0,12.0,MediaQuery.of(context).padding.bottom+16.0),decoration:const
BoxDecoration(color:commentInputBorderBackgroundColor,borderRadius:BorderRadi
us.only(topLeft:Radius.circular(16.0),topRight:Radius.circular(16.0),),child:Colum
n(mainAxisSize:MainAxisSize.min,fillColor:Colors.white.withOpacity(0.9),border:Ou
tlineInputBorder(borderRadius:BorderRadius.circular(20.0),borderSide:BorderSide.n
one),decoration:const
SizedBox(height:8)],),if(contact.website!=null&&contact.website!.isNotEmpty)...[_
buildTappableContactItem(Icons.language_outlined,"Website:
${contact.website!}",contact.website!,isWebsite:true,)],if((contact.phone==null||co
ntact.phone.isEmpty)&&(contact.email==null||contact.email!.isEmpty)&&(conta
ct.website==null||contact.website!.isEmpty))const Text("No contact information
available.",style:TextStyle(fontSize:15,color:Colors.black54,fontStyle:FontStyle.itali
c,)],),),const SizedBox(height:24),const Text(const
Padding(padding:EdgeInsets.symmetric(vertical:8.0),child:Text("No specific
location features
listed.",style:TextStyle(fontSize:15,color:Colors.black54,fontStyle:FontStyle.italic,),),const
SizedBox(height:30),if(location!=null)ElevatedButton.icon(icon:const
Icon(Icons.navigation_outlined,color:Colors.white),label:const Text("NAVIGATE
NOW!",style:TextStyle(fontWeight:FontWeight.bold,fontSize:16,color:Colors.whit
e,),onPressed:{()Navigator.pushNamed(context,MappingPage.routeName,arguments:{'latitude':location.latitude,'longitude':location.longitude,'destinationName':de
stinationName,'destinationId':destination.id,});},style:ElevatedButton.styleFrom(
backgroundColor:appBlue,padding:const
EdgeInsets.symmetric(horizontal:24,vertical:14),shape:RoundedRectangleBorder(b
orderRadius:BorderRadius.circular(30.0,),elevation:3,),else'TTLivretTextTrial'),),chil
d:Scaffold(appBar:const
ExploreAppBar(),body:FutureBuilder<Destination?>(key:futureBuilderKey,future
:_destinationFuture,builder:(context,snapshot){if(snapshot.connectionState==Co
nectionState.waiting){return const
Center(child:CircularProgressIndicator());}if(snapshot.hasError){print("FutureBu
ilder Error: ${snapshot.error}");print("FutureBuilder StackTrace:
${snapshot.stackTrace}");}
return Center(child:Text('Error loading destination:
${snapshot.error}'));});if(!snapshot.hasData||snapshot.data==null){return const
Center(child:Text('Destination not found.'));}final Destination
destination=snapshot.data!;_currentDestination=destination;final String
heroImageToDisplay=destination.heroImageUrl??";final String
destinationName=destination.name;return
Stack(children:[Column(crossAxisAlignment:CrossAxisAlignment.stretch,childre
n:<Widget>[if(heroImageToDisplay.isNotEmpty)SizedBox(height:200,width:doub
le.infinity,child:CachedNetworkImage(imageUrl:heroImageToDisplay,fit: BoxFit.co
ver,placeholder:(context,url)=>const
Center(child:CircularProgressIndicator(),),),Expanded(child:Container(color:ora
ngeBackgroundColor,child:TabBarView(controller:_tabController,children:[_buil
dDescriptionTabView(destination),ReviewsTabWidget(overallRating:destination.r
ating,destinationId:destination.id,),_buildLocationTabView(destination,)],),),i
f(_tabController.index==1&&_showCommentInputArea){Positioned(bottom:0,le
ft:0,right:0,child:_buildFloatingCommentInputCard(destination.id,)],),},),floatin
gActionButton:_tabController.index==1&&_showCommentInputArea?Floating
ActionButton(onPressed:{()setState({}_showCommentInputArea=true,);}Widget
sBinding.instance.addPostFrameCallback((_)if(mounted&&_showCommentInp
utArea&&crossAxisAlignment:CrossAxisAlignment.stretch,children:[Row(mainA
xisAlignment:MainAxisAlignment.spaceBetween,crossAxisAlignment:CrossAxisAl
ignment.center,children:[Row(children:[const Text("Leave a Rating:
"),_buildInteractiveRatingStars(_userRating,)],),IconButton(icon:const
Icon(Icons.keyboard_arrow_down,color:Colors.white),tooltip:'Hide review
input',onPressed:{()setState({}_showCommentInputArea=false;if(_commentFocus
Node.hasFocus){_commentFocusNode.unfocus();}}),),],),const
SizedBox(height:12.0),Row(crossAxisAlignment:CrossAxisAlignment.end,childre
n:[Expanded(child:TextField(controller:_commentController,focusNode:_comm
entFocusNode,style:const
TextStyle(color:Colors.black87),decoration:InputDecoration(hintText:'Add a
public
comment...',hintStyle:TextStyle(color:Colors.black.withOpacity(0.6),filled:true,ret
urn;)if(_userRating==0){if(mounted)_showCuteValidationDialog(context,'Don\'t
forget to pick some stars for your review! ⭐');return;}try{final profDoc=await
Firestore.instance.collection('profanities').doc('list').get();List<String>

```

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one),contentPadding:const
EdgeInsets.symmetric(horizontal:15,vertical:10),),maxLines:3,minLines:1,textCapitalization:TextCapitalization.sentences, onTap:(){_textFieldRecentlyTapped=true;Future.delayed(const Duration(milliseconds:200),(){_textFieldRecentlyTapped=false;});},),,const SizedBox(width:10),ElevatedButton(style:ElevatedButton.styleFrom(backgroundColor:commentInputButtonColor,padding:const EdgeInsets.symmetric(horizontal:18,vertical:12),shape:RoundedRectangleBorder(borderRadius:BorderRadius.circular(20.0),),elevation:2,),onPressed:(){async{final user=FirebaseAuth.instance.currentUser;
final commentText=_commentController.text.trim();if(user==null){if(mounted)_showCutValidationDialog(context,'Oops! Please log in to share your thoughts.');//return;}if(commentText.isEmpty){if(mounted)_showCuteValidationDialog(context,'What\'s on your mind? Please type a comment!');//if(containsProfanity){if(mounted){_showCuteValidationDialog(context,'It seems your comment may not be appropriate. Please review and try again. Thank you! 🌟');//return;}DocumentSnapshot userDoc=await FirebaseFirestore.instance.collection('users').doc(user.uid).get();String fetchedUserName=(userDoc.exists&&userDoc.data()!=null)?(userDoc.data()as Map<String,dynamic>)['username']??'Anonymous': 'Anonymous';await FirebaseFirestore.instance.collection('comments').add({'destinationId':currentDestinationId,'userId':user.uid,'userName':fetchedUserName,'userProfilePic':user.photoURL,'text':commentText,'timestamp':FieldValue.serverTimestamp(),'ratingGiven':_userRating,'destinationName':destinationNameForComment,'destinationImage':heroImageForComment,});//final destRef=FirebaseFirestore.instance.collection('destinations').doc(currentDestinationId);await FirebaseFirestore.instance.runTransaction((transaction)async{final snapshot=await transaction.get(destRef);if(!snapshot.exists){throw Exception("Destination not found:
$currentDestinationId");}style:TextStyle(color:commentInputButtonTextColor,fontWeight:bold,fontSize:16,)],),),);}Future<void>_showCuteValidationDialog(BuildContext context,String message){return showDialog<void>(context:context,barrierDismissible:true,builder:(BuildContext dialogContext){return AlertDialog(shape:RoundedRectangleBorder(borderRadius:BorderRadius.circular(20.0),),backgroundColor:Colors.white,elevation:5,contentPadding:const EdgeInsets.all(20.0),content:Column(mainAxisSize:MainAxisSize.min,children:<Widget>[const Icon(Icons.info_outline_rounded,color:appBlue,size:48.0,),const SizedBox(height:15.0),Text(message,align:TextAlign.center,style:const TextStyle(fontSize:16.0,color:Colors.black87,fontWeight:FontWeight.w500,)],),);});}}class _ReviewsTabWidget extends StatefulWidget{final double overallRating;final String destinationId;const _ReviewsTabWidget({Key? key,required this.overallRating,required this.destinationId,});@override State<_ReviewsTabWidget> createState()=>_ReviewsTabWidgetState();}class _ReviewsTabWidgetState extends State<_ReviewsTabWidget>{final reviewsTabContent=Container(padding:const EdgeInsets.symmetric(vertical:12.0,horizontal:8.0),child:Column(crossAxisAlignment: CrossAxisAlignmentAlignment.start,children:[Padding(padding:const EdgeInsets.only(left:8.0,bottom:15.0),child:Row(children:[const Text("⭐ Overall Rating:",style:TextStyle(fontSize:16,fontWeight:bold,color:Colors.black87),),Text("${widget.overallRating.toStringAsFixed(1}) / 5.0",style:const TextStyle(fontSize:16,color:Colors.black87,)),],),),],),);final commentsDocs=snapshot.data!.docs;return ListView.builder(shrinkWrap:true,physics:const NeverScrollableScrollPhysics(),itemCount:commentsDocs.length,itemBuilder:(context
badWords=[];if(profDoc.exists&&profDoc.data()!=null){final data=profDoc.data()as Map<String,dynamic>;final raw=data['words'];if(raw is List){badWords=raw.map((e)=>e.toString()??'',).where((s)=>s.isNotEmpty).toList();}bool containsProfanity=false;if(badWords.isNotEmpty){final escaped=badWords.map((w)=>RegExp.escape(w.toLowerCase())).where((s)=>s.isNotEmpty).toList();if(escaped.isNotEmpty){final pattern=r'\b'+escaped.join('|')+'\b';final regex=RegExp(pattern,caseSensitive:false,unicode:true);if(regex.hasMatch(commentText.toLowerCase())){containsProfanity=true;}else{for(final w in badWords){if(w.trim().isEmpty){continue;}if(commentText.toLowerCase().contains(w.toLowerCase())){containsProfanity=true;break;}}}}final data=snapshot.data()as Map<String,dynamic>;final double currentAvg=(data['rating']??0).toDouble();final int currentCount=(data['ratingCount']??0).toInt();final int newCount=currentCount+1;final double newAvg=((currentAvg*currentCount)+_userRating)/newCount;transaction.update(destRef,{rating:newAvg,ratingCount:newCount,});}if(mounted){_commentController.clear();setState(){_userRating=0;_showCommentInputArea=false;};}_showCuteValidationDialog(context,'Yay! Your comment has been posted! 🎉');}catch(error){print("Failed to post comment: $error");}if(mounted)_showCuteValidationDialog(context,'Oh no! Something went wrong trying to post your comment. Please try again.');finally{if(_commentFocusNode.hasFocus){_commentFocusNode.unfocus();}}},child:const Text("Post",),),const SizedBox(height:20.0),ElevatedButton(style:ElevatedButton.styleFrom(backgroundColor:commentInputButtonColor,foregroundColor:commentInputButtonTextColor,color:RoundedRectangleBorder(borderRadius:BorderRadius.circular(15.0),),padding:const EdgeInsets.symmetric(horizontal:30,vertical:12),),child:const Text('Okay!',style:TextStyle(fontSize:16)),onPressed:(){Navigator.of(dialogContext).pop();}),),),);}}class ReviewsTabWidget extends StatefulWidget{final double overallRating;final String destinationId;const ReviewsTabWidget({Key? key,required this.overallRating,required this.destinationId,});@override State<ReviewsTabWidget> createState()=>_ReviewsTabWidgetState();}class _ReviewsTabWidgetState extends State<ReviewsTabWidget>{final reviewsTabContent=Container(padding:const EdgeInsets.symmetric(vertical:12.0,horizontal:8.0),child:Column(crossAxisAlignment: CrossAxisAlignmentAlignment.start,children:[Padding(padding:const EdgeInsets.only(left:8.0,bottom:15.0),child:Row(children:[const Text("⭐ Overall Rating:",style:TextStyle(color:Colors.black54,fontSize:15,fontWeight:FontStyle.italic),),Text("${widget.overallRating.toStringAsFixed(1}) / 5.0",style:const TextStyle(color:Colors.white,fontSize:16),)],),),],),);final commentsDocs=snapshot.data!.docs;return ListView.builder(shrinkWrap:true,physics:const NeverScrollableScrollPhysics(),itemCount:commentsDocs.length,itemBuilder:(context
CircleAvatar(backgroundImage:CachedNetworkImageProvider(userProfilePic),radius:18,backgroundColor:Colors.grey[200],);}else{CircleAvatar(backgroundColor:Colors.grey[300],child:const Icon(Icons.person,size:18,color:Colors.white),radius:18,);}}SizedBox(width:10),Expanded(child:Column(crossAxisAlignment:CrossAxisAlignment.start,children:[if(userProfilePic.isNotEmpty){CircleAvatar(backgroundImage:CachedNetworkImageProvider(userProfilePic),radius:18,backgroundColor:Colors.grey[200],);}else{CircleAvatar(backgroundColor:Colors.grey[300],child:const Icon(Icons.person,size:18,color:Colors.white),radius:18,);}}SizedBox(width:10),Expanded(child:Column(crossAxisAlignment:CrossAxisAlignment.start,children:[Text(userName,style:const TextStyle(fontWeight:FontWeight.bold,

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, index){final commentData=commentsDocs[index].data() as
Map<String,dynamic>;final String
userName=commentData['userName']??'Anonymous';final String
text=commentData['text']??'',final Timestamp?
timestamp=commentData['timestamp'] as Timestamp?;final double
userGivenRating=(commentData['ratingGiven']as num??0.0).toDouble();final String
userProfilePic=commentData['userProfilePic']??'';String timeAgoText='just
now';if(timestamp!=null){final DateTime=timestamp.toDate();final
difference=DateTime.now().difference(DateTime);if(difference.inDays>365){timeAgo
Text=DateFormat.yMMMd().format(DateTime);}else
if(difference.inDays>30){timeAgoText=DateFormat.MMMd().format(DateTime);}else
if(difference.inDays>0){timeAgoText='${difference.inDays}d ago';}else
if(difference.inHours>0){timeAgoText='${difference.inHours}h ago';}else
if(difference.inMinutes>1){timeAgoText='${difference.inMinutes}m ago';}return
Container(padding:const EdgeInsets.all(12.0),margin:const
EdgeInsets.only(bottom:12.0,left:8.0,right:8.0),decoration:BoxDecoration(color:Color
s.black87,fontSize:15,),Text(timeAgoText,style:TextStyle(color:Colors.grey[600],font
Size:11,)],),if(userGivenRating>0)Container(padding:const
EdgeInsets.symmetric(horizontal:8.0,vertical:4.0),decoration:BoxDecoration(color:com
mentRatingBackgroundColor.withOpacity(0.85),borderRadius:BorderRadius.circular
(12.0,)),child:_buildDisplayRatingStars(userGivenRating,size:14.0,)],),const
SizedBox(height:8),Text(text,style:const
TextStyle(color:Colors.black87,fontSize:14,height:1.4,)],),}],),}],),}],)},body:const
Center(child:Text("No images to display.",style:TextStyle(color:Colors.white)),),);
_currentIndex=_currentIndex.clamp(0,widget.images.length-1)
if(!mounted)return;setState((){});}@override void
didChangeDependencies(){super.didChangeDependencies();if(!_isInit){final
args=ModalRoute.of(context)!.settings.arguments as Map<String,dynamic>;final
destinationId=args['destinationId'] as
String;_destinationFuture=_destinationService.fetchDestinationById(destinationId);_
isInit=true;}@override void
dispose(){_tabController.dispose();_galleryPageController.dispose();_commentContro
ller.dispose();_commentFocusNode.dispose();super.dispose();}Future<void>
_showInfoPopup(String title,String content){return
showDialog<void>(context:context,barrierDismissible:true,builder:(BuildContext
ctx){const double dialogPadding=14.0;return Dialog(insetPadding:const
EdgeInsets.symmetric(horizontal:20.0,vertical:40.0),shape:RoundedRectangleBorder(
borderRadius:BorderRadius.circular(dialogPadding)),child:Text(content,textAli

```

lib/screens/firebase_service.dart

```

import'package:cloud_firestore/cloud_firestore.dart';import'package:firebase_auth/fire
base_auth.dart';class FirebaseService{final FirebaseAuth
_auth=FirebaseAuth.instance;final FirebaseFirestore
_firestore=FirebaseFirestore.instance;Future<UserCredential>
signUpWithEmailAndPassword(String email,String
password,{String?username})async{try{final UserCredential userCredential=await
_auth.createUserWithEmailAndPassword(email:email,password:password,);final String
userId=userCredential.user!.uid;final String
finalUsername=(username!=null&&username.trim().isNotEmpty)?username.trim():e
mail.split('@')[0];await saveUserData(userId,{});}catch(e){print('FirebaseService: An
unexpected error occurred during sign-in: $e');throw Exception('An unexpected error
occurred during sign-in.');}Future<void> saveUserData(String
userId,Map<String,dynamic> userData)async{try{Map<String,dynamic>
dataToSave={...userData};if(!dataToSave.containsKey('uid')){dataToSave['uid']=userId;
}await
_firestore.collection('users').doc(userId).set(dataToSave,SetOptions(merge:true));}catch
(e){print('Error in saveUserData for userId "$userId": $e');throw
FirebaseAuthException(code:'firestore-error',message:'An error occurred while saving
user data.');}Future<Map<String,dynamic>> getUserByUsername(String

```

```

class FullScreenImageViewer extends StatefulWidget{final List<DestinationImage>
images;final int initialIndex;const FullScreenImageViewer({Key? key,required
this.images,required this.initialIndex,}):super(key:key);@override
State<FullScreenImageViewer>
createState(){=> _FullScreenImageViewState();}class _FullScreenImageViewState
extends State<FullScreenImageViewer>{late PageController _pageController;late
int _currentIndex;@override void
initState(){super.initState();_currentIndex=widget.initialIndex;_pageController=P
ageController(initialPage:widget.initialIndex);}@override void
dispose(){_pageController.dispose();super.dispose();}@override Widget
build(BuildContext context){if(widget.images.isEmpty){return
Scaffold(backgroundColor:Colors.black,appBar:AppBar(backgroundColor:Colors.
black.withOpacity(0.7),elevation:0,errorWidget:(context,url,error)=>const
Icon(Icons.error,color:Colors.white,)),);}}if(currentImage.caption!=null&&currentImage.caption!.isNotEmpty)
Positioned(bottom:80,left:12,right:12,child:Container(padding:const
EdgeInsets.symmetric(horizontal:12.0,vertical:10.0),decoration:BoxDecoration(col
or:Colors.black.withOpacity(0.45),borderRadius:BorderRadius.circular(8.0,)),chil
d:Text(currentImage.caption!,textAlign: TextAlign.center,style:const
TextStyle(color:Colors.white,fontSize:18.0,fontWeight:FontWeight.w600),maxLine
s:3,overflow:TextOverflow.ellipsis,)),);}}if(currentImage.credit!=null&&currentImage.credit!.isNotEmpty)
Positioned(bottom:40,left:12,right:12,child:Text("Credit:
${currentImage.credit}",textAlign: TextAlign.center,itemCount:widget.images.leng
th,onPageChanged:(index){setState(()=>_currentIndex=index);},itemBuilder:(cont
ext,index){final destinationImage=widget.images[index];return
InteractiveViewer(panEnabled:true,boundaryMargin:const
EdgeInsets.all(20),minScale:0.5,maxScale:4,child:Center(child:CachedNetworkIma
ge(imageUrl:destinationImage.url,fit: BoxFit.contain,placeholder:(context,url)=>co
nst
Center(child:CircularProgressIndicator(valueColor:AlwaysStoppedAnimation<C
olor>(Colors.white))),style:const
TextStyle(color:Colors.white70,fontSize:13.0,fontStyle:FontStyle.italic),maxLines:2
,overflow:TextOverflow.ellipsis,)],),);}}final DestinationImage
currentImage=widget.images[_currentIndex];return
Scaffold(backgroundColor:Colors.black,appBar:AppBar(backgroundColor:Colors.
black.withOpacity(0.7),elevation:0,),body:Stack(children:[PageView.builder(contro
ller:_pageController,

```

```

email,String password) async{try{return
await _auth.signInWithEmailAndPassword(email:email,password:password);}on
FirebaseAuthException{rethrow;final data=querySnapshot.docs.first.data() as
Map<String,dynamic>;data['uid']=querySnapshot.docs.first.id;return data;}return
null;}catch(e){print('Error in getUserByUsername for username "$username":
$e');throw FirebaseAuthException(code:'firestore-error',message:'An error occurred
while getting user data by username.');}Future<Map<String,dynamic>>?
getUserByEmail(String email) async{try{QuerySnapshot querySnapshot=await
_firestore.collection('users').where('email',isEqualTo:email).limit(1).get();if(queryS
napshot.docs.isNotEmpty){final data=querySnapshot.docs.first.data() as
Map<String,dynamic>;data['uid']=querySnapshot.docs.first.id;return data;}return
null;}catch(e){print('Error in getUserByEmail for email "$email": $e');throw
FirebaseAuthException(code:'firestore-error',message:'An error occurred while
getting user data by email.');}Future<Map<String,dynamic>>?
getUserByLoginIdentifier(String identifier) async{Map<String,dynamic>
userData;print("FirebaseService.getUserByLoginIdentifier: Searching for identifier:
$identifier");print("FirebaseService.getUserByLoginIdentifier: Found by
'pendingEmailChange.newEmail' field.");userData['login_method_hint']='pending_new_email';return

```

```

username)async{try{QuerySnapshot querySnapshot=await
_firestore.collection('users').where('username',isEqualTo:username).limit(1).get();if(querySnapshot.docs.isNotEmpty){print("FirebaseService.getUserByLoginIdentifier: Attempting by main 'email' field...");userData=await gerUserByEmail(identifier);if(userData!=null){print("FirebaseService.getUserByLoginIdentifier: Found by main 'email' field.");userData['login_method_hint']='main_email';return userData;}print("FirebaseService.getUserByLoginIdentifier: Not found by main 'email', trying 'username' field...");userData=await gerUserByUsername(identifier);if(userData!=null){print("FirebaseService.getUserByLoginIdentifier: Found by main 'username' field.");userData['login_method_hint']='main_username';return userData;}print("FirebaseService.getUserByLoginIdentifier: Not found by main fields, trying 'pendingEmailChange.newEmail' field...");try{QuerySnapshot pendingEmailQuery=await _firestore.collection('users').where('pendingEmailChange.newEmail',isEqualTo:identifier).limit(1).get();if(pendingEmailQuery.docs.isNotEmpty){final doc=pendingEmailQuery.docs.first;userData=doc.data()as Map<String,dynamic>;if(userData==null){print("FirebaseService.getUserByLoginIdentifier: Found by pending but data is null after cast. This is unexpected.");return null;}userData['uid']=doc.id;Future<void> deleteUserData(String userId)async{try{await _firestore.collection('users').doc(userId).delete();print("FirebaseService: User data deleted for $userId from Firestore.");}catch(e){print("FirebaseService: Error deleting user data for $userId from Firestore: $e");}}Future<void> deleteCurrentUserAuthRecord()async{try{User? currentUser=_auth.currentUser;if(currentUser!=null){await currentUser.delete();print("FirebaseService: Current Firebase Auth user deleted successfully.");}else{print("FirebaseService: No current user to delete from FirebaseAuth.");}}on FirebaseAuthException catch(e){print("FirebaseService: Error deleting FirebaseAuth user: ${e.message}(Code: ${e.code})");rethrow;}}Future<String?> getDashboardUserRole(String uid)async{try{DocumentSnapshot superadminDoc=await _firestore.collection('roles').doc('superadmin').get();if(superadminDoc.exists){final data=superadminDoc.data()as Map<String,dynamic>;List<dynamic> uids=data['uids'];if(uids.contains(uid)){return null;}}@Deprecated('Use getDashboardUserRole instead for specific role checking.')Future<bool> isAdmin(String uid)async{try{DocumentSnapshot adminDoc=await _firestore.collection('roles').doc('admin').get();if(adminDoc.exists){final data=adminDoc.data()as Map<String,dynamic>;if(data!=null&&data.containsKey('uids')&&data['uids']is List<dynamic> adminUids=data['uids']);return adminUids.contains(uid);}else{print("Admin document 'uids' field is missing or not a list.");return false;}}else{print("Admin document does not exist.");return false;}}Future<void> addAdmin(String uid)async{try{DocumentReference adminDocRef=_firestore.collection('roles').doc('admin');DocumentSnapshot adminDoc=await adminDocRef.get();if(adminDoc.exists){final data=doc.data()as Map<String,dynamic>;data['uid']=doc.id;return data;}}catch(e){print("Error fetching all users: $e");return [];}}Future<void> deleteMultipleUsers(List<String> userIds)async{if(userIds.isEmpty){print("deleteMultipleUsers: No user IDs provided.");return;}WriteBatch batch=_firestore.batch();for(String userId in userIds){DocumentReference userRef=_firestore.collection('users').doc(userId);batch.delete(userRef);}try{await batch.commit();print('Successfully deleted ${userIds.length} users.')}catch(e){print('Error deleting multiple users: $e');throw FirebaseAuthException(code:'batch-delete-failed',message:'An error occurred while deleting multiple users.')}Future<List<Map<String,dynamic>>> getBookingsForUser(String userId) async{try{QuerySnapshot snapshot=await
userData;}catch(e){print("FirebaseService.getUserByLoginIdentifier: Error querying by pendingEmailChange.newEmail: $e");}print("FirebaseService.getUserByLoginIdentifier: User NOT found by any method for identifier: $identifier");return null;}Future<Map<String,dynamic>> getUserData(String userId) async{try{DocumentSnapshot docSnapshot=await _firestore.collection('users').doc(userId).get();if(docSnapshot.exists){final data=docSnapshot.data()as Map<String,dynamic>;return data;}return null;}catch(e){print('Error in getUserData for userId "$userId": $e');throw FirebaseAuthException(code:'firebase-error',message:'An error occurred while getting user data by ID.')}print("FirebaseService: User $uid is a superadmin.");return 'superadmin';}else{print("FirebaseService: Superadmin document does not exist in 'roles' collection.");}DocumentSnapshot adminDoc=await _firestore.collection('roles').doc('admin').get();if(adminDoc.exists){final data=adminDoc.data()as Map<String,dynamic>;List<dynamic> uids=data['uids'];if(uids.contains(uid)){print("FirebaseService: User $uid is an admin.");return 'admin';}}else{print("FirebaseService: Admin document does not exist in 'roles' collection.");}DocumentSnapshot moderatorDoc=await _firestore.collection('roles').doc('moderator').get();if(moderatorDoc.exists){final data=moderatorDoc.data()as Map<String,dynamic>;List<dynamic> uids=data['uids'];if(uids.contains(uid)){print("FirebaseService: User $uid is a moderator.");return 'moderator';}}else{print("FirebaseService: Moderator document does not exist in 'roles' collection.");}print("FirebaseService: User $uid does not have a defined dashboard role (superadmin, admin, or moderator.).");return null;}catch(e){print("FirebaseService: Error in getDashboardUserRole for UID '$uid': $e");}await adminDocRef.update({'uids':FieldValue.arrayUnion([uid])});print('Admin UID "$uid" added to existing admin document.');}else{await adminDocRef.set({'uids':[uid]});print('Admin document created and UID "$uid" added.')}catch(e){print('Error adding admin UID "$uid": $e');throw FirebaseAuthException(code:'admin-operation-failed',message:'Error adding admin UID.')}Future<void> incrementDestinationViews(String destinationId) async{try{await _firestore.collection('destinations').doc(destinationId).update({'views':FieldValue.increment(1)});print('Views incremented for destination: $destinationId');}catch(e){print('Error incrementing views for destination $destinationId: $e');throw FirebaseAuthException(code:'firebase-update-failed',message:'An error occurred while incrementing destination views.')}Future<List<Map<String,dynamic>>> getAllUsers() async{try{QuerySnapshot snapshot=await _firestore.collection('users').get();return snapshot.docs.map((doc){final data=doc.data()as Map<String,dynamic>;data['bookingId']=doc.id;return data;});}catch(e){print('Error fetching bookings for user "$userId": $e');return [];}}Future<void> deleteMultipleBookings(List<String> bookingIds)async{if(bookingIds.isEmpty){print("deleteMultipleBookings: No booking IDs provided.");return;}WriteBatch batch=_firestore.batch();for(String bookingId in bookingIds){DocumentReference bookingRef=_firestore.collection('bookings').doc(bookingId);batch.delete(bookingRef);}}try{

```

```

_firestore.collection('bookings').where('userID',isEqualTo:userId).orderBy('bookingDate',descending:true).get();
'email':email,'username':finalUsername,'uid':userId,'emailVerified':userCredential.user!.emailVerified,'createdAt':FieldValue.serverTimestamp(),});return userCredential;}on FirebaseAuthException catch(e){throw e;}catch(e){throw FirebaseAuthException(code:'unknown-error',message:'An unknown error occurred during sign-up.');}Future<UserCredential> signInWithEmailAndPassword(String
await batch.commit();
print('Successfully deleted ${bookingIds.length} bookings.');
}catch(e){
print('Error deleting multiple bookings: $e');
throw FirebaseAuthException(
code:'batch-delete-failed',message:'An error occurred while deleting multiple bookings.');
}

lib/screens/home_page.dart

import'package:flutter/material.dart';import'package:shared_preferences/shared_preferences.dart';import'package:url_launcher/url_launcher.dart';import'package:flutter/services.dart';import'./terms_conditions_page.dart';import'package:cloud_firestore/cloud_firestore.dart';import'package:url_launcher/url_launcher.dart';import'package:flutter/gestures.dart';import'package:flutter/material.dart';import'package:video_player/video_player.dart';import'package:firebase_auth/firebase_auth.dart';import'..../models/destination_model.dart';import'custom_app_bar.dart';import'profile_screen.dart';import'package:marikina_project3/screens/mapping_page.dart';hide Destination;import'explore_page.dart';import'package:marikina_project3/screens/recommend_page.dart';hide Destination;import'search_page.dart';import'profile_page.dart';import'destination_service.dart';import'package:shimmer/shimmer.dart';import'cached_network_image/cached_network_image.dart';const Color softBlue=Color(0xFF6bbaf9);const Color appBlue=Color(0xFF5A9ECF);const Color appBlack=Color(0xFF000000);const Color appLightGray=Color(0xFFD9D9D9);const Color appOrange=Color(0xFFFFC664);static const double _headerCollapseThreshold=50.0;late AnimationController _bounceController;late Animation<double> _bounceAnimation;@override void initState(){super.initState();_currentPage=_pageController.initialPage;selectedCategory=categories.isNotEmpty?categories[_currentPage%categories.length]['name']!:_videoPlayerController=VideoPlayerController.asset('assets/videos/bg_vid.mp4').initialize().then((_){{if(!mounted) return;setState(()=>{_videoPlayerController.play();_videoPlayerController.setLooping(true);}}});_bounceController=AnimationController(vsync:this,duration:const Duration(milliseconds:200),_bounceAnimation=Tween<double>(begin:1.0,end:1.15).animate(CurvedAnimation(parent:_bounceController,curve:Curves.easeOutCubic,));_animationController=AnimationController(vsync:this,duration:const Duration(milliseconds:300),_scrollController.addListener(_handleScroll);boxShadow:[],ChecklistTile(title:_buildClickablePolicyText('I have read and agree to the Privacy Policy'),()=>_launchPrivacyPolicyUrl(),value:_privacyChecked,onChanged:(bool?value){setDialogState(()=>{_privacyChecked=value??false;});},activeColor:appBlue,controlAffinity: ListTileControlAffinity.leading,contentPadding:EdgeInsets.zero,),),Container(padding:const EdgeInsets.all(dialogPadding),decoration:BoxDecoration(color:appOrange,borderRadius:BorderRadius.only(bottomLeft:Radius.circular(dialogPadding),bottomRight:Radius.circular(dialogPadding)),),child:Row(children:[Expanded(child:ElevatedButton(style:ElevatedButton.styleFrom(backgroundColor:Colors.white,foregroundColor:Colors.black,padding:const EdgeInsets.symmetric(vertical:12),shape:RoundedRectangleBorder(borderRadius:BorderRadius.circular(8)),),),],),Positioned(top:-(iconSize/3),child:Container(width:iconSize,height:iconSize,decoration:BoxDecoration(shape:BoxShape.circle,border:Border.all(color:appBlue,width:4),boxShadow:[BoxShadow(color:Colors.black.withOpacity(0.2),blurRadius:8,offset:const Offset(0,4)),]),child:Container(padding:const EdgeInsets.all(4.0),decoration:const BoxDecoration(shape:BoxShape.circle,image:DecorationImage(image:AssetImage('assets/images/app_icon.png'),fit: BoxFit.cover,))),),),),),);void _handleScroll(){if(!mounted) return;final currentScrollOffset=_scrollController.positionpixels;if(currentScrollOffset>_headerC
createState()=>_HomePageState();}class _HomePageState extends State<HomePage> with TickerProviderStateMixin{int selectedIndex=0;bool isScrolled=false;final PageController _pageController=PageController(viewportFraction:0.47,initialPage:500,);int _currentPage=0;late VideoPlayerController _videoPlayerController;late AnimationController _animationController;final DestinationService _destinationService=DestinationService();List<Map<String,String>> categories=[{'name':'Hotels','image':''},{'name':'Parks','image':''},{'name':'Shops','image':''},{'name':'Resto','image':''},{'name':'Culture','image':''},{'name':'Museum','image':''},{'name':'Church','image':''},];String selectedCategory='Hotels';final ScrollController _scrollController=ScrollController();WidgetsBinding.instance.addPostFrameCallback((_){_checkAndShowTermsDialog();});}Future<void> _checkAndShowTermsDialog(){async{if(!mounted) return;SharedPreferences prefs=await SharedPreferences.getInstance();bool termsAccepted=prefs.getBool(termsAcceptedKey)?false;if(!termsAccepted&&mounted){ showDialog<void>(context:context,barrierDismissible:false,builder:(BuildContext dialogContext){const double dialogPadding=16.0;const double iconSize=80.0;const double boxMarginTop=iconSize/2;bool _termsChecked=false;bool _privacyChecked=false;return StatefulBuilder(builder:(context,setDialogState){bool _canAccept=_termsChecked&&_privacyChecked;return Dialog(backgroundColor:Colors.transparent,insetPadding:const EdgeInsets.symmetric(horizontal:20.0,vertical:24.0),child:Stack(clipBehavior:Clip.none,alignment:Alignment.topCenter,children:[Container(margin:const EdgeInsets.only(top:boxMarginTop),decoration:BoxDecoration(color:softPeach,borderRadius:BorderRadius.circular(dialogPadding)),),onPressed:{Navigator.of(dialogContext).pop();SystemNavigator.pop();},child:const Text('Decline',style:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black,)),),const SizedBox(width:12),Expanded(child:ElevatedButton(style:ElevatedButton.styleFrom(backgroundColor:appBlue,disabledBackgroundColor:appBlue.withOpacity(0.5),padding:const EdgeInsets.symmetric(vertical:12),shape:RoundedRectangleBorder(borderRadius:BorderRadius.circular(8)),),onPressed:{_canAccept?():async{await prefs.setBool(termsAcceptedKey,true);Navigator.of(dialogContext).pop();}:null,child:const Text('Accept',style:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.white,)),},),],),clickableText(VoidCallback onTap){return RichText(text:TextSpan(style:const TextStyle(fontFamily:'TTLivretTextTrial',fontSize:14,color:Colors.black87,),children:[TextSpan(text:normalText),TextSpan(text:clickableText,style:TextStyle(color:appBlue,fontWeight:FontWeight.bold,decoration:TextDecoration.underline,),recognizer:TapGestureRecognizer(onTap:onTap,)),],));}} @override void dispose(){_bounceController.dispose();_animationController.dispose();_videoPlayerController.dispose();_pageController.dispose();_scrollController.removeListener(_handleScroll);_scrollController.dispose();super.dispose();});}} Widget _buildCategoryIcon(int index){final category=categories[index];final isSelected=_currentPage%categories.length==index;final

```

```

collapseThreshold&&!isScrolled){setState(()=>{isScrolled=true,});_animationController.forward();}else
if(currentScrollOffset<=_headerCollapseThreshold&&isScrolled){setState(()=>{isScrolled=false,});_animationController.reverse(),});}Future<void>
_launchPrivacyPolicyUrl(){async{final Uri
url=Uri.parse('https://marikina-project2-247bc.web.app/privacy_policy.html');if(!await launchUrl(url,mode:LaunchMode.externalApplication)){print('Could not launch
$url');}if(mounted){ScaffoldMessenger.of(context).showSnackBar(const
SnackBar(content:Text('Could not open Privacy Policy.')));}
}}Widget
_buildSkeletonGridItem(){return
Shimmer.fromColors(baseColor:appBeige,highlightColor:Colors.white,child:Container(decoration:BoxDecoration(color:Colors.white,borderRadius:BorderRadius.circular(20)),),child:Center(child:Text('category['name']!',textAlign: TextAlign.center,style: TextStyle(fontFamily:'ChicagoAthletic',fontSize:27,color:isSelected?Colors.white:appBlue,fontWeight:FontWeight.bold,)),),),);}if(isSelected){return
GestureDetector(onTap:(){_bounceController.forward().then((_){_bounceController.reverse();});},child:ScaleTransition(scale: _bounceAnimation,child:iconWidget,),);}else{return
iconWidget;}else{Navigator.pushNamed(context,ProfilePage.routeName);}break,};}bac
groundColor:Colors.white,selectedItemColor:appBlue,unselectedItemColor:Colors.g
rey,type:BottomNavigationBarType.fixed,selectedLabelStyle:const
TextStyle(fontFamily:'TTLivretTextTrial',fontSize:12),unselectedLabelStyle:const
TextStyle(fontFamily:'TTLivretTextTrial',fontSize:12,);
items:const[BottomNavigationBarItem(icon:Icon(Icons.home),label:'Home'),Bottom
NavigationBarItem(icon:Icon(Icons.explore),label:'Explore'),BottomNavigationBarIt
em(icon:Icon(Icons.map),label:'Mapping'),BottomNavigationBarItem(icon:Icon(Icons.
book),label:'Booking'),BottomNavigationBarItem(icon:Icon(Icons.person),label:'Profil
e',),};}Widget _buildDestinationGrid(){print("[DEBUG
HomePage] _buildDestinationGrid: Building for
selectedCategory:'$selectedCategory');}return
FutureBuilder<List<Destination>>{future:_destinationService.fetchDestinationsByC
ategory(selectedCategory),builder:(context,snapshot){if(snapshot.connectionState==C
onnectionState.waiting){print("[DEBUG HomePage] _buildDestinationGrid: State for
'$selectedCategory' is WAITING");}return GridView.builder(physics:const
NeverScrollableScrollPhysics(),padding:const EdgeInsets.all(10),gridDelegate:const
SliverGridDelegateWithFixedCrossAxisCount(crossAxisCount:2,crossAxisSpacing:10,
mainAxisSpacing:10,return const
Center(child:Padding(padding:EdgeInsets.all(20.0),child:Text('No destinations
available right
now.',textAlign:TextAlign.center,style:TextStyle(color:Colors.white70,fontSize:16),),));}
return GridView.builder(physics:const NeverScrollableScrollPhysics(),padding:const
EdgeInsets.all(10),gridDelegate:const
SliverGridDelegateWithFixedCrossAxisCount(crossAxisCount:2,crossAxisSpacing:10,
mainAxisSpacing:10,),itemCount:visibleDestinations.length,shrinkWrap:true,itemBu
ilder:(context,index){final Destination destination=visibleDestinations[index];return
DestinationGridItem(destination:destination,onTap:(){async{final String
destinationId=destination.id;try{await
FirebaseFirestore.instance.collection('destinations').doc(destinationId).update({'views':
FieldValue.increment(1)});print("[DEBUG HomePage] Successfully attempted to
increment views for $destinationId");}catch(e){print('Error incrementing views for
$destinationId: $e');}Navigator.pushNamed(curve:Curves.easeInOut,child:AnimatedContainer(durati
on:const
Duration(milliseconds:300),curve:Curves.easeInOut,height:isScrolled?0:fixedContent
Height,child:SlideTransition(position:Tween<Offset>{begin:Offset.zero,end:const
Offset(0,-1),}.animate(CurvedAnimation(parent:_animationController,curve:Curves.e
aseInOut,)),child:Padding(padding:const
EdgeInsets.symmetric(horizontal:10.0),child:Column(mainAxisAlignment:MainAxis
Alignment.center,children:[const
SizedBox(height:10),Expanded(child:FittedBox(fit:BoxFit.contain,alignment:Alignmen
t.center,child:Padding(padding:const
innerColor=isSelected?appBlue:Colors.white,final
outerColor=isSelected?Colors.white:appBlue,const double
outerCircleSize=140,const double innerCircleSize=120,final
iconWidget=Column(mainAxisSize:MainAxisSize.min,children:[Container(width:
outerCircleSize,height:outerCircleSize,decoration:BoxDecoration(shape:BoxShape.
circle,border:Border.all(color:outerColor,width:10,)),child:Center(child:Containe
r(width:innerCircleSize,height:innerCircleSize,decoration:BoxDecoration(shape:B
oxShape.circle,color:innerColor,boxShadow:[BoxShadow(color:Colors.grey.withO
pacity(0.5),spreadRadius:2,blurRadius:5,offset:const Offset(0,3),}],) Widget
buildBottomNavBar(BuildContext context,int currentSelectedIndex){return
BottomNavigationBar(currentIndex:currentSelectedIndex,onTap:(index){switch(i
ndex){case
0:if(ModalRoute.of(context)?.settings.name!=HomePage.routeName){Navigator.p
ushNamed(context,HomePage.routeName);}break;case
1:Navigator.pushNamed(context,RecommendPage.routeName);}break;case
2:Navigator.pushNamed(context,MappingPage.routeName);}break;case
3:Navigator.pushNamed(context,SearchPage.routeName);}break;case 4:final
user=FirebaseAuth.instance.currentUser;if(user!=null){bool
isGoogleSignIn=user.providerData.any((userInfo)>userInfo.providerId=='google.
com');Navigator.pushNamed(context,ProfileScreen.routeName,arguments:{'displa
yName':user.displayName,'email':user.email,'isGoogleSignIn':isGoogleSignIn,});}it
emCount:6,shrinkWrap:true,itemBuilder:(context,index){return
_buildSkeletonGridItem(),};}if(snapshot.hasError){print("[DEBUG HomePage]
_buildDestinationGrid: State for '$selectedCategory' has ERROR:
${snapshot.error}");print("Error in _buildDestinationGrid:
${snapshot.error}");print("StackTrace: ${snapshot.stackTrace}");return
Center(child:Text('Error loading destinations:
${snapshot.error}'));}if(!snapshot.hasData||snapshot.data!.isEmpty){String
reason=!snapshot.hasData?"NO DATA":"EMPTY DATA";print("[DEBUG
HomePage] _buildDestinationGrid: State for '$selectedCategory' is
$reason");return const
Center(child:Padding(padding:EdgeInsets.all(20.0),child:Text('No destinations
found for this
category.',textAlign:TextAlign.center,style:TextStyle(color:Colors.white70,fontSize:
16,)),));}final List<Destination> destinations=snapshot.data!;final
List<Destination>
visibleDestinations=destinations.where((d)>d.isAvailable==true).toList();if(visible
Destinations.isEmpty){print("[DEBUG HomePage] _buildDestinationGrid: No
visible destinations after isAvailable filter for
'$selectedCategory');}context,ExplorePage.routeName,arguments:{'destinationId':d
estinationId,},},},},});} } @override Widget build(BuildContext context){double
fixedContentHeight=250,double categoriesHeight=170,return
Scaffold(appBar:const
CustomAppBar(),body:Stack(children:[SizedBox.expand(child:FittedBox(fit:BoxFi
t.cover,child:SizedBox(width:_videoPlayerController.value.size.width,height:_video
PlayerController.value.size.height,child:VideoPlayer(_videoPlayerController),),),Si
ngleChildScrollView(controller:_scrollController,child:Column(children:[Animat
edOpacity(opacity:isScrolled?0.0:1.0,duration:const
Duration(milliseconds:300),),],),),Container(padding:EdgeInsets.only(top:isSc
rolled?15.0),child:SizedBox(height:categoriesHeight,child:PageView.builder(contro
ller:_pageController, itemCount:1000, onPageChanged:(int
pageIndexAfterScroll){if(!mounted){return;}if(_currentPage!=pageIndexAfterScroll)
{setState(() {_currentPage=pageIndexAfterScroll;}}if(categories.isNotEmpty){String
newCategory=categories[_currentPage%categories.length]['name'];print("[DEBU
G HomePage] onPageChanged: Attempting to set selectedCategory to:
'$newCategory');selectedCategory=newCategory;print("[DEBUG HomePage]
onPageChanged: selectedCategory is NOW:
'$selectedCategory'");}}}, itemBuilder:(context,index){}),);}return
GestureDetector(onTap:(){if(!_pageController.hasClients|| !_pageController.positi
on.hasPixels||_pageController.page==null){print("PageController not ready for tap
animation.");}return;});double

```

```

EdgeInsets.symmetric(horizontal:4.0),child:Text('MABUHAY',style:TextStyle(fontFamily:'AvallonAllCaps',fontSize:115,color:appTitleBlue,shadows:[Shadow(color:Colors.white,offset:Offset(3,3),blurRadius:0,Widget
categoryItem;if(!_pageController.hasClients||!_pageController.position.hasPixels||_pageController.page==null){final double
initialPageOffset=index.toDouble()-_pageController.initialPage.toDouble();final
double maxScale=1.0;final double minScale=0.65;final double
scaleFactor=maxScale-minScale;final double
initialScale=(maxScale-(initialPageOffset.abs()*scaleFactor)).clamp(minScale,maxScale);
categoryItem=Transform.scale(scale:initialScale,child:Center(child:_buildCategoryIcon(index%categories.length,)),);}else{categoryItem=AnimatedBuilder(animation:_page
Controller,builder:(context,child){double scale;const double maxScale=1.0;const
double minScale=0.65;const double scaleFactor=maxScale-minScale;double
currentPageValue=_pageController.page!;final double
pageOffset=index.toDouble()-currentPageValue;scale=(maxScale-(pageOffset.abs()*scaleFactor)).clamp(minScale,maxScale);return
Transform.scale(scale:scale,child:child,);});}const
SizedBox(height:10.0),Container(decoration:BoxDecoration(gradient:LinearGradient(
begin:Alignment.topCenter,end:Alignment.bottomCenter,colors:[appOrange,Colors.
orange,]),borderRadius:BorderRadius.circular(20,),child:_buildDestinationGrid(),,)),
,).bottomNavigationBar:buildBottomNavBar(context,selectedIndex,);}class
DestinationGridItem extends StatefulWidget{final Destination destination;final
VoidCallback onTap;const DestinationGridItem({Key?key,required
this.destination,required this.onTap,}):super(key:key);@override
_DestinationGridItemState createState()=>_DestinationGridItemState();void
_onTapCancel(){_animationController.reverse();}@override Widget
build(BuildContext context){final Destination destination=widget.destination;final
String? firstImageUrl=destination.heroImageUrl;return
GestureDetector(onTapDown:_onTapDown,onTapUp:_onTapUp,onTapCancel:_on
TapCancel,onTap:widget.onTap,child:ScaleTransition(scale:_scaleAnimation,child:Padding(
padding:const
EdgeInsets.all(10.0),child:Container(decoration:BoxDecoration(color:appBeige.withO
pacity(0.9),borderRadius:BorderRadius.circular(12),boxShadow:[BoxShadow(color:C
olors.black.withOpacity(0
const Color appTitleBlue=Color(0xFF00A3FF);const Color
appBeige=Color(0xFFE4C097);const Color softPeach=Color(0xFFFFADEBE);const
String termsAcceptedKey='marikina_go_terms_accepted_v1';class HomePage extends
 StatefulWidget{static const String routeName='/home';const HomePage({Key?
key}):super(key:key);@override State<HomePage>

```

lib/screens/mapping_page.dart

```

import'dart:convert';import'dart:math'as
math;import'package:flutter/material.dart';import'package:flutter_polyline_points/flut
ter_polyline_points.dart';import'package:shared_preferences/shared_preferences.dart';i
mport'package:firebase_auth/firebase_auth.dart';import'package:cloud_firestore/cloud_
firestore.dart';import'package:geocoding/geocoding.dart'as
geocoding;import'custom_app_bar.dart';import'home_page.dart';import'recommend_
page.dart';import'explore_page.dart';import'profile_screen.dart';import'profile_page.
dart';const String
GOOGLE_MAPS_API_KEY='AIzaSyB4Q7SJRwl-oz5NXtnjU8RFF8rDfM9_Zjg';c
onst String
ROUTES_API_KEY="AIzaSyAm6khu8wdtoj0kZK6yAfE0LBKuHXBXORg";const
Color appBlue=Color(0xFF5A9ECF);const Color softBlue=Color(0xFF6bbaf9);const
Color appBlack=Color(0xFF000000);const Color
appLightGray=Color(0xFFD9D9D9);const Color
appOrange=Color(0xFFFFC664);const Color appBeige=Color(0xFFE4C097);const
Color softPeach=Color(0xFFFFADEBE);class Destination{final String id;final String
name;final String category;final String description;final double rating;final gm.LatLng
location;final String? firstImageUrl;final int views;dynamic viewsData={views':int
location...');try{Position position=await
Geolocator.getCurrentPosition(desiredAccuracy:LocationAccuracy.high);if(!moun
ted){return;}_updateUserLocationAndMarker(position,isInitialGet:true,shouldReca
lculateRoute:true);_positionStreamSubscription=Geolocator.getPositionStream(lo
cationSettings:const
LocationSettings(accuracy:LocationAccuracy.high,distanceFilter:1)).listen((Positio
n newPosition){if(_destination!=null){double
distanceToFinalDestination=Geolocator.distanceBetween(currentUserLocation.latit
ude,currentUserLocation.longitude,_destination!.latitude,_destination!.longitude
);if(distanceToFinalDestination<arrivalProximityThresholdMeters&&_currentInst
ructionIndex>=_detailedRouteInstructions.length-1){if(!_hasArrived){setState((){_
hasArrived=true;if(_detailedRouteInstructions.isNotEmpty){_currentInstruc
tionText=_detailedRouteInstructions.last.text+"\nYou have
arrived!";}else{_currentInstructionText="You have arrived at your
destination!"}});return;}}if(_currentInstructionIndex>=_detailedRouteInstruc
tions.length-1){return;}_finalRouteInstructionDetail
instructionToReach=_detailedRouteInstructions[_currentInstructionIndex+1];if(
instructionToReach.maneuverLocation==null){void

```

```

viewsValue=0;if(viewsData is String){viewsValue=int.tryParse(viewsData)?>0;}else
if(viewsData is num){viewsValue=viewsData.toInt();}return
Destination(id:doc.id,name:data['name']?"Unknown
Name",category:data['category']?"Uncategorized",description:data['description']?"No
description
available.",rating:ratingValue,location:gm.LatLng(geoPoint.latitude,geoPoint.longitude
),firstImageUrl:extractedFirstImageUrl,views:viewsValue,);}Map<String,dynamic>
toJson(){return{'name':name,'category':category,'description':description,'rating':rating
,'location':GeoPoint(location.latitude,location.longitude),'images':firstImageUrl!=null?
[{"url":firstImageUrl}:[],'views':views,};}const gm.LatLng
MARIKINA_CENTER_GM=gm.LatLng(14.6507,121.1029);final
gm.LatLngBounds
MARIKINA_BOUNDS_GM=gm.LatLngBounds(southwest:const
gm.LatLng(14.619,121.075).gm.LatLng?_userLocation;bool
_isUserLocationVirtual=false;gm.LatLng
_destination=MARIKINA_CENTER_GM;String?_destinationName;bool
_showCommentsPanel=false;String?_selectedDestinationIdForComments;String?_sel
ectedDestinationNameForComments;int
_totalReviewsForSelectedDestination=0;bool
_routeArgsProcessed=false;Set<gm.Marker>_markers={};Set<gm.Polyline>
_polylines={};bool _isMapRotationEnabled=false;final GlobalKey< ScaffoldState>
_scaffoldKey= GlobalKey< ScaffoldState>();final TextEditingController
_sidebarSearchController=TextEditingController();final TextEditingController
_destinationSearchController=TextEditingController();final TextEditingController
_virtualLocationSearchController=TextEditingController();String
_drawerSearchQuery="";Map<String,List<Destination>>
_filteredCategorizedDbDestinations={};List<String>
_filteredDbCategories=[];String?_currentDestinationIdOnMap;EdgeInsets
_currentMapPadding=EdgeInsets.zero;bool _showInteractionButtons=false;bool
_isSettingVirtualLocationByTapMode=false;List<String>
_dbCategories=[];'Parks':Icons.park,'Hotels':Icons.hotel,'Restaurants':Icons.restaurant
,'Resto':Icons.restaurant_menu,'Culture':Icons.museum,'Museum':Icons.account_balance
,'Church':Icons.church,'Shops':Icons.store,'Default':Icons.location_city},StreamS
ubscription<Position>? _positionStreamSubscription;@override void
initState(){super.initState();_currentInstructionText="Initializing
map...";_fetchDrawerData().then((_){_updateFilteredDrawerData();});_checkAndShowVirtualLocationDialog();_loadComments();}@override void
didChangeDependencies(){super.didChangeDependencies();if(!_routeArgsProcessed)
{final args=ModalRoute.of(context)?.settings.arguments as
Map<String,dynamic>?;}_sidebarSearchController.dispose();_destinationSearchController.dispose();_virtualLocationSearchController.dispose();_positionStreamSubscription?.cancel();_mapControllerInstance?.dispose();super.dispose();}static const String
_userLocationMarkerId="userLocationMarker";static const String
_destinationMarkerId="destinationMarker";Future<void>
_initializeMapAndLocation()
async{if(!mounted)return;setState(()=>_currentInstructionText='Checking location
services...');bool serviceEnabled=await
Geolocator.isLocationServiceEnabled();if(!serviceEnabled){if(!mounted)return;setState
()/_currentInstructionText='Location services disabled. Map centered on
Marikina.';}_userLocation=MARIKINA_CENTER_GM;_isUserLocationVirtual=true;_updateUserMarker();if(_destination!=null)_getGoogleRoute(_userLocation!,_destination);return;if(!mounted)return;setState(()=>_currentInstructionText='Checking
location permissions...');LocationPermission permission=await
Geolocator.checkPermission();if(permission==LocationPermission.denied){permission
=await
Geolocator.requestPermission();if(permission==LocationPermission.denied){if(!moun
ted)return;if(!mounted)return;final bool
locationUpdated!=!_isUserLocationVirtual&& !_isSettingVirtualLocationByTapMode;
if(locationUpdated){final gm.LatLng
currentGmLatLang=gm.LatLng(newPosition.latitude,newPosition.longitude);setState
({_userLocation=currentGmLatLang,_updateUserMarker();});_checkAndAdvanceInstr
_updateFilteredDrawerData(){if(_drawerSearchQuery.isEmpty){_filteredCategoriz
edDbDestinations=Map.from(_categorizedDbDestinations);_filteredDbCategories
=List.from(_dbCategories);}else{_filteredCategorizedDbDestinations.clear();_filter
edDbCategories.clear();}final
query=_drawerSearchQuery.toLowerCase();_categorizedDbDestinations.forEach((
category,destinations){List<Destination>
matchingDestinations=destinations.where((destination){return
destination.name.toLowerCase().contains(query)||destination.description.toLowerCase()
.contains(query)||category.toLowerCase().contains(query)}).toList();if(matchingDestinations.isNotEmpty){_filteredCategorizedDbDestinations[category]=ma
tchingDestinations;if(!_filteredDbCategories.contains(category)){_filteredDbCateg
ories.add(category)};}_filteredDbCategories.sort();}if(mounted){setState((){});}void
_updateUserMarker(){if(_userLocation==null){_markers.removeWhere((m)=>m.
markerId==const
gm.MarkerId(_userLocationMarkerId));if(mounted)setState((){});Return
position:_destination!,icon:gm.BitmapDescriptor.defaultMarkerWithHue(gm.Bit
mapDescriptor.hueRed),infoWindow:gm.InfoWindow(title:_destinationName?""
Destination",snippet:_currentDestinationIdOnMap!=null?_totalReviewsForSel
ectedDestination>0?"$ _totalReviewsForSelectedDestination review(s). Tap for
details.":"No reviews yet. Tap for details.":Tap for
details.,"onTap:(){print("Destination marker tapped:
${_destinationName}'Unknown') ID:
${_currentDestinationIdOnMap}");print("Destination marker tapped:
${_destinationName}'Unknown') ID:
${_currentDestinationIdOnMap}");if(_currentDestinationIdOnMap!=null){_togg
eCommentsPanelVisibility(true,_currentDestinationIdOnMap,_destinationName)
;_fetchTotalReviewsForDestination(_currentDestinationIdOnMap!);}else{print("No specific destination ID available for this pin. Cannot show
comments.");ScaffoldMessenger.of(context).showSnackBar(const
SnackBar(content:Text("Details and comments not available for generic map
pins.")));}if(mounted){setState((){_markers.removeWhere((m)=>m.markerId==
marker.markerId);_markers.add(marker)});}void
_onMapCreated(gm.GoogleMapController
controller){if(!_googleMapControllerCompleter.isCompleted){_googleMapContr
ollerCompleter.complete(controller);}
_mapControllerInstance=controller;print("MAP_LIFECYCLE: GoogleMap
created and controller instance
set.");_moveCameraToFitRouteOrDestination();_updateUserMarker();_updateDe
stinationMarker();_loadComments();}Future<void>
_updateUserLocationAndMarker(Position position,{bool isInitialGet=false,bool
shouldRecalculateRoute=false,bool isVirtualUpdate=false,bool
isManualSet=false,})async{if(!mounted)return;final
newLocation=gm.LatLng(position.latitude,position.longitude);bool
didUserLocationActuallyChange=_userLocation?.latitude!=newLocation.latitude|_|_userLocation?.longitude!=newLocation.longitude;setState(()=>_userLocation=
newLocation;_isUserLocationVirtual=isVirtualUpdate||isManualSet;String
category=_destination.category;if(categories.contains(category)){categories.add(cate
gory);}if(categorized[category]==null){categorized[category]=[];categorized[cate
gory]!.add(destination);}categories.sort();if(mounted){setState(()=>_categorizedDb
Destinations=categorized;_dbCategories=categories;_isLoadingDrawerData=false;}}
;}}catch(e){print("Error fetching drawer data:
$e");if(mounted){setState(()=>_isLoadingDrawerData=false);ScaffoldMessenger.of
(context).showSnackBar(const SnackBar(content:Text("Failed to load destination
categories.")));}}String _stripHtmlIfNeeded(String htmlString){return
htmlString.replaceAll(RegExp(r'<[^>]*>|\n'),'
').trim();}"latLng":{"latitude":origin.latitude,"longitude":origin.longitude}}),"destin
ation":{"location":{"latLang":{"latitude":destination.latitude,"longitude":destination
.longitude}},"travelMode":_selectedVehicleType,"computeAlternativeRoutes":false
,"languageCode":"en-US","units":"METRIC","polylineEncoding":"ENCODED_P
OLYLINE"},};if(_selectedVehicleType=='DRIVE'||_selectedVehicleType=='TWO_

```

```

uction(currentGmLatLng);}}};catch(e){print("Error getting initial location or starting
stream: $e");if(mounted){setState({_currentInstructionText="Error getting location.
Map centered on
Marikina."};_userLocation=MARIKINA_CENTER_GM;_isUserLocationVirtual=true;
_updateUserMarker();};if(_destination!=null)_getGoogleRoute(_userLocation!,_des
tination);}}};void _checkAndAdvanceInstruction(gm.LatLng
currentUserLocation){if(_detailedRouteInstructions.isEmpty()||_hasArrived){return;}c
onst double proximityThresholdMeters=25.0;const double
arrivalProximityThresholdMeters=30.0;print("DEBUG: Next instruction
'${instructionToReach.text}' has no maneuverLocation. Cannot auto-advance based
on location yet.");return;}double
distanceToNextManeuver=Geolocator.distanceBetween(currentUserLocation.latitude,
currentUserLocation.longitude,instructionToReach.maneuverLocation!.latitude,instr
uctionToReach.maneuverLocation!.longitude);if(distanceToNextManeuver<proxim
ityThresholdMeters){setState({_currentInstructionIndex++};print("AUTO-ADVANC
E: Moved to instruction ${_currentInstructionIndex +
1}/${_detailedRouteInstructions.length}: ${_detailedRouteInstructions[_currentInstructionIndex].text}");if(_currentInstructio
nIndex>=_detailedRouteInstructions.length-1&&_destination!=null){double
distanceToFinal=Geolocator.distanceBetween(currentUserLocation.latitude,currentUser
Location.longitude,_destination!.latitude,_destination!.longitude);if(distanceToFinal
<arrivalProximityThresholdMeters&& !_hasArrived){setState({
_hasArrived=true;_currentInstructionText=_detailedRouteInstructions.last.text+"\nY
ou have arrived!"});}}});final marker=gm.Marker(markerId:const
gm.MarkerId(_userLocationMarkerId),position:_userLocation!,icon:_isUserLocation
Virtual?gm.BitmapDescriptor.defaultMarkerWithHue(gm.BitmapDescriptor.hueOra
nge):gm.BitmapDescriptor.defaultMarkerWithHue(gm.BitmapDescriptor.hueAzure),i
nfoWindow:gm.InfoWindow(title:_isUserLocationVirtual?"Virtual Location":"My
Location"),);if(mounted){setState((){_markers.removeWhere((m)=>m.markerId==m
arker.markerId);_markers.add(marker)});}}};void
_updateDestinationMarker(){if(_destination==null){_markers.removeWhere((m)=>
m.markerId==const
gm.MarkerId(_destinationMarkerId));if(mounted)setState((){});return;}if(_currentDe
stinationIdOnMap!=null){_fetchTotalReviewsForDestination(_currentDestinationId
OnMap!);final marker=gm.Marker(markerId:const
gm.MarkerId(_destinationMarkerId),);String?_getDestinationIdFromLatLng(gm.LatLng
location){for(var categoryEntry in _categorizedDbDestinations.entries){for(var
dest in
categoryEntry.value){if(dest.location.latitude==location.latitude&&dest.location.longi
tude==location.longitude){return dest.id;}}}print("Warning: Could not find a
matching destination ID for LatLng: $location. Comments might not load
correctly.");return null;}Future<void>_fetchTotalReviewsForDestination(String
destinationId)async{try{QuerySnapshot snapshot=await
FirebaseFirestore.instance.collection('comments').where('destinationId',isEqualTo:dest
inationId).get();if(mounted){setState((){_totalReviewsForSelectedDestination=snapsh
ot.docs.length;});}}catch(e){print("Error fetching total reviews:
$e");if(mounted){setState((){_totalReviewsForSelectedDestination=0;});}}};if(isInitialG
et||isManualSet){_currentInstructionText="Location found. Set a destination or
explore.";_mapControllerInstance?.animateCamera(gm.CameraUpdate.newLatLngZoom(newLocat
ion,MARIKINA_DEFAULT_ZOOM+2,);};if(isVirtualUpdate&&!isM
anualSet){_currentInstructionText="Virtual location set by tap. Set a
destination."};_updateUserMarker();};if((shouldRecalculateRoute||isVirtualUpdate||is
ManualSet||didUserLocationActuallyChange)&&_destination!=null&&_userLocatio
n!=null){await
_getGoogleRoute(_userLocation!,_destination!);_moveCameraToFitRouteOrDestinat
ion();}}};Future<void>
_fetchDrawerData()async{if(!mounted)return;setState(()=>_isLoadingDrawerData=tr
ue);try{QuerySnapshot snapshot=await
FirebaseFirestore.instance.collection('destinations').get();Map<String,List<Destination
>> categorized={};List<String> categories=[];for(var doc in
snapshot.docs){Destination

```

```

destination=Destination.fromFirestore(doc);}Future<void>
_getGoogleRoute(gm.LatLng origin,gm.LatLng
destination)async{if(GOOGLE_MAPS_API_KEY=="YOUR_GOOGLE_MAPS_A
PI_KEY"||GOOGLE_MAPS_API_KEY.isEmpty){print("ERROR: API Key missing
or is placeholder. Cannot calculate
route.");}if(mounted){setState(){_currentInstructionText="API Key missing. Cannot
calculate route."}};return;}if(!mounted){return;print("ROUTING (New API):
Getting route from ${origin.latitude},${origin.longitude} to
${destination.latitude},${destination.longitude} via
$_selectedVehicleType");setState(){_currentInstructionText="Calculating route via
$_selectedVehicleType...";_polylines.clear();_routePointsGoogle.clear();_detailedRoute
Instructions.clear();_routeTotalDistance=null;_routeTotalDuration=null;_hasArrived
=false;_currentInstructionIndex=0;};const String
fieldsToRequest="routes.polyline.routes.distanceMeters.routes.duration.routes.legs.ste
ps.navigationInstruction.routes.legs.steps.distanceMeters.routes.legs.steps.polyline.en
codedPolyline.routes.legs.steps.startLocation.latLng";final Map<String,dynamic>
requestBody={"origin":{"location":body:
json.encode(requestBody)};};if(!mounted){return;}if(response.statusCode==200){var
jsonResponse=json.decode(response.body);print("ROUTING (New API): Response
received (first 500 chars):
${response.body.substring(0,math.min(response.body.length,500))}...");if(jsonRespons
e['routes']!=null&&jsonResponse['routes'].isNotEmpty){var
route=jsonResponse['routes'][0];_routeTotalDistance=(route['distanceMeters']??0.0).t
oDouble();String?
durationString=route['duration'];if(durationString!=null){_routeTotalDuration=dou
ble.tryParse(durationString.replaceAll("'",''))??0.0;}else{_routeTotalDuration=0.0;}_ro
utePointsGoogle.clear();if(route['polyline']!=null&&route['polyline']['encodedPolyline
']!=null){String
encodedPolyline=route['polyline']['encodedPolyline'];List<PointLatLng>
decodedPolylinePoints=PolylinePoints.decodePolyline(encodedPolyline);if(decodedPol
ylinePoints.isNotEmpty){for(PointLatLng point in
decodedPolylinePoints){_routePointsGoogle.add(gm.LatLng(point.latitude,point.long
itude)};print("ROUTING (New API): Decoded ${_routePointsGoogle.length}
polyline points.");}}else{print("ROUTING_WARNING (New API): Encoded
polyline string is null or empty in response.");}String
maneuverKey=maneuver.toLowerCase().replaceAll('_','_');IconData
instructionIcon=_maneuverIcons[maneuverKey]??_maneuverIcons['default'];if(mane
uver.startsWith("ARRIVE")){instructionIcon=_maneuverIcons['arrive']??_maneuverI
cons['default'];}_detailedRouteInstructions.add(RouteInstructionDetail(text:_stripH
tmIfNeeded(htmlInstruction),maneuverType:maneuver,distanceToNext:distanceForS
tep,icon:instructionIcon,maneuverLocation:stepStartLocation,));}print("ROUTING
(New API): Processed ${_detailedRouteInstructions.length} turn-by-turn
instructions.");}else{print("ROUTING_WARNING (New API): No steps found in
the leg.");}}else{print("ROUTING_WARNING (New API): No legs found in the
route.");}setState(){_currentInstructionText=_detailedRouteInstructions.isNotEmpty
?_detailedRouteInstructions.first.text:"Route calculated. Follow the
map."};}else{String
errorMessage=jsonResponse['error']?['message']??MARIKINA_CENTER_GM;const
int bottomNavSelectedIndex=2;return
Theme(data:Theme.of(context).copyWith(textTheme:Theme.of(context).textTheme.a
pply(fontFamily:'TTLivretTextTrial')),child:Scaffold(key:_scaffoldKey,appBar:const
CustomAppBar(),drawer:_buildAppDrawer(),body:Stack(children:<Widget>[gm.Goo
gleMap(padding:_currentMapPadding,mapType:gm.MapType.normal,initialCameraP
osition:gm.CameraPosition(target:currentMapCenter,zoom:MARIKINA_DEFAULT
_ZOOM,),onMapCreated:_onMapCreated,myLocationEnabled:false,myLocationButt
onEnabled:false,zoomControlsEnabled:true,rotateGesturesEnabled:_isMapRotationE
nabled,mapToolbarEnabled:false,markers:_markers,polylines:_polylines,cameraTargetB
ounds:gm.CameraTargetBounds(MARIKINA_BOUNDS_GM),onTap:(gm.LatLng
tappedPoint){if(_isSettingVirtualLocationByTapMode){_setVirtualLocationByTap(ta
ppedPoint);}else{if(_showCommentsPanel){_toggleCommentsPanelVisibility(false,nu
ll,null);}};mainAxisSize:MainAxisSize.min,crossAxisAlignment:CrossAxisAlignment.str
Colors.white, onPressed:(){setState(){_isSettingVirtualLocationByTapMode!=_isS
ettingVirtualLocationByTapMode;_currentInstructionText=_isSettingVirtualLoca
tionByTapMode?"Tap on the map to set virtual location. ":"Virtual location mode
OFF."};},child:Icon(Icons.touch_app_rounded,color:_isSettingVirtualLocationB
yTapMode?Colors.white:appPrimaryColor),tooltip:'Set virtual location by
tap'),const
SizedBox(height:8),FloatingActionButton(heroTag:"fab_virtual_location_search",
mini:true,backgroundColor:Colors.white, onPressed:_showSetVirtualLocationByS
earchDialog,child:Icon(Icons.travel_explore,color:appPrimaryColor),tooltip:'Set
virtual location by search'),],),if(_isLoadingDrawerData)const
Center(child:CircularProgressIndicator(),_buildCommentsPanel(),if(selected){set
State(){_selectedVehicleType=option['value'];}};if(_userLocation!=null&&_destin
ation!=null){_getGoogleRoute(_userLocation!,_destination);}else{ScaffoldMess
enger.of(context).showSnackBar(const SnackBar(content:Text("Set start and
destination to see route for selected vehicle
type."));)},selectedColor:appPrimaryColor,showCheckmark:false,labelStyle:Text
Style(color:isSelected?Colors.white:Colors.black87,fontWeight:isSelected?FontWe
ight.bold:FontWeight.normal,fontFamily:'TTLivretTextTrial'),backgroundColor:
Colors.grey[200],padding:const
EdgeInsets.symmetric(horizontal:10.0,vertical:6.0,);).toList(),);}Widget
_buildAppDrawer(){final categoriesToDisplay=_filteredDbCategories;final
destinationsToDisplay=_filteredCategorizedDbDestinations;return Drawer(
child:Column(children:<Widget>[AppBar(),],Expanded(child:_isLoadingDrawe
rData?const
Center(child:CircularProgressIndicator()):categoriesToDisplay.isEmpty&&_draw
erSearchQuery.isNotEmpty?Center(child:Padding(padding:const
EdgeInsets.all(16.0),child:Text('No destinations found
for "${_drawerSearchQuery}"',textAlign:TextAlign.center,)),):categoriesToDisplay.isE
mpty?const Center(child:Text('No destinations
available.')):ListView.builder(itemCount:categoriesToDisplay.length,itemBuilder:(c
ontext,categoryIndex){String
category=categoriesToDisplay[categoryIndex];List<Destination>
destinationsInCategory=destinationsToDisplay[category]?[];if(destinationsInCat
egory.isEmpty){return const SizedBox.shrink();}return
ExpansionTile(title:Text(category,style:const
TextStyle(fontWeight:FontWeight.bold,fontSize:16)),children:destinationsInCate
gory.map((destination){return
ListTile(leading:destination.firstImageUrl!=null?CircleAvatar(backgroundImage:
NetworkImage(destination.firstImageUrl!),onBackgroundImageError:(exception,st
ackTrace){}),:CircleAvatar(child:Icon(_categoryIcons[destination.category]?_cate
goryIcons['Default'],gm.CameraUpdate.newLatLngZoom(destination.location,15
,);_incrementDestinationViews(destination.id,);).toList(),),),),);})
Widget buildBottomNavBar(BuildContext context,int selectedIndex){return
BottomNavigationBar(currentIndex:selectedIndex,onTap:(index){if(ModalRoute.
of(context).settings.name==MappingPage.routeName&&index==2){return;}swit
ch(index){case
0:Navigator.pushReplacementNamed(context,HomePage.routeName);break;case
1:Navigator.pushReplacementNamed(context,RecommendPage.routeName);bre
ak;case
2:if(ModalRoute.of(context).settings.name!=MappingPage.routeName){Navigato
r.pushReplacementNamed(context,MappingPage.routeName);}break;case
3:Navigator.pushReplacementNamed(context,'/search');break;
String _formatDistance(double
distanceInMeters){if(distanceInMeters<1000){return
"${distanceInMeters.toStringAsFixed(0)} m";}else{return
"${(distanceInMeters/1000).toStringAsFixed(1)} km";}
String _formatDuration(double durationInSeconds){final int
hours=durationInSeconds~/3600;final int
minutes=(durationInSeconds%3600)/60;final int
seconds=(durationInSeconds%60).toInt();if(hours>0){return "${hours}h
${minutes}m";}else if(minutes>0){return "${minutes}m ${seconds}s";}else{return
}}
```

```

et,children:[if(_detailedRouteInstructions.isNotEmpty&&_currentInstructionIndex<<_detailedRouteInstructions.length)Row(children:[Icon(_detailedRouteInstructions[_currentInstructionIndex].icon,color:appPrimaryColor,size:28,),const SizedBox(width:8),Expanded(child:Column(crossAxisAlignment:CrossAxisAlignment.start,children:[Text(_detailedRouteInstructions[_currentInstructionIndex].text,style:const TextStyle(fontFamily:'TTLivretTextTrial',fontSize:15,fontWeight:FontWeight.bold,),maxLines:2,overflow:TextOverflow.ellipsis),if(_detailedRouteInstructions[_currentInstructionIndex].distanceToNext>0)Text("in ${_formatDistance(_detailedRouteInstructions[_currentInstructionIndex].distanceToNext)}",style:const TextStyle(fontFamily:'TTLivretTextTrial',fontSize:13,color:Colors.black87,)),],),],),if(_currentInstructionText.isNotEmpty||_detailedRouteInstructions.isNotEmpty)const SizedBox(height:8),Card(elevation:2,shape:RoundedRectangleBorder(borderRadius:BorderRadius.circular(10)),child:_buildVehicleTypeChips(),),],),if(!_showCommentsPanel)Positioned(bottom:140,right:16,child:Column(mainAxisSize:MainAxisSize.min,children:<Widget>[FloatingActionButton(heroTag:"fab_center_user",mini:true,backgroundColor:Colors.white, onPressed:_centerOnUserLocation,child:Icon(Icons.my_location,color:appPrimaryColor),tooltip:'Center on my location',),],),bottomNavigationBar:buildBottomNavBar(context,bottomNavSelectedIndex,));]Widget _buildVehicleTypeChips(){final List<Map<String,dynamic>> vehicleOptions=[{'label':'Driving','value':'DRIVE','icon':Icons.directions_car_filled_rounded},{'label':'Walking','value':'WALK','icon':Icons.directions_walk_rounded},{'label':'Cycling','value':'BICYCLE','icon':Icons.directions_bike_rounded},];return Padding(padding:const EdgeInsets.symmetric(vertical:8.0,horizontal:10.0),child:Wrap(spacing:8.0,runSpacing:4.0,alignment:WrapAlignment.center,children:vehicleOptions.map((option){bool isSelected=_selectedVehicleType==option['value'];return FilterChip(label:Text(option['label']),style:const TextStyle(fontFamily:'TTLivretTextTrial',fontSize:14,fontWeight:FontWeight.w600,),avatarIcon(option['icon'],color:isSelected?Colors.white:appPrimaryColor,size:18,),selected:isSelected,onSelected:(bool selected){title:const Text('Destinations',style:TextStyle(fontFamily:'TTLivretTextTrial'),),automaticallyImplyLeading:false,},Padding(padding:const EdgeInsets.fromLTRB(16.0,12.0,16.0,8.0),child:TextField(controller:_sidebarSearchController,showDialog(context:context,builder:(BuildContext dialogContext){_destinationSearchController.clear();return AlertDialog(title:const Text("Search Destination"),content:TextField(controller:_destinationSearchController,decoration:const InputDecoration(hintText:"Enter place name or address"),autoFocus:true,onSubmitted:(value){Navigator.of(dialogContext).pop();if(value.isNotEmpty){_searchAndSetDestination(value,);}},actions:<Widget>[TextButton(child:const Text("Cancel"),onPressed:():>Navigator.of(dialogContext).pop(),),TextButton(child:const Text("Search"),onPressed:():>Navigator.of(dialogContext).pop();if(_destinationSearchController.text.isNotEmpty){_searchAndSetDestination(_destinationSearchController.text,);}),]),});}Future<void> _setVirtualLocationBySearch(String searchTerm)async{if(searchTerm.isEmpty)return;setState((){_currentInstructionText="Searching for virtual location: '$searchTerm'...");try{List<geocoding.Location> locations=await geocoding.locationFromAddress(searchTerm,);if(locations.isNotEmpty){final firstResult=locations.first;final virtualPosition=Position(latitude:firstResult.latitude,longitude:firstResult.longitude,timestamp:DateTime.now(),accuracy:0.0,altitude:0.0,altitudeAccuracy:0.0,heading:0.0,headingAccuracy:0.0,speed:0.0,speedAccuracy:0.0,);_updateUserLocationAndMarker(virtualPosition,isManualSet:true,shouldRecalculateRoute:true);setState((){_currentInstructionText="Virtual location set to '$searchTerm'.");}}};fontFamily:'TTLivretTextTrial',fontWeight:FontWeight.w700,font
${seconds}s";})}
void _centerOnUserLocation(){if(_mapControllerInstance!=null&&_userLocation!=null){_mapControllerInstance.animateCamera(gm.CameraUpdate.newLatLngZoom(_userLocation,MARIKINA_DEFAULT_ZOOM+2,);}else{ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content:Text("User location not available yet."),));}}
void _toggleCommentsPanelVisibility(bool show,String? destinationId,String? destinationName)async{if(!mounted)return;final screenHeight=MediaQuery.of(context).size.height;final panelFactor=0.40;final panelHeight=screenHeight*panelFactor;final systemBottomInset=MediaQuery.of(context).padding.bottom;setState((){_showCommentsPanel=show;if(show){_selectedDestinationIdForComments=destinationId;_selectedDestinationNameForComments=destinationName;_currentMapPadding=EdgeInsets.only(bottom:panelHeight-systemBottomInset,);}else{_currentMapPadding=EdgeInsets.zero,});})
await Future.delayed(const Duration(milliseconds:50));
if(_mapControllerInstance!=null&&_destination!=null){if(show){gm.LatLngBounds bounds=gm.LatLngBounds(southwest:_destination!,northeast:_destination!);_mapControllerInstance.animateCamera(gm.CameraUpdate.newLatLngBounds(bounds,0,);}else{_mapControllerInstance.animateCamera(gm.CameraUpdate.newCameraPosition());}
if(mounted){setState((){_updateDestinationMarker(),});}
if(_userLocation!=null){await _getGoogleRoute(_userLocation!,point);_moveCameraToFitRouteOrDestination();}
else{print("User location not yet available to calculate route to $name.");_moveCameraToFitRouteOrDestination();if(mounted){setState((){_currentInstructionText="User location needed to calculate route to $name.",});}}
Future<void> _moveCameraToFitRouteOrDestination()async{if(_mapControllerInstance==null)return;await Future.delayed(const Duration(milliseconds:100));
if(_polylines.isNotEmpty&&_polylines.first.points.isNotEmpty){try{gm.LatLngBounds bounds=_getBounds(_polylines.first.points,);_mapControllerInstance.animateCamera(gm.CameraUpdate.newLatLngBounds(bounds,70,);}catch(e){print("Error calculating bounds for polyline: $e");}
double minLat=points.first.latitude;double maxLat=points.first.latitude;double minLng=points.first.longitude;double maxLng=points.first.longitude;for(final point in points){if(point.latitude<minLat){minLat=point.latitude;}if(point.latitude>maxLat){maxLat=point.latitude;}if(point.longitude<minLng){minLng=point.longitude;}if(point.longitude>maxLng){maxLng=point.longitude,};}
return gm.LatLngBounds(southwest:gm.LatLng(minLat,minLng),northeast:gm.LatLng(maxLat,maxLng,));
}
Future<void> _searchAndSetDestination(String searchTerm)async{if(searchTerm.isEmpty){return;}}setState((){_currentInstructionText="Searching for '$searchTerm'...");try{List<geocoding.Location> locations=await geocoding.locationFromAddress(searchTerm,);if(locations.isNotEmpty){final firstResult=locations.first;final foundPoint=gm.LatLng(firstResult.latitude,firstResult.longitude);String? foundDestinationId;String destinationDisplayName=searchTerm;for(var categoryEntry in _categorizedDbDestinations.entries){builder:(BuildContext dialogContext){const double dialogPadding=16.0;const double iconSize=72.0;const double boxMarginTop=iconSize/2;return Dialog(backgroundColor:Colors.transparent,insetPadding:const EdgeInsets.symmetric(horizontal:20.0,vertical:24.0),child:Stack(clipBehavior:Clip.none,alignment:Alignment.topCenter,children:[Container(margin:EdgeInsets.only(top:boxMarginTop),decoration:BoxDecoration(color:softPeach,borderRadius:BorderRadius.circular(dialogPadding),boxShadow:[BoxShadow(color:Colors.black.withOpacity(0.15),blurRadius:12,offset:Offset(0,5,)),],),child:Column(mainAxisSize:

```

```

Size:16,)),subtitle:Column(crossAxisAlignment:CrossAxisAlignment.start,children:[Text
ext(destination.description,maxLines:2,overflow:TextOverflow.ellipsis,style:const
TextStyle(fontFamily:'TTLivretTextTrial',fontSize:13),),if(destination.rating>0)Text("Rating: ${destination.rating.toStringAsFixed(1)}/5.0",style:const
TextStyle(fontFamily:'TTLivretTextTrial',fontSize:12),),Text("Views:
${destination.views}",style:const
TextStyle(fontSize:12,color:Colors.grey,fontFamily:'TTLivretTextTrial'),),],),onTap:(){Navigator.of(context).pop()._setDestination(destination.location,destination.name,id:destination.id);_mapControllerInstance?.animateCamera(gm.CameraUpdate.newLatLngZoom(destination.location,MARIKINA_DEFAULT_ZOOM+2));
_incrementDestinationViews(destination.id);},isThreeLine:true,));}Widget_buildCommentsPanel(){if(!_showCommentsPanel||_selectedDestinationIdForComments==null){return const SizedBox.shrink();}return Positioned(bottom:0,left:0,right:0,child:Material(elevation:8.0,shape:const
RoundedRectangleBorder(borderRadius:BorderRadius.only(topLeft:Radius.circular(20.0),topRight:Radius.circular(20.0),),),child:Container(style:const
TextStyle(constraints:BoxConstraints(maxHeight:MediaQuery.of(context).size.height*0.40),padding:const
EdgeInsets.only(top:8.0),decoration:BoxDecoration(color:Colors.white,borderRadius:const
BorderRadius.only(topLeft:Radius.circular(20.0),topRight:Radius.circular(20.0),),),child:Column(mainAxisSize:MainAxisSize.min,children:[Padding(padding:const
EdgeInsets.symmetric(horizontal:16.0),child:Row(mainAxisAlignment:MainAxisAlignment.spaceBetween,children:[Expanded(child:Text(_selectedDestinationNameForComments??"Comments&Reviews",style:const
TextStyle(fontSize:18,fontWeight:FontWeight.bold),overflow:TextOverflow.ellipsis,),),Icon(Icons.close), onPressed:(){_toggleCommentsPanelVisibility(false,null,null);},],),),const
Divider(),Expanded(child:StreamBuilder<QuerySnapshot>(stream:FirebaseFirestore.instance.collection('comments').where('destinationId',isEqualTo:_selectedDestinationIdForComments).orderBy('timestamp',descending:true).snapshots(),builder:(context,snapshot){if(snapshot.connectionState==ConnectionState.waiting){return const
Center(child:CircularProgressIndicator());}if(snapshot.hasError){return
Center(child:Text("Error loading comments:
${snapshot.error}"));}if(!snapshot.hasData||snapshot.data!.docs.isEmpty){radius:18
elseCircleAvatar(child:Icon(Icons.person,size:18),radius:18),const
SizedBox(width:10),color:Colors.black.withOpacity(0.15),blurRadius:12,offset:const
Offset(0,5),],),child:Column(mainAxisSize:MainAxisSize.min,children:[Container(width:double.infinity,padding:const
EdgeInsets.only(top:boxMarginTop-25,bottom:dialogPadding, left:dialogPadding,right:dialogPadding,),decoration:BoxDecoration(
color: appBlue, borderRadius: const BorderRadius.only(topLeft:Radius.circular(dialogPadding),topRight: Radius.circular(dialogPadding),),),child: const Text('Virtual Location Feature',style: TextStyle(fontFamily:
'TTLivretTextTrial',color: Colors.white,fontSize: 22,fontWeight: FontWeight.bold,),textAlign: TextAlign.center,),),Padding(padding: const
EdgeInsets.fromLTRB(dialogPadding, dialogPadding, dialogPadding, 0),child: Column(crossAxisAlignment: CrossAxisAlignment.Alignment.start,children: const
[SizedBox(height: 6),Text('If you prefer not to share your real location, you can set a
virtual one instead. This lets you explore Marikina as if you're there, helping you
preview routes
import 'package:google_maps_flutter/google_maps_flutter.dart' as gm;import
'dart:async';import 'package:geolocator/geolocator.dart';import
'package:http/http.dart' as http; Destination({required this.id,required
this.name,required this.category,required this.description,required this.rating,required
this.location,required this.firstImageUrl,required this.views,}); factory
Destination.fromFirestore(DocumentSnapshot doc){ Map<String,dynamic>
data=doc.data() as Map<String,dynamic>; GeoPoint geoPoint=data['location'] ?? const
GeoPoint(0,0); String? extractedFirstImageUrl; if(data['images']!=null &&
data['images'] is List<dynamic> rawImages=data['images'];
}

```

```

MainAxisSize.min,children:[Container(width:double.infinity,padding:EdgeInsets.only(top:boxMarginTop-22,bottom:dialogPadding, left:dialogPadding,right:dialogPadding,),decoration:BoxDecoration(color:appPrimaryColor,borderRadius:BorderRadius.only(topLeft:Radius.circular(dialogPadding),),decoration:InputDecoration(filled:true,fillColor:Colors.white,prefixIcon:Icon(Icons.travel_explore,color:appPrimaryColor),hintText:'Enter address or place
name',hintStyle:TextStyle(fontFamily:'TTLivretTextTrial'),border:OutlineInputBorder(borderRadius:BorderRadius.circular(10),borderSide:BorderSide.none,),contentPadding:const
EdgeInsets.symmetric(vertical:12,horizontal:12),style:TextStyle(fontFamily:'TTLivretTextTrial',fontSize:14),),),const
SizedBox(height:20),Container(padding:const
EdgeInsets.all(dialogPadding),decoration:BoxDecoration(color:appAccentColor,borderRadius:const
BorderRadius.only(bottomLeft:Radius.circular(dialogPadding),bottomRight:Radius.circular(dialogPadding),),),child:Row(children:[Expanded(child:ElevatedButton(style:ElevatedButton.styleFrom(backgroundColor:Colors.white,foregroundColor:appPrimaryColor,padding:const
EdgeInsets.symmetric(vertical:12),shape:RoundedRectangleBorder(borderRadius:BorderRadius.circular(8)),DocumentReference
destinationRef=Firestore.instance.collection('destinations').doc(destinationId);await
destinationRef.update({'views':FieldValue.increment(1)});print("Incremented
views for $destinationId");}catch(e){print("Error incrementing views:
$e");}}Future<void>_checkAndShowVirtualLocationDialog(){async{if(!mounted){return;}String
prefsDontRemindDateKey='mapping_virtual_location_dont_remind_date';SharedPreferences prefs=await SharedPreferences.getInstance();DateTime
now=DateTime.now();String
todayStr='${now.year.toString().padLeft(4,'0')}-${now.month.toString().padLeft(2,'0')}-${now.day.toString().padLeft(2,'0')}';String?dontRemindDate=prefs.getString(prefsDontRemindDateKey);if(dontRemindDate==todayStr){return;await
showDialog<void>(context:context,barrierDismissible:false,builder:(BuildContext
dialogContext){const double dialogPadding=16.0;const double
iconSize=80.0;const double boxMarginTop=iconSize/2;bool
_dontRemindToday=false;return
StatefulBuilder(builder:(context,setDialogState){return
Dialog.backgroundColor:Colors.transparent,insetPadding:const
EdgeInsets.symmetric(horizontal:20.0,vertical:24.0),child:Stack(clipBehavior:Clip.
none,alignment:Alignment.topCenter,children:[Container(margin:const
EdgeInsets.only(top:boxMarginTop),decoration:BoxDecoration(color:softPeach,borderRadius:BorderRadius.circular(dialogPadding),boxShadow:BoxShadow(fontSize:15,color:Colors.black87,height:1.3),),SizedBox(height:12),Text('How to
use:',style:TextStyle(fontFamily:'TTLivretTextTrial',fontSize:15,fontWeight:FontWeight.w600,),SizedBox(height:6),Text('* Tap the hand icon to manually place your
location on the map.\n* Use the search icon to look up an address and set it as your
location.\n',style:TextStyle(fontFamily:'TTLivretTextTrial',fontSize:14,color:Color
s.black87,height:1.25),),],),Container(padding:const
EdgeInsets.all(dialogPadding),decoration:BoxDecoration(color:appOrange,border
Radius:const
BorderRadius.only(bottomLeft:Radius.circular(dialogPadding),bottomRight:Radius.circular(dialogPadding),),),child:Row(children:[Expanded(child:InkWell(onTap:(){setDialogState({}_dontRemindToday=_dontRemindToday);}),child:Row(mainAxisSize:MainAxisSize.min,children:[Checkbox(value:_dontRemindToday,onChange:(bool?v){padding:const
EdgeInsets.all(10.0),decoration:BoxDecoration(shape:BoxShape.circle,color:appBlue,),child:const
Icon(Icons.navigation_rounded,color:Colors.white,size:36,),),],),),],),Future
<void>_loadComments(){async{print("PLACEHOLDER:_loadComments
called.Needs adaptation for Google Maps markers.");}void
_showAddCommentDialog(gm.LatLng

```

```

if(rawImages.isNotEmpty){ var firstImageMap=rawImages.first; if(firstImageMap is Map<String,dynamic> && firstImageMap['url'] is String){extractedFirstImageUrl=firstImageMap['url'];}} dynamic ratingData=data['rating']; double ratingValue=0.0; if(ratingData is String){ratingValue=double.tryParse(ratingData) ?? 0.0;} else if(ratingData is num){ratingValue=ratingData.toDouble();} northeast: const gm.LatLng(14.675,121.127),); const double MARIKINA_DEFAULT_ZOOM=14.0; const Color appPrimaryColor=Color(0xFF5A9ECF); const Color appAccentColor=Color(0xFFFFDB813); class RouteInstructionDetail{ final String text; final String? maneuverType; final String? maneuverModifier; final double distanceToNext; final IconData icon; final gm.LatLng? maneuverLocation; RouteInstructionDetail({required this.text,this.maneuverType,this.maneuverModifier,required this.distanceToNext,required this.icon,this.maneuverLocation,});} class MappingPage extends StatefulWidget{ static const String routeName='/mapping'; const MappingPage({super.key}); @override State<MappingPage> createState()=> MappingPageState();} class _MappingPageState extends State<MappingPage>{ final Completer<gm.GoogleMapController> _googleMapControllerCompleter=Completer<gm.GoogleMapController>(); gm.GoogleMapController? _mapControllerInstance; Map<String,List<Destination>> _categorizedDbDestinations={}; bool _isLoadingDrawerData=true; List<gm.LatLng> _routePointsGoogle=[]; int _currentInstructionIndex=0; List<RouteInstructionDetail> _detailedRouteInstructions=[]; String _selectedVehicleType='DRIVE'; double? _routeTotalDistance; double? _routeTotalDuration; String _currentInstructionText='Initializing map...'; bool _hasArrived=false; final Map<String,IconData> _maneuverIcons={'turn_left':Icons.turn_left_rounded,'turn_right':Icons.turn_right_rounded,'turn_slight_left':Icons.turn_slight_left_rounded,'turn_slight_right':Icons.turn_slight_right_rounded,'roundabout_left':Icons.roundabout_left_rounded,'roundabout_right':Icons.roundabout_right_rounded,'uturn_left':Icons.u_turn_left_rounded,'uturn_right':Icons.u_turn_right_rounded,'straight':Icons.straight_rounded,'fork_left':Icons.fork_left_rounded,'fork_right':Icons.fork_right_rounded,'merge_left':Icons.merge_rounded,'merge_right':Icons.merge_rounded,'arrive_left':Icons.pin_drop_rounded,'arrive_right':Icons.pin_drop_rounded,'arrive':Icons.pin_drop_rounded,'continue':Icons.arrow_upward_rounded,'new_name':Icons.signpost_rounded,'default':Icons.navigation_rounded,}; final Map<String,IconData> _categoryIcons={ if(args!=null && args.containsKey('latitude') && args.containsKey('longitude')){ final double lat=args['latitude'] as double?; final double? lon=args['longitude'] as double?; final String? name=args['destinationName'] as String?; final String? idFromArgs=args['destinationId'] as String?; if(lat!=null && lon!=null){ final gm.LatLng newDestinationPoint=gm.LatLng(lat,lon); final String destinationDisplayName=name ?? "Selected Location"; print("MappingPage: Received destination from args - Name: $destinationDisplayName, LatLng: $newDestinationPoint, ID: $idFromArgs"); _setDestination(newDestinationPoint,destinationDisplayName,id:idFromArgs); _initializeMapAndLocation().then((_) async{ if(_userLocation!=null && _destination!=null){ await _getGoogleRoute(_userLocation!,_destination); _moveCameraToFitRouteOrDestination(); } else if(_destination!=null){ _moveCameraToFitRouteOrDestination(); } } else{_initializeMapAndLocation(); } _routeArgsProcessed=true; } @override void dispose(){ setState((){}); _currentInstructionText='Permissions denied. Map centered on Marikina.'; _userLocation=MARIKINA_CENTER_GM; _isUserLocationVirtual=true; _updateUserMarker(); }; if(_destination!=null)_getGoogleRoute(_userLocation!,_destination); return; } if(permission==LocationPermission.deniedForever){ if(!mounted)return; setState((){_currentInstructionText='Permissions permanently denied. Map centered on Marikina.'; _userLocation=MARIKINA_CENTER_GM; _isUserLocationVirtual=true; _updateUserMarker(); }; if(_destination!=null)_getGoogleRoute(_userLocation!,_destination); } return; } if(!mounted)return;setState(()=>_currentInstructionText='Getting current

```

```

locationForComment){print("PLACEHOLDER:_showAddCommentDialog called for location: $locationForComment.Needs review.");}void _toggleMapRotation(){setState((){_isMapRotationEnabled=_isMapRotationEnabled; ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text("Map rotation $_isMapRotationEnabled'enabled':disabled'. Gestures control rotation."));});}}else{setState((){_currentInstructionText="Virtual location '$searchTerm' not found.");}}ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text("Could not find virtual location: $searchTerm")));}catch(e){print("Error during virtual location geocoding: $e");setState((){_currentInstructionText="Error setting virtual location by search.");}}ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content:Text("Error setting virtual location. Please try again.")));}}Widget _buildPlaceCard(Destination destination){return Card(margin:const EdgeInsets.symmetric(horizontal:8,vertical:4),child:ListTile(leading:destination.firstImageUrl!=null?Image.network(destination.firstImageUrl!,width:50,height:50,fit: BoxFit.cover,errorBuilder:(context,error,stackTrace)=>const Icon(Icons.broken_image,size:40,color:Colors.grey),loadingBuilder:(context,child,loadingProgress){if(loadingProgress==null)return child;return const SizedBox(width:50,height:50,child:Center(child:CircularProgressIndicator(strokeWidth:2.0))});},Icon(_categoryIcons[destination.category]??:_categoryIcons['Default'],size:40,color:appPrimaryColor,),title:Text(destination.name,return const Center(child:Padding(padding:EdgeInsets.all(20.0),child:Text("No reviews yet for this destination.",style:TextStyle(fontStyle:FontStyle.italic)),),);}final commentsDocs=snapshot.data!.docs;return ListView.builder(padding:const EdgeInsets.symmetric(horizontal:12.0,vertical:8.0),itemCount:commentsDocs.length, itemBuilder:(context,index){final commentData=commentsDocs[index].data() as Map<String,dynamic>;final String userName=commentData['userName']??"Anonymous";final String text=commentData['text']??"";final Timestamp timestamp=commentData['timestamp'] as Timestamp?;final double userGivenRating=(commentData['ratingValue'] as num??0.0).toDouble();final String? userProfilePic=commentData['userProfilePic'] as String?;String timeAgoText='just now';if(timestamp!=null){final difference=DateTime.now().difference(timestamp.toDate());if(difference.inDays>0)timeAgoText='${difference.inDays}d ago';else if(difference.inHours>0)timeAgoText='${difference.inHours}h ago';else if(difference.inMinutes>1)timeAgoText='${difference.inMinutes}m ago';}return Card(margin:const EdgeInsets.only(bottom:10.0),elevation:1.5,shape:RoundedRectangleBorder(borderRadius:BorderRadius.circular(10)),child:Padding(padding:const EdgeInsets.all(12.0),child:Column(crossAxisAlignment:CrossAxisAlignment.start,children:[Row(children:[if(userProfilePic!=null&&userProfilePic.isNotEmpty)CircleAvatar(backgroundImage:NetworkImage(userProfilePic),and discover places without revealing your actual position.,textAlign: TextAlign.justify,style:TextStyle(fontFamily:'TTLivretTextTrial',setDialogState((){_dontRemindToday=v??false;}),activeColor:appBlue,),const SizedBox(width:6),const Text('Do not remind me today',style:TextStyle(fontFamily:'TTLivretTextTrial',fontSize:14,)),],),],),ElevatedButton(style:ElevatedButton.styleFrom(backgroundColor:appBlue,padding:const EdgeInsets.symmetric(vertical:12,horizontal:22),shape:RoundedRectangleBorder(borderRadius:BorderRadius.circular(8))),onPressed:()async{if(!_dontRemindToday){await prefs.setString(prefDontRemindDateKey,todayStr);if(mounted)Navigator.of(dialogContext).pop();},child:const Text('Got it!',style:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.white,fontSize:15,fontWeight:FontWeight.w600,)),],),],),Positioned(top:-(iconSize/3),child:Container(width:iconSize,height:iconSize,decoration:BoxDecoration(shape:BoxShape.circle,border:Border.all(color:appBlue,width:4),boxShadow:[BoxShadow(color:Colors.black.withOpacity(0.2),blurRadius:8,offset:const Offset(0,4))]),child:Container(

```

lib/screens/my_submitted_reports_page.dart

```
import 'package:flutter/material.dart';import
'package:cloud_firestore/cloud_firestore.dart';import
'package:firebase_auth/firebase_auth.dart';import 'package:intl/intl.dart';import
'report_detail_page.dart';const Color marikinaDarkText=Color(0xFF333333);const
Color marikinaAppBlue=Color(0xFF5A9ECF);const Color
marikinaAppBarColor=Colors.white;const Color
marikinaIconColor=marikinaDarkText;class MySubmittedReportsPage extends
StatefulWidget{static const String routeName='/my-submitted-reports';const
MySubmittedReportsPage({super.key});@override State<MySubmittedReportsPage>
createState(){>_MySubmittedReportsPageState();}class
_MySubmittedReportsPageState extends State<MySubmittedReportsPage>{final
Firestore _firestore=Firestore.instance;final FirebaseAuth
_auth=FirebaseAuth.instance;User? _currentUser;Stream<QuerySnapshot>?
_reportsStream;@override void
initState(){super.initState();_currentUser=_auth.currentUser;if(_currentUser!=null){
_reportsStream=_firestore.collection('problem_reports').where('userId',isEqualTo:_curr
entUser!.uid).orderBy('timestamp',descending:true).snapshots();}}String
_formatTimestamp(Timestamp? timestamp){if(timestamp==null)return 'N/A';return
DateFormat('MMM d, yyyy - hh:mm a').format(timestamp.toDate());}IconData
_getReportStatusIcon(String status){switch(status.toLowerCase()){case 'new':return
Icons.fiber_new_outlined;return Scaffold(appBar: AppBar(title:const Text('My
Submitted Reports',style: TextStyle(color:marikinaDarkText,fontWeight:
FontWeight.bold,fontFamily:'TTLivretTextTrial')),backgroundColor:
marikinaAppBarColor,elevation:1,iconTheme:const IconThemeData(color:
marikinaIconColor)),body:StreamBuilder<QuerySnapshot>(stream:
_reportsStream,builder:(BuildContext context,AsyncSnapshot<QuerySnapshot>
snapshot){if(snapshot.hasError){print("Error fetching reports:
${snapshot.error}");return Center(child: Text('Error: ${snapshot.error}',style:const
TextStyle(fontFamily:'TTLivretTextTrial')));}if(snapshot.connectionState==Connecti
onState.waiting){return const
Center(child:CircularProgressIndicator());}if(snapshot.data==null||snapshot.data!.doc
s.isEmpty){return const Center(child:Padding(padding:
EdgeInsets.all(20.0),child:Column(mainAxisAlignment:
MainAxisAlignment.center,children:[Icon(Icons.inbox_outlined,size:60,color:Colors.g
rey),SizedBox(height:16),Text('No reports submitted yet.',textAlign:
TextAlign.center,style: TextStyle(fontSize:18,color:
Colors.grey,fontFamily:'TTLivretTextTrial'),),],),);}}return ListView.builder(padding:
const EdgeInsets.all(12.0),itemCount:
snapshot.data!.docs.length,itemBuilder:(context,index){DocumentSnapshot
document=snapshot.data!.docs[index];Map<String,dynamic>
report=document.data()! as Map<String,dynamic>;String
reportId=document.id;String category=report['category']??'N/A';String
descriptionPreview=report['description']??'No

```

lib/screens/notification_service.dart

```
import 'package:flutter/material.dart';import 'package:firebase_core/firebase_core.dart';i
mport 'package:firebase_messaging/firebase_messaging.dart';import 'package:flutter_loc
al_notifications/flutter_local_notifications.dart';import 'package:cloud_firestore/cloud
_firestore.dart';import 'package:firebase_auth/firebase_auth.dart';import 'package:flutte
r/foundation.dart';show
defaultTargetPlatform;import 'package:shared_preferences/shared_preferences.dart';Fu
ture<void> _firebaseMessagingBackgroundHandler(RemoteMessage
message)async{await Firebase.initializeApp();print("Handling a background message:
${message.messageId}");print("Background message data: ${message.data}");}class
NotificationService{static final
FirebaseMessaging_messaging=FirebaseMessaging.instance;static final
FlutterLocalNotificationsPlugin_localNotifications=FlutterLocalNotificationsPlugin()

```

```
description';if(descriptionPreview.length>100){status,style: const TextStyle(
case 'investigating':returnIcons.search_outlined;case 'pending user
reply':returnIcons.reply_outlined;case 'resolved':returnIcons.check_circle_outline;c
ase 'closed':returnIcons.cancel_outlined;default:returnIcons.help_outline;}Color_
getReportStatusColor(String
status){switch(status.toLowerCase()){case 'new':returnColors.blue.shade700;case 'in
vestigating':returnColors.orange.shade700;case 'pending user
reply':returnColors.purple.shade600;case 'resolved':returnColors.green.shade700;cas
e 'closed':returnColors.grey.shade700;default:returnColors.black54;}}@override Wid
get build(BuildContext
context){if(_currentUser==null){return Scaffold(appBar:AppBar(title:const
Text('My Submitted
Reports',style:TextStyle(color:marikinaDarkText,fontFamily:'TTLivretTextTrial')),background
Color:marikinaAppBarColor,iconTheme:const
IconThemeData(color:marikinaIconColor),),body:const Center(child:Text('You
need to be logged in to view your
reports.',style:TextStyle(fontFamily:'TTLivretTextTrial'))),);}}descriptionPreview='
${descriptionPreview.substring(0,97)}...';String
status=report['status']??'Unknown';Timestamp? timestamp=report['timestamp']as
Timestamp?;return Card(elevation:2.0,margin:const
EdgeInsets.symmetric(vertical:8.0),shape:RoundedRectangleBorder(borderRadius:
BorderRadius.circular(10)),child:ListTile(contentPadding:const
EdgeInsets.symmetric(horizontal: 16.0,vertical:12.0),leading:CircleAvatar(backgrou
ndColor:_getReportStatusColor(status).withOpacity(0.15),child:Icon(_getReport
StatusIcon(status),color:_getReportStatusColor(status),size:26,),title:Text(categor
y,style:const
TextStyle(fontWeight:FontWeight.bold,fontSize:16,fontFamily:'TTLivretTextTrial'
,color:marikinaDarkText,),subtitle:Column(crossAxisAlignment:CrossAxisAlign
ment,start,children:[const
SizedBox(height:4),Text(descriptionPreview,maxLines:2,overflow:TextOverflow.elli
ps,style:TextStyle(fontSize:13.5,color:Colors.grey[700],fontFamily:'TTLivretText
Trial'),),const
SizedBox(height:6),Row(mainAxisAlignment:MainAxisAlignment.spaceBetween,c
hildren:[Text(_formatTimestamp(timestamp),style:TextStyle(fontSize:11,color:Col
ors.grey[600],fontFamily:'TTLivretTextTrial'),),Container(padding:const
EdgeInsets.symmetric(horizontal:8,vertical:3),decoration:BoxDecoration(color:_get
ReportStatusColor(status).withOpacity(0.85),borderRadius:BorderRadius.circular
(12,),child:Text(color:Colors.white,fontSize:10,fontWeight:FontWeight.w500,font
Family:'TTLivretTextTrial',),),],),trailing:const
Icon(Icons.chevron_right,color:Colors.grey),onTap:(){Navigator.push(context,Mat
erialPageRoute(builder:(context)=>ReportDetailPage(reportId:reportId,reportDat
a:report,)),);},),);},);},);}} }

```

```
_masterProfileUpdatesEnabled=true;static bool
_profileUsernameEnabled=true;static bool _profileEmailEnabled=true;static bool
_profilePasswordEnabled=true;static bool _profileGenderEnabled=true;static bool
_profilePhoneEnabled=true;static bool _profileStatusEnabled=true;static bool
_masterAdminUpdatesEnabled=true;static bool
_adminRepliesEnabled=true;static bool _adminReportStatusEnabled=true;static
bool _masterBookingUpdatesEnabled=true;static bool
_bookingStatusEnabled=true;static bool _bookingCheckoutEnabled=true;static
bool get masterProfileUpdatesEnabled=> _masterProfileUpdatesEnabled;static set
masterProfileUpdatesEnabled(bool
value){_masterProfileUpdatesEnabled=value;_saveBoolSetting(_keyMasterProfile
Updates,value);if(!value){profileUsernameEnabled=false;profileEmailEnabled=false

```

```

;static const String _keyMasterProfileUpdates='masterProfileUpdatesEnabled';static
const String _keyProfileUsername='profileUsernameEnabled';static const
String _keyProfileEmail='profileEmailEnabled';static const
String _keyProfilePassword='profilePasswordEnabled';static const
String _keyProfileGender='profileGenderEnabled';static const
String _keyProfilePhone='profilePhoneEnabled';static const
String _keyProfileStatus='profileStatusEnabled';static const
String _keyMasterAdminUpdates='masterAdminUpdatesEnabled';static const
String _keyAdminReplies='adminRepliesEnabled';static const
String _keyAdminReportStatus='adminReportStatusEnabled';profilePhoneEnabled=fa
lse;profileStatusEnabled=false;}static bool get
profileUsernameEnabled=>_profileUsernameEnabled;static set
profileUsernameEnabled(bool
value){_profileUsernameEnabled=value;_saveBoolSetting(_keyProfileUsername,value);}
static bool get profileEmailEnabled=>_profileEmailEnabled;static set
profileEmailEnabled(bool
value){_profileEmailEnabled=value;_saveBoolSetting(_keyProfileEmail,value);}static
bool get profilePasswordEnabled=>_profilePasswordEnabled;static set
profilePasswordEnabled(bool
value){_profilePasswordEnabled=value;_saveBoolSetting(_keyProfilePassword,value);}st
atic bool get profileGenderEnabled=>_profileGenderEnabled;static set
profileGenderEnabled(bool
value){_profileGenderEnabled=value;_saveBoolSetting(_keyProfileGender,value);}stati
c bool get profilePhoneEnabled=>_profilePhoneEnabled;static set
profilePhoneEnabled(bool
value){_profilePhoneEnabled=value;_saveBoolSetting(_keyProfilePhone,value);}static
bool get profileStatusEnabled=>_profileStatusEnabled;static set
profileStatusEnabled(bool
value){_profileStatusEnabled=value;_saveBoolSetting(_keyProfileStatus,value);}static
bool get masterAdminUpdatesEnabled=>_masterAdminUpdatesEnabled;static set
masterAdminUpdatesEnabled(bool
value){_masterAdminUpdatesEnabled=value;_saveBoolSetting(_keyMasterAdminUp
dates,value);if(!value){adminRepliesEnabled=false;adminReportStatusEnabled=false;}}
static bool get adminRepliesEnabled=>_adminRepliesEnabled;static set
adminRepliesEnabled(bool
value){_adminRepliesEnabled=value;_saveBoolSetting(_keyAdminReplies,value);}stati
c bool get adminReportStatusEnabled=>_adminReportStatusEnabled;static set
adminReportStatusEnabled(bool
value){_adminReportStatusEnabled=value;'timestamp':FieldValue.serverTimestamp(),
'relatedCollection':'bookings','relatedDocId':bookingFirestoreId,'previousValue':oldSta
tus,'currentValue':newStatus,}await
FirebaseFirestore.instance.collection('user_notifications').add(notificationDataForFires
tore);print('Booking status update (type: $notificationType) IN-APP record created for
user $userId. Cloud Function will handle FCM ping.');?>catch(e){print('Error creating
booking status update notification record: $e');}}static Future<void>
createBookingSuccessNotification({required String userId,required String
bookingFirestoreId,required String bookingReferenceId,String?
bookingDetailsSummary,}) async {try{final String notificationTitle='Booking
Confirmed!';final String notificationMessage='Your booking (Ref:
$bookingReferenceId) $bookingDetailsSummary!=null?'for
$bookingDetailsSummary":'"} has been successfully submitted and is now
pending';final String notificationType='booking_success';Map<String,dynamic>
notificationDataForFirestore={'title':notificationTitle,'message':notificationMessage,'t
ype':notificationType,'isRead':false,'userId':userId,'timestamp':FieldValue.serverTimest
amp(),'relatedCollection':'bookings','relatedDocId':bookingFirestoreId,'screen':'/bookin
g_history_page',};await
FirebaseFirestore.instance.collection('user_notifications').add(notificationDataForFires
tore);print('Booking success IN-APP record created for user $userId. Cloud Function
will handle FCM ping.');?>catch(e){print('Error creating booking success notification:
$e');}}static Future<void> loadSettings() async {final prefs=await
SharedPreferences.getInstance();if (message!=null) {print('App opened from
;profilePasswordEnabled=false;profileGenderEnabled=false;_saveBoolSetting(_key
AdminReportStatus,value);}}static bool get
masterBookingUpdatesEnabled=>_masterBookingUpdatesEnabled;static set
masterBookingUpdatesEnabled(bool
value){_masterBookingUpdatesEnabled=value;_saveBoolSetting(_keyMasterBooki
ngUpdates,value);if(!value){bookingStatusEnabled=false;bookingCheckoutEnabled
=false;}}static bool get bookingStatusEnabled=>_bookingStatusEnabled;static set
bookingStatusEnabled(bool
value){_bookingStatusEnabled=value;_saveBoolSetting(_keyBookingStatus,value);}
static bool get bookingCheckoutEnabled=>_bookingCheckoutEnabled;static set
bookingCheckoutEnabled(bool
value){_bookingCheckoutEnabled=value;_saveBoolSetting(_keyBookingCheckout
,value);}static Future<void>
createAdminBookingStatusUpdateNotification({required String userId,required
String bookingFirestoreId,required String? bookingReferenceId,required String
oldStatus,required String newStatus, String? adminName,}) async {try {String
displayRef=bookingReferenceId!=null &&
bookingReferenceId.contains("#")?bookingReferenceId.split("#").last:(bookingRef
erenceId ?? bookingFirestoreId);String notificationTitle='Booking Status
Updated';String notificationMessage='Admin ${adminName} != null ?
"($adminName) " : ""}updated your booking (Ref: $displayRef) status from
"$oldStatus" to "$newStatus".;final String
notificationType='booking_status_changed';Map<String,dynamic>
notificationDataForFirestore={'title':notificationTitle,'message':notificationMessag
e,'type':notification Type,'isRead':false,'userId':userId,_masterProfileUpdatesEnable
d=prefs.getBool(_keyMasterProfileUpdates)?true;_profileUsernameEnabled=pref
s.getBool(_keyProfileUsername)?true;_profileEmailEnabled=prefs.getBool(_keyP
rofileEmail)?true;_profilePasswordEnabled=prefs.getBool(_keyProfilePassword)??
true;_profileGenderEnabled=prefs.getBool(_keyProfileGender)?true;_profilePho
neEnabled=prefs.getBool(_keyProfilePhone)?true;_profileStatusEnabled=prefs.ge
tBool(_keyProfileStatus)?true;_masterAdminUpdatesEnabled=prefs.getBool(_key
MasterAdminUpdates)?true;_adminRepliesEnabled=prefs.getBool(_keyAdminR
eplies)?true;_adminReportStatusEnabled=prefs.getBool(_keyAdminReportStatus
)??true;_masterBookingUpdatesEnabled=prefs.getBool(_keyMasterBookingUpdat
es)??true;_bookingStatusEnabled=prefs.getBool(_keyBookingStatus)??true;_booki
ngCheckoutEnabled=prefs.getBool(_keyBookingCheckout)??true;print("Notificat
ion settings loaded from SharedPreferences.");}static Future<void>
_saveBoolSetting(String key,bool value) async {final prefs=await
SharedPreferences.getInstance();await prefs.setBool(key,value);print("Notification
setting saved: $key = $value");}static Future<void> initialize() async
{NotificationSettings settings=await
_messaging.requestPermission(alert:true,badge:true,sound:true,provisional:false,);p
rint('FCM permission granted: ${settings.authorizationStatus}');const
AndroidInitializationSettings
androidInit=AndroidInitializationSettings('@mipmap/ic_launcher');const
InitializationSettings initSettings=InitializationSettings(android:androidInit,);await
_localNotifications.initialize(initSettings,);FirebaseMessaging.onMessage.listen((Re
moteMessage message){print('Foreground message received:
${message.messageId}');_showLocalNotification(message,});FirebaseMessaging.on
MessageOpenedApp.listen((RemoteMessage message){print('Message tapped to
open app from background/terminated:
${message.messageId}');});FirebaseMessaging.instance.getInitialMessage().then((Re
moteMessage? message){print('FCM token REFRESHED and saved successfully
for user $uid');} catch (e) {print('Error saving refreshed FCM token for user $uid:
$e');}} else {print('User not logged in. Refreshed token not saved.');}static
Future<void> removeDeviceTokenOnLogout() async {final
user=FirebaseAuth.instance.currentUser;if(user!=null){final uid=user.uid;try
{await
FirebaseFirestore.instance.collection('user_tokens').doc(uid).delete();print('FCM
token document deleted for user $uid on logout.')} catch (e) {print('Error
removing FCM token for user $uid on logout: $e');}}}static Future<void>

```

```

terminated state by message:
${message.messageId'}));FirebaseMessaging.onBackgroundMessage(_firebaseMessagingBackgroundHandler);_messaging.onTokenRefresh.listen((newToken){print("FCM token refreshed: $newToken");_saveRefreshedDeviceToken(newToken)});await _saveCurrentDeviceToken();static Future<void> triggerSaveTokenForCurrentUser() async {await _saveCurrentDeviceToken();static Future<void> _saveCurrentDeviceToken() async {String? token=await _messaging.getToken();final user=FirebaseAuth.instance.currentUser;if(user!=null&&token!=null){final uid=user.uid;print('Attempting to save FCM token for user $uid. Token: $token');try{await FirebaseFirestore.instance.collection('user_tokens').doc(uid).set({'token':token,'updateAt':FieldValue.serverTimestamp(),'platform':defaultTargetPlatform.name},SetOptions(merge:true));print('FCM token saved successfully for user $uid');}catch(e){print('Error saving FCM token for user $uid: $e');}}else{if(user==null)print('User not logged in. Token not saved.);if(token==null)print('FCM token is null. Token not saved.');}}static Future<void> _saveRefreshedDeviceToken(String refreshToken) async {final user=FirebaseAuth.instance.currentUser;if(user!=null){final uid=user.uid;print('Attempting to save REFRESHED FCM token for user $uid. Token: $refreshToken');try{await FirebaseFirestore.instance.collection('user_tokens').doc(uid).set({'token':refreshedToken,'updatedAt':FieldValue.serverTimestamp(),'platform':defaultTargetPlatform.name},SetOptions(merge:true));shouldShowNotification=false;}else{switch(type){case'admin_new_reply':case'new_reply_report':if(!_adminRepliesEnabled)shouldShowNotification=false;break;case'admin_report_status_updated':if(!_adminReportStatusEnabled)shouldShowNotification=false;break;}}}else{if(type.startsWith('booking_')){if(!_masterBookingUpdatesEnabled){shouldShowNotification=false;}else{switch(type){case'booking_success':if(!_bookingStatusEnabled){shouldShowNotification=false;}break;case'booking_status_changed':if(!_bookingStatusEnabled)shouldShowNotification=false;break;case'booking_checkout_reminder':if(!_bookingCheckoutEnabled)shouldShowNotification=false;break;}}}else{print("Notification type is null. Showing by default unless other logic prevents it.");}if(!shouldShowNotification){print('Local notification (ping) skipped due to user preference. Type: $type, Title: $title');return;}String channelId='default_channel_id';String channelName='Default Notifications';String channelDescription='Channel for general app notifications';String notificationIcon='ic_stat_notification';if(type.startsWith('booking_')){static const String _keyMasterBookingUpdates='masterBookingUpdatesEnabled';static const String _keyBookingStatus='bookingStatusEnabled';static const String _keyBookingCheckout='bookingCheckoutEnabled';static bool

```

lib/screens/notification_settings_page.dart

```

import 'package:flutter/material.dart';import '../screens/notification_service.dart';const Color screenBackgroundColor=Color(0xFFe6a650);const Color cardBackgroundColor=Color(0xFFFF4ca79);const Color appBlueToggleColor=Color(0xFF5A9ECF);const Color softBlue=Color(0xFF6bbaf9);class NotificationsSettingsPage extends StatefulWidget{static const String routeName='/settings/notifications';const NotificationsSettingsPage({Key? key}):super(key:key);@override State<NotificationsSettingsPage> createState(){return _NotificationsSettingsPageState();}class _NotificationsSettingsPageState extends State<NotificationsSettingsPage>{Widget _buildSubSwitchTile({required String title,required bool currentValue,required ValueChanged<bool> onChanged,required bool isMasterSwitchOn,})){return SwitchListTile(title:Text('• $title',style:const TextStyle(color:Colors.black,fontFamily:'TTLivretTextTrial'),),value:currentValue,onChanged:isMasterSwitchOn?onChanged:null,activeColor:Colors.white,activeTrackColor:appBlueToggleColor,);}} @override Widget build(BuildContext context){ThemeData

```

```

_showLocalNotification(RemoteMessage message) async {final type=message.data['type'] as String?;final title=message.notification?.title ?? message.data['title'] as String? ?? 'New Notification';final body=message.notification?.body ?? message.data['body'] as String? ?? '';final payload=message.data['screen'] as String?;bool shouldShowNotification=true;if(type!=null){if(type.startsWith('profile_update_')){if(!_masterProfileUpdatesEnabled){shouldShowNotification=false;}else{switch(type){case'profile_update_username':if(!_profileUsernameEnabled)shouldShowNotification=false;break;case'profile_update_email_initiated':case'profile_update_email_verified':if(!_profileEmailEnabled)shouldShowNotification=false;break;case'profile_update_password':if(!_profilePasswordEnabled)shouldShowNotification=false;break;case'profile_update_gender':if(!_profileGenderEnabled)shouldShowNotification=false;break;case'profile_update_phone':if(!_profilePhoneEnabled)shouldShowNotification=false;break;case'profile_update_status':if(!_profileStatusEnabled)shouldShowNotification=false;break;}}}else{if(type.startsWith('admin_')){if(!_masterAdminUpdatesEnabled){channelId='profile_channel_id';channelName='Profile Updates';channelDescription='Notifications about your profile changes.';}}final AndroidNotificationDetails androidDetails=AndroidNotificationDetails(channelId,channelName,channelDescription:channelDescription,importance:Importance.max,priority:Priority.high,ticker:'ticker',icon:notificationIcon,color:const Color(0xFFFFC664),);final NotificationDetails notificationDetailsPlatformSpecifics=NotificationDetails(android:androidDetails);int notificationId=message.hashCode;if(type!=null){channelId='booking_channel_id';channelName='Booking Notifications';channelDescription='Notifications related to your bookings.';}else{if(type.startsWith('admin_')){channelId='admin_channel_id';channelName='Admin in Updates';channelDescription='Notifications from admin actions or replies.';}else{if(type.startsWith('profile_')){_localNotifications.show(notificationId,title,body,notificationDetailsPlatformSpecifics,payload:payload,);}}print('Local notification shown via _showLocalNotification. Type: $type, Title: $title, Channel: $channelId');}}}} _buildSection({required String title, required List<Widget> children}){return Padding(padding:const EdgeInsets.all(10),child:Card(color:cardBackgroundColor,child:ExpansionTile(title:Text(title,style:const TextStyle(fontFamily:'TTLivretTextTrial',fontWeight:FontWeight.bold),),children:children,)),);}}Widget _buildExpandableTile({required IconData icon,required String title,required bool masterValue,required ValueChanged<bool> onMasterChanged,required List<Widget> subSettingsWidgets}){return ExpansionTile(leading:Icon(icon,color:appBlueToggleColor),title:Row(mainAxisAlignment:MainAxisAlignment.spaceBetween,children:[Text(title,style:const TextStyle(fontFamily:'TTLivretTextTrial',fontWeight:FontWeight.w600),),Switch(

```

```

NotificationService.masterBookingUpdatesEnabled,),_buildSubSwitchTile(title:"Booking Checkout",currentValue:NotificationService.bookingCheckoutEnabled,onChange:(val)=>setState(()=>NotificationService.bookingCheckoutEnabled=val),isMasterSwitchOn:NotificationService.masterBookingUpdatesEnabled,),],],),],),});}}Widget _buildSection({required String title, required List<Widget> children}){return Padding(padding:const EdgeInsets.all(10),child:Card(color:cardBackgroundColor,child:ExpansionTile(title:Text(title,style:const TextStyle(fontFamily:'TTLivretTextTrial',fontWeight:FontWeight.bold),),children:children,)),);}}Widget _buildExpandableTile({required IconData icon,required String title,required bool masterValue,required ValueChanged<bool> onMasterChanged,required List<Widget> subSettingsWidgets}){return ExpansionTile(leading:Icon(icon,color:appBlueToggleColor),title:Row(mainAxisAlignment:MainAxisAlignment.spaceBetween,children:[Text(title,style:const TextStyle(fontFamily:'TTLivretTextTrial',fontWeight:FontWeight.w600),),Switch(

```

```

baseTheme=Theme.of(context).copyWith(useMaterial3:false);final
switchTheme=SwitchThemeData(thumbColor:MaterialStateProperty.all(Colors.white
),style:TextStyle(fontFamily:'TTLivretTextTrial',fontSize:15,color:Colors.black.withOp
acity(0.7),height:1.4,),textAlign:TextAlign.justify,);return
Theme(data:baseTheme.copyWith(switchTheme:switchTheme),child:Scaffold(backgr
oundColor:screenBackgroundColor,body:ListView(children:[_buildSection(title:"Use
r
Notifications",children:[_buildExpandableTile(icon:Icons.person_outline,title:"Profile
Updates",masterValue:NotificationService.masterProfileUpdatesEnabled,onMasterCha
nged:(val){setState((){NotificationService.masterProfileUpdatesEnabled=val;Notificati
onService.profileUserNameEnabled=val;NotificationService.profileEmailEnabled=val;Notificati
onService.profilePasswordEnabled=val;NotificationService.profileGenderEnabled=val;Notificati
onService.profilePhoneEnabled=val;NotificationService.profileStatusEnabled=val;});},sub
SettingsWidgets:[_buildSubSwitchTile(title:"Username",currentValue:NotificationSer
vice.profileUsernameEnabled,onChanged:(val){setState((){NotificationService.pro
fileUsernameEnabled=val;isMasterSwitchOn:NotificationService.masterProfileUpdate
sEnabled,});},_buildSubSwitchTile(title:"Email",currentValue:NotificationService.profile
EmailEnabled,onChanged:(val){setState((){NotificationService.profileEmailEnable
d=val;isMasterSwitchOn:NotificationService.masterProfileUpdatesEnabled,});},_buildS
ubSwitchTile(title:"Password",currentValue:NotificationService.profilePasswordEnable
d,onChanged:(val){setState((){NotificationService.profilePasswordEnabled=val;is
MasterSwitchOn:NotificationService.masterProfileUpdatesEnabled,});},_buildSubSwitch
Tile(title:"Gender",currentValue:NotificationService.profileGenderEnabled,onChange
d:(val){setState((){NotificationService.profileGenderEnabled=val;isMasterSwitchOn:Notificati
onService.masterProfileUpdatesEnabled,});},_buildSubSwitchTile(title:"Phone
Number",currentValue:NotificationService.profilePhoneEnabled,onChanged:(val){set
State((){NotificationService.profilePhoneEnabled=val;isMasterSwitchOn:Notificati
onService.masterProfileUpdatesEnabled,});},_buildSubSwitchTile(title:"Stat
us",currentValue:NotificationService.profileStatusEnabled,onChanged:(val){set
State((){NotificationService.profileStatusEnabled=val;isMasterSwitchOn:Notificati
onService.masterProfileUpdatesEnabled,});},_buildSection(title:"Admin
Notifications",children:[_buildExpandableTile(icon:Icons.admin_panel_settings_outli
ned,title:"Admin
Updates",masterValue:NotificationService.masterAdminUpdatesEnabled,onMasterCh
anged:(val){setState((){NotificationService.masterAdminUpdatesEnabled=val;Notificati
onService.adminRepliesEnabled=val;NotificationService.adminReportStatusEnabled=val;});},subSettingsW
idgets:[_buildSubSwitchTile(title:"Admin
Replies",currentValue:NotificationService.adminRepliesEnabled,onChanged:(val){se
tState((){NotificationService.adminRepliesEnabled=val;isMasterSwitchOn:Notificati
onService.masterAdminUpdatesEnabled,});},_buildSubSwitchTile(title:"Report
Status",currentValue:NotificationService.adminReportStatusEnabled,onChanged:(val){se
tState((){NotificationService.adminReportStatusEnabled=val;isMasterSwitchO
n:NotificationService.masterAdminUpdatesEnabled,});},_buildSection(title:"Booki
ng
Notifications",children:[_buildExpandableTile(icon:Icons.book_online_outlined,title:
"Booking
Updates",masterValue:NotificationService.masterBookingUpdatesEnabled,onMasterC
hanged:(val){setState((){NotificationService.masterBookingUpdatesEnabled=val;Notificati
onService.bookingStatusEnabled=val;NotificationService.bookingCheckoutEnabled=val;});},subSettings
Widgets:[_buildSubSwitchTile(title:"Booking
Status",currentValue:NotificationService.bookingStatusEnabled,onChanged:(val){set
State((){NotificationService.bookingStatusEnabled=val;isMasterSwitchOn:

```

lib/screens/privacy_security_page.dart

```

import'package:flutter/material.dart';import'package:firebase_auth/firebase_auth.dart';
import'package:cloud_firestore/cloud_firestore.dart';import'package:google_sign_in/g

```

```

value:masterValue,onChanged:onMasterChanged,activeColor:Colors.white,active
TrackColor:appBlueToggleColor,)],children:subSettingsWidgets,);}
trackColor:MaterialStateProperty.resolveWith((states){if(states.contains(MaterialSt
ate.selected)){return appBlueToggleColor;}return
Colors.grey.shade400,}),trackOutlineColor:MaterialStateProperty.all(Colors.transp
arent),overlayColor:MaterialStateProperty.all(Colors.transparent,);return
Theme(data:baseTheme.copyWith(switchTheme:switchTheme),child:Scaffold(bac
kgroundColor:screenBackgroundColor,appBar:AppBar(title:const
Text('Notification
Settings',style:TextStyle(color:Colors.white,fontFamily:'TTLivretTextTrial,')),back
groundColor:Colors.transparent,elevation:0,iconTheme:const
IconThemeData(color:Colors.white),flexibleSpace:Container(decoration:const
BoxDecoration(gradient:LinearGradient(colors:[Color(0xFF4374ac),softBlue],beg
in:Alignment.topCenter,end:Alignment.bottomCenter,)),),body:ListView(paddi
ng:const EdgeInsets.only(top:8.0,bottom:8.0),children:[Padding(padding:const
EdgeInsets.fromLTRB(20.0,12.0,20.0,12.0),child:Text('Manage your notification
preferences and which alerts you want to receive here. Use the main toggles for
quick control, or expand a category to fine-tune your
preferences.'),isMasterSwitchOn:NotificationService.masterProfileUpdatesEnabled,
),_buildSubSwitchTile(title:"Gender",currentValue:NotificationService.profileGen
derEnabled,onChanged:(val){setState((){NotificationService.profileGenderEna
bled=val;isMasterSwitchOn:NotificationService.masterProfileUpdatesEnabled,});},_
buildSubSwitchTile(title:"Phone
Number",currentValue:NotificationService.profilePhoneEnabled,onChanged:(val){set
State((){NotificationService.profilePhoneEnabled=val;isMasterSwitchOn:Notificati
onService.masterProfileUpdatesEnabled,});},_buildSubSwitchTile(title:"Stat
us",currentValue:NotificationService.profileStatusEnabled,onChanged:(val){set
State((){NotificationService.profileStatusEnabled=val;isMasterSwitchOn:Notificati
onService.masterProfileUpdatesEnabled,});},_buildSection(title:"Admin
Notifications",children:[_buildExpandableTile(icon:Icons.admin_panel_settings_o
utlined,title:"Admin
Updates",masterValue:NotificationService.masterAdminUpdatesEnabled,onMaster
Changed:(val){setState((){NotificationService.masterAdminUpdatesEnabled=va
l;NotificationService.adminRepliesEnabled=val;NotificationService.adminReportS
tatusEnabled=val,});},subSettingsWidgets:[_buildSubSwitchTile(title:"Replies",cur
rentValue:NotificationService.adminRepliesEnabled,onChanged:(val){setState(
required List<Widget> children,});}]),_buildSection(title:"Booki
ng
Notifications",children:[_buildExpandableTile(icon:Icons.book_online_outlined,title:
"Booking
Updates",masterValue:NotificationService.masterBookingUpdatesEnabled,onMasterC
hanged:(val){setState((){NotificationService.masterBookingUpdatesEnabled=val;Notificati
onService.bookingStatusEnabled=val;NotificationService.bookingCheckoutEnabled=val,});},subSettingsW
idgets:[_buildSubSwitchTile(title:"Booking
Status",currentValue:NotificationService.bookingStatusEnabled,onChanged:(val){set
State((){NotificationService.bookingStatusEnabled=val;isMasterSwitchOn:

```

```

d'])as bool??false;_phoneNumberFor2FA=data['phoneNumberFor2FA']as
String?;_isPhoneNumberVerifiedFor2FA=data['isPhoneNumberVerifiedFor2FA']as

```

```

oogle_sign_in.dart';import'package:url_launcher/url_launcher.dart';import'edit_profile_screen.dart';import'profile_page.dart';const Color screenBackgroundColor=Color(0xFFe6a650);const Color cardBackgroundColor=Color(0xFFFF4ca79);const Color appBlueToggleColor=Color(0xFF5A9ECF);const Color softBlue=Color(0xFF6bbaf9);const Color appBeige=Color(0xFFFF4ca79);class PrivacySecurityPage extends StatefulWidget{static const String routeName='/settings/privacy-security';const PrivacySecurityPage({Key?key}):super(key:key);@override State<PrivacySecurityPage> createState()=>_PrivacySecurityPageState();}class _PrivacySecurityPageState extends State<PrivacySecurityPage>{final FirebaseAuth _auth=FirebaseAuth.instance;final FirebaseFirestore _firestore=Firestore.instance;final GoogleSignIn googleSignIn=GoogleSignIn();bool _isLoading=true;bool _is2FAEnabled=false;String? _phoneNumberFor2FA;bool _isPhoneNumberVerifiedFor2FA=false;String? _verificationId;bool _isVerifyingPhoneNumber=false;String? _currentlyVerifyingPhoneNumber;bool _isActionLoading=false;@override void initState(){super.initState();_loadUserSettings();}Future<void> _loadUserSettings(){async{'is2FAEnabled':true,};if(mounted){setState(){_is2FAEnabled=true;_isLoading=false;}};ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content:Text('2FA enabled successfully!'),backgroundColor:Colors.green,));}catch(e){if(mounted){setState(){_is2FAEnabled=false;_isLoading=false;}};ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content:Text('Error enabling 2FA: $e'),backgroundColor:Colors.red,));}}else{if(mounted){setState(){_isVerifyingPhoneNumber=true;_isLoading=false;}};ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content:Text('Please enter and verify your phone number for 2FA.'),));}else{try{_firestore.collection('users').doc(userId).update({'is2FAEnabled':false});}if(mounted){setState(){_is2FAEnabled=false;_isLoading=false;}};ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content:Text('2FA disabled.'),backgroundColor:Colors.orange,));}catch(e){if(mounted){setState(){_is2FAEnabled=false;_isLoading=false;}};ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content:Text('Error disabling 2FA: $e'),backgroundColor:Colors.red,));}}}Future<void> _startPhoneNumberVerification(String phoneNumber){async{if(_auth.currentUser==null){return;}setState(){_isLoading=true;}};try{if(_auth.currentUser==null){return;}setState(){_isLoading=true;}};try{bool alreadyLinked=_auth.currentUser!.providerData.any((userInfo)=>userInfo.providerId==PhoneAuthProvider.PROVIDER_ID&&userInfo.phoneNumber==verifiedPhoneNumber);if(!alreadyLinked){await _auth.currentUser!.linkWithCredential(credential);print("Phone number successfully linked to the account.");}else{print("Phone number $verifiedPhoneNumber is already linked to this user. Proceeding to enable 2FA.");}await _firestore.collection('users').doc(_auth.currentUser!.uid).update({'is2FAEnabled':true,'phoneNumberFor2FA':verifiedPhoneNumber,'isPhoneNumberVerifiedFor2FA':true,'phoneNumber':verifiedPhoneNumber,});if(mounted){setState(){_is2FAEnabled=true;_phoneNumberFor2FA=verifiedPhoneNumber;_isPhoneNumberVerifiedFor2FA=true;_isVerifyingPhoneNumber=false;_verificationId=null;_currentlyVerifyingPhoneNumber=null;_isLoading=false;}};ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content:Text('2FA enabled and phone number verified!'),backgroundColor:Colors.green,));}catch(e){print("Error in _linkPhoneCredentialAndEnable2FA or updating Firestore: $e");if(mounted){setState(){_isLoading=false;}};ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content:Text('Error enabling 2FA: ${e.toString()}',backgroundColor:Colors.red,)));}}Future<void> _verifySmsCodeAndEnable2FA(String smsCode){async{if(_auth.currentUser==null||_verificationId==null){ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content:Text('Verification process error. Please try again.'),));return;}if(password==null||password.isEmpty){return null;}};try{EmailAuthProvider.credential(email:user.email!,password:password);}else{if(isGoogleUser){try{final GoogleSignInAccount? googleUser=await

```

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_googleSignIn.signInSilently()??await
_googleSignIn.signIn();if(googleUser==null) return null;final
GoogleSignInAuthentication googleAuth=await googleUser.authentication;return
GoogleAuthProvider.credential(accessToken:googleAuth.accessToken,idToken:google
Auth.idToken,);}catch(e){print("Error re-authenticating with Google:
\$e");if(mounted)ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text(
"Failed to re-authenticate with Google: \$e")));return null;}}return
null;}Future<String?> _showPasswordDialog() async{final TextEditingController
passwordController=TextEditingController();return
showDialog<String>(context:context,barrierDismissible:false,builder:(context){bool
obscure=true;return StatefulBuilder(builder:(context,setState){return
AlertDialog(backgroundColor:appBeige,title:const Text('Re-enter
Password',style:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black,fontWeight:FontWeight.bold),),content:TextField(controller:passwordController,obscureText:obs
cure,decoration:InputDecoration(labelText:'Password',suffixIcon:IconButton(icon:Icon(Icons.visibility_off),color:Colors.black),'Cancel',style:TextStyl
e(fontFamily:'TTLivretTextTrial',color:Colors.black),),TextButton(onPressed:()=>N
avigator.of(context).pop(true),child:const Text('Change
Password',style:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black),),),);});});if(confirm==true){if(mounted){Navigator.push(context,MaterialPageRoute(builder:(c
ontext)=>EditProfileScreen(triggerPasswordChange:true,)),).then((_)_
{ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content:Text('If
password was changed, other sessions will be
invalidated.'),duration:Duration(seconds:4),));});}}}}Future<void> _deleteAccount()
async{if(_auth.currentUser==null){ScaffoldMessenger.of(context).showSnackBar(const
SnackBar(content:Text('No user logged in.')),);return;}}final bool?
confirmDelete=await
showDialog<bool>(context:context,barrierDismissible:false,builder:(BuildContext
dialogContext){return AlertDialog(backgroundColor:appBeige,title:const Text('Delete
Account?',style:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black,fontWeight:FontWeight.bold),),content:const Text('This action is permanent and cannot be
undone. All your data associated with this account will be deleted.\n\nAre you
absolutely sure you want to delete your
account?',style:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black),),actions:
<Widget>[Please log in again and
retry';}ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text(errorMes
sage),backgroundColor:Colors.red,));}catch(e){if(mounted){ScaffoldMessenger.of(con
text).showSnackBar(SnackBar(content:Text('An unexpected error occurred:
\$e.toString()'),backgroundColor:Colors.red,));}}finally{if(mounted){setState(){_isAc
tionLoading=false;}}}Widget _buildLinkedAccountsSection(){const
SizedBox(height:8),Card(color:cardBackgroundColor,elevation:2,shape:RoundedRect
angleBorder(borderRadius:BorderRadius.circular(12)),clipBehavior:Clip.antiAlias,child
:Column(children:[ListTile(leading:const
Icon(Icons.email,color:Colors.black),title:const
Text('Email/Password',style:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.bl
ack)),trailing:isEmailLinked builder:(context){final
formKey=GlobalKey<FormState>();final
emailController=TextEditingController();final
passwordController=TextEditingController();bool obscurePassword=true;return
StatefulBuilder
builder:(context,setState){return AlertDialog(backgroundColor:appBeige,title:const
Text('Link
Email/Password',style:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black,fontWeight:FontWeight.bold),),content:Form(key:formKey,child:Column(mainAxisSize:
MainAxisSize.min,children:[TextFormField(controller:emailController,decoration:con
st InputDecoration(labelText:'Email'),style:const
TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black),keyboardType:TextInput
Type.emailAddress,validator:(value)=>(value==null||value.isEmpty||value.contains('@
'))?'Enter a valid email':null,),const SizedBox(height:8),TextFormField(
if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text('Err
or linking: \$e.message'),backgroundColor:Colors.red,));}

```

```

Text('Cancel',style:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black)),o
nPressed:()=>Navigator.of(context).pop(null),),TextButton(child:const
Text('Confirm',style:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black)),o
nPressed:()=>Navigator.of(context).pop(passwordController.text,)],);});});}Future<void> _signOutFromAllDevices(Async{if(mounted){final confirm=await
showDialog<bool>(context:context,barrierDismissible:false,builder:(context){retur
n AlertDialog(backgroundColor:appBeige,title:const Text('Sign Out of All Other
Devices',style:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black,fontWeight:FontWeight.bold),),content:const Text('To sign out of all other devices, we
recommend changing your password. This will invalidate sessions on other
computers and mobile devices.\n\nWould you like to proceed to change your
password?',style:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black,)),act
ions:[TextButton(onPressed:()=>Navigator.of(context).pop(false),child:const
Text('TextButton(child:const
Text('Cancel',style:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black)),o
nPressed:()=>Navigator.of(dialogContext).pop(false),),TextButton(style:TextButto
n.styleFrom(foregroundColor:Colors.red),child:const Text('DELETE
ACCOUNT',style:TextStyle(fontFamily:'TTLivretTextTrial'), onPressed:()=>Navi
gator.of(dialogContext).pop(true,)],);};if(confirmDelete!=true){return;}if(!mou
nted){return;setState(){_isActionLoading=true;}};
try{AuthCredential?credential=await _reauthenticateUser();if(credential==null){if(
mounted){ScaffoldMessenger.of(context).showSnackBar(const
SnackBar(content:Text('Re-authentication failed. Account not
deleted.'),));}}};	setState(){_isActionLoading=false;}};return;}}await _auth.currentUser!
.reauthenticateWithCredential(credential);String
userId=_auth.currentUser!.uid;await _auth.currentUser!.delete();print("User
account $userId deleted from Firebase Auth. Implement server-side data
cleanup.");if(mounted){ScaffoldMessenger.of(context).showSnackBar(const
SnackBar(content:Text('Account deleted
successfully.'),backgroundColor:Colors.green,));}Navigator.of(context).pushNamed
AndRemoveUntil(ProfilePage.routeName,(route)=>false,);}}on
FirebaseAuthException catch(e){if(mounted){String errorMessage='Error deleting
account: \$e.message';if(e.code=='requires-recent-login'){errorMessage='This
operation is sensitive and requires recent authentication. User?
user=_auth.currentUser;if(user==null){return const
SizedBox.shrink();}List<UserInfo> providers=user.providerData;bool
isEmailLinked=providers.any((p)=>p.providerId==EmailAuthProvider.PROVID
ER_ID);bool
isGoogleLinked=providers.any((p)=>p.providerId==GoogleAuthProvider.PROVI
DER_ID);return
Column(crossAxisAlignment:CrossAxisAlignment.start,children:[const
Text('Linked Sign-In
Methods',style:TextStyle(fontFamily:'TTLivretTextTrial',fontSize:20,fontWeight:F
ontWeight.bold,color:Colors.black),),controller:passwordController,decoration:In
putDecoration(labelText:'Password',suffixIcon:IconButton(icon:Icon(obscurePass
word?Icons.visibility_off,Icons.visibility,color:Colors.black),onPressed:()=>setState
(()=>obscurePassword=obscurePassword,)),style:const
TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black),obscureText:obscure
Password,validator:(value)=>(value==null||value.isEmpty||value.length<6)?Passwo
rd must be at least 6
characters':null,)],),actions:[TextButton(onPressed:()=>Navigator.of(context).po
p(null),child:const
Text('Cancel',style:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black)),),
TextButton(onPressed:(){if(formKey.currentState.validate()){Navigator.of(context)
.pop('email':emailController.text.trim(),'password':passwordController.text.trim(
),);}}),child:const
Text('Link',style:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black),),);
};};if(result==null||result['email']==null||result['password']==null){setState(){_isActionLoading=false;}};try{AuthCredential
credential=EmailAuthProvider.credential(email:result['email']!,password:result['pas
sword']!);await _auth.currentUser!.linkWithCredential(credential);if(mounted){Sc

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```

}catch(e){if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text('An unexpected error occurred: $e'),backgroundColor:Colors.red,));}}finally{if(mounted)setState(()=>_isActionLoading=false);}

Future<void> _linkGoogleAccount(){async{if(_auth.currentUser==null)return;setState(()=>_isActionLoading=true);try{final GoogleSignInAccount?googleUser=await _googleSignIn.signIn();if(googleUser==null){if(mounted)setState(()=>_isActionLoading=false);return;}final GoogleSignInAuthentication googleAuth=await googleUser.authentication;final AuthCredential credential=GoogleAuthProvider.credential(accessToken:googleAuth.accessToken,idToken:googleAuth.idToken,);await _auth.currentUser!.linkWithCredential(credential);if(mounted){ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content:Text('Google account linked successfully!'),backgroundColor:Colors.green,));setState(() {});}}on FirebaseAuthException catch(e){if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text('Error linking Google: ${e.message}'),backgroundColor:Colors.red,));}}catch(e){if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text('An unexpected error occurred: $e'),backgroundColor:Colors.red,));}}finally{if(mounted)setState(()=>_isActionLoading=false);}

Future<void> _unlinkProvider(String providerId)async{if(_auth.currentUser==null)return;setState(() {});on FirebaseAuthException catch(e){if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text('Error unlinking: ${e.message}'),backgroundColor:Colors.red,));}}catch(e){if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text('An unexpected error occurred: $e'),backgroundColor:Colors.red,));}}finally{if(mounted)setState(()=>_isActionLoading=false);}

Widget _buildOtherOptionsSection(){return Column(crossAxisAlignment:CrossAxisAlignment.start,children:[const Text('Other Security Options',style:TextStyle(fontFamily:'TTLivretText Trial',fontSize:20,fontWeight:FontWeight.bold,color:Colors.black,)),const SizedBox(height:8),Card(color:cardBackgroundColor,elevation:2,shape:RoundedRectangularBorder(borderRadius:BorderRadius.circular(12)),clipBehavior:Clip.antiAlias,child:Column(children:[ListTile(leading:const Icon(Icons.logout,color:Colors.black),title:const Text('Sign Out of All Other Devices',style:TextStyle(fontFamily:'TTLivretText Trial',color:Colors.black)),subtitle:Text('Recommended if you suspect unauthorized access.',style:TextStyle(fontFamily:'TTLivretText Trial',color:Colors.black.withOpacity(0.7))),onTap:_isActionLoading?null:_signOutFromAllDevices,),const Divider(height:1,indent:16,endIndent:16),ListTile(leading:const Icon(Icons.policy_outlined,color:Colors.black),title:const Text('Privacy Policy',style:TextStyle(fontFamily:'TTLivretText Trial',color:Colors.black)),subtitle:Text('Read our data handling practices.',style:TextStyle(fontFamily:'TTLivretText Trial',color:Colors.black.withOpacity(0.7))),body:(_isLoading&& !_isVerifyingPhoneNumber)||_isActionLoading?const Center(child:CircularProgressIndicator()):SingleChildScrollView(padding:const EdgeInsets.symmetric(vertical:8.0,horizontal:16.0),child:Column(crossAxisAlignment:CrossAxisAlignment.start,children:[Card(color:cardBackgroundColor,elevation:2,shape:RoundedRectangleBorder(borderRadius:BorderRadius.circular(12)),child:SwitchListTile(contentPadding:const EdgeInsets.symmetric(horizontal:16,vertical:8),title:const Text('Two-Factor Authentication (2FA)',style:TextStyle(fontFamily:'TTLivretText Trial',fontWeight:FontWeight.bold,color:Colors.black)),subtitle:Text(_is2FAEnabled?'ON - Verified phone: ${_phoneNumberFor2FA}??"Not set"':'OFF - Enhances account security.',style:TextStyle(fontFamily:'TTLivretText Trial',color:Colors.black.withOpacity(0.7)),value:_is2FAEnabled,onChanged:(_isLoading||_isActionLoading)?null:_toggle2FA),const SizedBox(height:16),if(_verificationId==null)...[TextFormField(controller:phoneController,decoration:const InputDecoration(labelText:'Phone Number (e.g., +639171234567)'),style:const TextStyle(fontFamily:'TTLivretText Trial'),keyboardType:TextInputType.phone,)],const SizedBox(height:16),ElevatedButton.icon(icon:_isLoading?const CircularProgressIndicator(strokeWidth:2,color:Colors.white):Icon(Icons.send_outlined,color:appBlueToggleColor),label:Text(_is Loading?'Sending Code...':Send Verification Code',style:const
affoldMessenger.of(context).showSnackBar(const SnackBar(content:Text('Email/Password linked successfully!'),backgroundColor:Colors.green,));setState(() {});}}on FirebaseAuthException catch(e){if(_auth.currentUser!.providerData.length<=1){ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content:Text('Cannot unlink the only sign-in method.'),backgroundColor:Colors.orange,));return;}final bool confirmUnlink=await showDialog<bool>(context:context,builder:(BuildContext dialogContext){String providerName="this provider";if(providerId==GoogleAuthProvider.PROVIDER_ID)providerName="Google";else if(providerId==EmailAuthProvider.PROVIDER_ID)providerName="Email/Pass word";return AlertDialog(backgroundColor:appBeige,title:Text('Unlink $providerName?',style:const TextStyle(fontFamily:'TTLivretText Trial',color:Colors.black,fontWeight:FontWeight.bold,)),content:Text('Are you sure you want to unlink $providerName from your account? You will no longer be able to sign in using it unless you link it again.',style:const TextStyle(fontFamily:'TTLivretText Trial',color:Colors.black,)),actions:<Widget>[TextButton(child:const Text('Cancel',style:TextStyle(fontFamily:'TTLivretText Trial',color:Colors.black,)), onPressed:():>Navigator.of(dialogContext).pop(false),),TextButton(style:TextButton.styleFrom(foregroundColor:Colors.red),child:const Text('UNLINK',style:TextStyle(fontFamily:'TTLivretText Trial',color:Colors.black,)),onPressed:():>Navigator.of(dialogContext).pop(true,)),],);}if(confirmUnlink!=true)return;setState(()=>_isActionLoading=true);try{await _auth.currentUser!.unlink(providerId);if(mounted){ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content:Text('Sign-in method unlinked successfully!'),backgroundColor:Colors.green,));onTap:_isActionLoading?null:_launchPrivacyPolicy,);const Divider(height:1,indent:16,endIndent:16),ListTile(leading:Icon(Icons.delete_forever_outlined,color:Colors.red[700]),title:Text('Delete Account',style:TextStyle(fontFamily:'TTLivretText Trial',color:Colors.red[400])),onTap:_isActionLoading?null:_deleteAccount,);},);}}@override Widget build(BuildContext context){final TextEditingController phoneController=TextEditingController(text:_isVerifyingPhoneNumber?(_currentlyVerifyingPhoneNumber?"":)'),final TextEditingController smsCodeController=TextEditingController();final SwitchThemeData(thumbColor:MaterialStateProperty.all(Colors.white),trackColor:MaterialStateProperty.resolveWith((states){if(states.contains(MaterialState.selected))return appBlueToggleColor;}),return Colors.grey.shade400,);final OverlayColor=MaterialStateProperty.all(Colors.transparent,);return Theme(data:Theme.of(context).copyWith(switchTheme:switchTheme,child:Scaffold(backgroundColor:screenBackgroundColor,appBar:AppBar(title:const Text('Privacy & Security',style:TextStyle(color:Colors.white,fontFamily:'TTLivretText Trial')),backgroundColor:Colors.transparent,elevation:0,iconTheme:const IconThemeData(color:Colors.white),flexibleSpace:Container(decoration:const BoxDecoration(gradient:LinearGradient(colors:[Color(0xFF4374ac),softBlue,],const SizedBox(height:16),if(_verificationId==null)...[TextFormField(controller:phoneController,decoration:const InputDecoration(labelText:'Phone Number (e.g., +639171234567)'),style:const TextStyle(fontFamily:'TTLivretText Trial'),keyboardType:TextInputType.phone,)],const SizedBox(height:16),ElevatedButton.icon(icon:_isLoading?const CircularProgressIndicator(strokeWidth:2,color:Colors.white):Icon(Icons.send_outlined,color:appBlueToggleColor),label:Text(_is Loading?'Sending Code...':Send Verification Code',style:const

```

```

e2FA,secondary:Icon(_is2FAEnabled?Icons.shield_rounded:Icons.shield_outlined,colo
r:Colors.black),activeColor:Colors.white,),const
SizedBox(height:16),if(_isVerifyingPhoneNumber)...[Card(color:cardBackgroundColorCol
or,elevation:2,shape:RoundedRectangleBorder(borderRadius:BorderRadius.circular(1
2)),child:Padding(padding:const
EdgeInsets.all(16.0),child:Column(crossAxisAlignment:CrossAxisAlignment.start,chi
ldren:[Text(_verificationId==null?'Step 1: Enter Phone Number':Step 2: Enter SMS
Code',style:const
TextStyle(fontFamily:'TTLivretTextTrial',fontSize:18,fontWeight:FontWeight.bold,col
or:Colors.black,),const
SizedBox(height:16),if(_verificationId==null)...[TextFormField(controller:phoneCon
troller,decoration:const InputDecoration(labelText:'Phone Number (e.g.,
+639171234567)'),style:const
TextStyle(fontFamily:'TTLivretTextTrial'),keyboardType:TextInputType.phone,),cons
t SizedBox(height:16),ElevatedButton.icon(icon:_isLoading?const
SizedBox(width:20,height:20,child:CircularProgressIndicator(strokeWidth:2,color:Col
ors.white)):Icon(Icons.send_outlined,color:appBlueToggleColor),label:Text(_isLoadin
g?'Sending Code...':Send Verification Code',style:const
TextStyle(fontFamily:'TTLivretTextTrial'),onPressed:_isLoading?null:(){final String
numberToVerify=phoneController.text.trim();if(numberToVerify.isEmpty){ScaffoldM
essenger.of(context).showSnackBar(const SnackBar(content:Text('Please enter a phone
number.'))});return;}if(!numberToVerify.startsWith('+')||numberToVerify.length<10){S
caffoldMessenger.of(context).showSnackBar(const SnackBar(content:Text('Please use
+63 format (e.g.,
+639171234567.'))));return;}setState({_currentlyVerifyingPhoneNumber=numberT
oVerify});_startPhoneNumberVerification(numberToVerify);},style:ElevatedButton.st
yleFrom(minimumSize:const
Size(double.infinity,48),backgroundColor:Colors.white,foregroundColor:appBlueTog
gleColor,disabledBackgroundColor:Colors.white70,disabledForegroundColor:Colors.
grey,),]else...[TextFormField(controller:smsCodeController,decoration:const
InputDecoration(labelText:'SMS Code'),style:const TextStyle(fontFamily:
begin:Alignment.topCenter,end:Alignment.bottomCenter,),),],_verificationId==nul
l?'Step 1: Enter Phone Number':Step 2: Enter SMS Code',
if(_auth.currentUser==null){if(mounted)setState(()=>_isLoading=false);return;}try{
DocumentSnapshot userDoc=await
_firestore.collection('users').doc(_auth.currentUser!.uid).get();if(userDoc.exists&&user
Doc.data()!!=null){final data=userDoc.data()as
Map<String,dynamic>;if(mounted){setState({_is2FAEnabled=data['is2FAEnable

```

lib/screens/profile_page.dart

```

import'package:flutter/material.dart';import'package:video_player/video_player.dart';i
mport'package:firebase_auth/firebase_auth.dart';import'package:google_sign_in/goo
le_sign_in.dart';import'package:cloud_firestore/cloud_firestore.dart';import'package:cl
oud_functions/cloud_functions.dart';import'package:flutter/gestures.dart';import'pac
kage:url_launcher/url_launcher.dart';import'firebase_service.dart';import'home_page.
dart';import'recommend_page.dart';import'mapping_page.dart';import'search_page_da
rt';import'custom_app_bar.dart';import'profile_screen.dart';import'notification_servic
e.dart';const Color appBlue=Color(0xFF5A9ECF);const Color
appOrange=Color(0xFFE6A650);const Color appBeige=Color(0FFE4C097);const
Color softBlue=Color(0xFF6bbaf9);const Color
softPeach=Color(0xFFFFADEB);enum PasswordResetMethod{email,phone}class
ProfilePage extends StatefulWidget{static const String routeName='/profile';const
ProfilePage({super.key});@override State<ProfilePage>
createState()=>_ProfilePageState();}class _ProfilePageState extends State<ProfilePage>
with SingleTickerProviderStateMixin{int _selectedIndex=4;bool _isSignUp=false;final
FirebaseService _firebaseService=FirebaseService();final FirebaseAuth
_auth=FirebaseAuth.instance;bool _isLoading=false;bool
_obscurseSignInPassword=true;bool _obscureSignUpPassword=true;bool
_obscurseConfirmPassword=true;final TextEditingController

```

```

TextStyle(fontFamily:'TTLivretTextTrial'),),onPressed:_isLoading?null:(){final
String
numberToVerify=phoneController.text.trim();if(numberToVerify.isEmpty){Scaffol
dMessenger.of(context).showSnackBar(const SnackBar(content:Text('Please enter a phone
number.'))});return;}if(!numberToVerify.startsWith('+')||numberToVerify.length<1
0){ScaffoldMessenger.of(context).showSnackBar(const
SnackBar(content:Text('Please use +63 format (e.g.,
+639171234567.'))));return;}setState({_currentlyVerifyingPhoneNumber=numb
erToVerify});_startPhoneNumberVerification(numberToVerify);},style:ElevatedB
utton.styleFrom(minimumSize:const
Size(double.infinity,48),backgroundColor:Colors.white,foregroundColor:appBlue
ToggleColor,disabledBackgroundColor:Colors.white70,disabledForegroundColor:
Colors.grey,),]else...[style:const
TextStyle(fontFamily:'TTLivretTextTrial'),keyboardType:TextInputType.number,
,const SizedBox(height:16),ElevatedButton.icon(icon:_isLoading?const
SizedBox(width:20,height:20,child:CircularProgressIndicator(strokeWidth:2,color:Col
ors.white)):Icon(Icons.check_circle_outline,color:style:const
TextStyle(fontFamily:'TTLivretTextTrial',fontSize:18,fontWeight:FontWeight.bold
,color:Colors.black),),appBlueToggleColor),label:Text(_isLoading?'Verifying...':Ver
ify & Enable 2FA',style:const
TextStyle(fontFamily:'TTLivretTextTrial'),onPressed:_isLoading?null:(){final
String
sms=smsCodeController.text.trim();if(sms.isEmpty||sms.length<4){ScaffoldMes
senger.of(context).showSnackBar(const SnackBar(content:Text('Please enter the SMS
code.'))});return;}_verifySmsCodeAndEnable2FA(sms)},style:ElevatedButton.style
From(minimumSize:const
Size(double.infinity,48),backgroundColor:Colors.white,foregroundColor:appBlue
ToggleColor,),],const SizedBox(height:8),Center(child:TextButton(child:const
Text('Cancel
Verification',style:TextStyle(fontFamily:'TTLivretTextTrial'),onPressed:(){setState(
{_isVerifyingPhoneNumber=false,_verificationId=null,_isLoading=false,_isActio
nLoading=false,_currentlyVerifyingPhoneNumber=null};},style:TextButton.styleF
rom(foregroundColor:appBlueToggleColor,fontSize:12,color:Colors.white,fontWeight:
bold),text:TextSpan(text:'Continue with Google',style:TextStyle(fontFamily:
'TTLivretTextTrial',fontSize: 16,)),),const SizedBox(height:
13),RichText(textAlign: TextAlign.center,text: TextSpan(style:
TextStyle(fontFamily: 'TTLivretTextTrial',fontSize: 12,color:
Colors.white.withOpacity(0.8),height: 1.4,),children: <TextSpan>[const
TextSpan(text: 'Copyright © 2025 MarikinaGo | '),TextSpan(text: 'Privacy
Policy',style: TextStyle(fontFamily: 'TTLivretTextTrial', color: Colors.white,
decoration: TextDecoration.underline,decorationColor: Colors.white,),final
TextEditingController
_emailSignUpController=TextEditingController();final TextEditingController
_usernameSignUpController=TextEditingController();final TextEditingController
_passwordSignUpController=TextEditingController();final TextEditingController
_confirmPasswordSignUpController=TextEditingController();late
VideoPlayerController _videoController;late Future<void>
_initializeVideoPlayerFuture;final TextEditingController
_otpController=TextEditingController();final TextEditingController
_forgotPasswordEmailController=TextEditingController();PasswordResetMethod
_currentResetMethod=PasswordResetMethod.email;TextEditingController

```

```

Image.asset('assets/images/google_logo.png',height: 24,),label: const
Text('Continue with Google',style: TextStyle(fontFamily:
'TTLivretTextTrial',fontSize: 16,)),),const SizedBox(height:
13),RichText(textAlign: TextAlign.center,text: TextSpan(style:
TextStyle(fontFamily: 'TTLivretTextTrial',fontSize: 12,color:
Colors.white.withOpacity(0.8),height: 1.4,),children: <TextSpan>[const
TextSpan(text: 'Copyright © 2025 MarikinaGo | '),TextSpan(text: 'Privacy
Policy',style: TextStyle(fontFamily: 'TTLivretTextTrial', color: Colors.white,
decoration: TextDecoration.underline,decorationColor: Colors.white,),final
TextEditingController
_emailSignUpController=TextEditingController();final TextEditingController
_usernameSignUpController=TextEditingController();final TextEditingController
_passwordSignUpController=TextEditingController();final TextEditingController
_confirmPasswordSignUpController=TextEditingController();late
VideoPlayerController _videoController;late Future<void>
_initializeVideoPlayerFuture;final TextEditingController
_otpController=TextEditingController();final TextEditingController
_forgotPasswordEmailController=TextEditingController();PasswordResetMethod
_currentResetMethod=PasswordResetMethod.email;TextEditingController

```

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_loginIdentifierController=TextEditingController();final TextEditingController
_passwordController=TextEditingController();setState(){_isLoading=true;};final
String loginIdentifier=_loginIdentifierController.text.trim();final String
password=_passwordController.text;if(loginIdentifier.isEmpty||password.isEmpty){if(
mounted){ScaffoldMessenger.of(context).showSnackBar(const
SnackBar(content:Text('Username/Email and Password cannot be
empty.')););setState(){_isLoading=false;};}return;}UserCredential?
userCredential;User? firebaseAuthUser;String?
userUid;try{print("ProfilePage._handleLogin: Attempting to get user data from
Firestore for identifier: $loginIdentifier");Map<String,dynamic>?
userDataFromFirestore=await
_firebaseService.getUserByLoginIdentifier(loginIdentifier);if(userDataFromFirestore=
=null){print("ProfilePage._handleLogin: User not found in Firestore for identifier:
$loginIdentifier.");throw FirebaseAuthException(code:'user-not-found',message:'User
not found with the provided username or
email.);}userUid=userDataFromFirestore['uid'] as String? ??
;if(userUid.isEmpty){throw Exception("User UID missing from Firestore data lookup.
Cannot proceed.");}String?
loginMethodHint=userDataFromFirestore['login_method_hint'] as String?;String
oldEmailFromFirestore=userDataFromFirestore['email'] as String;String?
pendingNewEmailFromFirestore=(userDataFromFirestore['pendingEmailChange'] as
Map<String,dynamic>?)?['newEmail'] as String?;print("ProfilePage._handleLogin:
Firestore Data - UID: $userUid, OldEmail: $oldEmailFromFirestore,
PendingNewEmail: $pendingNewEmailFromFirestore, Hint:
$loginMethodHint");if(loginMethodHint=='main_username'){print("ProfilePage._ha
ndleLogin: Login attempt with USERNAME ($loginIdentifier).");bool
loggedInSuccessfully=false;as loginIdentifier.");}else{print("ProfilePage._handleLogin:
Login attempt with UNKNOWN HINT or fallback. Using email from Firestore:
$oldEmailFromFirestore");userCredential=await
_firebaseService.signInWithEmailAndPassword(oldEmailFromFirestore,password);fire
baseAuthUser=userCredential.user;print("ProfilePage._handleLogin: Auth SUCCESS
with email from Firestore
(fallback).");}if(firebaseAuthUser==null){print("ProfilePage._handleLogin:
CRITICAL - firebaseAuthUser is null but no exception was caught. This indicates a
logic flaw.");throw Exception("Authentication process completed but user object is
unexpectedly null.");}print("ProfilePage._handleLogin: Firebase Auth sign-in
successful. Auth User Email: ${firebaseAuthUser.email}, Verified:
${firebaseAuthUser.emailVerified}");await
NotificationService.triggerSaveTokenForCurrentUser();if(firebaseAuthUser.email!=nul
l&&firebaseAuthUser.email!=oldEmailFromFirestore&&firebaseAuthUser.emailVerifi
ed==true){print("ProfilePage._handleLogin: Auth email (${firebaseAuthUser.email})
differs from main Firestore email ($oldEmailFromFirestore) and is
verified.");print("ProfilePage._handleLogin: Attempting JIT Firestore sync for UID:
$userUid.");try{Map<String,dynamic>
updatesToSave={'email':firebaseAuthUser.email,'emailVerified':true,'pendingEmailCha
nge':FieldValue.delete()};await
_firebaseService.saveUserData(userUid,updatesToSave);print("ProfilePage._handleLog
in: JIT Firestore sync successful. Email updated to ${firebaseAuthUser.email},
pendingEmailChange removed.");}catch(e){print("ProfilePage._handleLogin: Error
during JIT Firestore sync: $e. Proceeding with navigation, ProfileScreen will attempt
sync.");}else{print("ProfilePage._handleLogin: No JIT sync needed or conditions not
met. AuthEmail: ${firebaseAuthUser.email}, FirestoreOldEmail:
$oldEmailFromFirestore, AuthEmailVerified:
${firebaseAuthUser.emailVerified}");}if(!mounted){return;await
userToDeleteFromAuth!.reload();userToDeleteFromAuth=FirebaseAuth.instance.curr
entUser;if(userToDeleteFromAuth==null){throw
FirebaseAuthException(code:'user-disappeared',message:'User session lost after
creation.');}if(userToDeleteFromAuth!.emailVerified){await
userToDeleteFromAuth!.sendEmailVerification();final bool? isVerifiedInDialog=await
_showOtpVerificationDialog();if(isVerifiedInDialog==true){await
_firebaseService.saveUserData(userToDeleteFromAuth!.uid,{email:_emailSignUpCo
_forgotPasswordPhoneController=TextEditingController();@override void
initState(){super.initState();_videoController=VideoPlayerController.asset("assets/
videos/bg_no_music.mp4");_initializeVideoPlayerFuture=_videoController.initiali
ze().then((_){{if(mounted){setState(){_videoController.setLooping(true);_videoC
ontroller.play();}}}});} @override void
dispose(){_loginIdentifierController.dispose();_passwordController.dispose();_ema
ilSignUpController.dispose();_usernameSignUpController.dispose();_passwordSig
nUpController.dispose();_confirmPasswordSignUpController.dispose();_otpCont
roller.dispose();_forgotPasswordEmailController.dispose();_videoController.dispos
e();super.dispose();} Future<void> _handleLogin()
async{if(!mounted){return;}if(pendingNewEmailFromFirestore!=null&&pendingN
ewEmailFromFirestore.isNotEmpty){print("ProfilePage._handleLogin: Username
login - Attempt 1: Auth with PENDING_NEW_EMAIL:
$pendingNewEmailFromFirestore");try{userCredential=await
_firebaseService.signInWithEmailAndPassword(pendingNewEmailFromFirestore,
password);firebaseAuthUser=userCredential.user;loggedInSuccessfully=true;print(
"ProfilePage._handleLogin: Username login - Auth SUCCESS with
PENDING_NEW_EMAIL.");}on FirebaseAuthException
catch(e){print("ProfilePage._handleLogin: Username login - Auth FAILED with
PENDING_NEW_EMAIL ($pendingNewEmailFromFirestore): ${e.code}");}
if(!loggedInSuccessfully){print("ProfilePage._handleLogin: Username login -
Attempt 2: Auth with OLD_EMAIL_FROM_FIRESTORE:
$oldEmailFromFirestore");userCredential=await
_firebaseService.signInWithEmailAndPassword(oldEmailFromFirestore,password);
firebaseAuthUser=userCredential.user;loggedInSuccessfully=true;print("ProfilePag
e._handleLogin: Username login - Auth SUCCESS with
OLD_EMAIL_FROM_FIRESTORE.");}else
if(loginMethodHint=='pending_new_email'){print("ProfilePage._handleLogin:
Login attempt with PENDING_NEW_EMAIL
($loginIdentifier).");userCredential=await
_firebaseService.signInWithEmailAndPassword(loginIdentifier,password);firebaseA
uthUser=userCredential.user;print("ProfilePage._handleLogin: Auth SUCCESS
with PENDING_NEW_EMAIL (used as loginIdentifier).");}else
if(loginMethodHint=='main_email'){print("ProfilePage._handleLogin: Login
attempt with MAIN_EMAIL ($loginIdentifier).");userCredential=await
_firebaseService.signInWithEmailAndPassword(loginIdentifier,password);firebaseA
uthUser=userCredential.user;print("ProfilePage._handleLogin: Auth SUCCESS
with MAIN_EMAIL (used Navigator.pushReplacementNamed(context,
ProfileScreen.routeName));}on FirebaseAuthException catch(e){String
errorMessage='Login failed:
;if(e.code=='user-not-found'||e.code=='firestore-user-lookup-failed'){errorMessage
+='User not found or incorrect username/email.';}else
if(e.code=='wrong-password'||e.code=='INVALID_LOGIN_CREDENTIALS'||e.
code=='invalid-credential'{errorMessage+=='Incorrect password or invalid
credentials. Please try again.';}else{errorMessage+=='An unknown
authentication error occurred.';}print("Login FirebaseAuthException: Code:
${e.code}, Message:
${e.message}");}if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackB
ar(content: Text(errorMessage)),);}catch(e){print("Login general error:
$e");}if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:
Text('Login failed: An unexpected error occurred:
${e.toString()}')));}finally{if(mounted){setState(){_isLoading=false;}}}{}Future
<void> _handleSignUp()
async{if(!mounted){return;}setState(){_isLoading=true;}User?
userToDeleteFromAuth;try{if(_passwordSignUpController.text!=_confirmPasswo
rdSignUpController.text){throw
FirebaseAuthException(code:'passwords-do-not-match',message:'Passwords do not
match');}UserCredential userCredential=await
_firebaseService.signInWithEmailAndPassword(_emailSignUpController.text.tri
m(),_passwordSignUpController.text,username:_usernameSignUpController.text.
trim());userToDeleteFromAuth=userCredential.user;if(userToDeleteFromAuth!=

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ntroller.text.trim(),'username':_usernameSignUpController.text.trim().isNotEmpty?_
usernameSignUpController.text.trim():_emailSignUpController.text.trim().split('@')[0],'emailVerified':true,});await
NotificationService.triggerSaveTokenForCurrentUser();if(!mounted)return;ScaffoldMe
ssenger.of(context).showSnackBar(const SnackBar(content:Text('Sign up successful
and email
verified!')));Navigator.pushReplacementNamed(context,ProfileScreen.routeName);_cl
earSignUpFields();}else{String
userUidForFirestoreDelete=userToDeleteFromAuth!.uid;try{await
userToDeleteFromAuth!.delete();print("Firebase Auth user deleted successfully (UID:
$userUidForFirestoreDelete).");await
_firebaseService.deleteUserData(userUidForFirestoreDelete);print("User data deleted
from Firestore for UID: $userUidForFirestoreDelete");}on FirebaseAuthException
catch(authError){print("Error deleting Firebase Auth user: ${authError.message}.
Firestore data may still exist for UID: $userUidForFirestoreDelete");await
FirebaseAuth.instance.signOut();await
_firebaseService.deleteUserData(userUidForFirestoreDelete);}catch(generalError){prin
t("A general error occurred during user deletion process: $generalError. Firestore data
may still exist for UID: $userUidForFirestoreDelete");await
FirebaseAuth.instance.signOut();await
_firebaseService.deleteUserData(userUidForFirestoreDelete);if(!mounted)return;Scaff
oldMessenger.of(context).showSnackBar(const SnackBar(content:Text('Registration
cancelled. You can try signing up
again.')),_confirmPasswordSignUpController.clear(),_otpController.clear());Future<vo
id> _handleGoogleSignIn()
async{if(!mounted)return;setState((){_isLoading=true,});try{final
GoogleSignInAccount? googleUser=await
GoogleSignIn().signIn();if(googleUser==null){if(mounted){setState((){_isLoading=fal
se,});}return;}final GoogleSignInAuthentication? googleAuth=await
googleUser.authentication;if(googleAuth==null||googleAuth.accessToken==null||goo
gleAuth.idToken==null){throw
FirebaseAuthException(code:'google-auth-failed',message:'Failed to get Google
authentication details.')}final OAuthCredential
credential=GoogleAuthProvider.credential(accessToken:googleAuth.accessToken,idTo
ken:googleAuth.idToken,);
final UserCredential userCredential=await
FirebaseAuth.instance.signInWithCredential(credential);final User?
user=userCredential.user;if(user!=null){Map<String,dynamic>?
existingUserData=await _firebaseService.getUserData(user.uid);String
username=user.displayName??user.email?.split('@')[0]??'User';if(existingUserData==
null){await
_firebaseService.saveUserData(user.uid,{'_email':user.email,'username':username,'uid':us
er.uid,'emailVerified':user.emailVerified,});}else{await
_firebaseService.saveUserData(user.uid,{'_email':user.email,'emailVerified':user.emailVeri
fied,});}await
if(_selectedIndex==index){return;setState((){_selectedIndex=index,});switch(index){cas
e 0:Navigator.pushReplacementNamed(context,HomePage.routeName);break;case
1:Navigator.pushReplacementNamed(context,RecommendPage.routeName);break;cas
e 2:Navigator.pushReplacementNamed(context,MappingPage.routeName);break;case
3:Navigator.pushReplacementNamed(context,SearchPage.routeName);break;case
4:if(ModalRoute.of(context)?._settings.name!=ProfilePage.routeName){Navigator.push
ReplacementNamed(context,ProfilePage.routeName);}break;}}Future<void>
_handleForgotPassword()
async{_forgotPasswordEmailController.clear();_forgotPasswordPhoneController.clear
();PasswordResetMethod
selectedMethod=PasswordResetMethod.email;if(!mounted)return;final
Map<String,String>? result=await
showDialog<Map<String,String>>(context:context,barrierDismissible:false,builder:(B
uildContext dialogContext){final GlobalKey<FormState>
formKey= GlobalKey<FormState>();return
StatefulBuilder(builder:(context,setDialogState){return
null){backgroundColor: Colors.orangeAccent,});}else{await
_firebaseService.saveUserData(userToDeleteFromAuth!.uid,{'_emailVerified':true,});}
await
NotificationService.triggerSaveTokenForCurrentUser();if(!mounted)return;Scaffol
dMessenger.of(context).showSnackBar(const SnackBar(content: Text('Account
created and email already verified!')));Navigator.pushReplacementNamed(context,
ProfileScreen.routeName);_clearSignUpFields();}else{throw
FirebaseAuthException(code:'user-creation-failed',message:'User creation failed
unexpectedly.')}on FirebaseAuthException catch(e){String errorMessage='Sign up
failed: ';if(e.code=='passwords-do-not-match'){errorMessage+= 'Passwords do not
match.';}else if(e.code=='email-already-in-use'){errorMessage+= 'This email address
is already in use by another account.';}else
if(e.code=='invalid-email'){errorMessage+= 'Invalid email address. Please try
again.';}else if(e.code=='weak-password'){errorMessage+= 'Password is too weak.
Please choose a stronger password.';}else{errorMessage+= e.message??"An unknown
error occurred during sign up.";print("Sign up FirebaseAuthException: Code:
${e.code}, Message:
${e.message}")};}if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackB
ar(content: Text(errorMessage),));}catch(e){print("Sign up general error:
$e");}if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:
Text('Sign up failed: An unexpected error occurred:
${e.toString()}')));}}finally{if(mounted){setState((){_isLoading=false,});}}}}void
_clearSignUpFields(){NotificationService.triggerSaveTokenForCurrentUser();if(!m
ounted{return;}}else{Navigator.pushReplacementNamed(context,
ProfileScreen.routeName);}}else{throw
FirebaseAuthException(code:'google-user-null',message:'Google sign in resulted in
a null user.')}on FirebaseAuthException catch(e){String errorMessage='Google
Sign-In failed:
;if(e.code=='account-exists-with-different-credential'){errorMessage+= 'An account
already exists with this email address using a different sign-in method.';}else
if(e.code=='google-auth-failed'){errorMessage+= 'Could not retrieve Google
authentication details.';}else{errorMessage+= e.message??"An unknown error
occurred.";}if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(c
ontent: Text(errorMessage),));}}catch(e){print("Google Sign-In general error:
$e");}if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:
Text('Google Sign-In failed: An unexpected error
occurred.')));}}finally{if(mounted){setState((){_isLoading=false,});}}}}void
_toggleSignUp(){setState((){_isSignUp!=_isSignUp,});}void
_continueAsGuest(){debugPrint('Continuing as guest. Navigating to
HomePage. ');}if(mounted){Navigator.pushReplacementNamed(context,HomePage
.routeName);}}void _onItemTapped(int
index){_emailSignUpController.clear();_usernameSignUpController.clear();_pass
wordSignUpController.clear();textAlign: TextAlign.center,style:
TextStyle(fontFamily: 'TTLivretTextTrial',color: Colors.white,fontWeight:
FontWeight.bold,fontSize: 20,),),content: Form(key: formKey,child:
Column(mainAxisSize: MainAxisSize.min,children:
<Widget>[Text(selectedMethod==PasswordResetMethod.email?'Enter your email
address. If an account exists, we will send you a link to reset your password.':'Enter
your registered phone number. If an account exists, we will send a verification
code.',textAlign: TextAlign.center,style: TextStyle(fontFamily:
'TTLivretTextTrial',fontSize: 15,),),const SizedBox(height:
20),if(selectedMethod==PasswordResetMethod.email)TextFormField(controller:
_forgotPasswordEmailController,autofocus: true,keyboardType:
TextInputType.emailAddress,decoration: InputDecoration(labelText: 'Email
Address',labelStyle: TextStyle(fontFamily: 'TTLivretTextTrial',color:
Colors.black),filled: true,fillColor: Colors.white.withOpacity(0.9),border:
OutlineInputBorder(borderRadius: BorderRadius.circular(8.0),borderSide:
BorderSide.none),focusedBorder: OutlineInputBorder(borderRadius:
BorderRadius.circular(8.0),borderSide: const BorderSide(color: appOrange,width:
2)),prefixIcon: const Icon(Icons.email_outlined,color: appOrange,),style: const
TextStyle(fontFamily: 'TTLivretTextTrial',fontSize: 16),style: const TextStyle(color:

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AlertDialog(backgroundColor:softPeach,shape:RoundedRectangleBorder(borderRadius:circular(16.0),side:const BorderSide(color:appOrange,width:2,),titlePadding:EdgeInsets.zero,title:Container(width:double.infinity,padding:const EdgeInsets.symmetric(vertical:16.0),decoration:BoxDecoration(color:appBlue,borderRadius:const BorderRadius.only(topLeft:Radius.circular(14.0),topRight:Radius.circular(14.0),),),child:const Text('Reset Password'),validator:(value){if(value==null||value.trim().isEmpty) return 'Email address cannot be empty.';final bool emailValid=RegExp(r"^[a-zA-Z0-9.a-zA-Z0-9.!#$%&'*-/=?_.{}~]+@[a-zA-Z0-9]+\.[a-zA-Z]+").hasMatch(value.trim());if(!emailValid) return 'Please enter a valid email address.';return null;},),actions:[Row(children:[Expanded(child:ElevatedButton(style:ElevatedButton.styleFrom(backgroundColor:appOrange.withOpacity(0.9),foregroundColor:Colors.white,padding:const EdgeInsets.symmetric(vertical:12),shape:RoundedRectangleBorder(borderRadius:BorderRadius.circular(12.0),),textStyle:const TextStyle(fontFamily:'TTLivretTextTrial',fontWeight:FontWeight.bold,fontSize:15,),),child:const Text('Cancel'),onPressed:{()>Navigator.of(dialogContext).pop(null);}),],),actionsAlignment:MainAxisAlignment.spaceBetween,actions:<Widget>[Text('Forgot password?'),Text('Sign in'),Text('Don't have an account?'),Text('Create account')]]),),decoration:InputDecoration(labelText:'Phone Number (e.g., +639171234567)',hintText:'+63XXXXXXXXXX',labelStyle:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black),filled:true,fillColor:Colors.white.withOpacity(0.9),border:OutlineInputBorder(borderRadius:BorderRadius.circular(8.0),borderSide:BorderSide.none),focusedBorder:OutlineInputBorder(borderRadius:BorderRadius.circular(8.0),borderSide:const BorderSide(color:appOrange,width:2)),prefixIcon:const Icon(Icons.phone_outlined,color:appOrange),),style:const TextStyle(fontFamily:'TTLivretTextTrial',fontSize:16),validator:(value){if(value==null||value.trim().isEmpty) return 'Phone number cannot be empty.';final bool phoneValid=RegExp(r"^\+639\d{9}$").hasMatch(value.trim());if(!phoneValid) return 'Please use format +639XXXXXXXXX.';return null;},),const SizedBox(height:10),TextButton(child:Text(selectedMethod==PasswordResetMethod?'Use phone number instead?':'Use email instead?',fontWeight:FontWeight.bold,fontSize:15,),),child:Text(selectedMethod==PasswordResetMethod?'Send Link':'Send Code'), onPressed:{()>if(formKey.currentState!.validate()){if(selectedMethod==PasswordResetMethod) Navigator.of(dialogContext).pop({'method':'email','value':_forgotPasswordPhoneController.text.trim()});else Navigator.of(dialogContext).pop({'method':'phone','value':_forgotPasswordPhoneController.text.trim()});}},),),if(result!=null&&result['value']!=null&&result['value']!.isNotEmpty){final String method=result['method'];final String value=result['value']!;if(!mounted) return;setState({_isLoading=true});if(method=='mail'){try{await FirebaseAuth.instance.sendPasswordResetEmail(email:value);if(!mounted) return; ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text('If an account exists for $value, a password reset link has been sent. Please check your inbox (and spam folder).'),style:const TextStyle(fontFamily:'TTLivretTextTrial'),backgroundColor:Colors.green,));}on FirebaseAuthException catch(e){String errorMessage='Failed to send reset email: ${e.message}';if(e.code=='user-not-found') errorMessage+='\nNo user found for that email (or another issue occurred).';else if(e.code=='invalid-email') errorMessage+='\nThe email address is not valid.';else errorMessage+=e.message??'An unknown error occurred.'; _promptForNewPassword(context,userId);}}else{if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text('No account found for this phone number.'),backgroundColor:Colors.orange,));}setState({_isLoading=false});}}},catch(e){if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text('Error finding user: $e'),backgroundColor:Colors.red,));}setState({_isLoading=false});}finally{if(mounted&&(userQuery==null||userQuery.docs.isEmpty)&&_isLoading){if(userQuery!=null&&userQuery.docs.isEmpty){if(userQuery==null&&mounted&&_isLoading){}},verificationFailed:(FirebaseAuthException e){if(!mounted) return;setState({_isLoading=false});ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text('Phone verification failed: ${e.message}'),backgroundColor:Colors.red,));},codeSent:(String verificationId,int?
appBlue,fontFamily:'TTLivretTextTrial',fontWeight:FontWeight.bold,decoration:TextDecoration.underline,), onPressed:{()>setDialogState(()>selectedMethod==PasswordResetMethod?PasswordResetMethod.email:PasswordResetMethod.phone:PasswordResetMethod.email);},),actionsAlignment:MainAxisAlignment.spaceBetween,actions:<Widget>[Text('Cancel'),Text('Proceed'),Text('Verify & Proceed'),onPressed:{()>Navigator.of(otpDialogContext).pop(null);},ElevatedButton(child:const Text('Verify & Proceed'),onPressed:{()>Navigator.of(otpDialogContext).pop(null);},),),actions:<Widget>[TextButton(child:const Text('SMS code verification cancelled.'),),],),codeAutoRetrievalTimeout:(String verificationId){print("Password reset code auto-retrieval timed out for $verificationId");},),on FirebaseAuthException catch(e){if(!mounted) return;setState({_isLoading=false});ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text('Error initiating phone verification: ${e.message}'),backgroundColor:Colors.red,));},catch(e){if(!mounted) return;setState({_isLoading=false});ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text('An unexpected error occurred: ${e.toString()}'),backgroundColor:Colors.red,));},SnackBar(content:Text('Error verifying SMS: ${e.message}'),backgroundColor:Colors.red,);},)

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resendToken) async{if(!mounted)return;setState(()=> _isLoading=false);final String? smsCode=await showDialog<String>(context:context,barrierDismissible:false,builder:(BuildContext otpDialogContext){final TextEditingController otpController=TextEditingController();final GlobalKey<FormState> otpFormKey= GlobalKey<FormState>();return AlertDialog(title:const Text('Enter Verification Code'),content:Form(key:otpFormKey,child:Column(mainAxisSize:MainAxisSize.min,children:<Widget>[Text('Enter the 6-digit code sent to $value.'),Colors.red,),}); } } else { print("Password reset method selection cancelled or no input."); if (mounted && _isLoading) { setState(() { _isLoading = false;}); } } Future<void> _verifySmsAndProceedWithPasswordReset(BuildContext context, String verificationId, String smsCode, String phoneNumber) async { if (!mounted) return; setState(() { _isLoading = true;}); try { PhoneAuthCredential credential = PhoneAuthProvider.credential( verificationId: verificationId, smsCode: smsCode,); print("SMS code $smsCode for $phoneNumber received. Verification ID: $verificationId"); ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content: Text('Phone number verified! Checking for account...'), backgroundColor: Colors.blue,)); QuerySnapshot userQuery = await FirebaseFirestore.instance.collection('users').where('phoneNumber', isEqualTo: phoneNumber).limit(1).get(); if (userQuery.docs.isNotEmpty) { String userId = userQuery.docs.first.id; if (mounted) { _promptForNewPassword(context, userId); } } else { if (mounted) { ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content: Text('No account found associated with this phone number.'), backgroundColor: Colors.orange,)); } } } on FirebaseAuthException catch (e) { print("FirebaseAuthException during SMS verification for password reset: ${e.message}"); if (mounted) { ScaffoldMessenger.of(context).showSnackBar(controller: confirmPasswordController, obscureText: true, decoration: const InputDecoration(labelText: 'Confirm New Password'), validator: (value) { if (value == null || value.isEmpty) return 'Please confirm your password.'; if (value != newPasswordController.text) return 'Passwords do not match.'; return null; },),),}, actions: <Widget>[ TextButton( child: const Text('Cancel'), onPressed: () => Navigator.of(dialogContext).pop(false), ), ElevatedButton( child: const Text('Set Password'), onPressed: () async { if (newPasswordFormKey.currentState!.validate()) { bool isSettingPassword = false; ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content: Text('Setting new password...'), duration: Duration(seconds: 2)),); try {HttpsCallable callable = FirebaseFunctions.instance.httpsCallable('resetPasswordWithPhoneOtp'); final result = await callable.call(<String, dynamic>{ 'userId': userId, 'newPassword': newPasswordController.text,}); print('Cloud function (resetPasswordWithPhoneOtp) result: ${result.data}'); if (mounted) { Navigator.of(dialogContext).pop(true); } } on FirebaseFunctionsException catch(e){print('Cloud function exception (resetPasswordWithPhoneOtp): ${e.code} - ${e.message}');if(mounted){Navigator.of(dialogContext).pop(false);ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text('Failed to update password: ${e.message ?? "Cloud function error"}'),backgroundColor: Colors.red,);)}catch(e){print('Generic error calling cloud function (resetPasswordWithPhoneOtp): ${e.message}');if(mounted){Navigator.of(dialogContext).pop(false);ScaffoldMessenger.of(context).showSnackBar(const EdgeInsets.only(top: iconOverlap),decoration:BoxDecoration(color: softPeach,borderRadius: BorderRadius.circular(dialogPadding),border: Border.all(color: appOrange,width: 2),boxShadow:[BoxShadow(color: Colors.black.withOpacity(0.15),blurRadius: 12,offset: const Offset(0,5),)],),child: Column(mainAxisSize: MainAxisSize.min,children:[Container(width: double.infinity,padding: const EdgeInsets.only(top: iconOverlap+10,bottom: dialogPadding - 4, left: dialogPadding,right: dialogPadding,),decoration: const BoxDecoration(color: appBlue,borderRadius: BorderRadius.only(topLeft: Radius.circular(dialogPadding - 2),topRight: Radius.circular(dialogPadding - 2),),),child: const Text('Verify Your Email',style: TextStyle(fontFamily: 'TTLivret Text Trial',color: Colors.white,fontWeight: FontWeight.bold,fontSize: 22,),textAlign: TextAlign.center,),),Padding(padding: const
${e.message}'),backgroundColor:Colors.red,);)}catch(e){print("Error during SMS verification or finding user: ${e.message}");if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text('An unexpected error occurred: ${e.toString()}',backgroundColor:Colors.red,);)}finally{if(mounted){setState(() { _isLoading=false;});}}}}Future<void> _promptForNewPassword(BuildContext context, String userId)async{final TextEditingController newPasswordController=TextEditingController();final GlobalKey<FormState> newPasswordFormKey= GlobalKey<FormState>();if(!mounted)return;final bool? passwordSet=await showDialog<bool>(context:context,barrierDismissible:false,builder:(BuildContext dialogContext){return AlertDialog(title:const Text('Set New Password'),content:Form(key:newPasswordFormKey,child:Column(mainAxisSize: MainAxisSize.min,children:<Widget>[TextFormField(controller:newPasswordController,obscureText:true,decoration:const InputDecoration(labelText:'New Password'),validator:(value){if(value==null||value.isEmpty)return'Password cannot be empty.';if(value.length<6)return'Password must be at least 6 characters.';return null;},),const SizedBox(height:10),TextFormField(const SnackBar(content:Text('An unexpected error occurred while updating password.'),backgroundColor:Colors.red,),);}],),);if(mounted&&passwordSet==true){ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content:Text('Password has been successfully updated! (Simulated)'),backgroundColor:Colors.green,));}else if(mounted&&passwordSet==false){ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content:Text('Password update cancelled or failed.'),backgroundColor:Colors.orange,));}}Future<bool?> _showOtpVerificationDialog()async{const TextStyle primaryTextStyle=TextStyle(fontFamily: 'TTLivret Text Trial',color:Colors.black,fontSize: 15,style:FontStyle.italic);const TextStyle boldTextStyle=TextStyle(fontFamily: 'TTLivret Text Trial',color:Colors.black,fontWeight:FontWeight.bold,fontSize: 15,);return showDialog<bool?>(context:context,barrierDismissible:false,builder:(BuildContext dialogContext){bool isResending=false;User? dialogUser=FirebaseAuth.instance.currentUser;const double dialogPadding=16.0;const double iconSize=80.0;const double iconOverlap=iconSize/3.0;return StatefulBuilder(builder:(context,setDialogState){return Dialog(backgroundColor:Colors.transparent,insetPadding:const EdgeInsets.symmetric(horizontal:20.0,vertical:24.0),child:Stack(clipBehavior:Clip.none,alignment:Alignment.topCenter,children:[Container(your inbox (and spam folder)',style:primaryTextStyle,textAlign:TextAlign.center,),const SizedBox(height:15),const Text('After clicking the link in the email, tap the "Confirm" button below.',textAlign:TextAlign.center,style:boldTextStyle,),const SizedBox(height:20),if(isResending&&ModalRoute.of(dialogContext)?.isCurrent==true){Center(child:CircularProgressIndicator(color:appOrange))}else ElevatedButton(style:ElevatedButton.styleFrom(backgroundColor:Colors.white,foregroundColor:appTitleBlue,elevation:2,shape:RoundedRectangleBorder(borderRadius:BorderRadius.circular(8.0),side:BorderSide(color:appBlue.withOpacity(0.5)),),padding:const EdgeInsets.symmetric(horizontal:20,vertical:10),),onPressed:(){async{setDialogState(()=>isResending=true);try{await dialogUser?.sendEmailVerification();if(dialogContext.mounted){ScaffoldMessenger.of(dialogContext).showSnackBar(const SnackBar(content:Text('Verification email resent!'),style:TextStyle(fontFamily: 'TTLivret Text Trial')),),);}catch(e){if(dialogContext.mounted){ScaffoldMessenger.of(dialogContext).showSnackBar(SnackBar(content:Text('Error resending email: ${e.toString()}'),style:const TextStyle(fontFamily: 'TTLivret Text Trial')),),);}}print("Error resending verification email: ${e.message}");fontWeight:FontWeight.bold,fontSize:15,);padding:const

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EdgeInsets.fromLTRB(dialogPadding, dialogPadding, dialogPadding, dialogPadding - 8),child: ListBody(children: <Widget>[const Text('A verification email has been sent to your email address. Please check
}finally{if(dialogContext.mounted){setDialogState(() => isResending =
false;)}else{isResending = false;}}},child: const Text('Resend Verification Email',style: TextStyle(fontFamily: 'TTLivretTextTrial',fontWeight: FontWeight.bold,fontSize: 15,)),],),Padding(padding: const EdgeInsets.fromLTRB(dialogPadding, 8, dialogPadding, dialogPadding),child: Row(mainAxisAlignment: MainAxisAlignment.Alignment.spaceBetween,children: <Widget>[Expanded(child: ElevatedButton(style: ElevatedButton.styleFrom(backgroundColor: appOrange.withOpacity(0.9),foregroundColor: Colors.white,padding: const EdgeInsets.symmetric(horizontal: 16, vertical: 12),shape: RoundedRectangleBorder(borderRadius: BorderRadius.circular(12.0)),textStyle: const TextStyle(fontFamily: 'TTLivretTextTrial',fontWeight: FontWeight.bold,fontSize: 15,)),],),child: const Text('Cancel'), onPressed: () {Navigator.of(dialogContext).pop(false);}),const SizedBox(width: 10),Expanded(child: ElevatedButton(style: ElevatedButton.styleFrom(backgroundColor: appBlue,foregroundColor: Colors.white,TextStyle: const TextStyle(fontFamily: 'TTLivretTextTrial',print("Error during email verification confirmation: ${e.message}");if(dialogContext.mounted){ScaffoldMessenger.of(dialogContext).showSnackBar(SnackBar(content: Text('An error occurred: ${e.toString()}'),style: const TextStyle(fontFamily: 'TTLivretTextTrial')))},finally{if(dialogContext.mounted){setDialogState(() => isResending = false;)}else{isResending = false;}}},),),Positioned(top: -(iconSize / 4.5),child: Container(width: iconSize,height: iconSize,decoration: BoxDecoration(color: softBlue,shape: BoxShape.circle,border: Border.all(color: Colors.white,width: 3),boxShadow: [BoxShadow(color: Colors.black.withOpacity(0.2),blurRadius: 8,offset: const Offset(0,4),)],child: const Icon(Icons.mark_email_read_outlined,color: Colors.white,size: iconSize * 0.5,)),),),}],),),Future<void> _launchPrivacyPolicyUrl() async{final Uri url =
Uri.parse('https://marikina-project2-247bc.web.app/privacy_policy.html');if(!await launchUrl(url,mode: LaunchMode.externalApplication)){print('Could not launch $url');if(mounted){ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content: Text('Could not open Privacy Policy.')));}
}}Widget _buildTextField({required String label,required TextEditingController controller,bool obscureText = false,Widget? suffixIcon,}) {return Padding(padding: const EdgeInsets.symmetric(vertical: 8.0),child: TextField(controller: controller,obscureText: obscureText,decoration: InputDecoration(labelText: label,labelStyle: const TextStyle(fontFamily: 'TTLivretTextTrial',color: Colors.white,fontSize: 20,),border: const OutlineInputBorder(),filled: true,fillColor: appOrange,suffixIcon: suffixIcon,),style: const TextStyle(fontFamily: 'TTLivretTextTrial',color: Colors.white,fontSize: 20,)),),},Widget _buildSignInContent() {return Column('SIGN IN',style: TextStyle(fontFamily: 'TTLivretTextTrial',fontSize: 16,)),],),const SizedBox(height: 10),InkWell(onTap: _continueAsGuest,child: const Text('Continue as Guest',style: TextStyle(color: Colors.white,decoration: TextDecoration.underline,fontFamily: 'TTLivretTextTrial')),),const SizedBox(height: 20),const Text("Don't have an account yet?",style: TextStyle(color: Colors.white,fontFamily: 'TTLivretTextTrial')),const SizedBox(height: 10),ElevatedButton(onPressed: _isLoading ? null : _toggleSignUp,style: ElevatedButton.styleFrom(backgroundColor: Colors.white,foregroundColor: Colors.black,shape: RoundedRectangleBorder(borderRadius: BorderRadius.circular(30)),padding: const EdgeInsets.symmetric(horizontal: 24,vertical: 12),),child: const Text('SIGN UP NOW!',style: TextStyle(fontFamily: 'TTLivretTextTrial',fontSize: 18,)),),},Widget _buildSignUpContent() {return Column(mainAxisSize: MainAxisSize.min,children: [const Text('Sign Up with a New Account',style: TextStyle(color: Colors.white,fontSize: 24,fontWeight: FontWeight.bold,fontFamily: 'TTLivretTextTrial')),const SizedBox(height: 20),_buildTextField(label: 'Email:', controller: _emailSignUpController,style: ElevatedButton.styleFrom(backgroundColor: Colors.white,foregroundColor:
EdgeInsets.symmetric(horizontal:16,vertical:12),shape:RoundedRectangleBorder(borderRadius:BorderRadius.circular(12.0),),),child:const Text('Confirm'), onPressed: () {try{User? user=FirebaseAuth.instance.currentUser;if(user==null){if(dialogContext.mounted){ScaffoldMessenger.of(dialogContext).showSnackBar(const SnackBar(content:Text(' Error: User session not found. Please try signing up/in again.',style:TextStyle(fontFamily:'TTLivretTextTrial'))),);Navigator.of(dialogContext).pop(false);}}Return;}}setDialogState(() => isResending=true);try{await user.reload();User? refreshedUser=FirebaseAuth.instance.currentUser;if(refreshedUser==null){if(dialogContext.mounted){ScaffoldMessenger.of(dialogContext).showSnackBar(const SnackBar(content:Text('Error: User session lost after checking. Please try again.',style:TextStyle(fontFamily:'TTLivretTextTrial'))),);Navigator.of(dialogContext).pop(false);}}if(refreshedUser.emailVerified){if(dialogContext.mounted){Navigator.of(dialogContext).pop(true);}}else{if(dialogContext.mounted){ScaffoldMessenger.of(dialogContext).showSnackBar(const SnackBar(content:Text('Email not verified yet. Please click the link in your email first.',style:TextStyle(fontFamily:'TTLivretTextTrial'))),);}}}}catch(e){mainAxisSize:MainAxisSize.min,children:[const Text('Login to your Account',style:TextStyle(color:Colors.white,fontSize:24,fontWeight:FontWeight.bold,fontFamily:'SecretMemories'),),const SizedBox(height:20),_buildTextField(label:'USERNAME OR EMAIL:',controller: _loginIdentifierController,const SizedBox(height:10),_buildTextField(label:'PASSWORD:',controller: _passwordController,obscureText: _obscureSignInPassword,suffixIcon: IconButton(icon:Icon(_obscureSignInPassword?Icons.visibility_off:Icons.visibility,color:Colors.white70,), onPressed:(){setState({_obscureSignInPassword!=_obscureSignInPassword});}),),const SizedBox(height:10),Row(mainAxisAlignment:MainAxisAlignment.spaceBetween,children:[TextButton(onPressed: _isLoading?null:_handleForgotPassword,child:const Text('Forgot Password'),style:TextStyle(color:Colors.white,fontFamily:'TTLivretTextTrial',fontSize:14,)),ElevatedButton(onPressed: _isLoading?null:_handleLogin,style:ElevatedButton.styleFrom(backgroundColor:Colors.white,foregroundColor:Colors.black,),child:const Text(const SizedBox(height:10),_buildTextField(label:'Username:',controller: _usernameSignUpController),const SizedBox(height:10),_buildTextField(label:'Password:',controller: _passwordSignUpController,obscureText: _obscureSignUpPassword,suffixIcon: IconButton(icon:Icon(_obscureSignUpPassword?Icons.visibility_off:Icons.visibility,color:Colors.white70,), onPressed:(){setState({_obscureSignUpPassword!=_obscureSignUpPassword});}),),const SizedBox(height:10),_buildTextField(label:'Confirm Password:',controller: _confirmPasswordSignUpController,obscureText: _obscureConfirmPassword,suffixIcon: IconButton(icon:Icon(_obscureConfirmPassword?Icons.visibility_off:Icons.visibility,color:Colors.white70,), onPressed:(){setState({_obscureConfirmPassword!=_obscureConfirmPassword});}),),const SizedBox(height:20),Row(mainAxisAlignment:MainAxisAlignment.spaceBetween,children:[InkWell(onTap: _continueAsGuest,child:const Text('Continue as Guest',style:TextStyle(color:Colors.white,decoration:TextDecoration.underline,fontFamily:'SecretMemories')),),ElevatedButton(onPressed: _isLoading?null:_handleSignInUp,height: _videoController.value.size.height,child:VideoPlayer(_videoController,),),],),Container(color:Colors.black.withOpacity(0.3),width:MediaQuery.of(context).size.width,height:MediaQuery.of(context).size.height,),recognizer:TapGestureRecognizer().onTap=(){_launchPrivacyPolicyUrl();},),const SizedBox(height:20),],),),if(_isLoading)Container(color:Colors.black.withOpacity(0.5),child:const Center(child:CircularProgressIndicator()),),],),bottomNavigationBar:BottomNavigationBar(currentIndex: _selectedIndex,onTap: _onItemTapped,backgroundColor: Colors.white,SafeArea(child:Center(child:SingleChildScrollView(padding:const EdgeInsets.symmetric(horizontal:16,vertical:32),child:Column(mainAxisAlignment:MainAxisAlignment.center,children:[const Text('Welcome To

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Colors.black,),child: const Text('REGISTER',style: TextStyle(fontFamily: 'TTLivretTextTrial',fontSize: 16),),),const SizedBox(height: 20),const Text('Already have an account?',style: TextStyle(color: Colors.white,fontFamily: 'SecretMemories'),),const SizedBox(height: 10),ElevatedButton(onPressed: _isLoading ? null : _toggleSignUp,style: ElevatedButton.styleFrom(backgroundColor: Colors.white,foregroundColor: Colors.black,shape: RoundedRectangleBorder(borderRadius: BorderRadius.circular(30)),padding: const EdgeInsets.symmetric(horizontal: 24, vertical: 12),),child: const Text('SIGN IN NOW!',style: TextStyle(fontFamily: 'TTLivretTextTrial',fontSize: 18),),),);}@override Widget build(BuildContext context){return Scaffold(appBar: const CustomAppBar(),backgroundColor: Colors.black,body: Stack(children: <Widget>[if(_initializeVideoPlayerFuture != null)FutureBuilder(future: _initializeVideoPlayerFuture,builder: (context,snapshot){if (snapshot.connectionState == ConnectionState.done && _videoController.value.isInitialized){return SizedBox.expand(child: FittedBox(fit: BoxFit.cover,child: SizedBox(width: _videoController.value.size.width,foregroundColor: Colors.black,padding: const EdgeInsets.symmetric(horizontal: 20,vertical: 10),),icon:

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lib/screens/profile_screen.dart

```

import 'package:flutter/material.dart';import 'package:firebase_auth/firebase_auth.dart';import 'package:cloud_firestore/cloud_firestore.dart';import 'dart:async';import 'home_page.dart';import 'recommend_page.dart';import 'mapping_page.dart';import 'search_page.dart' show SearchPage;import 'contact_page.dart';import 'custom_app_bar.dart';import 'profile_page.dart';import 'firebase_service.dart';import 'booking_history_screen.dart';import 'edit_profile_screen.dart';import 'package:shimmer/shimmer.dart';import 'settings_page.dart';import 'notification_service.dart';const Color screenBackgroundColor=Color(0xFFe6a650);const Color cardBackgroundColor=Color(0xFFFF4ca7);const Color brightBeigeIconColor=Color(0xFFFFDF5E6);const Color appBlue=Color(0xFF5A9ECF);const Color softBlue=Color(0xFF89cff0);class ProfileScreen extends StatefulWidget{static const String routeName='/profile_screen';const ProfileScreen({Key? key}):super(key:key);@override State<ProfileScreen> createState(){>_ProfileScreenState();}class _ProfileScreenState extends State<ProfileScreen>{int _selectedIndex=4;String _username="";String _email="";String? _photoURL;bool _isLoading=true;bool _isGoogleSignIn=false;String? _googleDisplayName;Map<String,dynamic>? _args;bool _userDataLoaded=false;final FirebaseService _firebaseService=FirebaseService();User? _observedUser;super.dispose();}@override void didChangeDependencies(){super.didChangeDependencies();print("ProfileScreen: didChangeDependencies CALLED. _userDataLoaded (legacy flag): ${_userDataLoaded}");if(_args==null){final newArgs=ModalRoute.of(context)??.settings.arguments;if(newArgs!=null&&newArgs is Map<String,dynamic>){_args=newArgs;print("ProfileScreen: didChangeDependencies - Args received: ${_args}");_googleDisplayName=_args!['displayName'];_isGoogleSignIn=_args!['isGoogleSignIn']??false;_photoURL=_args!['photoURL'];}else{print("ProfileScreen: didChangeDependencies - No new args received or args are not a Map.");}}Future<void> _initializeProfileData(){async{if(!mounted){print("ProfileScreen. _initializeProfileData: NOT MOUNTED. Aborting.");return;}if(!_isLoading){setState((){_isLoading=true;});}print("ProfileScreen. _initializeProfileData: --- PROCESS STARTED ---");await _syncFirestoreEmailIfNeeded();print("ProfileScreen. _initializeProfileData: Sync completed. Now loading user data...");await _loadUserData();print("ProfileScreen. _initializeProfileData: --- PROCESS COMPLETED ---");}Future<void> _syncFirestoreEmailIfNeeded(){async{print("ProfileScreen.syncFirestoreEmailIfNeeded: --- SYNC PROCESS STARTED ---");final

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Marikina',style:TextStyle(fontFamily:'TANPearl',fontSize:40,color:Colors.white,fontWeight:FontWeight.bold,),textAlign: TextAlign.center,);const SizedBox(height:20),Container(padding:const EdgeInsets.all(16),decoration:BoxDecoration(color:appBeige.withOpacity(0.9),borderRadius:BorderRadius.circular(16),),child: _isSignUp? _buildSignUpContent():_buildSignInContent(),);const SizedBox(height:20),ElevatedButton.icon(onPressed: _isLoading?null:_handleGoogleSignIn,style:ElevatedButton.styleFrom(backgroundColor:Colors.white,selectedItemColor:appBlue,unselectedItemColor:Colors.grey,type:BottomNavigationBarType.fixed,selectedLabelStyle:const TextStyle(fontFamily: 'TTLivretTextTrial',fontSize:12),unselectedLabelStyle:const TextStyle(fontFamily: 'TTLivretTextTrial',fontSize:12),items:const[BottomNavigationBarItem(icon:Icon(Icons.home),label:'Home'),BottomNavigationBarItem(icon:Icon(Icons.explore),label:'Explore'),BottomNavigationBarItem(icon:Icon(Icons.map),label:'Mapping'),BottomNavigationBarItem(icon:Icon(Icons.book),label:'Booking'),BottomNavigationBarItem(icon:Icon(Icons.person),label:'Profile')],));}}

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[Container(width:22,height:22,decoration:const BoxDecoration(color:Colors.white,shape:BoxShape.circle,),);const SizedBox(width:16.0),Expanded(StreamSubscription<User?> _authStateSubscription;@override void initState(){super.initState();print("ProfileScreen: initState CALLED.");_observedUser=FirebaseAuth.instance.currentUser;if(_observedUser!=null){print("ProfileScreen: initState - User found (UID: ${_observedUser.uid}). Initializing profile data.");_initializeProfileData();}else{print("ProfileScreen: initState - No user initially found. UI should reflect 'Not logged in.'");_initializeProfileData();}_authStateSubscription=FirebaseAuth.instance.authStateChanges().listen((User? user){print("ProfileScreen: authStateChanges - Received user: ${user?.uid}");if(mounted){final previousObservedUserId=_observedUser?.uid;_observedUser=user;if(user!=null){if(previousObservedUserId!=user.uid){print("ProfileScreen: authStateChanges - User changed or new login (UID: ${user.uid}). Initializing profile data.");_initializeProfileData();}else{print("ProfileScreen: authStateChanges - Same user (UID: ${user.uid}), but might need data refresh. Initializing profile data.");_initializeProfileData();}}else{print("ProfileScreen: authStateChanges - User signed out. Updating UI to 'Not logged in.'");_loadUserData();}}});}@override void dispose(){print("ProfileScreen: dispose") CALLED.};_authStateSubscription?.cancel();print("ProfileScreen.syncFirestoreEmailIfNeeded: No user logged in. Aborting sync.");return;}{try{print("ProfileScreen.syncFirestoreEmailIfNeeded: Reloading Firebase Auth user state...");await user.reload();}final refreshedUser=FirebaseAuth.instance.currentUser;if(refreshedUser==null){print("ProfileScreen.syncFirestoreEmailIfNeeded: User became null after reload. Aborting sync.");return;}print("ProfileScreen.syncFirestoreEmailIfNeeded: Auth User Details - Email: ${refreshedUser.email}, Verified: ${refreshedUser.emailVerified}, UID: ${refreshedUser.uid}");}final docRef=FirebaseFirestore.instance.collection('users').doc(refreshedUser.uid);final doc=await docRef.get();if(!doc.exists){print("ProfileScreen.syncFirestoreEmailIfNeeded: Firestore document for UID ${refreshedUser.uid} DOES NOT EXIST. Aborting sync.");return;}final data=doc.data()??{};final firestoreEmail=data['email'] as String?;final firestoreEmailVerified=data['emailVerified'] as bool?;final pendingData=data['pendingEmailChange'] as Map<String,dynamic>?;final newPendingEmail=pendingData?['newEmail'] as String?;print("ProfileScreen.syncFirestoreEmailIfNeeded: Firestore Data - Email: $firestoreEmail, Verified: $firestoreEmailVerified, Pending: ${pendingData}");Map<String,dynamic> updates={};bool

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user=FirebaseAuth.instance.currentUser;if(user==null){updates['email']=refreshedUser.email;updates['emailVerified']=refreshedUser.emailVerified;needsFirestoreUpdate=true;if(pendingData!=null&&newPendingEmail==refreshedUser.email){print("ProfileScreen.syncFirestoreEmailIfNeeded: New auth email matches pending. Marking 'pendingEmailChange' for deletion.");updates['pendingEmailChange']=FieldValue.delete();}else if(refreshedUser.email!=null&&firestoreEmail==refreshedUser.email&&firestoreEmailVerified!=refreshedUser.emailVerified){print("ProfileScreen.syncFirestoreEmailIfNeeded: CONDITION MET - Email is same, but 'emailVerified' status differs. Auth: ${refreshedUser.emailVerified}, Firestore: ${firestoreEmailVerified}.");updates['emailVerified']=refreshedUser.emailVerified;needsFirestoreUpdate=true;}if(pendingData!=null&&newPendingEmail==refreshedUser.email){if(!updates.containsKey('pendingEmailChange')){print("ProfileScreen.syncFirestoreEmailIfNeeded: CONDITION MET - Stale 'pendingEmailChange' found where auth email already matches new pending email. Marking for deletion.");updates['pendingEmailChange']=FieldValue.delete();}needsFirestoreUpdate=true;}if(needsFirestoreUpdate&&updates.isNotEmpty){print("ProfileScreen.syncFirestoreEmailIfNeeded: --- PERFORMING FIRESTORE UPDATE ---");print("ProfileScreen.syncFirestoreEmailIfNeeded: Updates to be applied: ${updates}");await docRef.update(updates);print("ProfileScreen.syncFirestoreEmailIfNeeded: Firestore update successful for UID ${refreshedUser.uid}.");}else{print("ProfileScreen.syncFirestoreEmailIfNeeded: No Firestore update deemed necessary based on conditions.");}}catch(e,s){print("ProfileScreen.syncFirestoreEmailIfNeeded: --- ERROR DURING SYNC PROCESS ---");print("ProfileScreen.syncFirestoreEmailIfNeeded: Error: $e");print("ProfileScreen.syncFirestoreEmailIfNeeded: Stack Trace: $s");}finally{print("ProfileScreen (Google Sign In): Username: ${_username}, Email: ${_email}, PhotoURL: ${_photoURL}, FirestoreData: ${userData}");}else{if(mounted){setState((){_username=userData['username']??currentUser.displayName??'Username not found';_email=userData['email']??currentUser.email??'Email not found';_photoURL=firestorePhotoUrl??currentUser.photoURL;}_isLoading=false);}}print("ProfileScreen (Email/Pass): Username: ${_username}, Email: ${_email}, PhotoURL: ${_photoURL}, FirestoreData: ${userData});}}catch(e){if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content: Text('Error loading user data: $e')));}}setState((){_username="Error loading data";_email="N/A";_photoURL=null});}}print("Error in _loadUserData: $e");}finally{if(mounted){setState((){_is Loading=false;_isUserDataLoaded=true});}}void _onItemTapped(int index){if(!mounted){return;}}setState((){_selectedIndex=index});switch(index){case 0:Navigator.pushReplacementNamed(context, HomePage.routeName);break;case 1:Navigator.pushReplacementNamed(context, RecommendPage.routeName);break;case 2:Navigator.pushReplacementNamed(context, MappingPage.routeName);break;decoration:const BoxDecoration(image: DecorationImage(image: AssetImage("assets/images/bg_profilescreen.png"), fit: BoxFit.cover),),child: Padding(padding: const EdgeInsets.symmetric(horizontal: 16.0), child: Column(children: [const Spacer(), _isLoading ? _buildProfileInfoSkeleton() : Padding(padding: const EdgeInsets.only(top: 4.0, bottom: 4.0), child: Column(children: [Container(padding: const EdgeInsets.all(4.0), decoration: BoxDecoration(color: screenBackgroundColor, shape: BoxShape.circle, boxShadow: [BoxShadow(color: Colors.black.withOpacity(0.15), blurRadius: 4, offset: const Offset(0, 2)),]), child: CircleAvatar(radius: 60, backgroundImage: _photoURL!=null && _photoURL!.isNotEmpty ? NetworkImage(_photoURL!) : null, backgroundColor: screenBackgroundColor.withOpacity(0.7), child: (_photoURL!=null && _photoURL!.isNot FireStoreUpdate=false;if(refreshedUser.email!=null && firestoreEmail!=refreshedUser.email){print("ProfileScreen.syncFirestoreEmailIfNeeded: CONDITION MET - Auth email (${refreshedUser.email}) differs from Firestore email (${firestoreEmail}).");print("ProfileScreen.syncFirestoreEmailIfNeeded: --- SYNC PROCESS COMPLETED ---");}}Future<void> _loadUserData(){async{if(!mounted){return;}}if(!_isLoading){setState((){_isLoading=true});}}User currentUser=FirebaseAuth.instance.currentUser;if(currentUser==null){if(mounted){setState((){_username="Not logged in";_email="N/A";_photoURL=null;_isLoading=false;_isUserDataLoaded=true});}}try{final userData=await _firebaseService.getUserData(currentUser.uid);String? firestorePhotoUrl;if(userData!=null){if(userData.containsKey('profilePicUrl') && userData['profilePicUrl']!=null && (userData['profilePicUrl'] as String).isNotEmpty){firestorePhotoUrl=userData['profilePicUrl'];}else if(userData.containsKey('photoURL') && userData['photoURL']!=null && (userData['photoURL'] as String).isNotEmpty){firestorePhotoUrl=userData['photoURL'];}}if(_isGoogleSignIn){if(mounted){setState((){_username=_googleDisplayName??userData['username']??currentUser.displayName??'Google User';_email=_email.isNotEmpty ? _email:(userData['email']??currentUser.email) ?? 'No email');_photoURL=firestorePhotoUrl??_photoURL??currentUser.photoURL;_isLoading=false;}}}}case 3:Navigator.pushReplacementNamed(context, SearchPage.routeName);break;case 4:break;}}Future<void> _handleLogout(){async{try{await NotificationService.removeDeviceTokenOnLogout();}}FirebaseAuth.instance.signOut();}if(mounted){Navigator.pushAndRemoveUntil(context, MaterialPageRoute(builder: (context)=>const ProfilePage()),(Route<dynamic> route)=>false);}}catch(e){if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content: Text('Logout failed: $e')));}}print('Error during logout: $e');}}Widget _buildProfileOptionItem({required IconData icon, required String title, required VoidCallback onTap, Color itemBackgroundColor=Colors.white, Color iconColor=Colors.black54, Color textColor=Colors.black87, EdgeInsetsGeometry margin=const EdgeInsets.symmetric(vertical: 4.0, horizontal: 8.0),})){return Container(margin: margin, decoration: BoxDecoration(color: itemBackgroundColor, borderRadius: BorderRadius.circular(10.0), boxShadow: [BoxShadow(color: Colors.grey.withOpacity(0.1), spreadRadius: 1, blurRadius: 3, offset: Offset(0, 1)),]), child: Material(color: Colors.transparent, child: InkWell(onTap: onTap, border: BorderRadius.circular(10.0), child: Padding(padding: const EdgeInsets.symmetric(horizontal: 16.0, vertical: 16.0), child: Row(children: [Icon(icon, color: iconColor, size: 22.0), const SizedBox(width: 16.0), Expanded(child: Text(title, style: TextStyle(fontFamily: 'TTLivretTextTrial', fontSize: 16, fontWeight: FontWeight.bold, color: Colors.white, shadows: [Shadow(blurRadius: 2.0, color: Colors.black54, offset: Offset(1, 1))], textAlign: TextAlign.center),),]),]),),),), @override Widget build(BuildContext context){return Scaffold(backgroundColor: Colors.transparent, appBar: const CustomAppBar(), body: Container(width: double.infinity, height: double.infinity, font family: 'TTLivretTextTrial', fontSize: 16, fontWeight: FontWeight.bold, color: Colors.white, shadows: [Shadow(blurRadius: 2.0, color: Colors.black54, offset: Offset(1, 1))], textAlign: TextAlign.center),),), Card(color: cardBackgroundColor.withOpacity(0.85), elevation: 2, margin: const EdgeInsets.symmetric(vertical: 6.0), shape: RoundedRectangleBorder(borderRadius: BorderRadius.circular(12.0)), child: Padding(padding: const EdgeInsets.symmetric(vertical: 6.0), child: Column(mainAxisSize: MainAxisSize.min, children: [_buildProfileOptionItem(icon: Icons.person_outline, title: 'My Profile'),]),),),), async{final result=await

```

```

Empty)?null:Icon(Icons.person,size:60,color:brightBeigeIconColor,)),),const
SizedBox(height:2),Text(_username,style:const
TextStyle(onTap:{Navigator.pushNamed(context,BookingHistoryScreen.routeName
)}),_buildProfileOptionItem(icon:Icons.support_agent_outlined,title:'Support',onTa
p:{Navigator.pushNamed(context,ContactPage.routeName)}),_buildProfileOptionI
tem(icon:Icons.settings_outlined,title:'Settings',onTap:{Navigator.pushNamed(con
t,SettingsPage.routeName)}),_buildProfileOptionItem(icon:Icons.logout,title:'Log
Out',onTap:_handleLogout,itemBackgroundColor:appBlue.withOpacity(0.9),textCol
or:Colors.white,iconColor:Colors.white70,margin:const
EdgeInsets.fromLTRB(8.0,8.0,8.0,8.0,)],],),const
SizedBox(height:6.0,]),),bottomNavigationBar:BottomNavigationBar(currentIndex
:_selectedIndex,onTap:_onItemTapped,backgroundColor:Colors.white.withOpacity(0
.9),selectedItemColor:appBlue,unselectedItemColor:Colors.grey[600],type:BottomNa
vigationBarType.fixed,selectedLabelStyle:const
TextStyle(fontFamily:'TTLivretText Trial',fontSize:12),unselectedLabelStyle:const
TextStyle(fontFamily:'TTLivretText Trial',fontSize:12),items:const
[BottomNavigationBarItem(icon:Icon(Icons.home),label:'Home'),BottomNavigation
BarItem(icon:Icon(Icons.explore),label:'Explore'),BottomNavigationBarItem(icon:Ico
n(Icons.map),label:'Mapping'),BottomNavigationBarItem(icon:Icon(Icons.book),label
:'Booking'),BottomNavigationBarItem(icon:Icon(Icons.person),label:'Profile'),],);
}Widget _buildProfileInfoSkeleton(){final Color
shimmerBaseColor=cardBackgroundColor.withOpacity(0.5);decoration:BoxDecoratio
n(color:Colors.white,borderRadius:BorderRadius.circular(10.0),),child:Row(children:

```

lib/screens/receipt_page.dart

```

import'dart:typed_data';import'package:flutter/material.dart';import'package:intl/intl
.dart';import'package:flutter/services.dart'show
rootBundle;import'dart:io';import'package:pdf/widgets.dart'as
pw;import'package:pdf/pdf.dart';import'package:printing/printing.dart';import'packag
e:path_provider/path_provider.dart';import'search_page.dart'show
BookingMode,GuestDetail;class ReceiptPage extends StatefulWidget{static const
String routeName='/receipt';final String refId;final String customRefIdForDisplay;final
DateTime startDate;final DateTime endDate;final List<Map<String,dynamic>>
selectedPackages;final String userName;final int totalAmount;final BookingMode
bookingMode;final int numberofGuestsForReceipt;final int collectiveMaleGuests;final
int collectiveFemaleGuests;final String? collectiveAgencyType;final String?
collectiveOtherAgency;required this.status,);@override State<ReceiptPage>
createState()=>_ReceiptPageState();class _ReceiptPageState extends
State<ReceiptPage>{bool _isSavingReceipt=false;int get
currentTotalGuests{if(widget.bookingMode==BookingMode.collective){return
widget.collectiveMaleGuests+widget.collectiveFemaleGuests;}else{return
widget.individualGuests.length;}}Future<void>
_generateAndSavePdf(){async{setState((){_isSavingReceipt=true;});try{final
ttLivretFontData=await rootBundle.load("assets/fonts/TT Livret Text Trial
Regular.ttf");final notoFontData=await
rootBundle.load("assets/fonts/NotoSans-VariableFont_wdth,wght.ttf");final pw.Font
ttfLivret=pw.Font.ttf(ttLivretFontData);final pw.Font
ttfNoto=pw.Font.ttf(notoFontData);final logoImageData=await
rootBundle.load('assets/images/logo.png');final pw.MemoryImage
logoImage=pw.MemoryImage(logoImageData.buffer.asUint8List());final
pdf=pw.Document();pw.TextStyle S(double size,{pw.FontWeight? weight,PdfColor?
color}){return
pw.TextStyle(font:ttfLivret,fontSize:size,fontWeight:weight,color:color??PdfColors.bl
ack,);}final DateFormat pdfDateFormatter=DateFormat('MMMM dd,
yyyy');pdf.addPage(pw.Page(pageFormat:PdfPageFormat.a4,margin:const
pw.EdgeInsets.all(32),build:(pw.Context context){return
pw.Column(crossAxisAlignment:pw.CrossAxisAlignment.center,children:[pw.Image(l
ogoImage,height:40),widget.collectiveOtherAgency!.isNotEmpty?"${widget.collective
OtherAgency}":'',style:S(14),textAlign:pw.TextAlign.center),if(widget.collectiveGuest

```

```

Navigator.pushNamed(context>EditProfileScreen.routeName);if(result==true&&
mounted){_initializeProfileData();},_buildProfileOptionItem(icon:Icons.history
_edu_outlined,title:'Booking History',final Color
shimmerHighlightColor=brightBeigeIconColor.withOpacity(0.8);return
Shimmer.fromColors(baseColor:shimmerBaseColor,highlightColor:shimmerHighl
ightColor,period:const Duration(milliseconds:750),child:Padding(padding:const
EdgeInsets.only(top:4.0,bottom:4.0),child:Column(children:[Container(padding:c
onst
EdgeInsets.all(4.0),decoration:BoxDecoration(color:screenBackgroundColor.with
Opacity(0.8),shape:BoxShape.circle,boxShadow:[BoxShadow(color:Colors.black.wi
thOpacity(0.1),blurRadius:3,offset:const Offset(0,2),)],),child:const
CircleAvatar(radius:60,backgroundColor:Colors.white,),),const
SizedBox(height:3),Container(width:130,height:18,decoration:BoxDecoration(co
r:Colors.white,borderRadius:BorderRadius.circular(4,)),),const
SizedBox(height:3),Container(width:180,height:14,decoration:BoxDecoration(co
r:Colors.white,borderRadius:BorderRadius.circular(4,)),),],),);}Widget
_buildSkeletonOptionItem(){return Container(margin:const
EdgeInsets.symmetric(vertical:4.0,horizontal:8.0),padding:const
EdgeInsets.symmetric(horizontal:16.0,vertical:16.0),child:Container(height:15,de
coration:BoxDecoration(color:Colors.white,borderRadius:BorderRadius.circular(4
,)),),const
SizedBox(width:16.0),Container(width:14,height:14,decoration:BoxDecoration(co
r:Colors.white,borderRadius:BorderRadius.circular(2,)),),],);}
```

```

his.collectiveGuestType,this.collectiveStatus,this.collectiveOtherStatus,required
this.individualGuests,pw.SizedBox(height:10),pw.Text('----- Marikina Tourism App
-----',style:S(20,weight:pw.FontWeight.bold),textAlign:pw.TextAlign.center),pw.Size
dBx(height:5),pw.Text('Marikina City Tourism, Culture and the Arts Office\nG/F
Kapitan Moy Bldg. J.P. Rizal St., Sta. Elena, Marikina City 1800\nTel. No. (+63)
646-1823
marikinatourism@gmail.com\nwww.marikina.gov.ph',textAlign:pw.TextAlign.cent
er,style:S(14,)),pw.SizedBox(height:20),pw.Text('WELCOME TO
MARIKINA',style:S(24,weight:pw.FontWeight.bold),textAlign:pw.TextAlign.cente
r),pw.SizedBox(height:20),pw.Text('Date:
${pdfDateFormatter.format(widget.startDate)} -
${pdfDateFormatter.format(widget.endDate)}',style:S(16),textAlign:pw.TextAlign.
center),pw.SizedBox(height:5),pw.Text('Number of Guest/:
${widget.numberOfGuestsForReceipt}',style:S(16),textAlign:pw.TextAlign.center),
pw.SizedBox(height:5),if(widget.bookingMode==BookingMode.collective)..[if(wi
dget.collectiveMaleGuests>0)pw.Padding(padding:const
pw.EdgeInsets.only(top:2.0),child:pw.Text('Male Guests:
${widget.collectiveMaleGuests}',style:S(14),textAlign:pw.TextAlign.center)),if(wid
get.collectiveFemaleGuests>0)pw.Padding(padding:const
pw.EdgeInsets.only(top:2.0),child:pw.Text('Female Guests:
${widget.collectiveFemaleGuests}',style:S(14),textAlign:pw.TextAlign.center)),if(wi
dget.collectiveAgencyType!=null&&widget.collectiveAgencyType!.isNotEmpty)p
w.Padding(padding:const pw.EdgeInsets.only(top:2.0),child:pw.Text('Agency Type:
${widget.collectiveAgencyType} ${widget.collectiveAgencyType=="Other" &&wid
get.collectiveOtherAgency!=null &&
guest.otherStatus!.isNotEmpty?guest.otherStatus!:'Not
specified')");},style:S(14),textAlign:pw.TextAlign.center,)],pw.SizedBox(height:5),p
w.Text('Booked by:
${widget.userName}',style:S(16),textAlign:pw.TextAlign.center),pw.SizedBox(hie
ght:15),pw.Divider(),pw.Text('TOUR PACKAGES
SELECTED',style:S(16,weight:pw.FontWeight.bold),textAlign:pw.TextAlign.cen
ter),pw.Divider(),pw.SizedBox(height:10,...widget.selectedPackages.map((pkg){final
pricePerGuest=(pkg['pricePerGuest']as num?).toInt()?:(pkg['price']as
num?)?.toInt()?:0;final

```

```

Type!=null&&widget.collectiveGuestType!.isNotEmpty)pw.Padding(padding:const
pw.EdgeInsets.only(top:2.0),child:pw.Text('Guest Type:
${widget.collectiveGuestType}',style:S(14),textAlign:pw.TextAlign.center)),if(widget.co
llectiveStatus!=null&&widget.collectiveStatus!.isNotEmpty&&widget.collectiveStatus!
.toLowerCase()!="none")pw.Padding(padding:const
pw.EdgeInsets.only(top:2.0),child:pw.Text('Status:
${widget.collectiveStatus}${widget.collectiveStatus=="Other" && widget.collectiveOthe
rStatus!=null && widget.collectiveOtherStatus!.isNotEmpty?"${widget.collectiveOther
Status}" :"",style:S(14),textAlign:pw.TextAlign.center))else...[pw.SizedBox(height:5),p
w.Text('Guest
Details:',style:S(15,weight:pw.FontWeight.bold),textAlign:pw.TextAlign.center),for(int
i=0;i<widget.individualGuests.length;++i)pw.Padding(padding:const
pw.EdgeInsets.only(top:3.0,bottom:1.0),child:pw.Text((){final
guest=widget.individualGuests[i];String genderDisplay=guest.gender??'N/A';String
agencyDisplay=guest.agencyType??'N/A';if(guest.agencyType=="Other"){agencyDisp
ay+=("${guest.otherAgency!=null && guest.otherAgency!.isNotEmpty?guest.otherAge
ncy!: 'Not specified'}");}String guestTypeDisplay=guest.guestType??'N/A';String
statusLine="";if(guest.status!=null && guest.status!.isNotEmpty && guest.status!.toLow
erCase()!="none"){statusLine=" Status:
${guest.status}";if(guest.status=="Other"){statusLine+=("${guest.otherStatus!=null &
& textAlign:pw.TextAlign.center, text:pw.TextSpan(style:S(14,weight:pw.FontWeight.bo
ld),children:[const pw.TextSpan(text:'Subtotal for this Package:
'),pw.TextSpan(text: 'P',style:pw.TextStyle(font:ttfNoto,fontWeight:pw.FontWeight.no
mal),pw.TextSpan(text:'${totalForThisPackage}'),]),);if(widget.selectedPackages.indexOfOf
(pkg)<widget.selectedPackages.length-1)pw.Padding(padding:const
pw.EdgeInsets.only(top:12.0),child:pw.Divider(thickness:0.5,indent:40,endIndent:40)
],),});}.toList(),pw.SizedBox(height:10),pw.Divider(thickness:1.5,height:20),pw.RichT
ext(textAlign:pw.TextAlign.center, text:pw.TextSpan(style:S(18,weight:pw.FontWeight.
bold),children:[const pw.TextSpan(text:'Total Payment:
'),pw.TextSpan(text: 'P',style:pw.TextStyle(font:ttfNoto,fontWeight:pw.FontWeight.no
mal),pw.TextSpan(text:'${widget.totalAmount}')]),),pw.Divider(thickness:1.5,height:
20),pw.Text('PLEASE PRESENT THIS RECEIPT\nAND REFERENCE ID TO
PROCEED PAYMENT\n@ MARIKINA CITY HALL, TOURISM
OFFICE',textAlign:pw.TextAlign.center,style:S(16)),pw.SizedBox(height:20),pw.Text('
REFERENCE
ID:\n${widget.customRefIdForDisplay}',textAlign:pw.TextAlign.center,style:S(18,wei
ght:pw.FontWeight.bold),pw.SizedBox(height:10),pw.Text('SEE YOU
THERE!',style:S(16,weight:pw.FontWeight.bold),Colors.white),),),):IconButton(icon
:const Icon(Icons.download_outlined),tooltip:'Download Receipt as
PDF',onPressed:_generateAndSavePdf,),],body:SingleChildScrollView(padding:const
EdgeInsets.all(20.0),child:Column(crossAxisAlignment:CrossAxisAlignment.center,ch
ildren:[Image.asset('assets/images/logo.png',height:40),const
SizedBox(height:10),Text('---- Marikina Tourism App
----',style:boldTextStyle.copyWith(fontSize:20),textAlign:TextAlign.center),const
SizedBox(height:5),Text('Marikina City Tourism, Culture and the Arts Office\nG/F
Kapitan Moy Bldg. J.P. Rizal St., Sta. Elena, Marikina City 1800\nTel. No. (+63)
646-1823
marikinatourism@gmail.com\nwww.marikina.gov.ph',textAlign:TextAlign.center,style:
baseTextStyle.copyWith(fontSize:14)),const SizedBox(height:20),Text('WELCOME
TO
MARIKINA',style:boldTextStyle.copyWith(fontSize:24),textAlign:TextAlign.center),c
onst SizedBox(height:20),Text('Date: ${fullDateFormatter.format(widget.startDate)} - 
${fullDateFormatter.format(widget.endDate)}',style:baseTextStyle.copyWith(fontSize:
16),textAlign:TextAlign.center),const SizedBox(height:5),Text('Number of Guest: ${wi
dget.numberOfGuestsForReceipt}',style:baseTextStyle.copyWith(fontSize:16),text
Align:TextAlign.center),const
SizedBox(height:5),if(widget.bookingMode==BookingMode.collective)...[if(widget.col
lectiveMaleGuests>0)Padding(padding:const
EdgeInsets.only(top:2.0,14),textAlign:TextAlign.center),); } return const
SizedBox.shrink());},else...[const SizedBox(height:5),Text('Guest
Details:',style:baseTextStyle.copyWith(fontSize:15,fontWeight:FontWeight.w500),text

```

totalForThisPackage=pricePerGuest*widget.numberOfGuestsForReceipt;return
pw.Padding(padding:const
pw.EdgeInsets.symmetric(vertical:8.0),child:pw.Column(crossAxisAlignment:pw.C
rossAxisAlignment.center,children:[pw.Text('Category:
\${pkg['category']}??'N/A',style:S(14),textAlign:pw.TextAlign.center),pw.Text('Na
me:
\${pkg['title']}??'N/A',style:S(15,weight:pw.FontWeight.bold),textAlign:pw.TextAlign
center),pw.RichText(textAlign:pw.TextAlign.center, text:pw.TextSpan(style:S(14
),children:[const pw.TextSpan(text:'Price per Guest:
'),pw.TextSpan(text: 'P',style:pw.TextStyle(font:ttfNoto)),pw.TextSpan(text:'\$priceP
erGuest'),]),),pw.Text('Guests for this package:
\${widget.numberOfGuestsForReceipt}',style:S(14),textAlign:pw.TextAlign.center),
pw.RichText(textAlign:pw.TextAlign.center),pw.SizedBox(height:20)],),);},final
Uint8List pdfBytes=await pdf.save();final dir=await
getApplicationDocumentsDirectory();final
file=File("\${dir.path}/Receipt_\${widget.customRefIdForDisplay}.pdf");await
file.writeAsBytes(pdfBytes);await
Printing.sharePdf(bytes:pdfBytes,filename:"Receipt_\${widget.customRefIdForDis
play}.pdf");if(mounted){ScaffoldMessenger.of(context).showSnackBar(const
SnackBar(content:Text("Receipt PDF ready to
share/save."));)}catch(e){if(mounted){ScaffoldMessenger.of(context).showSnackBar(
SnackBar(content:Text("Error generating PDF: \${e.toString()}")));}}print("Error
in _generateAndSavePdf:
\$e");finally{if(mounted){setState((){_isSavingReceipt=false;});}}}@override
Widget build(BuildContext context){final DateFormat
fullDateFormatter=DateFormat('MMMM dd, yyyy');const TextStyle
baseTextStyle=TextStyle(fontFamily:'TTLivretTextTrial');const TextStyle
boldTextStyle=TextStyle(fontFamily:'TTLivretTextTrial',fontWeight:FontWeight.b
old);return Scaffold(appBar:AppBar(title:const Text('Booking
Receipt',style:boldTextStyle,),actions:[_isSavingReceipt?const
Padding(padding:EdgeInsets.only(right:16.0),child:Center(child:SizedBox(width:2
0,height:20,child:CircularProgressIndicator(strokeWidth:2.0,color:child:Text('Male
Guests:
\${widget.collectiveMaleGuests}',style:baseTextStyle.copyWith(fontSize:14),textAlign
:TextAlign.center),)),):const
SizedBox.shrink(),if(widget.collectiveFemaleGuests>0)Padding(padding:const
EdgeInsets.only(top:2.0),child:Text('Female Guests:
\${widget.collectiveFemaleGuests}',style:baseTextStyle.copyWith(fontSize:14),textAl
ign:TextAlign.center)),Builder(builder:(context){final String?
agencyType=widget.collectiveAgencyType;final String?
otherAgency=widget.collectiveOtherAgency;if(agencyType!=null && agencyType.is
NotEmpty){String
agencyText=agencyType;if(agencyType=="Other"){agencyText+="
\${otherAgency!=null && otherAgency.isNotEmpty?otherAgency:'Not
specified'}"};return Padding(padding:const
EdgeInsets.only(top:2.0),child:Text('Agency Type:
\${agencyText}',style:baseTextStyle.copyWith(fontSize:14),textAlign:TextAlign.cen
ter),);};return const SizedBox.shrink());},Builder(builder:(context){final String?
guestType=widget.collectiveGuestType;if(guestType!=null && guestType.isNotEmpty){String
guestText=guestType;if(guestType=="Other"){guestText+="
\${otherStatus!=null && otherStatus.isNotEmpty?otherStatus:'Not
specified'}"};return Padding(padding:const
EdgeInsets.only(top:2.0),child:Text('Guest
Type:
\${guestText}',style:baseTextStyle.copyWith(fontSize:14),textAlign:TextAlign.cen
ter),);};return const SizedBox.shrink());},Builder(builder:(context){final String?
status=widget.collectiveStatus;final String?
otherStatus=widget.collectiveOtherStatus;if(status!=null && status.isNotEmpty &&
status.toLowerCase()!="none"){String
statusText=status;if(status=="Other"){statusText+="
\${otherStatus!=null && otherStatus.isNotEmpty?otherStatus:'Not
specified'}"};return Padding(padding:const
EdgeInsets.only(top:2.0),child:Text('Status:
\${statusText}',style:baseTextStyle.copyWith(fontSize:14),textAlign:TextAlign.cen
ter),);};return const SizedBox.shrink());},const Divider(),const

```

Align: TextAlign.center), for(int
i=0;i<widget.individualGuests.length;++)...[Padding(padding:const
EdgeInsets.only(top:3.0,bottom:1.0),child:Text((){final
guest=widget.individualGuests[i];String genderDisplay=guest.gender??'N/A';String
agencyDisplay=guest.agencyType??'N/A';if(guest.agencyType=="Other"){agencyDisplay+=$'{guest.otherAgency!=null&&guest.otherAgency!.isEmpty?guest.otherAgency!.toString():"Not specified"}';String guestTypeDisplay=guest.guestType??'N/A';String
statusLine="";if(guest.status!=null&&guest.status!.isEmpty&&guest.status!.toLowerCase()!="none"){statusLine=" Status:$'{guest.status}";if(guest.status=="Other"){statusLine+="($'{guest.otherStatus!=null&&guest.otherStatus!.isEmpty?guest.otherStatus!.toString():"Not specified"})"}}}return'Guest
${i+1}: $genderDisplay, Agency: $agencyDisplay, Type:
$guestTypeDisplay$statusLine';},style:base TextStyle.copyWith(fontSize:14),textAlign:TextAlign
:TextAlign.center),)],const SizedBox(height:5),Text('Booked by:
${widget.userName}',style:base TextStyle.copyWith(fontSize:16),textAlign:TextAlign
:center),const SizedBox(height:15),const
Divider(),Text('===== \n TOUR
PACKAGES
SELECTED\n=====',style:bold Text
Style.copyWith(fontSize:16),textAlign:TextAlign.center),const
Divider(thickness:1.5,height:20),RichText(textAlign:TextAlign.center,text:TextSpan(st
yle:bold TextStyle.copyWith(fontSize:18,color:Colors.black),children:[const
TextSpan(text:'Total Payment: '),const
TextSpan(text:'₱',style:TextStyle(fontFamily:'NotoSans')),TextSpan(text:'${widget.total
Amount}'))]),const Divider(thickness:1.5,height:20),
final String? collectiveGuestType;final String? collectiveStatus;final String?
collectiveOtherStatus;final List<GuestDetail> individualGuests;final String
status;const ReceiptPage({super.key,required this.refId,required
this.customRefIdForDisplay,required this.startDate,required this.endDate,required
this.selectedPackages,required this.userName,required this.totalAmount,required
this.bookingMode,required this.numberOfGuestsForReceipt,required
this.collectiveMaleGuests,required
this.collectiveFemaleGuests,this.collectiveAgencyType,this.collectiveOtherAgency,

```

lib/screens/recommend_page.dart

```

import 'package:flutter/material.dart';import
'package:cloud_firestore/cloud_firestore.dart'; import 'package:latlong2/latlong.dart';
import 'home_page.dart'; import
'package:marikina_project3/screens/mapping_page.dart' hide Destination; import
'custom_app_bar.dart'; import '../models/destination_model.dart'; import
'explore_page.dart'; import 'search_page.dart'; import
'package:firebase_auth/firebase_auth.dart'; import 'profile_screen.dart'; import
'profile_page.dart'; const Color pageBackgroundColor = Color(0xFFFFFA800); const
Color selectedChipBackgroundColor = Color(0xFF6CB0D2); const Color
selectedChipBorderColor = Colors.white; const Color selectedChipTextColor =
Colors.white; const Color unselectedChipTextColor = Colors.black87; const Color
unselectedChipBackgroundColor = Colors.white; class PlaceInPackage { final String
name; final String imageUrl; PlaceInPackage({required this.name, required
this.imageUrl}); factory PlaceInPackage.fromMap(Map<String, dynamic> map) {
return PlaceInPackage(name: map['name'] ?? 'Unknown Place', imageUrl:
map['imageUrl'] ?? ""); } class TourPackage { final String id; final String title; final
String description; final String category; final double price; final List<String>
imageUrls; final bool isAvailable; final List<PlaceInPackage> places; TourPackage({
required this.id, int _selectedMainChipIndex = 0; final List<String> _mainChipLabels
= ["Destinations", "Tour Packages", "Filter"]; List<Destination> _allDestinations = [];
List<TourPackage> _allTourPackages = []; bool _isLoading = true; List<dynamic>
_filteredAndSortedItems = []; Set<String> _selectedDestinationSubCategories = {};
final List<String> _destinationSubCategoryOptions = ['Hotels', 'Parks', 'Shops',
'Resto', 'Culture', 'Museum', 'Church' ]; bool _sortByRatingDescending = false; bool

```

```

SizedBox(height:10),...widget.selectedPackages.map((pkg){final
pricePerGuest=(pkg['pricePerGuest']as num?).toInt()??(pkg['price']as
num?).toInt()??0;final
totalForThisPackage=pricePerGuest*widget.numberOfGuestsForReceipt;return
Padding(padding:const
EdgeInsets.symmetric(vertical:8.0),child:Column(crossAxisAlignment:CrossAxisA
lignment.center,children:[Text('Category:
${pkg['category']}??'N/A',style:base TextStyle.copyWith(fontSize:14),textAlign:Tex
tAlign.center),Text('Name:
${pkg['title']}??'N/A',style:base TextStyle.copyWith(fontSize:15,fontW
eight:FontWeight.w500),textAlign:TextAlign.center),RichText(textAlign:TextAlign.cen
ter,children:[TextSpan(style:base TextStyle.copyWith(fontSize:14,color:Colors.bla
ck),children:[const TextSpan(text:'Price per Guest: '),const
TextSpan(text:'₱',style:TextStyle(fontFamily:'NotoSans')),TextSpan(text:'$pricePer
Guest'),]),Text('Guests for this package:
${widget.numberOfGuestsForReceipt}',style:base TextStyle.copyWith(fontSize:14),
textAlign:TextAlign.cen
ter),RichText(textAlign:TextAlign.cen
ter,children:[TextSpan(st
yle:bold TextStyle.copyWith(fontSize:14,color:Colors.black),children:[const
TextSpan(text:'Subtotal for this Package: '),const
TextSpan(text:'₱',style:TextStyle(fontFamily:'NotoSans')),TextSpan(text:'$totalFor
ThisPackage'),]),],),if(widget.selectedPackages.indexOf(pkg)<widget.selectedPackag
es.length-1)const
Padding(padding:EdgeInsets.only(top:12.0),child:Divider(thickness:0.5,indent:40,e
ndIndent:40),)],)}).toList(),const SizedBox(height:10),Text('PLEASE
PRESENT THIS RECEIPT\nAND REFERENCE ID TO PROCEED
PAYMENT\n@ MARIKINA CITY HALL, TOURISM
OFFICE',textAlign:TextAlign.cen
ter,style:base TextStyle.copyWith(fontSize:16,colo
r:Colors.black87),),const SizedBox(height:20),Text('REFERENCE
ID:\n${widget.customRefIdForDisplay}',textAlign:TextAlign.cen
ter,style:bold Text
Style.copyWith(fontSize:18),),const SizedBox(height:10),Text('SEE YOU
THERE!',style:bold TextStyle.copyWith(fontSize:16),textAlign:TextAlign.cen
ter),c
onst SizedBox(height:20),],),);
}

```

```

required this.title, required this.description, required this.category, required this.price, re
quired this.imageUrls, required this.isAvailable, required this.places,};factory
TourPackage.fromFirestore(DocumentSnapshot doc){Map<String,dynamic>
data=doc.data()as Map<String,dynamic>;List<String>
fetchedImageUrls=[];if(data['imageUrls']!=null&&data['imageUrls']is
List)fetchedImageUrls=List<String>.from(data['imageUrls']);else
if(data['imageUrls'] is String){fetchedImageUrls=[data['imageUrls'] as
String];}List<PlaceInPackage>
fetchedPlaces=[];if(data['places']!=null&&data['places'] is
List)fetchedPlaces=(data['places'] as
List).map((placeData)=>PlaceInPackage.fromMap(placeData as
Map<String,dynamic>)).toList();}return
TourPackage(id:doc.id,title:data['title']??'Untitled
Package',description:data['description']??'No
description',category:data['category']??'General',price:(data['price']??0.0).toDoubl
e(),imageUrls:fetchedImageUrls,isAvailable:data['isAvailable']??true,places:fetchedP
laces,);} }class RecommendPage extends StatefulWidget{
static const String
routeName='/recommend';const RecommendPage({super.key});@override
State<RecommendPage> createState()=>_RecommendPageState();}class
_RecommendPageState extends State<RecommendPage>{final
TextEditingController _searchController=TextEditingController();String
_searchTerm="";toList();Set<String> uniqueTags={};for(var dest in
_allDestinations){for(var tag in
dest.tags){if(tag.trim().isNotEmpty)uniqueTags.add(tag.trim());}}_allAvailableTags

```

```

_sortPackagesByPriceDescending = true; List<String> _allAvailableTags = [];
Set<String> _selectedTags = {}; String _tagSearchTerm = ""; List<String>
_filteredTagsForDisplay = []; @override void initState() { super.initState();
_searchController.addListener(_onSearchChanged); _fetchData(); } void
_onSearchChanged() { if (mounted) { setState(() { _searchTerm =
_searchController.text; _applyFiltersAndSort(); }); } } @override void dispose() {
_searchController.removeListener(_onSearchChanged); _searchController.dispose();
super.dispose(); } Future<void> _fetchData() async { if (!mounted) return; setState(() {
_isLoading = true; }); try { QuerySnapshot<Map<String, dynamic>> destinationSnapshot = await FirebaseFirestore.instance.collection('destinations').get()
as QuerySnapshot<Map<String, dynamic>>; _allDestinations =
destinationSnapshot.docs.map((doc) { return Destination.fromFirestore(doc); })
.where((dest) => dest.isAvailable == true) if
(!_selectedDestinationSubCategories.contains(destination.category)) { return false; } if
(_selectedTags.isNotEmpty) { if (destination.tags == null || destination.tags.isEmpty)
return false; bool matchesAllSelectedTags = _selectedTags.every((selectedTag) =>
destination.tags!.contains(selectedTag)); if (!matchesAllSelectedTags) return false; }
return true; }).toList(); if (_sortByRatingDescending) { (itemsToShow as
List<Destination>).sort((a, b) => b.rating.compareTo(a.rating)); } else { (itemsToShow as
List<Destination>).sort((a, b) => a.name.compareTo(b.name)); } } else if
(_selectedMainChipIndex == 1) { itemsToShow = _allTourPackages.where((package) {
bool matchesSearch = package.title.toLowerCase().contains(lowerCaseSearchTerm) ||
package.description.toLowerCase().contains(lowerCaseSearchTerm); if
(!matchesSearch && lowerCaseSearchTerm.isNotEmpty) return false; return true;
}).toList(); if (_sortPackagesByPriceDescending) { (itemsToShow as
List<TourPackage>).sort((a, b) => b.price.compareTo(a.price)); } else { (itemsToShow as
List<TourPackage>).sort((a, b) => a.price.compareTo(b.price)); } } setState(() {
_filteredAndSortedItems = itemsToShow; }); } void _resetFilters() {
_selectedDestinationSubCategories.clear(); _selectedTags.clear();
_sortByRatingDescending = false; _sortPackagesByPriceDescending = true;
_filteredTagsForDisplay = List.from(_allAvailableTags); } void _showFilterModal() {
print("_showFilterModal called!"); showModalBottomSheet(context: context,
isScrollControlled: true, backgroundColor: Colors.transparent, shape: const
RoundedRectangleBorder(borderRadius: BorderRadius.vertical(top:
Radius.circular(20))), builder: (BuildContext builderContext) {
print("showModalBottomSheet builder executing..."); fontFamily:
'TTLivretTextTrial',), if (_selectedMainChipIndex == 0) SwitchListTile(title: const
Text("Rating (Highest to Lowest)", style: TextStyle(fontFamily: 'TTLivretTextTrial')), value:
_sortByRatingDescending, onChanged: (bool value) { setState(() {
_sortByRatingDescending = value; }); }, activeColor: selectedChipBackgroundColor,
dense: true,), if (_selectedMainChipIndex == 1) SwitchListTile(title: const
Text("Price", style: TextStyle(fontFamily: 'TTLivretTextTrial')), subtitle:
Text(_sortPackagesByPriceDescending ? "Highest to Lowest" : "Lowest to Highest",
style: const TextStyle(fontFamily: 'TTLivretTextTrial'),), value:
_sortPackagesByPriceDescending, onChanged: (bool value) { setState(() {
_sortByRatingDescending = value; }); }, activeColor:
selectedChipBackgroundColor, dense: true,), if (_selectedMainChipIndex == 0)...[const
Divider(), Text("Filter Destination Category", style:
Theme.of(context).textTheme.titleMedium?.copyWith(fontFamily:
'TTLivretTextTrial')),], SizedBox(height: 45, child: ListView(scrollDirection:
Axis.horizontal, children: _destinationSubCategoryOptions.map((String
categoryName) { bool isSubCategorySelected =
_selectedDestinationSubCategories.contains(categoryName); return Padding(padding:
const EdgeInsets.only(right: 8.0), child: FilterChip(label: Text(categoryName, style:
const TextStyle(fontFamily: 'TTLivretTextTrial')), selected: isSubCategorySelected,
padding: const EdgeInsets.only(top: 8.0, bottom: 4.0), gridDelegate:
SliverGridDelegateWithFixedCrossAxisCount(crossAxisCount: crossAxisCount,
childAspectRatio: aspectRatio, crossAxisSpacing: crossAxisSpacing, mainAxisSpacing:
mainAxisSpacing,), itemCount: _allAvailableTags.length, itemBuilder: (gridContext,
index) { final tag = _allAvailableTags[index]; final bool isTagSelected =
_selectedTags.contains(tag); return FilterChip(label: Text(tag, textAlign:
=uniqueTags.toList().sort((a,b)=>a.toLowerCase().compareTo(b.toLowerCase())));
_filteredTagsForDisplay=List.from(_allAvailableTags);QuerySnapshot
packageSnapshot=await
FirebaseFirestore.instance.collection('tour_packages').get();_allTourPackages=packa
geSnapshot.docs.map((doc)=>TourPackage.fromFirestore(doc)).toList();_applyFil
tersAndSort();}catch(e){print("Error fetching data for recommend page:
\$e");if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:
Text("Error fetching data:
\$e.toString()")));}}finally{if(mounted){setState((){_isLoading=false;});}}};}void
_filterTagsInModal(String
searchTerm){_tagSearchTerm=searchTerm.toLowerCase();if(_tagSearchTerm.isEm
pty){_filteredTagsForDisplay=List.from(_allAvailableTags);}else{_filteredTagsForD
isplay=_allAvailableTags.where((tag)=>tag.toLowerCase().contains(_tagSearchTer
m)).toList();}}void _applyFiltersAndSort(){if(!mounted)return;List<dynamic>
itemsToShow=[];String
lowerCaseSearchTerm=_searchTerm.toLowerCase();if(_selectedMainChipIndex=
=0){itemsToShow=_allDestinations.where((destination){bool
matchesSearch=destination.name.toLowerCase().contains(lowerCaseSearchTerm)||
destination.description.toLowerCase().contains(lowerCaseSearchTerm);if(!matche
sSearch&&lowerCaseSearchTerm.isNotEmpty)return
false;if(_selectedDestinationSubCategories.isNotEmpty){return
StatefulBuilder(builder:(BuildContext modalContext,StateSetter
setModalState){print("StatefulBuilder builder executing...");double
currentHeightFactor=0.6;if(_selectedMainChipIndex==1){currentHeightFactor
=0.35;return
Padding(padding:EdgeInsets.only(bottom:MediaQuery.of(modalContext).viewInse
ts.bottom),child:Container(decoration:BoxDecoration(color:Theme.of(modalCon
text).canvasColor,borderRadius:const
BorderRadius.vertical(top:Radius.circular(20))),child:FractionallySizedBox(height
Factor:currentHeightFactor,child:Padding(padding:const
EdgeInsets.only(left:20.0,right:20.0,top:12.0),child:Column(crossAxisAlignment:
CrossAxisAlignment.start,children:<Widget>[Center(child:Container(width:40,he
ight:5,margin:const
EdgeInsets.only(bottom:10.0),decoration:BoxDecoration(color:Colors.grey[300],b
orderRadius:BorderRadius.circular(10)),),Text("Filter &
Sort",style:Theme.of(modalContext).textTheme.headlineSmall?.copyWith(fontWe
ight:FontWeight.bold,fontFamily:'TTLivretTextTrial'),),const
Divider(),Expanded(child:SingleChildScrollView(child:Column(crossAxisAlignment:
CrossAxisAlignment.start,children:[Text("Sort
by",style:Theme.of(modalContext).textTheme.titleMedium?.copyWith(onSelected
:(bool
selected){setModalState((){if(selected){_selectedDestinationSubCategories.add(cat
egoryName);}else{_selectedDestinationSubCategories.remove(categoryName);}});},
selectedColor:selectedChipBackgroundColor.withOpacity(0.3),checkmarkColor:s
electedChipTextColor,labelStyle:TextStyle(color:isSubCategorySelected?selectedC
hipTextColor:unselectedChipTextColor,fontWeight:isSubCategorySelected?Font
Weight.bold:FontWeight.normal,),backgroundColor:unselectedChipBackgroundC
olor,shape:StadiumBorder(side:BorderSide(color:isSubCategorySelected?selectedC
hipBackgroundColor:Colors.grey[400]!),),),);}.toList(),),),const
Divider(),Text("Filter by
Tags",style:Theme.of(modalContext).textTheme.titleMedium?.copyWith(fontFami
ly:'TTLivretTextTrial'),)_allAvailableTags.isEmpty?const Center(child:Text("No
tags available to
select,"style:TextStyle(color:Colors.grey))):Scrollbar(thumbVisibility:true,thickness
:6.0,radio:const
Radius.circular(3.0),child:LayoutBuilder(builder:(context,constraints){const int
crossAxisCount=3;const double crossAxisSpacing=6.0;const double
mainAxisSpacing=6.0;const double chipHeight=38.0;final double
totalHorizontalSpacing=(crossAxisCount-1)*crossAxisSpacing;final double
uniformItemWidth=(constraints.maxWidth-totalHorizontalSpacing)/crossAxisCo
unt;final double aspectRatio=uniformItemWidth/chipHeight;return

```

```

TextAlign.center, overflow: TextOverflow.ellipsis, style: const TextStyle(fontSize: 12,
fontFamily: 'TTLivretTextTrial'),), selected: isTagSelected, onPressed: (bool selected) {
setModalState(() { if (selected) {_selectedTags.add(tag); } else {
_selectedTags.remove(tag); }}); }, selectedColor:
selectedChipBackgroundColor.withOpacity(0.3), checkmarkColor:
selectedChipTextColor, labelStyle: TextStyle(color: isTagSelected ?
selectedChipTextColor : unselectedChipTextColor), backgroundColor:
unselectedChipBackgroundColor, shape: StadiumBorder(side: BorderSide(color:
isTagSelected ? selectedChipBackgroundColor : Colors.grey[400]!),),),),),], ), ),
Padding(padding: const EdgeInsets.only(top: 8.0, bottom: 12.0), child:
Row(mainAxisAlignment: MainAxisAlignment.spaceBetween, children: [
TextButton(child: const Text("Reset", style: TextStyle(fontFamily:
'TTLivretTextTrial')), onPressed: () { setModalState(() { _resetFilters(); }); }),),
TextButton(child: const Text("Cancel", style: TextStyle(fontFamily:
{Navigator.pushNamed(context, ProfilePage.routeName);} break; } },
backgroundColor: Colors.white, selectedItemColor: const Color(0xFF5A9ECF),
unselectedItemColor: Colors.grey, type: BottomNavigationBarType.fixed,
selectedLabelStyle: const TextStyle(fontFamily: 'TTLivretTextTrial', fontSize: 12),
unselectedLabelStyle: const TextStyle(fontFamily: 'TTLivretTextTrial', fontSize: 12),
items: const [ BottomNavigationBarItem(icon: Icon(Icons.home), label: 'Home'),
BottomNavigationBarItem(icon: Icon(Icons.explore), label: 'Explore'),
BottomNavigationBarItem(icon: Icon(Icons.map), label: 'Mapping'),
BottomNavigationBarItem(icon: Icon(Icons.book), label: 'Booking'),
BottomNavigationBarItem(icon: Icon(Icons.person), label: 'Profile'),],); }
Future<void> _navigateToDestinationDetail(Destination destination) async {
print("Navigating to ExplorePage for Destination ID: ${destination.id}"); try { await
FirebaseFirestore.instance.collection('destinations').doc(destination.id).update({'views':
FieldValue.increment(1)}); print('Views incremented for destination:
${destination.id}'); } catch (e) { print('Error incrementing views for ${destination.id}:
$e'); } if (mounted) { Navigator.pushNamed(context, ExplorePage.routeName,
arguments: {'destinationId': destination.id},); } } void
_navigateToTourPackageBooking(TourPackage package) { print("Navigating to
Booking Page (SearchPage) for Tour Package ID: ${package.id}"); if (mounted) {
Navigator.pushNamed(context, SearchPage.routeName, arguments: {'tourPackageId':
package.id, 'tourPackageTitle': package.title, 'tourPackagePrice': package.price,
chipColor = unselectedChipBackgroundColor; textColor = unselectedChipTextColor;
borderSide = BorderSide(color: Colors.grey[400]!, width: 1.0); } return ChoiceChip(
label: Text(_mainChipLabels[index]), selected: isSelected&&!isFilterButton, onPressed:
(bool value){print("Chip selected: ${_mainChipLabels[index]}"), isFilterButton:
$isFilterButton};if(isFilterButton){print("Filter button tapped, attempting to show
modal...");_showFilterModal();}else{if(_selectedMainChipIndex!=index){setState(){_s
electedMainChipIndex=index;_applyFiltersAndSort();}}},backgroundColor:chipCol
or,selectedColor:selectedChipBackgroundColor,labelStyle:TextStyle(fontFamily:'TTLiv
retTextTrial',color:textColor,fontWeight:FontWeight.w500,),shape:StadiumBorder(si
de:borderSide),padding:const
EdgeInsets.symmetric(horizontal:10.0,vertical:8.0),elevation:isSelected||isFilterButton?
3.0:1.0,pressElevation:5.0,{}).toList(),);}}
Widget _buildDestinationCard(Destination destination){final String?
imageUrl=destination.heroImageUrl;return Card(margin:const
EdgeInsets.symmetric(horizontal:16.0,vertical:8.0),elevation:3,shape:RoundedRectang
eBorder(borderRadius:BorderRadius.circular(12)),child:InkWell(onTap:()=>_navigate
ToDestinationDetail(destination),borderRadius:BorderRadius.circular(12),child:Paddi
ng(padding:const
EdgeInsets.all(12.0),child:Row(fontSize:13,color:Colors.grey[700],fontFamily:'TTLiv
etTextTrial',),),const
SizedBox(height:6,Text(destination.description,style:TextStyle(fontSize:14,color:Color
s.grey[800],fontFamily:'TTLivretTextTrial',),maxLines:2,overflow:TextOverflow.ellipsis
,),),const
SizedBox(height:8),Row(children:[Icon(Icons.star,color:Colors.amber,size:16),const
SizedBox(width:4,Text(destination.rating.toStringAsFixed(1),style:const
TextStyle(fontSize:13,fontFamily:'TTLivretTextTrial'),),const
GridView.builder(shrinkWrap:true,physics:const
NeverScrollableScrollPhysics(),TTLivretTextTrial'),onPressed:(){Navigator.pop(
modalContext);},),const
SizedBox(width:8,ElevatedButton(style:ElevatedButton.styleFrom(backgroundCo
lor:selectedChipBackgroundColor,foregroundColor:selectedChipTextColor),child:
const Text("Apply")
Filters",style:TextStyle(fontFamily:'TTLivretTextTrial'), onPressed:(){Navigator.po
p(modalContext); applyFiltersAndSort();}),),),),),),),},},});}
BottomNavigation Bar _buildBottomNavigationBar(BuildContext context,int selectedIndex){return
BottomNavigationBar(currentIndex:selectedIndex, onTap:(index){if(index==1&&
ModalRoute.of(context)? .settings.name==RecommendPage.routeName){return;} witch
(index){case
0:Navigator.pushReplacementNamed(context,HomePage.routeName);break;
case 1: if (ModalRoute.of(context)? .settings.name != RecommendPage.routeName) {Navigator.pushReplacementNamed(context,
RecommendPage.routeName);} break;case 2:
Navigator.pushReplacementNamed(context, MappingPage.routeName);
break;case 3: Navigator.pushReplacementNamed(context, '/search'); break;case 4:
final user = FirebaseAuth.instance.currentUser;if (user != null) {bool
isGoogleSignIn = user.providerData.any((userInfo) => userInfo.providerId ==
'google.com');Navigator.pushNamed(context, ProfileScreen.routeName,
arguments: {'displayName': user.displayName,'email': user.email,'isGoogleSignIn':
isGoogleSignIn,});} else 'preselectedCategory': package.category,});} } Widget
_buildSearchBar() {return Padding(padding: const EdgeInsets.all(16.0),child:
TextField(controller: _searchController,style: const TextStyle(fontFamily:
'TTLivretTextTrial'),decoration: InputDecoration(hintText: 'Search destinations,
packages, or keywords...',hintStyle: const TextStyle(fontFamily:
'TTLivretTextTrial'),prefixIcon: const Icon(Icons.search),border:
OutlineInputBorder(borderRadius: BorderRadius.circular(25.0),borderSide:
BorderSide.none,),filled: true,fillColor: Colors.grey[200],),),);} Widget
_buildMainCategoryChips() {return Padding(padding: const
EdgeInsets.symmetric(vertical: 8.0, horizontal: 16.0),child: Wrap(spacing: 8.0,
runSpacing: 8.0, alignment: WrapAlignment.start, children:
List<Widget>.generate(_mainChipLabels.length,(int index) {bool isSelected =
_selectedMainChipIndex == index;bool isFilterButton = _mainChipLabels[index] ==
"Filter";Color chipColor;Color textColor;BorderSide borderSide;if
(isFilterButton) {chipColor = selectedChipBackgroundColor; textColor =
selectedChipTextColor;borderSide = BorderSide(color: selectedChipBorderColor,
width: 1.5);} else if (isSelected) {chipColor =
selectedChipBackgroundColor;textColor = selectedChipTextColor;borderSide =
BorderSide(color: selectedChipBorderColor, width: 1.5);} else
{crossAxisAlignment: CrossAxisAlignment.Alignment.start,children:
<Widget>[ClipRRect(borderRadius: BorderRadius.circular(8.0),child: imageUrl
!= null && imageUrl.isNotEmpty ? Image.network(imageUrl, width: 100,height:
120,fit: BoxFit.cover,errorBuilder: (context, error, stackTrace) => Container(width:
100, height: 120, color: Colors.grey[300], child: const Icon(Icons.broken_image,
color: Colors.grey)),loadingBuilder: (context, child, loadingProgress) {if
(loadingProgress == null) return child;return Container(width: 100,height:
120,color: Colors.grey[300],child: const Center(child:
CircularProgressIndicator(strokeWidth: 2.0)),);}) : Container(width: 100, height:
120, color: Colors.grey[300], child: const Icon(Icons.image_not_supported, color:
Colors.grey)),),const SizedBox(width: 12),Expanded(child:
Column(crossAxisAlignment: CrossAxisAlignment.Alignment.start,children:
<Widget>[Text(destination.name,style: const TextStyle(fontSize: 17,fontWeight:
FontWeight.bold,fontFamily: 'TTLivretTextTrial'),),maxLines: 2,overflow:
TextOverflow.ellipsis),const SizedBox(height: 4),Text(destination.category,style:
TextStyle(package.imageUrl.first,width: 100,height: 120,fit:
BoxFit.cover,errorBuilder: (context, error, stackTrace)=>Container(width: 100,
height: 120, color: Colors.grey[300], child: const Icon(Icons.broken_image, color:
Colors.grey)),loadingBuilder: (context, child, loadingProgress) {if (loadingProgress
== null) return child;return Container(width: 100,height: 120,color:

```

```

SizedBox(width:10),Icon(Icons.visibility,color:Colors.grey[600],size:16),const
SizedBox(width:4),Text(destination.views.toString(),style:const
TextStyle(fontSize:13,fontFamily:'TTLivretTextTrial')),],],),],),],)
Widget _buildTourPackageCard(TourPackage package){return Card(margin:const
EdgeInsets.symmetric(horizontal:16.0,vertical:8.0),elevation:3,shape:RoundedRectangl
eBorder(borderRadius:BorderRadius.circular(12)),child:InkWell(onTap:()=>_navigate
ToTourPackageBooking(package),borderRadius:BorderRadius.circular(12),child:Padding(
padding:const EdgeInsets.all(12.0),child:Row(crossAxisAlignment:CrossAxisAlignment
.start,children:<Widget>[ClipRRect(borderRadius:BorderRadius.circular(8.0),c
hild:package.imageUrls.isNotEmpty?Image.network(style:TextStyle(fontSize:15,fontW
eight:FontWeight.bold,color:Theme.of(context).primaryColor,fontFamily:'TTLivretT
extTrial'),),children:[const
TextSpan(text:'P',style:TextStyle(fontFamily:'NotoSans')),TextSpan(text:package.price.t
oStringAsFixed(2)),]),),const
SizedBox(height:6),Text(package.description,style:TextStyle(fontSize:14,color:Colors.gr
ey[800],fontFamily:'TTLivretTextTrial'),),maxLines:2,overflow:TextOverflow.ellipsis,),i
f(package.places.isNotEmpty)...[const SizedBox(height:8),Text("Includes:
${package.places.take(2).map((p) => p.name).join(',')}${package.places.length > 2 ? '
...':
"}",style:TextStyle(fontSize:12,color:Colors.grey[600],fontFamily:'TTLivretTextTrial',
,overflow:TextOverflow.ellipsis,)],),],),),);}
@Override
Widget build(BuildContext context){return
Scaffold(backgroundColor:pageBackgroundColor,appBar:const
CustomAppBar(),body:Column(

```

lib/screens/report_detail_page.dart

```

import 'package:flutter/material.dart';import
'package:cloud_firestore/cloud_firestore.dart';import 'package:intl/intl.dart';const
Color marikinaDarkText=Color(0xFF333333);const Color
marikinaAppBlue=Color(0xFF5A9ECF);final String reportId;final
Map<String,dynamic> reportData;const ReportDetailPage({super.key,required
this.reportId,required this.reportData});@override State<ReportDetailPage>
createState(){>_ReportDetailPageState();}class _ReportDetailPageState extends
State<ReportDetailPage>{final FirebaseFirestore
_firestore=FirebaseFirestore.instance;final TextEditingController
_replyController=TextEditingController();final GlobalKey<FormState>
_replyFormKey=GlobalKey<FormState>();bool _isSubmittingReply=false;String
_formatTimestamp(Timestamp? timestamp){if(timestamp==null)return 'N/A';return
DateFormat('MMM d, yyyy - hh:mm a').format(timestamp.toDate());}IconData
_getReportStatusIcon(String status){switch(status.toLowerCase()){case 'new':return
Icons.fiber_new_outlined;case 'investigating':return Icons.search_outlined;case 'pending
user reply':return Icons.reply_outlined;case 'user replied':return
Icons.speaker_notes_outlined;case 'resolved':return
Icons.check_circle_outline;case 'closed':return Icons.cancel_outlined;default:return
Icons.help_outline;}}Color _getReportStatusColor(String
status){switch(status.toLowerCase()){case 'new':return
Colors.blue.shade700;case 'investigating':return Colors.orange.shade700;case 'pending
user reply':return Colors.purple.shade600;case 'user replied':return
Colors.cyan.shade600;case 'resolved':lastUserReplyTimestamp:FieldValue.serverTimes
tamp(),};if(currentStatus=='pending user reply'){updateData['status']='User
Replied';}try{await
_firestore.collection('problem_reports').doc(widget.reportId).update(updateData);_re
plyController.clear();if(mounted){FocusScope.of(context).unfocus();ScaffoldMessenger
.of(context).showSnackBar(const SnackBar(content: Text('Reply submitted
successfully!'),backgroundColor: Colors.green),);}}catch(e){print("Error submitting
user reply: $e");if(mounted){String errorMessage='Error submitting reply. Please try
again.';if(e is
FirebaseException){if(e.code=='permission-denied')errorMessage='Permission denied.

```

```

Colors.grey[300],child: const Center(child:
CircularProgressIndicator(strokeWidth: 2.0),);}): Container(width: 100, height:
120, color: Colors.grey[300], child: const Icon(Icons.image_not_supported, color:
Colors.grey)),const SizedBox(width: 12),Expanded(child:
Column(crossAxisAlignment: CrossAxisAlignmentAlignment.start,children:
<Widget>[Text(package.title,style: const TextStyle(fontSize: 17,fontWeight:
FontWeight.bold,fontFamily: 'TTLivretTextTrial'),),maxLines: 2,overflow:
TextOverflow.ellipsis,),const SizedBox(height: 4),Text(package.category,style:
TextStyle(fontSize: 13,color: Colors.grey[700],fontFamily:
'TTLivretTextTrial'),),const SizedBox(height: 6),RichText(text: TextSpan(children:
<Widget>[_buildSearchBar(),_buildMainCategoryChips(),Expanded(child:
_isLoading ? const Center(child: CircularProgressIndicator()): :
_filteredAndSortedItems.isEmpty ? Center(child: Text(_searchTerm.isNotEmpty ?
'No results found for "$_searchTerm".' : (_selectedMainChipIndex == 0 &&
_selectedDestinationSubCategories.isNotEmpty) ? 'No destinations match the
selected filters.' : 'No items available in this category.',style: TextStyle(fontSize:
16,color: Colors.grey[700],fontFamily: 'TTLivretTextTrial'),),textAlign:
TextAlign.center,softWrap: true,overflow: TextOverflow.clip,),): :
ListView.builder(padding: const EdgeInsets.only(bottom: 16.0, top: 8.0),
itemCount: _filteredAndSortedItems.length, itemBuilder: (context, index) {final
item = _filteredAndSortedItems[index]; if (item is Destination) {return
_buildDestinationCard(item);} else if (item is TourPackage) {return
_buildTourPackageCard(item);} return const
SizedBox.shrink();}),],),bottomNavigationBar:
_buildBottomNavigationBar(context, 1),); }

```

```

_replyController,textCapitalization: TextCapitalization.sentences,minLines:
1,maxLines: 4,keyboardType: TextInputType.multiline,decoration:
InputDecoration(hintText: 'Type your reply..',hintStyle: TextStyle(color:
Colors.grey[500],fontFamily: 'TTLivretTextTrial',fontSize: 15),border:
OutlineInputBorder(borderRadius: BorderRadius.circular(25.0),
const Color marikinaAppBarColor=Colors.white;const Color
marikinaIconColor=marikinaDarkText;class ReportDetailPage extends
StatefulWidget{static const String routeName='/report-detail';return
Colors.green.shade700;case 'closed':return Colors.grey.shade700;default:return
Colors.black54;} }Future<void> _submitUserReply(Map<String,dynamic>
currentReportDataFromStream) async {if (!mounted){return;}}if
(!_replyFormKey.currentState!.validate()){return;}}if
(widget.reportId.isEmpty||widget.reportId=='N/A'){ScaffoldMessenger.of(context
).showSnackBar(const SnackBar(content:Text('Error: Invalid report
ID.'),backgroundColor:Colors.red,));return;}String
currentStatus=(currentReportDataFromStream['status'] as
String???'Unknown').toLowerCase();if(currentStatus=='new'){ScaffoldMessenger
.of(context).showSnackBar(const SnackBar(content:Text('Please wait for an admin
to review your report before
replying.'),backgroundColor:Colors.orange,));return;}if(currentStatus=='resolved'||
currentStatus=='closed'){ScaffoldMessenger.of(context).showSnackBar(const
SnackBar(content:Text('This report is closed and no further replies can be
added.'),backgroundColor:Colors.grey,));return;}if(!!(currentStatus=='pending user
reply'||currentStatus=='investigating')){ScaffoldMessenger.of(context).showSnackBar(const
SnackBar(content:Text('You cannot reply to this report at this time. Please
wait for an admin
response.'),backgroundColor:Colors.orange,));return;}setState((){_isSubmittingRe
ply=true;});final
userReply={'text':_replyController.text.trim(),'timestamp':Timestamp.now(),'send
erType':'user',};Map<String,dynamic>
updateData={'replies':FieldValue.arrayUnion([userReply]),}@override Widget
build(BuildContext context){return

```

```

Please ensure the report status allows for your
reply.';if(currentStatus=='new'{errorMessage='Please wait for an admin to review your
report first. (Error: P01)';}else
if(currentStatus=='resolved'||currentStatus=='closed'{errorMessage='This report is
closed. (Error: P02)';}else if((currentStatus=='pending user
reply'||currentStatus=='investigating')){errorMessage='Cannot reply at this time.
(Error: P03)'}}else errorMessage='Error:
${e.message??e.code}'}}ScaffoldMessenger.of(context).showSnackBar(SnackBar(conten
t: Text(errorMessage),backgroundColor:
Colors.red,));}finally{if(mounted){setState((){_isSubmittingReply=false;});}}}}@overri
de void dispose(){_replyController.dispose();super.dispose();}title: Text(category,style:
const TextStyle(color: marikinaDarkText,fontWeight: FontWeight.bold,fontFamily:
'TTLivretTextTrial')),backgroundColor: marikinaAppBarColor,elevation:
1,iconTheme: const IconThemeData(color:
marikinaIconColor),actions:[Padding(padding: const EdgeInsets.only(right:
12.0),child: Chip(avatar: Icon(_getReportStatusIcon(status),color:
_getReportStatusColor(status),size: 18),label: Text(status,style: TextStyle(color:
_getReportStatusColor(status),fontWeight: FontWeight.bold,fontSize: 12,fontFamily:
'TTLivretTextTrial')),backgroundColor:
_getReportStatusColor(status).withOpacity(0.15),padding: const
EdgeInsets.symmetric(horizontal: 8,vertical: 4),)),)],body:
Column(children:[Expanded(child: SingleChildScrollView(padding: const
EdgeInsets.all(16.0),child: Column(crossAxisAlignment:
CrossAxisAlignment.start,children:[Text('Report ID: ${widget.reportId}',style:
TextStyle(fontSize: 12,color: Colors.grey[600],fontFamily: 'TTLivretTextTrial'),),const
SizedBox(height: 4),Text('Submitted: ${_formatTimestamp(timestamp)}',style:
TextStyle(fontSize: 12,color: Colors.grey[600],fontFamily: 'TTLivretTextTrial'),),const
SizedBox(height: 16),Text('Description:',style: TextStyle(fontSize: 17,fontWeight:
FontWeight.bold,color: marikinaDarkText,fontFamily: 'TTLivretTextTrial'),),const
SizedBox(height: 8),Container(padding: const EdgeInsets.all(12.0),width:
double.infinity,decoration: BoxDecoration(color: Colors.grey[100],borderRadius:
BorderRadius.circular(8),border: Border.all(color: Colors.grey[300]!)),child:
SelectableText(description,style: TextStyle(fontSize: 15,height: 1.5,color:
Colors.grey[800],fontFamily: 'TTLivretTextTrial'),),),const SizedBox(height:
24),Text('Conversation History ${allReplies.length}',style: TextStyle(fontSize:
17,fontWeight: FontWeight.bold,color: marikinaDarkText,fontFamily:
'TTLivretTextTrial'),),const SizedBox(height:
8),if(allReplies.isEmpty)children:[Text(replyText,style: TextStyle(fontSize: 14.5,color:
isUserReply?Colors.white:marikinaDarkText,fontFamily: 'TTLivretTextTrial',height:
1.4),),const SizedBox(height: 5),Text('${isUserReply?'You':adminName} •
${_formatTimestamp(replyTimestamp)}',style: TextStyle(fontSize: 10.5,color:
isUserReply?Colors.white70:Colors.grey.shade600,fontFamily:
'TTLivretTextTrial'),),),),const SizedBox(height: 20),],),),),Container(padding:
const EdgeInsets.symmetric(horizontal: 12.0,vertical: 8.0),decoration:
BoxDecoration(color: Theme.of(context).cardColor,boxShadow:[BoxShadow(color:
Colors.grey.withOpacity(0.2),spreadRadius: 1,blurRadius: 5,offset: const Offset(
-2,)),]),child: Form(key: _replyFormKey,child: Row(crossAxisAlignment:
CrossAxisAlignment.center,children:[Expanded(child: TextFormField(controller:

```

```

StreamBuilder<DocumentSnapshot>(stream: _firestore.collection('problem_report
s').doc(widget.reportId).snapshots(),builder:(context,snapshot){if(snapshot.conne
ctionState==ConnectionState.waiting&&!snapshot.hasData){return
Scaffold(appBar:AppBar(title:const Text('Report
Detail',style:TextStyle(color:marikinaDarkText,fontWeight:FontWeight.bold,fontFa
mily:'TTLivretTextTrial')),backgroundColor:marikinaAppBarColor,elevation:1,ic
onTheme:const IconThemeData(color:marikinaIconColor),),body:const
Center(child:CircularProgressIndicator()),};}if(snapshot.hasError){return
Scaffold(appBar:AppBar(title:const Text('Error')),body:Center(child:Text('Error
loading report: ${snapshot.error}')));}Map<String,dynamic>
currentReportData;if(snapshot.hasData&&snapshot.data!.exists){currentReportD
ata=snapshot.data!.data() as
Map<String,dynamic>;}else{currentReportData=widget.reportData;}String
category=currentReportData['category']??'N/A';String
description=currentReportData['description']??'No description';String
status=currentReportData['status']??'Unknown';Timestamp?
timestamp=currentReportData['timestamp'] as
Timestamp?;List<Map<String,dynamic>>
allReplies=List<Map<String,dynamic>>.from(currentReportData['replies'] as
List<dynamic>??[]);allReplies.sort((a,b){Timestamp? tsA=a['timestamp'] as
Timestamp?;Timestamp? tsB=b['timestamp'] as
Timestamp?;if(tsA==null&&tsB==null)return 0;if(tsA==null)return
1;if(tsB==null)return -1;return tsA.compareTo(tsB);});return
Scaffold(appBar:AppBar(Padding(padding:const
EdgeInsets.symmetric(vertical:16.0),child:Center(child:Text('No replies
yet.',style:TextStyle(fontSize:15,color:Colors.grey[600],fontStyle:FontStyle.italic,fo
ntFamily:'TTLivretTextTrial'),),),),else
ListView.builder(shrinkWrap:true,physics:const
NeverScrollableScrollPhysics(),itemCount:allReplies.length,itemBuilder:(context,i
ndex){final reply=allReplies[index];final String replyText=_formatText['text'] as
String???"N/A";final Timestamp? replyTimestamp=_formatText['timestamp'] as
Timestamp?;final String senderType=reply['senderType'] as String???"admin";final
String adminName=reply['adminName'] as String???"Admin";bool
isUserReply=senderType=='user';return
Align(alignment:isUserReply?Alignment.centerRight:Alignment.centerLeft,child:
Container(constraints:BoxConstraints(maxWidth:MediaQuery.of(context).size.wid
th*0.75),margin:const EdgeInsets.symmetric(vertical:5.0),padding:const
EdgeInsets.symmetric(horizontal:14.0,vertical:10.0),decoration:BoxDecoration(col
or:isUserReply?marikinaAppBlue.withOpacity(0.9):Colors.grey.shade200,borderR
adius:BorderRadius.only(topLeft:const Radius.circular(16),topRight:const
Radius.circular(16),bottomLeft:isUserReply?const Radius.circular(16):const
Radius.circular(0),bottomRight:isUserReply?const Radius.circular(0):const
Radius.circular(16),),boxShadow:[BoxShadow(color:Colors.grey.withOpacity(0.2),
spreadRadius:filled:true,fillColor:Colors.white,),1,blurRadius:3,offset:const
Offset(0,1),],child:Column(crossAxisAlignment:CrossAxisAlignment.start,valida
tor:(value){if(value==null||value.trim().isEmpty){return 'Reply cannot be
empty.';}}return null;},style:const
TextStyle(fontFamily:'TTLivretTextTrial',fontSize:15),),),),),),),);});}

```

lib/screens/search_page.dart

```

import 'dart:math';import 'package:cloud_firestore/cloud_firestore.dart';import
'package:firebase_auth/firebase_auth.dart';import
'package:flutter/material.dart';import 'package:intl/intl.dart';import
'package:marikina_project3/screens/profile_screen.dart';import
'custom_app_bar.dart';import 'receipt_page.dart';import 'home_page.dart';import
'recommend_page.dart';import 'mapping_page.dart';import 'profile_page.dart';import
'notification_service.dart';import 'dart:async';const Color
appBlue=Color(0xFF5A9ECF);const Color appOrange=Color(0xFFFFC664);const

```

```

dget.pkg.toString();if(changed){_initFromPkg(widget.pkg);setState(() {});}}void
_initFromPkg(Map<String,dynamic>pkg){try{_pageController?.removeListener(_
pageListener);_pageController?.dispose();}catch(e){}placesRaw=pkg['places'] is
List?pkg['places'] as List:<dynamic>[];final raw=pkg['imageUrls'] is
List?pkg['imageUrls'] as List:<dynamic>[];final
items=<Map<String,String>>[];for(int i=0;i<raw.length;i++){final el=raw[i];String
url="";String name="";if(el is
String){url=el;BorderRadius.circular(8),child:Text(name??'',textAlign:TextAlign.ce

```

```

Color softBlue=Color(0xFF6bbaf9);const Color appBlack=Color(0xFF000000);const
Color appLightGray=Color(0xFFD9D9D9);const Color
appBeige=Color(0xFFE4C097);const Color softPeach=Color(0xFFFFADEBE);class
TourPackageCard extends StatefulWidget{final Map<String,dynamic> pkg;final bool
isSelected;final VoidCallback onToggleSelect;const
TourPackageCard({Key?key,required this.pkg,required this.isSelected,required
this.onToggleSelect,}):super(key:key);@override State<TourPackageCard>
createState(){>_TourPackageCardState();}class _TourPackageCardState extends
State<TourPackageCard>{late List<dynamic> placesRaw;late
List<Map<String,String>> imageItems;late int len;if(i<placesRaw.length){final
p=placesRaw[i];if(p is Map&&p['name']!=null)name=p['name'].toString();}else if(el is
Map){url=(el['url']??el['image'])??el['src']??'').toString();name=(el['name']??el['title']??'')
.toString();}items.add({'url':url,'name':name});imageItems=items;len=imageItems.len
gth;final
initialPage=len>0?len*_loopMultiplier:0;_pageController=PageController(viewportFr
action:viewportFraction,initialPage:initialPage)..addListener(_pageListener);_currentI
ndex=0;void
_pageListener(){if(_pageController==null||_pageController!.hasClients||len==0)retu
n;final double p=_pageController!.page??_pageController!.initialPage.toDouble();final
int rounded=p.round();final int
mod=(rounded%len+len)%len;if(mod!=_currentIndex)setState(()=>_currentIndex=m
od);} @override void
dispose(){try{_pageController?.removeListener(_pageListener);_pageController?.dispo
se();}catch(_){}super.dispose();void _openFullScreen(int absIdx){final
start=absIndex;showDialog(context:context,builder:(ctx){final PageController
full=PageController(initialPage:start);return
Dialog(insetPadding:EdgeInsets.zero,backgroundColor:Colors.black,child:Stack(childr
en:[PageView.builder(controller:full,itemCount:len==0?0:len*2000,itemBuilder:(c,full
AbsIdx){final ri=(fullAbsIdx%len+len)%len;final url=imageItems[ri]['url']??';'final
name=(imageItems[ri]['name']??'').isNotEmpty?imageItems[ri]['name']:(i<placesRaw
.length&&placesRaw[ri] is Map?(placesRaw[ri]['name']??''););
return
InteractiveViewer(child:Stack(children:[Center(child:Image.network(url,fit:BoxFit.con
tain,errorBuilder:(_,_,__)=>const
Icon(Icons.broken_image,size:72,color:Colors.white70))),if((name??'').toString().isNot
Empty)Positioned(left:16,right:16,bottom:24,child:Container(padding:const
EdgeInsets.symmetric(horizontal:12,vertical:8),decoration:BoxDecoration(color:Colors
.black54,borderRadius:BorderRadius.circular(15),color:Colors.grey[100]),child:ClipR
Rect(borderRadius:BorderRadius.circular(15),child:Image.network(imageItems[realIn
dex]['url']??'',fit:BoxFit.cover,errorBuilder:(_,_,__)=>Container(color:Colors.grey[3
00])),),),),if(len>1)Positioned(left:8,top:0,bottom:56,child:Material(color:AppOr
ange.withOpacity(0.12),shape:const CircleBorder(),child:InkWell(customBorder:const
CircleBorder(),onTap:()&gt;final
prev=_page_controller_current().round()-1;_pageController!.animateToPage(prev,d
uration:const Duration(milliseconds:320),curve:Curves.easeInOut);},child:const
Padding(padding:EdgeInsets.all(10.0),child:Icon(Icons.chevron_left,color:Color(0xFF
6bbaf9),size:28)),),),),if(len>1)Positioned(right:8,top:0,bottom:56,child:Material(col
or:appOrange.withOpacity(0.12),shape:const
CircleBorder(),child:InkWell(customBorder:const CircleBorder(),onTap:()&gt;final
next=_page_controller_current().round()+1;_pageController!.animateToPage(next,d
uration:const Duration(milliseconds:320),curve:Curves.easeInOut);},child:const
Padding(padding:EdgeInsets.all(10.0),child:Icon(Icons.chevron_right,color:Color(0xF
F6bbaf9),size:28)),),),),),const
SizedBox(height:8),Row(BorderRadius.circular(10)),padding:const
EdgeInsets.symmetric(horizontal:20,vertical:10),),child:Text(widget.isSelected?'Selected
'('Select Package'),),),),),);}double
_page_controller_current(){>_pageController!.hasClients?(_pageController!.page??_
pageController!.initialPage.toDouble()):_pageController!.initialPage.toDouble();}enum
BookingMode{collective,perGuest}class GuestDetail{String gender;String
agencyType;String? agencyName;String? otherAgency;String guestType;String
status;String? otherStatus;TextEditingController
nter,style:const
TextStyle(color:Colors.white,fontSize:16,fontFamily:'TTLivretTextTrial'),),],),);}
,).Positioned(top:24,right:18,child:IconButton(icon:const
Icon(Icons.close,color:Colors.white),onPressed:():>Navigator.of(ctx).pop()),),),);}
,);}@override Widget build(BuildContext context){final pkg=widget.pkg;final
title=pkg['title']??'No Title';final price=pkg['price']??0;final
description=(pkg['description']??'').toString();final
screenWidth=MediaQuery.of(context).size.width;final
cardInnerContentWidth=screenWidth*0.9;return
Align(alignment:Alignment.center,child:Card(margin:const
EdgeInsets.symmetric(vertical:8,horizontal:12),shape:RoundedRectangleBorder(b
orderRadius:BorderRadius.circular(15),side:BorderSide(color:appBlue,width:7)),el
evation:4,child:Padding(padding:const
EdgeInsets.all(16.0),child:Column(crossAxisAlignment:CrossAxisAlignment.start,
children:[if(len>0)Column(children:[SizedBox(height:150,child:Stack(children:[Pa
geView.builder(controller:_pageController,itemCount:len*2000,onPageChanged:(
absIdx){final
real=(absIdx%len+len)%len;if(real==_currentIndex)setState(()=>_currentIndex=re
al);},itemBuilder:(context,absIdx){final int realIndex=(absIdx%len+len)%len;return
AnimatedBuilder(animation:_pageController!,builder:(context,child){final double
page=_pageController!.hasClients?(_pageController!.page??_pageController!.initia
lPage.toDouble()):_pageController!.initialPage.toDouble();final double
diff=(page-absIdx);final double absDiff=diff.abs();final double
scale=(1-(absDiff*scaleDiffMultiplier)).clamp(scaleMin,1.0);final double
opacity=(1-(absDiff*opacityMultiplier)).clamp(opacityMin,1.0);final double
horizontalShift=(diff*20);return
Transform.translate(offset:Offset(horizontalShift,0),child:Transform.scale(scale:scal
e,child:Opacity(opacity:opacity,child:child),),),child:GestureDetector(onTap:():>
_openFullScreen(absIdx),child:Padding(padding:EdgeInsets.symmetric(horizontal:
itemHorizontalPadding,vertical:6.0),child:Container(width:cardInnerContentWid
th*0.58,height:150,decoration:BoxDecoration(borderRadius:mainAxisAlignment:
MainAxisAlignment.center,children>List.generate(len,(i){final bool
active=i==_currentIndex;return AnimatedContainer(duration:const
Duration(milliseconds:180),margin:const
EdgeInsets.symmetric(horizontal:4),width:active?10:8,height:active?10:8,decoratio
n:BoxDecoration(color:active?appBlue:Colors.grey[350],shape:BoxShape.circle,bor
der:Border.all(color:Colors.black12),),),}),],);else
Container(height:150,decoration:BoxDecoration(color:Colors.grey[200],borderRa
dius:BorderRadius.circular(15)),child:const
Center(child:Icon(Icons.image_search,size:50,color:Colors.grey))),const
SizedBox(height:12),Text(title,style:const
TextStyle(fontWeight:FontWeight.bold),const
SizedBox(height:6),if(placesRaw.isNotEmpty)Text('Places:
${placesRaw.map((p)=>p is Map?p['name']??''):p).join(', '
)},style:TextStyle(fontSize:13,color:Colors.grey[700])),const
SizedBox(height:6),Text.rich(TextSpan(style:const
TextStyle(fontFamily:'TTLivretTextTrial',fontSize:14,fontWeight:FontWeight.w50
0,color:Colors.black),children:[const TextSpan(text:'Price: '),const
TextSpan(text:'P',style:TextStyle(fontFamily:'NotoSans')),TextSpan(text:'${price.to
String()}'),const TextSpan(text:' per head'),)],),if(description.isNotEmpty)...[const
SizedBox(height:6),Text(description,style:TextStyle(fontSize:13,color:Colors.grey[8
00])),],const
SizedBox(height:10),Align(alignment:Alignment.centerRight,child:ElevatedButton
(onPressed:widget.onToggleSelect,style:ElevatedButton.styleFrom(backgroundCol
or:widget.isSelected?appBlue:Colors.grey[300],foregroundColor:widget.isSelected?
Colors.white:Colors.black,shape:RoundedRectangleBorder(borderRadius:'otherA
gency':otherAgency,'guestType':guestType,'status':status,'otherStatus':otherStatus,}
;factory GuestDetail.fromMap(Map<String,dynamic>map){return
GuestDetail(gender:map['gender']as String???
'Male',agencyType:map['agencyType']as String???
'LGU',agencyName:map['agencyName']as

```

```

agencyNameController=TextEditingController();TextEditingController
otherAgencyController=TextEditingController();TextEditingController
otherStatusController=TextEditingController();GuestDetail({this.gender='Male',this.a
gencyType='LGU',this.agencyName,this.otherAgency,this.guestType='Local
Resident',this.status='None',this.otherStatus,});{if(this.agencyName!=null){agencyNa
meController.text=this.agencyName;};if(this.otherAgency!=null){otherAgencyContro
ller.text=this.otherAgency!;};if(this.otherStatus!=null){otherStatusController.text=this.
otherStatus!;}};void
dispose(){agencyNameController.dispose();otherAgencyController.dispose();otherStat
usController.dispose();}Map<String,dynamic>
toJson()=>{'gender':gender,'agencyType':agencyType,'agencyName':agencyName,};late
e int _tempMaleGuests;late int _tempFemaleGuests;late String
_tempCollectiveAgencyType;String? _tempCollectiveOtherAgency;late String
_tempCollectiveGuestType;
List<GuestDetail> _tempIndividualGuests=[];final_collectiveOtherAgencyController
=TextEditingController();final
List<DropdownOption> statusDropdownOptions=[DropdownOption(value:'None'
,display:'None'),DropdownOption(value:'Student',display:'Student'),DropdownOptio
n(value:'Senior Citizen',display:'Senior
Citizen'),DropdownOption(value:'PWD',display:'PWD (Person with
Disability)'),DropdownOption(value:'OFW',display:'OFW (Overseas Filipino
Worker)'),DropdownOption(value:'Other',display:'Other (please
specify)'),];String_collectiveStatus='None';String? _collectiveOtherStatus;final
TextEditingController_collectiveOtherStatusController=TextEditingController();late
String_tempCollectiveStatus;final
List<DropdownOption> _agencyTypeDropdownOptions=[DropdownOption(value:'LGU'
,display:'LGU (Local Government
Unit)'),DropdownOption(value:'NGO',display:'NGO (Non-Governmental
Organization)'),DropdownOption(value:'Academe',display:'Academe
(School/University)'),DropdownOption(value:'GOCC',display:'GOCC
(Gov't-Owned Corporation)'),DropdownOption(value:'Private
Company',display:'Private
Company'),DropdownOption(value:'Cooperative',display:'Cooperative'),DropdownO
ption(value:'CSO',display:'CSO (Civil Society
Org)'),DropdownOption(value:'Other',display:'Other (please
specify)'),];String_collectiveAgencyType='LGU';final
List<DropdownOption> _guestTypeDropdownOptions=[DropdownOption(value:'Local Resident',display:'Local Resident (from this
municipality)'),DropdownOption(value:'Domestic Tourist',display:'Domestic Tourist
(Filipino from another
city/province)'),DropdownOption(value:'Foreigner',display:'Foreigner (non-Filipino
visitor)'),];String_collectiveGuestType='Local Resident';final
List<String>genderOptions=const['Male','Female','Other'];@override void
initState(){_tempCollectiveAgencyType=_collectiveAgencyType;_collectiveOtherAge
ncyController.text=_collectiveOtherAgency??';_tempCollectiveGuestType=_collectiv
eGuestType;_tempCollectiveStatus=_collectiveStatus;_collectiveOtherStatusContro
ller.text=_collectiveOtherStatus??';_tempIndividualGuests.forEach((guest)=>guest.disp
ose());_tempIndividualGuests=_individualGuests.map((g){return
GuestDetail(gender:g.gender,agencyType:g.agencyType,agencyName:g.agencyName,ot
herAgency:g.otherAgency,guestType:g.guestType,status:g.status,otherStatus:g.otherSta
tus,);}).toList();}@override void
dispose(){_collectiveOtherAgencyController.dispose();_collectiveOtherStatusControll
er.dispose();_tempIndividualGuests.forEach((guest)=>guest.dispose());_individualGue
sts.forEach((guest)=>guest.dispose());super.dispose();}Future<void> _fetchUserDetails
()async{if(user!=null){try{DocumentSnapshot userDoc=await
FirebaseFirestore.instance.collection('users').doc(user!.uid).get();if(mounted&&userDo
c.exists){final data=userDoc.data()as
Map<String,dynamic>?;setState((){_userName=data?['username']as
String??user!.displayName??'Guest User (No
Username/DisplayName)'});print("DEBUG: Fetched username from Firestore:
$_userName");}else if(mounted){setState((){_userName=user!.displayName??'Guest

```

```

User (No Profile Doc');});print("DEBUG: User profile document not found in
Firestore for UID: ${user!.uid}. Using displayName or
default.");}catch(e){children:[Container(width:double.infinity,padding:const
EdgeInsets.only(top:boxMarginTop-25,bottom:dialogPadding,left:dialogPadding,right
:dialogPadding,),decoration:BoxDecoration(color:appBlue,borderRadius:const
BorderRadius.only(topLeft:Radius.circular(dialogPadding),topRight:Radius.circular(
dialogPadding)),),child:const Text('Sign In
Required',style:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.white,fontSize:2
3,fontWeight:FontWeight.bold,),textAlign:TextAlign.center,),),Padding(padding:const
EdgeInsets.fromLTRB(dialogPadding,dialogPadding,dialogPadding,0),child:Column(c
rossAxisAlignment:CrossAxisAlignment.start,children:const[Text('This is the Booking
Page',style:TextStyle(fontFamily:'TTLivretTextTrial',fontSize:16,fontWeight:FontWeig
ht.w600,)),SizedBox(height:12),Text('In order to book a tour, you must be signed in.
Signing in allows you to save bookings, access receipts, and view available tour
packages.\n\nPlease sign in or create an account to
continue.',style:TextStyle(fontFamily:'TTLivretTextTrial',style:TextStyle(fontFamily:'T
TLivretTextTrial',color:Colors.white,)),],),],),],);}}},Positioned(top:-(iconSize/3),child:Co
ntainer(width:iconSize,height:iconSize,decoration:BoxDecoration(shape:BoxShape.circ
le,color:appBlue,border:Border.all(color:appBlue,width:4),boxShadow:[BoxShadow(co
lor:Colors.black.withOpacity(0.2),blurRadius:8,offset:const
Offset(0,4),)],),child:const
Center(child:Icon(Icons.receipt_long,size:36,color:Colors.white,)),),),),);};}else{a
wait
_fetchUserDetails();_fetchTourPackages();}Future<void>_fetchTourPackages()async{
if(!mounted)return;try{final snapshot=await
FirebaseFirestore.instance.collection('tour_packages').where('isAvailable',isEqualTo:tru
e).get();if(mounted){List<Map<String,dynamic>>fetchedPackages=snapshot.docs.ma
p((doc){final data=doc.data;int price=0;if(data['price']is int){price=data['price'];}else
if(data['price']is double){price=(data['price']as double).toInt();}else if(data['price']is
String){price=int.tryParse(data['price']as
String)??0;}return{endDate=picked;}});}}String _getGuestSummaryText(){int
totalGuests=0;if(_bookingMode==BookingMode.collective){totalGuests=_maleGuest
s+_femaleGuests;}else{totalGuests=_individualGuests.length;}if(totalGuests==0)retu
rn'Guest Details';return'Guests: $totalGuests';}Widget _buildRoundedBox({required
IconData icon,required String label,required VoidCallback onTap,Color
backgroundColor=Colors.white,TextStyle? textStyle,} ){return
GestureDetector(onTap:onTap,child:Container(padding:const
EdgeInsets.symmetric(horizontal:14,vertical:10),decoration:BoxDecoration(color:back
groundColor, borderRadius:BorderRadius.circular(18),boxShadow:[BoxShadow(color:
Colors.grey.withOpacity(0.2),spreadRadius:1,blurRadius:3,offset:const
Offset(0,2),)],),child:Row(mainAxisSize:MainAxisSize.min,children:[Icon(icon,size:18)
,const SizedBox(width:6),Text(label,style:textStyle??const TextStyle(fontSize:14)),],),);
}
void
_showGuestDetailsPopup(){_resetTempGuestData();showDialog(context:context,buil
der:(BuildContext
dialogContext){width:MediaQuery.of(context).size.width*0.92,child:SingleChildScrollView
(child:Column(mainAxisSize:MainAxisSize.min,
crossAxisAlignment:CrossAxisAlignment.start,children:[buildBookingModeSelector()
,const SizedBox(height:16),const Divider(),const
SizedBox(height:10),if(_tempBookingMode==BookingMode.collective)...[buildCount
er('Male
Guests:',_tempMaleGuests,(newValue){setDialogState(()=>_tempMaleGuests=newVal
ue;});},buildCounter('Female
Guests:',_tempFemaleGuests,(newValue){setDialogState(()=>_tempFemaleGuests=n
ewValue;});},const
SizedBox(height:16),DropdownButtonFormField<String>(decoration:const
InputDecoration(labelText:'Agency Type',hintText:'[ Select Agency Type
]',labelStyle:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black),hintStyle:TeX
tStyle(fontFamily:'TTLivretTextTrial',color:Colors.black54),border:OutlineInputBorder
(),contentPadding:EdgeInsets.symmetric(horizontal:12,vertical:10),),style:const
TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black),value:_tempCollectiveAg
encyType);});});}

```

```

Radius:const
BorderRadius.only(bottomLeft:Radius.circular(dialogPadding),bottomRight:Radi
us.circular(dialogPadding),),child:Row(children:[Expanded(child:ElevatedButton
(style:ElevatedButton.styleFrom(backgroundColor:Colors.white,foregroundColor:
Colors.black,padding:const
EdgeInsets.symmetric(vertical:12),shape:RoundedRectangleBorder(borderRadius:
BorderRadius.circular(8)),),onPressed:{Navigator.of(dialogContext).pop();Navig
ator.of(context).maybePop();},child:const Text('Go
Back',style:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black,)),),const
SizedBox(width:12),Expanded(child:ElevatedButton(style:ElevatedButton.styleFro
m(backgroundColor:appBlue,padding:const
EdgeInsets.symmetric(vertical:12),shape:RoundedRectangleBorder(borderRadius:
BorderRadius.circular(8)),),onPressed:{Navigator.of(dialogContext).pop();Navig
ator.pushNamed(context,ProfilePage.routeName)},child:const Text('Proceed to
Login'),id:doc.id,title:data['title']??'No
Title',price:price,category:data['category']??'Uncategorized',places:data['places']?
[],imageUrls:data['imageUrls']??[],description:data['description']??''),);
}.toList();setState(){allPackages =
fetchedPackages;}_applyInitialPackageSelection();}catch(e){if(mounted)
{ScaffoldMessenger.of(context).showSnackBar(SnackBar(content: Text('Error
fetching tour packages: $e')));}print("Error fetching packages: $e");}Future<void>
_selectDate(bool isStart) async {final DateTime now = DateTime.now();final
DateTime today = DateTime(now.year, now.month, now.day);DateTime
initialDatePickerDate;DateTime firstSelectableDate;if (isStart)
{initialDatePickerDate = startDate ?? today;firstSelectableDate = today;} else
{initialDatePickerDate = endDate ?? (startDate != null &&
startDate!.isAfter(today) ? startDate! : today);firstSelectableDate = startDate != null
&& startDate!.isAfter(today) ? startDate! : today;}if
(initialDatePickerDate.isBefore(firstSelectableDate)) {initialDatePickerDate =
firstSelectableDate;}final picked = await showDatePicker(context:
context,initialDate: initialDatePickerDate,firstDate: firstSelectableDate,lastDate:
DateTime(2030),);if (picked != null) {setState(){if (isStart) {startDate = picked;if
(endDate != null && endDate!.isBefore(startDate!)) {endDate = null;}} else
{borderRadius: const BorderRadius.only(topLeft: Radius.circular(8),bottomLeft:
Radius.circular(8),),child: Text('Collective Booking',textAlign:
TextAlign.center,style: TextStyle(fontFamily: 'TTLivretTextTrial',color:
_tempBookingMode == BookingMode.collective ? Colors.white :
Colors.black,fontWeight: FontWeight.bold,)),},Expanded(child: InkWell(onTap:
() => setDialogState(() => _tempBookingMode = BookingMode.perGuest),child:
Container(padding: const EdgeInsets.symmetric(vertical: 12),decoration:
BoxDecoration(color: _tempBookingMode == BookingMode.perGuest ? appBlue :
Colors.grey[200],borderRadius: const BorderRadius.only(topRight:
Radius.circular(8),bottomRight: Radius.circular(8),),child: Text('Per-Guest
Entry',textAlign: TextAlign.center,style: TextStyle(fontFamily:
'TTLivretTextTrial',color: _tempBookingMode == BookingMode.perGuest ?
Colors.white : Colors.black,fontWeight: FontWeight.bold,)),),);}}return
AlertDialog(insetPadding: const EdgeInsets.symmetric(horizontal: 24.0, vertical:
24.0),title: const Text('Enter Guest Details',textAlign: TextAlign.center,style:
TextStyle(fontFamily: 'TTLivretTextTrial',fontSize: 20,fontWeight:
FontWeight.bold, color: Colors.black),),contentPadding: const
EdgeInsets.all(16),content: SizedBox(isExpanded: true,selectedItemBuilder:
(BuildContext context) {return
_agencyTypeDropdownOptions.map<Widget>((DropdownOption option)
{return Text(option.value,style: const TextStyle(fontFamily: 'TTLivretTextTrial',
color: Colors.black));}).toList();},if (_tempCollectiveAgencyType == 'Other')
...[const SizedBox(height: 10),TextFormField(controller:
_collectiveOtherAgencyController,style: const TextStyle(fontFamily:
'TTLivretTextTrial', color: Colors.black),decoration: const
InputDecoration(labelText: 'Specify Other Agency',labelStyle:
TextStyle(fontFamily: 'TTLivretTextTrial', color: Colors.black),hintStyle:
TextStyle(fontFamily: 'TTLivretTextTrial', color: Colors.black54),border:

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encyType,items:_agencyTypeDropdownOptions.map((option)=>DropdownMenuItem<String>(value:option.value,child:Text(option.display,style:const TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black))),).toList(),onChanged:(String? newValue){if(newValue!=null){setDialogState((){_tempCollectiveAgencyType=newValue;if(newValue=='Other'){_collectiveOtherAgencyController.clear();}}),},onChanged:(String? newValue){if(newValue!=null){setDialogState(()=>_tempCollectiveGuestType=newValue);}},isExpanded:true,selectedItemBuilder:(BuildContext context){return _guestTypeDropdownOptions.map<Widget>((DropdownOption option){return Text(option.value,style:const TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black));}).toList();},const SizedBox(height:10),DropdownButtonFormField<String>(decoration:const InputDecoration(labelText:'Status',hintText:'[ Select Status '],labelStyle:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black),hintStyle:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black54),border:OutlineInputBorder(),contentPadding:EdgeInsets.symmetric(horizontal:12,vertical:10),),style:const TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black),value:_tempCollectiveStatus,items:_statusDropdownOptions.map((option)=>DropdownMenuItem<String>(value:option.value,child:Text(option.display,style:const TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black)),)).toList(),onChanged:(String? newValue){if(newValue!=null){setDialogState((){_tempCollectiveStatus=newValue;if(newValue=='Other'){_collectiveOtherStatusController.clear();}}),},isExpanded:true,selectedItemBuilder:(BuildContext context){foregroundColor:Colors.white,padding:const EdgeInsets.symmetric(horizontal:20,vertical:10),),),),),),actionsAlignment:MainAxisAlignment.spaceEvenly,actions:[TextButton(child:const Text('Cancel',style:TextStyle(color:Colors.black,fontFamily:'TTLivretTextTrial')), onPressed:(){Navigator.of(dialogContext).pop();}),TextButton(child:const Text('Apply',style:TextStyle(color:Colors.black,fontWeight:FontWeight.bold,fontFamily:'TTLivretTextTrial')), onPressed:(){setState((){_bookingMode=_tempBookingMode;if(_bookingMode==BookingMode.collective){_maleGuests=_tempMaleGuests;_femaleGuests=_tempFemaleGuests;}_collectiveAgencyType=_tempCollectiveAgencyType;_collectiveOtherAgency=_collectiveOtherAgencyController.text.trim().isNotEmpty?_collectiveOtherAgencyController.text.trim():null;_collectiveGuestType=_tempCollectiveGuestType;_collectiveStatus=_tempCollectiveStatus;_collectiveOtherStatus=_collectiveOtherStatusController.text.trim().isNotEmpty?_collectiveOtherStatusController.text.trim():null;_individualGuests.forEach((guest)=>guest.dispose());_individualGuests.clear();}for(var tempGuest in _tempIndividualGuests){_individualGuests.add(GuestDetail(gender:tempGuest.gender,agencyType:tempGuest.agencyType,agencyName:tempGuest.agencyNameController.text.trim(),fontSize:16,fontWeight:FontWeight.bold,color:Colors.black,),)IconButton(onIcon:const Icon(Icons.delete_outline,color:Colors.redAccent),padding:EdgeInsets.zero,constraints:const BoxConstraints(),onPressed:(){setDialogState((){guest.dispose();_tempIndividualGuests.removeAt(index);});}),const SizedBox(height:8),DropdownButtonFormField<String>(decoration:const InputDecoration(labelText:'Gender',labelStyle:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black),hintStyle:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black54),border:OutlineInputBorder(),contentPadding:EdgeInsets.symmetric(horizontal:12,vertical:10),),style:const TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black),value:guest.gender,items:_genderOptions.map((label)=>DropdownMenuItem(value:label,child:Text(label,style:const TextStyle(fontFamily:'TTLivretText Trial',color:Colors.black)),)).toList(),onChanged:(String? newValue){if(newValue!=null){setDialogState((){guest.gender=newValue;});}},isExpanded:true),const OutlineInputBorder(),contentPadding:EdgeInsets.symmetric(horizontal:12,vertical:10),),const SizedBox(height:10),DropdownButtonFormField<String>(decoration:const InputDecoration(labelText:'Guest Type',hintText:'[ Select Guest Type '],labelStyle:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black),hintStyle:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black54),border:OutlineInputBorder(),contentPadding:EdgeInsets.symmetric(horizontal:12,vertical:10),),style:const TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black),value:_tempCollectiveGuestType,items:_guestTypeDropdownOptions.map((option)=>DropdownMenuItem<String>(value:option.value,child:Text(option.display,style:const TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black)),)).toList(),onChanged:(String? newValue){if(newValue=='Other'){_guestTypeDropdownOptions.map<Widget>((DropdownOption option){return Text(option.value,style:const TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black));}).toList();}},if(_tempCollectiveStatus=='Other')...[const SizedBox(height:10),TextFormField(controller:_collectiveOtherStatusController,style:const TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black),decoration:const InputDecoration(labelText:'Specify Other Status',labelStyle:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black),hintStyle:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black54),border:OutlineInputBorder(),contentPadding:EdgeInsets.symmetric(vertical:16.0),),style:const ElevatedButton.styleFrom(backgroundColor:appBlue,otherAgency:tempGuest.otherAgencyController.text.trim(),guestType:tempGuest.guestType,status:tempGuest.status,otherStatus:tempGuest.otherStatusController.text.trim()),)},{_maleGuests=0;_femaleGuests=0;_collectiveAgencyType=_agencyTypeDropdownOptions.isNotEmpty?_agencyTypeDropdownOptions.first.value:'LGU';_collectiveOtherAgencyController.clear();_collectiveOtherAgency=null;_collectiveGuestType=_guestTypeDropdownOptions.isNotEmpty?_guestTypeDropdownOptions.first.value:'Local Resident';_collectiveStatus=_statusDropdownOptions.isNotEmpty?_statusDropdownOptions.first.value:'None';_collectiveOtherStatusController.clear();_collectiveOtherStatus=null;});Navigator.of(dialogContext).pop();},),),);},);
Widget _buildIndividualGuestInputRow(int index, GuestDetail guest, StateSetter setDialogState) {return Card(elevation: 2.0,margin: const EdgeInsets.symmetric(vertical: 6.0),shape: RoundedRectangleBorder(borderRadius: BorderRadius.circular(10)),child: Padding(padding: const EdgeInsets.all(12.0),child: Column(crossAxisAlignment: CrossAxisAlignment.Alignment.start,children: [Row(mainAxisSize: MainAxisSize.Alignment.spaceBetween,children: [Text('Guest ${index + 1}',style: const TextStyle(fontFamily:'TTLivretTextTrial',value: guest.agencyType,items:_agencyTypeDropdownOptions.map((option)=>DropdownMenuItem<String>(value:option.value,child:Text(option.display,style:const TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black)),)).toList(),onChanged:(String? newValue){if(newValue!=null){setDialogState((){guest.agencyType=newValue;if(newValue=='Other'){guest.otherAgency=null;guest.otherAgencyController.clear();}if(!newValue=='LGU'||newValue=='NGO'||newValue=='Academie'||newValue=='Private Company'||newValue=='Cooperative'||newValue=='CSO'||newValue=='GOCC')){guest.agencyName=
```

```

SizedBox(height:10),DropdownButtonFormField<String>(decoration:const
InputDecoration(labelText:'Agency Type',hintText:'[ Select Agency Type
]',labelStyle:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black),hintStyle:Tex
tStyle(fontFamily:'TTLivretTextTrial',color:Colors.black54),border:OutlineInputBorder(
),contentPadding:EdgeInsets.symmetric(horizontal:12,vertical:10,),hintStyle:TextStyle(
fontFamily:'TTLivretTextTrial',color:Colors.black54),border:OutlineInputBorder(
),contentPadding:EdgeInsets.symmetric(horizontal:12,vertical:10,),onChanged:(value)
{guest.otherAgency=value.trim().isNotEmpty?value.trim():null;},],else
if(guest.agencyType=='LGU'||guest.agencyType=='NGO'||guest.agencyType=='Acade
me'||guest.agencyType=='Private
Company'||guest.agencyType=='Cooperative'||guest.agencyType=='CSO'||guest.agenc
yType=='GOCC')...[const
SizedBox(height:10),TextFormField(controller:guest.agencyNameController,style:cons
t TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black),decoration:const
InputDecoration(labelText:'Agency Name / Company / School',hintText:'e.g.,
Marikina City Hall, XYZ Corp.,
PNU',labelStyle:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black),hintStyl
e:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black54),border:OutlineInputBorder(
),contentPadding:EdgeInsets.symmetric(horizontal:12,vertical:10,),onChange
d:(value){guest.agencyName=value.trim().isNotEmpty?value.trim():null;},],const
SizedBox(height:10),DropdownButtonFormField<String>(decoration:const
InputDecoration(labelText:'Guest Type',hintText:'[ Select Guest Type
]',labelStyle:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black),hintStyle:Tex
tStyle(fontFamily:'TTLivretTextTrial',color:Colors.black54),border:OutlineInputBorder(
),contentPadding:EdgeInsets.symmetric(horizontal:12,vertical:10,),value:guest.gues
tType,items:_guestTypeDropdownOptions.map((option)=>DropdownMenuItem<String>
(value:option.value,child:Text(option.display,style:const
TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black)),)).toList(),selectedItem
Builder:(BuildContext context){return
_guestTypeDropdownOptions.map<Widget>((DropdownOption option){return
Text(option.value,style:const
TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black));}).toList();},if(guest.st
atus=='Other')...[const
SizedBox(height:10),TextFormField(controller:guest.otherStatusController,style:cons
t TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black),decoration:const
InputDecoration(labelText:'Specify Other
Status',labelStyle:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black),hintStyl
e:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black54),border:OutlineInputBorder(
),contentPadding:EdgeInsets.symmetric(horizontal:12,vertical:10,),onChange
d:(value){guest.otherStatus=value.trim().isNotEmpty?value.trim():null;},],ne
wValue=='GOCC'){guest.agencyName=null;guest.agencyNameController.clear();}],isExpanded
:true,selectedItemBuilder:(BuildContext context){return
_agencyTypeDropdownOptions.map<Widget>((DropdownOption option){return
Text(option.value);}).toList();},if(guest.agencyType=='Other')...[const
SizedBox(height:10),TextFormField(controller:guest.otherAgencyController,
decoration: const InputDecoration(labelText:'Specify Other
Agency',border:OutlineInputBorder(),contentPadding:EdgeInsets.symmetric(horizontal:12,v
ertical:10,),onChanged:(value){guest.otherAgency=value.trim().isNotEmpty?va
lue.trim():null;},],else
if(guest.agencyType=='LGU'||guest.agencyType=='NGO'||guest.agencyType=='Acade
me'||decoration:const InputDecoration(labelText:'Status',hintText:'[ Select Status
]',border:OutlineInputBorder(),contentPadding:EdgeInsets.symmetric(horizontal:12,v
ertical:10,),value:guest.status,items:_statusDropdownOptions.map((option)=>Drop
ownMenuItem<String>(value:option.value,child:Text(option.display,)).toList(),onCh
anged:(String?newValue){if(newValue!=null){setDialogState(()=>{guest.status=newVa
lue;if(newValue=='Other'){guest.otherStatusController.clear();guest.otherStatus=null;
}})},isExpanded:true,selectedItemBuilder:(BuildContext context){return
_statusDropdownOptions.map<Widget>((DropdownOption option){return
Text(option.value);}).toList();},if(guest.status=='Other')...[const
SizedBox(height:10),TextFormField(controller:guest.otherStatusController,decoration:
const InputDecoration(labelText:'Specify Other
Status',labelStyle:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black),hintStyl
e:TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black54),border:OutlineInputBorder(
),contentPadding:EdgeInsets.symmetric(horizontal:12,vertical:10,),value:guest.gues
tType,items:_guestTypeDropdownOptions.map((option)=>DropdownMenuItem<String>
(value:option.value,child:Text(option.display,style:const
TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black)),)).toList(),selectedItem
Builder:(BuildContext context){return
_guestTypeDropdownOptions.map<Widget>((DropdownOption option){return
Text(option.value);}).toList();},if(guest.agencyType=='Other')...[const
SizedBox(height:10),TextFormField(controller:guest.agencyNameController,style:cons
t TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black),decoration:const
InputDecoration(labelText:'Agency Name / Company / School',hintText:'e.g.,
Marikina City Hall, XYZ Corp., PNU',border: const
OutlineInputBorder(),contentPadding: const EdgeInsets.symmetric(horizontal: 12,
vertical: 10,),value: guest.status,items: _statusDropdownOptions.map((option) =>
DropdownMenuItem<String>(value: option.value,child: Text(option.display,style:
const TextStyle(fontFamily:'TTLivretTextTrial',color:Colors.black)),)).toList(),onChanged:
(String? newValue) {if (newValue != null) {setDialogState(() {guest.guestType = newValue;});} },isExpanded:
true,selectedItemBuilder:(BuildContext context){return
_statusDropdownOptions.map<Widget>((DropdownOption option) {
return Text(option.value);}).toList();},const SizedBox(height:
10),DropdownButtonFormField<String>(decoration: const
InputDecoration(labelText: 'Guest Type',hintText: '[ Select Guest Type ]',border:
OutlineInputBorder(),contentPadding: EdgeInsets.symmetric(horizontal: 12,
vertical: 10,),value: guest.guestType,items:
_guestTypeDropdownOptions.map((option) =>
DropdownMenuItem<String>(value: option.value,child:
Text(option.display,)).toList(),onChanged: (String? newValue) {if (newValue !=
null) {setDialogState(() {guest.guestType = newValue;});} },isExpanded:
true,selectedItemBuilder:(BuildContext context){return
_guestTypeDropdownOptions.map<Widget>((DropdownOption option) {
return Text(option.value);}).toList();},const SizedBox(height:
10),DropdownButtonFormField<String>(BoxShadow(color:
Colors.grey.withOpacity(0.2),spreadRadius: 1,blurRadius: 3,offset: const Offset(0,
2,)),child: DropdownButtonHideUnderline(child:
DropdownButton<String>(value: selectedCategory,isExpanded: true,icon: const
Icon(Icons.arrow_drop_down,color: appBlue),items: categories.map((String
value){return DropdownMenuItem<String>(value: value,child: Text(value,style:
const TextStyle(fontSize: 14,));}).toList(),onChanged:
(newValue){if(newValue!=null){setState((){selectedCategory = newValue;});}},)),);
} Widget _buildTourPackageCard(Map<String,dynamic> pkg){final bool isSelected
= selectedPackages.any((p) => p['id'] == pkg['id']);return TourPackageCard(pkg:
pkg,isSelected: isSelected,onToggleSelect:
(){setState((){if(isSelected){selectedPackages.removeWhere((p) => p['id'] ==
pkg['id']);}else{selectedPackages.add(pkg,);}});},) void

```

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Status',border:OutlineInputBorder(),contentPadding:EdgeInsets.symmetric(horizontal:12,vertical:10),),onChanged:(value){guest.otherStatus=value.trim().isNotEmpty?value.trim():null;},],),);}Widget _categoryDropdown(){return Container(padding:const EdgeInsets.symmetric(horizontal:12,vertical:0),decoration:BoxDecoration(color:Colors.white,borderRadius:BorderRadius.circular(18),boxShadow:sif(_bookingMode==BookingMode.collective){currentTotalGuests=_maleGuests+_femaleGuests;}else{currentTotalGuests=_individualGuests.length;}if(currentTotalGuests==0){ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content:Text('Please add guest details.'));});return;};final totalAmount=selectedPackages.fold(0,(sum,p)=>sum+((p['price'] as int??0)*currentTotalGuests));showDialog(context:context,builder:(BuildContext context){return Theme(data:Theme.of(context).copyWith(textTheme:Theme.of(context).textTheme.apply(fontFamily:'TTLivretTextTrial'),inputDecorationTheme:const InputDecorationTheme(labelStyle:TextStyle(fontFamily:'TTLivretTextTrial'),hintStyle:TextStyle(fontFamily:'TTLivretTextTrial')),elevatedButtonTheme:ElevatedButtonThemeData(style:ElevatedButton.styleFrom(textStyle:const TextStyle(fontFamily:'TTLivretTextTrial'))),textButtonTheme:TextButtonThemeData(style:TextButton.styleFrom(textStyle:const TextStyle(fontFamily:'TTLivretTextTrial'))),child:Dialog(shape:RoundedRectangleBorder(borderRadius:BorderRadius.circular(20))),child:Container(padding:const EdgeInsets.all(20),constraints:BoxConstraints(maxHeight:MediaQuery.of(context).size.height*0.8),decoration:BoxDecoration(color:Colors.white,borderRadius:BorderRadius.circular(20)),child:Column(mainAxisSize:MainAxisSize.min,crossAxisAlignment:CrossAxisAlignment.start,children:[const Center(child:Text(crossAxisAlignment:CrossAxisAlignment.start,children:_individualGuests.map((guest){return Text('${guest.gender}',${guest.agencyType}${guest.agencyType=='Other'&&guest.otherAgency!=null&&guest.otherAgency!.isNotEmpty?' ${guest.otherAgency}'}})}),const SizedBox(height:15),const Text('Package(s)',style:TextStyle(fontFamily:'TTLivretTextTrial',fontSize:14),).toList(),),const SizedBox(height:15),const Text('Package(s)',style:TextStyle(fontFamily:'TTLivretTextTrial',fontSize:16,fontWeight:FontWeight.w500),),const Expanded(child:ListView.builder(shrinkWrap:true,itemCount:selectedPackages.length,itemBuilder:(context,index){final pkg=selectedPackages[index];final List<dynamic> placesRaw=pkg['places'] is List?pkg['places']:[];return Card(elevation:2,margin:const EdgeInsets.symmetric(vertical:5),shape:RoundedRectangleBorder(borderRadius:BorderRadius.circular(10)),child:ExpansionTile(tilePadding:const EdgeInsets.symmetric(horizontal:12,vertical:4),title:Text(pkg['title']??'No Title',style:const TextStyle(fontFamily:'TTLivretTextTrial',fontWeight:FontWeight.bold),),subtitle:Text.rich(TextSpan(style:const TextStyle(fontFamily:'TTLivretTextTrial',fontSize:13,fontFamily:'TTLivretTextTrial',fontWeight:FontWeight.w500),),Text(pkg['description'],style:const TextStyle(fontFamily:'TTLivretTextTrial',fontSize:13,fontFamily:'TTLivretTextTrial',fontWeight:FontWeight.w500),),if(pkg['description']!=null&&(pkg['description'] as String).isNotEmpty)...[const SizedBox(height:8),const Text('Description',style:TextStyle(fontFamily:'TTLivretTextTrial',fontWeight:FontWeight.w500),),Text(pkg['description'],style:const TextStyle(fontFamily:'TTLivretTextTrial',fontSize:13,fontFamily:'TTLivretTextTrial',fontWeight:FontWeight.w500),)],),),const SizedBox(height:15),const Divider(),Center(child:Text.rich(TextSpan(style:const TextStyle(fontFamily:'TTLivretTextTrial',fontSize:20,fontWeight:FontWeight.bold,color:Colors.green,),children:[const TextSpan(text:'Total: ',),const TextSpan(text:'${totalAmount.toString()}',style:TextStyle(fontFamily:'NotoSans')),TextSpan(text:totalAmount.toString(),style:TextStyle(fontFamily:'NotoSans'))],),),const Align(alignment:Alignment.centerRight,child:TextButton(onPressed:()=>Navigator.of(context).pop(),child:const Text('Close',style:TextStyle(fontFamily:'TTLivretTextTrial',fontSize:16,color:appBlue),),),),),);});Future<void> _proceedToCheckout(){async{if(user==null){ScaffoldMessenger.of(context).showSnackBar('packageID':pkg['i
>ShowBookingDetailsPopup()if(selectedPackages.isEmpty){ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content:Text('Please select at least one tour package.')););return;}if(startDate==null||endDate==null){ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content:Text('Please select a start and end date.')););return;}int currentTotalGuests=0;BookingSummary',style:TextStyle(fontFamily:'TTLivretTextTrial',fontSize:22,fontWeight:FontWeight.bold,color:appBlue),),const SizedBox(height: 15),const Divider(),Text('Date: ${DateFormat.yMMMMd().format(startDate)} - ${DateFormat.yMMMMd().format(endDate)}',style:const TextStyle(fontFamily:'TTLivretTextTrial',fontSize:16,fontWeight:FontWeight.w500),),const SizedBox(height: 10),Text('Guests: ${currentTotalGuests total}',style:const TextStyle(fontFamily:'TTLivretTextTrial',fontSize:16,fontWeight:FontWeight.w500),),const SizedBox(height: 5),if(_bookingMode==BookingMode.collective)Padding(padding:const EdgeInsets.only(left: 8.0),child: Column(crossAxisAlignment:CrossAxisAlignment.start,children:[if(_maleGuests>0)Text('Male: ${_maleGuests}',style:const TextStyle(fontFamily:'TTLivretTextTrial',fontSize:14),),if(_femaleGuests>0)Text('Female: ${_femaleGuests}',style:const TextStyle(fontFamily:'TTLivretTextTrial',fontSize:14),),Text('Agency: ${_collectiveAgencyType}${_collectiveAgencyType=='Other'&&_collectiveOtherAgency!=null&&_collectiveOtherAgency!.isNotEmpty?' ${_collectiveOtherAgency}'}}',style:const TextStyle(fontFamily:'TTLivretTextTrial',fontSize:14),),Text('Type: ${_collectiveGuestType}',style:const TextStyle(fontFamily:'TTLivretTextTrial',fontSize:14),),],),),else Padding(padding:const EdgeInsets.only(left: 8.0),child: Column(color:Colors.black54,children:[const TextSpan(text: 'P',style:TextStyle(fontFamily:'NotoSans'),),TextSpan(text:'${pkg['price']}?0)',const TextSpan(text: ' per head'),),],),),childrenPadding:const EdgeInsets.symmetric(horizontal: 15, vertical: 8),children:[if(placesRaw.isNotEmpty)Column(crossAxisAlignment:CrossAxisAlignment.start,children:[const Text('Included Places:',style:TextStyle(fontFamily:'TTLivretTextTrial',fontWeight:FontWeight.w500),),...placesRaw.map<Widget>((place){final placeName=(place is Map?place['name'] as String?:null)?'Unknown Place':final placeImageUrl=(place is Map?place['imageUrl'] as String?:null);return ListTile(dense: true,leading: placeImageUrl!=null&&placeImageUrl.isNotEmpty?CircleAvatar(backgroundImage: NetworkImage(placeImageUrl),radius: 15):const Icon(Icons.location_on,size: 20,color:appBlue),title:Text(placeName,style:const TextStyle(fontFamily:'TTLivretTextTrial',fontSize:13,)),).toList(),),else const Text('No specific places listed for this package.',style:TextStyle(const SnackBar(content:Text('Please sign in to proceed.'),),),);return;},if(startDate==null||endDate==null){ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content:Text('Please select start and end dates.')););return;}if(selectedPackages.isEmpty){ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content:Text('Please select at least one tour package.')););return;};int currentTotalGuests=0;if(_bookingMode==BookingMode.collective){currentTotalGuests=_maleGuests+_femaleGuests;}else{currentTotalGuests=_individualGuests.length;}if(currentTotalGuests==0){ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content:Text('Please add guest details using the "Guest Details" button.'),),);return;};	setState((){_isProcessingCheckout=true;});try{final totalAmount=selectedPackages.fold(0,(sum,p)=>sum+((p['price'] as int??0)*currentTotalGuests));final String currentUserNameForBooking=_userName;final timestampPart=DateTime.now().millisecondsSinceEpoch;final randomPart=Random().nextInt(900)+100;final String customReferenceId='refID#${timestampPart}_${randomPart}';print("DEBUG CHECKOUT: User ID to be saved: ${user!.uid}");print("DEBUG CHECKOUT: User Name to be saved (from _userName state): ${currentUserNameForBooking}");Map<String,dynamic> bookingData={'userID':user!.uid,'userName':currentUserNameForBooking,'startDate':

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d'],'title':pkg['title'],'category':pkg['category'],'pricePerGuest':pkg['price'],});}).toList(),t
otalAmount:totalAmount,'bookingMode':_bookingMode.toString().split('.').last,'tot
aIGuests:currentTotalGuests,'timestamp':Timestamp.now(),'status':'Pending','reference
ID':customReferenceId,};if(_bookingMode==BookingMode.collective){bookingData.
addAll({_maleGuests:_maleGuests,'femaleGuests':_femaleGuests,'collectiveAgencyTyp
e':_collectiveAgencyType,if(_collectiveOtherAgency!=null&&_collectiveOtherAgency!
.isNotEmpty)'collectiveOtherAgency':_collectiveOtherAgency,'collectiveGuestType':_
collectiveGuestType,'collectiveStatus':_collectiveStatus,if(_collectiveOtherStatus!=null
&&_collectiveOtherStatus!.isEmpty)'collectiveOtherStatus':_collectiveOtherStatus
,});}else{bookingData['individualGuests']=_individualGuests.map((g)=>g.toJson()).to
List();}}print("DEBUG CHECKOUT: Final bookingData to be sent to Firestore:
$bookingData");final bookingDocRef=await
FirebaseFirestore.instance.collection('bookings').add(bookingData);print("DEBUG
CHECKOUT: Booking successfully added with Firestore ID:
${bookingDocRef.id}");if(mounted&&user!=null){String
bookingSummary=selectedPackages.isNotEmpty?selectedPackages.map((p)=>p['title']
as String??'Unknown Package').join(','):selectedCategory?'your selected
tour';if(bookingSummary.length>50){bookingSummary="${bookingSummary.substring(0,47)}...";}await
NotificationService.createBookingSuccessNotification(userId:user!.uid,bookingFiresto
reId:bookingDocRef.id,collectiveStatus:_collectiveStatus,collectiveOtherStatus:_collec
tiveOtherStatus,individualGuests:currentIndividualGuestsForReceipt,status:'Pending',
),);if(mounted){setState((){selectedPackages.clear();startDate=null;endDate=null;_ma
leGuests=0;_femaleGuests=0;_individualGuests.forEach((guest)=>guest.dispose());_in
dividualGuests.clear();_collectiveAgencyType=_agencyTypeDropdownOptions.isEmpty?
_agencyTypeDropdownOptions.first.value:'LGU';_collectiveOtherAgency=null;
_collectiveOtherAgencyController.clear();_collectiveGuestType=_guestTypeDropdownOp
tions.isNotEmpty?_guestTypeDropdownOptions.first.value:'Local
Resident';_collectiveStatus=_statusDropdownOptions.isNotEmpty?_statusDropdown
Options.first.value:'None';_collectiveOtherStatus=null;_collectiveOtherStatusContro
ller.clear();_bookingMode=BookingMode.collective,});}}catch(e){print("DEBUG
CHECKOUT: Error during checkout:
$e");if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text
('Error during checkout:
${e.toString()}')));}}finally{if(mounted){setState(()=>{decoration:BoxDecoration(colo
r:softPeach,borderRadius:BorderRadius.circular(12),boxShadow:[BoxShadow(color:C
olors.grey.withOpacity(0.2),spreadRadius:2,blurRadius:5,offset:const
Offset(0,3),)],child:Column(children:[Row(mainAxisAlignment:MainAxisAlignment
.spaceBetween,children:[Expanded(child:_buildRoundedBox(icon:Icons.calendar_tod
ay,label:startDate!=null?DateFormat.yMd().format(startDate):'Start
Date',onTap:()=>_selectDate(true),textStyle:startDate!=null?const
TextStyle(fontSize:14,color:appBlue,fontWeight:FontWeight.w500):null,),const
SizedBox(width:10),Expanded(child:_buildRoundedBox(icon:Icons.calendar_today,la
bel:endDate!=null?DateFormat.yMd().format(endDate):'End
Date',onTap:()=>_selectDate(false),textStyle:endDate!=null?const
TextStyle(fontSize:14,color:appBlue,fontWeight:FontWeight.w500):null,),],),const
SizedBox(height:12),Row(children:[Expanded(child:_buildRoundedBox(icon:Icons.gr
oup_add,label:_getGuestSummaryText(),onTap:_showGuestDetailsPopup,textStyle:c
urrentTotalGuests>0?const
TextStyle(fontSize:14,color:appBlue,fontWeight:FontWeight.w500):null,),const
SizedBox(width:10),decoration:BoxDecoration(color:Colors.white.withOpacity(0.95),
borderRadius:const
BorderRadius.all(Radius.circular(25)),boxShadow:[BoxShadow(color:Colors.black.wit
hOpacity(0.15),spreadRadius:2,blurRadius:8,offset:const
Offset(0,4),)],padding:const
EdgeInsets.symmetric(horizontal:16,vertical:12),child:Row(mainAxisAlignment:Main
AxisAlignment.spaceBetween,children:[Expanded(child:ElevatedButton.icon(onPresse
d:(startDate!=null&&endDate!=null&&selectedPackages.isNotEmpty)?_showBookin
gDetailsPopup:null,icon:const Icon(Icons.info_outline),label:const Text('View
Details'),style:ElevatedButton.styleFrom(backgroundColor:Colors.orangeAccent,foreg
roundColor:Colors.white,padding:const
Timestamp.fromDate(startDate!),'endDate':
Timestamp.fromDate(endDate!),'selectedCategory':
selectedCategory,selectedPackages: selectedPackages.map((pkg){return
{bookingReferenceId: customReferenceId,bookingDetailsSummary:
bookingSummary,};},print("DEBUG CHECKOUT: Booking success notification
creation
attempted.");}if(mounted){print("-----");print("DEBUG:
Preparing to navigate to ReceiptPage");print("-----");final
DateTime sDate=startDate;final DateTime eDate=endDate;final
List<Map<String,dynamic>> selPackages=List.from(selectedPackages);final
List<GuestDetail>
currentIndividualGuestsForReceipt=_individualGuests.map((g){return
GuestDetail(gender: g.gender,agencyType: g.agencyType,agencyName:
g.agencyName,otherAgency: g.otherAgency,guestType: g.guestType,status:
g.status,otherStatus:
g.otherStatus,);}).toList();Navigator.push(context,MaterialPageRoute(builder:(con
text)=>ReceiptPage(refId: bookingDocRef.id,customRefIdForDisplay:
customReferenceId,startDate: sDate,endDate: eDate,selectedPackages:
selPackages,userName: currentUserNameForBooking,totalAmount:
totalAmount,numberOfGuestsForReceipt: currentTotalGuests,bookingMode:
_bookingMode,collectiveMaleGuests: _maleGuests,collectiveFemaleGuests:
_femaleGuests,collectiveAgencyType:
_collectiveAgencyType,collectiveOtherAgency:
_collectiveOtherAgency,collectiveGuestType:
_collectiveGuestType,_isProcessingCheckout=false,)}));}Widget
_buildPageContent(){final List<Map<String,dynamic>>
filteredPackages=allPackages.where((pkg)=>pkg['category']==selectedCategory).to
List();int
currentTotalGuests=0;if(_bookingMode==BookingMode.collective){currentTotal
Guests=_maleGuests+_femaleGuests;}else{currentTotalGuests=_individualGuests
.length;}final bool
canCheckout=startDate!=null&&endDate!=null&&selectedPackages.isNotEmpty
&&currentTotalGuests>0;return Stack(children:[SingleChildScrollView(padding:
const EdgeInsets.all(16.0),child: Column(crossAxisAlignment:
CrossAxisAlignment.start,children:[Center(child: Column(mainAxisSize:
MainAxisSize.min,children:[Text('Start Your Booking',style: TextStyle(fontSize:
24,fontWeight: FontWeight.bold,color: appBlue),textAlign:
TextAlign.center,),SizedBox(height: 8),Text('Select your dates, preferences, and
package below.',style: TextStyle(fontSize: 16,color: Colors.black87),textAlign:
TextAlign.center,)],),const SizedBox(height: 16),Container(padding: const
EdgeInsets.all(12),Expanded(child: _categoryDropdown(),),),),const
SizedBox(height: 24),Container(width: double.infinity,padding: const
EdgeInsets.symmetric(vertical: 12,horizontal: 16),decoration: BoxDecoration(color:
appBlue,borderRadius: BorderRadius.circular(15),),child: const Text('Available
Tour Options',style: TextStyle(fontSize: 18,fontWeight: FontWeight.bold,color:
Colors.white),textAlign: TextAlign.center,),),const SizedBox(height:
10),if(allPackages.isEmpty&&user!=null)const Center(child: Padding(padding:
EdgeInsets.all(20.0),child: CircularProgressIndicator(),))else
if(filteredPackages.isEmpty&&user!=null)Center(child: Padding(padding: const
EdgeInsets.symmetric(vertical: 30.0),child: Text('No tour packages available for
"$selectedCategory" at the moment.',textAlign: TextAlign.center,style:
TextStyle(fontSize: 16,color: Colors.grey[600]),)),)else
ListView.builder(shrinkWrap: true,physics: const
NeverScrollableScrollPhysics(),itemCount: filteredPackages.length,itemBuilder:
(context,index){return _buildTourPackageCard(filteredPackages[index]);},),const
SizedBox(height: 80),),),if(selectedPackages.isNotEmpty)
Positioned(bottom:10,left:16,right:16,child: Container(: const
Icon(Icons.check_circle_outline),label:
Text(_isProcessingCheckout?'Processing...':'Checkout'),style:
ElevatedButton.styleFrom(backgroundColor: appBlue,foregroundColor:
Colors.white,padding: const EdgeInsets.symmetric(vertical: 12),shape:

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EdgeInsets.symmetric(vertical:12),shape:RoundedRectangleBorder(borderRadius:BorderRadius.circular(15))),),),const
SizedBox(width:10),Expanded(child:ElevatedButton.icon(onPressed:(startDate!=null&&endDate!=null&&selectedPackages.isNotEmpty&&(_bookingMode==BookingMode.collective?(_maleGuests+_femaleGuests>0):_individualGuests.isNotEmpty)&&(!_isProcessingCheckout)?_proceedToCheckout:null,icon:_isProcessingCheckout?Container(width:20,height:20,child:const
CircularProgressIndicator(color:Colors.white,strokeWidth:3))selectedLabelStyle:const
TextStyle(fontFamily:'TTLivretTextTrial',fontSize:12),unselectedLabelStyle:const
TextStyle(fontFamily:'TTLivretTextTrial',fontSize:12),items:const[BottomNavigationBarBarItem(icon:Icon(Icons.home),label:'Home'),BottomNavigationBarBarItem(icon:Icon(Icons.explore),label:'Explore'),BottomNavigationBarBarItem(icon:Icon(Icons.map),label:'Mapping'),BottomNavigationBarBarItem(icon:Icon(Icons.book),label:'Booking'),BottomNavigationBarBarItem(icon:Icon(Icons.person),label:'Profile'),],);}
@Override Widget build(BuildContext context){return
Theme(data:Theme.of(context).copyWithtextTheme:Theme.of(context).textTheme.apply(fontFamily:'TTLivretTextTrial'),inputDecorationTheme:const
InputDecorationTheme(labelStyle:TextStyle(fontFamily:'TTLivretTextTrial'),hintStyle:TextStyle(fontFamily:'TTLivretTextTrial'),contentPadding:EdgeInsets.symmetric(horizontal:12,vertical:12)),elevatedButtonTheme:ElevatedButtonThemeData(style:ElevatedButton.styleFrom(textStyle:const
TextStyle(fontFamily:'TTLivretTextTrial')),textButtonTheme:TextButtonThemeData(style:TextButton.styleFrom(textStyle:const
TextStyle(fontFamily:'TTLivretTextTrial'))),child:DefaultTextStyle(style:const
TextStyle(fontFamily:'TTLivretTextTrial'),child:Scaffold(backgroundColor:appOrange,appBar:const
CustomAppBar(),body:user==null&&allPackages.isEmpty?Center(child:Column(mainAxisAlignment:MainAxisAlignment.center,children:[const
CircularProgressIndicator(),const SizedBox(height:10),
PageController?_pageController,int_currentIndex=0;static const int
_loopMultiplier=1000;static const double viewportFraction=0.72;static const double
itemHorizontalPadding=6.0;static const double scaleDiffMultiplier=0.25;static const
double scaleMin=0.72;static const double opacityMultiplier=0.6;static const double
opacityMin=0.42;@override void
initState(){super.initState();_initFromPkg(widget.pkg);}@override void
didUpdateWidget(covariant TourPackageCard
oldWidget){super.didUpdateWidget(oldWidget);final oldId=oldWidget.pkg['id'];final
newId=widget.pkg['id'];final
changed=(oldId!=null||newId!=null)?oldId!=newId:oldWidget.pkg.toString()!;wi

```

lib/screens/settings_page.dart

```

import 'package:flutter/material.dart';import 'about_page.dart';import
'edit_profile_screen.dart';import 'notifications_settings_page.dart';import
'privacy_security_page.dart';import 'terms_conditions_page.dart';const Color
appOrangeAccent=Color(0xFFf3ac3b);class SettingItem{final IconData icon;final
String title;final String routeName;final List<String>?
searchKeywords;SettingItem({required this.icon,required this.title,required
this.routeName,this.searchKeywords,});}class SettingsPage extends
StatefulWidget{static const String routeName='/settings';const SettingsPage({Key?
key}):super(key:key);@override State<SettingsPage>
createState()=>_SettingsPageState();}class _SettingsPageState extends
State<SettingsPage>{final TextEditingController
_searchController=TextEditingController();String _searchQuery="";final
List<SettingItem>
_allSettings=[SettingItem(icon:Icons.person_outline,title:'Account',routeName:Edit
profileScreen.routeName,searchKeywords:['profile','edit profile','user details','personal
info','change','email','password','profile picture','account','profile','user','edit','change
info','update details','name','email','password','username','profile pic','avatar','account
settings','login info','credentials','personal

```

```

RoundedRectangleBorder(borderRadius:BorderRadius.circular(15))),),),},} Widget
buildBottomNavBar(BuildContext context,int currentIndex){return
BottomNavigationBar(currentIndex: currentIndex,onTap:
(index){if(index==currentIndex) return;switch(index){case
0:Navigator.pushReplacementNamed(context,HomePage.routeName);break;case
1:Navigator.pushReplacementNamed(context,RecommendPage.routeName);break;
case
2:Navigator.pushReplacementNamed(context,MappingPage.routeName);break;case
3:break;case 4:final user=FirebaseAuth.instance.currentUser;if(user!=null){bool
isGoogleSignIn=user.providerData.any((userInfo)>userInfo.providerId=='google.
com');Navigator.pushNamed(context,ProfileScreen.routeName,arguments:{'displa
yName':user.displayName,'email':user.email,'isGoogleSignIn':isGoogleSignIn,});}else
Navigator.pushNamed(context,ProfilePage.routeName);}break;}}},type:
BottomNavigationBarType.fixed,selectedItemColor:
appBlue,unselectedItemColor: Colors.grey[600],Text("Please sign in to
continue."),],);}: buildPageContent(),bottomNavigationBar:
buildBottomNavBar(context,3),),);}class DropdownOption{final String
value;final String display;DropdownOption({required this.value,required
this.display});@override bool operator ==(Object
other)>identical(this,other)||other is
DropdownOption&&runtimeType==other.runtimeType&&value==other.value;
@Override int get hashCode=>value.hashCode;@override String toString(){return
display};}final List<DropdownOption>
_agencyTypeDropdownOptions=[DropdownOption(value: 'LGU',display: 'LGU
(Local Government Unit)'),DropdownOption(value: 'NGO',display: 'NGO
(Non-Governmental Organization)'),DropdownOption(value: 'Academe',display:
'Academe (School/University)'),DropdownOption(value: 'GOCC',display:
'GOCC (Gov't-Owned Corporation)'),DropdownOption(value: 'Private
Company',display: 'Private Company'),DropdownOption(value:
'Cooperative',display: 'Cooperative'),DropdownOption(value: 'CSO',display:
'CSO (Civil Society Org)'),DropdownOption(value: 'Other',display: 'Other (please
specify)'),];final List<DropdownOption>
_guestTypeDropdownOptions=[DropdownOption(value: 'Local
Resident',display: 'Local Resident (from this
municipality)'),DropdownOption(value: 'Domestic Tourist',display: 'Domestic
Tourist (Filipino from another city/province)'),DropdownOption(value:
'Foreigner',display: 'Foreigner (non-Filipino visitor)'),];

```

```

App',style:TextStyle(fontFamily:'TTLivretTextTrial',fontSize:20,fontWeight:Font
Weight.bold,color:appOrangeAccent,),textAlign: TextAlign.center,)],),Padding(pa
dding:const EdgeInsets.fromLTRB(16.0,0,16.0,8.0),child:TextField(
title:'Privacy &
Security',routeName:PrivacySecurityPage.routeName,searchKeywords:['password',
'data','safety','confidentiality','2FA','privacy','security','data protection','account
safety','login','logout','secure','permissions','access control','encryption','private
info','security
settings','authentication'],),SettingItem(icon:Icons.description_outlined,title:'Term
s &
Conditions',routeName:TermsConditionsPage.routeName,searchKeywords:['term
s','conditions','agreement','policy','legal','rules','guidelines','contract','terms of
use','terms of service','disclaimer','user agreement','app
policy'],),SettingItem(icon:Icons.info_outline,title:'About
Us',routeName:AboutPage.routeName,searchKeywords:['information','app
details','team','company','about','us'],);]};List<SettingItem>_filteredSettings=[];
@override void
initState(){super.initState();_filteredSettings=_allSettings;_searchController.addLis

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```

data','data']).SettingItem(icon:Icons.notifications_none_outlined,title:'Notifications',routeName:NotificationsSettingsPage.routeName,searchKeywords:['alerts','push notifications','messages','bookings','notifications','alerts','reminders','updates','push','messages','sound','vibration','mute','notification settings','booking alerts','activity updates','bell','popup','toggle','enable','disable']),SettingItem(icon:Icons.shield_outlined,keyword.toLowerCase().contains(_searchQuery.toLowerCase()),)??:false;return titleMatch || keywordMatch);}.toList());}},{Widget _buildSettingsItemWidget({required IconData icon,required String title,required VoidCallback onTap,Widget? trailing,}){return ListTile(leading:Icon(icon,color:appOrangeAccent),title:Text(title,style:const TextStyle(color:appOrangeAccent,fontFamily:'TTLivretTextTrial')),trailing:trailing ?? Icon(Icons.chevron_right,color:Colors.grey[600]),onTap:onTap,contentPadding:const EdgeInsets.symmetric(horizontal:20.0,vertical:8.0,);}@override Widget build(BuildContext context){final bool isDarkMode=Theme.of(context).brightness==Brightness.dark;final Color searchBarFillColor=isDarkMode ? Colors.grey[800]!: Colors.grey[200]!;final Color searchBarIconColor=isDarkMode? Colors.grey[400]!: Colors.grey[700]!;final Color searchBarTextColor=isDarkMode? Colors.white70 : Colors.black87;return Scaffold(appBar:AppBar(title:const Text('Settings',style:TextStyle(fontFamily:'TTLivretTextTrial')),),body:Column(children:<Widget>[Padding(padding:const EdgeInsets.only(top:24.0,bottom:16.0),child:Column(children:[Image.asset('assets/images/app_icon.png',height:80,width:80,),const SizedBox(height:12),const Text('MarikinaGo Tourism

```

lib/screens/terms_conditions_page.dart

```

import 'package:flutter/gestures.dart';import 'package:flutter/material.dart';import 'package:url_launcher/url_launcher.dart';class TermsConditionsPage extends StatefulWidget{static const String routeName='/settings/terms-conditions';const TermsConditionsPage({Key? key});super(key:key);@override State<TermsConditionsPage> createState()=>_TermsConditionsPageState();}class _TermsConditionsPageState extends State<TermsConditionsPage>{final ScrollController _scrollController=ScrollController();final Map<String, GlobalKey> sectionKeys={"1. Definitions":GlobalKey(),"2. Acceptance of Terms":GlobalKey(),"3. Use of Services":GlobalKey(),"4. User Accounts":GlobalKey(),"5. Privacy and Data Protection":GlobalKey(),"6. Third-Party Services and Links":GlobalKey(),"7. Intellectual Property Rights":GlobalKey(),"8. Termination of Use":GlobalKey(),"9. Limitation of Liability":GlobalKey(),"10. Modifications to Terms":GlobalKey(),"11. Compliance with Laws":GlobalKey(),"12. Contact Us":GlobalKey(),};Future<void> _launchPrivacyPolicy(){async{final Uri url=Uri.parse('https://marikina-project2-247bc.web.app/privacy_policy.html');if(!await launchUrl(url,mode:LaunchMode.externalApplication)){throw Exception("Could not open Privacy Policy link");}}void _scrollToSection(String key){final context=sectionKeys[key]!.currentContext;if(context!=null){Scrollable.ensureVisible(context,duration:const Duration(milliseconds:400),curve:Curves.easeInOut,);}}Widget _buildSectionTitle(String title){return Container(key:sectionKeys[title],padding:const EdgeInsets.only(top:20,bottom:8),end:Alignment.bottomCenter,);},body:DefaultTextStyle(style:defaultFontTextStyle,child:SingleChildScrollView(controller:_scrollController,padding:const EdgeInsets.all(16),child:Column(crossAxisAlignment:CrossAxisAlignment.start,children:[const Text("TERMS AND CONDITIONS",style:TextStyle(fontSize:20,fontWeight:FontWeight.bold,)),const Text("Last updated: September 22, 2025\n",style:TextStyle(fontStyle:FontStyle.italic,)),Text.rich(TextSpan(text:" These Terms and Conditions ('Terms') govern your access to and use of the MarikinaGo mobile application and its related services ('Services'). \n" "\nBy downloading, accessing, or using the Services, you agree to be bound by these Terms and ",children:[TextSpan(text:"Privacy Policy",style:const

```

```

tener(_onSearchChanged);} @override void dispose(){_searchController.removeListener(_onSearchChanged);_searchController.dispose();super.dispose();}void _onSearchChanged(){ setState((){_searchQuery=_searchController.text;if(_searchQuery.isEmpty){_filteredSettings=_allSettings;}else{_filteredSettings=_allSettings.where((item){final titleMatch=item.title.toLowerCase().contains(_searchQuery.toLowerCase());final keywordMatch=item.searchKeywords?.any((keyword)=> controller:_searchController,style:TextStyle(color:searchBarTextColor,fontFamily:'TTLivretTextTrial'),decoration:InputDecoration(hintText:'Search for settings',hintStyle:TextStyle(color:searchBarTextColor.withOpacity(0.7),fontFamily:'TTLivretTextTrial'),prefixIcon:Icon(Icons.search,color:searchBarIconColor),suffixIcon: _searchQuery.isNotEmpty?IconButton(icon:Icon(Icons.clear,color:searchBarIconColor),onPressed:(){_searchController.clear();}),:null,border:OutlineInputBorder(borderRadius:BorderRadius.circular(25.0),borderSide:BorderSide.none,),filled:true,fillColor:searchBarFillColor,contentPadding:const EdgeInsets.symmetric(vertical:0,horizontal:20,)),),Expanded(child:_filteredSettings.isEmpty&&_searchQuery.isNotEmpty?Center(child:Text('No settings found for "$_searchQuery",style:TextStyle(color:Colors.grey[600],fontSize:16,fontFamily:'TTLivretTextTrial'),textAlign:TextAlign.center,):ListView.builder(padding:const EdgeInsets.only(top:8.0),itemCount:_filteredSettings.length,itemBuilder:(context,index){final item=_filteredSettings[index];return _buildSettingsItemWidget(item.icon,title:item.title,onTap:(){Navigator.pushNamed(context,item.routeName);});}),),);}}},)

```

liability for any loss, damage, or inconvenience arising from your use of the Services.",textAlign: TextAlign.justify,)_buildSectionTitle("10. Modifications to Terms",const Text(child:Text(title,style:const TextStyle(fontSize:16,fontWeight:FontWeight.bold,fontFamily:'TTLivretTextTrial',)),);}Widget _buildIndentedText(String text){return Padding(padding:const EdgeInsets.only(left:16.0,bottom:4),child:Text(text,style:const TextStyle(fontSize:16,fontWeight:FontWeight.bold,fontFamily:'TTLivretTextTrial',)),);}@override Widget build(BuildContext context){final TapGestureRecognizer privacyRecognizer = TapGestureRecognizer().onTap=_launchPrivacyPolicy;const defaultFontTextStyle=TextStyle(fontFamily:'TTLivretTextTrial',height:1.4,color:Colors.black,);return Theme(data:ThemeData(brightness:Brightness.light),child:Scaffold(backgroudColor:Colors.white,appBar:AppBar(title:const Text("Terms & Conditions",style:TextStyle(color:Colors.white,fontFamily:'TTLivretTextTrial',)),backgroundColor:Colors.transparent,elevation:0,iconTheme:const IconThemeData(color:Colors.white),flexibleSpace:Container(decoration:const BoxDecoration(gradient:LinearGradient(colors:[Color(0xFF4374ac),Color(0xFF6bbaf9)]),begin:Alignment.topCenter,return ListTile(dense:true,visualDensity:VisualDensity.compact,title:Text(title,style:const TextStyle(color:Colors.blue,fontFamily:'TTLivretTextTrial',)),onTap:(){>_scrollToSection(title,);}).toList(),)_buildSectionTitle("1. Definitions"),const Text("For clarity and consistency, the following terms are defined as follows:",textAlign: TextAlign.justify,)_buildIndentedText("- " "App" refers to the MarikinaGo mobile application developed to support tourism and civic engagement in Marikina City.'),_buildIndentedText("- " "Services" refer to all features, content, and functionality provided through the App.'),_buildIndentedText("- " "User" refers to any individual who downloads, accesses, registers for, or interacts with the App.'),_buildIndentedText("- " "We", "Us", or "Our" refers to the developers, administrators and authorized representatives of MarikinaGo App.'),_buildIndentedText("- " "Privacy Policy" refers to our official privacy notice outlining how we collect, use, store, and protect personal data in

TextStyle(color:Colors.blue,decoration:TextDecoration.underline),recognizer:privacyRecognizer,),const TextSpan(text:". If you do not agree, please discontinue use and refrain from using the said Services.\n",),],),textAlign:TextAlign.justify,),ExpansionTile(title:const Text("Table of Contents",style:TextStyle(fontFamily:'TTILivretTextTrial',fontWeight:FontWeight.bold),),children:sectionKeys.keys.map((title){recognizer:privacyRecognizer,},const TextSpan(text:". Continued use of the App constitutes ongoing acceptance of any updates to these Terms.",),],),textAlign:TextAlign.justify,),_buildSectionTitle("3. Use of Services"),const Text(" MarikinaGo App is designed to promote local tourism and enhance visitor experiences in Marikina City." You agree to use the Services only for lawful, respectful, and appropriate purposes.\n\n" Prohibited activities include, but are not limited to:",textAlign:TextAlign.justify,),_buildIndentedText("- Fraudulent or deceptive behaviour"),_buildIndentedText("- Unauthorized access or account misuse"),_buildIndentedText("- Distribution of harmful content or code"),_buildIndentedText("- Violation of any applicable laws or regulations"),_buildSectionTitle("4. User Accounts"),const Text(" To access certain features, you may be required to create an account using Google or email-based authentication.",textAlign:TextAlign.justify,),_buildIndentedText("- You are responsible for maintaining the confidentiality of your login credentials."),_buildIndentedText("- You agree to notify us immediately at marikinatourism@gmail.com of any unauthorized access or security breach."),const SizedBox(height:4),Text.rich(TextSpan(text:"We reserve the right to suspend or terminate accounts that violate these Terms or our ",children:[TextSpan(text:"Privacy Policy",style:const TextStyle(color:Colors.blue, "Our Services may also contain links to external websites or services." "We are not responsible for the content, policies, or practices of third-party platforms." All content, features, designs, trademarks, and materials within the App are the property of MarikinaGo App or its licensors, unless otherwise stated.\n\n" You may not copy, reproduce, distribute, modify or exploit any content from the Services without prior written permission.",textAlign:TextAlign.justify,),_buildSectionTitle("8. Termination of Use"),const Text(" We reserve the right to suspend, restrict, or terminate your access to the Services at any time, without prior notice, if:",textAlign:TextAlign.justify,),_buildIndentedText("- You breach these Terms or our Privacy Policy"),_buildIndentedText("- You engage in fraudulent, abusive, or harmful behaviour"),_buildIndentedText("- We are required to do so by law or regulatory authority"),const Text("Termination may result in the deletion of your account and associated data, subject to our data retention policies."),textAlign:TextAlign.justify,),_buildSectionTitle("9. Limitation of Liability"),const Text(' The Services are provided "as is" and "as available." While we strive to ensure accuracy and reliability, ' "we do not guarantee uninterrupted access or error-free functionality.\n\n" To the fullest extent permitted by law, we disclaim

lib/screens/user_notification_page.dart

```

import 'package:flutter/material.dart';import
'package:cloud_firestore/cloud_firestore.dart';import
'package:firebase_auth/firebase_auth.dart';import 'package:intl/intl.dart';const Color
appBeige=Color(0xFFFFADBE);const Color
cardBackgroundColor=Color(0xFFFFCEDDC);const Color
accentBlue=Color(0xFF5A9ECF);class UserNotificationsPage extends
 StatefulWidget{static const String routeName='/user-notifications';const
 UserNotificationsPage({super.key});@override State<UserNotificationsPage>
 createState()=>_UserNotificationsPageState();class _UserNotificationsPageState
 extends State<UserNotificationsPage>{final FirebaseFirestore
 _firestore=FirebaseFirestore.instance;final FirebaseAuth
 _auth=FirebaseAuth.instance;List<Map<String,dynamic>> _notifications=[];bool
 _isLoading=true;String? _errorMessage;bool _isDeleting=false;bool
 _isSelectionMode=false;final Set<String> _selectedNotificationIds={};bool
 _isAllSelected=false;final Set<String>
  
```

accordance with applicable laws.'),_buildSectionTitle("2. Acceptance of Terms"),Text.rich(TextSpan(text:" By using the Services, you acknowledge that you have read, understood, and agreed to these Terms and our ",children:[TextSpan(text:"Privacy Policy",style:const TextStyle(color:Colors.blue,decoration:TextDecoration.underline),decoration:TextDecoration.underline),recognizer:privacyRecognizer,],),textAlign:TextAlign.justify,),_buildSectionTitle("5. Privacy and Data Protection"),const Text(" Your privacy is important to us. Our Privacy Notice explains how we collect, use, and protect your personal information.",textAlign:TextAlign.justify,),_buildIndentedText("- We collect limited personal data (e.g., name, email, login credentials)."),_buildIndentedText("- We do not process sensitive personal information."),_buildIndentedText("- We respect your rights under applicable data protection laws, including the Data Privacy Act of 2012 (RA 10173)."),_buildIndentedText("- You may request access, correction, deletion, or restrictions of your personal data at any time."),const SizedBox(height:4),Text.rich(TextSpan(text:"For details, please refer to our ",children:[TextSpan(text:"Privacy Policy",style:const TextStyle(color:Colors.blue,decoration:TextDecoration.underline),recognizer:privacyRecognizer,],),textAlign:TextAlign.justify,),_buildSectionTitle("6. Third-Party Services and Links"),const Text(" To deliver core functionality, we may integrate trusted third-party services such as:",textAlign:TextAlign.justify,),_buildIndentedText("- Hosting and analytics providers"),_buildIndentedText("- Mapping tools (e.g., Google Maps API) for location-based features"),_buildIndentedText("- Customer support platforms"),const Text("We encourage users to review their respective privacy policies before engaging."),textAlign:TextAlign.justify,),_buildSectionTitle("7. Intellectual Property Rights"),const Text(" We may update these Terms from time to time in order to reflect changes in our operations, legal obligations, or user experience."),textAlign:TextAlign.justify,),_buildIndentedText("- Updates will be indicated by the "Last updated" date at the top of this document.'),_buildIndentedText("- Material changes may be communicated via App or email"),_buildIndentedText("- Continued use of the Services after updates are posted constitutes acceptance of the revised Terms."),_buildSectionTitle("11. Compliance with Laws"),const Text(" You agree to use the Services in full compliance with all applicable laws and regulations, including the Data Privacy Act of 2012 (RA 10173) and other relevant local ordinances."),textAlign:TextAlign.justify,),_buildSectionTitle("12. Contact Us"),const Text(" If you have any questions about these Terms and Conditions, please contact us at:\n Email: marikinatourism@gmail.com\n Office: Marikina City Hall"),textAlign:TextAlign.justify,),const Text(" Address: Shoe Avenue, Sta. Elena, Marikina City 1800"),textAlign:TextAlign.left,),],),),),),);}

```

DocumentReference) return alt.id;if(alt is Map&&alt['id'] is String) return alt['id']
as String;final String? message=docData['message'] as
String?;if(message!=null){final reg=RegExp(r'ID[:=]?\\s*([A-Za-z0-9_-]{6,})');final
m=reg.firstMatch(message);if(m!=null)return m.group(1);}return null;}@override
void initState(){super.initState();_fetchUserNotifications();Future<void>
_fetchUserNotifications()
async{if(!mounted)return;setState(()=>{_isLoading=true;_errorMessage=null});}final User?
currentUser=_auth.currentUser;if(currentUser==null){if(mounted){setState(()=>{
_isLoading=false;_errorMessage="You need to be logged in to see
notifications."});}return;}try{QuerySnapshot snapshot=await
_firestore.collection('user_notifications').where('userId',isEqualTo:currentUser.uid
).orderBy('timestamp',descending:true).limit(50).get();if(!mounted)return;_notifications=snapshot.docs.map((doc){final data=doc.data() as
Map<String,dynamic>;print('Notification doc ${doc.id} raw data -> $data');final
  
```

```

_profileUpdateTypesWithDetails={"profile_update_username","profile_update_email"
_initiated","profile_update_phone","profile_update_gender","profile_update_status"},;
final Set<String>
_profileSpecialUpdateTypes={"profile_update_password","profile_update_picture"},;
final Set<String>
_bookingUpdateTypes={"booking_status_changed","booking_success"},;
final Set<String>
_reportUpdateTypes={"new_reply_report","report_status_update"},;
String?
_extractRelatedId(dynamic rawValue,Map<String,dynamic> docData){if(rawValue is
String&&rawValue.isNotEmpty) return rawValue;if(rawValue is
DocumentReference) return rawValue.id;if(rawValue is Map&&rawValue['id'] is
String) return rawValue['id'] as String;final
alt=(docData['relatedId']??docData['relatedDocId']??docData['related_document'])??
docData['related'];if(alt is String&&alt.isNotEmpty) return alt;'type':data['type'] as
String?, 'isRead':data['isRead'] as bool? ?? false,'timestamp':data['timestamp'] as
Timestamp?, 'relatedId':relatedId,'relatedCollection':data['relatedCollection'] as
String?, 'fieldChanged':data['fieldChanged'] as
String?, 'previousValue':data['previousValue'] as
String?, 'currentValue':data['currentValue'] as
String?;}).toList();if(!_SelectionMode){setState((){_selectedNotificationIds.clear();_i
sAllSelected=false;});}setState((){_isLoading=false;});}catch(e){print("Error fetching
user notifications:
$e");if(mounted){setState({_isLoading=false; _errorMessage="Could not load
notifications. Please try again later."});}}}_getNotificationIcon(String? type,{String?
statusPayload}){switch(type?.toLowerCase()){case'booking_status_changed':switch(sta
tusPayload?.toLowerCase()){case'pending':return
Icons.hourglass_empty_outlined;case'confirmed':return
Icons.check_circle_outline;case'cancelled':return
Icons.cancel_outlined;case'completed':return Icons.task_alt_outlined;default:return
Icons.edit_calendar_outlined;}case'new_reply_report':case'report_status_update':retur
n Icons.reply_all_outlined;case'general_notice':return Icons.campaign_outlined;return
Colors.blue.shade700;case'general_notice':return
Colors.purple.shade600;case'report_submitted_confirmation':return
Colors.green.shade700;case'profile_update_username':return
Colors.blueGrey.shade600;case'profile_update_email_initiated':return
Colors.lightBlue.shade600;case'profile_update_email_verified':return
Colors.green.shade600;case'profile_update_password':return
Colors.redAccent.shade400;case'profile_update_phone':return
Colors.cyan.shade600;case'profile_update_picture':return
Colors.deepPurple.shade400;case'profile_update_gender':return
Colors.pink.shade400;case'profile_update_status':return
Colors.brown.shade500;case'profile_update_success':return
Colors.indigo.shade600;case'booking_success':return
Colors.green.shade700;default:return Colors.grey.shade700;}}Future<void>
_showCustomDialog({required String title,required List<Widget> content,required
String primaryActionText,required VoidCallback
onPrimaryAction,} )async{if(!mounted){return;}}showDialog<void>(context:context,builder:(BuildContext dialogContext){return
AlertDialog(backgroundColor:cardBackgroundColor,shape:RoundedRectangleBorde
r(borderRadius:BorderRadius.circular(12)),style:const
TextStyle(fontFamily:'TTLivretTextTrial',fontSize:15,color:Colors.black87),children:[c
onst TextSpan(text:'Previous:
',style:TextStyle(fontWeight:FontWeight.bold)),TextSpan(text:previousValue??'N/A'),],
),const SizedBox(height:10),RichText(text:TextSpan(style:const
TextStyle(fontFamily:'TTLivretTextTrial',fontSize:15,color:Colors.black87),children:[c
onst TextSpan(text:'Current:
',style:TextStyle(fontWeight:FontWeight.bold)),TextSpan(text:currentValue??'N/A'),],
),primaryActionText:'Go to
Profile',onPrimaryAction:(){if(mounted){Navigator.pushNamed(context,EditProfileSc
reen.routeName,{});}}},)Future<void>
_showSimpleUpdateDialog(Map<String,dynamic> notificationData)async{await
relatedId=_extractRelatedId(data['relatedId']??data['relatedDocId'],data);return{'i
d':doc.id,'title':data['title'] as String?,'message':data['message'] as
String?};}.toList();}catch(e){if(mounted){setState((){_errorMessage="Failed to
load notifications:
$e";});}else{return;}}}setState((){_isLoading=false;});}IconData
_getNotificationIcon(String? type){switch(type){case
'report_submitted_confirmation':return Icons.check_circle_outline_rounded;case
'profile_update_username':return Icons.badge_outlined;case
'profile_update_email_initiated':return Icons.mark_email_unread_outlined;case
'profile_update_email_verified':return Icons.mark_email_read_outlined;case
'profile_update_password':return Icons.password_outlined;case
'profile_update_phone':return Icons.phone_android_outlined;case
'profile_update_picture':return Icons.account_circle_outlined;case
'profile_update_gender':return Icons.wc_outlined;case
'profile_update_status':return Icons.work_outline;case
'profile_update_success':return Icons.person_pin_circle_outlined;case
'booking_success':return Icons.check_circle_outline;default:return
Icons.notifications_active_outlined;}}Color _getNotificationIconColor(String?
type,{String? statusPayload}){switch(type?.toLowerCase()):case
'booking_status_changed':switch(statusPayload?.toLowerCase()):case
'pending':return Colors.orange.shade700;case'confirmed':return
Colors.green.shade700;case 'cancelled':return Colors.red.shade700;case
'completed':return Colors.blue.shade700;default:return Colors.grey.shade700;}case
'new_reply_report':case'report_status_update':default:return
Colors.grey.shade700;}}Future<void> _showCustomDialog({required String
title,required List<Widget> content,required String primaryActionText,required
VoidCallback onPrimaryAction,BuildContext? context})async{await
showDialog(context:context??this.context,builder:(dialogContext)=>AlertDialog(t
itleTextStyle:const
TextStyle(fontWeight:FontWeight.bold,fontFamily:'TTLivretTextTrial',fontSize:18
),color:Colors.black),contentTextStyle:const
TextStyle(fontFamily:'TTLivretTextTrial',fontSize:15,color:Colors.black87,height:
1.4),title:Text(title),content:SingleChildScrollView(child:ListBody(children:conten
t)),actions:<Widget>[TextButton(child:const Text('Go
Back'),style:TextStyle(fontFamily:'TTLivretTextTrial')), onPressed:()=>Navigator.of(
dialogContext).pop(), ElevatedButton(style:ElevatedButton.styleFrom(backgroun
dColor:accentBlue),child:Text(primaryActionText),style:const
TextStyle(fontFamily:'TTLivretText Trial',color:Colors.white)), onPressed:()>{Naviga
tor.of(dialogContext).pop();onPrimaryAction();},)],),);}}Future<void>
_showProfileChangeDetailsDialog(Map<String,dynamic> notificationData)
async{final String? fieldChanged=notificationData['fieldChanged'] as String?;final
String? previousValue=notificationData['previousValue'] as String?;final String?
currentValue=notificationData['currentValue'] as String?;await
_showCustomDialog(title:'Change Details:
${fieldChanged?"Update"}',content:[if(fieldChanged!=null&&fieldChanged.isNo
tEmpty)Padding(padding:const
EdgeInsets.only(bottom:10.0),child:RichText(text:TextSpan(style:const
TextStyle(fontFamily:'TTLivretTextTrial',fontSize:15,color:Colors.black87),childre
n:[const TextSpan(text:'Field:
',style:TextStyle(fontWeight:FontWeight.bold)),TextSpan(text:fieldChanged),],),),),],RichText(text:TextSpan(
Future<void> _showReportUpdateDialog(Map<String,dynamic>
notificationData)async{final String? relatedId=notificationData['relatedId'] as
String?;await _showCustomDialog(title:notificationData['title']??'Report
Update',content:[Text(notificationData['message']??'There is an update on your
report.'),if(relatedId==null)const
Padding(padding:EdgeInsets.only(top:8.0),child:Text('Related report ID is missing.
You can still view your reports from the reports
screen.'),style:TextStyle(fontSize:13.5),),],primaryActionText:'Check
Report',onPrimaryAction:(){ async{if(relatedId!=null){try{final
reportSnapshot=await

```

```

_showCustomDialog(title:notificationData['title']??'Profile
Updated',content:[Text(notificationData['message'])?'Your profile has been
updated.'),primaryActionText:'Go to
Profile',onPrimaryAction:(){if(mounted){Navigator.pushNamed(context,EditProfileSc
reen.routeName);}},}Future<void>
_showBookingUpdateDialog(Map<String,dynamic> notificationData)async{final
String? relatedId=notificationData['relatedId'] as String;await
_showCustomDialog(title:notificationData['title']??'Booking
Update',content:[Text(notificationData['message'])??'There is an update on your
booking.'),primaryActionText:'Check
Booking',onPrimaryAction:(){if(mounted){Navigator.pushNamed(context,BookingHi
storyScreen.routeName);}},};final bool isRead=notification['isRead'] as bool? ???
false;final String?
type=notification['type']?.toLowerCase();if(notificationId!=null&&!isRead){await
_markNotificationAsRead(notificationId);if(type!=null){if(_profileUpdateTypesWit
hDetails.contains(type)){await _showProfileChangeDetailsDialog(notification);}}else
if(_profileSpecialUpdateTypes.contains(type)){await
_showSimpleUpdateDialog(notification);}}else
if(_bookingUpdateTypes.contains(type)){await
_showBookingUpdateDialog(notification);}}else
if(_reportUpdateTypes.contains(type)){await
_showReportUpdateDialog(notification);}}}Future<void>
_markNotificationAsRead(String notificationId)async{try{await
_firestore.collection('user_notifications').doc(notificationId).update({'isRead':true});}in
t
index=_notifications.indexWhere((n)=>n['id']==notificationId);if(index!=-1&&moun
ted){setState(){_notifications[index]['isRead']=true;}}catch(e){print("Error marking
notification as read: $e");}}void
_enterSelectionMode(){setState(){_isSelectionMode=true; _selectedNotificationIds.cle
ar(); _isAllSelected=false;}}void
_exitSelectionMode(){setState(){_isSelectionMode=false; _selectedNotificationIds.clear
(); _isAllSelected=false;}}void _toggleSelectionForId(String
id){setState(){if(_selectedNotificationIds.contains(id)) _selectedNotificationIds.remove
(id);else
_selectedNotificationIds.add(id); _isAllSelected=_selectedNotificationIds.length==_no
tifications.length;}}void
_toggleSelectAll(){setState(){if(_isAllSelected){onPressed:()=>Navigator.of(ctx).pop(tr
ue,),},);if(confirmed!=true)return;if(!mounted)return;setState(){_isDeleting=true;
}try{final batch=_firestore.batch();for(final id in _selectedNotificationIds){final
docRef=_firestore.collection('user_notifications').doc(id);batch.delete(docRef);}await
batch.commit();if(mounted){setState(){_notifications.removeWhere((n)=>_selectedN
otificationIds.contains(n['id'])); _selectedNotificationIds.clear(); _isAllSelected=false; _is
SelectionMode=false; _isDeleting=false;}}ScaffoldMessenger.of(context).showSnackBar(
const SnackBar(content:Text('Selected notifications
deleted.'),backgroundColor:Colors.green));}}catch(e){if(mounted){setState(){_isDeleti
ng=false;}}ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text('Erro
r deleting selected notifications: $e')));}}}Future<void>
_deleteAllNotifications()async{final User?
currentUser=_auth.currentUser;if(currentUser==null){ScaffoldMessenger.of(context).
showSnackBar(const SnackBar(content:Text('You must be logged in to delete
notifications.'));return;}}final bool? confirmDelete=await
showDialog<bool>(context:context,builder:(BuildContext dialogContext){return
AlertDialog(backgroundColor:Colors.white,shape:RoundedRectangleBorder(borderR
adius:BorderRadius.circular(12)),titleTextStyle:const
TextStyle(fontFamily:'TTLivretTextTrial',fontSize:20,color:Colors.black,const
SnackBar(content:Text('All notifications have been
deleted.'),backgroundColor:Colors.green,),);}}catch(e){if(mounted){setState(){_isDele
ting=false;}}ScaffoldMessenger.of(context).showSnackBar(
SnackBar(content: Text('Error deleting notifications:
${e.toString()}'),backgroundColor: Colors.red,);)}}}@override Widget
build(BuildContext context) {return Scaffold	backgroundColor: appOrange,appBar:

```

```

_firestore.collection('problem_reports').doc(relatedId).get();if(reportSnapshot.exist
s&&mounted){Navigator.push(context,MaterialPageRoute(builder:(context)=>Re
portDetailPage(reportId:relatedId,reportData:reportSnapshot.data()) as
Map<String,dynamic>,));return;}else{if(mounted){ScaffoldMessenger.of(context)
.showSnackBar(const SnackBar(content:Text('The related report could not be
found.'));}}return;}}catch(e){if(mounted){ScaffoldMessenger.of(context).showSnac
kBar(SnackBar(content:Text('Error opening report:
$e')));}}return;}}if(mounted){ScaffoldMessenger.of(context).showSnackBar(const
SnackBar(content:Text('Related report ID not available. Open the Reports screen
to view all your reports.')));}}}}Future<void>
_onNotificationTap(Map<String,dynamic> notification)async{final String?
notificationId=notification['id'] as
String?; _selectedNotificationIds.clear(); _isAllSelected=false;else{ _selectedNotifica
tionIds.clear();for(var n in _notifications){final nid=n['id'] as
String?;if(nid!=null) _selectedNotificationIds.add(nid); } _isAllSelected=true;}};}Fu
ture<void> _deleteSelectedNotifications()
async{if(_selectedNotificationIds.isEmpty){ScaffoldMessenger.of(context).showSn
ackBar(const SnackBar(content:Text('No notifications selected.'));return;}}final
bool? confirmed=await showDialog<bool>(context:context,builder:(BuildContext
ctx){return
AlertDialog(backgroundColor:Colors.white,shape:RoundedRectangleBorder(bord
erRadius:BorderRadius.circular(12)),titleTextStyle:const
TextStyle(fontFamily:'TTLivretTextTrial',fontSize:20,fontWeight:FontWeight.bold
,color:Colors.black,),contentTextStyle:const
TextStyle(fontFamily:'TTLivretTextTrial',fontSize:16,color:Colors.black,),title:
const Text('Confirm Delete',style: TextStyle(color: Colors.black)),content:
Text('Are you sure you want to delete ${_selectedNotificationIds.length} selected
notification(s)? This action cannot be undone.',style: const TextStyle(fontFamily:
'TTLivretTextTrial',color: Colors.black,),actions: [TextButton(child: const
Text('Cancel',style: TextStyle(fontFamily: 'TTLivretTextTrial')), onPressed: () =>
Navigator.of(ctx).pop(false),),TextButton(style:
TextButton.styleFrom(backgroundColor: Colors.red),child: const
Text('Delete',style: TextStyle(fontFamily: 'TTLivretTextTrial')),fontWeight:
FontWeight.bold,),contentTextStyle: const TextStyle(fontFamily:
'TTLivretTextTrial',fontSize: 16,color: Colors.black,height: 1.4,),title: const
Text('Confirm Delete',style: TextStyle(color: Colors.black)),content: const
Text('Are you sure you want to delete all your notifications? This action cannot be
undone.',style: TextStyle(color: Colors.black,fontFamily:
'TTLivretTextTrial'),),actions: <Widget>[TextButton(child: const
Text('Cancel',style: TextStyle(fontFamily: 'TTLivretTextTrial')), onPressed: () =>
Navigator.of(dialogContext).pop(false),),TextButton(style:
TextButton.styleFrom(backgroundColor: Colors.red),child: const Text('Delete
All',style: TextStyle(fontFamily: 'TTLivretTextTrial')), onPressed: () =>
Navigator.of(dialogContext).pop(true),),],);}if(confirmDelete ==
true){if(!mounted)return;setState(){ _isDeleting = true;}}try{QuerySnapshot
snapshot = await
_firestore.collection('user_notifications').where('userId',isEqualTo:
currentUser.uid).get();if(!mounted) return;WriteBatch batch =
_firestore.batch();for(DocumentSnapshot doc in
snapshot.docs){batch.delete(doc.reference);}}await
batch.commit();if(mounted){setState(){ _notifications.clear(); _isDeleting =
false;}}ScaffoldMessenger.of(context).showSnackBar(if(_isSelectionMode){_delete
SelectedNotifications();}else{_enterSelectionMode();}},if(_isDeleting)const
Padding(padding: EdgeInsets.only(right: 16.0),child: Center(child: SizedBox(width:
20,height: 20,child: CircularProgressIndicator(strokeWidth: 2.0,valueColor:
AlwaysStoppedAnimation<Color>(Colors.white),),),),body:
Column(children: [Container(width: double.infinity,color: appBeige,padding:
const EdgeInsets.symmetric(horizontal: 16.0,vertical: 12.0),child: Text("This page
displays a record of all your in-app notifications. Even if push notifications are
disabled in settings, relevant activity and transaction alerts will be stored here for
your reference.",style: TextStyle(fontFamily: 'TTLivretTextTrial',fontSize:

```

```

AppBar(leading: _isSelectionMode? IconButton(icon: const Icon(Icons.close,color: Colors.white),onPressed: _exitSelectionMode,): null,title: _isSelectionMode? Text('${_selectedNotificationIds.length} selected',style: const TextStyle(fontFamily: 'TTLivretTextTrial',color: Colors.white)): const Text('My Notifications',style: TextStyle(fontFamily: 'TTLivretTextTrial',color: Colors.white)),backgroundColor: accentBlue,iconTheme: const IconThemeData(color: Colors.white),actions: [if (_isSelectionMode) IconButton(icon: Icon(_isAllSelected? Icons.select_all: Icons.check_box_outline_blank,color: Colors.white),tooltip: _isAllSelected? 'Unselect all': 'Select all',onPressed: _toggleSelectAll,),if (!_isLoading && _notifications.isNotEmpty && !_isDeleting) IconButton(icon: const Icon(Icons.delete_outline,color: Colors.white),tooltip: _isSelectionMode? 'Delete selected notifications': 'Select notifications to delete',onPressed: () { ? Center(child: Padding(padding: const EdgeInsets.all(16.0),child: Text("You have no notifications yet.",textAlign: TextAlign.center,style: TextStyle(fontSize: 16,color: Colors.grey.shade700,fontFamily: 'TTLivretTextTrial')),);}): ListView.separated(padding: const EdgeInsets.only(top: 8.0,bottom: 8.0),itemCount: _notifications.length,itemBuilder: (context,index) {final notification = _notifications[index];final String nid = notification['id'] as String??";final String title = notification['title'] as String??'Notification';final String message = notification['message'] as String??'No details.';final Timestamp? timestamp = notification['timestamp'] as Timestamp?;final String date = timestamp!=null? DateFormat('MMM d, yyyy HH:mm').format(timestamp.toDate()):'N/A';final String? type = notification['type'] as String?;final bool isRead = notification['isRead'] as bool?? false;final String? statusPayload = notification['currentValue'] as String?;final bool isSelected = _selectedNotificationIds.contains(nid);return Card(elevation: isRead? 0.5 : 2.0,margin: const EdgeInsets.symmetric(horizontal: 12.0,vertical: 5.0),color: isRead? cardBackgroundColor.withOpacity(0.8) : cardBackgroundColor,shape: RoundedRectangleBorder(borderRadius: BorderRadius.circular(10),side: isRead? BorderSide(color: Colors.black.withOpacity(0.1),width: 0.5) : BorderSide.none,),child: ListTile(leading: _isSelectionMode? Row(mainAxisSize: MainAxisSize.min,children: [Checkbox(value: isSelected, onChanged: (_){ _toggleSelectionForId(nid);}), import'report_detail_page.dart';import'booking_history_screen.dart';import'edit_profile_screen.dart';const Color appOrange=Color(0xFFFFC664);if(alt is

```

lib/web/admin_analytics_page.dart

```

import 'dart:io';import 'dart:math';import 'dart:typed_data';import
'package:cloud_firestore/cloud_firestore.dart';import
'package:file_picker/file_picker.dart';import 'package:fl_chart/fl_chart.dart';import
'package:flutter/foundation.dart';import 'package:flutter/material.dart';import
'package:flutter/services.dart' show rootBundle;class AdminAnalyticsPage extends
StatefulWidget {const AdminAnalyticsPage({Key? key}) : super(key: key);@override
_AdminAnalyticsPageState createState() => _AdminAnalyticsPageState();}class
_AdminAnalyticsPageState extends State<AdminAnalyticsPage> {_bool _isLoading =
true;String selectedDateRange = ";DateTime? selectedStartDate;DateTime?
selectedEndDate;Map<String, int> bookingsPerDay = {};Map<String, int>
mostBookedPackages = {};Map<String, int> bookingModeDistribution = {};
Map<String, int> selectedCategoryDistribution = {};Map<String, num>
mostViewedDestinations = {};Map<String, int> guestGenderDistribution =
{};Map<String, int> guestStatusDistribution = {};Map<String, int>
guestTypeDistribution = {};Map<String, int> agencyTypeDistribution =
{};Map<String, int> totalGuestsPerDay = {};Map<String, double>
totalRevenuePerDay = {};double averageRevenuePerGuest = 0.0;Map<String, double>
revenuePerPackage = {};Map<String, int> bookingStatusDistribution =
{};Map<String, int> agencyLeaderboard = {};}String?
packagePopularityGuestTypeFilter;String?
packagePopularityAgencyTypeFilter;List<String> _availableGuestTypes =
[],List<String> _availableAgencyTypes = [];return sections;}for (final entry in
dataMap.entries) {final value = (entry.value ?? 0).toDouble();final percent = total > 0 ?
(value / total) * 100 : 0.0;final displayPercent = percent.isNaN ? 0 : percent;final color =

```

```

initState(){super.initState();selectedEndDate=DateTime.now();selectedStartDate=selectedEndDate!.subtract(const Duration(days:29));_updateSelectedDateRangeString();
:_availableGuestTypes=[ "All", "Domestic Tourist", "Local Resident", "Foreign Tourist", "Student", "Senior Citizen", "PWD"]; _availableAgencyTypes=[ "All", "LGU", "Academe", "Private", "NGO", "Other"];fetchAllAnalyticsData();fetchDestinationViews();}void
_updateSelectedDateRangeString(){if(selectedStartDate!=null&&selectedEndDate!=null){selectedDateRange=' ${DateFormat(' MMM d, yyyy').format(selectedStartDate)} - ${DateFormat(' MMM d, yyyy').format(selectedEndDate)}';}}List<PieChartSectionData>
_buildPieChartSections(Map<String,num> dataMap,{double radius=50}){List<PieChartSectionData> sections=[];if(dataMap.isEmpty) return sections;_colorIndex=0;final
total=dataMap.values.fold<double>(0.0,(p,e)=>p+(e?.toDouble()??0.0));if(total<=0)
{final keys=dataMap.keys.toList();for(int i=0;i<keys.length;i++){final
color=getNextColor();sections.add(PieChartSectionData(value:1,color:color,radius:r
adius,title:""));}return Padding(padding:const
EdgeInsets.only(top:6),child:Text(currentLabel,style:style));}else{final int
step=(totalItems/6).ceil();if(index==0||index==totalItems-1||index%step==0){return
Padding(padding:const
EdgeInsets.only(top:6),child:Text(currentLabel,style:style));}else{return const
SizedBox.shrink();}}}catch(e){return const SizedBox.shrink();}double
_computeNiceInterval(double maxValue){if(maxValue<=0) return 1.0;double
raw=maxValue/5.0;if(raw<=1) return 1.0;if(raw<=2) return 1.0;if(raw<=5) return

```

```

getNextColor();final showTitle = displayPercent >=
6.0;sections.add(PieChartSectionData(value: value,color: color,radius: radius,title:
showTitle ? ${displayPercent.toStringAsFixed(0)}% : ",titleStyle: const
TextStyle(fontSize: 11,fontWeight: FontWeight.w600,color: Colors.white),showTitle:
showTitle,titlePositionPercentageOffset: 0.6,));}return sections;List<FlSpot>
_buildLineChartSpots(Map<String, num> dataMap) {if (dataMap.isEmpty) return
[];List<FlSpot> spots = [];List<String> sortedKeys =
dataMap.keys.toList();sortedKeys.sort((a, b) => a.compareTo(b));for (int i = 0; i <
sortedKeys.length; i++) {String key = sortedKeys[i];double xValue =
i.toDouble();double yValue = dataMap[key]!.toDouble();spots.add(FlSpot(xValue,
yValue));}return spots;}Widget _bottomTitleWidgets(double value, TitleMeta meta,
List<String> dateKeys) {const style = TextStyle(color: Color(0xff68737d), fontWeight:
FontWeight.bold, fontSize: 10);final index = value.toInt();final List<String> keys =
dateKeys;if (keys.isEmpty || index < 0 || index >= keys.length) return const
SizedBox.shrink();try {final String dateString = keys[index];DateTime currentDate;try
{currentDate = DateFormat('yyyy-MM-dd').parse(dateString);} catch (...) {currentDate =
DateTime.parse(dateString);}final String currentLabel = DateFormat('MMM
d').format(currentDate);final int totalItems = keys.length;if (totalItems <= 7)
{.where('timestamp', isLessThanOrEqualTo: DateTime(selectedEndDate!.year,
selectedEndDate!.month, selectedEndDate!.day, 23, 59, 59)).get();}final
destinationSnapshot = await
FirebaseFirestore.instance.collection('destinations').get();Map<String, int>
tempBookingsPerDay = {};Map<String, int> tempMostBookedPackages =
{};Map<String, int> tempBookingModeDistribution = {'collective': 0, 'perGuest':
0};Map<String, int> tempSelectedCategoryDistribution = {};Map<String, int>
tempGuestGenderDistribution = {'Male': 0, 'Female': 0};Map<String, int>
tempGuestStatusDistribution = {};Map<String, int> tempGuestTypeDistribution =
{};Map<String, int> tempAgencyTypeDistribution = {};Map<String, int>
tempTotalGuestsPerDay = {};Map<String, double> tempTotalRevenuePerDay =
{};double totalRevenueOverall = 0.0;int totalGuestsOverall = 0;Map<String, double>
tempRevenuePerPackage = {};Map<String, int> tempBookingStatusDistribution =
{};Map<String, int> tempAgencyLeaderboard = {};Map<String, num>
tempMostViewedDestinations = {};for (var doc in destinationSnapshot.docs) {final
data = doc.data() as Map<String, dynamic>;if (data != null) {final String? name =
(data['name'] ?? data['title']) as String?;final num? views = data['views'] as num?;if
(name != null && name.isNotEmpty && views != null && views > 0)
{tempMostViewedDestinations[name] = (tempMostViewedDestinations[name] ?? 0)
+ views;} else if (views != null && views > 0)
tempMostViewedDestinations['Unknown Destination'] =
(tempMostViewedDestinations['Unknown Destination'] ?? 0) + views;}}for (var doc
in bookingSnapshot.docs) {final data = doc.data() as Map<String, dynamic>;final
timestamp = data['timestamp'] as Timestamp;final bookingMode =
data['bookingMode'] as String?;final selectedCategory = data['selectedCategory'] as
String?;final selectedPackagesList = data['selectedPackages'] as List<dynamic>? ?? []
;final totalGuestsForBooking = (data['totalGuests'] as num?)?.toInt() ?? 0;final
totalAmountForBooking = (data['totalAmount'] as num?)?.toDouble() ?? 0.0;final
bookingStatus = data['status'] as
String?;(tempGuestTypeDistribution[collectiveGuestType] ?? 0) +
totalGuestsForBooking;final String? agencyName = data['agencyName'] as String? ?? data['collectiveAgencyName'] as String?;if (agencyName != null &&
agencyName.isNotEmpty) {if (selectedAgencyCategoryForLeaderboard == 'All' ||
collectiveAgencyType == selectedAgencyCategoryForLeaderboard)
{tempAgencyLeaderboard[agencyName] = (tempAgencyLeaderboard[agencyName] ?? 0) +
totalGuestsForBooking;}} else if (bookingMode == 'perGuest') {final
individualGuests = data['individualGuests'] as List<dynamic>? ?? [];for (var
guestDataMap in individualGuests) {if (guestDataMap is Map<String, dynamic>)

```

```

(raw).ceil.ToDouble();if (raw <= 10) return
((raw/5).ceil()*5).toDouble();if (raw <= 50) return
((raw/10).ceil()*10).toDouble();return (raw).ceil.ToDouble();}Future<void>
fetchAllAnalyticsData()
async{if (!mounted) return;setState((){_isLoading=true;_colorIndex=0;bookingsPerD
ay.clear();mostBookedPackages.clear();bookingModeDistribution.clear();selectedCate
goryDistribution.clear();guestGenderDistribution.clear();guestStatusDistribution.cle
ar();guestTypeDistribution.clear();agencyTypeDistribution.clear();totalGuestsPerDay
.clear();totalRevenuePerDay.clear();averageRevenuePerGuest=0.0;revenuePerPackage.
clear();bookingStatusDistribution.clear();mostViewedDestinations.clear();agencyLea
derboard.clear();});try{final bookingSnapshot=await
FirebaseFirestore.instance.collection('bookings').where('timestamp',isGreaterThanOr
EqualTo:selectedStartDate)...if(timestamp!=null){final
sortableDateKey=DateFormat('yyyy-MM-dd').format(timestamp.toDate());tempBoo
kingsPerDay[sortableDateKey]=(tempBookingsPerDay[sortableDateKey]?0)+1;temp
pTotalGuestsPerDay[sortableDateKey]=(tempTotalGuestsPerDay[sortableDateKey]
??0)+totalGuestsForBooking;tempTotalRevenuePerDay[sortableDateKey]=(tempTo
talRevenuePerDay[sortableDateKey]?0.0)+totalAmountForBooking;}if(bookingMo
de!=null){tempBookingModeDistribution[bookingMode.toLowerCase()]=(tempBo
okingModeDistribution[bookingMode.toLowerCase()]?0)+1;}if(selectedCategory!
=null&&selectedCategory.isNotEmpty){tempSelectedCategoryDistribution[selected
Category]=(tempSelectedCategoryDistribution[selectedCategory]?0)+1;}for(var
packageItem in selectedPackagesList){if(packageItem is Map<String,dynamic>){final
String? title=packageItem['title']as
String?;if(title!=null&&title.isNotEmpty){tempMostBookedPackages[title]=(tempM
ostBookedPackages[title]?0)+1;tempRevenuePerPackage[title]=(tempRevenuePerPa
ckage[title]?0.0)+totalAmountForBooking;}}if(bookingStatus!=null&&bookingSt
atus.isNotEmpty){tempBookingStatusDistribution[bookingStatus]=(tempBookingS
tatusDistribution[bookingStatus]?0)+1;}totalRevenueOverall+=totalAmountForBo
oking;totalGuestsOverall+=totalGuestsForBooking;if('bookingMode=='collective'){fi
nal int maleGuests=(data['maleGuests'] as num?)?.toInt()??0;final int
femaleGuests=(data['femaleGuests'] as
num?)?.toInt()??0;tempGuestGenderDistribution['Male']=(tempGuestGenderDistri
bution['Male']??0)+maleGuests;tempGuestGenderDistribution['Female']=(tempGu
estGenderDistribution['Female']??0)+femaleGuests;final String?
collectiveStatus=data['collectiveStatus'] as
String?;if(collectiveStatus!=null&&collectiveStatus.isNotEmpty){tempGuestStatusDi
stribution[collectiveStatus]=(tempGuestStatusDistribution[collectiveStatus]?0)+tot
alGuestsForBooking;}final String? collectiveGuestType=data['collectiveGuestType'] as
String?;if(collectiveGuestType!=null&&collectiveGuestType.isNotEmpty){tempGue
stTypeDistribution[collectiveGuestType]=(tempAgencyTypeDistribution[finalAgen
cyType]?0)+1;}final String? agencyName=guestDataMap['agencyName'] as
String?;if(agencyName!=null&&agencyName.isNotEmpty){if(selectedAgencyCateg
oryForLeaderboard=='All'||finalAgencyType==selectedAgencyCategoryForLeaderbo
ard){tempAgencyLeaderboard[agencyName]=(tempAgencyLeaderboard[agencyNa
me]?0)+1;}}if(totalGuestsOverall>0)averageRevenuePerGuest=totalRevenueOve
rall/totalGuestsOverall;else averageRevenuePerGuest=0.0;var
sortedBookingsPerDayEntries=tempBookingsPerDay.entries.toList()..sort((a,b)=>a.k
ey.compareTo(b.key));bookingsPerDay=Map.fromEntries(sortedBookingsPerDayEnt
ries);var
sortedTotalGuestsPerDayEntries=tempTotalGuestsPerDay.entries.toList()..sort((a,b)
=>a.key.compareTo(b.key));totalGuestsPerDay=Map.fromEntries(sortedTotalGuests
PerDayEntries);var
sortedTotalRevenuePerDayEntries=tempTotalRevenuePerDay.entries.toList()..sort((
a,b)=>a.key.compareTo(b.key));totalRevenuePerDay=Map.fromEntries(sortedTotal
RevenuePerDayEntries);mostBookedPackages=Map.fromEntries(tempMostBookedP
ackages.entries.toList()..sort((a,b)=>b.value.compareTo(a.value)));var
sortedViewedDestinations=tempMostViewedDestinations.entries.toList()..sort((a,b)
=>b.value.compareTo(a.value));mostViewedDestinations=Map.fromEntries(sortedVi
ewedDestinations);bookingModeDistribution=tempBookingModeDistribution;selec

```

```

{final String? gender = guestDataMap['gender'] as String;if (gender != null &&
gender.isNotEmpty) {tempGuestGenderDistribution[gender] =
(tempGuestGenderDistribution[gender] ?? 0) + 1;}final String? status =
guestDataMap['status'] as String;final String? otherStatus =
guestDataMap['otherStatus'] as String;String finalStatus = status ?? "Unknown";if
(status == 'Other' && otherStatus != null && otherStatus.isNotEmpty) {finalStatus =
otherStatus;}if (status != null && status.isNotEmpty)
{tempGuestStatusDistribution[finalStatus] =
(tempGuestStatusDistribution[finalStatus] ?? 0) + 1;}final String? guestType =
guestDataMap['guestType'] as String;if (guestType != null &&
guestType.isNotEmpty) {tempGuestTypeDistribution[guestType] =
(tempGuestTypeDistribution[guestType] ?? 0) + 1;}final String? agencyType =
guestDataMap['agencyType'] as String;final String? otherAgency =
guestDataMap['otherAgency'] as String;String finalAgencyType = agencyType ???
"Unknown";if (agencyType == 'Other' && otherAgency != null &&
otherAgency.isNotEmpty) {finalAgencyType = otherAgency;}if (agencyType != null
&& agencyType.isNotEmpty) {tempAgencyTypeDistribution[finalAgencyType] =
0).toList().sort((a, b) => b.value.compareTo(a.value))};revenuePerPackage =
Map.fromEntries(tempRevenuePerPackage.entries.toList().sort((a, b) =>
b.value.compareTo(a.value)));bookingStatusDistribution =
Map.fromEntries(tempBookingStatusDistribution.entries.toList().sort((a, b) =>
b.value.compareTo(a.value)));var sortedAgencyLeaderboardEntries =
tempAgencyLeaderboard.entries.toList().sort((a, b) =>
b.value.compareTo(a.value));agencyLeaderboard =
Map.fromEntries(sortedAgencyLeaderboardEntries.take(5));setState(() {_isLoading =
false;});} catch (e) {if (mounted)
{ScaffoldMessenger.of(context).showSnackBar(SnackBar(content: Text('Error fetching
analytics: ${e.toString()}')));if (kDebugMode) print('Error fetching analytics:
$e');}setState(() {_isLoading = false;});}}Future<void> fetchDestinationViews() async
{try {final snapshot = await FirebaseFirestore.instance.collection('destinations').get();if
(!mounted) return;Map<String, int> views = {};for (var doc in snapshot.docs) {final
data = doc.data() as Map<String, dynamic>;final String title = (data['title'] ??
data['name'] ?? 'Unknown Destination').toString();final int viewCount = (data['views'] as num)??.toInt() ?? 0;views[title] = viewCount;}setState(() {_mostViewedDestinations =
Map.fromEntries(views.entries.toList().sort((a, b) =>
b.value.compareTo(a.value))));} catch (e) {if (mounted)
{ScaffoldMessenger.of(context).showSnackBar(SnackBar(content: Text('Error fetching
destination views: ${e.toString()}')));if (kDebugMode) print('Error fetching destination
views: $e');}}Widget _buildHeader() {return Padding(padding: const
EdgeInsets.symmetric(vertical: 16.0, horizontal: 8.0),child: Row(children:
[Expanded(child: TextButton.icon(icon: const Icon(Icons.calendar_today),label:
Text(selectedDateRange.isEmpty ? 'Select Date Range' :
selectedDateRange),onPressed: () => _selectDateRange(context),style:
TextButton.styleFrom(padding: const EdgeInsets.symmetric(horizontal:
12,vertical:8),backgroundColor:Colors.grey[200]),),],final
male=guestGenderDistribution['Male']??0;final
female=guestGenderDistribution['Female']??0;final
malePct=(male/genderTotal)*100;final
femalePct=(female/genderTotal)*100;buffer.write('By gender, the sample consists of
$male (${malePct.toStringAsFixed(0)}%) male and $female
(${femalePct.toStringAsFixed(0)}%) female
guests.);if(guestStatusDistribution.isNotEmpty){final
statusTotal=guestStatusDistribution.values.fold<int>(0,(p,e)=>p+e);final
topStatus=guestStatusDistribution.entries.toList().sort((a,b)=>b.value.compareTo(a.
value));if(statusTotal>0&&topStatus.isNotEmpty){buffer.write('Regarding residency or
visitor status, the largest cohort is ${topStatus.first.key} (${topStatus.first.value} guests,
with additional smaller segments
present.);}if(guestTypeDistribution.isNotEmpty){final
typeTotal=guestTypeDistribution.values.fold<int>(0,(p,e)=>p+e);final
topType=guestTypeDistribution.entries.toList().sort((a,b)=>b.value.compareTo(a.value));
if(typeTotal>0&&topType.isNotEmpty){buffer.write('Guest type segmentation is

```

```

tedCategoryDistribution=Map.fromEntries(tempSelectedCategoryDistribution.entries
.toList().sort((a,b)=>b.value.compareTo(a.value)));guestGenderDistribution=Map.
fromEntries(tempGuestGenderDistribution.entries.where((e)=>e.value>0).toList().sort(
(a,b)=>b.value.compareTo(a.value)));guestStatusDistribution=Map.fromEntries(t
empGuestStatusDistribution.entries.where((e)=>e.value>0).toList().sort((a,b)=>b.va
lue.compareTo(a.value)));guestTypeDistribution=Map.fromEntries(tempGuestType
Distribution.entries.where((e)=>e.value>0).toList().sort((a,b)=>b.value.compareTo(a
.value)));agencyTypeDistribution=Map.fromEntries(tempAgencyTypeDistribution.e
ntries.where((e)=>e.value>const SizedBox(width:8),IconButton(icon:const
Icon(Icons.refresh),tooltip:'Refresh
Data', onPressed:fetchAllAnalyticsData),IconButton(icon:const
Icon(Icons.picture_as_pdf),tooltip:'Export
PDF', onPressed: _generateAndExportPdf,));});Widget _buildCategoryHeader(String
title, String description){return Padding(padding:const
EdgeInsets.symmetric(horizontal:8.0,vertical:6.0),child:Column(crossAxisAlignment:
CrossAxisAlignment.start,children:[Text(title,style:const
TextStyle(fontSize:20,fontWeight:FontWeight.bold)),const
SizedBox(height:6),Text(description,style:TextStyle(fontSize:13,color:Colors.grey[700
])),const SizedBox(height:8,)],);}Widget _buildAnalyticsCard({required String
title, required Widget chartWidget, String? description, double? height, List<Widget>?
actions}){return Card(elevation:2,margin:const
EdgeInsets.all(8.0),child:Padding(padding:const
EdgeInsets.all(16.0),child:Column(crossAxisAlignment:CrossAxisAlignment.start,chi
ldren:[Row(children:[Expanded(child:Text(title,style:const
TextStyle(fontSize:18,fontWeight:FontWeight.bold))),if(actions!=null)...actions,],)if(
description!=null&&description.isNotEmpty)...[const
SizedBox(height:6),Text(description,style:TextStyle(fontSize:12,color:Colors.grey[700
])),],const
SizedBox(height:12),SizedBox(height:height??200,child:chartWidget,)],),);}String
_generateGuestDemographicsParagraph(){if((guestGenderDistribution.isEmpty||gue
stGenderDistribution.values.every((v)=>v==0))&&(guestStatusDistribution.isEmpty
||guestStatusDistribution.values.every((v)=>v==0))&&(guestTypeDistribution.isEm
pty||guestTypeDistribution.values.every((v)=>v==0)){return 'No demographic data
is available for the selected date range.';}final buffer=StringBuffer();buffer.write('The
guest demographics section summarizes visitor composition for the selected period.
');final
genderTotal=guestGenderDistribution.values.fold<int>(0,(p,e)=>p+e);if(genderTotal
>0){final buffer=StringBuffer();buffer.write('The daily guest activity chart presents
total visitor counts for each reporting day. ');
buffer.write('Across the period, the average daily guest count was
${average.toStringAsFixed(1)}. ');buffer.write('The highest recorded guest count
occurred on $maxDate with ${maxEntry.value} guests, while the lowest was on
$minDate with ${minEntry.value} guests. ');buffer.write('Monitoring these peaks and
troughs helps with staffing, scheduling, and promotional planning. ');
return buffer.toString(),}String
_generateRevenueSummaryParagraph(){if(totalRevenuePerDay.isEmpty&&revenue
PerPackage.isEmpty){return 'No revenue data is available for the selected date
range.';}final buffer=StringBuffer();buffer.write('The revenue summary provides both
temporal and package-level financial performance for the selected period.
');if(totalRevenuePerDay.isNotEmpty){final
entries=totalRevenuePerDay.entries.toList().sort((a,b)=>a.key.compareTo(b.key));fin
al totalRevenue=entries.fold<double>(0.0,(p,e)=>p+e.value);final
avgPerDay=entries.isNotEmpty?totalRevenue/entries.length:0.0;final
peakEntry=entries.reduce((a,b)=>a.value>=b.value?a:b);final
lowEntry=entries.reduce((a,b)=>a.value<=b.value?a:b);String
peakDate,lowDate;try{peakDate=DateFormat('MMM d,
yyyy').format(DateTime.parse(peakEntry.key));}catch(_){peakDate=peakEntry.key;}try{
lowDate=DateFormat('MMM d,
yyyy').format(DateTime.parse(lowEntry.key));}catch(_){lowDate=lowEntry.key;}buf
fer.write('Daily revenue totaled $${totalRevenue.toStringAsFixed(2)} during the
period (average $${avgPerDay.toStringAsFixed(2)} per day. ');
buffer.write('The peak

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led by ${topType.first.key} (${topType.first.value} guests), which can inform targeted
programming and communications.'};}buffer.write('These demographic insights can
guide outreach, staffing, and program design to better align services with actual visitor
profiles.');//return buffer.toString();}String
_generateTotalGuestsParagraph(){if(totalGuestsPerDay.isEmpty())return'No daily guest
counts are available for the selected date range.');//final
entries=totalGuestsPerDay.entries.toList();final
formattedEntries=entries.map((e)=>MapEntry(e.key,e.value)).toList();formattedEntries
.entries.sort((a,b)=>a.key.compareTo(b.key));int
total=formattedEntries.fold<int>(0,(p,e)=>p+e.value);double
average=formattedEntries.isNotEmpty?total/formattedEntries.length:0;final
maxEntry=formattedEntries.reduce((a,b)=>a.value>=b.value?a:b);final
minEntry=formattedEntries.reduce((a,b)=>a.value<=b.value?a:b);String
maxDate;String minDate;try{maxDate=DateFormat('MMM d,
yyyy').format(DateTime.parse(maxEntry.key));}catch(_){maxDate=maxEntry.key;}try{
minDate=DateFormat('MMM d,
yyyy').format(DateTime.parse(minEntry.key));}catch(_){minDate=minEntry.key;}buff
er.write('Other packages contributed smaller shares and should be reviewed for pricing
or marketing opportunities.');}buffer.write('These insights support pricing,
promotional tactics, and resource allocation decisions.');//return buffer.toString();}String
_generateBookingsParagraph(){if(bookingsPerDay.isEmpty()&&bookingStatusDistribution.i
sEmpty()&&bookingModeDistribution.isEmpty()&&selectedCategoryDistribution.i
sEmpty())return'No booking data is available for the selected date range.');//final
buffer=StringBuffer();buffer.write('Booking analytics summarize volume, status, mode,
and purpose of reservations.');//if(bookingsPerDay.isNotEmpty())final
entries=bookingsPerDay.entries.toList().sort((a,b)=>a.key.compareTo(b.key));final
totalBookings=entries.fold<int>(0,(p,e)=>p+e.value);final
avgBookings=totalBookings/entries.length;final
max=entries.reduce((a,b)=>a.value>=b.value?a:b);final
min=entries.reduce((a,b)=>a.value<=b.value?a:b);String
maxDate,minDate;try{maxDate=DateFormat('MMM d,
yyyy').format(DateTime.parse(max.key));}catch(_){maxDate=max.key;}try{minDate=
DateFormat('MMM d,
yyyy').format(DateTime.parse(min.key));}catch(_){minDate=min.key;}buffer.write('B
ookings per day averaged ${avgBookings.toStringAsFixed(1)}. The busiest booking day
was $maxDate (${max.value} bookings), while the quietest was $minDate (${min.value}
bookings.).');//if(bookingStatusDistribution.isNotEmpty())final
total=bookingStatusDistribution.values.fold<int>(0,(p,e)=>p+e);buffer.write('Status
breakdown indicates ');//final
statuses=bookingStatusDistribution.entries.toList().sort((a,b)=>b.value.compareTo(a.
value));for(int i=0;i<statuses.length;i++){final entry=statuses[i];final
pct=total>0?(entry.value/total)*100:0;buffer.write('${entry.key.capitalizeFirst()} ${entry.value} (${pct.toStringAsFixed(0)}%)');if(i<statuses.length-1)buffer.write(', ');
else buffer.write('. ');}if(bookingModeDistribution.isNotEmpty())final
modeTotal=bookingModeDistribution.values.fold<int>(0,(p,e)=>p+e);final
collective=bookingModeDistribution['collective']??0;final
perGuest=bookingModeDistribution['perguest']??revenuePerPackage.isEmpty(){return
'No ranking or popularity data is available for the selected period.');//final
buffer=StringBuffer();if(mostViewedDestinations.isNotEmpty())final
topViews=mostViewedDestinations.entries.toList().sort((a,b)=>b.value.compareTo(a.
value));final topN=topViews.take(3).toList();buffer.write('During the selected period,
the most viewed destinations were ');//for(int i=0;i<topN.length;i++){final
e=topN[i];buffer.write('${e.key} (${NumberFormat.compact().format(e.value)})');
views});if(i<topN.length-1)buffer.write(', ');//else buffer.write('. ');
}//}if(mostBookedPackages.isNotEmpty())final
topBooked=mostBookedPackages.entries.toList().sort((a,b)=>b.value.compareTo(a.val
ue));final topB=topBooked.take(3).toList();buffer.write('The most booked packages
were ');//for(int i=0;i<topB.length;i++){final e=topB[i];buffer.write('${e.key} with
${e.value} booking${e.value==1?'':s'}');if(i<topB.length-1)buffer.write(', ');//else
buffer.write('. '});//if(revenuePerPackage.isNotEmpty())final
topRevenue=revenuePerPackage.entries.toList().sort((a,b)=>b.value.compareTo(a.val
ue));

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daily revenue was P${peakEntry.value.toStringAsFixed(2)} on $peakDate, while the
lowest recorded day generated P${lowEntry.value.toStringAsFixed(2)} on $lowDate.
');//}if(revenuePerPackage.isNotEmpty())final
sortedPackages=revenuePerPackage.entries.toList().sort((a,b)=>b.value.compareTo(a.
value));final top=sortedPackages.first;buffer.write('At the package level, the top
performing package was "${top.key}" generating P${top.value.toStringAsFixed(2)}
during this period.
');//if(sortedPackages.length>1){bookingModeDistribution['perGuest']??bookingMod
eDistribution['per_guest']??bookingModeDistribution['perGuest'.toLowerCase()]???
0;buffer.write('Booking mode shows $collective collective bookings and $perGuest
per-guest bookings across the period.
');//}if(selectedCategoryDistribution.isNotEmpty())final
categoriesOfInterest=['Educational Tour','Food Tour','Industrial Tour'];final
present=categoriesOfInterest.where((c)=>selectedCategoryDistribution.containsKey(c))
.toList();if(present.isNotEmpty){buffer.write('In terms of booking categories,
notable counts include ');//for(int i=0;i<present.length;i++){final
key=present[i];buffer.write('$key:
${selectedCategoryDistribution[key]}');if(i<present.length-1)buffer.write(', ');
else buffer.write('. ');}buffer.write('This information supports process improvements,
capacity planning, and prioritization of booking channels.');//return
buffer.toString();}String
_generateAgencySummaryParagraph(){if(agencyTypeDistribution.isEmpty()&&agenc
yLeaderboard.isEmpty())return 'No agency data is available for the selected
period.');//final buffer=StringBuffer();buffer.write('Agency analytics highlight
organizational participation in bookings.
');//}if(agencyTypeDistribution.isNotEmpty())final
total=agencyTypeDistribution.values.fold<int>(0,(p,e)=>p+e);final
sorted=agencyTypeDistribution.entries.toList().sort((a,b)=>b.value.compareTo(a.val
ue));final top=sorted.first;final pct=total>0?(top.value/total)*100:0;
buffer.write('${top.key} accounts for ${top.value} guests
(${pct.toStringAsFixed(0)}%), followed by other agency types.
');//}if(agencyLeaderboard.isNotEmpty())final
topAgency=agencyLeaderboard.entries.toList().sort((a,b)=>b.value.compareTo(a.val
ue));buffer.write('On the leaderboard, "${topAgency.first.key}" recorded the most
guest affiliations/bookings (${topAgency.first.value}). ');//buffer.write('These insights
can guide partnership, outreach, and resource allocation strategies.');//return
buffer.toString();}String
_generateRankingHighlightsParagraph(){if(mostViewedDestinations.isEmpty()&&mo
stBookedPackages.isEmpty()&&getNextColor().toList();}List<Color>
statusLegendColors=[];if(guestStatusDistribution.isNotEmpty()&&!guestStatusDistri
bution.values.every((v)=>v==0)){_colorIndex=0;statusLegendColors=guestStatusDis
tribution.keys.map((_)=>getNextColor()).toList();}List<Color>
guestTypeLegendColors=[];if(guestTypeDistribution.isNotEmpty()&&!guestTypeDis
tribution.values.every((v)=>v==0)){_colorIndex=0;guestTypeLegendColors=guestTy
peDistribution.keys.map((_)=>getNextColor()).toList();}return
Card(elevation:2,margin:const EdgeInsets.all(8.0),child:Padding(padding:const
EdgeInsets.all(16.0),child:Column(crossAxisAlignment:CrossAxisAlignment.start,chi
ldren:[const Text(' Guest Demographics
Breakdown',style:TextStyle(fontSize:18,fontWeight:FontWeight.bold))const
SizedBox(height:8),const Text('Distribution of guests by gender, status, and visitor
type for the selected date range.'),const
SizedBox(height:12),Row(crossAxisAlignment:CrossAxisAlignment.start,children:[E
xpanded(child:Column(children:[const
Text('Gender',style:TextStyle(fontSize:14,fontWeight:FontWeight.w600)),const
SizedBox(height:16),SizedBox(height:140,child:guestGenderDistribution.isEmpty||g
uestGenderDistribution.values.every((v)=>v==0)?Center(child:Text('No
data')):PieChart(PieChartData(sections:_buildPieChartSections(guestGenderDistrib
ution,radius:48,centerSpaceRadius:26)),if(guestGenderDistribution.isNotEmpty)&
&!guestGenderDistribution.values.every((v)=>v==0))Padding(padding:const
EdgeInsets.only(top:12.0),child:Container(constraints:BoxConstraints(maxHeight:1
00),child:SingleChildScrollView(child:CustomLegendWidget(dataMap:guestGender

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e));final topR=topRevenue.take(3).toList();buffer.write('In terms of revenue, the top
packages were ');for(int i=0;i<topR.length;i++){final e=topR[i];buffer.write('${e.key}
(#${e.value.toStringAsFixed(2)});if(i<topR.length-1)buffer.write(', ');else
buffer.write(' . ')}}buffer.write('These rankings offer clear guidance for promotional
prioritization and product development.);return buffer.toString();}Widget
_buildGuestDemographicsCard(){List<Color>
genderLegendColors=[];if(guestGenderDistribution.isNotEmpty&&!guestGenderDis
tribution.values.every((v)==>v==0)){_colorIndex=0;genderLegendColors=guestGender
Distribution.keys.map((_)=>data'):PieChart(PieChartData(sections:_buildPieChartS
ections(guestStatusDistribution,radius:48),centerSpaceRadius:26)),if(guestStatusDist
ribution.isNotEmpty&&!guestStatusDistribution.values.every((v)==>v==0))Padding(p
adding:const
EdgeInsets.only(top:12.0),child:Container(constraints:BoxConstraints(maxHeight:10
0),child:SingleChildScrollView(child:CustomLegendWidget(dataMap:guestStatusDist
ribution,colors:statusLegendColors))),),const
SizedBox(width:12),Expanded(child:Column(children:[const Text('Guest
Type',style:TextStyle(fontSize:14,fontWeight:FontWeight.w600)),const
SizedBox(height:16),SizedBox(height:140,child:guestTypeDistribution.isEmpty||guest
TypeDistribution.values.every((v)==>v==0)?const Center(child:Text('No
data')):PieChart(PieChartData(sections:_buildPieChartSections(guestTypeDistributio
n,radius:50),centerSpaceRadius:28))),if(guestTypeDistribution.isNotEmpty&&!guest
TypeDistribution.values.every((v)==>v==0))Padding(padding:const
EdgeInsets.only(top:12.0),child:Container(constraints:BoxConstraints(maxHeight:10
0),child:SingleChildScrollView(child:CustomLegendWidget(dataMap:guestTypeDistri
bution,colors:guestTypeLegendColors))),),),const
SizedBox(height:12),Text(_generateGuestDemographicsParagraph(),style:const
TextStyle(fontSize:13),textAlign:TextAlign.justify,),],),),};}Widget
_buildTotalGuestsPerDayCard(){final
maxGuests=totalGuestsPerDay.isEmpty?0.0:totalGuestsPerDay.values.fold<double>(0
.0,(p,e)=>p>e?p:e.toDouble());final interval=_computeNiceInterval(maxGuests);final
dateKeys=totalGuestsPerDay.keys.toList().sort((a,b)=>a.compareTo(b));final
spots=_buildLineChartSpots(totalGuestsPerDay);final double
maxGuestsCeil=maxGuests>0?maxGuests.ceil.ToDouble():1.0;final double
chartMaxY=maxGuestsCeil+3.0;final int pointCount=dateKeys.length;final int
labelStep=pointCount<=7?1:(pointCount/6).ceil();return
_buildAnalyticsCard(title:'📈 Total Guests per Day',description:'Daily total guest
counts for the selected
period.',lineTouchData:LineTouchData(handleBuiltInTouches:true,touchTooltipData
:LineTouchTooltipData(getTooltipColor:(touchedSpot)=>Colors.black87,getTooltipI
tems:(touchedSpots){return touchedSpots.map((t){final idx=t.x.toInt();String
formattedDate='';try{final raw=dateKeys[idx];final
dt=DateFormat('yyyy-MM-dd').parse(raw);formattedDate=DateFormat('MM/dd/yyyy')
.format(dt);}catch(_){formattedDate=dateKeys.length>idx?dateKeys[idx]:'.'};final
valueStr=NumberFormat('#,##0').format(ty);return
LineTooltipItem($formattedDate: $valueStr guests',const
TextStyle(color:Colors.white));}.toList();},),),const
SizedBox(height:16),Padding(padding:const
EdgeInsets.symmetric(horizontal:4.0),child:Text(_generateTotalGuestsParagraph(),styl
e:const TextStyle(fontSize:13),textAlign:TextAlign.justify,),),const
SizedBox(height:12),];}double _calculateRevenueInterval(Map<String,double>
m){if(m.isEmpty)return 1000;final
maxRevenue=m.values.fold<double>(0.0,(prev,element)=>prev>element?prev:elem
ent.toDouble());if(maxRevenue<=0)return 1000;if(maxRevenue<5000)return
500;if(maxRevenue<10000)return 1000;if(maxRevenue<50000)return
5000;if(maxRevenue<100000)return 10000;return
(maxRevenue/5).ceil.ToDouble();}Widget _buildRevenueSummaryCard(){final
maxRevenue=totalRevenuePerDay.isEmpty?0.0:totalRevenuePerDay.values.fold<dou
ble>(0.0,(p,e)=>p>e?p:e.toDouble());final
revInterval=_computeNiceInterval(maxRevenue);final
dateKeysRev=totalRevenuePerDay.keys.toList().sort((a,b)=>a.compareTo(b));final
revSpots=_buildLineChartSpots(totalRevenuePerDay.map((k,v)=>MapEntry(k,v)));fi

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Distribution.colors:genderLegendColors))))))),const
SizedBox(width:12),Expanded(child:Column(children:[const
Text('Status',style:TextStyle(fontSize:14,fontWeight:FontWeight.w600)),const
SizedBox(height:16),SizedBox(height:140,child:guestStatusDistribution.isEmpty||gue
stStatusDistribution.values.every((v)==>v==0)?const Center(child:Text('No
height:320,chartWidget:Column(crossAxisAlignment:CrossAxisAlignment.start,child
ren:[SizedBox(height:220,child:totalGuestsPerDay.isEmpty?const
Center(child:Text('No data')):LineChart(LineChartData(gridData:const
FlGridData(show:true),clipData:FlClipData.all(),titlesData:FlTitlesData(leftTitles:A
xisTitles(sideTitles:SideTitles(showTitles:true,reservedSize:56,interval:interval,getTitle
Widget:(value,meta){return Padding(padding:const
EdgeInsets.only(right:6.0),child:Text
NumberFormat.compact().format(value),style:const
TextStyle(fontSize:10)),);}),bottomTitles:AxisTitles(sideTitles:SideTitles(showTitles
:true,reservedSize:36,interval:1,getTitleWidget:(value,meta){if((value-value.toInt()).a
bs()>0.0001)return const SizedBox.shrink();final int
idx=value.toInt();if(dateKeys.isEmpty||idx<0||idx>=dateKeys.length)return const
SizedBox.shrink();if(idx==0||idx==dateKeys.length-1||idx%labelStep==0){return
_bottomTitleWidgets(value,meta,dateKeys);}}return const
SizedBox.shrink();},),topTitles:const
AxisTitles(sideTitles:SideTitles(showTitles:false)),rightTitles:const
AxisTitles(sideTitles:SideTitles(showTitles:false)),minX:0,maxX:(dateKeys.length>
0?(dateKeys.length-1).toDouble():0,borderData:FlBorderData(show:true,minY:0,m
axY:chartMaxY,lineBarsData:[LineChartBarData(spots:spots,isCurved:true,color:Col
ors.green,barWidth:3,dotData:const
FlDotData(show:false),isStrokeCapRound:true,belowBarData:BarAreaData(show:tr
ue,color:Colors.green.withOpacity(0.28))),final int
revLabelStep=revPointCount<=7?:revPointCount/6).ceil();Widget
leftChart=totalRevenuePerDay.isEmpty?const Center(child:Text('No
data')):LineChart(LineChartData(gridData:const
FlGridData(show:true),clipData:FlClipData.all(),titlesData:FlTitlesData(leftTitles:A
xisTitles(sideTitles:SideTitles(showTitles:true,reservedSize:56,interval:revInterval,getTitle
Widget:(value,meta){return Padding(padding:const
EdgeInsets.only(right:4.0),child:Text(NumberFormat.compact().format(value),style:c
onst
TextStyle(fontSize:10)),);}),bottomTitles:AxisTitles(sideTitles:SideTitles(showTitl
es:true,reservedSize:36,interval:1,getTitleWidget:(value,meta){if((value-value.toInt())
.abs()>0.0001)return const SizedBox.shrink();final int
idx=value.toInt();if(dateKeysRev.isEmpty||idx<0||idx>=dateKeysRev.length)return const
SizedBox.shrink();if(idx==0||idx==dateKeysRev.length-1||idx%revLabelStep==0){ret
urn _bottomTitleWidgets(value,meta,dateKeysRev);}}return const
SizedBox.shrink();},),topTitles:const
AxisTitles(sideTitles:SideTitles(showTitles:false)),rightTitles:const
AxisTitles(sideTitles:SideTitles(showTitles:false)),minX:0,maxX:(dateKeysRev.leng
th>0?(dateKeysRev.length-1).toDouble():0,borderData:FlBorderData(show:true),li
neBarsData:[LineChartBarData(spots:revSpots,isCurved:true,color:Theme.of(context)
.colorScheme.primary,barWidth:3,dotData:const
FlDotData(show:false),belowBarData:BarAreaData(show:true,color:Theme.of(context)
.colorScheme.primary.withOpacity(0.25))),lineTouchData:LineTouchData(handle
BuiltInTouches:true,touchTooltipData:LineTouchTooltipData(getTooltipColor:(touchedSpot)=>Colors
.black87,getTooltipItems:(touchedSpots){return
touchedSpots.map((t){final idx=t.x.toInt();String formattedDate='';try{final
raw=dateKeysRev[idx];final
dt=DateFormat('yyyy-MM-dd').parse(raw);formattedDate=DateFormat('MM/dd/yyyy')
.format(dt);}String label=packageKeys.length>idx?packageKeys[idx]:'Item';final
valueStr=NumberFormat('#,##0').format(rod.toY);return BarTooltipItem('$label\n$va
lueStr',const TextStyle(color:Colors.white));},).},),const
Card(elevation:2,margin:const EdgeInsets.all(8.0),child:Padding(padding:const
EdgeInsets.all(16.0),child:Column(crossAxisAlignment:CrossAxisAlignment.start,child
ren:[const Text('💰 Total Revenue per Day & Revenue per Tour

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nal int
revPointCount=dateKeysRev.length;catch(_){formattedDate=dateKeysRev.length>id
x?dateKeysRev[idx]:"};final valueStr=NumberFormat('#,##0').format(t.y);return
LineTooltipItem($formattedDate: P $valueStr,const
TextStyle(color:Colors.white));}.toList();},),);final Map<String,double>
displayedRevenuePerPackage=Map<String,double>.fromEntries(revenuePerPackage.e
ntries.take(5));final
maxPackageRevenue=displayedRevenuePerPackage.isEmpty?0.0:displayedRevenuePer
Package.values.fold<double>(0.0,(p,e)=>p>e?p:e);final
pkgInterval=_computeNiceInterval(maxPackageRevenue);final
packageKeys=displayedRevenuePerPackage.keys.toList();Widget
rightChart=displayedRevenuePerPackage.isEmpty?const Center(child:Text('No
data')):Padding(padding:const
EdgeInsets.symmetric(horizontal:8.0),child:BarChart(BarChartData(alignment:BarCh
artAlignment.spaceAround,maxY:(maxPackageRevenue*1.2)<=0?1:maxPackageReven
ue*1.2,groupsSpace:16,titlesData:FITitlesData(bottomTitles:AxisTitles(sideTitles:Side
Titles(showTitles:true,reservedSize:42,getTitlesWidget:(value,meta){final
index=value.toInt();if(index<0||index>packageKeys.length)return Container();return
Padding(padding:const
EdgeInsets.only(top:6.0),child:Text(packageKeys.elementAt(index),style:const
TextStyle(fontSize:10),maxLines:2,overflow:TextOverflow.ellipsis)})),leftTitles:AxisTi
tles(sideTitles:SideTitles(showTitles:true,reservedSize:48,interval:pkgInterval,getTitles
Widget:(v,meta)=>Padding(padding:const
EdgeInsets.only(right:6.0),child:Text(NumberFormat.compact().format(v),style:const
TextStyle(fontSize:10)))),topTitles:const
AxisTitles(sideTitles:SideTitles(showTitles:false)),rightTitles:const
AxisTitles(sideTitles:SideTitles(showTitles:false)),barGroups:_buildBarChartGroups
(displayedRevenuePerPackage.map((k,v)=>MapEntry(k,v)),Theme.of(context).colorSc
HEME.secondary,width:14),gridData:const
FLGridData(show:true),borderData:FLBorderData(show:true),barTouchData:BarTou
chData(enabled:true,touchTooltipData:BarTouchTooltipData(getTooltipColor:(group
)=>Colors.black87.getTooltipItem:(group.groupIndex,rod,rodIndex){final
idx=group.x.toInt();data}):LayoutBuilder.builder:(ctx,constraints){final double
parentWidth=constraints.maxWidth.isFinite?constraints.maxWidth:MediaQuery.of(c
ontext).size.width;final double
suggested=max(pointCount*perPoint+48.0,parentWidth);final double
chartWidth=min(suggested,parentWidth);final double
maxBookingCeil=maxBooking>0?maxBooking.ceil.ToDouble():1.0;final double
chartMaxY=maxBookingCeil+3.0;int
step=1;if(pointCount>8)step=(pointCount/8).ceil();return
SizedBox(width:chartWidth,child:LineChart(LineChartData(gridData:const
FLGridData(show:true),clipData:FLClipData.all(),titlesData:FITitlesData(leftTitles:Axi
sTitles(sideTitles:SideTitles(showTitles:true,reservedSize:44,interval:1,getTitlesWidget
:(value,meta){final intVal=value.toInt();return Padding(padding:const
EdgeInsets.only(right:6.0),child:Text(intVal.toString()),style:const
TextStyle(fontSize:10)})),bottomTitles:AxisTitles(sideTitles:SideTitles(showTitles:t
rue,reservedSize:42,interval:1,getTitlesWidget:(value,meta){final
idx=value.toInt();if(dateKeys.isEmpty||idx<0||idx>dateKeys.length)return const
SizedBox.shrink();const int minSpacing=3;final int
step=(dateKeys.length/8).ceil().clamp(minSpacing,6);if(idx==0||idx==dateKeys.length
-1||idx%step==0){return _bottomTitleWidgets(value,meta,dateKeys);}return const
SizedBox.shrink());}),topTitles:const
AxisTitles(sideTitles:SideTitles(showTitles:false)),rightTitles:const
AxisTitles(sideTitles:SideTitles(showTitles:false)),borderData:FLBorderData(show:t
rue,minY:0,maxY:chartMaxY,lineBarsData:[LineChartBarData(spots:spots,isCurved:tr
ue,color:Theme.of(context).colorScheme.primary,barWidth:3,dotData:const
FLDotData(show:false),isStrokeCapRound:true,belowBarData:BarAreaData(show:tru
e,color:Theme.of(context).colorScheme.primary.withOpacity(0.16))),],lineTouchData:
LineTouchData(handleBuiltInTouches:true,touchTooltipData:LineTouchTooltipDat
a(getTooltipColor:(touchedSpot)=>Colors.black87,selectedCategoryDistribution.keys
.map(_)=>getNextColor()).toList();}Widget left=_buildAnalyticsCard(title:'Booking
Package',style:TextStyle(fontSize:18,fontWeight:FontWeight.bold)),const
SizedBox(height:8),const Text('Revenue trends and package-level revenue insights for
the selected period.'),const
SizedBox(height:12),Row(children:[Expanded(child:SizedBox(height:220,child:leftC
hart)),const
SizedBox(width:12),Expanded(child:SizedBox(height:220,child:rightChart)),]),const
SizedBox(height:12),Text('Avg Revenue per Guest:
P${averageRevenuePerGuest.toStringAsFixed(2)}'),const
SizedBox(height:6),Text(_generateRevenueSummaryParagraph(),style:const
TextStyle(fontSize:13),textAlign:TextAlign.justify),),],List<BarChartGroupData>
_buildBarChartGroups(Map<String,num> data,Color baseColor,{double
width=14}){List<BarChartGroupData> groups=[];final
keys=data.keys.toList();for(int i=0;i<keys.length;i++){final
value=data[keys[i]].toDouble();groups.add(BarChartGroupData(x:i,barRods:[BarC
hartRodData(toY:value,color:baseColor,width:width)]));}return groups;}Widget
_buildBookingsPerDayCard(){final
maxBooking=bookingsPerDay.isEmpty?0.0:bookingsPerDay.values.fold<double>(0.0
,(p,e)=>p>e?p.e.toDouble());final interval=_computeNiceInterval(maxBooking);final
dateKeys=bookingsPerDay.keys.toList()..sort((a,b)=>a.compareTo(b));final
spots=_buildLineChartSpots(bookingsPerDay.map((k,v)=>MapEntry(k,v.toDouble(
))));final int pointCount=spots.length;final double perPoint=40.0;return
SizedBox(width:MediaQuery.of(context).size.width<600?double.infinity:(MediaQuer
y.of(context).size.width/2)-12,child:_buildAnalyticsCard(title:' Bookings per
Day',description:'Daily booking counts for the selected
period.',chartWidget:bookingsPerDay.isEmpty?const Center(child:Text('No
getTooltipItems:(touchedSpots){return touchedSpots.map((t){final
idx=t.x.toInt();SFormattedDate='';try{final raw=dateKeys[idx];final
dt=DateFormat('yyyy-MM-dd').parse(raw);formattedDate=DateFormat('MM/dd/yy
yy').format(dt);}catch(_){formattedDate=dateKeys.length>idx?dateKeys[idx]:"};final
valueStr=NumberFormat('#,##0').format(t.y);return
LineTooltipItem($formattedDate: $valueStr booking/s',const
TextStyle(color:Colors.white));}.toList();},),height:220,); }Widget
_buildBookingModeCard(){List<Color>
bookingModeLegendColors=[];if(bookingModeDistribution.isNotEmpty&&!booki
ngModeDistribution.values.every((v)=>v==0)){_colorIndex=0;bookingModeLegend
Colors=bookingModeDistribution.keys.map(_)=>(getNextColor()).toList();}retur
n
SizedBox(width:MediaQuery.of(context).size.width<600?double.infinity:(MediaQuer
y.of(context).size.width/2)-12,child:_buildAnalyticsCard(title:' Booking
Mode',description:'Distribution between collective bookings and per-guest
bookings.',chartWidget:bookingModeDistribution.isEmpty||bookingModeDistributi
on.values.every((v)=>v==0)?const Center(child:Text('No data')):Padding(
padding:const
EdgeInsets.symmetric(vertical:8.0,horizontal:4.0),child:Row(crossAxisAlignment:C
rossAxisAlignment.center,center,children:[Expanded(flex:5,child:SizedBox(height:160,child:
PieChart(PieChartData(sections:_buildPieChartSections(bookingModeDistribution,
radius:56),centerSpaceRadius:28,sectionsSpace:2))),const
SizedBox(width:16),Expanded(flex:3,child:Container(constraints:BoxConstraints(m
axHeight:160),child:SingleChildScrollView(child:CustomLegendWidget(dataMap:bo
okingModeDistribution,colors:bookingModeLegendColors))),),height:220,); }Widget
_buildBookingStatusAndCategoriesRow(){List<Color>statusLegendColors=[];if(bo
okingStatusDistribution.isNotEmpty&&!bookingStatusDistribution.values.every((v)
=>v==0)){_colorIndex=0;statusLegendColors=bookingStatusDistribution.keys.map
(_)=>
getNextColor().toList();}List<Color>categoryLegendColors=[];if(selectedCategory
Distribution.isNotEmpty&&!selectedCategoryDistribution.values.every((v)=>v==0
)){_colorIndex=0;categoryLegendColors=displayedAgencyLeaderboard.values.fold<d
ouble>(0.0,(p,e)=>p>e?p.e.toDouble());final
agencyInterval=_computeNiceInterval(agencyMax);final agencyKeys=
displayedAgencyLeaderboard.keys.toList();Widget

```

```

Status Tracker',description:'Status breakdown (Pending, Confirmed, Cancelled, etc.)',chartWidget:bookingStatusDistribution.isEmpty?const Center(child:Text('No data')):Padding(padding:const
EdgeInsets.symmetric(vertical:8.0),child:Row(children:[Expanded(flex:5,child:SizedBox(height:160,child:PieChart(PieChartData(sections:_buildPieChartSections(bookingStatusDistribution,radius:56),centerSpaceRadius:28)))),const
SizedBox(width:12),Expanded(flex:3,child:Container(constraints:BoxConstraints(maxHeight:160),child:SingleChildScrollView(child:CustomLegendWidget(dataMap:bookingStatusDistribution,colors:statusLegendColors))))],),height:260,),Widget
right=_buildAnalyticsCard(title:'Booking Categories',description:'Breakdown by booking categories or
purposes.',chartWidget:selectedCategoryDistribution.isEmpty?const
Center(child:Text('No data')):Padding(padding:const
EdgeInsets.symmetric(vertical:8.0),child:Row(children:[Expanded(flex:5,child:SizedBox(height:160,child:PieChart(PieChartData(sections:_buildPieChartSections(selectedCategoryDistribution.map((k,v)=>MapEntry(k,v)),radius:56),centerSpaceRadius:28)))),const
SizedBox(width:12),Expanded(flex:3,child:Container(constraints:BoxConstraints(maxHeight:160),child:SingleChildScrollView(child:CustomLegendWidget(dataMap:selectedCategoryDistribution,colors:categoryLegendColors))))],),height:260,),return
Column(children:[Row(children:[Expanded(child:left),Expanded(child:right)]),const
SizedBox(height:8),Padding(padding:const EdgeInsets.symmetric(horizontal:12.0),
child:Text(_generateBookingsParagraph()),style:const
TextStyle(fontSize:13),textAlign:TextAlign.justify),const
SizedBox(height:8,);]};Widget _buildAgencySummaryRow(){List<Color>
agencyLegendColors=[];if(agencyTypeDistribution.isNotEmpty&&!agencyTypeDistribution.values.every((v)=>v==0)){_colorIndex=0;agencyLegendColors=agencyTypeDistribution.keys.map((_)=>getNextColor()).toList();}final Map<String,int>
displayedAgencyLeaderboard=Map<String,int>.fromEntries(agencyLeaderboard.entries.take(5));final
agencyMax=displayedAgencyLeaderboard.isEmpty?0.0:TextStyle(color:Colors.white));
},),),),height:220,);return
Column(children:[Row(children:[Expanded(child:left),Expanded(child:right)]),const
SizedBox(height:8),Padding(padding:const
EdgeInsets.symmetric(horizontal:12.0),child:Text(_generateAgencySummaryParagraph(),style:const TextStyle(fontSize:13),textAlign:TextAlign.justify),)],);Widget
_buildMostViewedDestinationsCard(){final topN=10;final
entries=mostViewedDestinations.entries.toList();final
topEntries=entries.take(topN).toList();final Map<String,num>
displayed=Map.fromEntries(topEntries);final
maxVal=displayed.isEmpty?0.0:displayed.values.fold<double>(0.0,(p,e)=>p>e?p:e.toDouble());final interval=_computeNiceInterval(maxVal);final
displayedKeys=displayed.keys.toList();return mostViewedDestinations.isEmpty?const
SizedBox.shrink():_buildAnalyticsCard(title:'Most Viewed Destinations',description:'Top destinations by page views (top 10 shown)',height:240,chartWidget:BarChart(BarChartData(alignment:BarChartAlignment.spaceAround,maxY:maxVal*1.2,groupsSpace:12,titlesData:FlTitlesData(leftTitles:AxisTitles(sideTitles:SideTitles(showTitles:true,reservedSize:40,interval:interval,getTitlesWidget:(v,meta)=>Padding(padding:const
EdgeInsets.only(right:6.0),child:Text(NumberFormat(compact()).format(v),style:const
TextStyle(fontSize:10))),bottomTitles:AxisTitles(sideTitles:SideTitles(showTitles:true,reservedSize:56,getTitlesWidget:(value,meta){final
index=value.toInt();if(index<0||index>=displayedKeys.length) return
Container();return Padding(padding:const
EdgeInsets.only(top:6.0),child:Text(displayedKeys.elementAt(index),style:const
TextStyle(fontSize:10),maxLines:2,overflow:TextOverflow.ellipsis),),),topTitles:const
AxisTitles(sideTitles:SideTitles(showTitles:false)),rightTitles:const
AxisTitles(sideTitles:SideTitles(showTitles:false)),barGroups:_buildBarChartGroups(displayed.map((k,v)=>MapEntry(k,v)),Colors.deepPurpleAccent,width:14),gridData:const
FlGridData(show:true,drawVerticalLine:false),borderData:FlBorderData(show:true),b
left=_buildAnalyticsCard(title:'Agency Type Distribution',description:'How guests are affiliated with agencies or organizations.',chartWidget:agencyTypeDistribution.isEmpty?const
Center(child:Text('No data')):Row(children:[Expanded(flex:2,child:SizedBox(height:160,child:PieChart(PieChartData(sections:_buildPieChartSections(agencyTypeDistribution,radius:56),centerSpaceRadius:26,sectionsSpace:2)))),const
SizedBox(width:16),Expanded(flex:1,child:Container(constraints:BoxConstraints(maxHeight:160),child:SingleChildScrollView(child:CustomLegendWidget(dataMap:agencyTypeDistribution,colors:agencyLegendColors))))],),height:220,),Widget
right=_buildAnalyticsCard(title:'Agency Leaderboard',description:'Top agencies by guest count or bookings.',chartWidget:displayedAgencyLeaderboard.isEmpty?const
Center(child:Text('No data')):BarChart(BarChartData(alignment:BarChartAlignment.spaceAround,maxY:agencyMax*1.2,groupsSpace:12,titlesData:FlTitlesData(bottomTitles:AxisTitles(sideTitles:SideTitles(showTitles:true,reservedSize:42,getTitlesWidget:(value,meta){final
index=value.toInt();if(index<0||index>=agencyKeys.length) return
Container();return Padding(padding:const
EdgeInsets.only(top:6.0),child:Text(agencyKeys.elementAt(index),style:const
TextStyle(fontSize:10),maxLines:2,overflow:TextOverflow.ellipsis),),),leftTitles:AxisTitles(sideTitles:SideTitles(showTitles:true,reservedSize:40,interval:agencyInterval,getTitleWidget:(v,meta)=>Padding(padding:const
EdgeInsets.only(right:6.0),child:Text(NumberFormat.compact().format(v),style:const
TextStyle(fontSize:10))),),topTitles:const
AxisTitles(sideTitles:SideTitles(showTitles:false)),rightTitles:const
AxisTitles(sideTitles:SideTitles(showTitles:false)),barGroups:_buildBarChartGroups(displayedAgencyLeaderboard.map((k,v)=>MapEntry(k,v)),Theme.of(context).colorScheme.primary,width:14),gridData:const
FlGridData(show:true),borderData:FlBorderData(show:true),barTouchData:BarTouchData(enabled:true,touchTooltipData:BarTouchTooltipData(getTooltipColor:group->Colors.black,groupIndex:group.groupIndex,rodIndex:group.rodIndex,rodIndex:group.rodIndex){final
idx=group.x.toInt();String
label=agencyKeys.length>idx?agencyKeys[idx]:'Agency';final
valueStr=NumberFormat('#,##0').format(rod.toY);return
BarTooltipItem('$label\n$valueStr',const TextStyle(color:Colors.white),),),),),),Widget _buildMostBookedPackagesCard(){final
Map<String,int>displayedMostBooked=Map<String,int>.fromEntries(mostBookedPackages.entries.take(5));final
maxBooked=displayedMostBooked.isEmpty?0.0:displayedMostBooked.values.fold<double>(0.0,(p,e)=>p>e?p:e.toDouble());final
interval=_computeNiceInterval(maxBooked);final
keys=displayedMostBooked.keys.toList();return
displayedMostBooked.isEmpty?const
SizedBox.shrink():_buildAnalyticsCard(title:'Most Booked Packages (Overall)',height:240,description:'Most requested tour packages by number of bookings.',chartWidget:BarChart(BarChartData(alignment:BarChartAlignment.spaceAround,maxY:maxBooked*1.2,groupsSpace:12,titlesData:FlTitlesData(leftTitles:AxisTitles(sideTitles:SideTitles(showTitles:true,reservedSize:40,interval:interval,getTitlesWidget:(v,meta)=>Padding(padding:const
EdgeInsets.only(right:6.0),child:Text(NumberFormat(compact()).format(v),style:const
TextStyle(fontSize:10))),bottomTitles:AxisTitles(sideTitles:SideTitles(showTitles:true,reservedSize:42,getTitlesWidget:(value,meta){final
index=value.toInt();if(index<0||index>=keys.length) return
Container();return Padding(padding:const
EdgeInsets.only(top:6.0),child:Text(keys.elementAt(index),style:const
TextStyle(fontSize:10),maxLines:2,overflow:TextOverflow.ellipsis),),),topTitles:const
AxisTitles(sideTitles:SideTitles(showTitles:false)),rightTitles:const
AxisTitles(sideTitles:SideTitles(showTitles:false)),barGroups:_buildBarChartGroups(displayedMostBooked.map((k,v)=>MapEntry(k,v)),Theme.of(context).colorScheme.secondary,width:14),gridData:const
FlGridData(show:true),borderData:FlBorderData(show:true),barTouchData:BarTouchData(enabled:true,touchTooltipData:BarTouchTooltipData(getTooltipColor:group->Colors.black,groupIndex:group.groupIndex,rodIndex:group.rodIndex,rodIndex:group.rodIndex){final
idx=group.x.toInt();String
label=keys.length>idx?keys[idx]:'';final
valueStr=NumberFormat('#,##0').format(rod.toY);return
BarTooltipItem('$label\n$valueStr',const TextStyle(color:Colors.white),),),),),),)

```

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arTouchData:BarTouchData(enabled:true,touchTooltipData:BarTouchTooltipData(g
erTooltipColor:(group)=>Colors.black87,getTooltipItem:(group,groupIndex,rod,rodI
ndex){Widget _buildTourPackagePopularityCard(){final Map<String,double>
displayedPopularity=Map<String,double>.fromEntries(revenuePerPackage.entries.take
(5));final
maxRev=displayedPopularity.isEmpty?0.0:displayedPopularity.values.fold<double>(0.
0,(p,e)=>p>e?p.e.toDouble(););final interval=_computeNiceInterval(maxRev);final
keys=displayedPopularity.keys.toList();return displayedPopularity.isEmpty?const
SizedBox.shrink():_buildAnalyticsCard(title:'Tour Package
Popularity',height:240,description:'Revenue-based popularity of tour
packages.',chartWidget:BarChart(BarChartData(alignment:BarChartAlignment.space
Around,maxY:maxRev*1.2,groupsSpace:12,titlesData:FlTitlesData(leftTitles:AxisTitle
s(sideTitles:SideTitles(showTitles:true,reservedSize:40,interval:interval,getTitleWidget
:(v,meta)=>Padding(padding:const
EdgeInsets.only(right:6.0),child:Text(NumberFormat.compact().format(v),style:const
TextStyle(fontSize:10)))),bottomTitles:AxisTitles(sideTitles:SideTitles(showTitles:tru
e,reservedSize:42,getTitleWidget:(value,meta){final
index=value.toInt();if(index<0||index>=keys.length)return Container();return
Padding(padding:const
EdgeInsets.only(top:6.0),child:Text(keys.elementAt(index),style:const
TextStyle(fontSize:10),maxLines:2,overflow:TextOverflow.ellipsis)})),topTitles:const
AxisTitles(sideTitles:SideTitles(showTitles:false)),rightTitles:const
AxisTitles(sideTitles:SideTitles(showTitles:false))),barGroups:_buildBarChartGroups
(displayedPopularity.map((k,v)=>MapEntry(k,v)),Colors.indigo,width:14),gridData:co
nst
FlGridData(show:true),borderData:FlBorderData(show:true),barTouchData:BarTou
chData(enabled:true,touchTooltipData:BarTouchTooltipData(getTooltipColor:(group
)=>Colors.black87,getTooltipItem:(group,groupIndex,rod,rodIndex){final
idx=group.x.toInt();String label=keys.length>idx?keys[idx]:'Package';final
valueStr=NumberFormat('#,#0').format(rod.toY);return BarTooltipItem('$label\n$va
lueStr',const TextStyle(color:Colors.white));}),),),);}pw.Widget
_buildRevenueByPackageTop5Pdf(Map<String,double> revenue,Map<String,int>
bookings){final
entries=revenue.entries.toList()..sort((a,b)=>a.b>b.a);final
String dateRangeStr=selectedDateRange.isEmpty?'All Time':selectedDateRange;final
int totalBookings=bookingsPerDay.values.fold(0,(s,v)=>s+v);final int
totalGuests=totalGuestsPerDay.values.fold(0,(s,v)=>s+v);final double
totalRevenue=totalRevenuePerDay.values.fold(0.0,(s,v)=>s+v);final double
avgRevenuePerGuest=totalGuests>0?totalRevenue/totalGuests:0.0;final String
mostPopularPackage=_getMostPopularPackageNameForPeriod();pdf.addPage(pw.Mul
tiPage(theme:theme,pageFormat:PdfPageFormat.a4,margin:const
pw.EdgeInsets.all(32),build:(context){return
<pw.Widget>[pw.Header(level:0,child:[pw.Row(mainAxisAlignment:pw.MainAxisAlignment
.spaceBetween,children:[pw.Text('Admin Analytics
Report',style:pw.TextStyle(fontSize:20,fontWeight:pw.FontWeight.bold)),pw.PdfLogo
(),]),pw.Text('Date Range: $dateRangeStr',style:const
pw.TextStyle(fontSize:14)),pw.Divider(),_buildPdfSection('I. Executive
Summary',[pw.Center(child:[pw.Wrap(spacing:10,children:[_buildSummaryItemPdf('T
otal Bookings',totalBookings.toString()),_buildSummaryItemPdf('Total
Guests',totalGuests.toString()),_buildSummaryItemPdf('Total
Revenue','P${totalRevenue.toStringAsFixed(2)}'),_buildSummaryItemPdf('Avg.
Revenue/Guest','P${avgRevenuePerGuest.toStringAsFixed(2)}'),_buildSummaryItem
Pdf('Most Popular
Package',mostPopularPackage.capitalizeFirst(),)]),],_buildPdfSection('II. Booking &
Guest Activity',[pw.Header(level:2,text:'A. Daily
Trends'),pw.SizedBox(height:0.1*PdfPageFormat.cm),pw.Bullet(text:'Average Bookings
per Day:
${bookingsPerDay.isNotEmpty?(bookingsPerDay.values.reduce((a,b)=>a+b)/bookings
perDay)}',style:const
pw.TextStyle(fontSize:14),pw.EdgeInsets.all(10),pw.BoxDecoration(color:Colors
.white,strokeWidth:1,shape:pw.BoxShape.roundedRect,radius:10),padding:const
EdgeInsets.all(10),margin:const
EdgeInsets.all(10))],_buildPdfSection('III. Guest Profile
Analysis',[pw.Header(level: 2,text:'A.
Demographics'),_buildTwoColumnTablePdf('Guest Gender
Distribution',guestGenderDistribution),_buildTwoColumnTablePdf('Guest Type
Distribution',guestTypeDistribution),_buildTwoColumnTablePdf('Guest Status
Distribution',guestStatusDistribution),pw.Header(level: 2,text:'B. Visitor
Behavior'),pw.Text(_generateGuestDemographicsParagraph(),textAlign:
pw.TextAlign.justify,style: pw.TextStyle(fontSize: 11)),pw.SizedBox(height: 0.2 *
PdfPageFormat.cm),pw.Header(level: 2,text:'C. Agency
Affiliations'),_buildTwoColumnTablePdf('Agency Type
Distribution',agencyTypeDistribution),pw.SizedBox(height: 0.1 *
PdfPageFormat.cm),pw.Text(_generateAgencySummaryParagraph(),textAlign:
pw.TextAlign.justify,style: pw.TextStyle(fontSize: 11)),],_buildPdfSection('IV.

```

```

PerDay.length).toStringAsFixed(1) :"0"}),pw.SizedBox(height:0.2*PdfPageFormat.cm),
_buildTwoColumnTablePdf('Total Guests per
Day',totalGuestsPerDay.map((key,value){try{return MapEntry(DateTimeFormat('MMM d,
yyyy').format(DateTime.parse(key)),value);}catch(e){return
MapEntry(key,value);}})),pw.SizedBox(height:0.3*PdfPageFormat.cm),pw.Header(level
:2,text:'B. Booking Channels &
Status'),pw.Text(_generateRankingHighlightsParagraph(),style:pw.TextStyle(fontSize:1
1),textAlign:pw.TextAlign.justify),pw.SizedBox(height:0.2*PdfPageFormat.cm),pw.Text
('Top 5 Most Booked Packages
(Period):',style:pw.TextStyle(fontWeight:pw.FontWeight.bold)),..._buildTopNListPdf(
mostBookedPackages.map((k,v)=>MapEntry(k,v as
num)),5),pw.SizedBox(height:0.3*PdfPageFormat.cm),pw.Header(level:2,text:'B.
Destination Engagement'),pw.Text('Most Viewed Destinations (Top
5):',style:pw.TextStyle(fontWeight:pw.FontWeight.bold)),..._buildTopNListPdf(mostV
iewedDestinations.map((k,v)=>MapEntry(k,v as
num)),5),],),footer:(ctx)=>pw.Container(alignment:pw.Alignment.centerRight,mar
gin:const pw.EdgeInsets.only(top:8.0),child:pw.Text('Page ${ctx.pageNumber} of
${ctx.pagesCount} - Generated:
${DateFormat.yMd().add_jm().format(DateTime.now())}',style:pw.TextStyle(color:Pd
fColors.grey,fontSize:10))),);final bytes=await pdf.save();final
name="Admin_Analytics_Report_${DateFormat('yyyy-MM-dd').format(DateTime.n
ow())}.pdf";String? pickedPath=await FilePicker.platform.saveFile(dialogTitle:'Save
PDF
report',fileName:name,type:FileType.custom,allowedExtensions:['pdf'],bytes:kIsWeb?
Uint8List.fromList(bytes):null,);if(pickedPath!=null&&!kIsWeb){final
file=File(pickedPath);await
file.writeAsBytes(bytes,flush:true);ScaffoldMessenger.of(context).showSnackBar(Snack
Bar(content:Text('PDF saved:
${file.path}')));}else{ScaffoldMessenger.of(context).showSnackBar(const
SnackBar(content:Text('PDF generation complete.')));}
} }pw.Widget
_buildSummaryItemPdf(String title,String value){return
pw.Column(children:[pw.Text(title,style:pw.TextStyle(fontSize:9,fontWeight:pw.Font
Weight.bold)),pw.SizedBox(height:4),pw.Text(value,style:pw.TextStyle(fontSize:11))]);
}List<pw.Widget> _buildPdfListItems(Map<String,int> data){if(data.isEmpty)return
[pw.Text('No data')];final
entries=data.entries.toList().sort((a,b)=>b.value.compareTo(a.value));return
entries.map((e)=>pw.Bullet(text:'${e.key}: ${e.value}')).toList();}List<pw.Widget>
_buildTopNListPdf(Map<String,num> data,int n,{String? valuePrefix}){final
entries=data.entries.toList().sort((a,b)=>b.value.compareTo(a.value));return
entries.take(n).map((e)=>pw.Text('${e.key}: @override Widget build(BuildContext
context){if(dataMap.isEmpty||dataMap.values.every((v)>v==0)){return const
SizedBox.shrink();}final total=dataMap.values.fold<num>(0,(p,e)=>p+e);int
colorIdx=0;return
Column(crossAxisAlignment:CrossAxisAlignment.start,children:dataMap.entries.map
((entry){final
color=colors.isNotEmpty?colors[colorIdx%colors.length]:Colors.grey;colorIdx++;final
count=(entry.value as num).toDouble();String
selectedAgencyCategoryForLeaderboard='All';final
List<Color> _pieColors=[Colors.blue,Colors.red,Colors.green,Colors.orange,Colors.p
urple,Colors.teal,Colors.pink,Colors.amber,];int _colorIndex=0;Color
getNextColor(){final
color=_pieColors[_colorIndex%_pieColors.length];_colorIndex++;return
color;}@override void

```

lib/web/admin_bookings_page.dart

```

import 'package:flutter/material.dart';import
'package:cloud_firestore/cloud_firestore.dart';import
'package:image_picker/image_picker.dart';import
'package:flutter_dotenv/flutter_dotenv.dart';import 'dart:io';import

```

```

ton(icon:const Icon(Icons.delete,color:Colors.redAccent),tooltip:'Delete
Package',onPressed:(){ showDialog(context:context,builder:(BuildContext
dialogContext){
'Packages'),Tab(icon:Icon(Icons.place),text:'Destinations'),Tab(icon:Icon(Icons.com

```

```

'package:cloudinary/cloudinary.dart';import 'package:flutter/foundation.dart';import
'dart:typed_data';import 'admin_destinations_tab.dart';import
'admin_comments_tab.dart';import './main.dart';const Color
appBlue=Color(0xFFA9ECF);class AdminBookingsPage extends
StatefulWidget{const AdminBookingsPage({Key? key}):super(key:key);@override
State<AdminBookingsPage> createState()=>_AdminBookingsPageState();}class
_AdminBookingsPageState extends State<AdminBookingsPage> with
SingleTickerProviderStateMixin{late TabController _tabController;@override void
initState(){super.initState();_tabController=TabController(length:3,initialIndex:0);}@override void
dispose(){_tabController.dispose();super.dispose();} @override Widget
build(BuildContext context){return Scaffold(appBar:AppBar(title:const Text('Content
Management
System')backgroundColor:Colors.white,bottom:TabBar(controller: _tabController,tabs
:[const Tab(icon:Icon(Icons.card_travel),text:if(cloudinaryInstance==null){print("Cloud
inary instance not available. Cannot upload
image.");}if(mounted){ScaffoldMessenger.of(context).showSnackBar(const
SnackBar(content:Text('Image service error. Cannot upload.'))});}return null;},final
uploadPreset=EnvConfig.cloudinaryUploadPreset;if(uploadPreset==null){print("Error
: CLOUDINARY_UPLOAD_PRESET not found in .env file. Required for unsigned
upload.");}if(mounted){ScaffoldMessenger.of(context).showSnackBar(const
SnackBar(content:Text('Image upload configuration missing (upload
preset.'))});}return null;}try{print("Attempting unsigned upload: ${imageFile.path}
with preset: $uploadPreset");final response=await
cloudinaryInstance!.unsignedUpload(fileBytes:await
imageFile.readAsBytes(),resourceType:CloudinaryResourceType.image,uploadPreset:u
ploadPreset,);if(response.isSuccessful&&response.secureUrl!=null&&response.secureU
rl!.isNotEmpty){print('Cloudinary unsigned upload successful:
${response.secureUrl}');return response.secureUrl;}else{print('Cloudinary unsigned
upload failed. Error: ${response.error}. Public ID:
${response.publicId}');}if(mounted){ScaffoldMessenger.of(context).showSnackBar(Snac
kBar(content:Text('Image upload failed: ${response.error ?? "Unknown Cloudinary
error"}')));}return null;}catch(e,s){print('Exception during Cloudinary unsigned
upload: $e');print('Stack trace:
$e');}if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text(
'Image upload exception: ${e.toString()}')));}}return null;} Future<void>
_showTourPackageDialog({DocumentSnapshot? packageDoc}) async{final
_formKey= GlobalKey<FormState>();final TextEditingController
titleController=TextEditingController(text:packageDoc?.get('title')?? "");final
TextEditingController
descriptionController=TextEditingController(text:packageDoc?.get('description')?? "");final
String currentCategory=currentCategory.isNotEmpty?currentCategory:null;final
List<String> packageCategories=[ "Educational Tour", "Industrial Tour", "Food
Tour"];final TextEditingController
priceController=TextEditingController(text:packageDoc?.get('price')?.toString()?? "");Li
st<dynamic> currentImageSources=[];if(packageDoc!=null&&packageDoc.data()is
Map&&(packageDoc.data()as Map).containsKey('imageUrls')){final
imageUrlsFromServer=packageDoc.get('imageUrls');if(imageUrlsFromServer is
List){currentImageSources.addAll(imageUrlsFromServer.map((item)=>child:style:cons
t TextStyle(fontSize:22,fontWeight:FontWeight.bold),)as dynamic);const SizedBox(height:12,);
const Divider(),const
SizedBox(height:5),Expanded(child:SingleChildScrollView(child:Form(key:_formKey,c
hild:Column(crossAxisAlignment:CrossAxisAlignment.start,children:<Widget>[TextF
ormField(controller:titleController,decoration:const
InputDecoration(labelText:'Title'),validator:(value)=>value!.isEmpty?'Please enter a
title':null,),const
SizedBox(height:8),TextFormField(controller:descriptionController,decoration:const
InputDecoration(labelText:'Description'),maxLines:3,validator:(value)=>value!.isEmpty?
'Please enter a description':null,),const
SizedBox(height:8),DropdownButtonFormField<String>(decoration:const
InputDecoration(labelText:'Category'),value:selectedCategory,items:packageCategories
ment),text:'Comments'),]),),body:TabBarView(controller:_tabController,children:
AdminTourPackagesTab(),AdminDestinationsTab(),AdminCommentsTab(),),);}}cl
ass AdminTourPackagesTab extends StatefulWidget{const
AdminTourPackagesTab({Key? key}):super(key:key);@override
State<AdminTourPackagesTab> createState()=> _AdminTourPackagesTabState();}class
_AdminTourPackagesTabState extends State<AdminTourPackagesTab>{@final
FirebaseFirestore _firestore=FirebaseFirestore.instance;final ImagePicker
_picker=ImagePicker();Cloudinary? cloudinaryInstance;final TextEditingController
_searchController=TextEditingController();String
_searchTerm="";String? _selectedCategoryFilter;String
_selectedAvailabilityFilter='All';List<DocumentSnapshot>
_allPackages=[];List<DocumentSnapshot> _filteredPackages=[];final List<String>
packageCategories=[ "All Categories", "Educational Tour", "Industrial Tour", "Food
Tour"];@override void initState(){super.initState();final
cloudName=EnvConfig.cloudinaryCloudName;if(cloudName!=null&&cloudNam
e.isNotEmpty){cloudinaryInstance=Cloudinary.unsignedConfig(cloudName:cloud
Name,);}else{print("Error: CLOUDINARY_CLOUD_NAME not found in .env
file. Image uploads will
fail.");WidgetsBinding.instance.addPostFrameCallback((_)&gt;if(mounted){ScaffoldMe
ssenger.of(context).showSnackBar(const SnackBar(content:Text('Cloudinary service
not configured. Image uploads disabled.'),backgroundColor:Colors.orange,));}})}}
_searchController.addListener(()&gt;if(_searchController.text.isEmpty){setState(()&gt;_se
archTerm="");_applyFilters();}else{if(_searchTerm!=_searchController.text){setState(()&gt;_se
archTerm=_searchController.text);_applyFilters();}}});_selectedCategoryFi
ter=packageCategories.first;}@override void
dispose(){_searchController.dispose();super.dispose();}Future<String?> _uploadIma
geToCloudinary(XFile imageFile)async{item.toString()).toList();} bool
isAvailable=packageDoc!.get('isAvailable')??true;bool
_isUploadingImages=false;List<Map<String,dynamic>>
placesData=[];if(packageDoc!=null&&packageDoc.data()is
Map&&(packageDoc.data()as Map).containsKey('places')){final
placesFromServer=packageDoc.get('places');if(placesFromServer is List){for(var
placeMap in placesFromServer){if(placeMap is
Map){placesData.add({'nameController':TextEditingController(text:placeMap['nam
e']?? ''),'currentImageUrl':placeMap['imageUrl']?? '','pickedImageFile':null,'key':Glob
alKey<FormFieldState>());}}}return
showDialog<void>(context:context,barrierDismissible:!_isUploadingImages,builder:
(BuildContext dialogContext){return StatefulBuilder(builder:(BuildContext
context,StateSetter setStateDialog){return Dialog(insetPadding:const
EdgeInsets.symmetric(horizontal:20,vertical:24),shape:RoundedRectangleBorder(b
orderRadius:BorderRadius.circular(12)),child:SizedBox(width:MediaQuery.of(con
text).size.width*0.8,height:MediaQuery.of(context).size.height*0.85,child:Padding(pad
ding:const EdgeInsets.all(20.0),Column(children:[Text(packageDoc==null?'Add
Tour Package':'Edit Tour Package',onPressed:_isUploadingImages?null:()async{final
List<XFile> pickedFiles=await
_picker.pickMultiImage(imageQuality:70);if(pickedFiles.isNotEmpty){setStateDial
og(()&gt;if(currentImageSources.addAll(pickedFiles));}),const
SizedBox(height:10),if(currentImageSources.isNotEmpty)SizedBox(width:double.in
finity,child:Container(height:130,padding:const
EdgeInsets.all(4),decoration:BoxDecoration(border:Border.all(color:Colors.grey.sh
ade400),borderRadius:BorderRadius.circular(8),),child:ListView.builder(shrinkWrap
:true,scrollDirection:Axis.horizontal,itemCount:currentImageSources.length,itemB
uilder:(context,index){final source=currentImageSources[index];Widget
imageWidget;if(source is
XFile){imageWidget=kIsWeb?FutureBuilder<Uint8List>(future:source.readAsByte
s(),builder:(context,snapshot){if(snapshot.connectionState==ConnectionState.done
&&snapshot.hasData){return
Image.memory(snapshot.data!,width:110,height:110,fit: BoxFit.cover);}}return const
SizedBox(width:110,height:110,child:Center(child:CircularProgressIndicator(stroke
Width:2,));});Image.file(File(source.path),width:110,height:110,fit: BoxFit.cover);}}l
se if(source is

```

```

.map((String category){return
DropdownMenuItem<String>(value:category,child:Text(category),);}).toList(),onChanged:(String?
newValue){setStateDialog((){selectedCategory=newValue;});},validator:(value)=>value
==null||value.isEmpty?'Please select a category':null,),const
SizedBox(height:8),TextFormField(controller:priceController,decoration:const
InputDecoration(labelText:'Price
('),border:OutlineInputBorder(),keyboardType:TextInputType.number,validator:(va
lue){if(value==null||value.isEmpty){return'Please enter a
price';}if(double.tryParse(value)==null){return'Please enter a valid number';}return
null;},),const SizedBox(height:20),const Text("Package Cover
Images",style:TextStyle(fontSize:16,fontWeight:FontWeight.bold)),const
SizedBox(height:8),ElevatedButton.icon(style:ElevatedButton.styleFrom(padding:cons
t EdgeInsets.symmetric(horizontal:16,vertical:12)),icon:const
Icon(Icons.add_photo_alternate_outlined),label:const Text('Add Cover Images'),const
Padding(padding:EdgeInsets.symmetric(vertical:8.0),child:Text("No cover images
selected.",style:TextStyle(color:Colors.grey)),),const SizedBox(height:20),const
Text("Places in this Tour
Package",style:TextStyle(fontSize:16,fontWeight:FontWeight.bold)),const
SizedBox(height:10),if(placesData.isEmpty)const
Padding(padding:EdgeInsets.symmetric(vertical:8.0),child:Text("No places added yet
for this
package.",style:TextStyle(color:Colors.grey)),),ListView.builder(shrinkWrap:true,physic
s:const
NeverScrollableScrollPhysics(),itemCount:placesData.length,itemBuilder:(context,inde
x){final place=placesData[index];dynamic
placeImageSource=place['pickedImageFile']??place['currentImageUrl'];return
Card(margin:const
EdgeInsets.symmetric(vertical:8.0),elevation:2,child:Padding(padding:const
EdgeInsets.all(12.0),child:Column(crossAxisAlignment:CrossAxisAlignment.start,child
ren:[Row(mainAxisAlignment:MainAxisAlignment.spaceBetween,children:[Text("Pl
ace ${index+1}",style:const
TextStyle(fontWeight:FontWeight.w600)),TextButton.icon(icon:const
Icon(Icons.delete_outline,color:Colors.red,size:20),label:const
Text("Remove",style:TextStyle(color:Colors.red)), onPressed:_isUploadingImages?null:
(){setStateDialog((){placesData.removeAt(index);});},style:TextButton.styleFrom(paddi
ng:EdgeInsets.zero),),],),const
SizedBox(height:8),TextFormField(controller:place['nameController'] as
TextEditingController,decoration:const InputDecoration(labelText:'Place
Name',border:OutlineInputBorder()),validator:(value)=>value==null||value.isEmpty?
Enter place name':null,),const SizedBox(height: 12),const Text("Place
Image:",style:TextStyle(fontSize:14,fontWeight:FontWeight.w500)),const
SizedBox(height:8),if(placeImageSource!=null&&(placeImageSource is
String?placeImageSource.isNotEmpty:true))Container(height:100,width:100,margin:con
stant
EdgeInsets.only(bottom:8),decoration:BoxDecoration(border:Border.all(color:Colors.g
rey.shade300),borderRadius:BorderRadius.circular(4),),child:ClipRRect(borderRadius
:BorderRadius.circular(4.0),child:placeImageSource is
Xfile?(kIsWeb?FutureBuilder<Uint8List>(future:placeImageSource.readAsBytes(),bu
ilder:(context,snapshot){if(snapshot.connectionState==ConnectionState.done&&&snapshot
.hasData){return
Image.memory(snapshot.data!,width:100,height:100,fit: BoxFit.cover);}}return const
Center(child:CircularProgressIndicator(strokeWidth:2)),):Image.file(File(placeImage
Source.path),width:100,height:100,fit: BoxFit.cover):null,)],),),),const
Divider(height:1),Padding(padding:const
EdgeInsets.only(top:12.0,bottom:4.0,left:8.0,right:8.0),child:Row(mainAxisAlignment
:MainAxisAlignment.end,children:[TextButton(style:TextButton.styleFrom(padding:c
onst EdgeInsets.symmetric(horizontal:16,vertical:10)),child:const
Text('Cancel',style:TextStyle(fontSize:15)), onPressed:_isUploadingImages?null:(){Navi
gator.of(dialogContext).pop();},),const
SizedBox(width:10),ElevatedButton(style:ElevatedButton.styleFrom(padding:const
String&&source.isNotEmpty){imageWidget=Image.network(source,width:110,heig
ht:110,fit: BoxFit.cover,errorBuilder:(context,error,stackTrace)=>const
Icon(Icons.broken_image,size:60)};else{imageWidget=const
Icon(Icons.image_not_supported,size:60)};return Padding(padding:const
EdgeInsets.symmetric(horizontal:4.0),child:Stack(alignment:Alignment.topRight,chi
ldren:[ClipRRect(borderRadius:BorderRadius.circular(6.0),child:imageWidget),In
kWell(onTap:_isUploadingImages?null:(){setStateDialog((){currentImageSources.re
moveAt(index);});}),child:Container(margin:const EdgeInsets.all(3),padding:const
EdgeInsets.all(3),decoration:BoxDecoration(color:Colors.black.withOpacity(0.7),sha
pe:BoxShape.circle,),child:const
Icon(Icons.close,color:Colors.white,size:15),),],),),),if(currentImageSources.isE
mpty):{placeImageSource is
String?Image.network(placeImageSource,width:100,height:100,fit: BoxFit.cover,error
Builder:(ctx,err,st)=>const Icon(Icons.broken_image,size:50)):const
Icon(Icons.image_not_supported,size:50),),ElevatedButton.icon(icon:Icon(place['
pickedImageFile']!=null||(place['currentImageUrl']!=null&&place['currentImageUrl
'].isNotEmpty)?Icons.change_circle_outlined:Icons.add_photo_alternate_outlined)
,label:Text(place['pickedImageFile']!=null||(place['currentImageUrl']!=null&&place[
'currentImageUrl'].isNotEmpty)?'Change Image':'Add
Image'),style:ElevatedButton.styleFrom(backgroundColor:Colors.grey[200],foregro
undColor:Colors.black87,padding:const
EdgeInsets.symmetric(horizontal:12,vertical:8),textStyle:const
TextStyle(fontSize:13)), onPressed:_isUploadingImages?null:(){async{final XFile?
pickedFile=await
_picker.pickImage(source:ImageSource.gallery,imageQuality:60);if(pickedFile!=null
){setStateDialog((){placesData[index]['pickedImageFile']=pickedFile;});}},),),),),},),
const SizedBox(height:12),ElevatedButton.icon(icon:const
Icon(Icons.add_location_alt_outlined),label:const Text("Add a
Place"),style:ElevatedButton.styleFrom(padding:const
EdgeInsets.symmetric(horizontal:16,vertical:12)), onPressed:_isUploadingImages?nul
l:(){setStateDialog((){placesData.add({'nameController':TextEditingController(),im
ageUrlController':TextEditingController(),key:GlobalKey<FormFieldState>()});}),
const SizedBox(height:20),CheckboxListTile(title:const Text("Is
Available",style:TextStyle(fontWeight:FontWeight.w500)),value:isAvailable,onCh
anged:_isUploadingImages?null:(bool?value){setStateDialog((){isAvailable=value??fa
lse;});},controlAffinity:ListTileControlAffinity.leading,contentPadding:EdgeInsets.zer
o,activeColor:appBlue,),const SizedBox(height:20),if(_isUploadingImages)const
Padding(padding:EdgeInsets.symmetric(vertical:20.0),child:Center(child:Column(m
ainAxisSize:MainAxisSize.min,finalPlaceImageUrl=uploadedPlaceImageUrl);else{if(
mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text('Fai
led to upload image for place "$placeName". Package not
saved.'));} setStateDialog((){_isUploadingImages=false;});return;
}if(finalPlaceImageUrl.isEmpty){if(mounted){ScaffoldMessenger.of(context).showS
nackBar(SnackBar(content:Text('Image missing for place "$placeName". Package not
saved.'));} setStateDialog((){_isUploadingImages=false;});return;}placesToSave.add({'
name':placeName,'imageUrl':finalPlaceImageUrl});}if(!_isUploadingImages&&mo
unted){print("An error occurred during image uploads, and _isUploadingImages was
set to
false.");return;}if(!mounted){return;}}Map<String,dynamic>dataToSave={'title':titl
eController.text.trim(),'description':descriptionController.text.trim(),'category':sele
ctedCategory,'price':double.tryParse(priceController.text.trim())??0.0,'imageUrls':finalC
overImageUrls,'isAvailable':isAvailable,'places':placesToSave,};try{if(packageDoc==n
ull){await
_firestore.collection('tour_packages').add(dataToSave);if(mounted){ScaffoldMesseng
er.of(context).showSnackBar(const SnackBar(content:Text('Tour package added
successfully!')));} }else{await
_firestore.collection('tour_packages').doc(packageDoc.id).update(dataToSave);if(mo
unted){ScaffoldMessenger.of(context).showSnackBar(const
SnackBar(content:Text('Tour package updated successfully!')));} if(mounted){Navigator.of(dialogContext).pop();}catch(e){print("Error saving tour
package to Firestore:

```

```

EdgeInsets.symmetric(horizontal:20,vertical:12)),child:Text(packageDoc==null?'Add
Package':'Save Changes',style:const
TextStyle(fontSize:15),onPressed:_isUploadingImages?null:()async{final
form=_formKey.currentState;if(form!=null&&form.validate()){for(int
i=0;i<placesData.length;i++){final place=placesData[i];final
placeName=(place['nameController'] as TextEditingController).text.trim();final bool
hasExistingImage=place['currentImageUrl']!=null&&(place['currentImageUrl']as
String).isNotEmpty;final bool
hasPickedImage=place['pickedImageFile']!=null;if(placeName.isEmpty){ScaffoldMes
senger.of(context).showSnackBar(SnackBar(content:Text('Please enter a name for Place
${i+1}.'));return;}}else if(source is
String){finalCoverImageUrls.add(source);}}List<Map<String,String>>
placesToSave=[];for(var placeDataEntry in placesData){String placeName=(placeDataEntry['nameController'] as
TextEditingController).text.trim();String
finalPlaceImageUrl=placeDataEntry['currentImageUrl']as
String??'';if(placeDataEntry['pickedImageFile']!=null){XFile
placeImageFile=placeDataEntry['pickedImageFile']as XFile;String?
uploadedPlaceImageUrl=await
_uploadImageToCloudinary(placeImageFile);if(uploadedPlaceImageUrl!=null){if(_se
lectedAvailabilityFilter!="All"){bool
filterIsAvailable=_selectedAvailabilityFilter=='Available';tempFiltered=tempFiltered.wh
ere((doc){final isAvailable=(doc.data()as Map<String,dynamic>)['isAvailable']as
bool??false;return
isAvailable==filterIsAvailable}).toList();setState((){_filteredPackages=tempFiltered;});
}}Widget _buildFilterUI(){return Padding(padding:const
EdgeInsets.all(12.0),child:Column(children:[TextField(controller:_searchController,de
coration:InputDecoration(labelText:'Search by Title',hintText:'Enter package
title...',prefixIcon:const
Icon(Icons.search),border:OutlineInputBorder(borderRadius:BorderRadius.circular(8
.0)),suffixIcon:_searchTerm.isNotEmpty?IconButton(icon:const
Icon(Icons.clear),onPressed:(){_searchController.clear();}):null,),const
SizedBox(height:12),Row(children:[Expanded(child:DropdownButtonFormField<Stri
ng>(decoration:InputDecoration(labelText:'Category',border:OutlineInputBorder(bor
derRadius:BorderRadius.circular(8.0)),contentPadding:const
EdgeInsets.symmetric(horizontal:12.0,vertical:8.0)),),value:_selectedCategoryFilter,item
s:packageCategories.map((String category){return
DropdownMenuItem<String>(value:category,child:Text(category,overflow:TextOverflow
.ellipsis,));}).toList(),onChanged:(String?
newValue){setState((){_selectedCategoryFilter=newValue;_applyFilters();});}),const
SizedBox(width:12),Expanded(child:DropdownButtonFormField<String>(decoration:
InputDecoration(labelText:'Availability',border:OutlineInputBorder(borderRadius:Bo
rderRadius.circular(8.0)),contentPadding:const
EdgeInsets.symmetric(horizontal:12.0,vertical:8.0)),),value:_selectedAvailabilityFilter,ite
ms:['All','Available','Unavailable'].map((String status){return
DropdownMenuItem<String>(value:status,child:Text(status,));}).toList(),onChanged:(
String?
newValue){setState((){_selectedAvailabilityFilter=newValue??'All';_applyFilters();});}),
],);});}@override Widget build(BuildContext context){return
Scaffold(floatingActionButton:FloatingActionButton.extended(onPressed:{_showTour
PackageDialog()});,tooltip:'Add Tour Package',backgroundColor:appBlue,icon:const
Icon(Icons.add),label:const Text("Add
Package"),),body:Column(children:[child:Image.network(firstImage,width:60,height:6
0,fit: BoxFit.cover,errorBuilder:(context,error,stackTrace)=>const
Icon(Icons.broken_image,size:50),):Container(width:60,height:60,decoration:BoxDe
coration(color:Colors.grey[300],borderRadius:BorderRadius.circular(6.0),),child:const
Icon(Icons.image_not_supported,size:30,color:Colors.grey,),title:Text(title,style:const
TextStyle(fontWeight:FontWeight.bold,fontSize:16)),subtitle:Text('${category -
P${price.toStringAsFixed(2)}\nPlaces: $placesSummary\nAvailable:
${isAvailable?'Yes':'No'}',style:const
TextStyle(fontFamily:'NotoSans',height:1.4),),isThreeLine:true,trailing:Row(mainAxis
$e");if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:T
ext('Error saving package to Firestore: $e')));}}
}finally{if(_isUploadingImages){setStateDialog((){_isUploadingImages=false;});}}}}el
se{print("Form validation
failed.");if(_isUploadingImages){setStateDialog((){_isUploadingImages=false;});}},},);},void _applyFilters(){List<DocumentSnapshot>
tempFiltered=List.from(_allPackages);if(_searchTerm.isNotEmpty){tempFiltered=t
empFiltered.where((doc){final title=(doc.data()as Map<string,
dynamic>)['title']?.toString().toLowerCase()??'';return
title.contains(_searchTerm.toLowerCase());}).toList();}if(_selectedCategoryFilter!=
null&&_selectedCategoryFilter!="All
Categories"){tempFiltered=tempFiltered.where((doc){final category=(doc.data()as
Map<String,dynamic>)['category']?.toString()??'';return
category==_selectedCategoryFilter;}).toList();}_buildFilterUI(),Expanded(child:Stre
amBuilder<QuerySnapshot>(stream:_firestore.collection('tour_packages').orderBy(
'title').snapshots(),builder:(context,snapshot){if(snapshot.hasError){return
Center(child:Text('Error:
${snapshot.error}'));}if(snapshot.connectionState==ConnectionState.waiting){retur
n const
Center(child:CircularProgressIndicator());}List<DocumentSnapshot>newPackages
=snapshot.data?.docs??[];bool
dataHasChanged=_areListsEqual(_allPackages,newPackages);if(dataHasChanged){Widgets
Binding.instance.addPostFrameCallback((_){if(mounted){setState((){_allPa
ckages=List.from(newPackages);_applyFilters();});}});}if(_allPackages.isEmpty&&_se
archTerm.isEmpty&&_selectedCategoryFilter=="All
Categories"&&_selectedAvailabilityFilter=="All"){return const
Center(child:Text('No tour packages found. Add
one!'));}if(_filteredPackages.isEmpty&&(_searchTerm.isNotEmpty||_selectedCate
goryFilter!="All Categories"||_selectedAvailabilityFilter!="All")){return const
Center(child:Text('No packages match your current
filters.'));}if(_filteredPackages.isEmpty&&_allPackages.isEmpty){return const
Center(child:Text('No tour packages found. Add one!'));}return
ListView.builder(itemCount:_filteredPackages.length,itemBuilder:(context,index){fi
nal packageDoc=_filteredPackages[index];final packageData=packageDoc.data()as
Map<String,dynamic>;final String title=packageData['title']??'No Title';final String
category=packageData['category']??'N/A';final num
price=packageData['price']??0;final bool
isAvailable=packageData['isAvailable']??false;final List
imageUrls=packageData['imageUrls']??[];final String
firstImage=imageUrls.isNotEmpty&&imageUrls[0]is String?imageUrls[0]:'';final
List placesList=packageData['places']as List??[];final String
placesSummary=placesList.isNotEmpty?placesList.map((place)=>(place is
Map?place['name']:'Unknown Place')??'N/A').take(2).join(',\n)+(placesList.length>2?'...':'):No places listed';return Card(margin:const
EdgeInsets.symmetric(horizontal:8.0,vertical:4.0),elevation:3,shape:RoundedRectan
gleBorder(borderRadius:BorderRadius.circular(8)),child:ListTile(contentPadding:c
onst
EdgeInsets.all(12),leading:firstImage.isNotEmpty?ClipRRect(borderRadius:Border
Radius.circular(6.0),return AlertDialog(title:const Text('Confirm
Delete'),content:Text('Are you sure you want to delete "$title"? This action cannot be
undone.'),actions:<Widget>[TextButton(child:const
Text('Cancel'),onPressed:(){Navigator.of(dialogContext).pop();}),TextButton(child:
const Text('Delete',style:TextStyle(color:Colors.red)),onPressed:()async{try{await
FirebaseFirestore.instance.collection('tour_packages').doc(packageDoc.id).delete();}N
avigator.of(dialogContext).pop();Future.microtask((){if(mounted){ScaffoldMesseng
er.of(context).showSnackBar(SnackBar(content:Text("'$title' deleted
successfully!")));}});}catch(e){Navigator.of(dialogContext).pop();Future.microtask((
){if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text
('Error deleting package:
$e')));}});}}},),onTap:{_showTourPackageDialog(packageDoc:packageDoc
);});});});};}bool

```

```
Size:MainAxisSize.min,children:<Widget>[IconButton(icon:const
Icon(Icons.edit,color:Colors.blueAccent),tooltip:'Edit
Package',onPressed:(){_showTourPackageDialog(packageDoc:packageDoc);}),IconBut
```

lib/web/admin_comments_tab.dart

```
import 'package:flutter/material.dart';import
'package:cloud_firestore/cloud_firestore.dart';import 'package:intl/intl.dart';class
AdminCommentsTab extends StatefulWidget{const AdminCommentsTab({Key?
key}):super(key:key);@override State<AdminCommentsTab>
createState()=>_AdminCommentsTabState();}class _AdminCommentsTabState
extends State<AdminCommentsTab>{final FirebaseFirestore
_firestore=FirebaseFirestore.instance;final TextEditingController
_searchController=TextEditingController();String _searchTerm="";String?
_selectedDestinationFilter;List<DocumentSnapshot>
_allComments=[];List<DocumentSnapshot> _filteredComments=[];List<String>
_destinationNames=["All Destinations"];bool _isLoading=true;String? _error;bool
_selectionMode=false;final Set<String> _selectedCommentIds={};List<String>
_profanities=[];final TextEditingController
_profanityController=TextEditingController();@override void
initState(){super.initState();_fetchInitialData();_loadProfanities();_searchController.ad
dListener((){if(mounted&&_searchTerm!= "")});catch(e){if(!mounted) return;print("Err
or fetching comments: $e");setState((){_error="Failed to load comments. Please try
again."};_isLoading=false;});} }Future<void> _loadProfanities() async{try{final
snap=await
_firestore.collection('profanities').doc('list').get();if(snap.exists&&snap.data()!=null){fi
nal data=snap.data()as Map<String,dynamic>;final raw=data['words'];if(raw is
List){setState((){_profanities=raw.map((e)=>e.toString()??").where((s)=>.isNotEmpty
.toList());}}};catch(e){print('Failed to load profanities: $e')} }Future<void>
_showProfanitiesDialog() async{final List<String>
localList=List.from(_profanities);final TextEditingController
localController=TextEditingController();final FocusNode
inputFocusNode=FocusNode();String? errorMessage;await
showDialog<void>(context:context,builder:(dialogContext){return
StatefulBuilder(builder:(contextSB,setStateSB){return AlertDialog(title:const
Text('Edit
Profanities'),content:SizedBox(width:double.maxFinite,child:Column(mainAxisSize:
MainAxisSize.min,children:[SizedBox(height:150,child:SingleChildScrollView(child:W
rap(spacing:6,runSpacing:6,children:(List.from(localList).sort((a,b)=>a.toLowerCase()
).compareTo(b.toLowerCase()))).map((word){return
Chip(label:Text(word),deleteIcon:const
Icon(Icons.close,size:18),onDeleted:(){setStateSB(()=>localList.remove(word));});});}.to
List(),)),const
SizedBox(height:12),TextField(controller:localController,focusNode:inputFocusNode,
decoration:InputDecoration(labelText:'Add a bad word (use lowercase)',hintText:'Type
a word and press Enter or Add',errorText:errorMessage,),onSubmitted:(value){final
newWord=value.trim().toLowerCase();if(newWord.isEmpty) return;if(localList.contai
ns(newWord)){setStateSB(()=>errorMessage='That word already
exists');Return;}setStateSB(()=>{localList.add(newWord);localController.clear();error
Message=null;});Future.microtask(()=>FocusScope.of(contextSB).requestFocus(input
FocusNode));},const
SizedBox(height:8),Row(children:[ElevatedButton(onPressed:(){final
newWord=localController.text.trim().toLowerCase();if(newWord.isNotEmpty&&!loc
alList.contains(newWord)){setStateSB(()=>{localList.add(newWord);localController.cl
ear();});Future.microtask((){List<DocumentSnapshot>
tempFiltered=List.from(_allComments);if(_selectedDestinationFilter!=null&&_select
edDestinationFilter!="All Destinations"){tempFiltered=tempFiltered.where((doc){final
data=doc.data() as Map<String,dynamic>});return
data!=null&&data['destinationName']==_selectedDestinationFilter;}).toList();if(_sea
rchTerm.isNotEmpty){String
```

```
_areListsEqual(List<DocumentSnapshot>list1,List<DocumentSnapshot>list2){if(li
st1.length!=list2.length) return false;for(int
i=0;i<list1.length;i++){if(list1[i].id!=list2[i].id){return false;}}}return true;}}
```

SizedBox(width:12),ElevatedButton.icon(icon:const Icon(Icons.delete),label:const
Text('Delete
Selected'),style:ElevatedButton.styleFrom(backgroundColor:Colors.red),onPressed:_d
eleteSelectedComments,)],),],),),Expanded(child:_filteredComments.isEmpty?Cente
r(child:Text(_searchTerm.isNotEmpty||(_selectedDestinationFilter==null&&_selected
DestinationFilter!="All Destinations")?'No comments match your criteria.':'No
comments
available.',style:TextStyle(fontSize:16,color:Colors.grey[600]),textAlign:TextAlign.cen
ter,):RefreshIndicator(onRefresh:_fetchInitialData,child:ListView.builder(itemCount:
_filteredComments.length,itemBuilder:(context,index){return
_buildCommentCard(_filteredComments[index]);}),),),});}
backgroundImage:(userProfilePic!=null&&
_searchController.text){setState((){_searchTerm=_searchController.text;_applyFilters(
{}));}}}@override void
dispose(){_searchController.dispose();super.dispose();}Future<void> _fetchInitialData
()async{if(!mounted) return;setState((){_isLoading=true;_error=null;});try{QuerySnap
shot commentSnapshot=await
_firestore.collection('comments').orderBy('timestamp',descending:true).get();if(!mount
ed) return;final fetchedComments=commentSnapshot.docs;final Set<String>
destinationNamesSet={"All Destinations"};for(var doc in fetchedComments){final
data=doc.data() as
Map<String,dynamic>?;if(data!=null&&data.containsKey('destinationName')&&data
['destinationName']!=null&&(data['destinationName'] as
String).isEmpty){destinationNamesSet.add(data['destinationName'] as
String);}setState((){_allComments=fetchedComments;_destinationNames=destinati
onNamesSet.toList().sort((a,b){if(a=="All Destinations")return -1;if(b=="All
Destinations")return ;return
a.toLowerCase().compareTo(b.toLowerCase());});_selectedDestinationFilter=_destinat
ionNames.isNotEmpty?_destinationNames.first:null;_applyFilters();_isLoading=false;
});FocusScope.of(contextSB).requestFocus(inputFocusNode);});},child:const
Text('Add'),const
SizedBox(width:12),TextButton(onPressed:(){localController.clear()},child:const
Text('Clear'),)],),],),actions:[TextButton(onPressed:(){>Navigator.of(dialogContext)
.pop(),child:const Text('Cancel')},ElevatedButton(onPressed:(){async{try{await
_firestore.collection('profanities').doc('list').set({'words':localList});setState((){_profani
ties=List.from(localList)});catch(e){print('Failed to save profanities:
\$e');} }Navigator.of(dialogContext).pop();child:const Text('Save'),),},)},);},);}void
_toggleSelectionMode(){setState((){_selectionMode!=_selectionMode;if(!_selectionM
ode){_selectedCommentIds.clear();}});void _toggleSelectComment(String
id){setState((){_selectedCommentIds.contains(id)){_selectedCommentIds.remove(i
d);}else{_selectedCommentIds.add(id)});}void _selectAllVisible(){setState((){final
visibleIds=_filteredComments.map((d)=>d.id).toList();final
allSelected=visibleIds.every((id)=>_selectedCommentIds.contains(id));if(allSelected){f
or(final id in visibleIds){_selectedCommentIds.remove(id);}}else{for(final id in
visibleIds){_selectedCommentIds.add(id);}}});}Future<void>
_deleteSelectedComments() async{if(_selectedCommentIds.isEmpty) return;final
confirm=await showDialog<bool>(context:context,builder:(ctx){return
AlertDialog(title:const Text('Delete selected comments?'),content:Text('Are you sure
you want to delete \${_selectedCommentIds.length} selected comments? This cannot
be
undone.'),actions:[TextButton(onPressed:(){>Navigator.of(ctx).pop(false),child:const
Text('Cancel'),TextButton(onPressed:(){>Navigator.of(ctx).pop(true),child:const
Text('Delete',style:TextStyle(color:Colors.red))),},),];},);}if(confirm!=true) return;final
batch=_firestore.batch();try{for(final id in _selectedCommentIds){final

```

lowerSearchTerm= _searchTerm.toLowerCase();tempFiltered=tempFiltered.where((do
c){final data=doc.data() as Map<String,dynamic>?;final
commentText=data['text'].toString().toLowerCase()??'';final
userName=data['userName'].toString().toLowerCase()??'';final
destinationName=data['destinationName'].toString().toLowerCase()??'';return
commentText.contains(lowerSearchTerm)||userName.contains(lowerSearchTerm)||des
tinationName.contains(lowerSearchTerm)}).toList();setState(()=>_filteredComment
s=tempFiltered);});},const SizedBox(width:12),ElevatedButton.icon(icon:const
Icon(Icons.refresh),label:const Text('Refresh'),onPressed:_fetchInitialData,),const
SizedBox(width:12),ElevatedButton.icon(icon:const Icon(Icons.edit),label:const
Text('Edit Profanities'),onPressed:_showProfanitiesDialog),const
SizedBox(width:12),ElevatedButton.icon(icon:Icon(_selectionMode?Icons.close:Icons.
check_box),label:Text(_selectionMode?'Cancel':'Collective
Deletion'),onPressed:_toggleSelectionMode,),if(_selectionMode)...[const
SizedBox(width:12),ElevatedButton.icon(icon:const Icon(Icons.select_all),label:const
Text('Select All'),onPressed:_selectAllVisible),const
SizedBox(width:12),ElevatedButton.icon(icon:const Icon(Icons.delete),label:const
Text('Delete
Selected'),style:ElevatedButton.styleFrom(buttonColor:Colors.red),onPressed:_d
eleteSelectedComments,)],],),),Expanded(child:_filteredComments.isEmpty?Cen
ter(child:Text(_searchTerm.isNotEmpty||(_selectedDestinationFilter!=null&&_selec
tedDestinationFilter!="All Destinations")?'No comments match your criteria.':'No
comments
available.',style:TextStyle(fontSize:16,color:Colors.grey[600]),textAlign:TextAlign.cen
ter,):RefreshIndicator(onRefresh:_fetchInitialData,child:ListView.builder(itemCount:
_filteredComments.length,itemBuilder:(context,index){return
_buildCommentCard(_filteredComments[index]);},),),),});Future<void>
_deleteComment(String commentId) async{if(!mounted)return;bool?
confirmDelete=await showDialog<bool>(context:context,builder:(BuildContext
dialogContext){return AlertDialog(title:const Text('Confirm Deletion'),content:const
Text('Are you sure you want to delete this comment? This action cannot be
undone.'),actions:<Widget>[TextButton(child:const
Text('Cancel'),onPressed:()=>Navigator.of(dialogContext).pop(false),),TextButton(styl
e:TextButton.styleFrom(buttonColor:Colors.red),child:const
Text('Delete'),onPressed:()=>Navigator.of(dialogContext).pop(true),),],);};if(confirm
Delete==true){try{await
_firestore.collection('comments').doc(commentId).delete();if(!mounted)return;Scaffol
dMessenger.of(context).showSnackBar(const SnackBar(content:Text('Comment
deleted
successfully'),backgroundColor:Colors.green),);_fetchInitialData();}catch(e){if(!moun
ted)return;ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text('Error
deleting comment: $e'),backgroundColor:Colors.red,));}}}}void
_showCommentDetailsDialog(Map<String,dynamic> data,String
dateString){showDialog(context:context,builder:(ctx){return AlertDialog(title:const
Text("Comment
Details"),content:Column(mainAxisSize:MainAxisSize.min,crossAxisAlignment:Cross
AxisAlignment.start,children:[Text("User:
${data['userName']}?Anonymous"),Text("User ID:
${data['userId']}?N/A"),Text("Destination:
${data['destinationName']}?Unknown"),child:Text(name,overflow:TextOverflow.elli
psis,)],).toList(),onChanged:(String?
newValue){setState(()=>_selectedDestinationFilter=newValue;_applyFilters());},),),co
nst SizedBox(width:12),ElevatedButton.icon(icon:const
Icon(Icons.refresh),label:const Text('Refresh'),onPressed:_fetchInitialData,),const
SizedBox(width:12),ElevatedButton.icon(icon:const Icon(Icons.edit),label:const
Text('Edit Profanities'),onPressed:_showProfanitiesDialog),const
SizedBox(width:12),ElevatedButton.icon(icon:Icon(_selectionMode?Icons.close:Icons.
check_box),label:Text(_selectionMode?'Cancel':'Collective
Deletion'),onPressed:_toggleSelectionMode,),if(_selectionMode)...[const
SizedBox(width:12),ElevatedButton.icon(icon:const Icon(Icons.select_all),label:const
Text('Select All'),onPressed:_selectAllVisible),const

```

```

docRef=_firestore.collection('comments').doc(id);batch.delete(docRef);await
batch.commit();_selectedCommentIds.clear();_selectionMode=false;await
_fetchInitialData();if(mounted){ScaffoldMessenger.of(context).showSnackBar(const
SnackBar(content:Text('Selected comments
deleted'),backgroundColor:Colors.green));}catch(e){print('Bulk delete failed:
$e');if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text('
Bulk delete failed: $e')));}}void _applyFilters(){Text("Destination ID:
${data['destinationId']}?N/A"),const SizedBox(height:8),Text("Comment:
${data['text']}?"),const SizedBox(height:8),Text("Date:
$dateString"),],),actions:[TextButton(onPressed:()=>Navigator.of(ctx).pop(),child:co
nst Text("Close"),),],);}}Widget _buildCommentCard(DocumentSnapshot
commentDoc){final data=commentDoc.data() as Map<String,dynamic>;final String
commentId=commentDoc.id;final String commentText=data['text']??"No text";final String
userName=(data['userName'].toString().isNotEmpty==true)?data['userName']:'Ano
nymous';final String? userProfilePic=data['userProfilePic'];final String
destinationName=data['destinationName']??"Unknown Destination";final
Timestamp? timestamp=data['timestamp'];final String
dateString=timestamp!=null?DateFormat('MMM d, yyyy
HH:mm').format(timestamp.toDate()):'No date';return
InkWell(onTap:_selectionMode?()=>_showCommentDetailsDialog(data,dateString):
()=>_toggleSelectComment(commentId),child:Card(margin:const
EdgeInsets.symmetric(horizontal:16,vertical:8),elevation:2,shape:RoundedRectangleB
order(borderRadius:BorderRadius.circular(10)),child:Row(children:[if(_selectionMod
e)Checkbox(value:_selectedCommentIds.contains(commentId),onChanged:(_)=>_to
gleSelectComment(commentId),),Expanded(child:Padding(padding:const
EdgeInsets.all(12.0),child:Column(crossAxisAlignment:CrossAxisAlignment.start,chi
ldren:[Row(children:[CircleAvatar(radius:20,userProfilePic.isNotEmpty)?NetworkIma
ge(userProfilePic):null,child:(userProfilePic==null||userProfilePic.isEmpty)?const
Icon(Icons.person,size:20):null,),const
SizedBox(width:10),Expanded(child:Column(crossAxisAlignment:CrossAxisAlignme
nt.start,children:[Text(userName,style:const
TextStyle(fontWeight:FontWeight.bold)),Text('on:
$destinationName',style:TextStyle(fontSize:12,color:Colors.grey[600]),overflow:TextO
verflow.ellipsis,)],),if(!_selectionMode)IconButton(icon:Icon(Icons.delete_outline,co
lor:Colors.red[400]),tooltip:'Delete
Comment',onPressed:()=>_deleteComment(commentId),),],),const
SizedBox(height:8),Text(commentText,style:const TextStyle(fontSize:14)),const
SizedBox(height:8),Align(alignment:Alignment.centerRight,child:Text(dateString,style
:TextStyle(fontSize:11,color:Colors.grey[500])),),),),],),);}@override Widget
build(BuildContext context){if(_isLoading){return const
Center(child:CircularProgressIndicator());}if(_error!=null){return
Center(child:Padding(padding:const
EdgeInsets.all(16.0),child:Column(mainAxisAlignment:MainAxisAlignment.center,chi
ldren:[Text(_error!,style:const
TextStyle(color:Colors.red,fontSize:16),textAlign:TextAlign.center),const
SizedBox(height:20),ElevatedButton(onPressed:_fetchInitialData,child:const
Text("Retry"),),],),);}}return Column(children:[Padding(padding:const
EdgeInsets.fromLTRB(16,16,16,12),child:Column(children:[TextField(controller:_sea
rchController,decoration:InputDecoration(labelText:'Search (text, user, or
destination)',hintText:'Enter comment text, username, or destination.',prefixIcon:const
Icon(Icons.search),border:OutlineInputBorder(borderRadius:BorderRadius.circular(8
.0),),suffixIcon:_searchController.text.isNotEmpty?IconButton(icon:const
Icon(Icons.clear),onPressed:()&gt;_searchController.clear()),:null,)),const
SizedBox(height:12),if(_destinationNames.length>1)Row(children:[Expanded(child:
DropdownButtonFormField<String>(decoration:InputDecoration(labelText:'Filter by
Destination',border:OutlineInputBorder(borderRadius:BorderRadius.circular(8.0),co
ntentPadding:const
EdgeInsets.symmetric(horizontal:12,vertical:10),),isExpanded:true,value:_selectedDesti
nationFilter,items:_destinationNames.map((String name){return
DropdownMenuItem<String>(value:name,)},),),],),],),);}}}

```

lib/web/admin_destination_tab.dart

```
import'package:flutter/material.dart';import'package:cloud_firestore/cloud_firestore.dart';import'package:image_picker/image_picker.dart';import'dart:io';import'package:cloudinary_flutter/cloudinary_context.dart';import'package:cloudinary_flutter/image/cld_image.dart';import'package:cloudinary_url_gen/cloudinary.dart';import'package:flutter/foundation.dart'show
kIsWeb;import'dart:typed_data';import'package:cloudinary/cloudinary.dart'as
cloudinary_sdk;import'package:cloudinary_url_gen/cloudinary.dart'as
cld_url_gen;import'../../models/destination_model.dart';import'./main.dart';import'..
/screens/destination_service.dart';const Color appBlue=Color(0xFF5A9ECF);class
AdminDestinationsTab extends StatefulWidget{const
AdminDestinationsTab({Key?key}):super(key:key),@override_AdminDestinationsTab
State createState()=>_AdminDestinationsTabState();}class
_AdminDestinationsTabState extends State<AdminDestinationsTab>{final
Firestore _firestore=Firestore.instance;final ImagePicker
_picker=ImagePicker();cloudinary_sdk.Cloudinary?
cloudinaryInstance;print("Cloudinary instance initialized. Cloud Name: $cloudName.
Upload Preset:
$uploadPreset");cloudinaryForContext=cld_url_gen.Cloudinary.fromCloudName(clo
udName:cloudName);CloudinaryContext.cloudinary=cloudinaryForContext;print("CloudinaryContext for CldImageWidget initialized with cloud name:
$cloudName.");else{final errorMessage="Cloudinary service not configured
properly."+(cloudName.isEmpty?"Missing
CLOUDINARY_CLOUD_NAME."):(uploadPreset.isEmpty?"Missing
CLOUDINARY_UPLOAD_PRESET.");}print("Error:
$errorMessage");WidgetsBinding.instance.addPostFrameCallback((_)&gt;if(mounted){Sca
fFoldMessenger.of(context).showSnackBar(SnackBar(content:Text(errorMessage),backg
roundColor:Colors.orange,duration:const Duration(seconds:10)),);});}@override
void
dispose(){_searchController.dispose();super.dispose();}Future<Map<String,String>>_
uploadImageToCloudinaryWithMeta(XFile
imageFile,{String?Caption,String?Credit,})async{if(cloudinaryInstance==null){print("Cloudinary instance not available (was null). Cannot upload
image.");_showErrorSnackbar('Image service error (instance null). Cannot
upload.')}return null;}final
uploadPreset=EnvConfig.cloudinaryUploadPreset;if(uploadPreset.isEmpty){print("Err
or: CLOUDINARY_UPLOAD_PRESET not found. Required for unsigned
upload.");_showErrorSnackbar('Image upload configuration missing (upload
preset).');return null;}try{print("Attempting unsigned upload (Destinations):
${imageFile.path} with preset: $uploadPreset");final bytes=await
imageFile.readAsBytes();final response=await
cloudinaryInstance!.unsignedUpload(fileBytes:bytes,uploadPreset:uploadPreset,);if(res
ponse.isSuccessful&&response.secureUrl!=null&&response.secureUrl!.isNotEmpty){p
rint('Cloudinary unsigned upload successful (Destinations):
${response.secureUrl}');return{'url':response.secureUrl,'caption':caption??'', 'credit':cre
dit??''};}else{String errorMessage=response.error??"Unknown Cloudinary error during
upload";print('Cloudinary unsigned upload failed (Destinations). Error: $errorMessage.
Public ID: ${response.publicId}');_showErrorSnackbar('Image upload failed:
$errorMessage');return null;}}catch(e,s){print('Exception during Cloudinary unsigned
upload (Destinations): $e');print('Stack trace: $s');_showErrorSnackbar('Image upload
exception: ${e.toString()}');return null;}}void _showErrorSnackbar(String
message){if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(conten
t:Text(message),backgroundColor:Colors.red,));}}List<String> _stringToList(String?
text){if(text==null||text.trim().isEmpty){return [];}return
text.split('.').map((e)=>e.trim()).where((e)=>e.isNotEmpty).toList();}String
_listToString(List<dynamic>? list){if(list==null||list.isEmpty){return '';}return
list.map((e)=>e.toString()).join(',');}Future<void>
_showDestinationDialog({DocumentSnapshot? destinationDoc})async{final
_formKey= GlobalKey<FormState>();bool
cld_url_gen.Cloudinary?cloudinaryForContext;final
TextEditingController _searchController=TextEditingController();String _searchTerm=
";String? _selectedCategoryFilter, String _selectedAvailabilityFilter='All';List<String>_se
lectedTagsFilter=[];List<String> _allAvailableTags=[];String _selectedSortOption='nam
e_asc';List<DocumentSnapshot> _allDestinations=[];List<DocumentSnapshot> _filter
edDestinations=[];final List<String> destinationCategories=['All
Categories', 'Hotels', 'Parcs', 'Shops', 'Resto', 'Culture', 'Museum', 'Church'];bool _is
DialogProcessing=false;@override void
initState(){super.initState(); _initializeCloudinary(); _searchController.addListener((){if
(_searchTerm!= _searchController.text){setState((){_searchTerm=_searchController.te
xt; _applyFilters();});}});_selectedCategoryFilter=null;}void
_initializeCloudinary(){final cloudName=EnvConfig.cloudinaryCloudName;final
uploadPreset=EnvConfig.cloudinaryUploadPreset;if(cloudName.isNotEmpty&&uplo
adPreset.isNotEmpty){cloudinaryInstance=cloudinary_sdk.Cloudinary.signedConfig(
apiKey:"DUMMY_API_KEY_FOR_UNSIGNED_CONTEXT",apiSecret:"DUMM
Y_API_SECRET_FOR_UNSIGNED_CONTEXT",cloudName:cloudName,);}String
selectedCategory=docData['category']as String?;final TextEditingController
descriptionController=TextEditingController(text:docData['description']??'');final
TextEditingController
entranceFeeController=TextEditingController(text:docData['entranceFee']??'');final
TextEditingController
ratingController=TextEditingController(text:(docData['rating']??0.0).toString());final
TextEditingController
viewsController=TextEditingController(text:(docData['views']??0).toString());final
TextEditingController
operatingHoursController=TextEditingController(text:docData['operatingHours']is
Map<(docData['operatingHours'][('displayString')]??''),(docData['operatingHours'][??''])
>;GeoPoint?initialLocation=docData['location']as GeoPoint?;final
TextEditingController
latitudeController=TextEditingController(text:initialLocation?.latitude.toString()??'');final
TextEditingController
longitudeController=TextEditingController(text:initialLocation?.longitude.toString()?
'');final Map<String,dynamic>contactInfo=docData['contactInfo']is
Map<(docData['contactInfo']as Map<String,dynamic>)??{};final TextEditingController
contactPhoneController=TextEditingController(text:contactInfo['phone']??'');final
TextEditingController
contactEmailController=TextEditingController(text:contactInfo['email']??'');final
TextEditingController
contactWebsiteController=TextEditingController(text:contactInfo['website']??'');final
TextEditingController
accessibilityFeaturesController=TextEditingController(text:_listToString(docData['acc
essibilityFeatures']as List?));final TextEditingController
tagsController=TextEditingController(text:_listToString(docData['tags']as List?));final
TextEditingController
moodTagsController=TextEditingController(text:_listToString(docData['moodTags']as
List?));final TextEditingController
weatherTipsController=TextEditingController(text:docData['weatherTips']??'');final
TextEditingController
funFactController=TextEditingController(text:docData['funFact']??'');bool
isAvailable=docData['isAvailable']as
bool??true;List<Map<String,dynamic>>imageGalleryItems=[];if(isEditMode&&docD
ata['images']is List){for(var imgData in (docData['images']as List)){if(imgData is
Map){imageGalleryItems.add({'pickedFile':null,'existingUrl':imgData['url']as
String?,'captionController':TextEditingController(text:imgData['caption']as
String??''),'creditController':TextEditingController(text:imgData['credit']as
String??''),'id':UniqueKey(),});}}}if(selectedCategory!=null&&!destinationCategories.c
ontains(selectedCategory)&&selectedCategory!="All Categories"){print("Warning:
Category '$selectedCategory' from DB not in predefined list. Setting to
```

```

isEditMode=destinationDoc!=null;Map<String,dynamic>
docData=isEditMode?(destinationDoc!.data(as Map<String,dynamic>):{});final
TextEditingController
nameController=TextEditingController(text:docData['name']?"");Expanded(child:For
m(key:_formKey,child:SingleChildScrollView(padding:const
EdgeInsets.symmetric(vertical:16.0,horizontal:8.0),child:Column(crossAxisAlignment:
CrossAxisAlignment.start,children:<Widget>[TextFormField(controller:nameControll
er,decoration:const InputDecoration(labelText:'Destination
Name',border:OutlineInputBorder()),validator:(value)=>value==null||value.isEmpty?'Please enter a name':null,),const
SizedBox(height:16),DropdownButtonFormField<String>(decoration:const
InputDecoration(labelText:'Category',border:OutlineInputBorder()),value:selectedCat
egory,items:destinationCategories.where((cat)=>cat!="All Categories").map((String
category){return
DropdownMenuItem<String>(value:category,child:Text(category),);}).toList(),onCha
nged:(String?
newValue){setStateDialog(){selectedCategory=newValue;}},validator:(value)=>value
==null||value.isEmpty?'Please select a category':null,),const
SizedBox(height:16),TextFormField(controller:descriptionController,decoration:const
InputDecoration(labelText:'Description',border:OutlineInputBorder()),maxLines:3,va
lidator:(value)=>value==null||value.isEmpty?'Please enter a description':null,),const
SizedBox(height:16),TextFormField(controller:entranceFeeController,decoration:const
InputDecoration(labelText:'Entrance Fee (e.g., Free,
₱100)',border:OutlineInputBorder(),alignLabelWithHint:true,),keyboardType:TextInput
Type.multiline,maxLines:null,),const
SizedBox(height:16),TextFormField(controller:ratingController,decoration:const
InputDecoration(labelText:'Rating (e.g.,
4.5)',border:OutlineInputBorder()),keyboardType:const
TextInputType.numberWithOptions(decimal:true),validator:(value){if(value==null||v
alue.isEmpty) return'Please enter a rating (0.0 to 5.0)';final
rating=double.tryParse(value);if(rating==null||rating<0.0||rating>5.0){return'Enter a
valid rating between 0.0 and 5.0.'};return null;},),const
SizedBox(height:16),TextFormField(controller:viewsController,decoration:const
InputDecoration(labelText:'Views (e.g.,
150)',border:OutlineInputBorder()),keyboardType:TextInputType.number,validator:(
value){if(value==null||value.isEmpty) return'Please enter view
count';if(int.tryParse(value)==null){return'Enter a valid number for views';}return
null;},),const
SizedBox(height:16),TextFormField(controller:operatingHoursController,decoration:co
nst InputDecoration(labelText:'Operating Hours (e.g., 9 AM - 5 PM,
Mon-Fri)',border:OutlineInputBorder(),alignLabelWithHint:true,),keyboardType:Tex
tInputType.multiline,maxLines:null,),const SizedBox(height:20),Text("Location
Coordinates",style:Theme.of(context).textTheme.titleMedium),const
SizedBox(height:8),Row(children:[Expanded(child:TextFormField(controller:latitudeC
ontroller,decoration:const
InputDecoration(labelText:'Latitude',border:OutlineInputBorder(),hintText:'e.g.,
14.638363'),keyboardType:const
TextInputType.numberWithOptions(decimal:true,signed:true),validator:(value){if(val
ue==null||value.isEmpty) return null;final
lat=double.tryParse(value);if(lat==null||lat<-90||lat>90){return'Invalid (-90 to
90)';}return null;},),const
SizedBox(width:12),Expanded(child:TextFormField(controller:longitudeController,de
coration:const
InputDecoration(labelText:'Longitude',border:OutlineInputBorder()),const
SizedBox(height:12),if(imageGalleryItems.isNotEmpty)ListView.builder(shrinkWrap:t
rue,physics:const
NeverScrollableScrollPhysics(),itemCount:imageGalleryItems.length,itemBuilder:(cont
ext,index){
final item=imageGalleryItems[index];Widget
imageDisplay;if(item['pickedFile']!=null){imageDisplay=kIsWeb?FutureBuilder<Uint
8List>(future:(item['pickedFile'] as

```

```

XFile).readAsBytes().builder:(context,snapshot){if(snapshot.connectionState==ConnectionState.done&&snapshot.hasData){return Image.memory(snapshot.data,width:80,height:80,fit:BoxFit.cover);}else if(snapshot.hasError){return const SizedBox(width:80,height:80,child:Center(child:Icon(Icons.error_outline,color:Colors.red,size:40)));}
return const SizedBox(width:80,height:80,child:Center(child:CircularProgressIndicator(strokeWidth:2,)),);Image.file(File((item['pickedFile'] as XFile).path),width:80,height:80,fit:BoxFit.cover);}else if(item['existingUrl']!=null&&(item['existingUrl'] as String).isNotEmpty){imageDisplay=CldImageWidget(publicId:item['existingUrl'] as String,width:80,height:80,fit:BoxFit.cover,placeholder:(context,url)=>const SizedBox(width:80,height:80,child:Center(child:CircularProgressIndicator(strokeWidth:2,)),);}}else{imageDisplay=const SizedBox(width:80,height:80,child:Center(child:Icon(Icons.image_not_supported,size:40)));}
return Card(elevation:2,margin:const EdgeInsets.symmetric(vertical:6.0),child:Padding(padding:const EdgeInsets.all(12.0),child:Row(crossAxisAlignment:CrossAxisAlignment.start,children:[ClipRRect(borderRadius:BorderRadius.circular(4.0),child:imageDisplay,),const SizedBox(width:12),Expanded(child:Column(mainAxisSize:MainAxisSize.min,children:[TextFormField(controller:item['captionController'] as TextEditingController,decoration:const InputDecoration(labelText:'Caption',border:OutlineInputBorder(),contentPadding:EdgeInsets.symmetric(horizontal:10,vertical:8)),style:const TextStyle(fontSize:14),maxLines:1,)],),const SizedBox(width:8),IconButton(icon:const Icon(Icons.delete_outline,color:Colors.redAccent),tooltip:'Remove Image',onPressed:_isDialogProcessing?null:(){setStateDialog((){imageGalleryItems.removeAt(index);});},),),),);if(imageGalleryItems.isEmpty)const Padding(padding:EdgeInsets.symmetric(vertical:10.0),child:Center(child:Text("No images added to the gallery yet.",style:TextStyle(color:Colors.grey))),);const SizedBox(height:20);CheckboxListTile(title:const Text("Is Destination Available?",style:TextStyle(fontWeight:FontWeight.w500)),value:isAvailable onChanged:_isDialogProcessing?null:(bool?value){setStateDialog((){isAvailable=value??false;});},controlAffinity:ListTileControlAffinity.leading,contentPadding:EdgeInsets.zero,activeColor:appBlue,);const SizedBox(height:20);if(_isDialogProcessing)const Padding(padding:EdgeInsets.symmetric(vertical:20.0),child:Center(child:Column(mainAxisSize:MainAxisSize.min,children:[CircularProgressIndicator(),SizedBox(height:10),Text("Processing destination...",style:TextStyle(fontSize:15)],),),),);const Divider(height:1),Padding(padding:const EdgeInsets.only(top:12.0,bottom:4.0,left:8.0,right:8.0),child:Row(mainAxisAlignment:MainAxisAlignment.end,children:[TextButton(style:TextButton.styleFrom(padding:const EdgeInsets.symmetric(horizontal:16,vertical:10)),child:const Text('Cancel',style:TextStyle(fontSize:15)), onPressed:_isDialogProcessing?null:()=>Navigator.of(dialogContext).pop(),),const SizedBox(width:10),ElevatedButton.icon(icon:Icon(isEditMode?Icons.save_alt_outlined:Icons.add_circle_outline),label:Text(isEditMode?'Save Changes':'Add Destination',style:const TextStyle(fontSize:15)),style:ElevatedButton.styleFrom(backgroundColor:appBlue,padding:const EdgeInsets.symmetric(horizontal:20,vertical:12),), onPressed:_isDialogProcessing?null:() async {final form=_formKey.currentState;if(form!=null&&form.validate()){if(selectedCategory==null||selectedCategory!.isEmpty){_showErrorSnackbar('Please select a category for the Destination.fromFirestore(doc as DocumentSnapshot<Map<String,dynamic>>);return destination.isAvailable==filterForAvailable?{}:toList();}if(_selectedTagsFilter.isNotEmpty){tempFiltered=tempFiltered.where((doc){final destination=Destination.fromFirestore(doc as DocumentSnapshot<Map<String,

```

```

final Map<String, String>? uploadResult = await _uploadImageToCloudinaryWithMeta(item['pickedFile'] as XFile,);if(uploadResult!=null&&uploadResult['url']!=null){finalImageGallery.add({'url':uploadResult['url'],'caption':(item['captionController'] as TextEditingController).text.trim(),'credit':(item['creditController'] as TextEditingController).text.trim(),});}else{allUploadsSuccessful=false;_showErrorSnackbar('Failed to upload an image. Please try again.');?>
break;}}else if(item['existingUrl']!=null){finalImageGallery.add({'url':item['existingUrl'] as String,'caption':(item['captionController'] as TextEditingController).text.trim(),'credit':(item['creditController'] as TextEditingController).text.trim(),});}if(!allUploadsSuccessful){setStateDialog({_isDialogProcessing=false});}return;}final double rating=double.tryParse(ratingController.text.trim())??0.0;final int views=int.tryParse(viewsController.text.trim())??0;GeoPoint? locationToSave;final String latText=latitudeController.text.trim();final String lngText=longitudeController.text.trim();if(latText.isNotEmpty&&lngText.isNotEmpty){final double? lat=double.tryParse(latText);final double? lng=double.tryParse(lngText);if(lat!=null&&lng!=null&&lat>=-90&&lat<=90&&lng>=-180&&lng<=180){locationToSave=GeoPoint(lat,lng);}}else{_print("Warning: Invalid latitude/longitude input. Location will not be saved.");}Map<String,dynamic> dataToSave={'name':nameController.text.trim(),'category':selectedCategory,'description':descriptionController.text.trim(),'entranceFee':entranceFeeController.text.trim(),'rating':rating,'views':views,'operatingHours':operatingHoursController.text.trim(),'location':locationToSave,'contactInfo':{'phone':contactPhoneController.text.trim(),'email':contactEmailController.text.trim(),'website':contactWebsiteController.text.trim(),'accessibilityFeatures':_stringToList(accessibilityFeaturesController.text),'tags':_stringToList(tagsController.text),'weatherTips':weatherTipsController.text.trim(),'moodTags':_stringToList(moodTagsController.text),'funFact':funFactController.text.trim(),'images':finalImageGallery,'isAvailable':isAvailable,};try {_if(isEditMode){await _firestore.collection('destinations').doc(destinationDoc!.id).update(dataToSave);if(mounted)Navigator.of(dialogContext).pop();_showSuccessSnackbar('Destination updated successfully!');}else{await _firestore.collection('destinations').add(dataToSave);if(mounted)Navigator.of(dialogContext).pop();_showSuccessSnackbar('Destination added successfully!');}}catch(e){_print("Error saving destination:$e");_showErrorSnackbar('Error saving destination: ${e.toString()}');}finally{_if(_isDialogProcessing){setStateDialog({_isDialogProcessing=false});}}else{_showErrorSnackbar("Please correct the errors in the form.");}if(_isDialogProcessing){setStateDialog({_isDialogProcessing=false});}}void _showSuccessSnackbar(String message){if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text(message),backgroundColor:Colors.green,));}}void _applyFilters(){List<DocumentSnapshot> tempFiltered=List.from(_allDestinations);if(_searchTerm.isNotEmpty){tempFiltered=tempFiltered.where((doc){final destination=Destination.fromFirestore(doc as DocumentSnapshot<Map<String,dynamic>>);return destination.name.toLowerCase().contains(_searchTerm.toLowerCase());}).toList();}}if(_selectedCategoryFilter!=null&&_selectedCategoryFilter!="All Categories"){tempFiltered=tempFiltered.where((doc){final destination=Destination.fromFirestore(doc as DocumentSnapshot<Map<String,dynamic>>);return destination.category==_selectedCategoryFilter;}).toList();}if(_selectedAvailabilityFilter!="All"){bool filterForAvailable=_selectedAvailabilityFilter=='Available'?tempFiltered.where((doc){final destination=DropdownMenuItem<String>({value:category,child:Text(category,overflow:TextOverflow.ellipsis,)}).toList(),});onChanged:(String?newValue){setState((){_selectedCategoryFilter=newValue;_applyFilters();});},);const SizedBox(width:8),SizedBox(width:300,child:DropdownButtonFormField<String>(decoration:

```

```

dynamic>>);return _selectedTagsFilter.every((filterTag) =>destination.tags.map((t) =>
t.toLowerCase()).contains(filterTag.toLowerCase()) || destination.moodTags.map((t)
=> t.toLowerCase()).contains(filterTag.toLowerCase()));}.toList();}
List<Destination> destinationsToSort = tempFiltered.map((doc)
=>Destination.fromFirestore(doc as DocumentSnapshot<Map<String,
dynamic>>).toList(); switch (_selectedSortOption) {case
'name_asc':destinationsToSort.sort((a, b) =>
a.name.toLowerCase().compareTo(b.name.toLowerCase()));break;case
'name_desc':destinationsToSort.sort((a, b) =>
b.name.toLowerCase().compareTo(a.name.toLowerCase()));break;case
'rating_desc':destinationsToSort.sort((a, b) =>
b.rating.compareTo(a.rating));break;case 'rating_asc':destinationsToSort.sort((a, b) =>
a.rating.compareTo(b.rating));break;case 'views_desc':destinationsToSort.sort((a, b) =>
b.views.compareTo(a.views));break;case 'views_asc':destinationsToSort.sort((a, b) =>
a.views.compareTo(b.views));break;}
tempFiltered.sort((docA, docB) {final destA = Destination.fromFirestore(docA as
DocumentSnapshot<Map<String, dynamic>>);final destB =
Destination.fromFirestore(docB as DocumentSnapshot<Map<String,
dynamic>>);switch (_selectedSortOption) {case 'name_asc':return
destA.name.toLowerCase().compareTo(destB.name.toLowerCase());case
'name_desc':return
destB.name.toLowerCase().compareTo(destA.name.toLowerCase());case
'rating_desc':return destB.rating.compareTo(destA.rating);case 'rating_asc':return
destA.rating.compareTo(destB.rating);case 'views_desc':return
destB.views.compareTo(destA.views);case 'views_asc':return
destA.views.compareTo(destB.views);default:return 0;}}); if (mounted) {setState(() {
{_filteredDestinations = tempFiltered;});} } void _extractAllAvailableTags() {final
Set<String> tags = {};}for (var doc in _allDestinations) {final destination =
Destination.fromFirestore(doc as DocumentSnapshot<Map<String,
dynamic>>);tags.addAll(destination.tags);tags.addAll(destination.moodTags);}
_allAvailableTags = tags.toList();sort((a, b) =>
a.toLowerCase().compareTo(b.toLowerCase()));} Future<void> _fetchDestinations()
async {final querySnapshot = await
_firestore.collection('destinations').orderBy('name').get();setState(() {_allDestinations
= List<DocumentSnapshot<Map<String,
dynamic>>>.from(querySnapshot.docs);_extractAllAvailableTags();_applyFilters();});}
Widget _buildFilterUI() {return Padding(padding: const
EdgeInsets.symmetric(horizontal: 12.0, vertical: 8.0),child:
Column(crossAxisAlignment: CrossAxisAlignment.start,children:
[TextField(controller: _searchController,decoration: InputDecoration(hintText:
'Search destinations by name...',prefixIcon: const Icon(Icons.search),border:
OutlineInputBorder(borderRadius: BorderRadius.circular(8.0)),contentPadding:
const EdgeInsets.symmetric(horizontal: 12.0, vertical: 8.0),suffixIcon:
_searchTerm.isNotEmpty? IconButton(icon: const Icon(Icons.clear),onPressed: () {
{_searchController.clear();setState(() {_searchTerm = '_applyFilters();});}): null,},onChanged: (value) {setState(() {_searchTerm = value;});},onSubmitted: (value)
=> _applyFilters(),},const SizedBox(height: 10),SingleChildScrollView(scrollDirection:
Axis.horizontal,child: Row(children: <Widget>[SizedBox(width: 300,child:
DropdownButtonFormField<String>(>(decoration: InputDecoration(labelText:
'Category',border: OutlineInputBorder(radius: BorderRadius.circular(8.0)),contentPadding:
const EdgeInsets.symmetric(horizontal: 10.0, vertical: 4.0),isExpanded: true,value: _selectedCategoryFilter,hint: const
Text("All Categories"),items: [const DropdownMenuItem<String>(>(value: null,child:
Text("All Categories"),)...destinationCategories.where((c) => c != null &&
c.isNotEmpty && c != "All
Categories").toSet().map<DropdownMenuItem<String>>((String category) {return
_firestore.collection('destinations').orderBy('name').snapshots(),builder: (context,
snapshot) {if (snapshot.hasError) {print("StreamBuilder error:
${snapshot.error}");return Center(child: Text('Error loading destinations:
${snapshot.error}'));} if (snapshot.connectionState == ConnectionState.waiting)
{return const Center(child: CircularProgressIndicator());} List<DocumentSnapshot>

```

```

InputDecoration(labelText: 'Availability',border: OutlineInputBorder(radius: BorderRadius.circular(8.0)),contentPadding: const EdgeInsets.symmetric(horizontal: 10.0, vertical: 4.0),isExpanded: true,value: _selectedAvailabilityFilter,items: ['All', 'Available', 'Not Available'].map((String value) {return
DropdownMenuItem<String>(>(value: value,child: Text(value, overflow:
TextOverflow.ellipsis),));}.toList(),onChanged: (String? newValue) {setState(() {
{_selectedAvailabilityFilter = newValue ?? 'All';_applyFilters();});}),},const
SizedBox(width: 8),SizedBox(width: 300,child:
DropdownButtonFormField<String>(>(decoration: InputDecoration(labelText: 'Sort
by',border: OutlineInputBorder(radius: BorderRadius.circular(8.0)),contentPadding: const EdgeInsets.symmetric(horizontal: 10.0, vertical: 4.0),isExpanded: true,value: _selectedSortOption,items: const
[DropdownMenuItem(value: 'name_asc', child: Text('Name
(A-Z)'),),DropdownMenuItem(value: 'name_desc', child: Text('Name
(Z-A)'),),DropdownMenuItem(value: 'rating_desc', child: Text('Rating
(Highest)'),),DropdownMenuItem(value: 'rating_asc', child: Text('Rating
(Lowest)'),),DropdownMenuItem(value: 'views_desc', child: Text('Views
(Most)'),),DropdownMenuItem(value: 'views_asc', child: Text('Views
(Least)'),)],onChanged: (String? newValue) {setState(() {_selectedSortOption =
newValue ?? 'name_asc';_applyFilters();});}),},const SizedBox(width:
15),ElevatedButton.icon(icon: const Icon(Icons.sell_outlined, size: 16),label:
Text(_selectedTagsFilter.isEmpty ? 'Filter Tags' : 'Tags
(${_selectedTagsFilter.length})'),style: ElevatedButton.styleFrom(padding: const
EdgeInsets.symmetric(horizontal: 12, vertical: 12),textStyle: const TextStyle(fontSize:
14),), onPressed: _showTagSelectionDialog,),const SizedBox(width:
8),IconButton(icon: const Icon(Icons.refresh),tooltip: 'Refresh Data / Clear
Filters',onPressed: () async {setState(() {_searchController.clear();_searchTerm =
'_selectedCategoryFilter = null;_selectedAvailabilityFilter =
'All';_selectedTagsFilter.clear();_selectedSortOption = 'name_asc';});await
_fetchDestinations();_showSuccessSnackbar("Filters cleared and data
refreshed.");},),),if (_selectedTagsFilter.isNotEmpty) Padding(padding: const
EdgeInsets.only(top: 8.0),child: Wrap(spacing: 6.0,runSpacing: 6.0,children:
[_selectedTagsFilter.map((tag) => Chip(label: Text(tag),onDeleted: () {setState(() {
{_selectedTagsFilter.remove(tag);_applyFilters();});}),).toList(),),]),}, } Future<void>
_showTagSelectionDialog() async {final List<String> tempSelectedTags =
List.from(_selectedTagsFilter);return showDialog<void>(context: context,builder:
(BuildContext dialogContext) {return StatefulBuilder(builder: (BuildContext context,
StateSetter setState) {return AlertDialog(title: const Text('Select Tags to Filter
By'),content: SizedBox(width: double.maxFinite,height:
MediaQuery.of(dialogContext).size.height * 0.5,_allAvailableTags.isEmpty? const
Center(child: Text("No tags available to filter.")) : ListView.builder(itemCount:
_allAvailableTags.length,itemBuilder: (BuildContext context, int index) {final tag =
_allAvailableTags[index];return CheckboxListTile(title: Text(tag),value:
tempSelectedTags.contains(tag),onChanged: (bool? selected) {setState(() {if
(selected == true) {if (!tempSelectedTags.contains(tag)) {tempSelectedTags.add(tag);} else
{tempSelectedTags.remove(tag);}}});},),actions: <Widget>[TextButton(child:
const Text('Cancel'), onPressed: () {Navigator.of(dialogContext).pop();},),TextButton(child:
Text('Apply'), onPressed: () {setState(() {_selectedTagsFilter =
List.from(tempSelectedTags);_applyFilters();});Navigator.of(dialogContext).pop();},),],});},});}@override Widget build(BuildContext context) {return
Scaffold(floatingActionButton: FloatingActionButton.extended(onPressed: () {
{_showDestinationDialog();},tooltip: 'Add Destination',backgroundColor:
appBlue,icon: const Icon(Icons.add_location_alt_outlined),label: const Text("Add
Destination"),),body: Column(children: [_buildFilterUI(),Expanded(child:
StreamBuilder<QuerySnapshot>(stream:
BoxFit.cover,placeholder: (ctx, url) => Container(width: 60, height: 60, color:
Colors.grey[300],child: const Center(child: CircularProgressIndicator(strokeWidth:
2,))),),Container(width: 60,height: 60,decoration: BoxDecoration(color:
Colors.grey[300],borderRadius: BorderRadius.circular(6.0),),child: const
Icon(Icons.image_not_supported_outlined, size: 30, color: Colors.grey),),title:

```

```

newDestinations = snapshot.data?.docs ?? [];
if (!_areListsEqual(_allDestinations, newDestinations)) {
  WidgetsBinding.instance.addPostFrameCallback((_) {
    if (mounted) {
      setState(() {
        _allDestinations =
        List.from(newDestinations).extractAllAvailableTags();
        _applyFilters();
      });
    }
  });
}
if (_allDestinations.isEmpty && _searchTerm.isEmpty && _selectedCategoryFilter == "All Categories") {
  return const Center(child: Padding(padding: EdgeInsets.all(16.0), child: Text("No destinations found. Click the "+" button to add one!"), textAlign: TextAlign.center, style: TextStyle(fontSize: 16)));
}
if (_filteredDestinations.isEmpty) {
  return const Center(child: Padding(padding: EdgeInsets.all(16.0), child: Text("No destinations match your current filters."), textAlign: TextAlign.center, style: TextStyle(fontSize: 16)));
}
return ListView.builder(padding: const EdgeInsets.only(bottom: 80), itemCount: _filteredDestinations.length, itemBuilder: (context, index) {
  final destinationDoc = _filteredDestinations[index];
  final data = destinationDoc.data() as Map<String, dynamic>;
  final String name = data['name'] ?? 'No Name';
  final String category = data['category'] ?? 'N/A';
  final bool isAvailable = data['isAvailable'] ?? false;
  final List images = data['images'] as List? ?? [];
  String firstImageUrl = "if (images.isNotEmpty && images.first is Map && (images.first as Map)['url'] is String) {firstImageUrl = (images.first as Map)['url'] as String;} return Card(margin: const EdgeInsets.symmetric(horizontal: 12.0, vertical: 6.0), elevation: 2, shape: RoundedRectangleBorder(borderRadius: BorderRadius.circular(8)), child: ListTile(contentPadding: const EdgeInsets.all(12), leading: firstImageUrl.isNotEmpty ? ClipRRect(borderRadius: BorderRadius.circular(6.0), child: CldImageWidget(publicId: firstImageUrl, width: 60, height: 60, fit:

```

lib/web/admin_login_page.dart

```

import 'package:flutter/gestures.dart';
import 'package:flutter/material.dart';
import '../screens/firebase_service.dart';
import 'web_admin_dashboard.dart';
import 'package:firebase_auth/firebase_auth.dart';
import 'package:url_launcher/url_launcher.dart';
const Color darkBlue = Color(0xFF4374ac);
const Color pageBackgroundColor = Color(0xFFFF6F6EE);
const String adminFontFamily = 'TTLivretTextTrial';
class AdminLoginPage extends StatefulWidget {
  const AdminLoginPage({Key? key}) : super(key: key);
  @override
  _AdminLoginPageState createState() => _AdminLoginPageState();
}
class _AdminLoginPageState extends State<AdminLoginPage> {
  final _formKey = GlobalKey<FormState>();
  final _emailController = TextEditingController();
  final _passwordController = TextEditingController();
  final FirebaseService _firebaseService = FirebaseService();
  bool _isLoading = false;
  bool _isHoveringLoginButton = false;
  bool _obscurePassword = true;
  final String _privacyPolicyUrl =
  'https://marikina-project2-247bc.web.app/privacy_policy.html';
  Future<void> _launchPrivacyPolicyUrl() async {
    final Uri url = Uri.parse(_privacyPolicyUrl);
    if (!await launchUrl(url, webOnlyWindowName: '_blank')) {
      if (mounted) ScaffoldMessenger.of(context).showSnackBar(SnackBar(content: Text('Could not launch $_privacyPolicyUrl')));
    }
  }
  print('Could not launch $_privacyPolicyUrl');
  @override
  void dispose() {
    _emailController.dispose();
    _passwordController.dispose();
    super.dispose();
  }
  String errorMessage = 'Invalid email or password. Please try again.';
  if (e.code == 'invalid-email') errorMessage = 'The email address is not valid.';
  else if (e.code == 'too-many-requests') errorMessage = 'Too many login attempts. Please try again later.';
  ScaffoldMessenger.of(context).showSnackBar(SnackBar(content: Text(errorMessage)));
  print('FirebaseAuthException during sign in: ${e.code} - ${e.message}');
  catch (e) {
    if (mounted) ScaffoldMessenger.of(context).showSnackBar(SnackBar(content: Text('An unexpected error occurred: ${e.toString()}')));
  }
  finally {
    if (mounted) setState(() => _isLoading = false);
  }
  Widget buildGradientButton() {
    return InkWell(
      onTap: () => _isLoading ? null : _performSignIn(),
      borderRadius: BorderRadius.circular(30),
      child: MouseRegion(
        onEnter: (_) => mounted ? setState(() => _isHoveringLoginButton = true) : null,
        onExit: (_) => mounted ? setState(() => _isHoveringLoginButton = false) : null,
        child: AnimatedScale(
          scale: _isHoveringLoginButton ? 1.1 : 1.0,
          duration: const

```

```

Text(name, style: const TextStyle(fontWeight: FontWeight.bold, fontSize: 16)),
        subtitle: Column(crossAxisAlignment: CrossAxisAlignment.start, children: [
          Text(category, style: const TextStyle(fontSize: 14, color: Colors.grey)),
          const SizedBox(height: 4),
          Text(isAvailable ? 'Available' : 'Not Available', style: TextStyle(fontSize: 14, color: isAvailable ? Colors.green : Colors.red)),
        ]),
        trailing: Row(mainAxisSize: MainAxisSize.min, children: [
          IconButton(icon: const Icon(Icons.edit_outlined, color: Colors.blueAccent), tooltip: 'Edit Destination', onPressed: () => _showDestinationDialog(destinationDoc: destinationDoc)),
          IconButton(icon: const Icon(Icons.delete_outline, color: Colors.redAccent), tooltip: 'Delete Destination', onPressed: () => showDialog(context: context, builder: (BuildContext dialogContext) => AlertDialog(title: const Text('Confirm Delete'), content: Text('Are you sure you want to delete the destination $name? This action cannot be undone.'), actions: <Widget>[TextButton(child: const Text('Cancel'), onPressed: () => Navigator.of(dialogContext).pop()), TextButton(child: const Text('Delete'), style: TextStyle(color: Colors.red), onPressed: () => async {Navigator.of(dialogContext).pop(); try {
            await _firestore.collection('destinations').doc(destinationDoc.id).delete();
            _showSuccessSnackBar('Destination $name deleted successfully!');
          } catch (e) {
            print("Error deleting destination: ${e.toString()}");
            _showErrorSnackBar('Error deleting destination: ${e.toString()}');
          }
        })], onTap: () => _showDestinationDialog(destinationDoc: destinationDoc))),
        ],
      ),
    );
  }
  bool _areListsEqual(List<DocumentSnapshot> list1, List<DocumentSnapshot> list2) {
    if (list1.length != list2.length) return false;
    for (int i = 0; i < list1.length; i++) {
      if (list1[i].id != list2[i].id) return false;
    }
    return true;
  }
}
```

```

  {
    _emailController.dispose();
    _passwordController.dispose();
    super.dispose();
  }
  void _performSignIn() async {
    if (!_formKey.currentState?.validate() ?? false) {
      return;
    }
    setState(() => _isLoading = true);
    try {
      UserCredential userCredential = await _firebaseService.signInWithEmailAndPassword(_emailController.text.trim(), _passwordController.text.trim());
      if (userCredential != null && userCredential.user != null) {
        String? role = await _firebaseService.getDashboardUserRole(userCredential.user!.uid);
        if (mounted) {
          Navigator.pushReplacement(context, MaterialPageRoute(builder: (context) => WebAdminDashboard(userRole: role, userUID: userCredential.user!.uid)));
        }
      } else {
        ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content: Text('Access Denied: You do not have dashboard privileges.')));
      }
    } catch (e) {
      if (mounted) {
        ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content: Text('Sign in failed. Please check your credentials.')));
      }
    }
  }
  FirebaseAuth.instance.signInOut();
}

catch (e) {
  if (mounted) {
    ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content: Text('An error occurred during sign in.')));
    if (e.code == 'user-not-found' || e.code == 'wrong-password' || e.code == 'invalid-credential') {
      Colors.black.withOpacity(0.5).offset(Offset(1.0, 1.0));
    }
  }
}
const SizedBox(height: 10),
Text('Experience Marikina, Explore Marikina', style: TextStyle(fontFamily: adminFontFamily, fontSize: 20, color: Colors.white70)),
Expanded(flex: 3, child: Container(color: darkBlue, padding: const EdgeInsets.symmetric(horizontal: 32.0, vertical: 20.0), child: Column(mainAxisAlignment: MainAxisAlignment.center, children: [
  Expanded(child: Center(child: Column(mainAxisSize: MainAxisSize.min, children: [
    Text('Welcome to', style: TextStyle(fontFamily: adminFontFamily, color: Colors.white, fontSize: 22, fontWeight: FontWeight.bold)),
    Text('MarikinaGo', style: TextStyle(fontFamily: adminFontFamily, color: Colors.white, fontSize: 32, fontWeight: FontWeight.bold)),
    Text('Your one-stop destination for all things Marikina.', style: TextStyle(fontFamily: adminFontFamily, color: Colors.white70, fontSize: 16)),
    const SizedBox(height: 20),
    Container(width: 380, padding: const EdgeInsets.symmetric(horizontal: 40),

```

```

Duration(milliseconds: 200),child: Container(width: 220,padding: const
EdgeInsets.symmetric(vertical: 14),decoration: BoxDecoration(gradient: const
LinearGradient(colors: [Color(0xFFFFA726), Color(0xFFFFEB3B)],begin:
Alignment.topLeft,end: Alignment.bottomRight,),borderRadius:
BorderRadius.circular(30)),),child: Center(child: Text('Sign In',style:
TextStyle(fontFamily: adminFontFamily,color: Colors.white,fontWeight:
FontWeight.w600,fontSize: 16,letterSpacing: 1.1,)),),),);}@override Widget
build(BuildContext context) {final String currentYear =
DateTime.now().year.toString();return Scaffold(body: Row(children: [Expanded(flex:
2,child: Container(decoration: const BoxDecoration(image: DecorationImage(image:
AssetImage('assets/images/marikina_building.jpg'),fit: BoxFit.cover,),),child:
Container(padding: const EdgeInsets.all(32.0),decoration: BoxDecoration(color:
Colors.black.withOpacity(0.3)),child: Column(mainAxisAlignment:
MainAxisAlignment.center,crossAxisAlignment: CrossAxisAlignment.start,children:
[Image.asset('assets/icon/app_icon.png', width: 100, height: 100, fit:
BoxFit.contain),const SizedBox(height: 20),Text('MarikinaGo',style:
TextStyle(fontFamily: adminFontFamily,fontSize: 40,fontWeight:
FontWeight.bold,color: Colors.white,shadows: [Shadow(blurRadius: 2.0, color:

```

lib/web/admin_signup_page.dart

```

import 'package:flutter/material.dart';import
'package:cloud_functions/cloud_functions.dart';import
'package:cloud_firestore/cloud_firestore.dart';class AdminSignupPage extends
StatefulWidget {final String currentUserRole;const AdminSignupPage({Key? key,
required this.currentUserRole}): super(key: key);@override _AdminSignupPageState
createState() => _AdminSignupPageState();}class _AdminSignupPageState extends
FirebaseFirestore.instance;String _capitalize(String s) {if (s.isEmpty) {return s;}return
s[0].toUpperCase() + s.substring(1);}String? _validatePassword(String? value) {if
(value == null || value.isEmpty) {return 'Password is required.';}if (value.length < 8)
{return 'Password must be at least 8 characters long.';}if
(!value.contains(RegExp(r'[A-Z]'))) {return 'Password must contain an uppercase
letter.';}if (!value.contains(RegExp(r'[a-z]'))) {return 'Password must contain a
lowercase letter.';}if (!value.contains(RegExp(r'[0-9]'))) {return 'Password must contain
a number.';}if (!value.contains(RegExp(r'[@#$%^&*().?{}|<>]'))) {return 'Password
must contain a special character.';}return null;}Future<void> _createAdminAccount()
async {if (!_formKey.currentState!.validate()) return;if (widget.currentUserRole !=
'superadmin') {setState(() => _statusMessage = "Access denied. Only Superadmin can
create accounts.");return;}setState(() {_loading = true; _statusMessage = null;});try
{final callable = _functions.httpsCallable('createAdminAccount');final result = await
callable.call(<String, dynamic>{'email': _emailController.text.trim(),'password':
_passwordController.text,'role': _selectedRole,});final Map data = result.data as
Map;final newUid = data['uid'] ?? 'unknown';setState(() {_statusMessage = 'Admin
account created (uid:
$newUid)'});_emailController.clear();_passwordController.clear();setState(() =>
_selectedRole = 'admin');} on FirebaseFunctionsException catch (e) {setState(() =>
_statusMessage = 'Server error:
${e.message}');debugPrint('FirebaseFunctionsException: ${e.message}');} catch (e)
{setState(() => _statusMessage = 'Error: $e');debugPrint('createAdminAccount error:
$e');} finally {setState(() {_loading = false;});}}Future<void>
_deleteAdminAccount(String uid, String role) async {if (widget.currentUserRole !=
'superadmin') {setState(() => _statusMessage = "Access denied.");return;}final
confirmed = await showDialog<bool>(context: context,builder: (ctx) =>
AlertDialog(title: const Text('Confirm delete'),content: Text('Delete account $uid from
role "$role"? This will remove the account from Auth and roles.'),actions:
[TextButton(onPressed: () => Navigator.pop(ctx, false), child: const
Text('Cancel')),ElevatedButton(onPressed: () => Navigator.pop(ctx, true), child: const
Text('Delete'))],);if (confirmed != true) return;setState(() {_loading = true;
_statusMessage = null;});try {final callable =
_FUNCTIONS.httpsCallable('deleteAdminAccount');final result = await

```

```

vertical: 30),decoration: BoxDecoration(color:
pageBackgroundColor,borderRadius: BorderRadius.circular(20)),child: Form(key:
_formKey,child: Column(mainAxisSize: MainAxisSize.min,children: [Text('Please
enter credentials to continue.',style: TextStyle(fontFamily: adminFontFamily,color:
Colors.black87,fontSize: 16,),textAlign: TextAlign.center,),const SizedBox(height:
30),TextFormField(controller: _emailController,keyboardType:
TextInputType.emailAddress,style: const TextStyle(color:
Colors.black87),decoration: InputDecoration(labelText: 'Email',labelStyle:
TextStyle(fontFamily: adminFontFamily,color: Colors.grey.shade700,),filled:
true,fillColor: Colors.white,border: OutlineInputBorder(borderRadius:
BorderRadius.circular(30),borderSide: BorderSide.none,),focusedBorder:
OutlineInputBorder(borderRadius: BorderRadius.circular(30),borderSide:
BorderSide(color: Colors.orange.shade700, width: 2,)),prefixIcon:
Icon(Icons.email_outlined,color: Colors.grey.shade700,),validator: (value) {if
(value == null || value.isEmpty) {return 'Please enter your email.';} if
(!RegExp(r'^[a-zA-Z0-9]+@[a-zA-Z0-9]+\.[a-zA-Z]+').hasMatch(value)) {return
'Please enter a valid email.';} return null

```

```

State<AdminSignupPage> {final _formKey = GlobalKey<FormState>();final
_emailController = TextEditingController();final _passwordController =
TextEditingController();bool _isPasswordObscured = true;String? _selectedRole =
"admin";bool _loading = false;String? _statusMessage;final FirebaseFirestore
_FUNCTIONS = FirebaseFirestore.instance;final FirebaseFirestore _firestore =
false,);}Future<DocumentSnapshot<Map<String, dynamic>>>
_fetchAdminMetadata(String uid) {return
_firestore.collection('admin_metadata').doc(uid).get(),}@override Widget
build(BuildContext context) {if (widget.currentUserRole != 'superadmin') {return
Scaffold(appBar: AppBar(title: const Text('Access Denied')),body: const
Center(child: Text('Only Superadmin can access this page.')),);}}return
Scaffold(appBar: AppBar(title: const Text('Create Admin
Account'),backgroundColor: Colors.white,foregroundColor:
Colors.black,elevation: 1,),body: Padding(padding: const EdgeInsets.all(16.0),child:
Column(children: [Card(elevation: 3,child: Padding(padding: const
EdgeInsets.all(16.0),child: Form(key: _formKey,child: Column(children: [const
Text('Add New Admin / Moderator / Superadmin',style: TextStyle(fontSize: 18,
fontWeight: FontWeight.bold),],const SizedBox(height:
12),TextFormField(controller: _emailController,decoration: const
InputDecoration(labelText: 'Email',border: OutlineInputBorder()),validator: (val)
=> val == null || val.isEmpty ? 'Enter email' : null,),const SizedBox(height:
12),TextFormField(controller: _passwordController,obscureText:
_isPasswordObscured,decoration: InputDecoration(labelText: 'Password',border:
const OutlineInputBorder(),suffixIcon: IconButton(icon:
Icon(_isPasswordObscured ? Icons.visibility_off : Icons.visibility),onPressed: ()
{setState(() {_isPasswordObscured = !_isPasswordObscured;});}),validator:
_validatePassword,autovalidateMode:
AutovalidateMode.onUserInteraction,),const SizedBox(height:
12),DropdownButtonFormField<String>(value: _selectedRole,items: const
[DropdownMenuItem(value: 'admin', child:
Text('Admin')),DropdownMenuItem(value: 'moderator', child:
Text('Moderator')),DropdownMenuItem(value: 'superadmin', child:
Text('Superadmin'))], onChanged: (v) {if (v != null) setState(() => _selectedRole =
v,);},decoration: const InputDecoration(labelText: 'Select role',border:
OutlineInputBorder(),),const SizedBox(height: 12),Row(children:
[Expanded(child: _loading ? const SizedBox(height: 40, child: Center(child:
CircularProgressIndicator())) : ElevatedButton.icon(onPressed:
_createAdminAccount,icon: const Icon(Icons.add),label: const Text('Create
Account'))],),],),if (_statusMessage != null) ...[const SizedBox(height:

```

```

callable.call(<String, dynamic>{'uid': uid,'role': role,});final Map data = result.data as Map;if (data['success'] == true) {setState(() => _statusMessage = 'Deleted account $uid');} else {setState(() => _statusMessage = 'Server responded: ${result.data}');} on FirebaseFunctionsException catch (e) {setState(() => _statusMessage = 'Server error: ${e.message}');debugPrint('deleteAdminAccount error: ${e.message}');} catch (e) {setState(() => _statusMessage = 'Error: ${e}');debugPrint('deleteAdminAccount error: ${e}');} finally {setState(() => _loading = ${snapshot.error});}if (!snapshot.hasData) _firestore.collection('roles').snapshots(),builder: (context, snapshot) if (snapshot.hasError) {return Center(child: Text('Error loading roles:'));} return const Center(child: CircularProgressIndicator());}final docs = snapshot.data!.docs;if (docs.isEmpty) {return const Center(child: Text('No roles/administrators found.'));}return ListView.builder(itemCount: docs.length,itemBuilder: (context, index) {final doc = docs[index];final roleId = doc.id;final data = doc.data();final List<dynamic> uidsDynamic = data['uids'] ?? [];final List<String> uids = uidsDynamic.map((e) => e.toString()).toList();return Card(margin: const EdgeInsets.symmetric(vertical: 6.0, horizontal: 2.0),child: ExpansionTile(initiallyExpanded: false,title: Row(children: [Text(_capitalize(roleId),style: const TextStyle(fontWeight: FontWeight.w600)),const SizedBox(width: 8),Text('${uids.length}', style: const TextStyle(color: Colors.grey)),]),),children: [if (uids.isEmpty) const Padding(padding: EdgeInsets.all(12.0),child: Text('No accounts in this role.'),) else ListView.separated(shrinkWrap: true,physics: const NeverScrollableScrollPhysics(),itemCount: uids.length,separatorBuilder: (c, i) => const Divider(height: 1),itemBuilder: (c, i) {final uid = uids[i];return ListTile(title:

```

lib/web/admin_users_page.dart

```

import 'package:flutter/material.dart';import
'package:cloud_firestore/cloud_firestore.dart';import 'package:intl/intl.dart';import
'dart:async';import 'package:marikina_project3/screens/notification_service.dart';const
Color problemReportsTitleColor=Color(0xFFD32F2F);const Color
problemReportItemBackgroundColor=Color(0xFFECEFF1);const Color
problemReportItemTextColor=Color(0xFF37474F);const Color
pageBackgroundColor=Color(0xFFF6F6EE);const Color
userAccountTitleColor=Color(0xFF4F73A7);const Color
bookingHistoryTitleColor=Color(0xFF4F73A7);const Color
commentsTitleColor=Color(0xFF4F73A7);const Color
notificationsTitleColor=Color(0xFF4F73A7);const Color
bookingItemBackgroundColor=Color(0xFFE3E5E8);const Color
bookingItemTextColor=Color(0xFF4F73A7);const Color
commentItemBackgroundColor=Color(0xFFE3E5E8);const Color
commentItemTextColor=Color(0xFF4F73A7);const Color
notificationItemBackgroundColor=Color(0xFFE3E5E8);const Color
notificationItemTextColor=Color(0xFF4F73A7);class AdminUsersPage extends
StatefulWidget{const AdminUsersPage({Key? key}):super(key:key);@override
State<AdminUsersPage> createState()=> _AdminUsersPageState();}enum
NotificationType{emailChange,usernameChange,newBooking,bookingUpdate,} _Ad
minUsersPageState extends State<AdminUsersPage> with
SingleTickerProviderStateMixin{final FirebaseFirestore
ScrollController _commentsScrollController=ScrollController();late
TextEditingController _userNotificationSearchControllerForTab2;String
_notificationSearchQueryForTab2="";bool
_isUniversalNotificationViewForTab2=false;List<Map<String,dynamic>>
_userNotificationsForTab2=[];List<Map<String,dynamic>>
_filteredUserNotificationsForTab2=[];bool
_isLoadingUserNotificationsForTab2=false;List<Map<String,dynamic>>
_allUserNotificationsForTab2=[];List<Map<String,dynamic>>
_filteredAllUserNotificationsForTab2=[];bool
_isLoadingAllUserNotificationsForTab2=false;String?
_selectedNotificationTypeFilterForTab2;bool?
_selectedNotificationReadStatusFilterForTab2;final ScrollController

```

```

_firestore=FirebaseFirestore.instance;late TabController
_tabController;List<Map<String,dynamic>> _users=[];Map<String,dynamic>?
_selectedUser;bool _isLoadingUsers=true;late TextEditingController
_userSearchController;String _userSearchQuery="";List<Map<String,dynamic>>
_filteredUsers=[];final ScrollController
_userListScrollController=ScrollController();bool
_manualEditMode=false;List<Map<String,dynamic>>
_allAvailablePackages=[];List<Map<String,dynamic>>
_userBookings=[];List<Map<String,dynamic>> _allBookings=[];bool
_isLoadingBookings=false;bool _is LoadingAllBookings=false;late
TextEditingController _bookingSearchController;String
_bookingSearchQuery="";List<Map<String,dynamic>>
_filteredUserBookings=[];List<Map<String,dynamic>> _filteredAllBookings=[];bool
_isUniversalBookingSearch=false;final ScrollController
_bookingListScrollController=ScrollController();final ScrollController
_universalBookingListScrollController=ScrollController();List<Map<String,dynamic
>> _allComments=[];bool _isLoadingComments=false;late TextEditingController
_commentSearchController;String _commentSearchQuery="";List<Map<String,dyna
mic>> _filteredComments=[];final
ousIndex==0&&_tabController.index!=0{_isUniversalBookingSearch=false;}if(_tab
Controller.previousIndex==1&&_tabController.index!=1){_isUniversalNotification
ViewForTab2=false;}if(_tabController.index==0){if(_users.isEmpty&& !_isLoading
Users) _fetchUsers();}else
if(_tabController.index==1){if(_users.isEmpty&& !_isLoadingUsers)
_fetchUsers();if(_isUniversalNotificationViewForTab2&& _allUserNotificationsForT
ab2.isEmpty&& !_isLoadingAllUserNotificationsForTab2) _fetchAllUserNotificatio
nsForTab2();}else
if(!_isUniversalNotificationViewForTab2&& _selectedUser!=null&& _userNotificatio
nsForTab2.isEmpty&& !_isLoadingUserNotificationsForTab2) _fetchUserNotificati
onsForTab2(_selectedUser!['uid']);}else
if(_tabController.index==2){if(_allProblemReports.isEmpty&& !_isLoadingProblem
Reports) {_fetchProblemReports();}};_fetchUsers();_fetchAllPackages();if(_tab
Controller.index==1&& _allComments.isEmpty&& !_isLoadingComments) _fetchA
llComments();}else if(_tabController.index==2){}else

```

```

_userNotificationsListScrollControllerForTab2=ScrollController();final
ScrollController
_allUserNotificationsListScrollControllerForTab2=ScrollController();List<Map<String,dynamic>> _allProblemReports=[{}];bool
_isLoadingProblemReports=false;List<Map<String,dynamic>>
_filteredProblemReports=[];late TextEditingController
_problemReportSearchController;String _problemReportSearchQuery="";String?
_selectedReportCategoryFilter;String? _selectedReportStatusFilter;final
ScrollController
_problemReportsScrollController=ScrollController();StreamSubscription<QuerySnapshot>?
_userNotificationsSubscriptionForTab2;StreamSubscription<QuerySnapshot>?
_allUserNotificationsSubscriptionForTab2:@override void
initState(){super.initState();_userSearchController=TextEditingController();_booking
SearchController=TextEditingController();_commentSearchController=TextEditingController();_userNotificationSearchControllerForTab2=TextEditingController();_prob
lemReportSearchController=TextEditingController();_tabController=TabController(l
ength:3,vsync:this);_tabController.addListener((){if(!mounted)
return;if(_tabController.indexIsChanging){if(_tabController.previousIndex==0){if(_
userSearchController.text.isNotEmpty)
_userSearchController.clear();if(!_bookingSearchController.text.isNotEmpty)
_bookingSearchController.clear();else
if(_tabController.previousIndex==1){if(_userSearchController.text.isNotEmpty&&_t
abController.index!=0&&_tabController.index!=1){_userSearchController.clear();}if(
_userNotificationSearchControllerForTab2.text.isNotEmpty){_userNotificationSear
chControllerForTab2.clear();}else
if(_tabController.previousIndex==2){if(_problemReportSearchController.text.isNot
Empty){_problemReportSearchController.clear();}setState((){if(_tabController.prev
i
String??").toLowerCase();final email=(user['email']as
String??").toLowerCase();return
username.contains(_userSearchQuery)||email.contains(_userSearchQuery)}).toList();}
if(_selectedUser!=null&& !_filteredUsers.any((u)=>u['uid']==_selectedUser['uid']))){j
setState((){});void _onBookingSearchChanged(){if(!mounted)
return;setState((){_bookingSearchQuery=_bookingSearchController.text.toLowerCase();
}if(_isUniversalBookingSearch){_filterAllBookings();}else{_filterUserBookings();}});}
void _filterUserBookings(){if(!mounted)
return;if(_bookingSearchQuery.isEmpty){_filteredUserBookings=List.from(_userBoo
kings);}else{_filteredUserBookings=_userBookings.where((booking){final String
fullReferenceId=(booking['referenceID_firestore']as String??").toLowerCase();String
numericPartOfReferenceId=fullReferenceId;if(fullReferenceId.contains('#')){numer
icPartOfReferenceId=fullReferenceId.split('#').last;}return
numericPartOfReferenceId.contains(_bookingSearchQuery)}.toList());}void
_filterAllBookings(){if(!mounted)
return;if(_bookingSearchQuery.isEmpty){_filteredAllBookings=List.from(_allBookin
gs);}else{_filteredAllBookings=_allBookings.where((booking){final String
fullReferenceId=(booking['referenceID_firestore']as String??").toLowerCase();String
numericPartOfReferenceId=fullReferenceId;if(fullReferenceId.contains('#')){numer
icPartOfReferenceId=fullReferenceId.split('#').last;}final String
userName=(booking['userName']as String??").toLowerCase();final String
userEmail=(booking['userEmail']as String??").toLowerCase();return
numericPartOfReferenceId.contains(_bookingSearchQuery)||userName.contains(_bo
okingSearchQuery)||userEmail.contains(_bookingSearchQuery)}.toList();}void
_onCommentSearchChanged(){if(!mounted)
return;setState((){_commentSearchQuery=_commentSearchController.text.toLowerCase();
}if(_commentSearchQuery.isEmpty){_filteredComments=List.from(_allComm
ents);}else{_filteredComments=_allComments.where((comment){final
username=(comment['username']as String??").toLowerCase();final
text=(comment['text']as String??").toLowerCase();final userId=(comment['userId']as
String??").toLowerCase();return
username.contains(_commentSearchQuery)||text.contains(_commentSearchQuery)||u
if(_tabController.index==3&&_allProblemReports.isEmpty&& !_isLoadingProblem
Reports){_fetchProblemReports();}_userSearchController.addListener(_onUserSear
chChanged);_bookingSearchController.addListener(_onBookingSearchChanged);_c
ommentSearchController.addListener(_onCommentSearchChanged);_userNotificati
onSearchControllerForTab2.addListener(_onUserNotificationSearchChangedForTab
2);_problemReportSearchController.addListener(_onProblemReportSearchChanged
);}@override void
dispose(){_tabController.dispose();_userSearchController.removeListener(_onUserSe
archChanged);_userSearchController.dispose();_bookingSearchController.removeListener
(_onBookingSearchChanged);_bookingSearchController.dispose();_commentSe
archController.removeListener(_onCommentSearchChanged);_commentSearchCon
troller.dispose();_userNotificationSearchControllerForTab2.removeListener(_onUser
NotificationSearchChangedForTab2);_userNotificationSearchControllerForTab2.dis
pose();_problemReportSearchController.removeListener(_onProblemReportSearch
Changed);_problemReportSearchController.dispose();_userListScrollController.dis
pose();_bookingListScrollController.dispose();_universalBookingListScrollController.
dispose();_commentsScrollController.dispose();_userNotificationsListScrollContro
llerForTab2.dispose();_allUserNotificationsListScrollControllerForTab2.dispose();_pro
blemReportsScrollController.dispose();_userNotificationsSubscriptionForTab2?.canc
el();_allUserNotificationsSubscriptionForTab2?.cancel();super.dispose();}void
_onUserSearchChanged(){if(!mounted)
return;setState((){_userSearchQuery=_userSearchController.text.toLowerCase();_filt
erUsers();});void _filterUsers(){if(!mounted)
return;if(_userSearchQuery.isEmpty){_filteredUsers=List.from(_users);}else{_filtered
Users=_users.where((user){final username=(user['username']as
tempFiltered=List.from(_allUserNotificationsForTab2);if(_selectedNotificationType
FilterForTab2!=null&&_selectedNotificationTypeFilterForTab2=='All
Types'){tempFiltered=tempFiltered.where((notification){final
type=(notification['type']as String??").toLowerCase();return
type==_selectedNotificationTypeFilterForTab2!.toLowerCase();})).toList();}if(_select
edNotificationReadStatusFilterForTab2!=null){tempFiltered=tempFiltered.where((n
otification){return(notification['isRead']as
bool??false)==_selectedNotificationReadStatusFilterForTab2!.toLowerCase();})).toList();}if(_notifica
tionSearchQueryForTab2.isNotEmpty){tempFiltered=tempFiltered.where((notificati
on){final title=(notification['title']as String??").toLowerCase();final
message=(notification['message']as String??").toLowerCase();final
type=(notification['type']as String??").toLowerCase();final
userId=(notification['userId']as String??").toLowerCase();String
userName="";if(notification['userId']!=null){final
user=_users.firstWhere((u)=>u['uid']==notification['userId'],orElse:()=>{});if(user.is
NotEmpty){userName=(user['username']as String??").toLowerCase();}return
title.contains(_notificationSearchQueryForTab2)||message.contains(_notificationSear
chQueryForTab2)||type.contains(_notificationSearchQueryForTab2)||userId.contain
s(_notificationSearchQueryForTab2)||(userName.isNotEmpty&&userName.contain
s(_notificationSearchQueryForTab2));}.toList();}setState((){_filteredAllUserNotifica
tionsForTab2=tempFiltered;});}void
_toggleUniversalNotificationViewForTab2(){if(!mounted)
return;setState((){_isUniversalNotificationViewForTab2=_isUniversalNotificationVi
ewForTab2;_userNotificationSearchControllerForTab2.clear();}if(_isUniversalNotific
ationViewForTab2){_filteredUserNotificationsForTab2=[];if(_allUserNotificationsFo
rTab2.isEmpty&& !_isLoadingAllUserNotificationsForTab2){_fetchAllUserNotificat
ionsForTab2();}else{_filterAllUserNotificationsForTab2();}else{_filteredAllUserNoti
ficationsForTab2=[];if(_selectedUser!=null){if(_userNotificationsForTab2.isEmpty&
amp; !_isLoadingUserNotificationsForTab2){_fetchUserNotificationsForTab2(_selected
User['uid']);}else{_filterUserNotificationsForTab2();}}
} else {_userNotificationsForTab2 = [];_filteredUserNotificationsForTab2 = [];}
});}void _filterUserNotificationsForTab2(){if(!mounted)
return;if(_selectedUser==null){setState((){_filteredUserNotificationsForTab2 =
[];});return;}List<Map<String, dynamic>> tempFiltered =
List.from(_userNotificationsForTab2);if
(_notificationSearchQueryForTab2.isNotEmpty){tempFiltered =

```

```

serId.contains(_commentSearchQuery)}).toList();}void
_onUserNotificationSearchChangedForTab2(){if(!mounted)
return;setState((){_notificationSearchQueryForTab2=_userNotificationSearchControl
lerForTab2.text.toLowerCase();if(_isUniversalNotificationViewForTab2){_filterAllUse
rNotificationsForTab2();}else{_filterUserNotificationsForTab2();}});}void
_filterAllUserNotificationsForTab2(){if(!mounted)
return;List<Map<String,dynamic>>
||message.contains(_notificationSearchQueryForTab2)
||type.contains(_notificationSearchQueryForTab2);}.toList();}setState()
{_filteredUserNotificationsForTab2 = tempFiltered;};}Future<void>
_fetchUserNotificationsForTab2(String userId) async {await
_userNotificationsSubscriptionForTab2?.cancel();_userNotificationsSubscriptionForT
ab2 = null;if (!mounted) return;setState(() {_isLoadingUserNotificationsForTab2 =
true;_userNotificationsForTab2 = [];_filteredUserNotificationsForTab2 = []});try
{final query = _firebase.collection('user_notifications').where('userId', isEqualTo:
userId).orderBy('timestamp', descending:
true);_userNotificationsSubscriptionForTab2 =
query.snapshots(includeMetadataChanges: true).listen((QuerySnapshot snapshot) {if
(!mounted) return;print('== userNotifications snapshot received for user $userId
==');print(' snapshot.size=${snapshot.size}');print(' metadata:
isFromCache=${snapshot.metadata.isFromCache},
hasPendingWrites=${snapshot.metadata.hasPendingWrites}');for (final change in
snapshot.docChanges) {print(' change: type=${change.type}, id=${change.doc.id},
data=${change.doc.data()}');}final items = snapshot.docs.map((doc) {final data =
doc.data() as Map<String, dynamic>;final ts = data['timestamp'];return {'docId':
doc.id,...data,'timestamp': ts,}}).toList();setState(() {_userNotificationsForTab2 =
items;}_filterUserNotificationsForTab2();if (_isLoadingUserNotificationsForTab2
){setState(() {_isLoadingUserNotificationsForTab2 = false;}});}, onError: (error)
{print("Error in user notifications stream for user $userId: $error");if (mounted)
{ScaffoldMessenger.of(context).showSnackBar(SnackBar(content: Text("Error listening
to user notifications: $error"), backgroundColor: Colors.red,));}}};catch (e)
{print("Exception starting userNotifications subscription: $e");if (mounted)
{ScaffoldMessenger.of(context).showSnackBar(SnackBar(content: Text("Error fetching
user notifications: $e"), backgroundColor: Colors.red,));setState(() {_isLoadingUserNotificationsForTab2 =
false;});}}};}Future<void>
_fetchAllUserNotificationsForTab2() async {await
_allUserNotificationsSubscriptionForTab2?.cancel();_allUserNotificationsSubscriptio
nForTab2 = null;if (!mounted) return;setState(() {_isLoadingAllUserNotificationsForTab2 =
true;_allUserNotificationsForTab2 = [];_filteredAllUserNotificationsForTab2 = []});try
{final query =
_firestore.collection('user_notifications').orderBy('timestamp', descending:
true);_allUserNotificationsSubscriptionForTab2 =
query.snapshots(includeMetadataChanges: true).listen((QuerySnapshot snapshot) {if
(!mounted) return;print('== allNotifications snapshot received ==');print('
snapshot.size=${snapshot.size}');print(' metadata:
isFromCache=${snapshot.metadata.isFromCache},
hasPendingWrites=${snapshot.metadata.hasPendingWrites}');for (final change in
bookingSnapshot = await _firebase.collection('bookings').orderBy('timestamp',
descending: true).get();if (!mounted) return;List<Map<String, dynamic>>
tempAllBookings = [];for (var doc in
bookingSnapshot.docs) {final data = doc.data() as Map<String, dynamic>;String userId
= data['userId'] as String ?? '';Map<String, dynamic>? bookingUser;if (_users.any((u)
=> u['uid'] == userId)) {bookingUser = _users.firstWhere((u) => u['uid'] == userId);}
else {print("User $userId not found in local _users list during _fetchAllBookings.
Booking may lack searchable user info.");}tempAllBookings.add({'docId':
doc.id,'referenceID_firestore': data['referenceID'],'userName':
bookingUser?'username' ?? data['userName'] ?? 'Unknown User','userEmail':
bookingUser?'email' ?? data['userEmail'] ?? 'Unknown Email'...data});if (!mounted)
return; _allBookings = tempAllBookings;_filterAllBookings();} catch (e) {if (mounted)
{ScaffoldMessenger.of(context).showSnackBar(SnackBar(content: Text("Error fetching
all bookings: $e"), backgroundColor: Colors.red,));}print("Error fetching all bookings:
tempAllBookings.size=${tempAllBookings.length}");} setState(() {_isLoadingAllUserNotificationsForTab2 =
false;});}};}void
_tempAllBookings(){if (!mounted) return;tempAllBookings = [];
tempAllBookings = tempAllBookings.where((bookings) {
final title = (bookings['title'] as String? ??
'').toLowerCase();final message = (bookings['message'] as String? ??
'').toLowerCase();final type = (bookings['type'] as String? ??
'').toLowerCase();return title.contains(_notificationSearchQueryForTab2)
snapshot.docChanges) {print(' change: type=${bookings['type']}');
id=${bookings['docId']}');final items = snapshot.docs.map((doc) {final data = doc.data()
as Map<String, dynamic>;return {'docId': doc.id,...data,}}).toList();setState(() {_allUserNotificationsForTab2 = items;}_filterAllUserNotificationsForTab2();if
(_isLoadingAllUserNotificationsForTab2) {setState(() {_isLoadingAllUserNotificationsForTab2 =
false;});}}, onError: (error) {print("Error in all-notifications stream: $error");if (mounted)
{ScaffoldMessenger.of(context).showSnackBar(SnackBar(content: Text("Error
listening to all notifications: $error"), backgroundColor: Colors.red,));}}};catch (e)
{print("Exception starting allUserNotifications subscription: $e");if (mounted)
{ScaffoldMessenger.of(context).showSnackBar(SnackBar(content: Text("Error
fetching all notifications: $e"), backgroundColor: Colors.red,));}}};}Future<void> _fetchUsers()
async {if (!mounted) return;setState(() {_isLoadingUsers = true;});try
{QuerySnapshot userSnapshot = await
_firestore.collection('users').orderBy('username', descending: false).get();if (!mounted)
return;_users = userSnapshot.docs.map((doc) => {'uid': doc.id,...doc.data() as
Map<String, dynamic>}).toList();_filterUsers();} catch (e) {if (mounted)
{ScaffoldMessenger.of(context).showSnackBar(SnackBar(content: Text("Error
fetching users: $e"), backgroundColor: Colors.red,));}};print("Error fetching users:
$e");_users = []:_filterUsers();} finally {if (mounted) {setState(() {_isLoadingUsers =
false;});}}};}Future<void> _fetchBookingsForUser(String uid) async {if (_selectedUser
== null || _selectedUser!['uid'] != uid) {if (!_isUniversalBookingSearch && mounted)
{setState(() {_userBookings = [];_filteredUserBookings = [];});}return;}if (!mounted)
return;setState(() {_isLoadingBookings = true;});try {QuerySnapshot
bookingSnapshot = await _firebase.collection('bookings').where('userID', isEqualTo:
uid).orderBy('timestamp', descending: true).get();if (!mounted) return;_userBookings =
bookingSnapshot.docs.map((doc) {final data = doc.data() as Map<String,
dynamic>;return {'docId': doc.id,'referenceID_firestore':
data['referenceID'], 'userName': _selectedUser?['username'] ?? '',
'description': _selectedUser?['description'] ?? '',
'email': _selectedUser?['email'] ?? '',
'placeName': _selectedUser?['placeName'] ?? '',
'placeAddress': _selectedUser?['placeAddress'] ?? '',
'placeLat': _selectedUser?['placeLat'] ?? '',
'placeLong': _selectedUser?['placeLong'] ?? '',
'rating': _selectedUser?['rating'] ?? '',
'priceRange': _selectedUser?['priceRange'] ?? '',
'timeRange': _selectedUser?['timeRange'] ?? '',
'isAvailable': _selectedUser?['isAvailable'] ?? false,
'places': _selectedUser?['places'] ?? []});}};}finally {if (mounted)
{ScaffoldMessenger.of(context).showSnackBar(SnackBar(content: Text("Error
fetching bookings for user: $uid"), backgroundColor: Colors.red,));}};}Future<void> _fetchAllBookings()
async {if (!mounted) return;setState(() {_isLoadingAllBookings = true;});try {QuerySnapshot
data['isAvailable'] ?? false,'places': List<Map<String, dynamic>>.from((data['places']
as List<dynamic> ?? []).map((place) {if (place is Map) {return Map<String,
dynamic>.from(place.map((key, value) => MapEntry(key.toString(), value))});}return
<String, dynamic>{}));});toList();_filterUserBookings();} catch (e) {if (mounted)
{ScaffoldMessenger.of(context).showSnackBar(SnackBar(content: Text("Error
fetching tour packages: $e"), backgroundColor: Colors.red,));}};print("Error fetching
all packages: $e");_allAvailablePackages = [];} if (mounted) setState(() {}); void
_toggleEditMode() {if (!mounted) return;setState(() {_manualEditMode =
!_manualEditMode;});}void _toggleUniversalSearchMode() {if (!mounted)
return;setState(() {_isUniversalBookingSearch = !_isUniversalBookingSearch;
_bookingSearchController.clear();} if (_isUniversalBookingSearch) {if
(_allBookings.isEmpty && !_isLoadingAllBookings) {_fetchAllBookings();} else
{_filterAllBookings();}} else {if (_selectedUser != null) {if (_userBookings.isEmpty
&& !_isLoadingBookings) {_fetchBookingsForUser(_selectedUser!['uid']);} else
{_filterUserBookings();}} else {_userBookings = [];_filteredUserBookings = [];}}});}
String _formatDataForDisplay(Map<String, dynamic> data) {List<String> parts =
[];if (data.containsKey('username')) parts.add("Username: ${data['username']}");if
(data.containsKey('email')) parts.add("Email: ${data['email']}");if
(data.containsKey('referenceID_firestore')) parts.add("Reference ID: ${data['referenceID_firestore']}");if
(parts.isNotEmpty) return parts.join('
');}else return '';
}

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$e"); _allBookings = []; _filterAllBookings();} finally {if (mounted) { setState(() {
  _isLoadingAllBookings = false; })}}Future<void> _fetchAllComments() async {if
(!mounted) return; setState(() { _isLoadingComments = true; }); await
Future.delayed(const Duration(milliseconds: 500)); _allComments = [ {'commentId':
'comment1','userId': _users.isNotEmpty ? _users[0]['uid'] : 'uid_placeholder1',
'username': _users.isNotEmpty ? _users[0]['username'] : 'User One','text': 'This is a
sample comment about a booking','timestamp': Timestamp.now()}, {'commentId':
'comment2','userId': _users.length > 1 ? _users[1]['uid'] : 'uid_placeholder2',
'username': _users.length > 1 ? _users[1]['username'] : 'User Two','text': 'Another
comment regarding service quality.', 'timestamp':
Timestamp.now()};] _filterComments();}if (mounted) { setState(() {
  _isLoadingComments = false; })}}void _onUserSelected(Map<String, dynamic> user)
{if (!mounted) return; setState(() { _selectedUser =
user;});_userNotificationSearchControllerForTab2.clear();_userNotificationsForTab2 =
[]; _filteredUserNotificationsForTab2 =
[];_userNotificationsSubscriptionForTab2?.cancel();_userNotificationsSubscriptionFo
rTab2 = null; fetchUserNotificationsForTab2(user['uid']);}if (_tabController.index ==
0) {_userBookings = []; _filteredUserBookings = [];_bookingSearchController.clear();if
(!_isUniversalBookingSearch) {_fetchBookingsForUser(user['uid']);}}}}Future<void>
_fetchAllPackages() async {try {final snapshot = await
firestore.collection('tour_packages').where('isAvailable', isEqualTo: true).get();}if
(!mounted) return; _allAvailablePackages = snapshot.docs.map((doc) {final data =
doc.data() as Map<String, dynamic>;return {'packageID': doc.id,'title': data['title'] ??
'Unnamed Package','description': data['description'] ?? '', 'category': data['category'] ??
'N/A','price': (data['price'] as num)?.toDouble() ?? 0.0,'imageUrls':
List<String>.from(data['imageUrls'] as List<dynamic>) ?? []},'isAvailable':
});join(',');parts.add("Package(s): ${pkgsStr.isNotEmpty ? pkgsStr : 'N/A'}");}if
(data.containsKey('totalAmount') && data['totalAmount'] is num) {parts.add("Total:
P${(data['totalAmount'] as num).toStringAsFixed(2)}");}if
(data.containsKey('status')) {parts.add("Status: ${data['status']}");}if
(data.containsKey('text') && data.containsKey('commentId')) {parts.add("Comment:
${data['text']}");}if (data.containsKey('username')) parts.add("By: ${data['username']}");
} if (data.containsKey('message') && data.containsKey('notificationId'))
{parts.add("Notification: ${data['message']}");}if (data.containsKey('type')) {String
typeStr = data['type'].toString();}if (data['type'] is int && data['type'] <
NotificationType.values.length) {typeStr =
NotificationType.values[data['type']].toString().split('.').last;}parts.add("Type:
$typeStr");}if (data.containsKey('isRead')) parts.add("Read: ${data['isRead']} ? 'Yes' :
'No'");}return parts.join("\n");}void _onProblemReportSearchChanged() {if
(!mounted) return; setState(() {_problemReportSearchQuery =
_problemReportSearchController.text.toLowerCase();_filterProblemReports();
}}};void _filterProblemReports() {if (!mounted) return;List<Map<String, dynamic>>
tempFiltered = List.from(_allProblemReports);if (_selectedReportCategoryFilter != null &&
_selectedReportCategoryFilter!.isEmpty) {tempFiltered =
tempFiltered.where((report) {return (report['category'] as String?) ?? ".toLowerCase() == _selectedReportCategoryFilter!.toLowerCase();}).toList();}if
(_selectedReportStatusFilter != null && _selectedReportStatusFilter!.isEmpty)
{tempFiltered = tempFiltered.where((report) {return (report['status'] as String?) ?? ".toLowerCase() == _selectedReportStatusFilter!.toLowerCase();}).toList();}if
(_problemReportSearchQuery.isNotEmpty)
tempFiltered= tempFiltered.where((report){final reportId=(report['docId']as
String??'').toLowerCase();final description=(report['description']as
String??'').toLowerCase();final userEmail=(report['userEmail']as
String??'').toLowerCase();final userId=(report['userId']as
String??'').toLowerCase();return
reportId.contains(_problemReportSearchQuery)||description.contains(_problemRepo
rtSearchQuery)||userEmail.contains(_problemReportSearchQuery)||userId.contains(_
problemReportSearchQuery)}).toList();_filteredProblemReports=tempFiltered;setSt
ate((){});}Future<void> _fetchProblemReports()async{if(!mounted) return;setState((){
_isLoadingProblemReports=true;});try{QuerySnapshot reportSnapshot=await
firestore.collection('problem_reports').orderBy('timestamp',descending:true).get();}if!
data['referenceID_firestore'] as String? ?? 'N/A';String displayRefId =
refIdFull.contains('#') ? refIdFull.split('#').last : refIdFull;parts.add("Reference ID:
$displayRefId");} else if (data.containsKey('docId')) {parts.add("Booking Doc ID:
${data['docId']}");}if (data.containsKey('startDate') && data['startDate'] is
Timestamp) {String startDateStr = DateFormat('MMMM d,
yyyy').format((data['startDate'] as Timestamp).toDate());String endDateStr =
data['endDate'] != null && data['endDate'] is Timestamp ? DateFormat('MMMM d,
yyyy').format((data['endDate'] as Timestamp).toDate()): startDateStr;parts.add("Date: $start
DateStr ${startDateStr != endDateStr ? '- $endDateStr' : ''}");} else if (data.con
tainsKey('timestamp') && data['timestamp'] is Timestamp) {parts.add("Booking Date: ${DateFormat('MM
MM d, yyyy').format((data['timestamp'] as Timestamp).toDate())}");}if
(data.containsKey('numberOfGuests')) {parts.add("Guests:
${data['numberOfGuests']}");} else if (data.containsKey('guests')) {parts.add("Guests:
${data['guests']}");} else if (data.containsKey('totalGuests')) {parts.add("Total Guests:
${data['totalGuests']}");}if (data.containsKey('selectedPackages') &&
data['selectedPackages'] is List) {List<dynamic> pkgs = data['selectedPackages'];String
pkgsStr = pkgs.map((p) {if (p is Map) return p['title']?.toString() ?? 'Unknown
Pkg';return p.toString();});reports:$e";_allProblemReports=[]; _filterProblemReports();}finally{if(mounted){set
State((){_isLoadingProblemReports=false;});}}}}Future<void> _showEditUserDialog(
Map<String,dynamic>user)async{final
GlobalKey<FormState>formKey=GlobalKey<FormState>();TextEditingController
usernameController=TextEditingController(text:user['username']as
String??'');Map<String,dynamic>originalData={'username':user['username']as
String??'','email':user['email']as
String??'N/A'};Map<String,dynamic>updatedUserData=await
showDialog<Map<String,dynamic>>(context:context,barrierDismissible:false,builder
:(BuildContext context){return AlertDialog(title:const Text("Edit User
Account"),content:SingleChildScrollView(child:Form(key:formKey,child:Column(m
ainAxisSize:MainAxisSize.min,crossAxisAlignment:CrossAxisAlignment.start,childre
n:<Widget>[Text("User ID: ${user['uid']}"),style:const
TextStyle(fontSize:12,color:Colors.grey)],const
SizedBox(height:15),TextFormField(controller:usernameController,decoration:const
InputDecoration(labelText:"Username",border:OutlineInputBorder(),prefixIcon:Icon(Icons.person_outline),validator:(value){if(value==null||value.trim().isEmpty){return
"Username cannot be empty.";}return
null;},),),actions:<Widget>[TextButton(child:const
Text("Cancel"),onPressed:():>Navigator.of(context).pop(null)),ElevatedButton(chil
d:const Text("Save
Changes"),onPressed:():>if(formKey.currentState!.validate()){Navigator.of(context).po
p({'username':usernameController.text.trim(),});},);},);if(updatedUserData!=null)
{_showFinalConfirmationDialog('User',user['uid'],originalData,updatedUserData,()a
sync{try{await
_firestore.collection('users').doc(user['uid']).update(updatedUserData);if(mounted){$S
caffoldMessenger.of(context).showSnackBar(SnackBar(content:Text("User
'$updatedUserData['username']' updated
successfully."),backgroundColor:Colors.green,);}_fetchUsers();}if(_selectedUser!=null
&&_selectedUser['uid']==user['uid']){if(mounted){setState((){_selectedUser=...sel
ectedUser!,...updatedUserData;});}}}}catch(e){if(mounted){ScaffoldMessenger.of(con
text).showSnackBar(SnackBar(content:Text("Error updating user:
$e"),backgroundColor:Colors.red,);}}print("Error updating user ${user['uid']}: $e");
}}};}}Future<void> _showEditBookingDialog(Map<String,dynamic>booking)asy
nc{final GlobalKey<FormState>formKey=GlobalKey<FormState>();String
displayReferenceID="N/A";final
String?customRefIdFull=booking['referenceID_firestore']as
String?;if(customRefIdFull!=null&&customRefIdFull.contains('#')){displayReferenc
eID=customRefIdFull.split('#').last;}else
d:InputDecorator(decoration:const
InputDecoration(border:OutlineInputBorder(),prefixIcon:Icon(Icons.calendar_toda
y,),child:Text(tempBookingData['startDate']!=null&&tempBookingData['endDate']
```

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mounted) return; _allProblemReports=reportSnapshot.docs.map((doc){return{'docId': doc.id,...doc.data()as Map<String,dynamic>};}).toList(); _filterProblemReports();}catch(e){if(mounted){ ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text("Error fetching problem reports: $e"),backgroundColor:Colors.red),);}}print("Error fetching problem if(customRefIdFull!=null){displayReferenceID=customRefIdFull;}else{displayReferenceID=booking['docId']as String??'Unknown ID';}DateTime?startDate=(booking['startDate']as Timestamp?)?.toDate()??(booking['timestamp']as Timestamp?)?.toDate();DateTime?endDate=(booking['endDate']as Timestamp?)?.toDate();DateTimeEditingController guestsController=TextEditingController(text:(booking['numberOfGuests']??booking['guests'])??booking['totalGuests'])?.toString()??'1';List<Map<String,dynamic>>selectedPackages=[];if(booking['selectedPackages']is List){for(var pkgData in(booking['selectedPackages']as List)){if(pkgData is Map){selectedPackages.add(Map<String,dynamic>.from(pkgData.map((key,value)=>MapEntry(key.toString(),value))))}}}final String originalStatusBeforeDialogEdits=booking['status']as String??'Pending';double currentTotalAmount=(booking['totalAmount']as num?)?.toDouble()??0.0;Map<String,dynamic>tempBookingData={'startDate':startDate,'endDate':endDate??startDate,'numberOfGuests':int.tryParse(guestsController.text)??1,'selectedPackages':List<Map<String,dynamic>>.from(selectedPackages.map((p)=>Map<String,dynamic>.from(p.map((key,value)=>MapEntry(key.toString(),value))))),'totalAmount':currentTotalAmount,'status':originalStatusBeforeDialogEdits,};Map<String,dynamic>?dataFromDialogOnSave=await showDialog<Map<String,dynamic>>(context:context,barrierDismissible:false,builder:BuildContext dialogContext){return StatefulBuilder(builder:(context,setDialogState){void recalculateTotal(){double total=0;int guests=tempBookingData['numberOfGuests']??1;if(guests<=0)guests=1;for(var package in tempBookingData['selectedPackages']){total+=(package['price']as num??0.0)*guests;}setDialogState((){tempBookingData['totalAmount']=total;});}return AlertDialog(title:Text("Edit Booking (Ref: ${displayReferenceID})"),content:SingleChildScrollView(child:Form(key:formKey,child:Column(mainAxisSize:MainAxisSize.min,crossAxisAlignment:CrossAxisAlignment.start,children:<Widget>[Text("Booking Doc ID: ${booking['docId']}"),const TextStyle(fontSize:12,color:Colors.grey)],const SizedBox(height:16),Text("Select Date Range:"),const SizedBox(height:8),InkWell(onTap:()async{final DateTimeRange?picked=await showDateRangePicker(context:context,firstDate:DateTime.now().subtract(const Duration(days:365)),lastDate:DateTime.now().add(const Duration(days:365*2)),initialDateRange:tempBookingData['startDate']!=null&&tempBookingData['endDate']!=null?DateTimeRange(start:tempBookingData['startDate'],end:tempBookingData['endDate']):null,};if(picked!=null){setDialogState((){tempBookingData['startDate']=picked.start,tempBookingData['endDate']=picked.end,});}},child=null||value.isEmpty?"Please select a status':null,)],),actions:<Widget>[TextButton(child:const Text("Cancel"),onPressed:()=>Navigator.of(dialogContext).pop(null),),ElevatedButton(child:const Text("Save Changes"),onPressed:(){if(formKey.currentState!.validate()){Map<String,dynamic>finalChangesFromDialog={['startDate':tempBookingData['startDate']!=null?Timestamp.fromDate(tempBookingData['startDate']):null,'endDate':tempBookingData['endDate']!=null?Timestamp.fromDate(tempBookingData['endDate']):null,'numberOfGuests':tempBookingData['numberOfGuests'],selectedPackages:tempBookingData['selectedPackages'],totalAmount:tempBookingData['totalAmount'],status:tempBookingData['status'],userID:booking['userID'],timestamp:booking['timestamp'],referenceID_firestore:booking['referenceID_firestore'],bookingMode:booking['bookingMode'],maleGuests:booking['maleGuests'],femaleGuests:booking['femaleGuests'],collectiveAgencyType:booking['collectiveAgencyType'],collectiveOtherAgency:booking['collectiveOtherAgency'],collectiveGuestType:booking['collectiveGuestType'],collectiveStatus:booking['collectiveStatus'],collectiveOtherStatus:booking['collectiveOtherStatus'],ind
!=null?"${DateFormat('MMMM d, yyyy').format(tempBookingData['startDate'])} - ${DateFormat('MMMM d, yyyy').format(tempBookingData['endDate'])}":"Select date range",),),const SizedBox(height:16),TextFormField(controller:guestsController,decoration:const InputDecoration(labelText:"Number of Guests",border:OutlineInputBorder(),prefixIcon:Icon(Icons.group_outlined),),keyboardType:TextInputType.number,validator:(value){if(value==null||value.trim().isEmpty) return "Guests cannot be empty.";if(int.tryParse(value)==null||int.parse(value)<=0) return "Invalid number of guests."},return
null,},onChanged:(value){setDialogState((){tempBookingData['numberOfGuests']=int.tryParse(value)??tempBookingData['numberOfGuests'];recalculateTotal();});},const SizedBox(height:16),Text("Selected Packages:"),style:Theme.of(context).textTheme.titleSmall,const SizedBox(height:8),InkWell(onTap:()async{final List<Map<String,dynamic>>?result=await _showSelectPackagesDialog(context,List<Map<String,dynamic>>.from(tempBookingData['selectedPackages']),_allAvailablePackages,);if(result!=null){setDialogState((){tempBookingData['selectedPackages']=result;recalculateTotal();}),},child:InputDecorator(decoration:const InputDecoration(border:OutlineInputBorder(),prefixIcon:Icon(Icons.tour_outlined),),child:Text(tempBookingData['selectedPackages'].isEmpty?"Select packages":(tempBookingData['selectedPackages']as List<Map<String,dynamic>>).map((p)=>p['title']).join(', ',maxLines:2,overflow:TextOverflow.ellipsis,)),),const SizedBox(height:16),Text("Total Amount:"),style:Theme.of(context).textTheme.titleSmall,Text("P${(tempBookingData['totalAmount']as num).toStringAsFixed(2)}"),style:Theme.of(context).textTheme.titleMedium?.copyWith(fontWeight:FontWeight.bold),),const SizedBox(height:16),Text("Booking Status:"),style:Theme.of(context).textTheme.titleSmall,const SizedBox(height:8),DropdownButtonFormField<String>(decoration:const InputDecoration(border:OutlineInputBorder(),prefixIcon:Icon(Icons.flag_outlined),),value:tempBookingData['status'],items:['Pending','Confirmed','Cancelled','Completed'].map((String value){return DropdownMenuItem<String>(value:value,child:Text(value),);}).toList(),onChanged:(String? newValue){if(newValue!=null){setDialogState((){tempBookingData['status']=newValue,});}},validator:(value){return if(_selectedUser!=null){_fetchBookingsForUser(_selectedUser!['uid']);}catch(e){if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text("Error updating booking: $e"),backgroundColor:Colors.red),);}}print("Error updating booking ${booking['docId']}");},$e,);},});}Future<List<Map<String,dynamic>>?>_showSelectPackagesDialog(BuildContext context,List<Map<String,dynamic>> initiallySelectedPackages,List<Map<String,dynamic>> allAvailablePackages,) async {List<Map<String,dynamic>> tempSelectedPackages=List<Map<String,dynamic>>.from(initiallySelectedPackages).map((p)=>Map<String,dynamic>.from(p));return await showDialog<List<Map<String,dynamic>>>(context:context,builder:(BuildContext context){return StatefulBuilder(builder:(context,setDialogState){return AlertDialog(title:const Text("Select Tour Packages"),content:SizedBox(width:double.maxFinite,child:allAvailablePackages.isNotEmpty?const Center(child:Text("No tour packages available.")):ListView.builder(shrinkWrap:true,itemCount:allAvailablePackages.length, itemBuilder:(BuildContext context,int index){final package=allAvailablePackages[index];final bool isSelected=tempSelectedPackages.any((p)=>p['packageID']==package['packageID']);return CheckboxListTile(title:Text(package['title']??'Unnamed Package'),subtitle:Text("P${(package['price']as num??0.0).toStringAsFixed(2)} - ${package['category']??'N/A'}"),value:isSelected, onChanged:(bool? value){setDialogState((){if(value==true){if(!isSelected){tempSelectedPackages.add(package,);}else{tempSelectedPackages.removeWhere((p)=>p['packageID']==package['packageID']);}}});},);},);},);},);}

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ividualGuests':booking['individualGuests'],};Navigator.of(dialogContext).pop(finalChangesFromDialog);});},);});});if(dataFromDialogOnSave!=null){Map<String,dynamic>originalBookingDataForDisplay={'referenceID_firestore':booking['referenceID_firestore'],'startDate':(booking['startDate']as Timestamp?).toDate(),endDate:(booking['endDate']as Timestamp?).toDate(),'numberOfGuests':booking['numberOfGuests']??booking['guests']??booking['totalGuests'],'selectedPackages':booking['selectedPackages'],'totalAmount':booking['totalAmount'],'status':originalStatusBeforeDialogEdits},;_showFinalConfirmationDialog('Booking Update Confirmation',booking['docId'] as String,originalBookingDataForDisplay,dataFromDialogOnSave,()async {try {await _firebase.collection('bookings').doc(booking['docId']) as String}.update(dataFromDialogOnSave);if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content: Text("Booking Ref: $displayReferenceID updated successfully."),backgroundColor: Colors.green),);}}final String newStatusAfterSave=dataFromDialogOnSave['status'] as String;final String? userIdForNotification=dataFromDialogOnSave['userID'] as String?;final String? bookingFirestoreId=booking['docId'] as String?;final String? bookingCustomRefId=dataFromDialogOnSave['referenceID_firestore'] as String?;if(userIdForNotification!=null&&bookingFirestoreId!=null&&newStatusAfterSave!=originalStatusBeforeDialogEdits){await NotificationService.createAdminBookingStatusUpdateNotification(userID:userIdForNotification,bookingFirestoreId:bookingFirestoreId,bookingReferenceId:bookingCustomerRefId,oldStatus:originalStatusBeforeDialogEdits,newStatus:newStatusAfterSave,adminName:null,);}if(_isUniversalBookingSearch){_fetchAllBookings();}else Text("This action will permanently delete this booking record and cannot be undone.",style:TextStyle(color:Colors.redAccent)),if(itemType=='Comment')const Text("This action will permanently delete this comment and cannot be undone.",style:TextStyle(color:Colors.redAccent)),if(itemType=='User Notification')const Text("This action will permanently delete this user notification and cannot be undone.",style:TextStyle(color:Colors.redAccent)),;},),actions:<Widget>[TextButton(child:const Text("Cancel"), onPressed:()=>Navigator.of(context).pop(false),),ElevatedButton(style:ElevatedButton.styleFrom(buttonColor:Colors.red),child:const Text("Delete",style:TextStyle(color:Colors.white), onPressed:()=>Navigator.of(context).pop(true),),);};if(confirmed==true){try{if(itemType=='User'){await _firebase.collection('users').doc(itemId).delete();}final bookingDocs=await _firebase.collection('bookings').where('userID',isEqualTo:itemId).get();for(var doc in bookingDocs.docs){await doc.reference.delete();}final userNotificationDocs=await _firebase.collection('user_notifications').where('userId',isEqualTo:itemId).get();for(var doc in userNotificationDocs.docs){await doc.reference.delete();}if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text("User '$itemName' and associated data deleted successfully."),backgroundColor:Colors.green),);}}_fetchUsers();if(_selectedUser!=null&&_selectedUser['uid']==itemId){if(mounted){setState((){_selectedUser=null;_userBookings=[];_filteredUserBookings=[];_userNotificationsForTab2=[];_filteredUserNotificationsForTab2=[];});}if(_tabController.index==0){if(_isUniversalBookingSearch){_fetchAllBookings();}else if(_tabController.index==2){if(_isUniversalNotificationViewForTab2){_fetchAllUserNotificationsForTab2();}_fetchAllComments();}else if(itemType=='Booking'){await _firebase.collection('bookings').doc(itemId).delete();}if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text("$itemName deleted successfully."),backgroundColor:Colors.green),);}}if(_tabController.index==0){if(_isUniversalBookingSearch){_fetchAllBookings();}else if(_selectedUser!=null&&(userIdForBookingDeletion==null||_selectedUser['uid']==userIdForBookingDeletion)){_fetchBookingsForUser(_selectedUser['uid']);}}}}else if(itemType=='Comment'){await _firebase.collection('comments').doc(itemId).delete();}if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text("Comment '$itemName' deleted successfully."),backgroundColor:Colors.green),);}}if(_tabController.index==1){_fetchAllComments();}}else if(itemType=='User Notification'){await

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ackageID']);});});}),actions:<Widget>[TextButton(child:const Text("Cancel"), onPressed:()=>Navigator.of(context).pop(null),),ElevatedButton(child:const Text("Confirm"), onPressed:()=>Navigator.of(context).pop(tempSelectedPages),),);});});});Future<void>_showDeleteConfirmationDialog(String itemType,String itemId,String itemName,{String? userIdForBookingDeletion,String? userIdForNotificationDeletion,}) async {bool? confirmed=await showDialog<bool>(context:context,barrierDismissible:false,builder:(BuildContext context){return AlertDialog(title: Text("Confirm Deletion"),content:SingleChildScrollView(child:ListBody(children:<Widget>[Text("Are you sure you want to delete this $itemType?"),const SizedBox(height:10),Text(itemName,style:const TextStyle(fontWeight:FontWeight.bold)),const SizedBox(height:10),if(itemType=='User')const Text("This action will permanently delete the user's account, all associated bookings, and notifications. This cannot be undone.",style:TextStyle(color:Colors.redAccent)),if(itemType=='Booking')const UniversalNotificationViewForTab2(){_fetchAllUserNotificationsForTab2();}else if(_selectedUser!=null&&userIdForNotificationDeletion!=null&&_selectedUser['uid']==userIdForNotificationDeletion){_fetchUserNotificationsForTab2(_selectedUser['uid']);}else if(_selectedUser!=null&&userIdForNotificationDeletion==null){_fetchUserNotificationsForTab2(_selectedUser['uid']);}})}catch(e){if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text("Error deleting $itemType: $e"),backgroundColor:Colors.red),);}}print("Error deleting $itemType $itemId: $e");});});});Future<void>_showFinalConfirmationDialog(String itemType,String itemId,Map<String,dynamic>originalData,Map<String,dynamic>updatedData(VoidCallback onConfirm) async {bool? confirmed=await showDialog<bool>(context:context,barrierDismissible:false,builder:(BuildContext context){return AlertDialog(title:Text("Confirm $item Type Update"),content:SingleChildScrollView(child:ListBody(children:<Widget>[Text("Please review the changes for this $item Type:"),const SizedBox(height:15),Text("Original Data:",style:Theme.of(context).textTheme.titleSmall?.copyWith(fontWeight:FontWeight.bold)),Text(_formatDataForDisplay(originalData),style:const TextStyle(fontSize:13)),const SizedBox(height:15),Text("Updated Data:",style:Theme.of(context).textTheme.titleSmall?.copyWith(fontWeight:FontWeight.bold)),Text(_formatDataForDisplay(updatedData),style:const TextStyle(fontSize:13)),const SizedBox(height:15),Text("Do you want to save these changes?"),style:TextStyle(fontWeight:FontWeight.bold)),],),actions:<Widget>[TextButton(child:const Text("Cancel"), onPressed:()=>Navigator.of(context).pop(false),),ElevatedButton(child:const Text("Save Changes"), onPressed:()=>Navigator.of(context).pop(true),),];}if(confirmed==true){onConfirm();}});});Future<void>_showNotificationDetailsDialog(Map<String,dynamic>notification) async {NotificationType type=NotificationType.values[notification['type']] as int??NotificationType.bookingUpdate.index;String title="Notification Details";String contentText=notification['message'] as String??"No details available.";Map<String,dynamic>userSnapshot=notification['userSnapshot'] as Map<String,dynamic>;Map<String,dynamic>bookingSnapshot=notification['bookingSnapshot'] as Map<String,dynamic>;List<Widget>contentWidgets=[Text(contentText,style:const TextStyle(fontSize:15)),const SizedBox(height:10),Text("Timestamp: ${DateFormat('MMMM d, yyyy HH:mm').format((notification['timestamp'] as Timestamp).toDate())}"),style:const TextStyle(fontSize:12,color:Colors.grey));];if(userSnapshot!=null){contentWidgets.add(Text("User ID: ${userSnapshot['id']}"));contentWidgets.add(Text("Email: ${userSnapshot['email']}"));contentWidgets.add(Text("Phone: ${userSnapshot['phone']}"));contentWidgets.add(Text("Address: ${userSnapshot['address']}"));contentWidgets.add(Text("City: ${userSnapshot['city']}"));contentWidgets.add(Text("State: ${userSnapshot['state']}"));contentWidgets.add(Text("Country: ${userSnapshot['country']}"));contentWidgets.add(Text("Postcode: ${userSnapshot['postcode']}"));contentWidgets.add(Text("Latitude: ${userSnapshot['latitude']}"));contentWidgets.add(Text("Longitude: ${userSnapshot['longitude']}"));}}else{contentWidgets.add(Text("Report Details (ID: $reportId)"));contentWidgets.add(SingleChildScrollView(child:Column(crossAxisAlignment:CrossAxisAlignment.start,mainAxisSize:MainAxisSize.min,children:<Widget>[_buildDetailRow("Category:",category),_buildDetailRow("Submitted by:",userEmail+(userId!=null?" (UID: $userId)":""),_buildDetailRow("Date Submitted:",date),_buildDetailRow("Current

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_firestore.collection('user_notifications').doc(itemId).delete();if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text("$itemName deleted successfully."),backgroundColor:Colors.green,));}if(_tabController.index==2){if(_isUser add(const Divider(height:20));contentWidgets.add(Text("Associated User:",style:Theme.of(context).textTheme.titleSmall));contentWidgets.add(Text("User name: ${userSnapshot['username']}??'N/A'"));contentWidgets.add(Text("Email: ${userSnapshot['email']}??'N/A'"));}if(bookingSnapshot!=null){contentWidgets.add(const Divider(height:20));contentWidgets.add(Text("Associated Booking:",style:Theme.of(context).textTheme.titleSmall));}String refId=bookingSnapshot['referenceID_firestore']as String??"N/A";if(refId.contains('#'))refId=refId.split('#').last;contentWidgets.add(Text("Reference ID: $refId"));contentWidgets.add(Text("Status: ${bookingSnapshot['status']}??'N/A'"));switch(type){case NotificationType.newBooking:title="New Booking Created";break;case NotificationType.emailChange:title="User Email Changed";break;case NotificationType.usernameChange:title="User Username Changed";break;case NotificationType.bookingUpdate:title="Booking Status Updated";break;}await showDialog(context:context,builder:(BuildContext context){return AlertDialog(title:Text(title),content:SingleChildScrollView(child:ListBody(children:contentWidgets,)),actions:<Widget>[if(notification['userId']!=null)TextButton(child:const Text("Go to User"),onPressed:(){Navigator.of(context).pop();}final String userId=notification['userId'] as String;final targetUser=_users.firstWhere((u)=>u['uid']==userId,orElse:()=>{});if(targetUser.isNotEmpty){_tabController.animateTo(0);setState((){_selectedUser=targetUser;_isUniversalBookingSearch=false;_fetchBookingsForUser(userId)});}else{if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text("User with ID $userId not found."),backgroundColor:Colors.orange,));}},TextButton(child:const Text("Dismiss"), onPressed:(){Navigator.of(context).pop();}),);});});Future<void>_showProblemReportDetailsDialog(Map<String,dynamic>report)async{final String reportId=report['docId']as String??"N/A";final String category=report['category']as String??"N/A";final String description=report['description']as String??"No description.",final String status=report['status']as String??"Unknown";final String timestamp=report['timestamp']as Timestamp;final String date=timestamp!=null?DateFormat('MMM d, yyyy HH:mm').format(timestamp.toDate()):'N/A';final String userEmail=report['userEmail']as String??"Anonymous";final String userId=report['userId']as String?;List<Map<String,dynamic>> replies=List<Map<String,dynamic>>.from(report['replies']as List<dynamic>??[]);TextEditingController replyController=TextEditingController();final GlobalKey<FormState> replyFormKey=GlobalKey<FormState>();bool isSubmittingReply=false;await showDialog(context:context,barrierDismissible:!isSubmittingReply,builder:(BuildContext controller,decoration:const InputDecoration(hintText:"Type your reply to the user...",border:OutlineInputBorder(),filled:true,),maxLines:3,textInputAction:TextInputAction.newline,validator:(value){if(value==null||value.trim().isEmpty){return"Reply cannot be empty.";}return null;},),),),actions:<Widget>[TextButton(child:const Text("Close"),onPressed:isSubmittingReply?null:()=>Navigator.of(context).pop(),),if(_manualEditMode)ElevatedButton(style:ElevatedButton.styleFrom(backgroundColor:Theme.of(context).colorScheme.primary), onPressed:isSubmittingReply?null:()async{if(replyFormKey.currentState!.validate()){setDialogState((){isSubmittingReply=true;});}final newReply={'text':replyController.text.trim(),'timestamp':Timestamp.now(),'adminName':'Admin'};try{await _firestore.collection('problem_reports').doc(reportId).update({'replies':FieldValue.arrayUnion([newReply]),'status':'Pending User Reply','lastAdminReplyTimestamp':FieldValue.serverTimestamp(),});if(userId!=null&&userId.isNotEmpty){String replyTextPreview=newReply['text']as String??"No content";if(replyTextPreview.length>100){replyTextPreview="${replyTextPreview.substring(0,97)}...";}await _firestore.collection('user_notifications').add({'userId':userId,'title':'Admin Replied to
Status:',status}),const SizedBox(height:10),Text("Description:",style:Theme.of(context).textTheme.titleSmall?.copyWith(fontWeight:FontWeight.bold)),Container(padding:const EdgeInsets.all(8),margin:const EdgeInsets.only(top:4,bottom:10),decoration:BoxDecoration(border:Border.all(color:Colors.grey.shade300),borderRadius:BorderRadius.circular(4),),child:SelectableText(description,style:const TextStyle(height:1.4)),),const Divider(),Text("Admin Replies (${replies.length}):",style:Theme.of(context).textTheme.titleSmall?.copyWith(fontWeight:FontWeight.bold)),if(replies.isEmpty)const Padding(padding:EdgeInsets.symmetric(vertical:8.0),child:Text("No replies yet."),style:TextStyle(fontStyle:FontStyle.italic,color:Colors.grey)),else ListView.builder(shrinkWrap:true,physics:const NeverScrollableScrollPhysics(),itemCount:replies.length,itemBuilder:(context,index){final reply=replies[index];final String replyText=reply['text']as String??"N/A";final String replyTimestamp=reply['timestamp']as Timestamp?;final String replyDate=replyTimestamp!=null?DateFormat('MMM d, yyyy HH:mm').format(replyTimestamp.toDate()):'N/A';String senderName;final String? senderType=reply['senderType']as String?;if(senderType=='user'){senderName=reply['userEmailOfReplySender']as String?;userEmail;}else if(reply.containsKey('adminName')){senderName=reply['adminName']as String??"Admin"}else{senderName="Unknown Sender"};return Card(elevation:0.5,margin:const EdgeInsets.symmetric(vertical:4),child:Padding(padding:const EdgeInsets.all(8.0),child:Column(crossAxisAlignment:CrossAxisAlignment.start,children:[Text(replyText,style:const TextStyle(fontSize:13.5,height:1.3)),const SizedBox(height:4),Text("By: $senderName on $replyDate",style:const TextStyle(fontSize:11,color:Colors.grey)),]),),);},const TextStyle(fontSize:15,if(_manualEditMode)...[const Divider(),Text("Add New Reply:"),style:Theme.of(context).textTheme.titleSmall?.copyWith(fontWeight:FontWeight.bold)),const SizedBox(height:8),Form(key:replyFormKey,child:TextFormField(controller:replyController,decoration:const InputDecoration(label:Text("Report Status Updated"),errorText:report['status'],border:OutlineInputBorder(),filled:true),onChanged:(value){String notificationTitle="Report Status Updated";String notificationMessage="The status of your report regarding '$category' has been updated to: $newStatus.";if(newStatus.toLowerCase()=='resolved'){notificationTitle="Your Report has been Resolved!";notificationMessage="Good news! Your report about '$category' (ID: $reportId) has been marked as Resolved by an admin.";}else if(newStatus.toLowerCase()=='closed'){notificationTitle="Your Report has been Closed";notificationMessage="Your report about '$category' (ID: $reportId) has been Closed by an admin. If you have further questions, please submit a new report.";}else if(newStatus.toLowerCase()=='investigating'){notificationTitle="Report Update: Now Investigating";notificationMessage="An admin is now investigating your report about '$category' (ID: $reportId)."};try{await _firestore.collection('user_notifications').add({'userId':userId,'title':notificationTitle,'message':notificationMessage,'timestamp':FieldValue.serverTimestamp(),'type':'report_status_update','isRead':false,'relatedId':reportId,'relatedCollection':'problem_report'});print("Status update notification created for user $userId regarding report $reportId (New Status: $newStatus).");}catch(e){print("Error creating status update notification for user $userId, report $reportId: $e");}});Widget _buildDetailRow(String label,String value){return Padding(padding:const EdgeInsets.symmetric(vertical:3.0),child:Row(crossAxisAlignment:CrossAxisAlignment.Alignment.start,mainAxisAlignment:CrossAxisAlignment.start,children:[Text("$label ",style:const TextStyle(fontWeight:FontWeight.w600,fontSize:14)),Expanded(child:SelectableText(value,style:const TextStyle(fontWeight:FontWeight.normal,fontSize:14))),],),);}}Future<void>_showChangeReportStatusDialog(Map<String,dynamic>report)async{final String reportId=report['docId']as String??"N/A";final String currentStatus=report['status']as String??"New";final String? userId=report['userId']as String?;final String category=report['category']as String??"N/A";final List<String>availableStatuses=['New','Investigating','Pending User Reply','User Replied','Resolved','Closed'];String? newSelectedStatus=await

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Your Report','message':'An admin has replied:
 "\$replyTextPreview","timestamp':FieldValue.serverTimestamp(),'type':'new_reply_report','isRead':false,'relatedId':reportId,'relatedCollection':'problem_reports',});print("Notification created for user \$userId regarding report \$reportId.");if(mounted){Navigator.of(context).pop();ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content:Text("Reply submitted and user notified."),backgroundColor:Colors.green,));}else{print("Reply submitted for report \$reportId, but no userId found to send a specific notification.");}if(mounted){Navigator.of(context).pop();ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content:Text("Reply submitted (user not specifically notified - no UID)."),backgroundColor:Colors.orange,));}_fetchProblemReports();}catch(e){print("Error submitting reply or creating notification: \$e");}if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text("Error: \$e"),backgroundColor:Colors.red,));}finally{if(mounted){setDialogState((){isSubmittingReply=false;});}}},child:isSubmittingReply?const SizedBox(width:20,height:20,child:CircularProgressIndicator(strokeWidth:2,color:Colors.white)):const Text("Submit Reply & Notify User"),),],),);});}Future<void>_sendStatusUpdateNotificationToUser(String?userId, String reportId,String newStatus,String category)async{if(userId==null||userId.isEmpty){print("Cannot send status update");}},actions:<Widget>[TextButton(child:const Text("Cancel"),onPressed:()=>Navigator.of(context).pop(null),),ElevatedButton(child:const Text("SaveStatus"),onPressed:()=>Navigator.of(context).pop(tempStatus),),],),);}if(newSelectedStatus!=null&&newSelectedStatus!=currentStatus){try{await _firestore.collection('problem_reports').doc(reportId).update({'status':newSelectedStatus,'lastStatusUpdateTimestamp':FieldValue.serverTimestamp(),});}if(userId!=null&&userId.isNotEmpty){if(newSelectedStatus.toLowerCase()=='resolved'||newSelectedStatus.toLowerCase()=='closed'||newSelectedStatus.toLowerCase()=='investigating'){await _sendStatusUpdateNotificationToUser(userId,reportId,newSelectedStatus,category);}}if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text("Report status updated to '\$newSelectedStatus.'"),backgroundColor:Colors.green,));}_fetchProblemReports();}catch(e){if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text("Error updating report status \$reportId: \$e"),backgroundColor:Colors.red,));}}}}}@override Widget build(BuildContext context){return Scaffold(backgroundColor:pageBackgroundColor,appBar:AppBar(automaticallyImplyLeading:false,backgroundColor:Colors.white,elevation:1.0,title:Row(mainAxisAlignment:MainAxisAlignment.spaceBetween,children:[Text("Admin Management",style:Theme.of(context).textTheme.headlineSmall?.copyWith(color:userAccountTitleColor,fontWeight:FontWeight.w600,)),Expanded(child:SingleChildScrollView(scrollDirection:Axis.horizontal,reverse:true,child:Row(mainAxisAlignment:MainAxisAlignment.end,children:[Builder(builder:(context){bool isSupportReportsTab=_tabController.index==2;String buttonText;IconData buttonIcon;Color buttonColor;if(isSupportReportsTab){buttonText=_manualEditMode?"Finish Management":"Manage Reports";buttonIcon=_manualEditMode?Icons.done_all:Icons.rule_folder_outlined;buttonColor=_manualEditMode?Colors.green[700]!:Colors.orange[700];}else{buttonText=_manualEditMode?"Finish Editing":"Enable Editing";buttonIcon=_manualEditMode?Icons.done_all:Icons.edit_note_outlined;buttonColor=_manualEditMode?Colors.green[700]!:Theme.of(context).colorScheme.secondary;}}return ElevatedButton.icon(icon:Icon(buttonIcon,size:18),label:Text(buttonText),style:ElevatedButton.styleFrom(backgroundColor:buttonColor,foregroundColor:Colors.white,padding:const EdgeInsets.symmetric(horizontal:14,vertical:10),textStyle:const TextStyle(fontSize:13)),onPressed:_toggleManualEditMode,);}),const SizedBox(width:8),if(_tabController.index==0)Padding(padding:const EdgeInsets.only(left:8.0),child:ElevatedButton.icon(icon:Icon(_isUniversalBookingSearch?Icons.person_search_outlined:Icons.travel_explore_outlined,size:18,),label:Text(_

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showDialog<String>(context:context,builder:(BuildContext context){String tempStatus=currentStatus;return StatefulBuilder(builder:(context,setDialogState){return AlertDialog(title:Text("Change Report Status (ID: $reportId)"),content:DropdownButtonFormField<String>(decoration:const InputDecoration(labelText:"Select New Status",border:OutlineInputBorder(),),value:tempStatus,items:availableStatuses.map((String value){return DropdownMenuItem<String>(value:value,child:Text(value),);}),toList(),onChanged:(String?newValue){if(newValue!=null){setDialogState((){tempStatus=newValue;Bookings},);style:ElevatedButton.styleFrom(backgroundColor:_isUniversalBookingSearch?Theme.of(context).colorScheme.primary:Colors.teal,foregroundColor:Colors.white,padding:const EdgeInsets.symmetric(horizontal:14,vertical:10),textStyle:const TextStyle(fontSize:13)),onPressed:_toggleUniversalSearchMode,);},if(_tabController.index==1)Padding(padding:const EdgeInsets.only(left:8.0),child:ElevatedButton.icon(icon:Icon(_isUniversalNotificationViewForTab2?Icons.person_pin_circle_outlined:Icons.notifications_active_outline,size:18,),label:Text(_isUniversalNotificationViewForTab2?"User's Notifications":"All Notifications"),),style:ElevatedButton.styleFrom(backgroundColor:_isUniversalNotificationViewForTab2?Theme.of(context).colorScheme.secondary:Colors.amber.shade700,foregroundColor:Colors.white,padding:const EdgeInsets.symmetric(horizontal:14,vertical:10),textStyle:const TextStyle(fontSize:13)),onPressed:_toggleUniversalNotificationViewForTab2,);},Padding(padding:const EdgeInsets.only(left:8.0),child:IconButton(icon:const Icon(Icons.refresh_outlined),tooltip:"Refresh Data",color:Theme.of(context).colorScheme.primary,iconSize:26, onPressed:(){_fetchUsers();_fetchAllPackages();if(_tabController.index==0){if(_isUniversalBookingSearch){_fetchAllBookings();}else if(_selectedUser!=null){_fetchBookingsForUser(_selectedUser!['uid']);}else{if(mounted){setState((){_userBookings=[];_filteredUserBookings=[];});}}else if(_tabController.index==1){if(_isUniversalNotificationViewForTab2){_fetchAllUserNotificationsForTab2();}else if(_selectedUser!=null){_fetchUserNotificationsForTab2(_selectedUser!['uid']);}else{if(mounted){setState((){_userNotificationsForTab2=[];_filteredUserNotificationsForTab2=[];});}}}}if(_tabController.index==2){_fetchProblemReports();}if(mounted){setState(()=>{});}}),),bottom:TabBar(controller:_tabController,labelColor:Theme.of(context).colorScheme.primary,unselectedLabelColor:Colors.grey.shade600,indicatorColor:Theme.of(context).colorScheme.primary,indicatorWeight:2.5,labelStyle:const TextStyle(fontSize:14,fontWeight:FontWeight.w600),unselectedLabelStyle:const TextStyle(fontSize:14,fontWeight:FontWeight.normal),isScrollable:true,tabs:const[Tab(text:"Users & Bookings"),Tab(text:"Notifications"),Tab(text:"Support Reports"),],),body:TabBarView(controller:_tabController,children:[_buildUsersAndBookingsTab(),_buildNotificationsTab(),_buildProblemReportsTab(),],),Widget _buildUsersAndBookingsTab(){return Container(padding:const EdgeInsets.all(16.0),child:Row(crossAxisAlignment:CrossAxisAlignment.start,children:[Expanded(flex:2,child:_buildUserAccountsColumn(),),const SizedBox(width:16),Expanded(flex:3,child:_isUniversalBookingSearch?_buildUniversalNotifications:TextStyle(fontSize:16,color:Colors.grey),textAlign: TextAlign.center,);]),);}if(_filteredUserNotificationsForTab2.isEmpty){return Center(child:Text(_notificationSearchQueryForTab2.isNotEmpty?"No notifications found for '${_selectedUser!['username']}' matching your search.":"No notifications found for ${_selectedUser!['username']}").style:TextStyle(fontSize:16,color:Colors.grey),textAlign: TextAlign.center,);}}return Column(crossAxisAlignment:CrossAxisAlignment.start,children:[Padding(padding:const EdgeInsets.only(top:0,bottom:8.0),child:Text("Notifications for: ${_selectedUser!['username']}"),style:TextStyle(fontSize:18,fontWeight:FontWeight.bold,color:Theme.of(context).colorScheme.primary,)),Padding(padding:const EdgeInsets.only(bottom:10.0),child:SizedBox(height:42,child:TextField(controller:_us
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sUniversalBookingSearch?"User's Bookings":"All
ersalBookingHistoryColumn():_buildUserBookingHistoryColumn(),],),);}Widget
_buildCommentsTab(){return Container(padding:const
EdgeInsets.all(16.0),child:Column(crossAxisAlignment:CrossAxisAlignment.start,children:[_buildSectionTitle("User Comments
($_filteredComments.length}",commentsTitleColor,showCount:true),Padding(padding:const
EdgeInsets.only(bottom:10.0,top:5.0),child:TextField(controller:_commentSearchController,decoration:InputDecoration(hintText:"Search comments by user, text...",prefixIcon:const
Icon(Icons.search,size:20),border:OutlineInputBorder(borderRadius:BorderRadius.circular(8.0),borderSide:BorderSide(color:Colors.grey.shade300,width:0.8)),focusedBorder:OutlineInputBorder(borderRadius:BorderRadius.circular(8.0),borderSide:BorderSide(color:Theme.of(context).colorScheme.primary,width:1.2)),contentPadding:const
EdgeInsets.symmetric(horizontal:12.0,vertical:10),suffixIcon:_commentSearchQuery.isNotEmpty?IconButton(icon:const Icon(Icons.clear,size:20),tooltip:"Clear search", onPressed:(){_commentSearchController.clear();}),null),style:const
TextStyle(fontSize:14),),Expanded(child:Card(elevation:2.0,margin:EdgeInsets.zero,shape:RoundedRectangleBorder(borderRadius:BorderRadius.circular(8.0)),child:_isLoadingComments?const
Center(child:CircularProgressIndicator()):_filteredComments.isEmpty?Center(child:
Padding(padding:const
EdgeInsets.all(16.0),child:Text(_commentSearchQuery.isEmpty?"No comments found.":"No comments match '${_commentSearchQuery}'.",style:const
TextStyle(fontSize:15,color:Colors.grey),textAlign: TextAlign.center,),),):Scrollbar(controller:_commentsScrollController,thumbVisibility:true,thickness:8.0,radius:const
Radius.circular(4.0),child:ListView.separated(controller:_commentsScrollController, itemCount:_filteredComments.length,itemBuilder:(context,index){final
comment=_filteredComments[index];return
_buildCommentItem(comment);},separatorBuilder:(context,index)=>const
Divider(height:1,indent:16,endIndent:16,thickness:0.5),),),),),);}Widget
_buildNotificationsTab(){return Container(padding:const
EdgeInsets.all(16.0),child:Row(crossAxisAlignment:CrossAxisAlignment.start,children:[Expanded(flex:2,child:_buildUserAccountsColumn(),),const
SizedBox(width:16),Expanded(flex:3,child:_isUniversalNotificationViewForTab2?_buildAllUserNotificationsColumnForTab2():_buildSelectedUserNotificationsColumnForTab2(),),),);}Widget
_buildSelectedUserNotificationsColumnForTab2(){if(_isLoadingUserNotificationsForTab2){return const
Center(child:CircularProgressIndicator());}if(_selectedUser==null){return const
Center(child:Text("Select a user from the left to view their
Notifications",style:TextStyle(fontSize:18,fontWeight:FontWeight.bold,color:Theme.of(context).colorScheme.primary),),padding:const
EdgeInsets.only(bottom:10.0),child:SizedBox(height:42,child:TextField(controller:_userNotificationSearchControllerForTab2,style:const
TextStyle(fontSize:14),decoration:InputDecoration(hintText:"Search all notifications (title, message,
user...)",hintStyle:TextStyle(fontSize:13.5,color:Colors.grey.shade500),prefixIcon:const
Icon(Icons.search,size:20),border:OutlineInputBorder(borderRadius:BorderRadius.circular(8.0),borderSide:BorderSide(color:Colors.grey.shade300,width:0.8)),enabledBorder:OutlineInputBorder(borderRadius:BorderRadius.circular(8.0),borderSide:BorderSide(color:Theme.of(context).colorScheme.primary,width:1.2)),contentPadding:const
EdgeInsets.symmetric(horizontal:12.0,vertical:0),suffixIcon:_userNotificationSearchControllerForTab2.text.isNotEmpty?IconButton(icon:const
Icon(Icons.clear,size:20),tooltip:"Clear search", onPressed:(){_userNotificationSearchControllerForTab2.clear();}),null),),),);}Widget
EdgeInsets.only(top:2.0,bottom:2.0),child:Text("User:

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EdgeInsets.only(bottom:10.0),child:Row(children:[Expanded(child:DropdownButton
FormField<String>(decoration:InputDecoration(labelText:"Type",border:OutlineInputBorder(borderRadius:BorderRadius.circular(8.0))),contentPadding:const
EdgeInsets.symmetric(horizontal:12,vertical:10),isDense:true,),value:_selectedNotificationTypeFilterForTab2??'All Types',items:notificationTypesForFilter.map((String value){return DropdownMenuItem<String>(value:value,child:Text(value,style:const TextStyle(fontSize:13.5),overflow:TextOverflow.ellipsis),);}).toList(),onChanged:(String?newValue){setState((){_selectedNotificationTypeFilterForTab2=(newValue=='All Types'||newValue==null)?null:newValue;_filterAllUserNotificationsForTab2();});}),const
SizedBox(width:10),Expanded(child:DropdownButtonFormField<bool?>(decoration:InputDecoration(labelText:"Read Status",border:OutlineInputBorder(borderRadius:BorderRadius.circular(8.0)),contentPadding:const
EdgeInsets.symmetric(horizontal:12,vertical:10),isDense:true,),value:_selectedNotificationReadStatusFilterForTab2,items:readStatusOptions.entries.map((entry){return DropdownMenuItem<bool?>(value:entry.value,child:Text(entry.key,style:const TextStyle(fontSize:13.5)),);}).toList(),onChanged:(bool?newValue){setState((){_selectedNotificationReadStatusFilterForTab2=newValue;_filterAllUserNotificationsForTab2();});}),const
EdgeInsets.all(6),constraints:const
oxConstraints(),onPressed:(){if(notificationId!=null&&userId!=null){_toggleNotificationReadStatus(notificationId,userId,!isRead)}},IconButton(icon:Icon(Icons.delete_outline,size:20,color:Theme.of(context).colorScheme.error),tooltip:"Delete Notification",padding:const EdgeInsets.all(6),constraints:const
BoxConstraints(),onPressed:(){if(notificationId!=null&&userId!=null){_showDeleteConfirmationDialog('User Notification',notificationId,'Notification: '$title',userIdForNotificationDeletion:userId);}else{if(mounted){ScaffoldMessenger.of(context).showSnackBar(const SnackBar(content:Text("Error: Notification or User ID missing."),backgroundColor:Colors.red));}}},):null,onTap:(){if(!_manualEditMode &&notificationId!=null&&userId!=null&&!isRead){_toggleNotificationReadStatus(notificationId,userId,true)}},contentPadding:const
EdgeInsets.symmetric(vertical:8.0,horizontal:12.0,)),);}IconData _getNotificationIcon(String type,bool isRead){switch(type.toLowerCase()){case 'new_booking':return
isRead?Icons.event_available_outlined:Icons.event_available;case
'booking_update':return isRead?Icons.edit_calendar_outlined:Icons.edit_calendar;case
'account_change':return
isRead?Icons.manage_accounts_outlined:Icons.manage_accounts;case
'security_alert':return isRead?Icons.security_outlined:Icons.security;case
'new_comment':return isRead?Icons.comment_outlined:Icons.comment_bank;case
'payment_success':return isRead?Icons.payment_outlined:Icons.payment;case
'payment_failed':return
isRead?Icons.report_problem_outlined:Icons.report_problem;default:return
isRead?Icons.notifications_none_outlined:Icons.notifications_active;}}Future<void> _toggleNotificationReadStatus(String notificationDocId,String userId,bool newReadStatus)async{try{Map<String,dynamic>updateData={'isRead':newReadStatus};print("Updating Firestore with: $updateData");await
_firestore.collection('user_notifications').doc(notificationDocId).update(updateData);}
setState((){int
userSpecificIndex=_userNotificationsForTab2.indexWhere((n)=>n['docId']==notificationDocId);if(userSpecificIndex!=-1){_userNotificationsForTab2[userSpecificIndex]['isRead']=newReadStatus;_filterUserNotificationsForTab2();}int
allNotificationsIndex=_allUserNotificationsForTab2.indexWhere((n)=>n['docId']==notificationDocId);if(allNotificationsIndex!=-1){_allUserNotificationsForTab2[allNotificationsIndex]['isRead']=newReadStatus;_filterAllUserNotificationsForTab2();}});if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text(newReadStatus?"Notification marked as read.":"Notification marked as unread."),duration:Duration(seconds:2),));}}catch(e){print("Error updating
TextStyle(fontSize:14),overflow:TextOverflow.ellipsis),).toList(),onChanged:(String?
$userName",style:TextStyle(fontSize:11.5,fontStyle:FontStyle.italic,color:Colors.grey.shade600,)),if(timestamp!=null)Text(DateTimeFormat('MMM d, yyyy - hh:mm a').format(timestamp.toDate()),style:TextStyle(fontSize:11,color:Colors.grey.shade500,)),],),trailing:_manualEditMode?Row(mainAxisSize:MainAxisSize.min,children:[IconButton(icon:Icon(isRead?Icons.mark_email_read_outlined:Icons.mark_email_unread_sharp,size:20,color:isRead?Colors.grey:Colors.orange.shade700,tooltip:notification read status:$e");if(mounted){ScaffoldMessenger.of(context).showSnackBar(SnackBar(content:Text("Failed to update notification status. Error: $e"),backgroundColor:Colors.red,));}}]Widget _buildProblemReportsTab(){final
List<String> reportCategories=['All Categories','Bug/Error in App','Incorrect Information','UI/Layout Issue','Feature Request','Performance Problem','Account Issue','Other'];final List<String> reportStatuses=['All Statuses','New','Investigating','Pending User Reply','Resolved','Closed'];return
Container(padding:const
EdgeInsets.all(16.0),child:Column(crossAxisAlignment:CrossAxisAlignment.start,children:[_buildSectionTitle("Support Problem Reports
($_filteredProblemReports.length)",problemReportsTitleColor),Padding(padding:const
EdgeInsets.only(bottom:10.0,top:5.0),child:Column(children:[TextField(controller:_problemReportSearchController,decoration:InputDecoration(hintText:"Search reports by ID, description, user...",prefixIcon:const
Icon(Icons.search,size:20),border:OutlineInputBorder(borderRadius:BorderRadius.circular(8),borderSide:BorderSide(color:Colors.grey.shade300,width:0.8),),focusedBorder:OutlineInputBorder(borderRadius:BorderRadius.circular(8),borderSide:BorderSide(color:Theme.of(context).colorScheme.primary,width:1.2),),contentPadding:const
EdgeInsets.symmetric(horizontal:12,vertical:10),suffixIcon:_problemReportSearchQuery.isNotEmpty?IconButton(icon:const Icon(Icons.clear,size:20),tooltip:"Clear search",onPressed:(){_problemReportSearchController.clear();}):null,style:const
TextStyle(fontSize:14),),const
SizedBox(height:10),Row(children:[Expanded(child:DropdownButtonFormField<String>(decoration:InputDecoration(labelText:"Category",border:OutlineInputBorder(borderRadius:BorderRadius.circular(8)),contentPadding:const
EdgeInsets.symmetric(horizontal:12,vertical:10),isDense:true,),value:_selectedReportCategoryFilter??'All Categories',items:reportCategories.map((String value){return
DropdownMenuItem<String>(value:value,child:Text(value,style:const
TextStyle(fontSize:14),overflow:TextOverflow.ellipsis),);}).toList(),onChanged:(String? newValue){setState((){_selectedReportCategoryFilter=(newValue=='All Categories'||newValue==null)?null:newValue;_filterProblemReports();});}},const
SizedBox(width:10),Expanded(child:DropdownButtonFormField<String>(decoration:InputDecoration(labelText:"Status",border:OutlineInputBorder(borderRadius:BorderRadius.circular(8)),contentPadding:const
EdgeInsets.symmetric(horizontal:12,vertical:10),isDense:true,),value:_selectedReportStatusFilter??'All Statuses',items:reportStatuses.map((String value){return
DropdownMenuItem<String>(value:value,child:Text(value,style:const
EdgeInsets.all(12.0),child:Column(crossAxisAlignment:CrossAxisAlignment.start,children:[Flexible(child:Text("Category:
$category",style:TextStyle(fontSize:13,fontWeight:FontWeight.w600,color:problemReportItemTextColor.withOpacity(0.9)),overflow:TextOverflow.ellipsis),),Container(padding:const
EdgeInsets.symmetric(horizontal:8.0,vertical:4.0),decoration:BoxDecoration(color:statusColor.withOpacity(0.15),borderRadius:BorderRadius.circular(12.0),border:Border.all(color:statusColor,width:0.8)),child:Row(mainAxisSize:MainAxisSize.min,children:[Icon(statusIcon,color:statusColor,size:14),const
SizedBox(width:4),Text(status,style:TextStyle(color:statusColor,fontSize:11.5,fontWeight:FontWeight.w600,)),],),),const
SizedBox(height:6),Text("Report ID:
$reportId",style:TextStyle(fontSize:11,color:Colors.grey.shade600,)),const
SizedBox(height:8),Text(description,style:TextStyle(fontSize:14,color:problemReportItemTextColor,height:1.4,maxLines:3,overflow:TextOverflow.ellipsis,)),const
SizedBox(height:8),Divider(color:Colors.grey.shade300,height:1),const

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newValue){setState((){_selectedReportStatusFilter=(newValue=='All
Statuses'||newValue==null)?null:newValue;_filterProblemReports();});}],],),).Expanded(child:Card(elevation:2.0,margin:EdgeInsets.zero,shape:RoundedRectangleBorder(borderRadius:BorderRadius.circular(8)),child:_isLoadingProblemReports?const Center(child:CircularProgressIndicator()):_filteredProblemReports.isEmpty?Center(child:Padding(padding:const EdgeInsets.all(16.0),child:Text(_problemReportSearchQuery.isEmpty&&_selectedReportCategoryFilter==null&&_selectedReportStatusFilter==null?"No problem reports found.":"No problem reports match your criteria.",style:const TextStyle(fontSize:15,color:Colors.grey),textAlign:TextAlign.center,),)):Scrollbar(controller:_problemReportsScrollController,thumbVisibility:true,thickness:8.0,radius:const Radius.circular(4.0),child:ListView.separated(controller:_problemReportsScrollController,itemCount:_filteredProblemReports.length,itemBuilder:(context,index){final report=_filteredProblemReports[index];return _buildProblemReportItem(report);},separatorBuilder:(context,index)=>const Divider(height:1,indent:16,endIndent:16,thickness:0.5),),),),);}
Widget _buildProblemReportItem(Map<String,dynamic>report){final String reportId=report['docId']as String??'N/A';final String category=report['category']as String??'N/A';final String description=report['description']as String??'No description.';final String status=report['status']as String??'Unknown';final Timestamp?timestamp=report['timestamp']as Timestamp?;final String date=timestamp!=null?DateFormat('MMM d, yyyy HH:mm').format(timestamp.toDate()):'N/A';final String userEmail=report['userEmail']as String??'Anonymous';Color statusColor=Colors.grey;IconData statusIcon=Icons.help_outline;switch(status.toLowerCase()){case 'new':statusColor=Colors.blue.shade600;statusIcon=Icons.fiber_new_outlined;break;case 'investigating':statusColor=Colors.orange.shade700;statusIcon=Icons.search_outlined;break;case 'pending':userReply=statusColor=Colors.purple.shade600;statusIcon=Icons.reply_outlined;break;case 'resolved':statusColor=Colors.green.shade700;statusIcon=Icons.check_circle_outlined;break;case 'closed':statusColor=Colors.grey.shade700;statusIcon=Icons.lock_outline;break;}return Card(elevation:1.0,margin:const EdgeInsets.symmetric(vertical:6.0,horizontal:2.0),color:problemReportItemBackgroundColor,shape:RoundedRectangleBorder(borderRadius:BorderRadius.circular(8),side:BorderSide(color:statusColor.withOpacity(0.5),width:0.8)),child:InkWell(onTap:()=>_showProblemReportDetailsDialog(report),borderRadius:BorderRadius.circular(8),child:Padding(padding:const EdgeInsets.only(bottom:10.0),child:Text("User Accounts ${_filteredUsers.length}"),userAccountTitleColor),Padding(padding:const EdgeInsets.only(bottom:10.0),child:TextField(controller:_userSearchController,decoration:InputDecoration(hintText:"Search users by name or email...",prefixIcon:const Icon(Icons.search,size:20),border:OutlineInputBorder(borderRadius:BorderRadius.circular(8),borderSide:BorderSide(color:Colors.grey.shade300,width:0.8)),focusedBorder:OutlineInputBorder(borderRadius:BorderRadius.circular(8),borderSide:BorderSide(color:Theme.of(context).colorScheme.primary,width:1.2)),contentPadding:const EdgeInsets.symmetric(horizontal:12,vertical:10),suffixIcon:_userSearchQuery.isNotEmpty?IconButton(icon:const Icon(Icons.clear,size:20),tooltip:"Clear search",onPressed:(){_userSearchController.clear();}),:null),style:const TextStyle(fontSize:14),),),Expanded(child:Card(elevation:2.0,margin:EdgeInsets.zero,shape:RoundedRectangleBorder(borderRadius:BorderRadius.circular(8)),child:_is>LoadingAllBookings?const Center(child:CircularProgressIndicator()):_filteredAllBookings.isEmpty?Center(child:Padding(padding:const EdgeInsets.all(16.0),child:Text(_userSearchQuery.isEmpty?"No users found.":"No users match '${_userSearchQuery}'.",style:const TextStyle(fontSize:15,color:Colors.grey.shade700),textAlign:TextAlign.center,),)):Scrollbar(controller:_userListScrollController,thumbVisibility:true,thickness:8.0,radius:const Radius.circular(4.0),child:ListView.separated(controller:_userListScrollController,itemCount:_filteredUsers.length,itemBuilder:(context,index){final user=_filteredUsers[index];final bool

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isSelcted=_selectedUser!=null&&_selectedUser['uid']==user['uid'];return
Material(color:isSelcted?Theme.of(context).colorScheme.primary.withOpacity(0.15):Colors.transparent,child:InkWell(onTap:()=>_onUserSelected(user),splashColor:Theme.of(context).colorScheme.primary.withOpacity(0.2),highlightColor:Theme.of(context).colorScheme.primary.withOpacity(0.1),child:Padding(padding:const EdgeInsets.symmetric(horizontal:12.0,vertical:10.0),child:Row(children:[CircleAvatar(radius:20,backgroundColor:Colors.grey.shade300,child:Icon(Icons.person_outline,color:Colors.grey.shade700,size:22,)),const SizedBox(width:12),Expanded(child:Column(crossAxisAlignment:CrossAxisAlignment.start,children:[Text(user['username']as String??'N/A',style:const TextStyle(fontWeight:FontWeight.w600,fontSize:14.5),maxLines:1,overflow:TextOverflow.ellipsis),const SizedBox(height:2),Text(user['email']as String??'No email',style:TextStyle(fontSize:12.5,color:Colors.grey.shade700),maxLines:1,overflow:TextOverflow.ellipsis,)],),),if(_manualEditMode)...
IconButton(icon:Icon(Icons.edit_outlined,color:Theme.of(context).colorScheme.primary,size:19),tooltip:"Edit User",padding:const EdgeInsets.all(7),constraints:const BoxConstraints(),onPressed:()=>_showEditUserDialog(user),),IconButton(icon:Icon(Icons.delete_outline,color:Theme.of(context).colorScheme.error,size:19),tooltip:"Delete User",padding:const EdgeInsets.all(7),constraints:const BoxConstraints(),onPressed:()=>_showDeleteConfirmationDialog('User',user['uid'],user['username']as String??'Unknown User'),),],),),},separatorBuilder:(context,index)>const Divider(height:1,indent:16,endIndent:16,thickness:0.5,)],),),),);}Widget _buildUserBookingHistoryColumn(){return Column(crossAxisAlignment:CrossAxisAlignment.start,children:[_buildSectionTitle(_selectedUser!=null?"Bookings for ${_selectedUser['username']}? Selected User'${{_filteredUserBookings.length}}":"Select a User to View Bookings",bookingHistoryTitleColor,),if(_selectedUser!=null)Padding(padding:const EdgeInsets.only(bottom:10.0,top:0.0),child:TextField(controller:_bookingSearchController,decoration:InputDecoration(hintText:"Search user's bookings by Ref ID..."),prefixIcon:const Icon(Icons.search,size:20),border:OutlineInputBorder(borderRadius:BorderRadius.circular(8),borderSide:BorderSide(color:Colors.grey.shade300,width:0.8)),focusedBorder:OutlineInputBorder(borderRadius:BorderRadius.circular(8),borderSide:BorderSide(color:Theme.of(context).colorScheme.primary,width:1.2)),contentPadding:const EdgeInsets.symmetric(horizontal:12,vertical:10),suffixIcon:_bookingSearchQuery.isNotEmpty?IconButton(icon:const Icon(Icons.clear,size:20),tooltip:"Clear search",onPressed:()=>_bookingSearchController.clear()),):null,),style:const TextStyle(fontSize:14,)),),Expanded(child:Card(elevation:2.0,margin:EdgeInsets.zero,shape:RoundedRectangleBorder(borderRadius:BorderRadius.circular(8)),child:_selectedUser==null?Center(child:Padding(padding:const EdgeInsets.all(20.0),child:Text("Select a User Account to view their Booking History.",style:TextStyle(fontSize:15,color:Colors.grey.shade700,fontWeight:FontStyle.italic),textAlign:TextAlign.center,)),):_isLoadingBookings?const Center(child:CircularProgressIndicator()):_filteredUserBookings.isEmpty?Center(child:Padding(padding:const EdgeInsets.all(20.0),child:Text(_bookingSearchQuery.isNotEmpty?"No bookings match ${_bookingSearchQuery}"for ${_selectedUser['username']}?'this user'.":No bookings found for ${_selectedUser['username']}?'this user',style:TextStyle(fontSize:15,color:Colors.grey.shade700,textAlign:TextAlign.center,)),):Scrollbar(controller:_bookingListScrollController,thumbVisibility:true,thickness:8.0,radius:const shape:RoundedRectangleBorder(borderRadius:BorderRadius.circular(6)),child:Padding(padding:const EdgeInsets.all(12.0),child:Row(crossAxisAlignment:CrossAxisAlignment.start,children:[Expanded(child:Column(crossAxisAlignment:CrossAxisAlignment.start,children:[Text("Ref ID:$displayReferenceID",style:TextStyle(color:bookingItemTextColor,fontWeight:FontWeight.bold,fontSize:13.5),if(isUniversal)Padding(padding:const EdgeInsets.only(top:4.0),child:Text("User:$userNameForDisplay",style:TextStyle(color:bookingItemTextColor.withOpacity(0.9),

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fontSize:12.5)),),const
SizedBox(height:7),_buildBookingDetailRow("Date:",formattedDateRange),_buildBookingDetailRow("Total
Guests:",totalGuestsDisplay),_buildBookingDetailRow("Package(s):",packagesDisplay
isNotEmpty?packagesDisplay:"None"),_buildBookingDetailRow("Total
Amount:","P${{booking['totalAmount']}as num?}.toStringAsFixed(2)?'0.00?'},_buildBookingDetailRow("Overall
Status:",booking['status']as String?"Unknown"),const
SizedBox(height:5),_buildBookingDetailRow("Booking
Mode:",bookingMode=='collective'?"Collective":"Per-Guest"),if{bookingMode=='collective'}...[_buildBookingDetailRow("Male Guests:",{{booking['maleGuests']}as int?}.toString()?"N/A"),_buildBookingDetailRow("Female
Guests:",{{booking['femaleGuests']}as int?}.toString()?"N/A"),_buildBookingDetailRow("Agency
Type:",{{booking['collectiveAgencyType']}as String?"N/A"},if{booking['collectiveOtherAgency']}!=null&&{{booking['collectiveOtherAgency']}as String}.isEmpty)_buildBookingDetailRow("Other
Agency:",{{booking['collectiveOtherAgency']}as String}),_buildBookingDetailRow("Guest Type:",{{booking['collectiveGuestType']}as String?"N/A"},_buildBookingDetailRow("Collective
Status:",{{booking['collectiveStatus']}as String?"N/A"},if{booking['collectiveOtherStatus']}!=null&&{{booking['collectiveOtherStatus']}as String}.isEmpty)_buildBookingDetailRow("Other
Status:",{{booking['collectiveOtherStatus']}as String})]else
if{bookingMode=='perGuest'}...[Builder(builder:(context){final
List<dynamic>?individualGuestsRaw=booking['individualGuests']as
List<dynamic>?;if{individualGuestsRaw!=null&&individualGuestsRaw.isNotEmpty}
{List<Widget>guestDetailWidgets=[Padding(padding:const
EdgeInsets.only(top:6.0,bottom:2.0),child:Text("Individual Guest Details
(${individualGuestsRaw.length}):",style:TextStyle(color:{{bookingItemTextColor}}.fontSize:12.5,fontWeight:FontWeight.w600)),);}];for(var
i=0;i<individualGuestsRaw.length;i++){final guest=individualGuestsRaw[i]as
Map<String,dynamic>?;if(guest!=null){guestDetailWidgets.add(Padding(padding:const
EdgeInsets.only(left:8.0,top:3.0),child:Column(crossAxisAlignment:CrossAxisAlignment.start,children:[Text("Guest
${i+1}:",style:TextStyle(color:{{bookingItemTextColor}}.withOpacity(0.9).fontSize:12,fontWeight:FontWeight.w500)},_buildBookingDetailRow(" Gender:",{{guest['gender']}as String?"N/A"},_buildBookingDetailRow(" Agency Type:",{{guest['agencyType']}as String?"N/A"},if{{guest['agencyName']}!=null&&{{guest['agencyName']}as String}.isEmpty)_buildBookingDetailRow(" Agency
Name:",{{guest['agencyName']}as String},if{{guest['otherAgency']}!=null&&{{guest['otherAgency']}as String}.isEmpty)_buildBookingDetailRow(" Other
Agency:",{{guest['otherAgency']}as String},_buildBookingDetailRow(" Guest
Type:",{{guest['guestType']}as String?"N/A"},_buildBookingDetailRow(" Guest
Status:",{{guest['status']}as String?"N/A"},if{{guest['otherStatus']}!=null&&{{guest['otherStatus']}as String}.isEmpty)_buildBookingDetailRow(" Other Status:",{{guest['otherStatus']}as String}),if(i<individualGuestsRaw.length-1)Divider(height:8,thickness:0.5,indent:8,end
Indent:8,color:{{Colors.grey.shade400}}),),),);}}};return

```

lib/web/web_admin_dashboard.dart

```

import 'package:flutter/material.dart';import
'package:firebase_auth/firebase_auth.dart';import 'admin_users_page.dart';import
'admin_bookings_page.dart';import 'admin_analytics_page.dart';import
'admin_signup_page.dart';const Color
topBarBackgroundColor=Color(0xFFFFCB53B);const Color
topBarForegroundColor=Color(0xFF4F73A7);int _selectedIndex=0;late

```

```

HH:mm').format(timestamp.toDate()):'N/A';return Card(elevation:1.0,margin:const
EdgeInsets.symmetric(vertical:5.0,horizontal:2.0),color:commentItemBackgroundColor.withOpacity(0.9),shape:RoundedRectangleBorder(borderRadius:BorderRadius.circular(6)),child:Padding(padding:const
EdgeInsets.all(12.0),child:Row(crossAxisAlignment:CrossAxisAlignment.start,children:[CircleAvatar(backgroundColor:Colors.grey.shade400,child:Text({username.isEmpty?username.toUpperCase():"?"}),style:const
TextStyle(color:Colors.white)),radius:18,),const
SizedBox(width:12),Expanded(child:Column(crossAxisAlignment:CrossAxisAlignment.start,children:[Text({username},style:TextStyle(color:commentItemTextColor,fontWeight:FontWeight.bold,fontSize:13.5}),Text({date},style:TextStyle(color:commentItemTextColor.withOpacity(0.7),fontSize:11)),],),),),},Widget
_buildNotificationItem(Map<String,dynamic>notification){final String
message=notification['message']as String?"No message.",final Timestamp
timestamp=notification['timestamp']as Timestamp,final String
date=DateFormat('MMMM d, yyyy HH:mm').format(timestamp.toDate()),final
bool isRead=notification['isRead']as bool??false,final NotificationType
type=NotificationType.values[notification['type']]as
int??NotificationType.bookingUpdate.index,IconData
notificationIcon=Icons.notifications_none,Color
iconColor=notificationItemTextColor.withOpacity(0.8),switch(type){case
NotificationType.newBooking:notificationIcon=Icons.event_available_outlined,icon
Color=Colors.green.shade600;break;case
NotificationType.emailChange:notificationIcon=Icons.alternate_email_outlined,icon
Color=Colors.blue.shade600;break;case
NotificationType.usernameChange:notificationIcon=Icons.account_circle_outlined,icon
Color=Colors.purple.shade600;break;case
NotificationType.bookingUpdate:notificationIcon=Icons.edit_calendar_outlined,icon
Color=Colors.orange.shade700;break;}return Card(elevation:1.0,margin:const
EdgeInsets.symmetric(vertical:4.0,horizontal:2.0),color:isRead?notificationItemBackgroundColor.withOpacity(0.95),
shape:RoundedRectangleBorder(borderRadius:BorderRadius.circular(6),side:isRead
?BorderSide.none:BorderSide(color:Theme.of(context).colorScheme.primary,width:0.8)),child:InkWell(onTap:(){>_showNotificationDetailsDialog(notification),borderRadius:BorderRadius.circular(6),child:Padding(padding:const
EdgeInsets.all(12.0),child:Row(crossAxisAlignment:CrossAxisAlignment.start,children:[Icon(notificationIcon,color:isRead?iconColor.withOpacity(0.5):iconColor,size:28),const
SizedBox(width:12),Expanded(child:Column(crossAxisAlignment:CrossAxisAlignment.start,children:[Text(message,style:TextStyle(color:isRead?notificationItemTextColor.withOpacity(0.6):notificationItemTextColor,fontWeight:isRead?FontWeight.normal:FontWeight.w500,fontSize:13.5,maxLines:2,overflow:TextOverflow.ellipsis),),const
SizedBox(height:4),Text(date,style:TextStyle(color:isRead?notificationItemTextColor.withOpacity(0.4):notificationItemTextColor.withOpacity(0.7),fontSize:11,)),],),],),),},},Widget
_createState(){>_WebAdminDashboardState();}class _WebAdminDashboardState
extends State<WebAdminDashboard>{child:Icon(widget.userRole=='superadmin'?Icons.s

```

```

List<Widget> _availablePages;late List<String> _availablePageTitles;late
List<_NavigationItem> _navigationItems;@override void
initState(){super.initState();print("Dashboard: Role - ${widget.userRole}, UID - ${widget.userID}");_initializeNavigation();}void _initializeNavigation(){final
allPages=<String,Widget>{"Users":AdminUsersPage(),"Bookings":AdminBookingsPage(),
"Analytics":AdminAnalyticsPage(),"Signup":AdminSignupPage(currentUserRole:widget.userRole),};final
allNavItems=<_NavigationItem>[_NavigationItem(icon:Icons.people_outline,title:"Users",pageKey:"Users"),_NavigationItem(icon:Icons.book_online_outlined,title:"Bookings",pageKey:"Bookings"),_NavigationItem(icon:Icons.bar_chart_outlined,title:"Analytics",pageKey:"Analytics"),_NavigationItem(icon:Icons.person_add_alt,title:"Add Admin",pageKey:"Signup")];_availablePages=[];_availablePageTitles=[];_navigationItems=[];if(widget.userRole=="superadmin"){_navigationItems.addAll(allNavItems);}else if(widget.userRole=="admin"){_navigationItems.add(allNavItems.firstWhere((item)=>item.pageKey=="Users"));_navigationItems.add(allNavItems.firstWhere((item)=>item.pageKey=="Analytics"));}else if(widget.userRole=="moderator"){_navigationItems.add(allNavItems.firstWhere((item)=>item.pageKey=="Bookings"));}for(var navItem in _navigationItems){if(allPages.containsKey(navItem.pageKey)){_availablePages.add(allPages[navItem.pageKey]!);_availablePageTitles.add(navItem.title);}}if(_availablePages.isNotEmpty){_selectedIndex=0;}else{_selectedIndex=-1;}Future<void> _handleLogout() async{await
FirebaseAuth.instance.signOut();if(mounted){Navigator.pushNamedAndRemoveUntil(context,'/admin-login',(route)=>false);}}@override Widget build(BuildContext context){String displayRole;switch(widget.userRole){case
'superadmin':displayRole='Super Administrator';break;case
'admin':displayRole='Administrator';break;case
'moderator':displayRole='Moderator';break;default:displayRole='Unknown
Role';}return
Scaffold(body:Row(children:[Container(width:250,color:sidebarBackgroundColor,chi
ld:Column(crossAxisAlignment:CrossAxisAlignment.start,children:[Padding(padding:
const
EdgeInsets.fromLTRB(16.0,24.0,16.0,16.0),child:Row(children:[Image.asset('assets/icon/app_icon.png',width:40,height:40,errorBuilder:(context,error,stackTrace){return
const Icon(Icons.broken_image,color:sidebarForegroundColor,size:40);}],const
SizedBox(width:12),const Text("Marikina
App",style:TextStyle(fontSize:22,fontWeight:bold,color:sidebarForegroun
dColor,),],),const
Divider(color:Colors.white30,indent:16,endIndent:16),Padding(padding:const
EdgeInsets.all(16.0),child:Column(crossAxisAlignment:CrossAxisAlignment.start,chi
ld:[CircleAvatar(radius:30,backgroundColor:Colors.white.withOpacity(0.8),
const Color sidebarBackgroundColor=Color(0xFF4F73A7);const Color
sidebarForegroundColor=Colors.white;class WebAdminDashboard extends

```

```

hielid_outlined:Icons.person_outline,size:30,color:sidebarBackgroundColor.withOpacity(0.7),),const
SizedBox(height:12),Text(widget.userRole.toUpperCase(),style:const
TextStyle(color:sidebarForegroundColor,fontWeight:FontWeight.w600,fontSize:16
,),),const
SizedBox(height:4),Text(displayRole,style:TextStyle(color:sidebarForegroundColor.
withOpacity(0.8),fontSize:12,),],),const
Divider(color:Colors.white30,indent:16,endIndent:16),const
SizedBox(height:10),if(_navigationItems.isEmpty)Padding(padding:const
EdgeInsets.all(16.0),child:Text("No sections available for your
role.",style:TextStyle(color:sidebarForegroundColor.withOpacity(0.7)),),else
Expanded(child:ListView.builder(itemCount:_navigationItems.length,itemBuilder
:(context,index){final navItem=_navigationItems[index];return
_buildNavItem(navItem.icon,navItem.title,index,);}),const Spacer(),const
Divider(color:Colors.white30,indent:16,endIndent:16,height:1),_buildNavItem(Ic
ons.logout,"Logout",-1,isLogout:true),const
SizedBox(height:10,)],),Expanded(child:Column(children:[Container(color:topB
arBackgroundColor,height:60,padding:const
EdgeInsets.symmetric(horizontal:24),child:Row(mainAxisAlignment:MainAxisAlignment.spaceBetween,children:[Text(_selectedIndex>=0&&_selectedIndex<_avail
ablePageTitles.length?availablePageTitles[_selectedIndex]:"Admin
Dashboard",style:const
TextStyle(color:topBarForegroundColor,fontSize:20,fontWeight:FontWeight.w500
,),),],),const
_Widget._buildNavItem(IconData icon,String title,int index,{bool isLogout=false}){final
bool isSelected=isLogout&&_selectedIndex==index;return
Container(margin:const
EdgeInsets.symmetric(horizontal:12,vertical:4),decoration:BoxDecoration(color:isS
elected?Colors.white.withOpacity(0.15):Colors.transparent,borderRadius:BorderR
adius.circular(8),),child:ListTile(leading:Icon(icon,color:sidebarForegroundColor.
withOpacity(isSelected?1.0:0.8)),title:Text(title,style:TextStyle(fontWeight:isSele
cted?FontWeight.bold:FontWeight.normal,color:sidebarForegroundColor.withOpacity(isSelected?1.0:0.8),fontSize:15,)),selected:isSelected,onTap:(){if(isLogout){_han
dleLogout();}else{if(index>=0&&index<_availablePages.length){setState((){_select
edIndex=index,});}else{print("Error: Nav item index $index is out of bounds for
available
pages.");}}},shape:RoundedRectangleBorder(borderRadius:BorderRadius.circular(
8)),),);}class _NavigationItem{final IconData icon;final String title;final String
pageKey;_NavigationItem({required this.icon,required this.title,required
this.pageKey});}

```

APPENDIX C

INFORMED CONSENT

September 15, 2025

Ms. Vivian Diaz
Department of Tourism
J3MX+6MF, Marikina, 1800 Metro Manila

Dear Ms. Vivian Diaz,

Good day! We are students from FEU Roosevelt Marikina currently conducting our capstone project entitled "Developing an Interactive Platform for Promoting Local Tourism and Enhancing Visitor Experience in Marikina City."

As part of our data gathering process, we would like to request the following:

1. Copies of old or previous tour packages that have been offered in Marikina, which will serve as important references for our study.
2. Permission to create our own sample tour packages for academic purposes only, to be integrated into our project but not considered official offerings.
3. Updated photographs of Marikina's tourist spots, so we can present the attractions in their current state and highlight the city's cultural and natural heritage effectively.

We assure you that all materials will be used solely for academic purposes and that proper acknowledgement will be given to your office.

We sincerely hope for your kind assistance and support in this undertaking, as it will significantly contribute to the success and credibility of our project.

Respectfully yours,

Carbon, Myla Janna Q.
Esclares, Euriel A.
Munoz, Lyennie Aquisha G.
Pelegrin, Charity F.
Pelegrin, Lovely F.

4th year BSIT, FEU Roosevelt Marikina

10-15-QT

Received JAZMINA

August 07, 2025

MR. PONCIANITO B. SANTOS, JR.

Tourism and Cultural Officer

Marikina City Hall

J3MX+6MF, Marikina, 1800 Metro Manila

Dear Mr. Santos, Greetings!

We, Carbon, Myla Janna Q., Esclares, Euriel A., Muñoz, Lyeonnie Aquisha G., Pelegrin, Charity F., and Pelegrin, Lovely F., students of FEU Roosevelt - Marikina, would like to respectfully follow up on our previous letter dated January 27, 2025, in which we requested an interview regarding our Capstone Project 1, titled "Development and Implementation of an Interactive Platform for Promoting Local Tourism and Enhancing Visitor Experience in Marikina City."

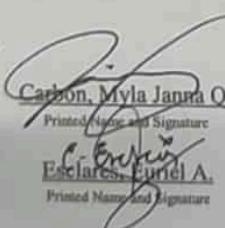
We are deeply grateful for your initial positive reception and your willingness to accommodate us. However, as several months have passed, we would like to kindly and respectfully renew our request for an official interview at your earliest convenience.

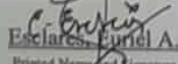
Since our last communication, our project has progressed significantly, and we would like the opportunity to consult with you further to ensure it aligns well with the goals of the Marikina City Tourism Office. Additionally, we seek permission to request access to any documents, materials, or resources that may help us accurately feature Marikina City's tourism assets and ensure the success of the platform.

We kindly request your assistance in scheduling this consultation at a time most convenient for you. Your guidance and insights are invaluable to us, and your support will help ensure our project meaningfully contributes to the promotion of tourism and the enrichment of visitor experience in our city.

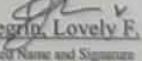
Thank you very much for your time and consideration.

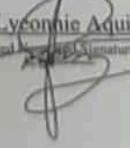
Respectfully,


Carbon, Myla Janna Q.
Printed Name and Signature

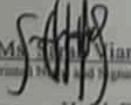

Esclares, Euriel A.
Printed Name and Signature


Pelegrin, Charity F.
Printed Name and Signature


Pelegrin, Lovely F.
Printed Name and Signature


Muñoz, Lyeonnie Aquisha G.
Printed Name and Signature

Noted by:


Ms. Shantelle Viana
Printed Name and Signature

Program Head, BSIT
FEU Roosevelt - Marikina



FEU ROOSEVELT

FACULTY OF INFORMATION TECHNOLOGY & MULTIMEDIA ARTS

August 22, 2025

Business Permits and Licensing Office
Marikina City Hall
J3MX+6MF, Marikina, 1800 Metro Manila

Dear Sir/Madame:

Greetings!

RECEIVED	Dated
August 22, 2025	
No.: B-2441800	

We, Carbon, Myla Janna Q., Esclares, Euriel A., Muñoz, Lyeonnie Aquisha G., Pelegrin, Charity F., and Pelegrin, Lovely F., students of FEU Roosevelt - Marikina, currently undertaking our capstone project entitled "Developing an Interactive Platform for Promoting Local Tourism and Enhancing Visitor Experience in Marikina City."

As part of our research requirements, we would like to respectfully request access to data from your office regarding the number and classification of registered businesses within Marikina City. Specifically, we seek information on the distribution of businesses across different categories (such as food, retail, tourism-related establishments, services, and others) as well as their overall count per district, if available.

The requested data will be used solely for academic purposes and will serve as a foundation in developing features of our system, particularly in mapping and promoting local businesses that support Marikina's cultural and economic activities. We assure you that all information provided will be treated with strict confidentiality and will not be used beyond the scope of this study.

We would be sincerely grateful for your cooperation and support in this academic endeavor. Should you need further details or clarifications, please feel free to contact us.

Thank you very much for your kind attention to this matter. We look forward to your favorable response.

Respectfully,

Carbon, Myla Janna Q.
Printed Name and Signature

Esclares, Euriel A.
Printed Name and Signature

Pelegrin, Charity F.
Printed Name and Signature

Pelegrin, Lovely F.
Printed Name and Signature

Muñoz, Lyeonnie Aquisha G.
Printed Name and Signature

Noted by:

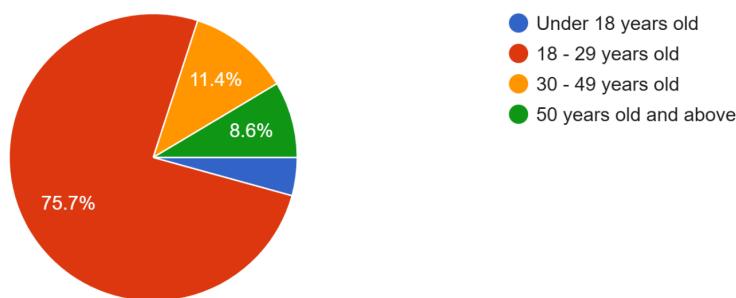
Sarah Andrea B. Viana, DIT, LPT
Assistant Dean
FEU Roosevelt Marikina

APPENDIX D

ACCOMPLISHED SURVEY FORMS

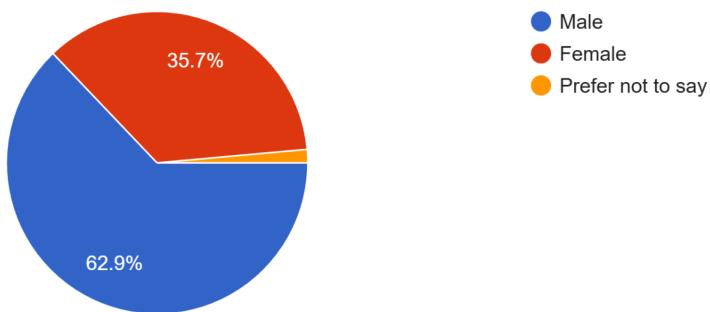
Age Group:

70 responses



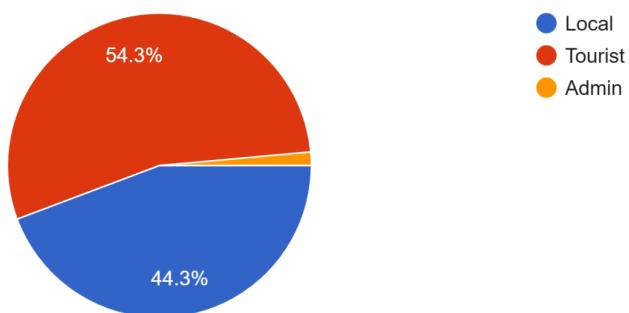
Gender:

70 responses



Are you a local resident of Marikina or visiting as a tourist or specified admin? Ikaw ba ay isang lokal na residente ng Marikina o bumibisita bilang tourist, o isang admin?

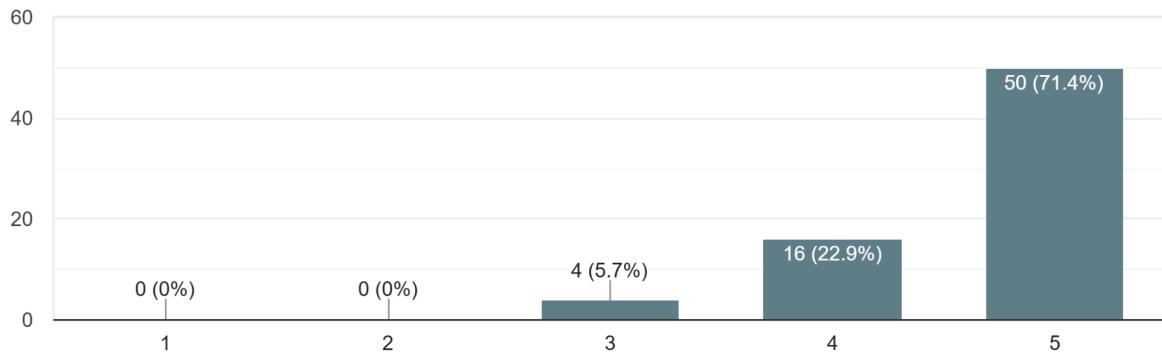
70 responses



Functional Suitability

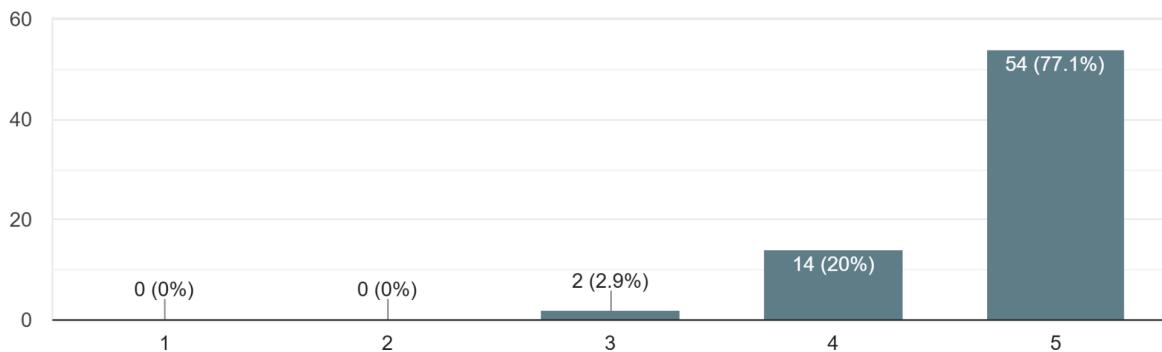
The system provides all the necessary features for exploring attractions, booking tours, and viewing reviews. Nagbibigay ang sistema ng lahat ng kailangang bahagi (attraction exploration, tour booking, review viewing) para sa mga turista.

70 responses



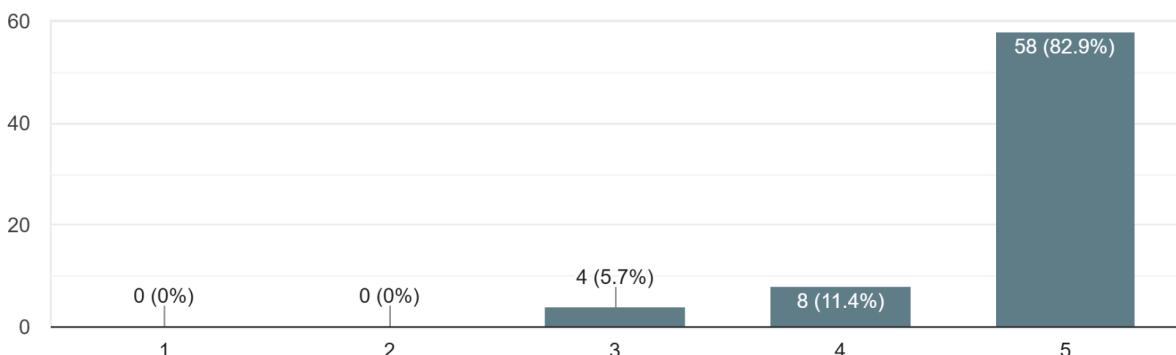
The system's functions (map, booking, reviews, promotions) work correctly and produce expected results. Gumagana nang tama ang mga bahagi ng sistema (map, booking, reviews, promotions) at nagbibigay ng tamang resulta.

70 responses



The system's features are appropriate and helpful for tourists, residents, and local businesses. Ang mga features ng sistema ay appropriate at nakakatulong sa turista, residente, at lokal na negosyo.

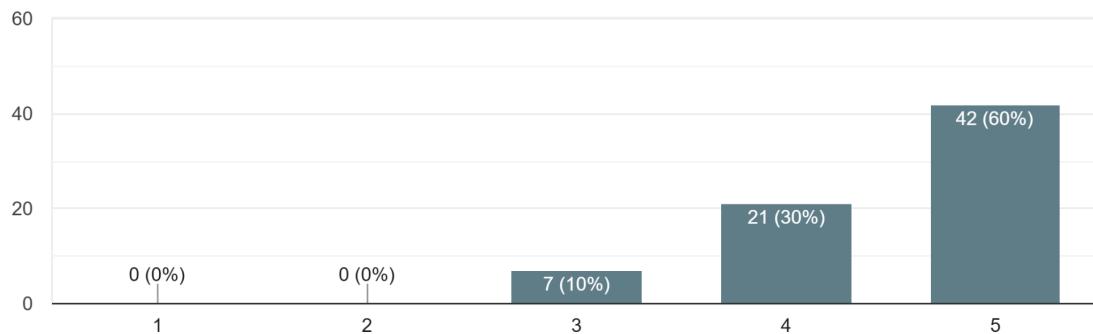
70 responses



Performance Efficiency

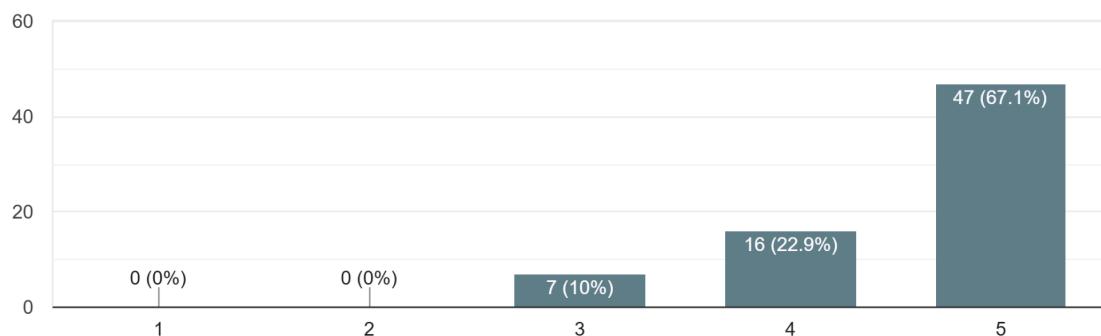
The application responds quickly when loading maps, attractions, and booking details. Mabilis magrespond ang app kapag naglo-load ng mapa, atraksyon, at detalye ng booking.

70 responses



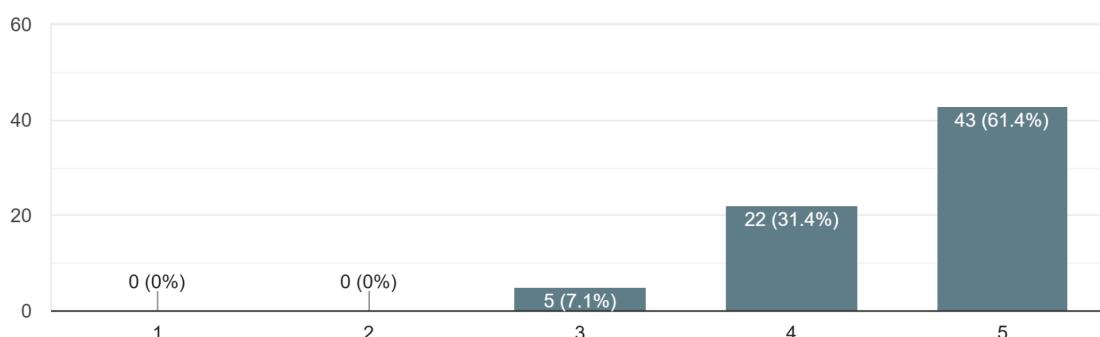
The system uses device and network resources efficiently without lag. Maayos gamitin ang sistema ng device at network without lag.

70 responses



The system can handle multiple users browsing, booking, and posting reviews at the same time. Kaya ng sistema na sabay-sabay magproseso...gba-browse, nagbu-book, at nagpopost ng review.

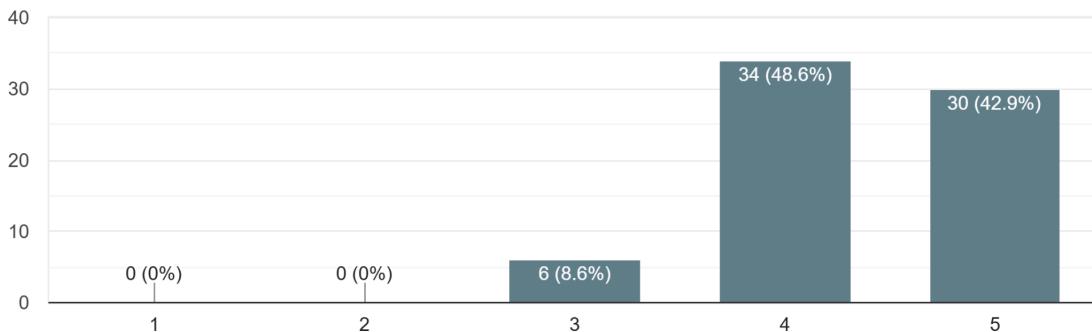
70 responses



Compatibility

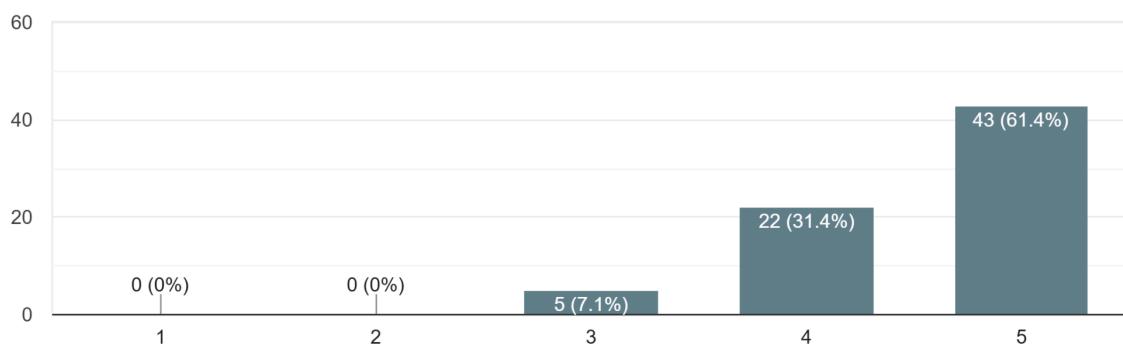
The system works properly across different devices (e.g., Android, iOS, and desktop). Maayos gumagana ang sistema sa iba't ibang device (Android, iOS, desktop).

70 responses



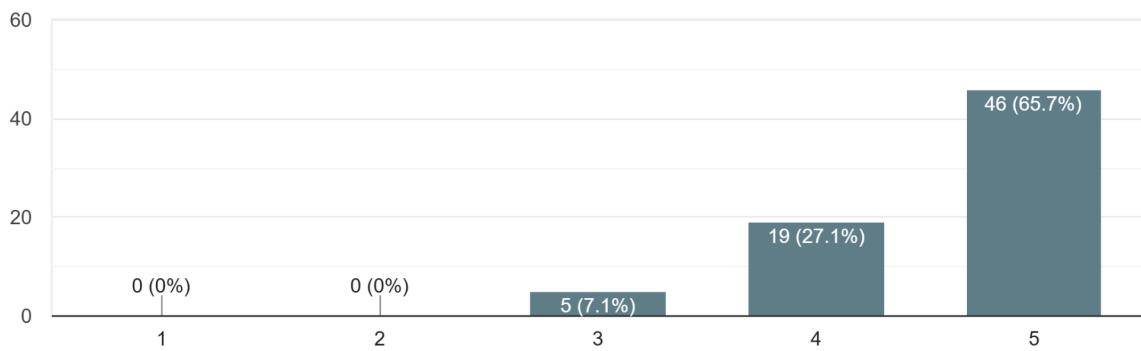
The system efficiently co-exists with other applications on the user's device without causing performance issues. Maayos ang pagsabay ng sis...ice nang walang problema sa performance issues.

70 responses



The system exchanges information smoothly with other systems or components. Nagpapalitan ng impormasyon nang maayos ang sistema sa ibang sistema o bahagi.

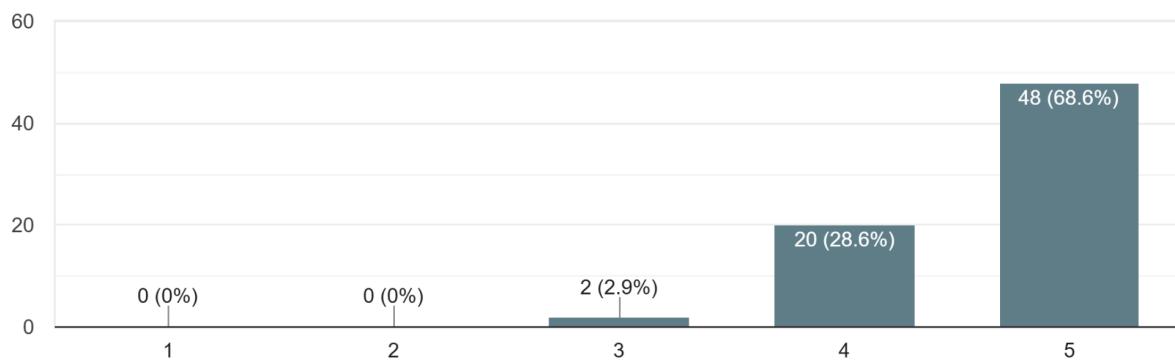
70 responses



Interaction Capability

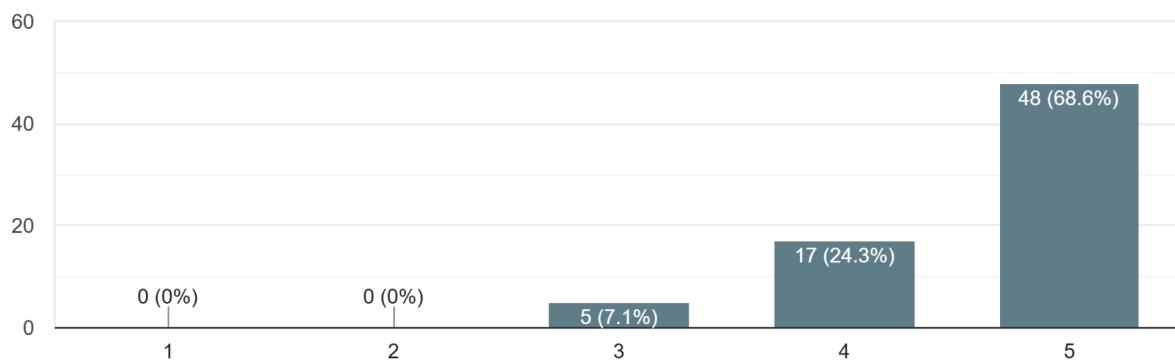
The system's interface is user-friendly and easy to recognize for tourism-related tasks. Madaling gamitin at kilalanin ang interface ng sistema para sa mga gawain sa turismo.

70 responses



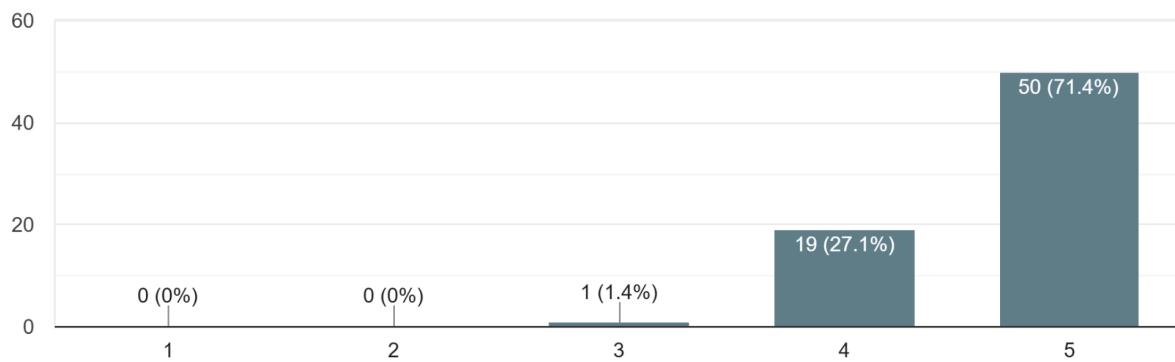
The application is easy to learn for first-time users. Madaling matutunan gamitin ang aplikasyon kahit first time user.

70 responses



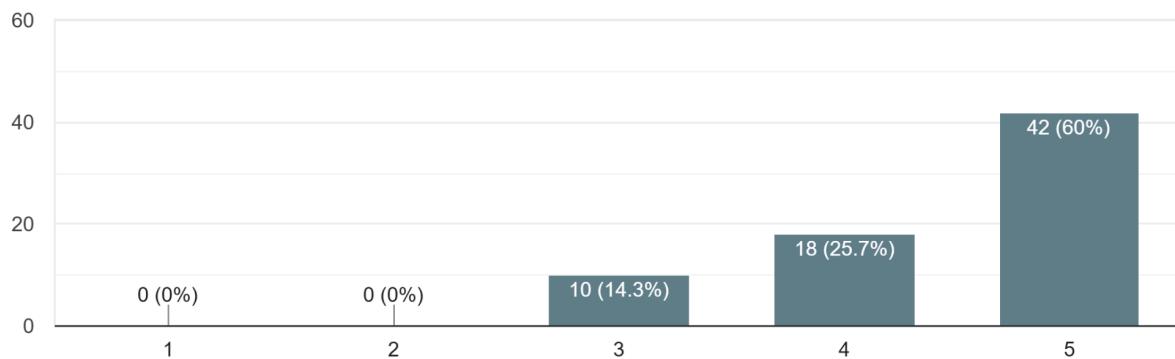
Navigating the app (map, booking, categories) is straightforward and convenient. Madaling mag-navigate sa app (mapa, booking, mga kategorya).

70 responses



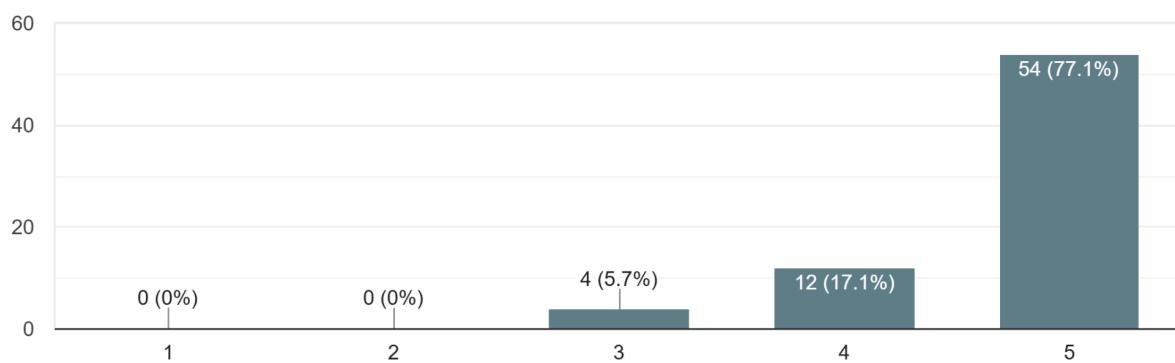
The app helps prevent user errors (e.g., wrong bookings) or provides recovery options. Tinutulungan ng app na maiwasan ang maling booking o nagbibigay nang paraan para itama ito.

70 responses



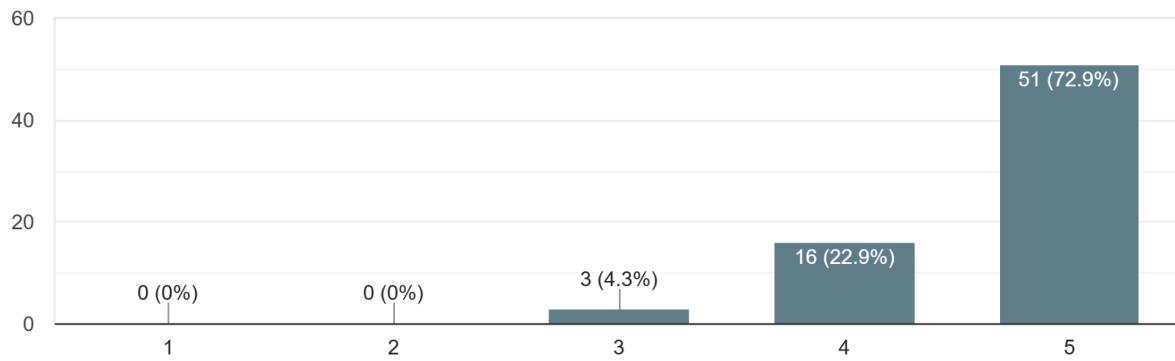
The system enhances the overall tourism experience in Marikina through its interactive features. Pinapaganda ng sistema ang karanasan ...sa Marikina gamit ang interactive na mga tampok.

70 responses



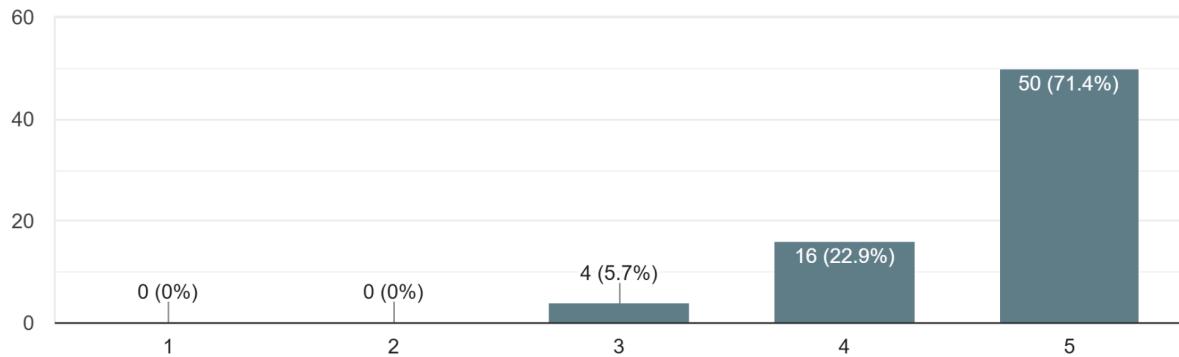
The system is accessible and inclusive to different types of users (tourists, residents, business owners). Pwede gamitin ng lahat ang sistema—turista, residente, at may-ari ng negosyo.

70 responses



The functions of the system are clearly described and understandable. Malinaw at madaling maintindihan ang mga function ng sistema.

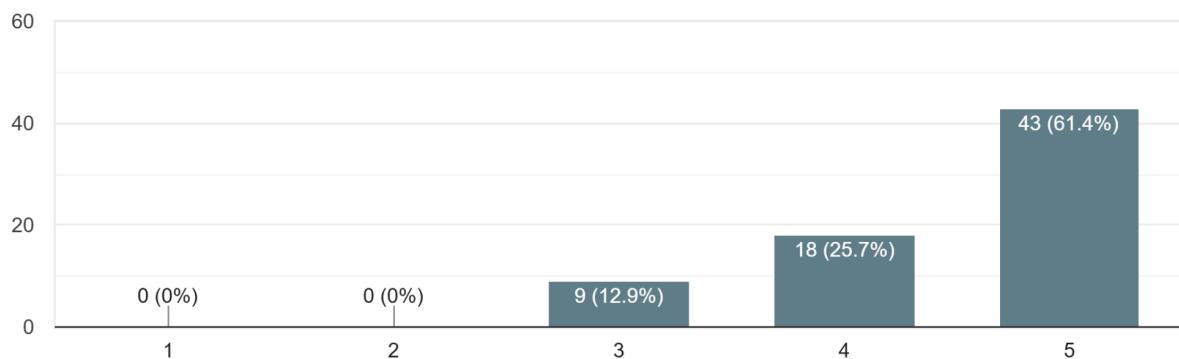
70 responses



Reliability

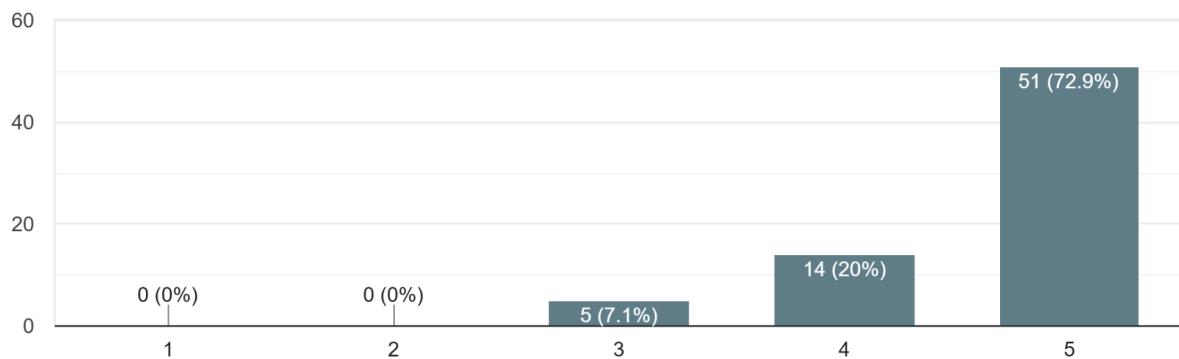
The application operates smoothly without unexpected failures. Maayos ang takbo ng aplikasyon nang walang biglaang problema.

70 responses



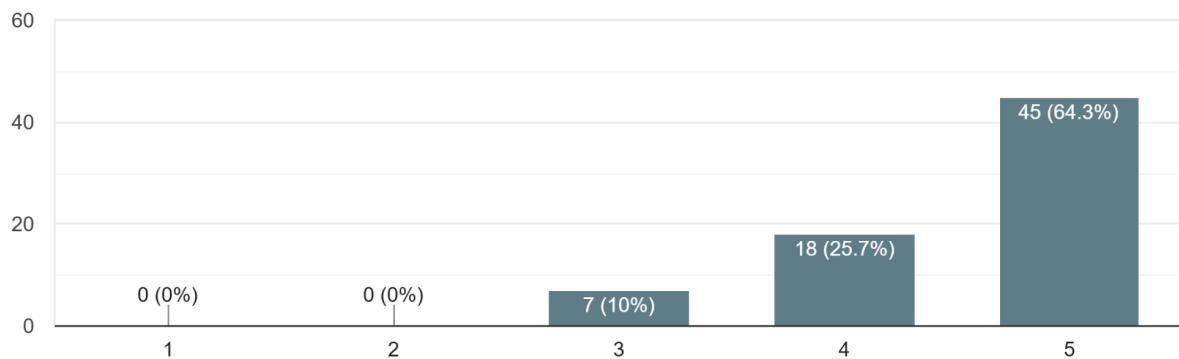
The system is available whenever users need to access it. Laging available ang sistema kapag kailangan ng mga gumagamit.

70 responses



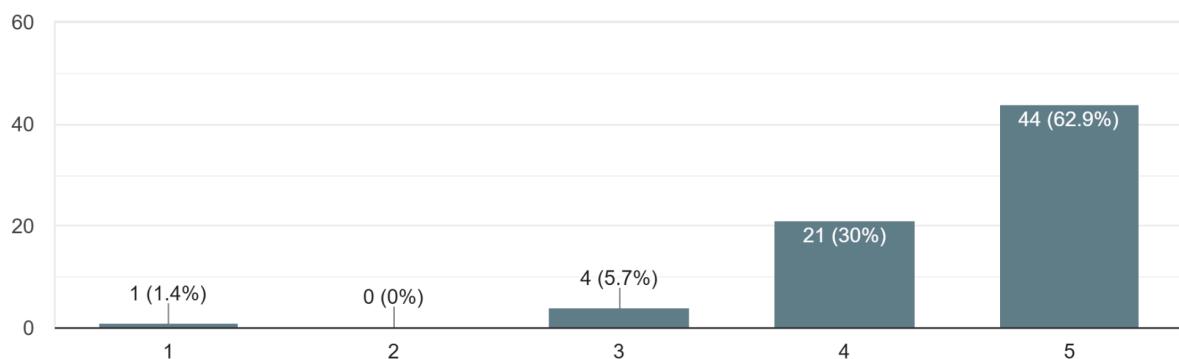
The system continues to work even when minor issues occur. Tuloy-tuloy ang takbo ng sistema kahit may maliliit na problema.

70 responses



The system can recover important data (e.g., bookings, reviews) after a failure. Kaya ng sistema mabawi ang mahalagang data (booking, mga review) pag nagkaproblema.

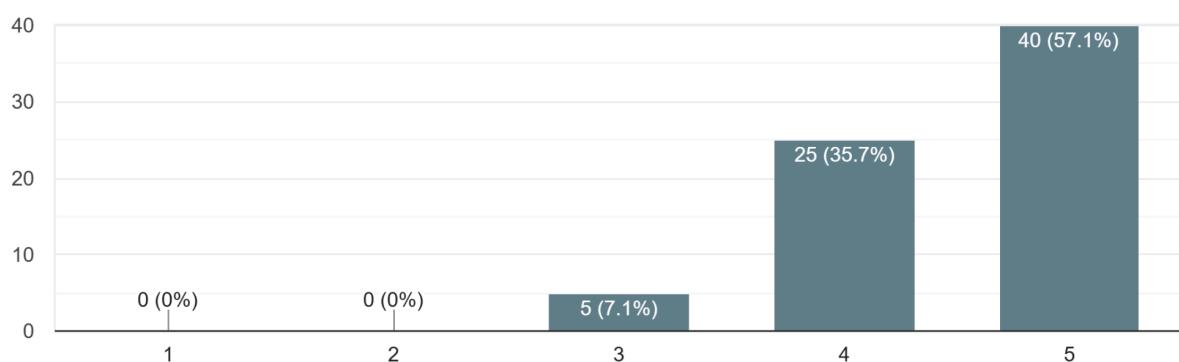
70 responses



Security

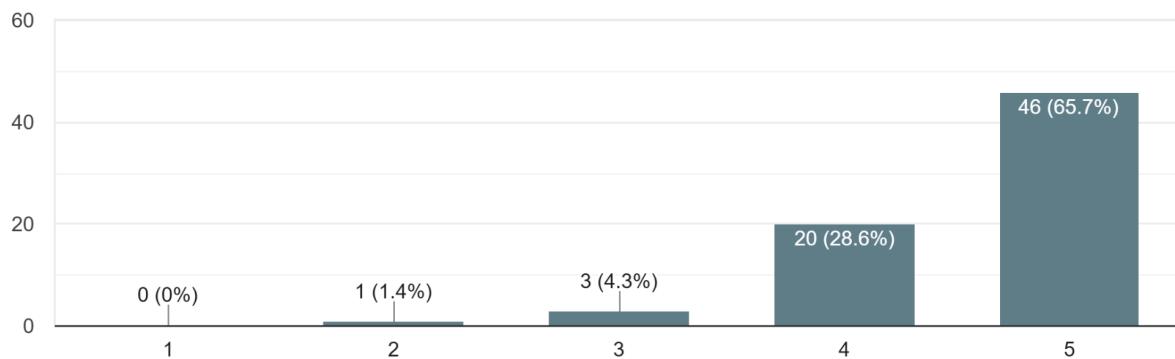
The system protects sensitive data, including user information, bookings, and reviews. Pinoprotektahan ng sistema ang sensitibo...asyon tulad ng user info, booking, at mga review.

70 responses



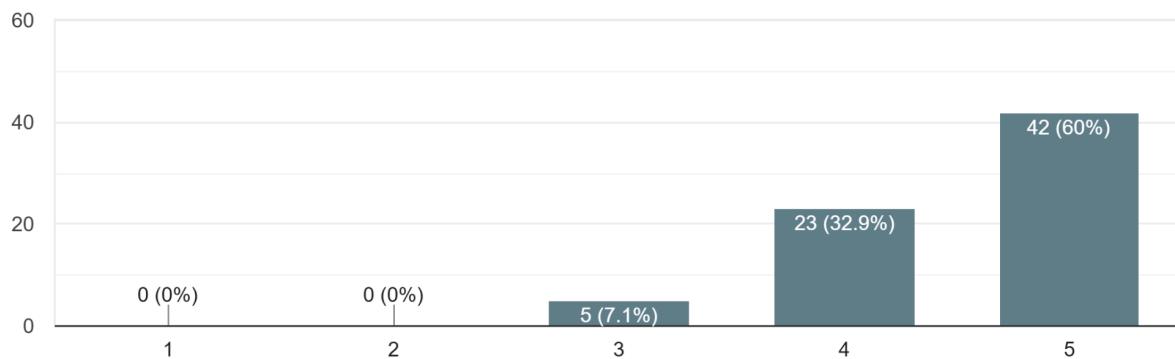
The data stored in the application is accurate and consistent. Accurate at pare-pareho ang data na naka-save sa aplikasyon.

70 responses



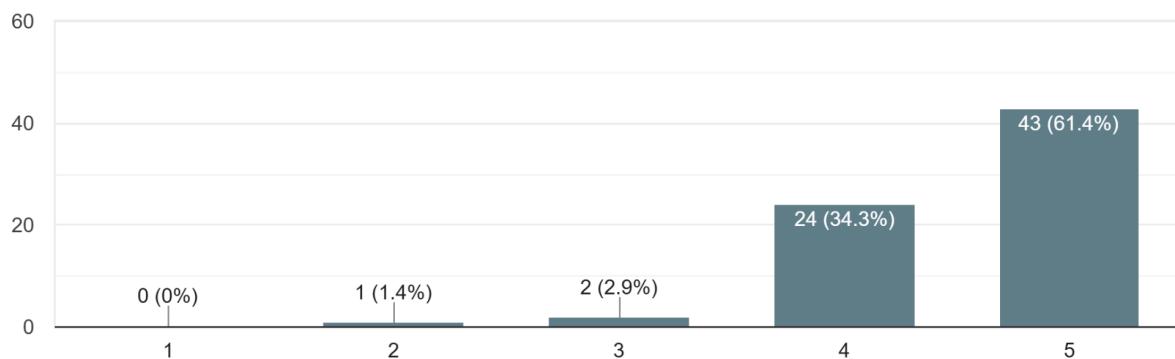
The system ensures that actions (e.g., bookings, reviews) cannot be denied or tampered with by unauthorized users. Ensures na ang sistema ay hin...wain (booking, review) ng hindi otorisadong users.

70 responses



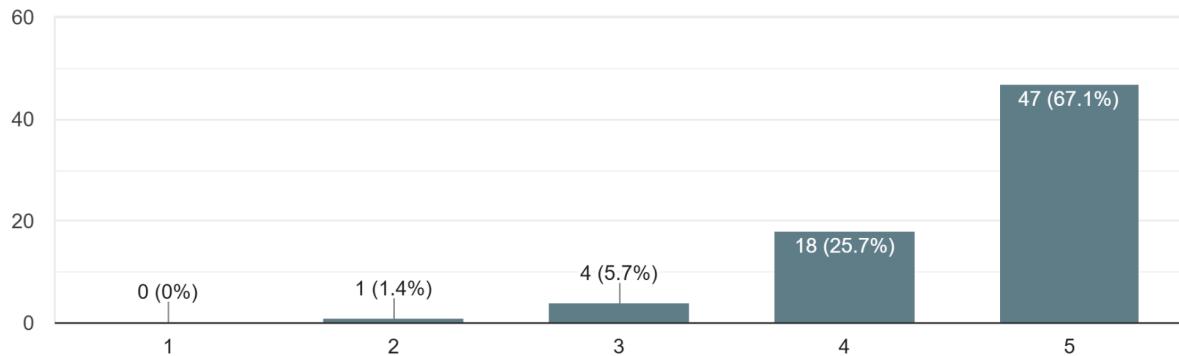
The system records user activity for accountability (e.g., who posted reviews or booked tours). Inirerekord ng sistema ang mga gawain ng ...ay accountability (sino ang nag-post o nag-book).

70 responses



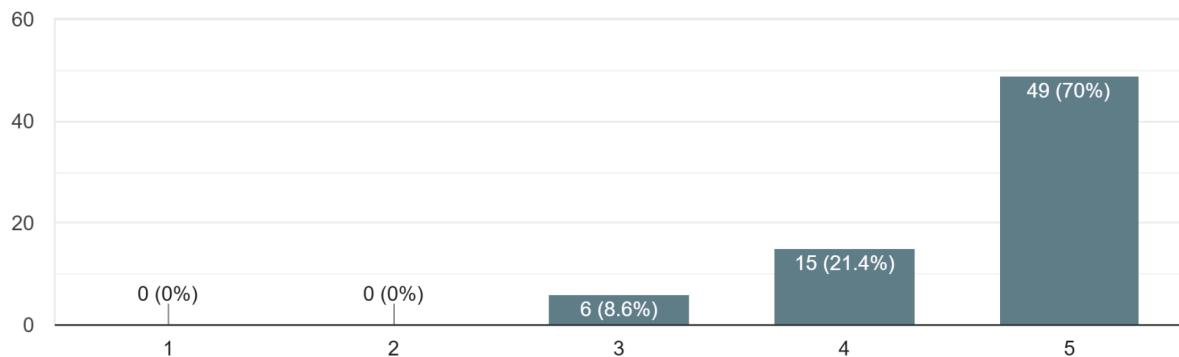
The system verifies user identity reliably during login and booking. Maasahan ang pag-verify ng user identity habang nagla-login o nagbo-book.

70 responses



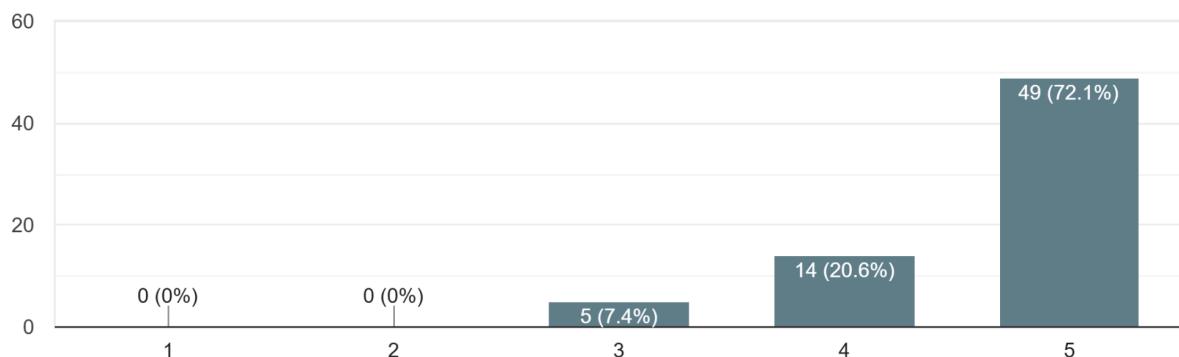
The system offers robust protection against unauthorized access and potential security threats. Malakas ang proteksyon ng sistema laban...athourized pag-access at mga banta sa seguridad.

70 responses



The system provides two-factor authentication (2FA) to enhance account security. Pinoprovide ng sistema ang two-factor authentication (2FA) para mapalakas ang account security.

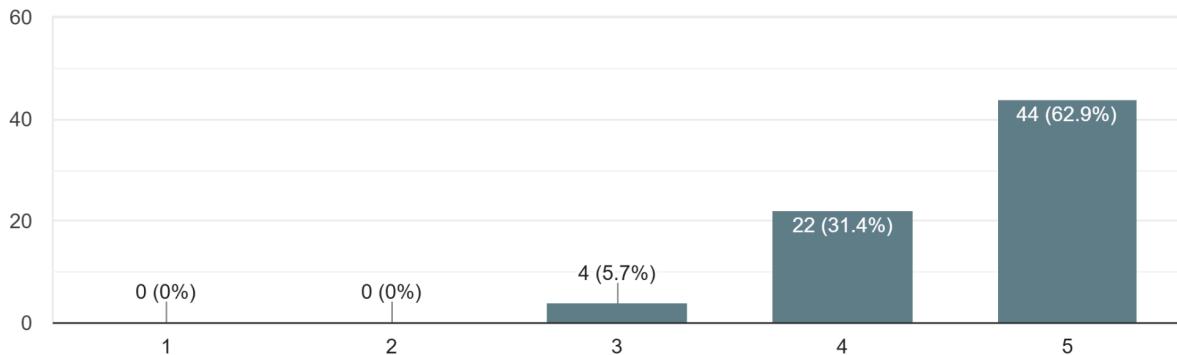
68 responses



Maintainability

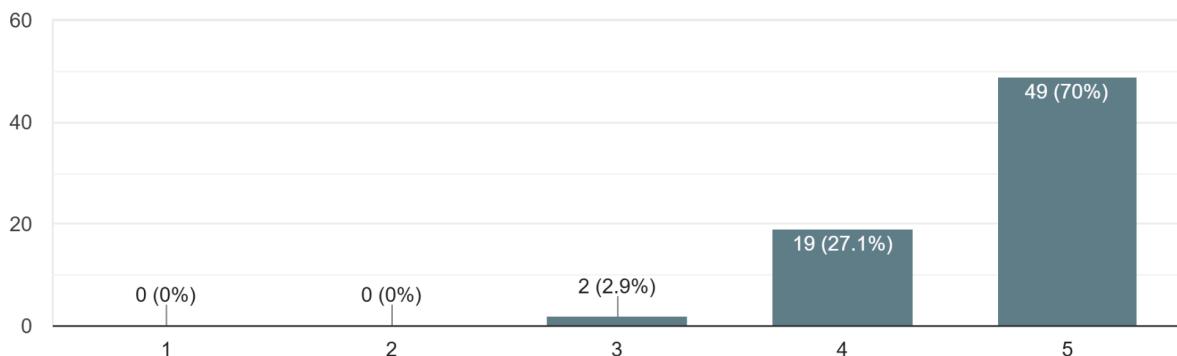
Testing the system for correctness after changes is straightforward and efficient. Madali at mabilis ang pag-test ng sistema para siguraduhing straightforward at efficient.

70 responses



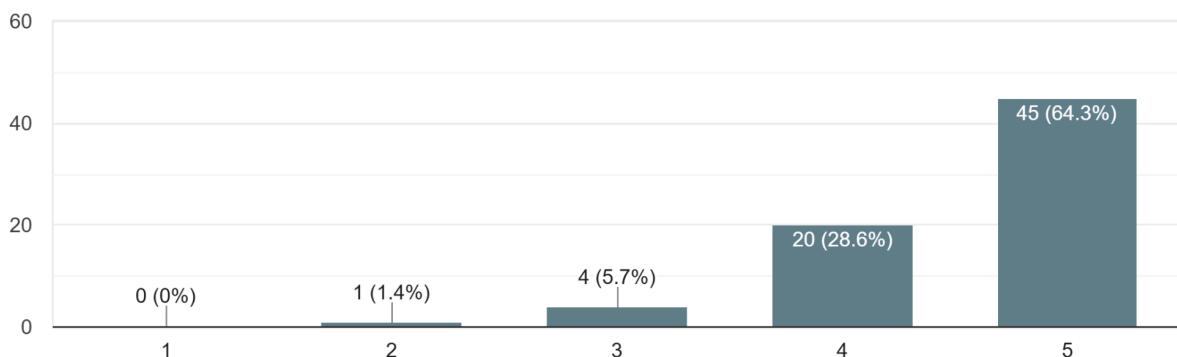
The impact of changes on the system is easy to analyze and understand. Madaling maintindihan at suriin ang epekto ng pagbabago sa sistema.

70 responses



The system modifications can be done quickly and without causing new errors. Ang pagbabago sa sistema ay maaaring gawin nang mabilis nang walang bagong error.

70 responses



APPENDIX E

CURRICULUM VITAE

MYLA JANNA QUIZON CARBON

carbonmylajanna7safari@gmail.com
09499586741 | Marikina City, Philippines

SUMMARY

Motivated and detail-oriented BS Information Technology student with hands-on experience in computer assembly, networking, and troubleshooting. Knowledgeable in system installation, cable making, and basic network configuration. Certified under Cisco Networking Academy, with strong problem-solving skills and a passion for learning new technologies. Seeking an opportunity to apply technical expertise and contribute to efficient IT solutions.

WORK EXPERIENCES

On the Job Training, 11/2019 -12/2020

RMECS, Cubao Quezon City

Assistant Manager 08/2021-Present

Araneta City-Gateway Tower

Key Responsibilities:

- Handled administrative and clerical tasks including document processing, filing, and preparation of reports.
- Assisted in staff coordination, delegation of tasks, and monitoring of performance.
- Resolved major issues that other team members could not address and ensured timely escalation only when necessary.
- Managed paperwork, documentation, and coordination tasks with accuracy and efficiency.

SKILLS

- Web Development (HTML,CSS, JavaScript, PHP)
- Design and Prototyping (Figma and Canva)
- Network Configuration, Cabling, and Troubleshooting
- System Unit Assembly and Disassembly
- Wi-Fi Cable Creation and Network Setup

PROJECTS

- Team Leader — Capstone Project: MarikinaGo Mobile Tourism App
Supervised the entire project development process, coordinated team tasks, and ensured timely completion of milestones. Oversaw communication between members and the adviser, managed documentation and ensured that the final output met the project's objectives and quality standards.

CERTIFICATES

- CCNAv7: Introduction to Networks (May 26, 2024)
- CCNA: Enterprise Networking, Security, and Automation (May 24, 2025)
- CCNA: Switching, Routing, and Wireless Essentials (Dec 23, 2024)
- KAGGLE: Intro to Programming (December 8, 2024)
- KAGGLE: Python (Dec 9, 2024)

ACHIEVEMENTS

- Deans Lister: 2022 - 2023 (Second Honor) 3.75
- Deans Lister: 2023 - 2024 (Third Honor) 3.50

EDUCATION

Parang Elementary School, 2008-2014

Jesus Dela Pena National High School, 2014-2018

Technological Institute of the Philippines, 2018-2020

- President of ~~Musiklab~~ (2018-2020)
- President of Student Council (2019-2020)

FEU Roosevelt Marikina, 2022-Present

- Alliance of Computing Education Students - Tech team Committee (2022-2023)
- Alliance of Computing Education Students - Snap team Committee (2024-2025)

REFERENCES

Cecilia C. Bulaon

Former College Professor/ ~~Anndeir Montessori~~

09334414318

Ms. Sarah Viana

BSIT Program Head

8941-3493



 <https://www.behance.net/eurielesclares>

 0939-468-5890

 esclareseuriel@gmail.com

 PH 1 BLK 5 LOT 114 EASTWIND
HOMES, RODRIGUEZ, RIZAL, 1860

SKILLS

- MS Word – Intermediate
- Adobe Photoshop – Intermediate
- Canva – Experienced
- Microsoft Excel – Beginner
- Google Docs – Intermediate
- Leadership Skills – Experienced
- Ability to work in a Team – Experienced
- Computer Skills – Experienced

INTERESTS

- Digital Posters
- Editing Pictures
- Combining/Experimenting Colors
- Graphic Designing
- Animating Logo's using Canva
- Mock-ups
- Making Matcha/Lattes
- PowerPoint Presentations

LEADERSHIPS

- Former Vice President in Music Club: 2020 – 2022 (FEU Roosevelt Rodriguez)
- Former P.R.O: 2024 – 2025 (ACES Org.)
- Senior P.R.O: 2025 – 2026 (ACES Org.)

EURIEL A. ESCLARES

November 3, 2002

A motivated and inspired Information Technology student with hands-on experience in creating digital posters and PowerPoint presentations. Eager to apply technical skills, creativity, and teamwork in a dynamic environment. Also aims to build self-confidence and learn about new technologies.

EDUCATION

FEU ROOSEVELT RODRIGUEZ

Elementary

2010 – 2016

FEU ROOSEVELT RODRIGUEZ

High School

2016 – 2020

FEU ROOSEVELT RODRIGUEZ

Senior High School

2020 – 2022

FEU ROOSEVELT MARIKINA

BS in Information Technology

2022 – Present

CERTIFICATES

- CCNAv7: Introduction to Networks (May 26, 2024)
- CCNA: Enterprise Networking, Security, and Automation (May 24, 2025)
- CCNA: Switching, Routing, and Wireless Essentials (Dec 23, 2024)
- KAGGLE: Intro to Programming (Dec 8, 2024)
- KAGGLE: Python (Dec 9, 2024)

ACHIEVEMENTS

- Deans Lister: 2022–2023 (THIRD HONORS)
3.550 (1st Semester)
- Deans Lister: 2023–2024 (THIRD HONORS)
3.500 (1st Semester)

BADGES





CHARITY PELEGRIN

Marikina City, Metro Manila, Philippines 1802

09764513503

charity.pelegrin2004@gmail.com

SUMMARY

Engaging and creative artist with nearly 11 to 12 years of experience in traditional art. Skilled at collaborating within teams and eager to develop my skills in User Interface and User Experience design for both apps and websites. I aim to expand my knowledge, gain more experience, and apply my talent to future projects through hard work and a passion for art.

SKILLS

- User Interface Designing & User Experience Designing
- Canva User (Apps, Website, Posters, Logo, Banner, Advertisement, PPT Presentation, Picture Editing)
- Traditional Illustrator Artist (Character Designing, Fashion & Costume Designing, Sketching, Inking, Colored Pencils & Markers Materials, Poster Making, Wire Framing, Logo)
- Editing Skills Using CapCut and Vita (Video & Filming Editing)

EXPERIENCE

Lead UI/UX Design (APP) - Capstone Project, Tourism App

- Canva (Logo, Sign In/Log In, Home Page, Explore Page, Mapping Page, Profile Page)

The app is designed to be user-friendly and easy to understand, with a visually appealing and simple interface that enhances the overall user experience. I ensured that navigating through the app is intuitive, offering users multiple options to explore different features, making it enjoyable and engaging for them to use continuously.

Logo Designing - Commissions

- Canva & Hand Drawn (Using my drawing skills to create a digitized version of the logo)

I create logos based on the client's vision, carefully developing and refining the design through close collaboration until they are fully satisfied with the final result.

EDUCATION

- **Parang Elementary School** (2010 - 2014) Elementary Grade 1 to 4
- **Jehoshua Christian School** (2014 - 2016) Elementary and Highschool Grade 5 to 7
- **MSH Sisters Academy of Marikina** (2016 - 2020) Highschool Grade 8 to 10
- **Parang High School** (2020 - 2022) Senior Highschool Grade 11 to 12
- **CSTC, Inc.** (2022 - 2023) College 1st Year
- **FEU Roosevelt** (2023 - 2025) College 2nd to 4th Year

REFERENCES

Ms. Sarah Viana

BSIT Program Head
8941-3465

Rowena Sanchez

Assistant Manager
09499586741



LOVELY PELEGRI

DESIGN ASSISTANT

Marikina City, Metro Manila, Philippines 1802

09764513503

lovely.pelegrin2004@gmail.com

SUMMARY

Creative and detail-oriented designer with expertise in web, mobile app, and application design, specializing in wireframing using Canva to deliver user-friendly and client-focused solutions. Skilled in usability-driven layouts and video editing with CapCut. Experienced in traditional art commissions and effective team collaboration to support project success.

PROJECT & EXPERIENCE

Developing of MarikinaGo

- Created an interactive mobile platform in Marikina City, enhancing local tourism and visitor experiences through digital mapping, secure booking systems, and user-generated reviews.

Commissioned Artist

- Created custom artworks tailored to client specifications and preferences.
- Leveraged social media platforms to promote artwork and engage with audience.

Design Assistant

- Assisted in developing design concepts and presentations for client projects.
- Collaborated with design team to refine layouts and improve visual aesthetics.

UI/UX Graphics Designer

- Developed wireframes, prototypes, and mockups for web and mobile applications to improve overall functionality.
- Enhanced user experience by designing intuitive interfaces and visually appealing graphics.

Video Editor

- Developed engaging motion graphics and visual effects to elevate storytelling in videos.
- Enhanced video quality by applying color correction, grading, and special effects techniques.

SKILLS

- | | |
|---|--|
| <ul style="list-style-type: none">Researcher AssistantGraphic Designer in CanvaVideo Editing Skills in CapCut | <ul style="list-style-type: none">Traditional ArtistTeamwork & CollaborationUI/UX Graphics (Mobile, Website) |
|---|--|

EDUCATION

- Parang Elementary School (2010 - 2014)
- Jehoshua Christian School (2014 - 2016)
- MSH Sisters Academy of Marikina (2016 - 2020)
- Parang High School (2020 - 2022)
- CSTC, Inc. (2022 - 2023)
- FEU Roosevelt (2023 - 2025)

REFERENCES

Ms. Sarah Viana

BSIT Program Head
8941-3465

Rowena Sanchez

Assistant Manager
09499586741

LYEONNIE AQUISHA G. MUÑOZ

INFORMATION TECHNOLOGY | IT ARCHITECT & DEVELOPER

PROFILE

As an aspiring IT architect and UX-focused developer, I specialize in designing and building systems that are both robust and intuitive. With hands-on experience in Flutter, Firebase, and full-stack development using Dart, Kotlin, Python, Java, and modern web technologies (HTML, CSS, JavaScript), I focus on transforming complex concepts into seamless, user-centered solutions. My development of MarikinaGo, a tourism mapping and booking application, strengthened my commitment to creating technology that fosters connection and community engagement. I am driven to continually expand my expertise, collaborate with talented teams, and contribute to projects that create meaningful impact through thoughtful design and innovation.

CONTACT

Phone: +63 907 035 8888
Email: lyeonnie33munoz@gmail.com
Portfolio: <https://yonie-101.github.io/>

REFERENCES

Ms. Sarah Viana FEUR - IT Program Head 8941-3465 / 8941-4093	Ms. Pagasa Canare Retired Bank Auditor 0908 899 3277
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PROJECTS & EXPERIENCE

MarikinaGo – Mobile Tourism App

Flutter | Firebase | Dart

- Developed a mobile tourism platform with mapping and booking features for local destinations
- Implemented Firebase Authentication and Firestore for secure, real-time data handling
- Designed intuitive UI flows focused on accessibility and smooth user experience

AUTOPAY– E-Jeep Online Fare System

Java | MySQL | Eclipse

- Developed a prototype system for digital fare collection and payment tracking for e-jeeps
- Designed and optimized database schemas for reliable, accurate transaction processing across routes and passenger data

Student Cozy Corner – Interactive Student Web Portal

HTML | CSS | JavaScript

- Developed an interactive platform featuring quotes, timed confessions, memes, and mini-games
- Integrated Firebase for real-time data storage and reaction tracking
- Added personalized reminders, trivia, and meme generation tools to boost engagement

ACADEMIC HISTORY

FEU Roosevelt University | 2024-2026

Bachelor of Science in Information Technology

- 2nd Year - 4th Year

ABE International Business College | 2022-2023

Bachelor of Science in Information Technology

- 1st Year Trimestral (Dean's Lister)

Nuestra Señora De Aranzazu Parochial School | 2019-2021

Senior Highschool | STEM

- Grade 10 - 12 (SPEC - AutoCad)

Holy Cross of Mintal | 2015-2018

Junior Highschool

- Grade 7 - 9 (Achiever w/ Honors)

Holy Child College of Davao | 2009-2014

Preschool & Elementary School

- Junior Kinder - Senior Kinder
- Grade 1 - 6 (Conduct Awardee w/ Honors)

SKILLS

Development & Programming

Flutter · Dart · Kotlin ·
Python · Java · HTML ·
CSS · JavaScript

Networking & Security

CCNA Foundations · Network Configuration · Data Privacy ·
Cloud Computing Basics

Core Competencies

UI/UX Design · Schema Design · System Architecture · Debugging · Documentation Writing · Team Collaboration

