JAYPEE INSTITUTE OF INFORMATION TECHNOLOGY, NOIDA

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING AND INFORMATION TECHNOLOGY

Project Title: GHUMAKKAD

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Course Name: Minor Project-2

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DECLARATION

We hereby declare that this submission is our own work and that, to the best of our knowledge and beliefs, it contains no material previously published or written by another person nor material which has been accepted for the award of any other degree or diploma from a university or other institute of higher learning, except where due acknowledgment has been made in the text.

Place: Jaypee Institute of Information Technology, Noida
Date: 25/04/2024

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CERTIFICATE

This is to certify that the work titled “Ghumakkad” submitted by Rahi Aggarwal (9921103145), Ananya Shanker (9921103167), Arya Bagla (9921103167), Anshul (9921103176) of B.Tech of Jaypee Institute of Information Technology, Noida has been carried out under my supervision. This work has not been submitted partially or wholly to any other University or Institute for the award of any other degree or diploma.

Signature of Supervisor:

Name of Supervisor: Dr. Shruti Gupta

Designation: Assistant Professor (Senior Grade)

Date: 25.04.2024

ABSTRACT

Ghumakkad revolutionizes travel planning in India by offering a centralized, user-friendly mobile application that addresses the fragmented nature of tourism information. Our platform is dedicated to promoting responsible tourism practices and enhancing visitor experiences across the country's diverse destinations. Through detailed guides, travelers can explore local attractions, landmarks, historical sites, and cultural events in major cities and tourist hotspots. Additionally, our 'Connecting Locals' section highlights the rich tapestry of regional cuisines, featuring popular dishes, street food gems, and curated restaurant listings to tantalize the taste buds of adventurous foodies.

User-generated reviews and ratings provide invaluable insights, empowering travelers to make informed decisions and uncover hidden gems off the beaten path. With intuitive search and filter options, users can tailor their exploration based on location, type, or popularity, ensuring personalized experiences tailored to their interests.

Furthermore, our 24/7 chatbot offers seamless support, quick responses, and personalized assistance for all travel inquiries, from recommendations to offering best places in India. It offers a comprehensive and accessible platform, Ghumakkad that aims to contribute to the growth and sustainability of India's tourism industry while enriching the travel experiences of visitors. Whether embarking on a cultural journey, culinary adventure, or historical exploration, Ghumakkad ensures every trip through India is memorable, immersive, and hassle-free.

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List of Abbreviations

- SDK Software Development Kit
- API Application Programming Interface
- AI Artificial Intelligence
- ChatBot Chatter Bot
- OS Operating System

Chapter 1: Introduction

Ghumakkad stands at the forefront of revolutionizing travel planning in India with its innovative mobile application. In a landscape marked by fragmented tourism information, Ghumakkad offers a centralized, user-friendly platform dedicated to promoting responsible tourism practices and enhancing visitor experiences across the diverse destinations of the country.

With Ghumakkad, travelers are equipped with a comprehensive toolkit to navigate India's rich tapestry of attractions, landmarks, historical sites, and cultural events. The platform's detailed guides provide insights into major cities and tourist hotspots, empowering users to delve into the heart of each destination.

One of Ghumakkad's standout features is its 'Connecting Locals through Ghumakkad Blog' section, which celebrates the vibrant culinary landscape of India. From popular dishes to hidden street food gems and curated restaurant listings, adventurous foodies can tantalize their taste buds with a diverse array of flavors.

User-generated reviews and ratings offer invaluable insights, allowing travelers to make informed decisions and discover hidden gems off the beaten path. With intuitive search and filter options, users can tailor their exploration based on location, type, or popularity, ensuring personalized experiences aligned with their interests.

Ghumakkad's commitment to seamless support is exemplified by its 24/7 chatbot, offering quick responses and personalized assistance for all travel inquiries. By offering a comprehensive and accessible platform, Ghumakkad contributes to the growth and sustainability of India's tourism industry while enriching the travel experiences of visitors.

Whether embarking on a cultural journey, culinary adventure, or historical exploration, Ghumakkad ensures that every trip through India is memorable, immersive, and hassle-free. With Ghumakkad, travelers are not just tourists—they are explorers, adventurers, and seekers of authentic experiences in the diverse tapestry of India's landscapes and cultures.

Chapter 2: Background study

2.1 Literature Survey

2.1.1. RESEARCH PAPER ON WEB SCRAPING

Title of the Paper: Web Scraping or Web Crawling: State of Art, Techniques, Approaches and Application

Authors: Moaiad Ahmad Khder

Summary: Web scraping, a vital process in fields like Business Intelligence, involves automatically extracting structured data from websites. It's invaluable where data isn't readily available in machine-readable formats like JSON or XML. This technology enables real-time price monitoring from retail sites and gathering intelligence on illicit activities, like drug marketplaces in the darknet, aiding law enforcement and researchers. Compared to manual entry, web scraping yields more thorough, accurate, and consistent data. It encompasses technologies like spidering and pattern matching. This paper explores web scraping's workings, stages, technologies, and its relevance to Business Intelligence, AI, data science, big data, and cybersecurity. Emphasis is placed on Python's role, benefits, future prospects, and ethical and legal considerations.

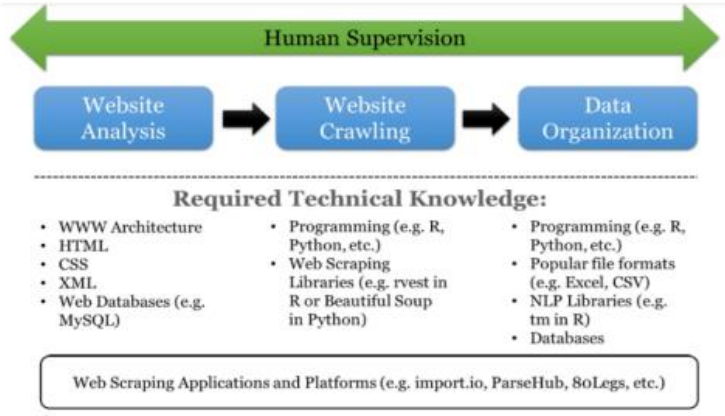

Fig. 2.1

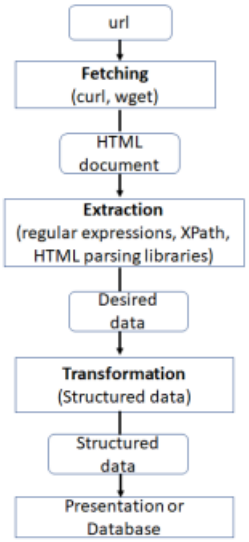

Fig. 2.2

2.1.2 RESEARCH PAPER ON IMPROVING TOURIST EXPERIENCE:

Title of the Paper: Improving the Tourist's Experiences: Application of Firebase and Flutter Technologies in Mobile Applications Development Process.

Authors: Madalin Dorin Pop, Andreas Robert Stoia

Summary: The paper discusses the growing interest in mobile app development, particularly in the tourism sector, where users often need multiple apps for various purposes. To address this, the paper proposes an all-in-one tourist app for Timişoara, Romania, integrating accommodation, attractions, and dining options. The app's development process, utilizing Firebase and Flutter technologies, is detailed as a case study, highlighting their benefits in enhancing user experience.

2.1.3 RESEARCH PAPER ON CHATBOT:

Title of the Paper: Implementing Artificial Intelligence Chatbot in Moodle Learning Management System

Authors: Mahendran Shilowaras1 & Nor Amizam Jusoh

Summary: The project integrates Dialogflow and Kommunicate into Moodle to enhance student support. Dialogflow's Natural Language Understanding enables the chatbot to respond promptly to academic and student life inquiries. Through a structured workflow, including four key tasks, the chatbot is trained to effectively address diverse student queries. Kommunicate serves as a centralized platform for managing chatbot deployment and client discussions. By streamlining communication and providing real-time assistance, the integration aims to optimize student engagement and satisfaction within the educational environment, fostering a more efficient learning experience.

Platform	Workflow
Kommunicate	• Integrate within Moodle and Dialog Flow. • Chatbot Training by using Dialog Flow baseline.
Dialog Flow	• Chatbot Integration & Training Baseline • Update training to Moodle through Kommunicate platform.
Google Cloud Platform	• Provide JSON File • Provide API key • Database storage
Moodle	• Receives chatbot updates from Dialog Flow through Kommunicate. • Response based on training.

Fig. 2.3

Chapter 3: Requirement Analysis

3.1 Problem Statement

Despite, India's rich cultural heritage and diverse tourist attractions, there exists a lack of comprehensive and accessible digital platforms to effectively promote tourism, enhance visitor experiences, and foster responsible travel practices. Current methods of disseminating information about tourist destinations and facilitating trip planning are fragmented, leading to inefficiencies, limited engagement, and missed opportunities to showcase India's tourism potential. There is a pressing need for a centralized, user-friendly mobile application that addresses these challenges by providing up-to-date information, knowing local delicacies, landmarks, and cultural events, promoting responsible tourism practices, and enhancing the overall visitor experience, thereby contributing to the growth and sustainability of India's tourism industry.

3.2 Model

The application has the following main pages –:

Home Page:

1. **Search through various Categories**-Our app enables users to search for diverse destinations categorized by Heritage, Adventure, Spiritual significance, and major tourist spots.
2. **Most Searched Query Results** -Our app displays frequently searched queries sourced from platforms like Incredible India, TripAdvisor, and Yatra, providing detailed solutions through data scraping. Users access accurate information conveniently, enhancing their travel experiences with comprehensive insights.
3. **Search-filter feature**: Our user-friendly search-filter feature facilitates seamless location searches for specific states, union territories, and popular destinations.

Ghumakkad-Bot-Our feature offers users instant insights and assistance, efficiently retrieving information with a single click or prompt.

Map Page-Our app utilizes the user's current location to seamlessly integrate with Google Maps, providing the distance and optimal route to any searched or received destination.

Ghumakkad-Blogs: Our app facilitates local connections, allowing users to share their favorite spots for exploration.

3.3 Software Requirements

1. Operating System: Windows, MacOs, Linux
2. Code Editor: Visual Studio Code or any preferred code editor.
3. Virtual Emulator or Physical Device
4. Installations:
    - Android Studio: For Application development.
    - Flutter SDK: To use Flutter SDK for cross-platform mobile application development.
    - Dart: Programming language used in Flutter SDK for the development.
5. Firebase: using Firebase for Authentication and Database
6. Flutter Dependencies:
    - image_picker: ^1.0.4
    - kommunicate_flutter: ^1.8.6
    - google_sign_in: ^6.1.4
    - firebase_auth: ^4.7.2
    - google_maps_flutter: ^2.5.3
    - location: ^5.0.3
    - http: ^0.13.0
    - cloud_firestore: ^4.13.1

3.4 Hardware Requirements

1. Development Machine: A modern computer with sufficient RAM and processing power for efficient development.
2. Network Infrastructure: Ensure a reliable internet connection, especially during development and deployment.

Chapter 4: Detailed Design

4.1 ER Diagram: It explains the Backend of the Project which uses MongoDb and Firebase.

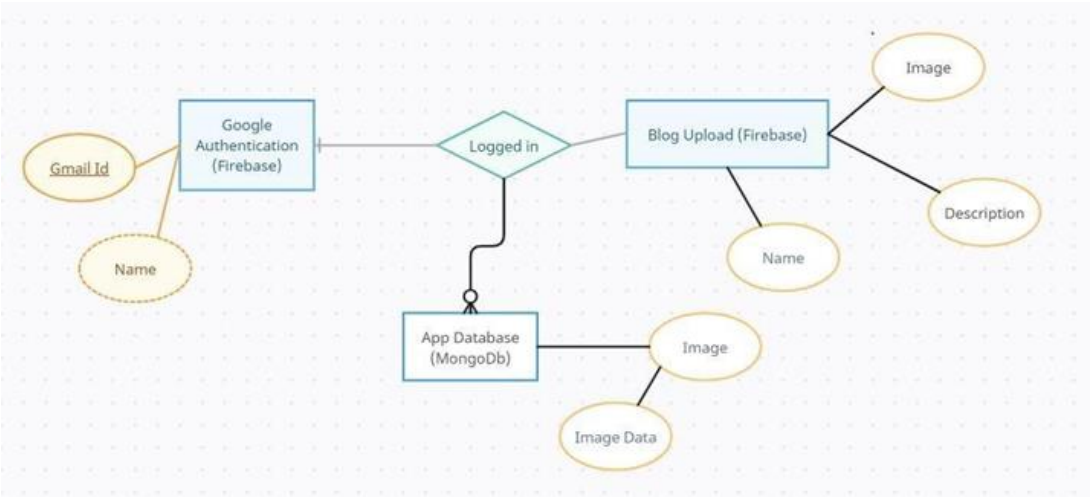

Fig 4.1

4.2 Workflow Diagram: It explains the workflow and navigation through the app

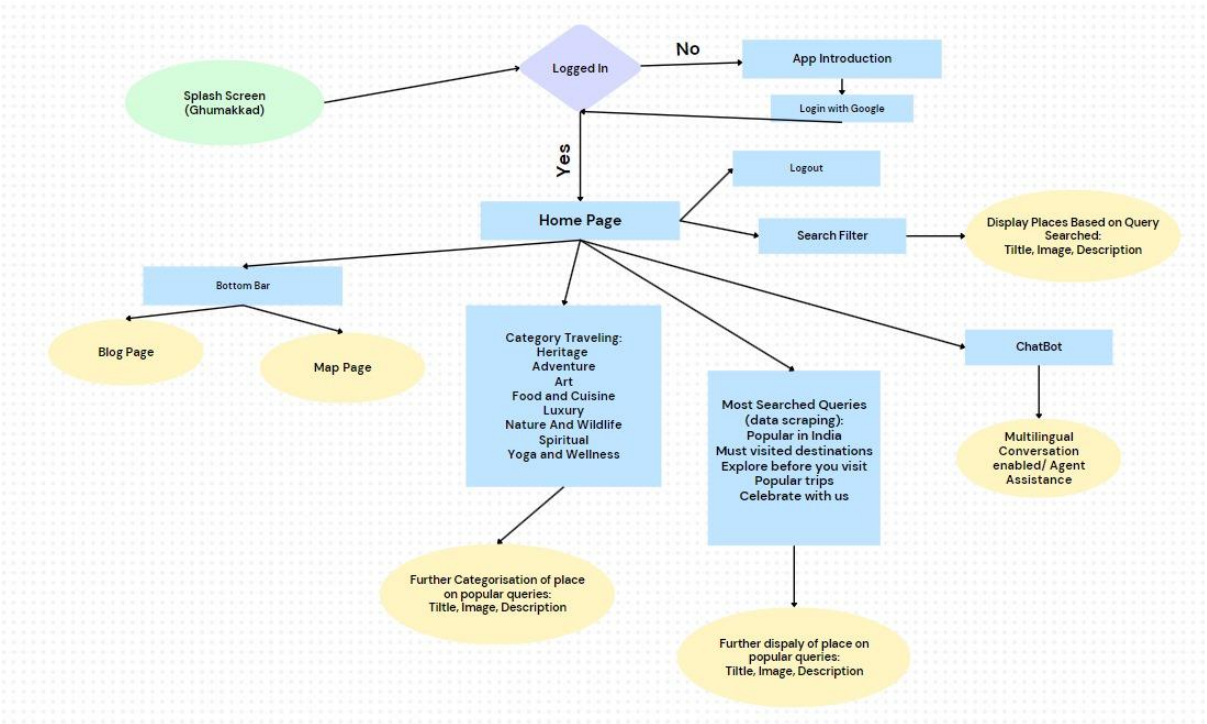

Fig. 4.2

4.3 Use Case Diagram: The diagram shows different features of the app for users.

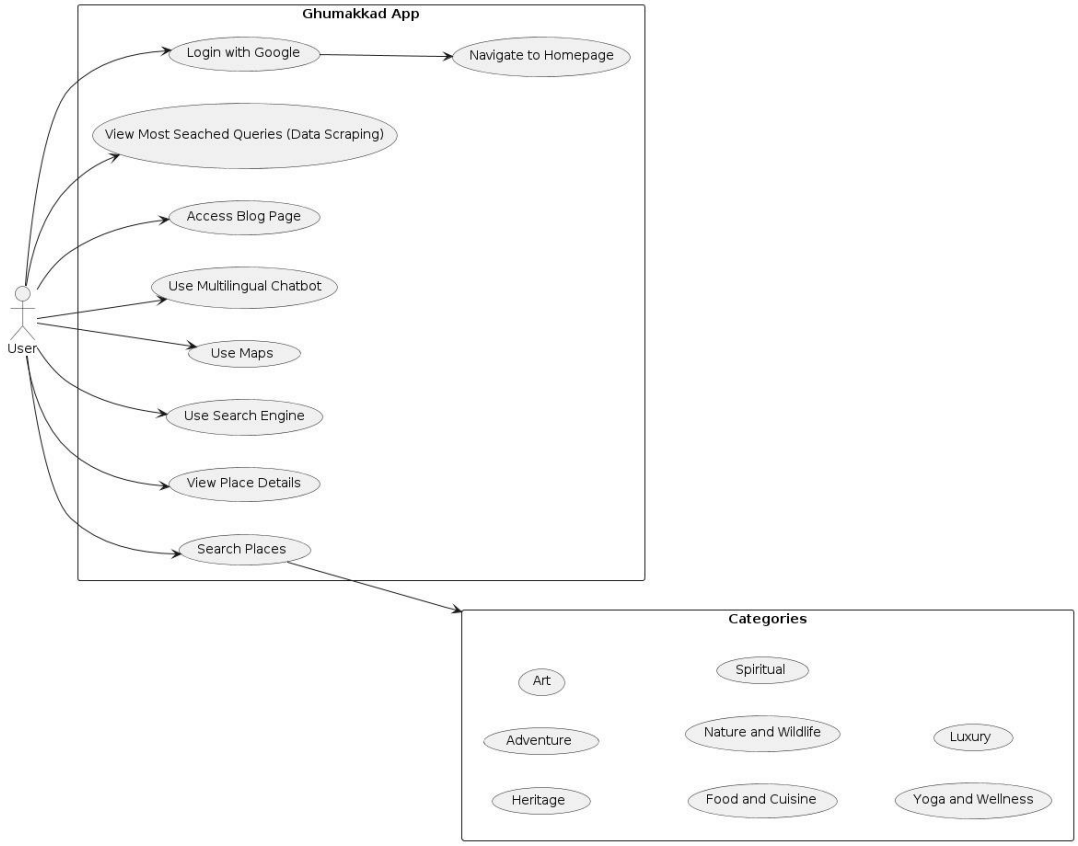

Fig. 4.3

4.4 Class Diagram: It depicts the different classes and their representation.

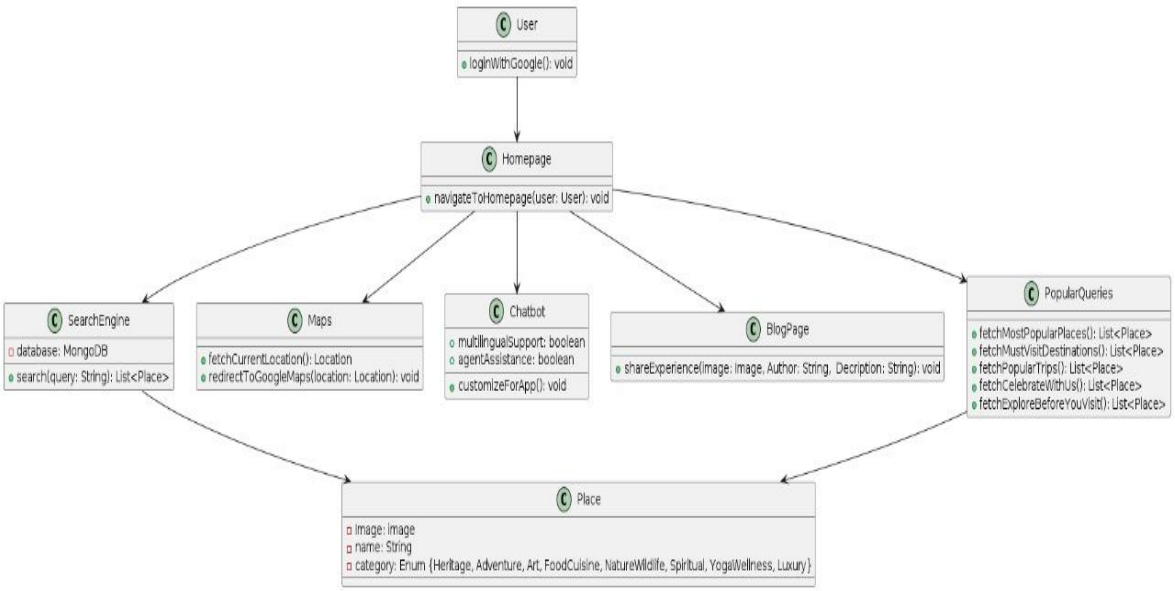

Fig. 4.4

Chapter 5: Implementation

5.1 Getting Started through Ghumakkad and Indicators :

1. Clean and intuitive UI design, ensuring ease of navigation for users.
2. Implemented a consistent color scheme and visual elements.
3. User-friendly layouts for different screen sizes and orientations.

Fig. 5.1 (Splash Screen)

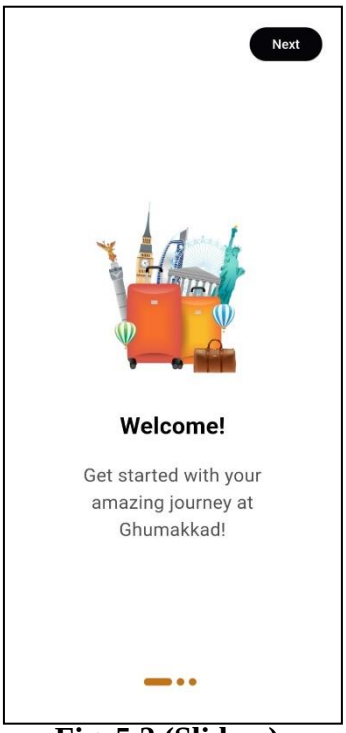

Fig. 5.2 (Sliders)

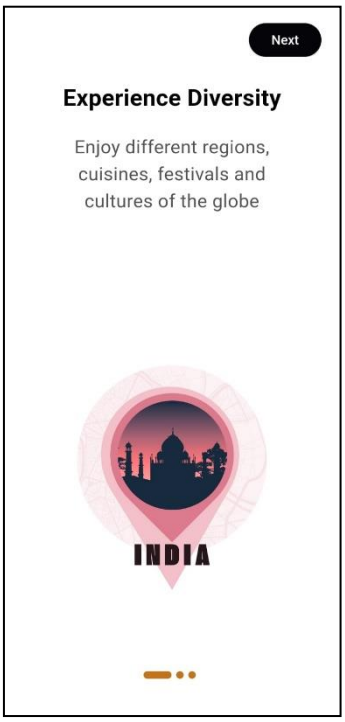

Fig. 5.3(Sliders)

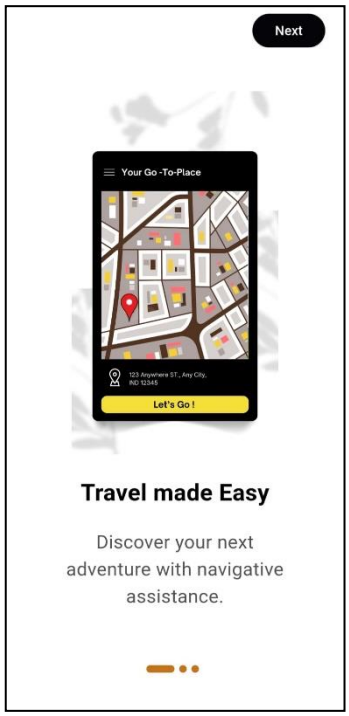

Fig. 5.4(Sliders)

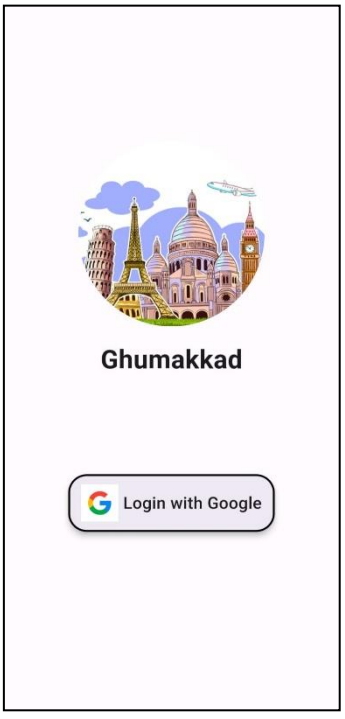

Fig. 5.5 (Login Page)

5.2 Home Page:

5.2.1 Search through various Categories: Our app showcases diverse destinations based on parameters such as Heritage, Adventure, and Spiritual significance. Additionally, it highlights major tourist spots, providing insights to uncover hidden gems. This comprehensive feature empowers users to explore the rich tapestry of our country, catering to varied interests and preferences.

Fig. 5.6 (Homepage)

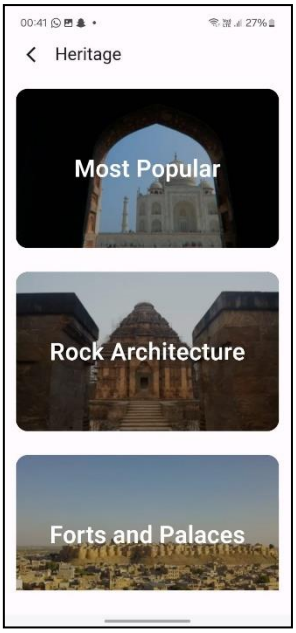

Fig. 5.7(Heritage)

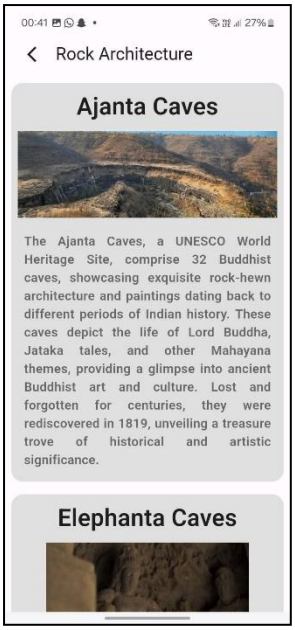

Fig. 5.8 (Rock Architecture)

Fig. 5.9 (Homepage)

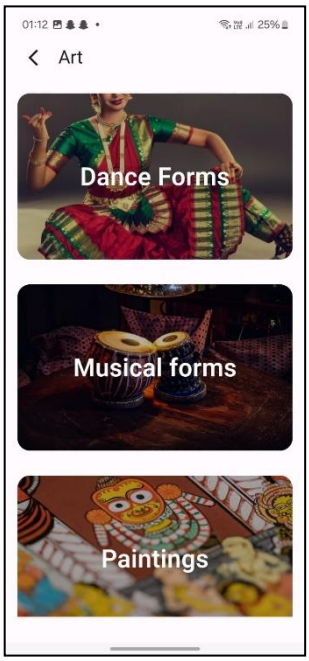

Fig. 5.10 (Art)

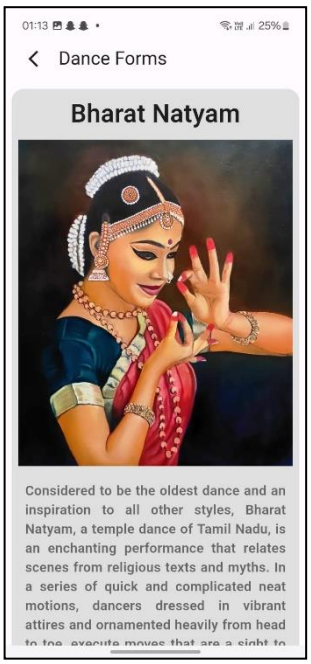

Fig. 5.11(Dance Forms)

5.2.2 Most Searched Query Results: Our app showcases popular user inquiries from travel websites, offering detailed solutions sourced through data scraping from platforms like Incredible India, TripAdvisor, and Yatra. This comprehensive approach ensures users access accurate and relevant information conveniently via our app, enriching their travel experiences.

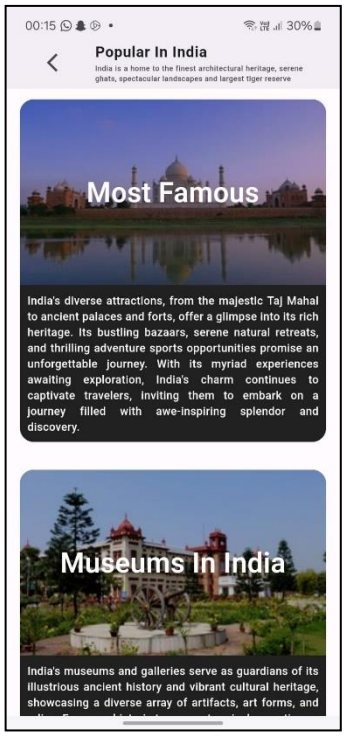

Fig. 5.12 (Popular Queries)

Fig. 5.13 (Popular Queries)

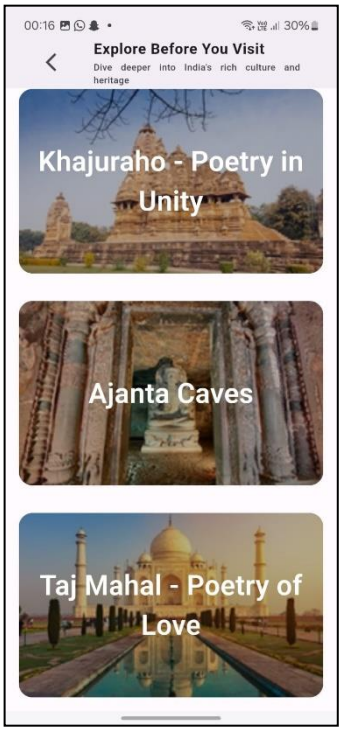

Fig. 5.14 (Popular Queries)

Fig. 5.15 (Popular Queries)

Fig. 5.16 (Popular Queries)

5.2.3 Search-Filter: Our user-friendly feature enables seamless location searches, catering to specific states, union territories, and renowned destinations. Users effortlessly access comprehensive information, enhancing the smoothness and informativeness of their travel journeys. With intuitive functionality, finding desired results is effortless, ensuring a satisfying user experience.

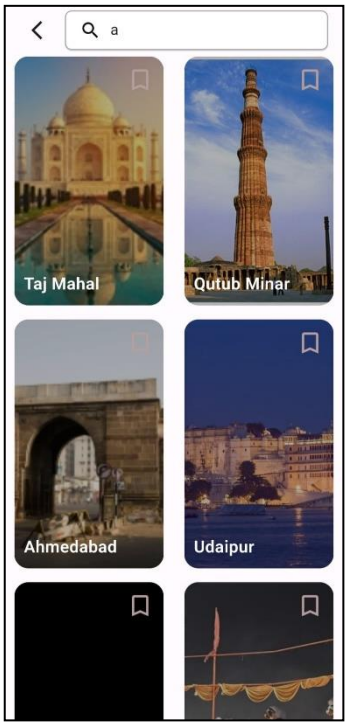

Fig. 5.17 (“a” string search)

Fig. 5.18 (“twa” string search)

Fig. 5.19 (Tawang Result)

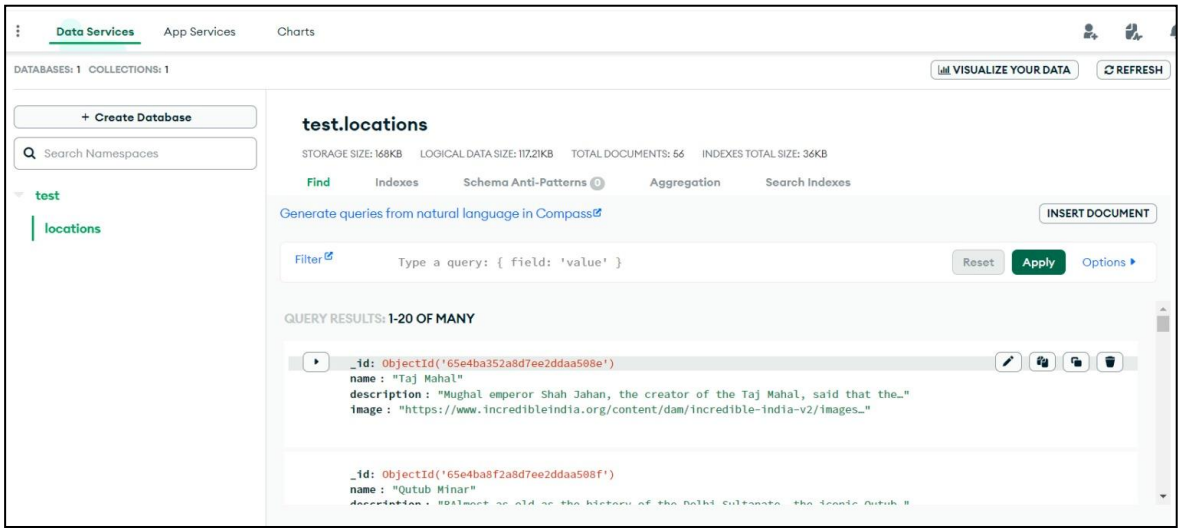

Fig. 5.20 (Search Filter-Database)

5.3 Ghumakkad-Bot: Our feature offers users instant insights and assistance, efficiently retrieving information with a single click or prompt. Utilizing trained data and web scraping, it swiftly delivers results. If needed, queries are seamlessly escalated to human agents. Additionally, our bot supports multilingual capabilities, enhancing user understanding with Hindi language support.

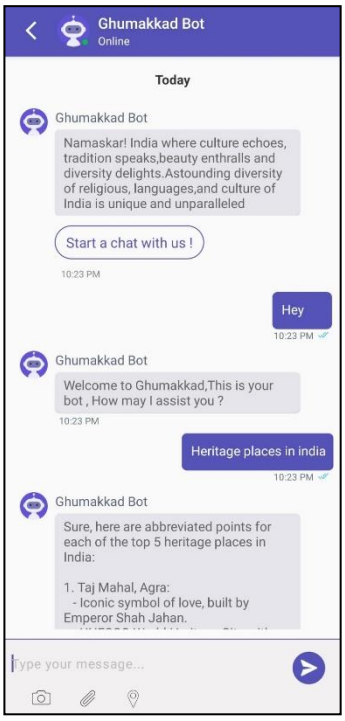

Fig. 5. 21(ChatBot)

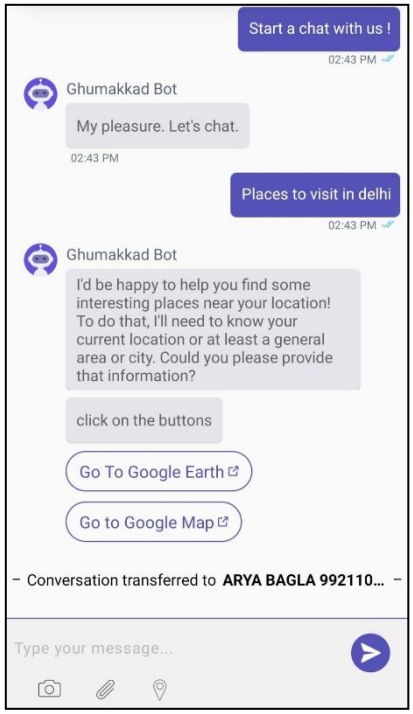

Fig. 5. 22(ChatBot-Human Agent)

Fig. 5. 23(ChatBot-Heritage)

Fig. 5.24 (Route to Taj Mahal)

Fig. 5.25 (Hindi Support)

5.4 Map Page: Our app utilizes the user's current location to seamlessly integrate with Google Maps, providing the distance and optimal route to any searched or received destination. This feature empowers users to gauge cost-effectiveness and plan their excursions with precision, ensuring every journey is both efficient and enjoyable.

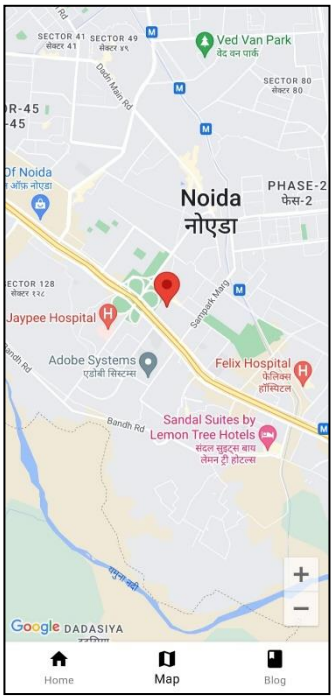

Fig. 5.26 (Map- Current location)

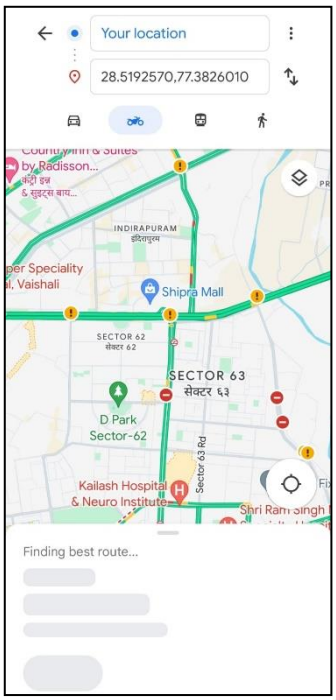

Fig. 5.27 (Google Maps)

5.5 Ghumakkad-Blogs: Our app facilitates local connections, allowing users to share their favorite spots for exploration. Users upload descriptions of places they've visited, offering insights for others to enjoy. Whether it's a hidden gem or a popular attraction, our platform encourages exploration and discovery, enriching every journey with vivid descriptions.

Fig. 5.28 (Posted Blog)

Fig. 5.29 (Upload Blog)

Chapter 6: Results and Analysis

A centralized, user-friendly mobile application built on the Flutter framework has been developed, offering a comprehensive solution for tourists. This application incorporates features such as real-time information updates, local insights, and responsible travel tips, providing users with a one-stop platform for all their travel needs. By fostering engagement and encouraging participation, the platform aims to maximize its effectiveness in promoting tourism and showcasing India's rich cultural heritage and diverse attractions.

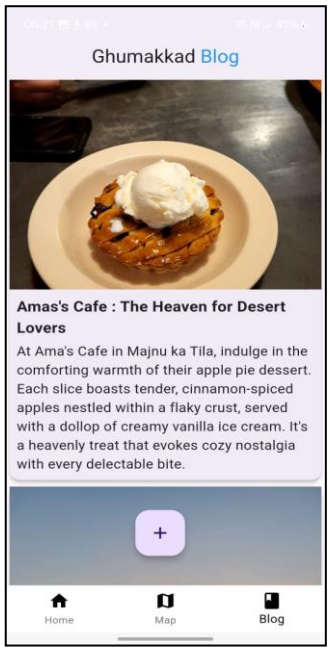

Fig. 6.1

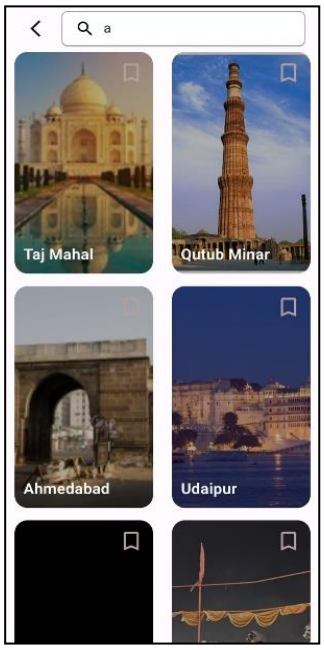

Fig. 6.2

Fig. 6.3

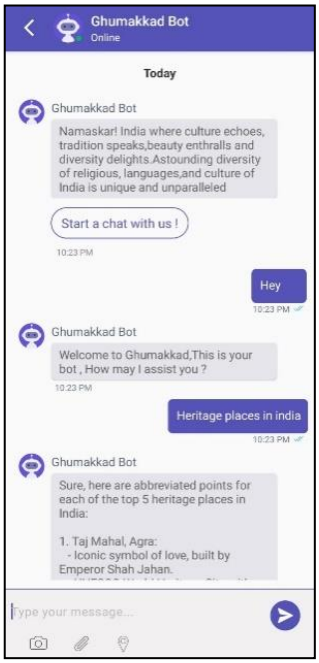

Fig. 6.4

6.1 Result of Ghumakkad Blog which is uploaded through **firebase.**
6.2 Result of Search-Filter where data is fetched through **MongoDb.**
6.3 Result of most searched query for eg. Popular Trip in 48 hrs through **Web scraping**.
6.4 Result of Ghumakkad **Chatbot** giving accurate result for query
.

Chapter 7: Conclusion of the Report and Future Scope

In essence, Ghumakkad revolutionizes travel planning in India with its innovative mobile app, offering a centralized platform amidst fragmented tourism information. Through comprehensive guides and a vibrant culinary section, it celebrates the diverse attractions and flavors of the country. User-generated reviews and intuitive search options empower travelers to explore hidden gems tailored to their interests. With 24/7 chatbot support, Ghumakkad ensures seamless assistance for all travel inquiries. By promoting responsible tourism practices and enriching visitor experiences, Ghumakkad contributes to the growth and sustainability of India's tourism industry, offering memorable and authentic journeys for every explorer.

7.1 Future Scope:

Looking ahead, the "Ghumakkad" application holds immense potential for further development and expansion. Some key areas for future enhancement include:

1. Personalization Features: Introducing personalized recommendations based on user preferences, past travel history, and demographics to enhance user engagement and satisfaction.
2. Integration of Augmented Reality (AR) and Virtual Reality (VR): Incorporating AR and VR technologies to offer immersive experiences, allowing users to virtually explore destinations, landmarks, and cultural sites before their actual visit.
3. Multilingual Support: Implementing multilingual support to cater to the diverse linguistic preferences of users, thereby making the application more accessible and user-friendly for international travelers.

Finally, expanding language support to include more regional languages and enhancing accessibility features can make the app more inclusive and user-friendly for a broader audience, further solidifying its position as a leading travel companion in India.

Chapter 8: References

Journal Article

[1] Subramanian, P., Zainuddin, N., Alatawi, S., Javabdeh, T., & Hussin, A. (2014). A study of comparison between moodle and blackboard based on case studies for better LMS. Journal of Information Systems Research and Innovation, 6, 26-33.

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[5] Subramanian, P., Zainuddin, N., Alatawi, S., Javabdeh, T., & Hussin, A. (2014). A study of comparison between moodle and blackboard based on case studies for better LMS. Journal of Information Systems Research and Innovation, 6, 26-33.

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