RAJALAKSHMI
ENGINEERING COLLEGE
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CS19611 - MOBILE APPLICATION DEVELOPMENT PROJECT REPORT

SMART STAY

Submitted by

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BONAFIDE CERTIFICATE

Certified that this project report titled **"SMART STAY"** is the bonafide work of **JAMSITH ASSLAM J (220701096)**, who carried out the work under my supervision. Certified further that to the best of my knowledge, the work reported herein does not form part of any other thesis or dissertation based on which a degree or award was conferred earlier.

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CHAPTER 1

ABSTRACT

In today's travel-driven world, finding and booking suitable accommodation quickly and efficiently is vital for a seamless travel experience. To meet this demand, we introduce the “SmartStay” Hotel Booking Application—a user-friendly mobile solution that allows users to discover hotels near their current or specified location and book rooms with just a few taps.

Developed using Android Studio with Kotlin as the primary programming language, the application leverages Google Maps API to pinpoint user location and display nearby hotels. Users can view hotel details such as pricing, ratings, available amenities, and photos. Real-time room availability and secure booking functionality ensure a smooth and reliable experience.

SmartStay integrates key Android Jetpack components including LiveData, ViewModel, and Room Database for managing user preferences and past bookings. The app uses MVVM (Model-View-ViewModel) architecture to maintain clean code separation and enhance scalability. A sleek, Material Design-based UI delivers an intuitive and visually appealing user experience.

By combining robust location-based services with a responsive booking system, SmartStay simplifies travel planning and enhances convenience for users on the go. It is an ideal solution for travelers seeking quick, smart, and hassle-free hotel bookings without navigating multiple websites or services.

CHAPTER 2

INTRODUCTION

2.1 GENERAL

Smart Stay is a practical mobile application developed to help users discover and book hotels near a specific location with ease. Built using Android Studio and Kotlin, the app enables users to search for nearby hotels, view detailed information such as pricing, ratings, and amenities, and make bookings seamlessly. The project integrates Google Maps API for location-based search, utilizes Room Database for storing user preferences and booking history, and follows the MVVM architecture pattern for efficient and maintainable code structure. With a clean Material Design interface, the application ensures a smooth user experience, making hotel discovery and booking simple, accessible, and effective for travelers.

2.2 OBJECTIVE

• To develop a mobile application that helps users efficiently discover and book hotels near their current or specified location.

• To provide a simple and intuitive interface for browsing hotel listings, viewing details, and making reservations.

• To implement reliable local storage using Room Database for offline access to user preferences and booking history.

• To enhance travel convenience by offering location-based hotel suggestions and real-time availability.

2.3 EXISTING SYSTEM

Many existing hotel booking applications are either too cluttered for casual users or lack essential features for a seamless experience. Some apps prioritize promotional content over usability, while others offer limited information about hotel amenities, pricing, or availability. Additionally, several platforms require complex sign-up processes.

CHAPTER 3

LITERATURE SURVEY

Several mobile applications currently exist for hotel discovery and booking, such as "OYO," "Booking.com," and "Trivago." These platforms help users find accommodations, compare prices, and reserve rooms. However, many of them face:

- Complex interfaces and overwhelming options for casual or first-time users.
- Frequent advertisements and hidden premium features that interrupt user flow.
- Mandatory sign-ins and constant internet connectivity requirements.
- Cluttered layouts and inconsistent information about hotel amenities or availability.

Research in mobile travel and hospitality app development highlights the importance of simplicity, intuitive navigation, offline accessibility for booking history, and location-based hotel discovery to improve user satisfaction and adoption rates. While some apps focus heavily on extensive filters and promotional offers, they often compromise on performance and user clarity. Others offer only basic listings without sufficient hotel details or seamless booking integration.

Studies show that users prefer applications that offer quick hotel discovery based on their location, streamlined booking flows, clear visuals, and trust-enhancing features like verified reviews and transparent pricing. Moreover, privacy and offline access to booking records are increasingly valued by users concerned with internet dependence and data safety.

This Hotel Booking app is designed to address these shortcomings by providing a lightweight, user-friendly, and feature-balanced solution that enables travelers to search, select, and book accommodations near their desired location with ease and confidence.

CHAPTER 4

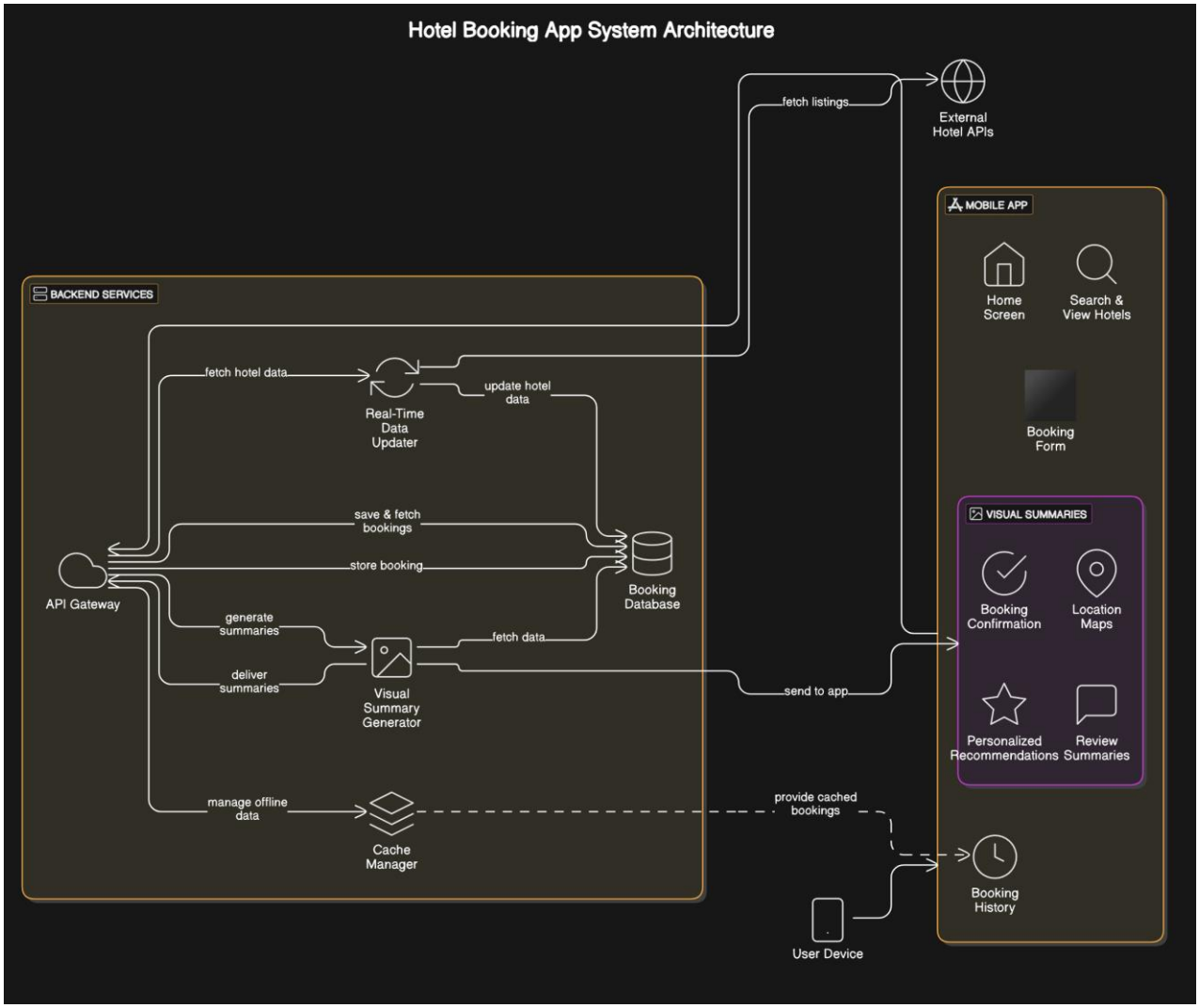
PROPOSED SYSTEM

4.1 SYSTEM OVERVIEW

The Hotel Booking application enhances travel convenience by offering users an easy-to-use platform for discovering and reserving hotels near their desired location. Designed with simplicity and efficiency in mind, the app features real-time hotel listings, location-based search, offline access to booking history, and a clean, intuitive user interface. Users can effortlessly browse nearby accommodations, view essential details, and complete bookings, making their travel planning experience faster, more reliable, and user-friendly.

4.2 SYSTEM ARCHITECTURE

- **User launches the app** and is directed to the Home Screen displaying nearby hotels based on current or selected location.
- **User searches for hotels, views details** (price, amenities, ratings), and books a hotel through a simple booking form.
- **Booking information** is saved to the backend database and can be accessed offline from the Booking History section**.**
- **The system updates listings in real time** and may generate visual summaries (like booking confirmations or location maps) to enhance user understanding



(Fig 3.1 System Architecture)

CHAPTER 5

MODULE DESCRIPTION

5.1 MODULES

- Hotel Search & Discovery Module: Enables users to search for hotels based on their current or selected location, retrieving listings with details such as name, price, rating, amenities, and availability.
- Booking Management Module: Allows users to view hotel details, select check-in/check-out dates, and complete bookings. It handles reservation logic and stores booking data locally and/or remotely.
- Location & Map Integration Module: Integrates with Google Maps API to display nearby hotels, provide directions, and support interactive map-based hotel selection.
- Booking History & Filter Module: Displays a list of previous bookings with filtering options based on date, location, or hotel name for easy record access and reference.
- UI/UX Module: Features a clean, intuitive user interface designed using Material Design principles, ensuring responsive layouts, smooth transitions, and an engaging user experience.

CHAPTER 6

IMPLEMENTATION AND RESULTS

6.1 TOOLS USED

• **Android Studio**: Used as the primary IDE for designing, developing, and testing the mobile application.

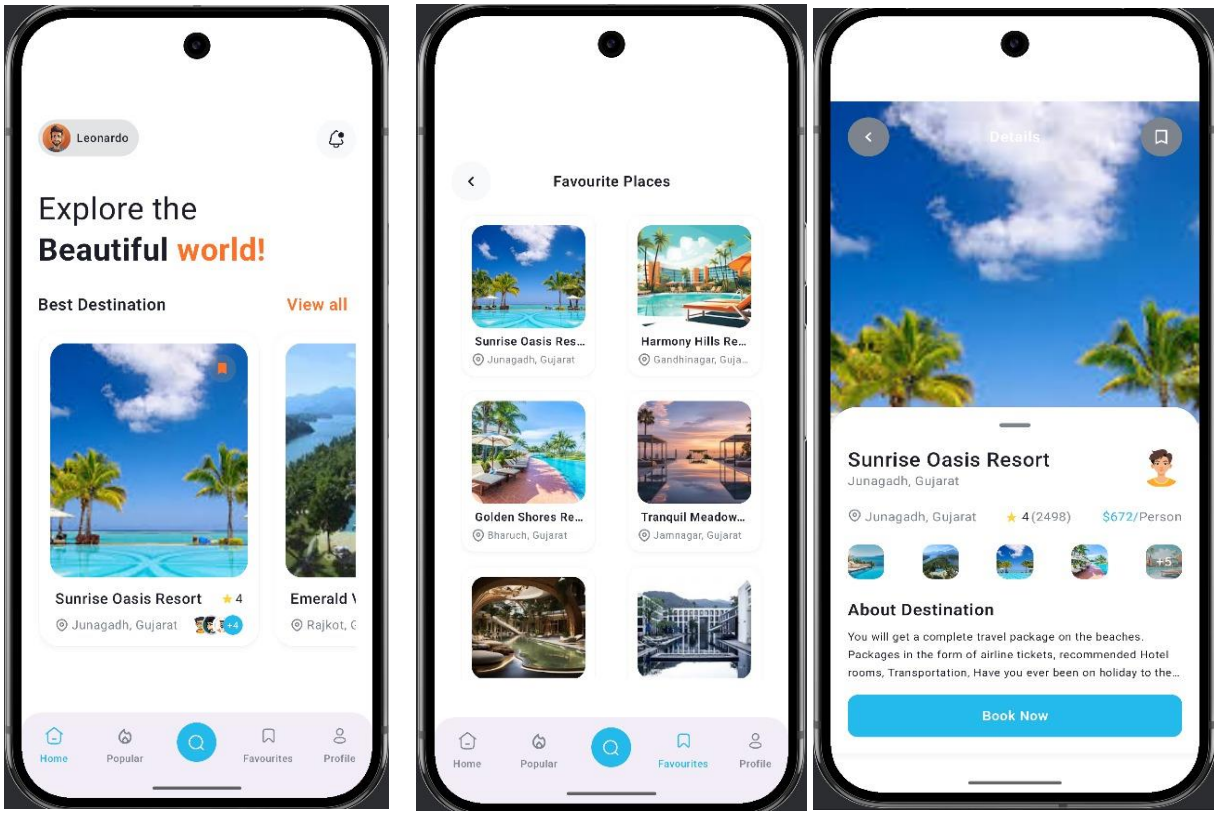
• **Kotlin**: Programming language used to implement the application logic and backend functionality.

• **XML**: Used for designing the front-end user interface layouts with Material Design elements.

• **Room Database**: Provides local data storage for storing booking history and user preferences.

• **Google Maps API**: Integrated to display user location and nearby hotels visually on a map.

6.2 OUTPUT SCREENSHOTS



CHAPTER 7

CONCLUSION AND FUTURE ENHANCEMENT

6.1 CONCLUSION

SmartStay provides users with an intuitive and seamless way to discover and book hotels near their location. The app offers **real-time hotel listings** with detailed information on pricing, availability, and amenities, ensuring that users can easily find the perfect accommodation. With simple booking forms and a smooth reservation process, the app empowers users to plan their stays with ease. The interactive home screen and clear hotel summaries enhance the user experience, while the ability to view booking history and search past reservations ensures a personalized and efficient booking process. Whether you're traveling for business or leisure, **SmartStay** offers a convenient and reliable solution for hotel booking**.**

6.2 FUTURE ENHANCEMENT

• **Location-Based Recommendations**: Suggest hotels based on the user's current or selected location.

• **Hotel Wishlist**: Save and compare hotels in a wishlist for future bookings.

• **Payment Integration**: Offer secure payment options for booking reservations directly through the app.

• **Booking Confirmation Notifications**: Send instant notifications for booking confirmations and reminders.

• **Booking Modification & Cancellation**: Allow users to modify or cancel their bookings with ease.

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