



UNIVERSITY MALAYSIA TERENGGANU
**FACULTY OF OCEAN ENGINEERING TECHNOLOGY &
INFORMATICS**

**FRAMEWORK-BASED MOBILE APPLICATION
DEVELOPMENT**

CSM3114

Hotel Management App
Report

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Executive Summary

The Hotel Management App provides a digital solution for management of rooms, bookings, and guest information. Developed using the Flutter framework, the system employs a Firebase Realtime Database for data storage and retrieval. The core functionalities include adding rooms, booking rooms for guests, and viewing existing bookings.

Key Features:

Add Room Functionality:

- Hotel administrators can easily add new rooms to the system.
- The system captures room details such as name and price.

Booking Functionality:

- Guests can book available rooms for specific date ranges.
- Booking details, including guest information, selected room, and booking dates, are securely stored in the database.

View Booking Functionality:

- Hotel staff can view a list of all bookings, including guest names, room details, and booking periods.
- The system provides options to edit booking details or delete bookings.

Technology Stack:

Flutter Framework:

- Cross-platform mobile application development.
- Provides a consistent user experience across iOS and Android platforms.

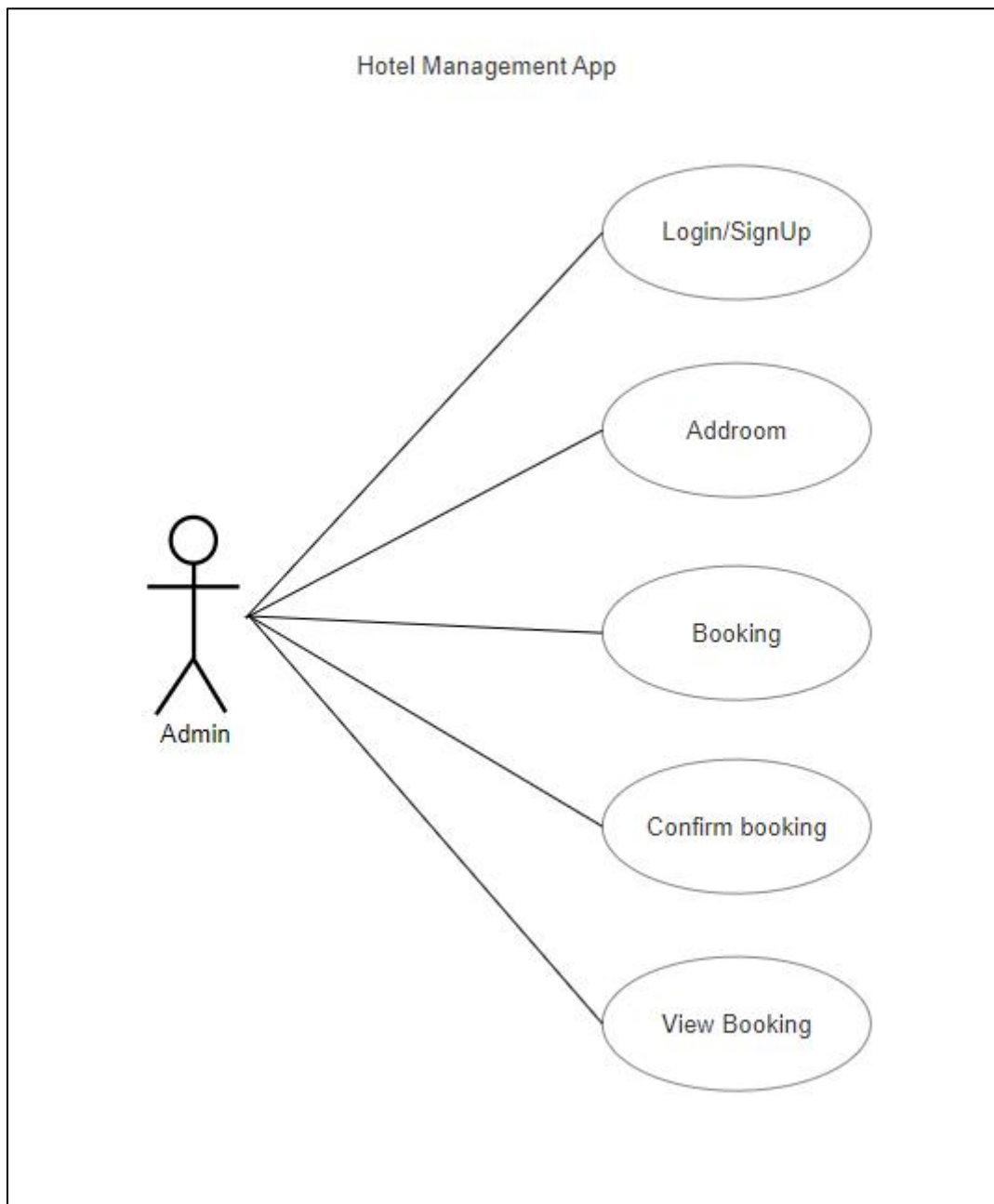
Firebase Realtime Database:

- Secure and scalable cloud database.
- Enables real-time data synchronization across multiple clients.

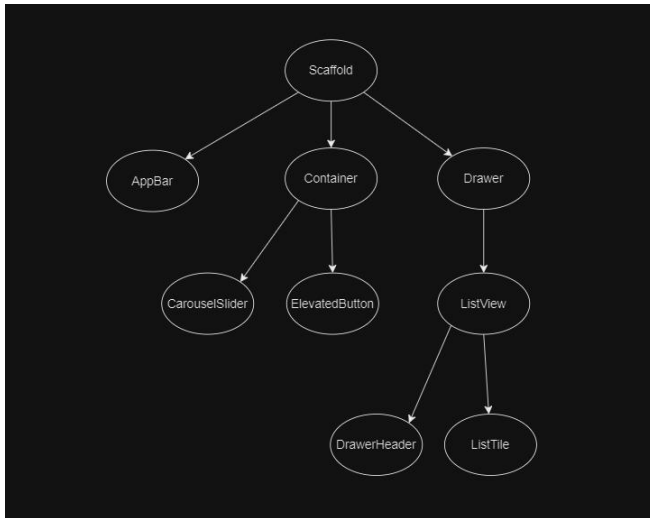
HTTP Package:

- Facilitates communication with the Firebase database through HTTP requests.

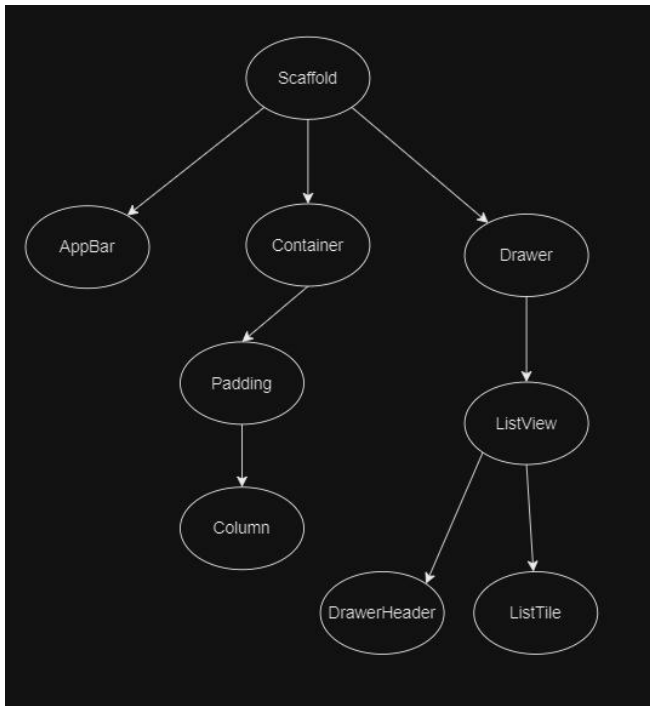
Use Case



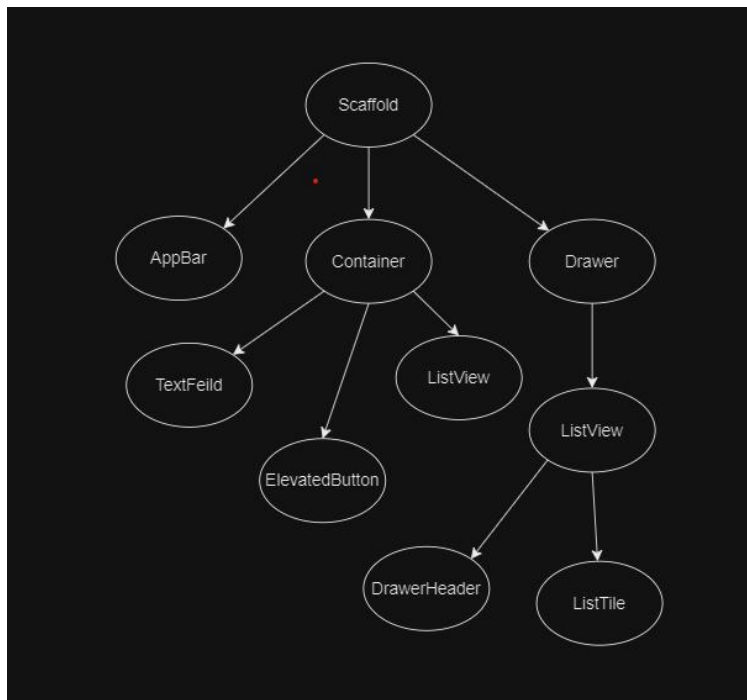
Common Structure Tree Widgets



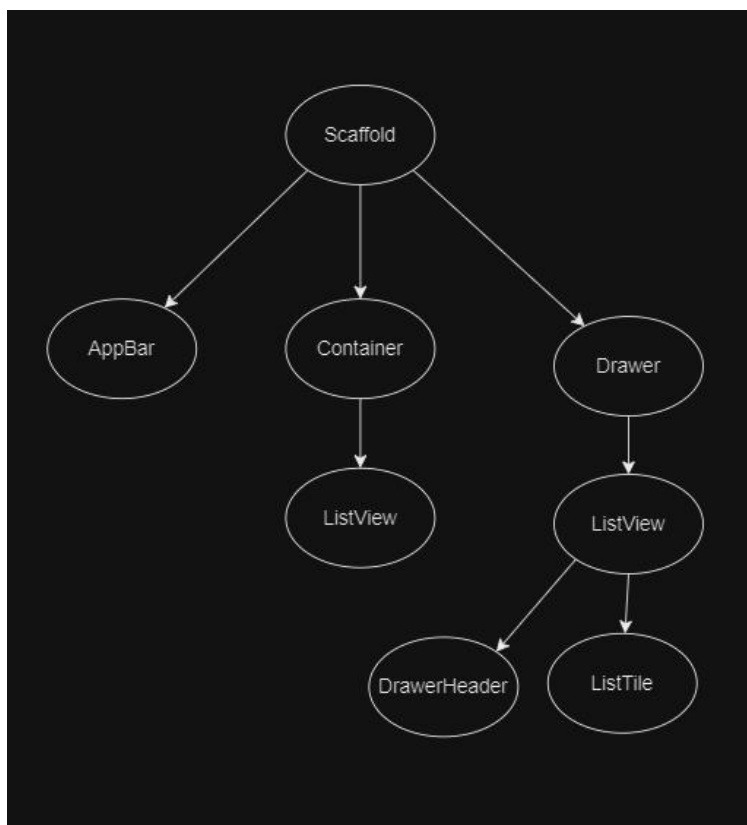
Homepage



AddRoom



BookingPage



ViewBookingPage

Flutter Widgets And Features

Material Design Widgets:

AppBar, Scaffold, Drawer, TextField, ElevatedButton, ListView.

State Management:

Utilizes StatefulWidget and State classes for managing widget state.

Navigation:

Navigation between pages using Navigator and MaterialPageRoute.

HTTP Requests (Firebase Integration):

Uses the http package for making HTTP requests to interact with Firebase Realtime Database.

Date Picker:

Implements showDateRangePicker for selecting booking dates.

AlertDialog:

Utilizes AlertDialog for editing booking information.

Drawer:

Implements a slide-in menu for navigation with links to different sections.

Gradient Background:

Applies a gradient background using LinearGradient for visual appeal.

TextEditingController:

Uses TextEditingController to control text input in TextField widgets.

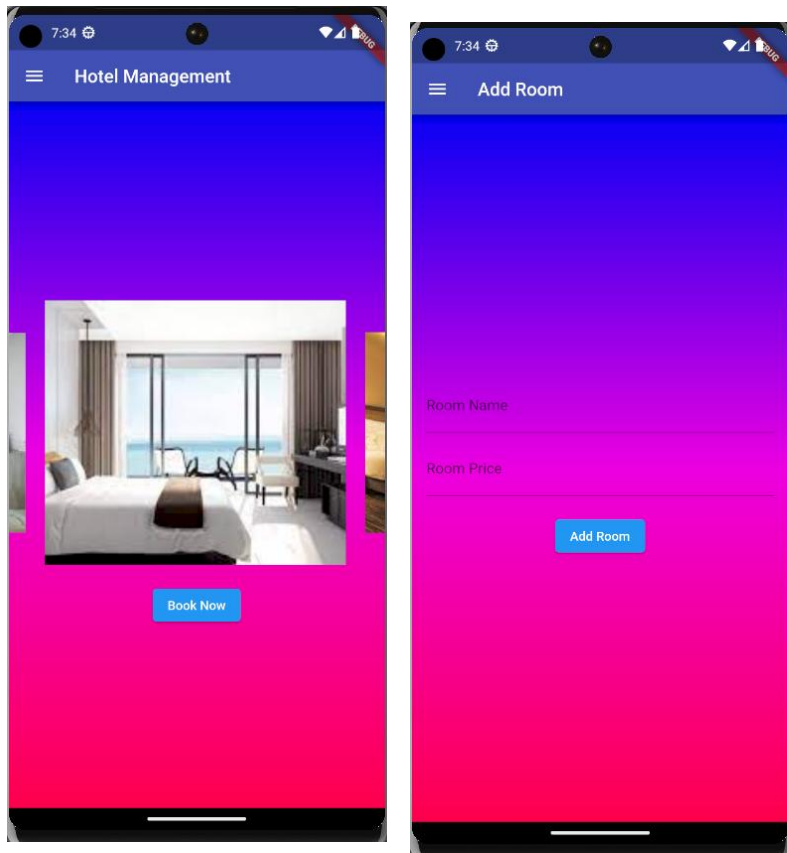
Responsive UI:

Design is responsive, adapting to various screen sizes.

ListView.builder:

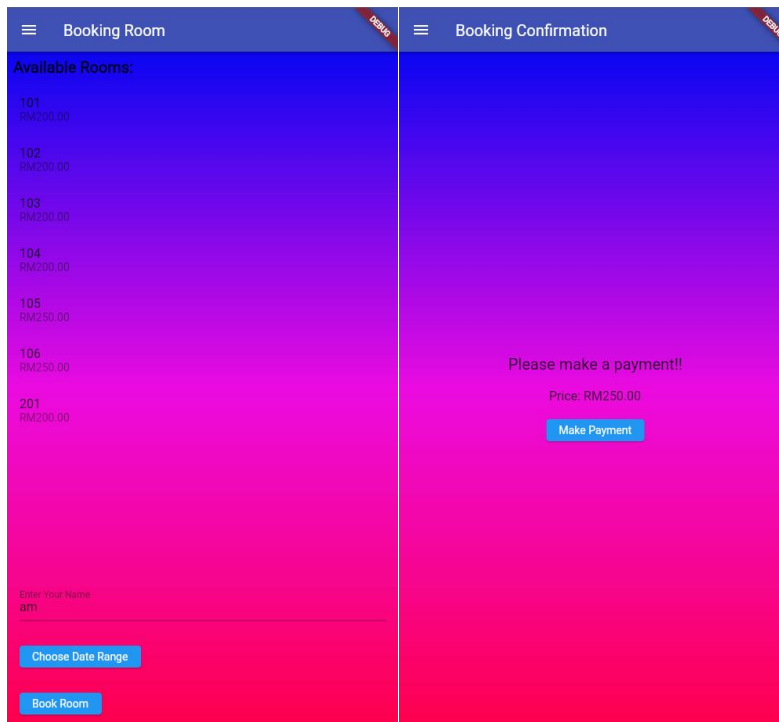
Efficiently builds scrollable lists of available rooms or bookings.

Sample Of Interface



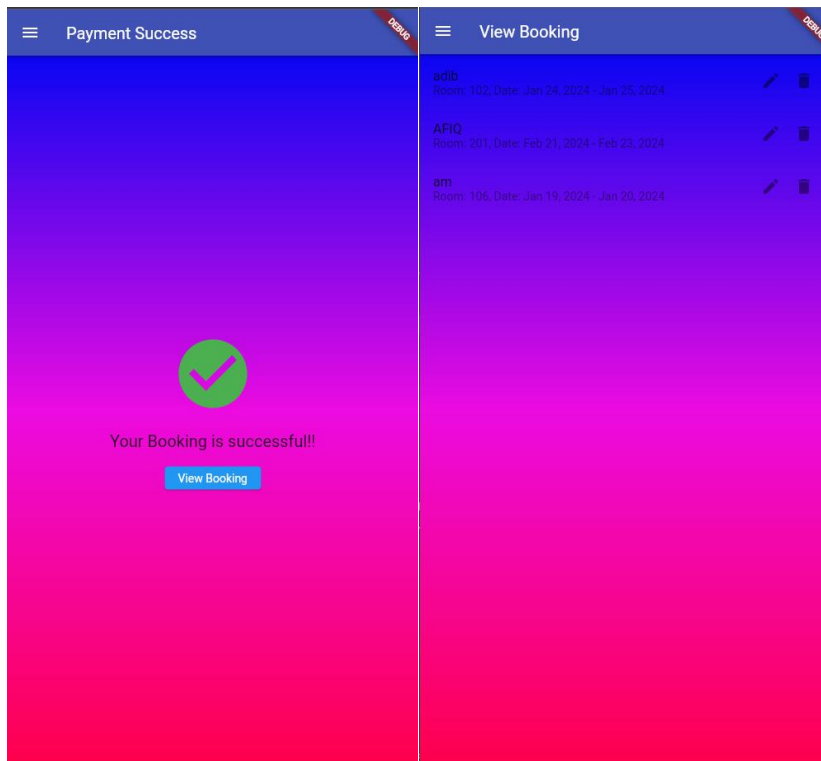
Hotel Management page show that example of room that provide. User can book it by click the button Book Now.

Add room page is for add room in the hotel. Admin must put the room name and price for the room before add the room.



Booking room is show available room for user book. When click the room for booking user must put their name and select date when them want to check in and check out.

Booking confirmation page is for the user make a payment after book the room.



Payment Success page is for show that the payment and booking have success.

View booking page is for admin to view all the booking and can update and delete the booking that have made by the user.

Conclusion

Finally, the Flutter-developed hotel management application demonstrates the adaptability and effectiveness of this framework for producing cross-platform mobile apps. A range of Flutter widgets and features are integrated into the application to create a smooth and interesting user experience. A consistent and aesthetically pleasing user interface is guaranteed by the use of Material Design widgets, while data storage and retrieval are improved by the integration of Firebase for backend services.

The functioning of the programme is enhanced by important features including date selection, dialogue management, and navigation. Users may access the application more easily on a variety of devices thanks to the flexible user interface design, which enables the programme to adjust smoothly to different screen sizes.

The application effectively communicates with the Firebase Realtime Database, allowing the administration of rooms, reservations, and user data, by utilising Flutter's state management and HTTP request features.

Overall, Flutter is a strong option for developing mobile apps because of its wide widget library, convenience of use, and support for quick development. The hotel management app is proof of the framework's ability to produce sophisticated, feature-rich applications.

Reference

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