UNIVERSITY MALAYSIA TERENGGANU

FACULTY OF OCEAN ENGINEERING TECHNOLOGY & INFORMATICS

[CSM 3114]

FRAMEWORK - BASED MOBILE APPLICATION DEVELOPMENT

Project Report 2

Smart Travel Planner App

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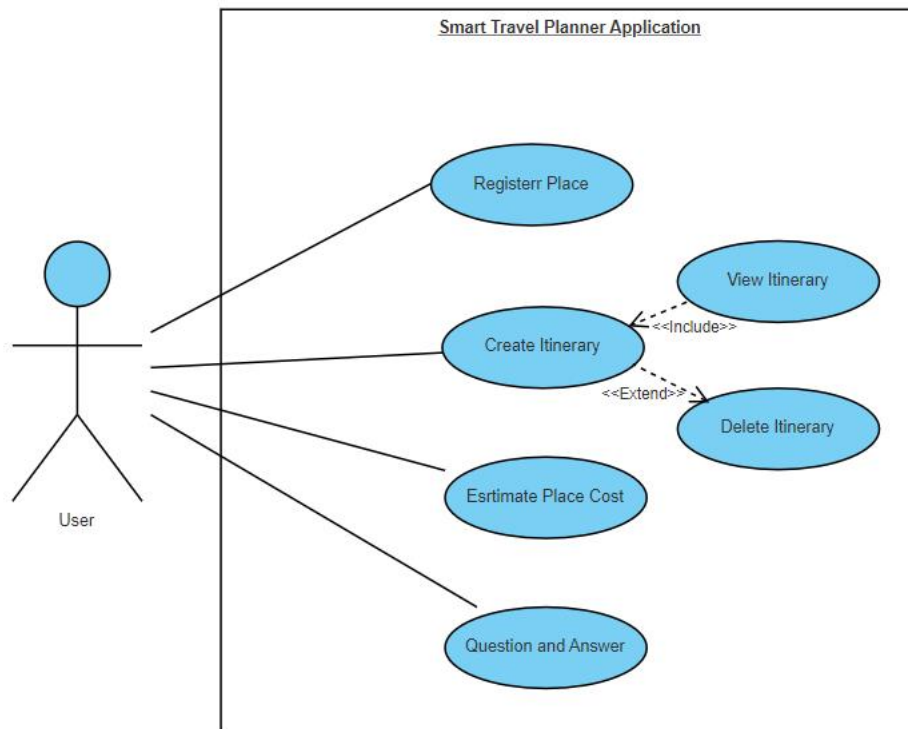[*BACHELOR OF COMPUTER SCIENCE (MOBILE COMPUTING) WITH HONORS*]

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Executive summary

The Smart Travel Planner Application is an innovative and user-friendly solution designed to enhance the travel experience by providing user with comprehensive planning and management tools. This mobile application to simplify the complexities of travel planning, offering a seamless and efficient platform for users to organize their trips effectively. In this application have a few features and important attributes such as user authentication, sign-up and login, itinerary planning, registration place, cost estimation, Question and Answer Forum, Viewing Itinerary Plans, and View expected prices.

User authentication is secure thanks to the program, which enables users to make accounts, log in safely, and utilize options for customized travel arrangements. Sign-Up and Login It's simple for users to sign up or log in, guaranteeing a personalized experience that allows them to store past travel schedules and preferences. Itinerary Planning is the application's core feature is its itinerary planning ability. For their travels, users can design comprehensive itineraries that include locations, dates, activities, and more. The user-friendly interface makes customization and modification simple. Registration Place is It's easy to add your favorite locations to future itineraries when you register and bookmark them. Users of the application can also see, add, and manage the places they have registered. Cost Estimation are there is a feature in the application that allows you to estimate the trip's cost. To help with financial planning, users can input their budget, destination, and planned activities to generate an estimate. Question and Answer Forum are a special Q&A forum helps people communicate with one another. By asking questions, offering insights, and responding to other users' inquiries, travelers can create a sense of community within the app. Viewing Itinerary Plans is this feature helps users stay organized and well-prepared by allowing them to see their planned itineraries and obtain a thorough overview of their travels. View expected prices is to help users stick to their spending limits, the program offers a function that lets users view expected prices for scheduled visits.

Use case

This use case for Smart Travel Planner Application show have four main widgets that have their own functionalities for an example register place, create itinerary, estimate place cost and question and answer.

For the first function of this application is register place that user can insert the information that application ask. Then the information will be insert in Firebase. Next function are create itinerary that user can plan their trip and make a planner well. In this part user can view itinerary and delete itinerary plan if not suitable with them. Next, estimate place cost function that show the cost and budget for trip that user inserted. Lastly, the question and answer function for this application that user can ask any curious question that the admin will answer the question.

Common structure of tree widget using designing and developing the application

This application have eight widget with different functions and different features such as main.dart, login.dart, signup.dart, home.dart, register_place.dart, create itinerary.dart, view itinerary.dart, estimate place.dart, view_itinerary_plan.dart and question and answer.
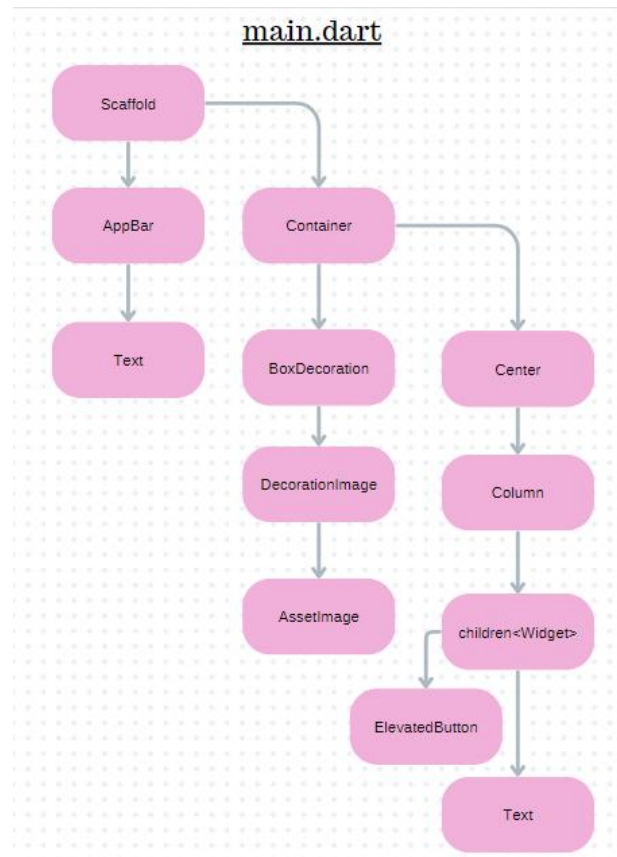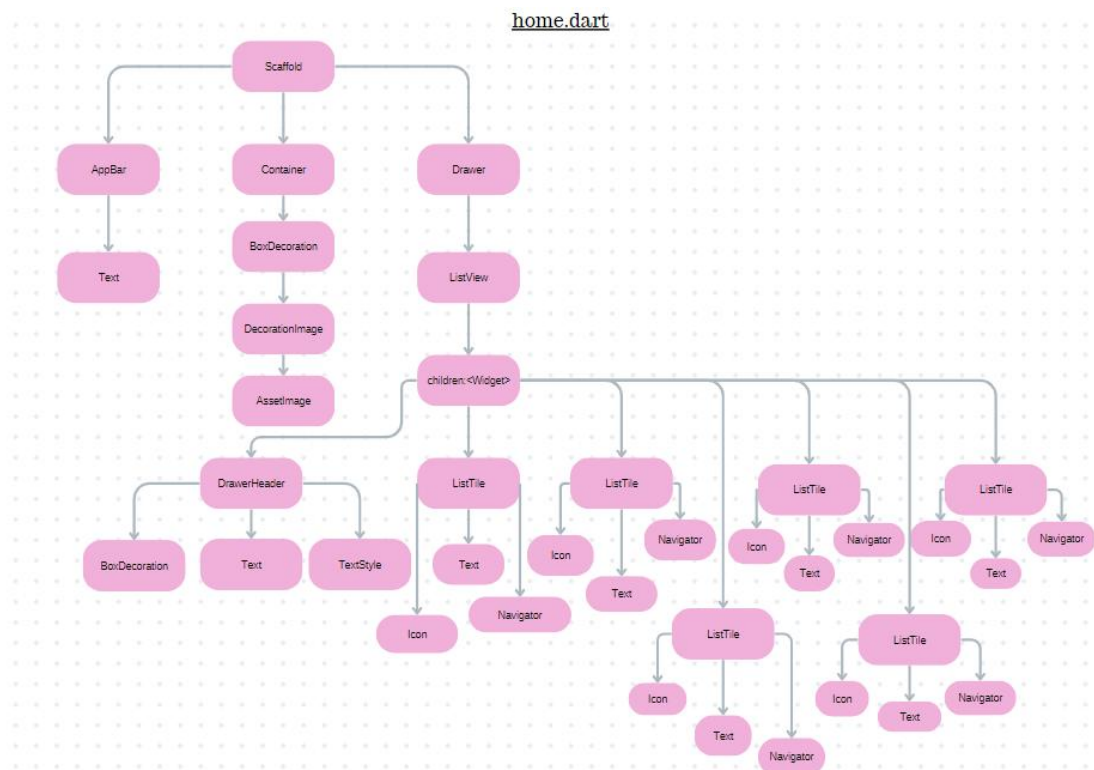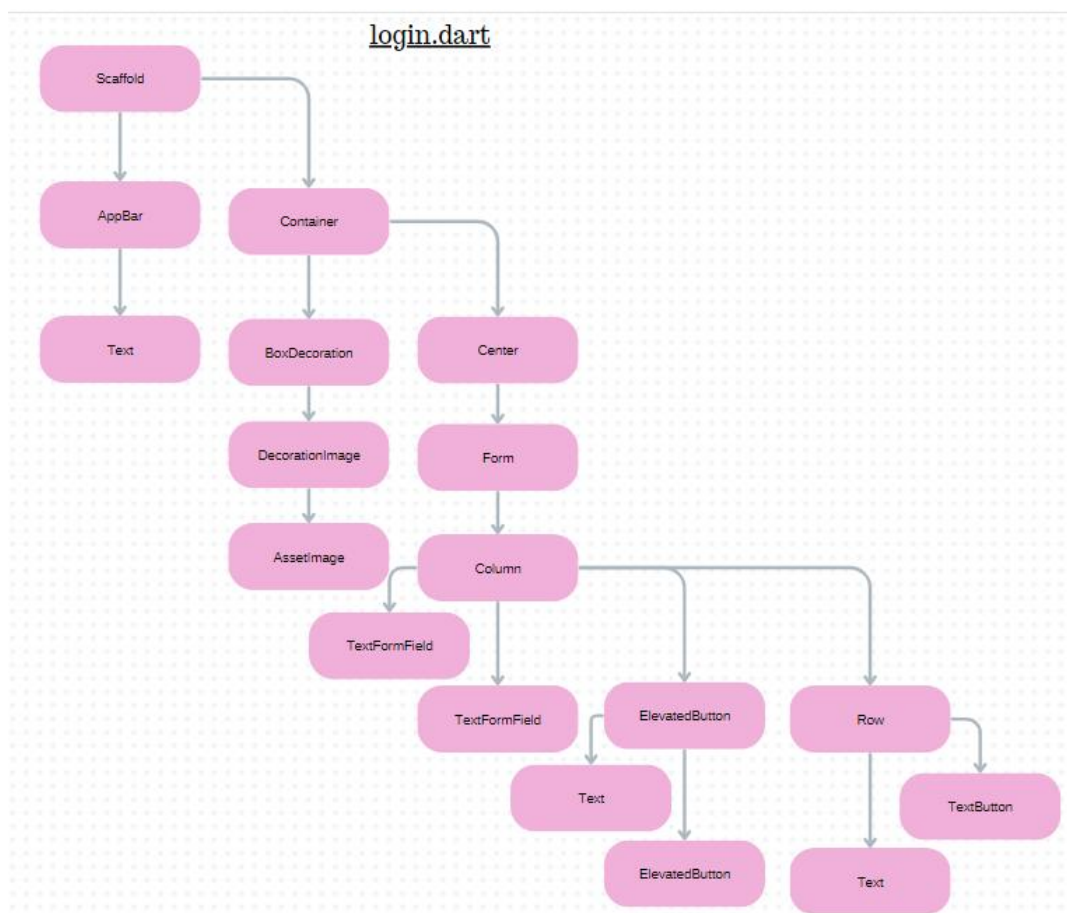

Figure 1 main.dart

Figure 2 home.dart

Figure 3 login.dart

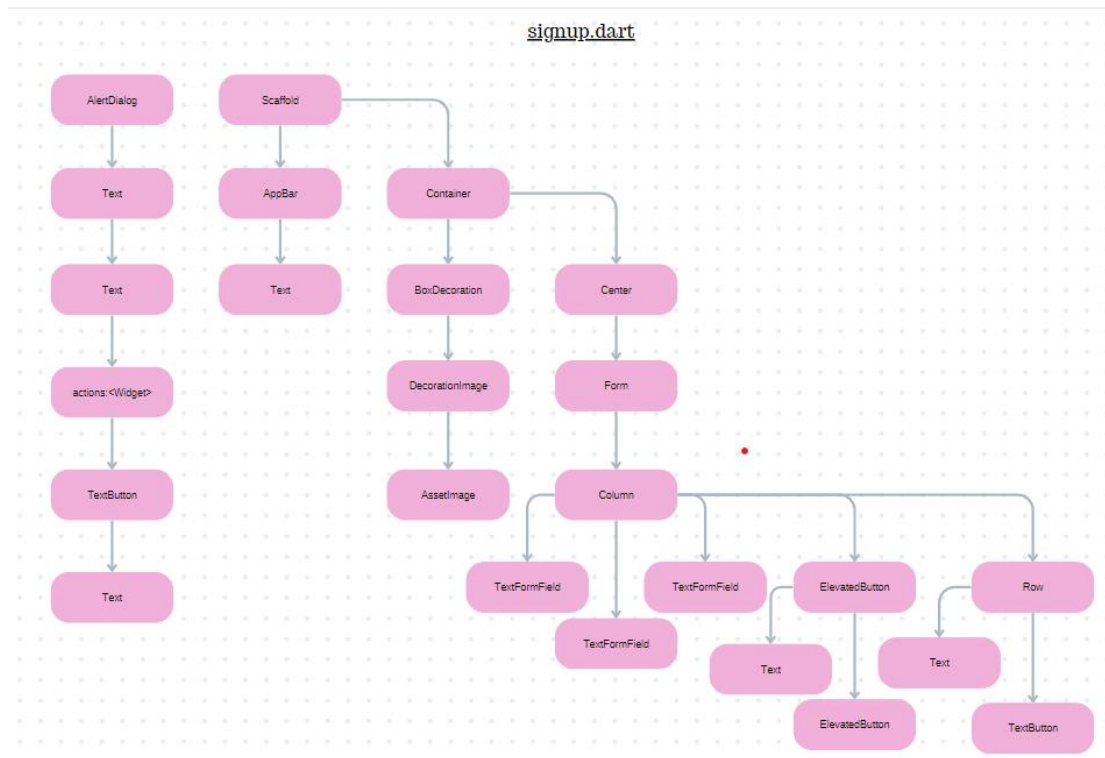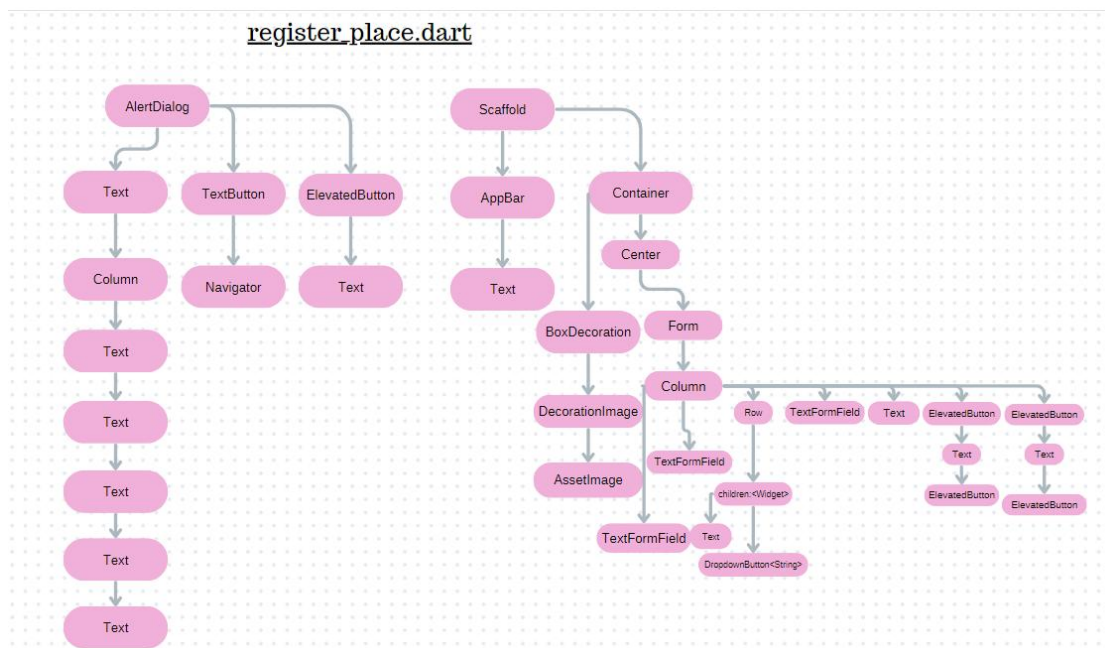**Figure 4 signup.dart**
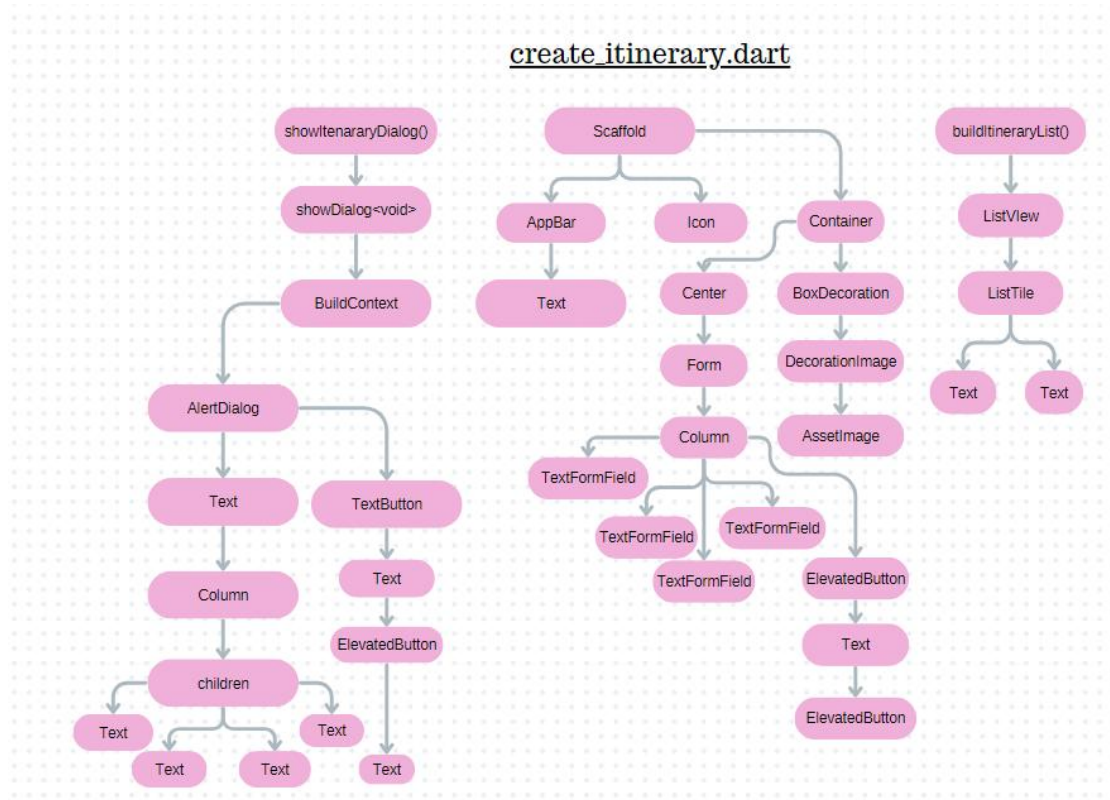

Figure 5 register_place.dart

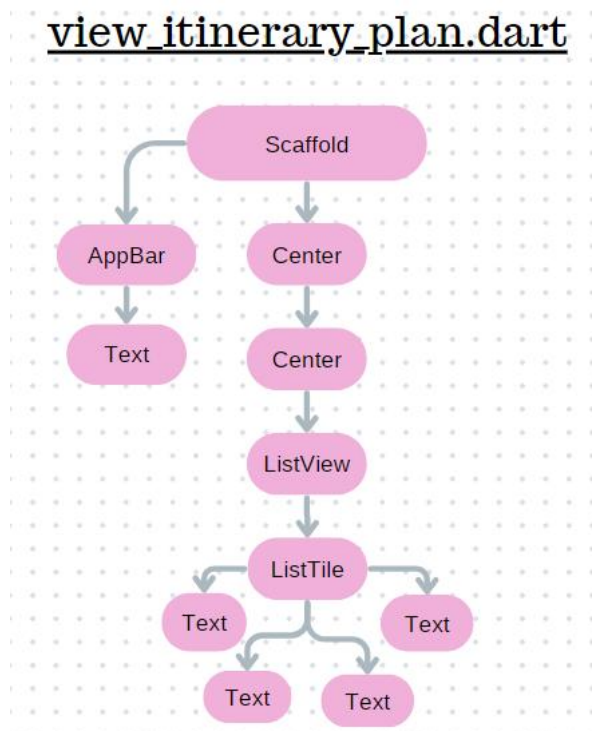**Figure 6 create_itinerary.dart**

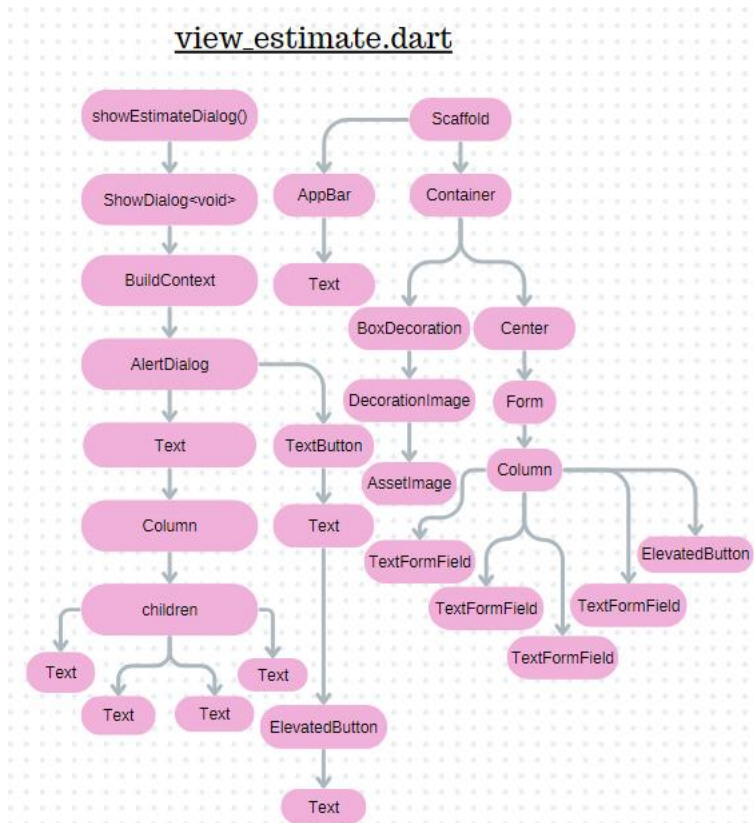

Figure 7 view_itinerary_plan.dart
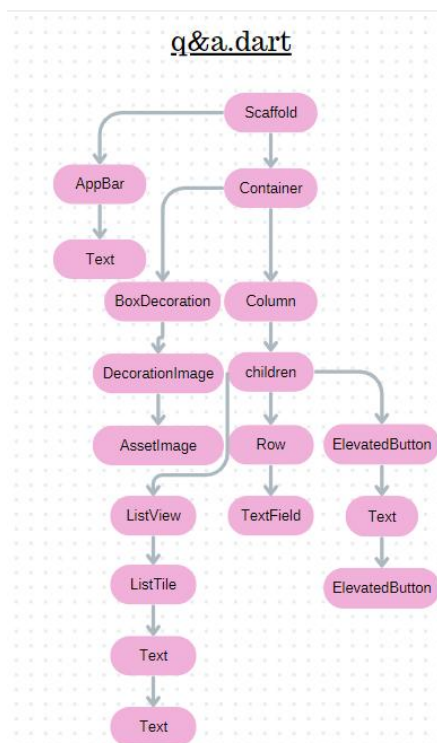
Figure 8 view_estimate.dart

Figure 9 q&a.dart

Flutter widget and features in the application

This is several widgets and features in a smart travel planner application built with Flutter to build a user experience that is both aesthetically pleasing and useful. The following are some essential Flutter features and widgets that you can add to your intelligent smart travel planning app:

1. AppBar:
   - Goal: Show the title, icons, and actions of the application.
   - Usage: Position to display the name of the application and navigation options at the top of the screen.

2. Drawer
   - Goal: A navigation menu that is accessible by tapping a menu icon or by swiping from the left.
   - Usage: Add user profile, settings, and navigation links to the drawer.

3. ListTile and ListView:
   - Goal: Showing lists of itineraries, locations, and things to do.
   - Usage: Display a list of things with actions and details that can be scrolled through.

4. DatePicker :
   - Purpose : Allow users to select dates conveniently.
   - Usage : Put into practice for defining deadlines and travel dates.

5. TextField:
   - Purpose : Input for text data.
   - Usage: Permit users to enter travel-related names, descriptions, or notes.

6. AlertDialog:

    - Goal: Show crucial notifications or cues.

    - Usage: Apply to important alerts, error messages, and confirmation
        dialogs.

7. Navigator:

    - Purpose: Manage navigation between screens.

    - Usage: Implement for moving between the home screen, planner screen,
        and details screens.

8. Flutter for Google Maps:

    - Goal: Integrate Google Maps into the program.

    - Use: Provide travel routes, lodging options, and places to see on an
        interactive map.

9. Firebase Integration :

    - Purpose : Backend services for authentication, storage, and database.

    - Usage: Manage trip arrangements in a backend database, implement user
        authentication, and store user data.

To create a feature-rich and aesthetically pleasing smart travel planner application for users to effectively plan and arrange their travels by integrating these Flutter widgets and functionalities. It is important to consider the unique needs of your application and user experience when designing the implementation.

Sample of interface with explanation

This application have eleven interface with different functions and different features such as main.dart, login.dart, signup.dart, home.dart, register_place.dart, create itinerary.dart, view itinerary.dart, estimate place.dart, view_itinerary_plan.dart and question and answer.

For the first interface as figure10 shown is main.dart if user want to use this application user must click the button 'Let Start...!' then it will go to next interface login if user already signup user just insert the username and password if not user must signup first by click the signup link. Then user must insert the information at signup interfce after that click button 'SignUp' then it will goes back to login interface. User must insert the username and password like registeration before. Next, user will goes to home interface that have the navigator at the right side with content register place plan, create itinerary plan, view itenarary plan, estimate place cost and logout. The user may choose any widget that they want to use and can make the plan for travel.
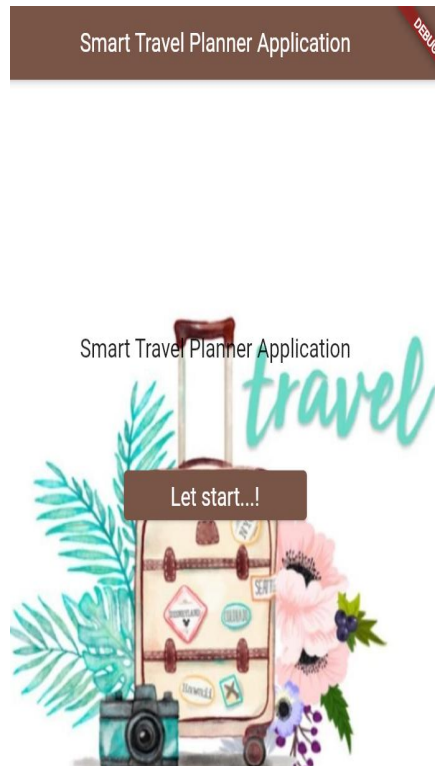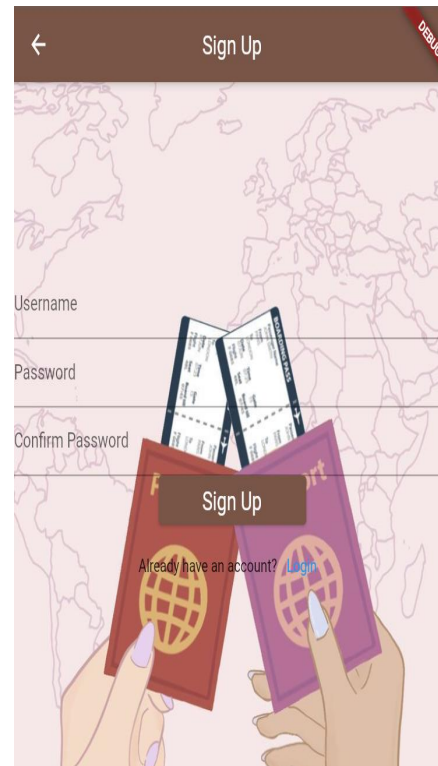

Figure 10 main.dart

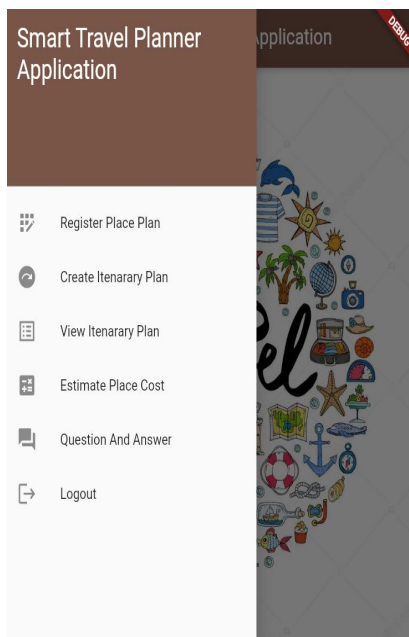**Figure 11 signup.dart**

Figure 11 login.dart

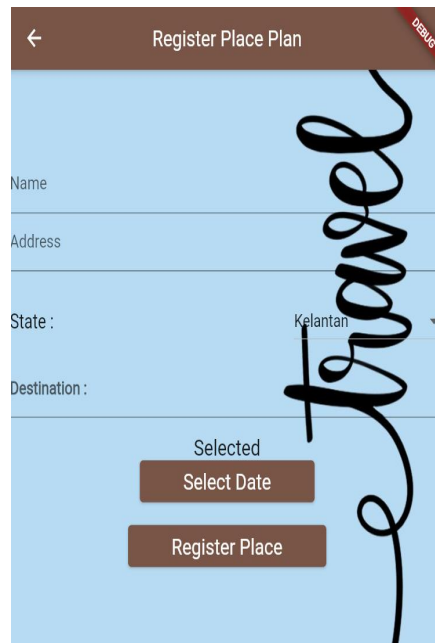**Figure 12 home.dart**

Figure 13 home.dart
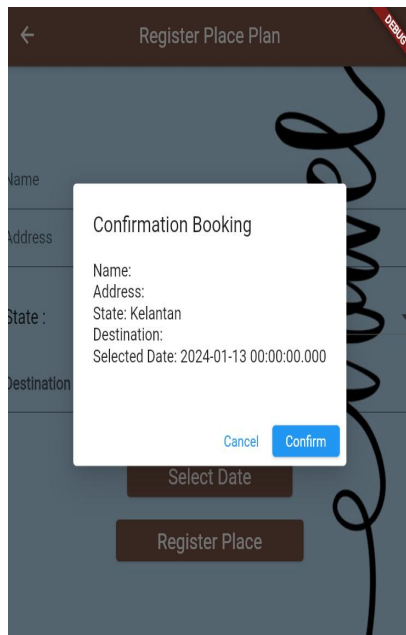

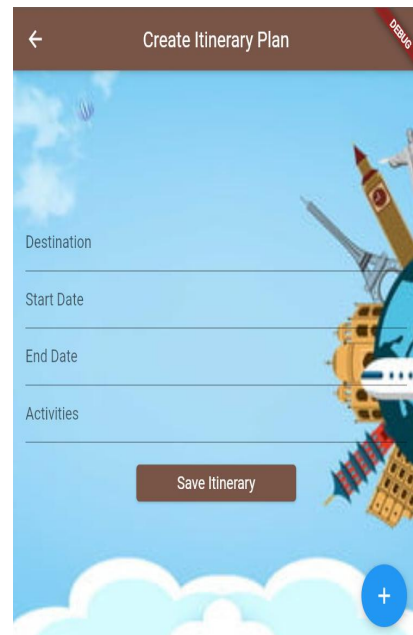**Figure 14 register_palce.dart**

Figure 15 register_place.dart
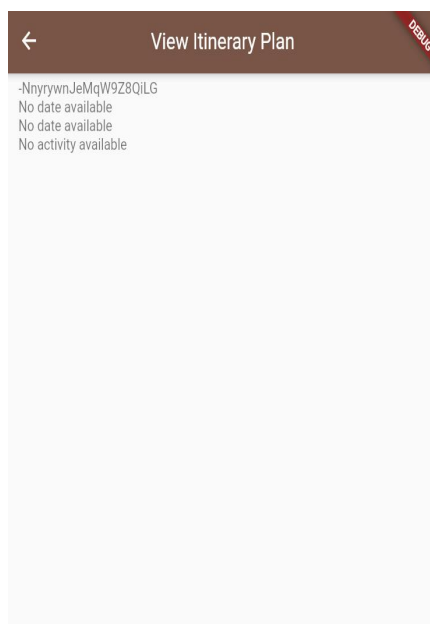

Figure 16 create_itinerary_plan.dart

Figure 17 view_itinerary_plan.dart

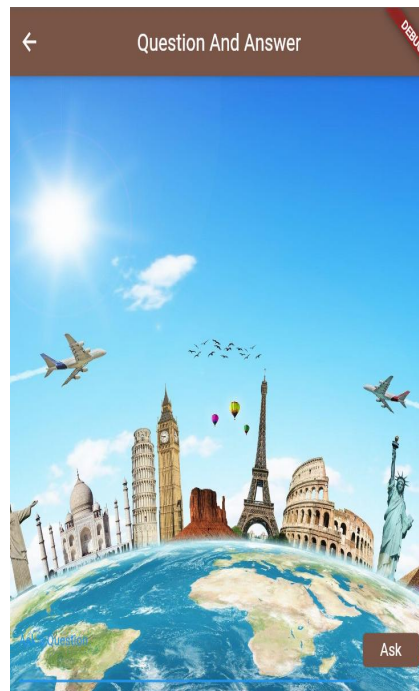**Figure 18 view_estimate_cost.dart**

Figure 19 q&a.dart

Conclusion

To sum up, a smart travel planner app is a vital tool that gives contemporary travelers the ability to plan, coordinate, and maximize their travels. These applications have the potential to greatly improve the entire travel experience by carefully integrating technologies and emphasizing user experience. An intelligent trip planner application's success is largely attributed to the following essential elements and features:

Simple to Use Interface: The application's user-friendly interface makes it simple for travelers to plan, organize, and alter their itineraries. A smooth and effective user experience is offered by widgets like the AppBar, Drawer, and tree widget. Effective Organization: Travel plans can be more efficiently organized by users by classifying locations, lodgings, and activities thanks to the tree widget structure. ListView, and ListTile are some of the features that make trip information organized and aesthetically pleasing.

User Input and Personalization: Users can enter and modify information about their trip plans using widgets like TextField and DatePicker. The software

promotes customization by making it simple for users to make notes, designate dates, and establish preferences.

Responsive Design: This makes an application easily adjustable to different screen sizes, allowing it to be used and accessed on a variety of devices. The application is more accessible because to responsive design components and Flutter's adaptability.

Confirmation: Functions like AlertDialog give users prompt verifying that their actions were successful, communicating crucial information, and requesting any necessary confirmations. All of these features help to create an open and comforting user experience.

Reference

1. Chatgpt
2. Youtube
- https://www.youtube.com/watch?v=YlgzSH_DPDo
- https://www.youtube.com/watch?v=bePIE2WfGuw
3. Github
- https://github.com/JideGuru/FlutterTravel
- https://github.com/hafizhfattah/travel_app2
4. https://flutterawesome.com/travel-guide-app-build-with-flutter/

Link Coding Project at GitHub :

https://github.com/Izzati9/smart_travel_planner_app