CSM3114 FRAMEWORK-BASED MOBILE APPLICATION DEVELOPMENT

SEMESTER I, SESSION 2023/2024

INDIVIDUAL ASSIGNMENT – PROJECT 2

NAME: AFIQAH HAZIRAH BINTI OSMAN

MATRIC NUMBER: S63609

TOPIC: TOURIST HELPER APP

COURSE: BACHELOR OF COMPUTER SCIENCE (MOBILE COMPUTING) WITH HONORS

FACULTY: FACULTY OF OCEAN ENGINEERING TECHNOLOGY AND INFORMATICS

LECTURER: DR MOHAMAD NOR BIN HASAN

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GITHUB LINK: https://github.com/AfiqahHazirah206/S63609-Project2.git

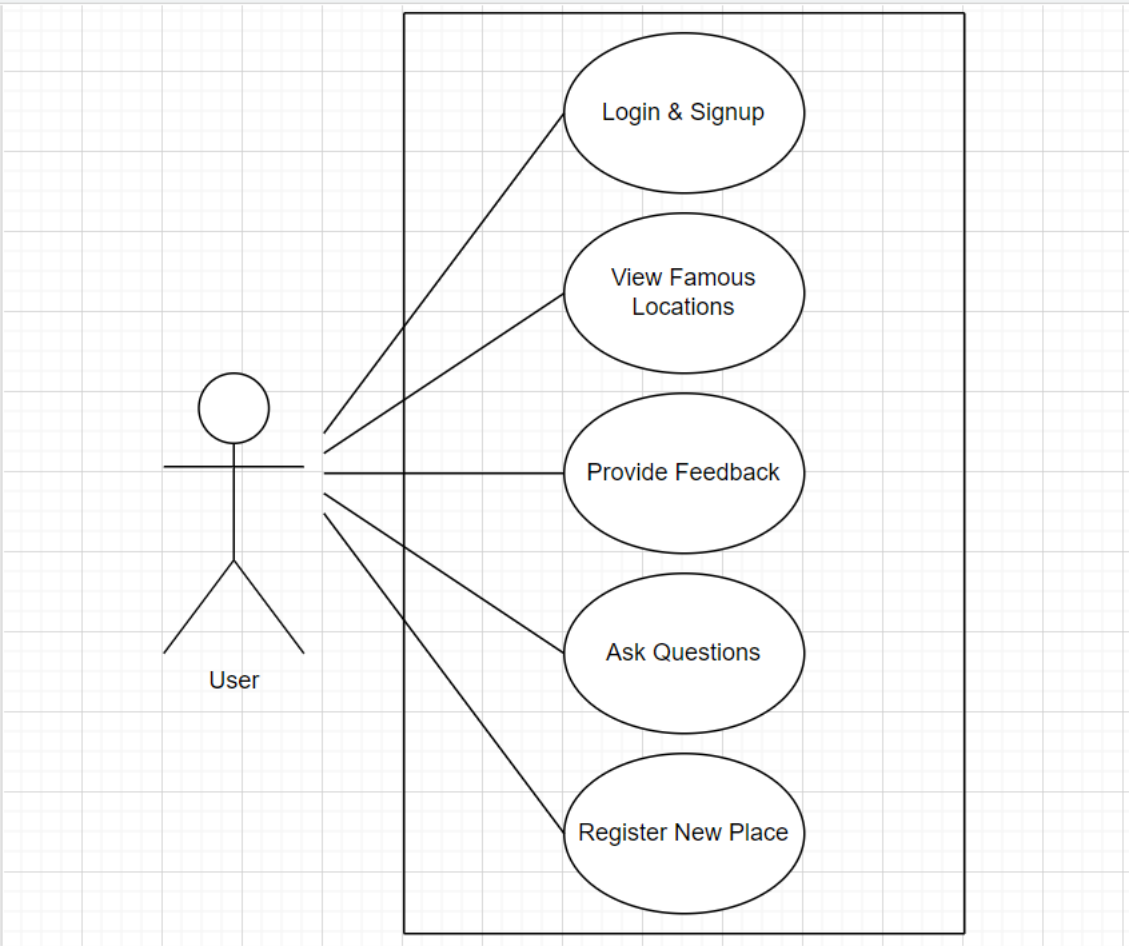
EXECUTIVE SUMMARY

With its feature-rich and intuitive interface, the Tourist Helper App is a feature-rich mobile application that aims to improve users' travel experiences. The app's main goals are to make travel-related tasks easier, increase user involvement, and guarantee a smooth user experience from start to finish. The key feature of the app includes:

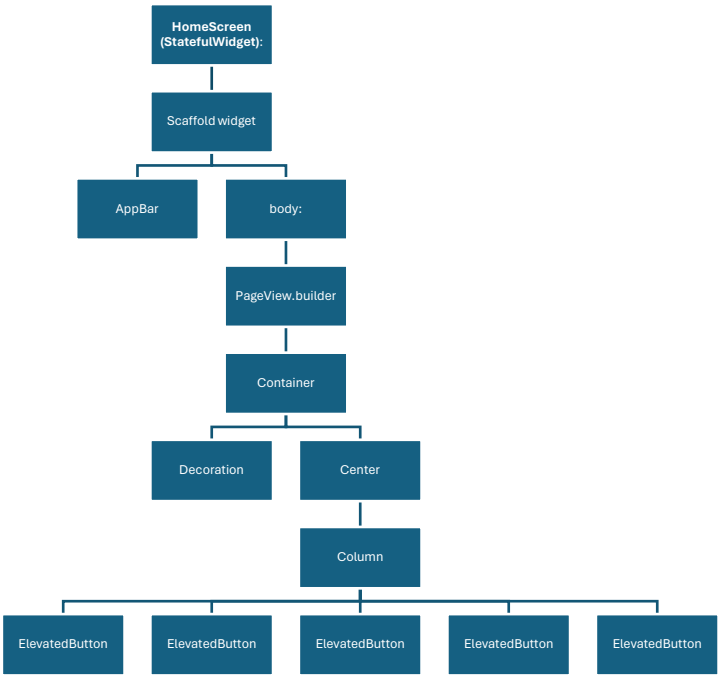
1. User Authentication
    - Safe and easy login as well as sign-up procedures for users.
    - Customized accounts for monitoring activities and preference setting.
2. Register Place
    - Easy registration and bookmarking of your favourite spots thanks to the simple interface.
    - Comprehensive labelling approach to classify and arrange places that have been officially registered.
3. View Location
    - The application delivers a hand-picked selection of ten well-known travel locations.
    - In-depth details on every location, comprising travel package cost, ratings, and pertinent information.
4. Feedback by Categories
    - A customized platform for feedback that lets users discuss their travels according to pre-established categories like general, attractions and services.
    - Incorporate testimonials for every category to help users make wise choices.
5. Q&A Features
    - Continuous Questions and Answers system allows for interaction between users.
    - Advice from the community for questions pertaining to travel, encouraging a sense of belonging and mutual understanding.

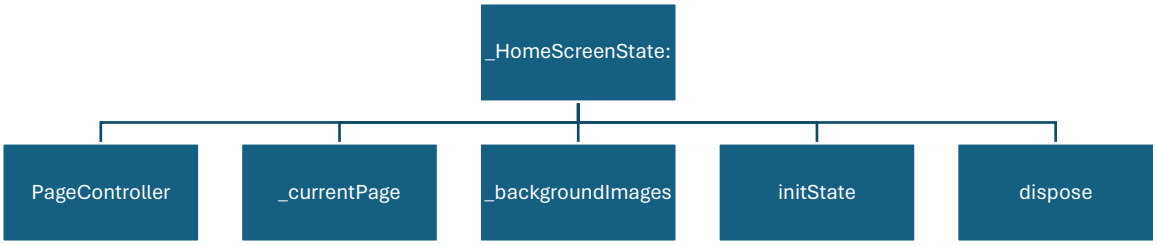
The application makes sure that the user interface is simple by providing details about a carefully selected list of well-known locations. The app is a useful trip companion for individuals who are visiting famous locations because users can quickly find information about the ten locations. The original plan for the app was to retrieve actual data via tourism and travel-related sites; yet, currently it displays fixed dummy data regarding the listed locations because of difficulties in acquiring a specific API.

USE CASE


Login & Signup
View Famous Locations
Provide Feedback
Ask Questions
Register New Place
User

COMMON STRUCTURE OF TREE WIDGETS USED WHEN DESIGNING & DEVELOPING THE APPLICATION





FLUTTER WIDGET & FEATURES ADOPTED IN THE APPLICATION

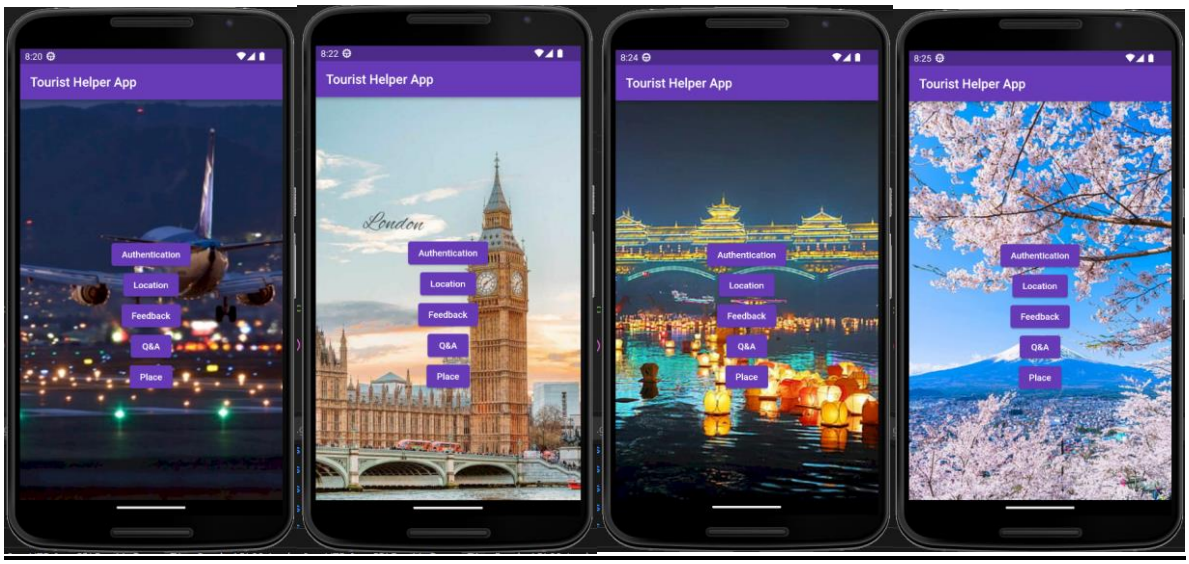
1. Home Screen (Stateful Widget):
    - Scaffold widget: Represents the basic structure of the screen.
    - AppBar: Displays the app bar with the title "Tourist Helper App."
    - body: The main content of the screen.
    - PageView.builder: A scrollable list of pages where each page is a container with a background image and buttons.
    - Container (for each page):
    - Decoration with an image background using DecorationImage.
    - Center widget: Centers the content vertically and horizontally.
    - Column: A column containing a list of elevated buttons.
    - ElevatedButton for Authentication.
    - ElevatedButton for Location.
    - ElevatedButton for Feedback.
    - ElevatedButton for Q&A.
    - ElevatedButton for Place.
2. _HomeScreenState:
    - PageController: Manages the page navigation in the PageView.
    - _currentPage: Keeps track of the current page index for background image changes.
    - _backgroundImages: List of asset paths for background images.
    - initState: Initializes the state and sets up a timer to change the background image automatically.
    - dispose: Disposes of resources when the widget is removed.
3. Tourist Helper App (Stateless Widget):
    - MaterialApp: Represents the root of your Flutter application.
    - debugShowCheckedModeBanner: Disables the debug banner in the top-right corner.
    - title: Sets the title for the app.
    - theme: Customizes the overall theme of the app using ThemeData.dark().
    - colorScheme: Defines the color scheme for the app, with the primary color customized to Colors.deepPurple.
    - scaffoldBackgroundColor: Sets the background color for the scaffold.
    - You can add more customizations here if needed.
    - home: Sets the default screen of the app to HomeScreen().
4. Feedback Screen (Stateful Widget):
    - Scaffold widget: Represents the basic structure of the screen.
    - AppBar: Displays the app bar with the title "Feedback."

- body: The main content of the screen.
- Container with background image:
- ElevatedButton: Triggers the loading of dummy feedbacks for each category.
- Expanded: Takes the remaining vertical space for the list of feedbacks.
- ListView.builder: Builds a scrollable list of feedback categories.
- Column: Represents each category with its associated feedbacks.
- Text: Displays the category name.
- ListView.builder: Builds a list of feedback items for each category.
- ListTile: Displays each feedback item.
- Divider: Adds a visual separator between categories.
- ElevatedButton: Triggers the display of a feedback form as a popup.
- showDialog: Displays an AlertDialog for adding feedback.
- Column: Contains input fields for category and feedback, and a submit button.

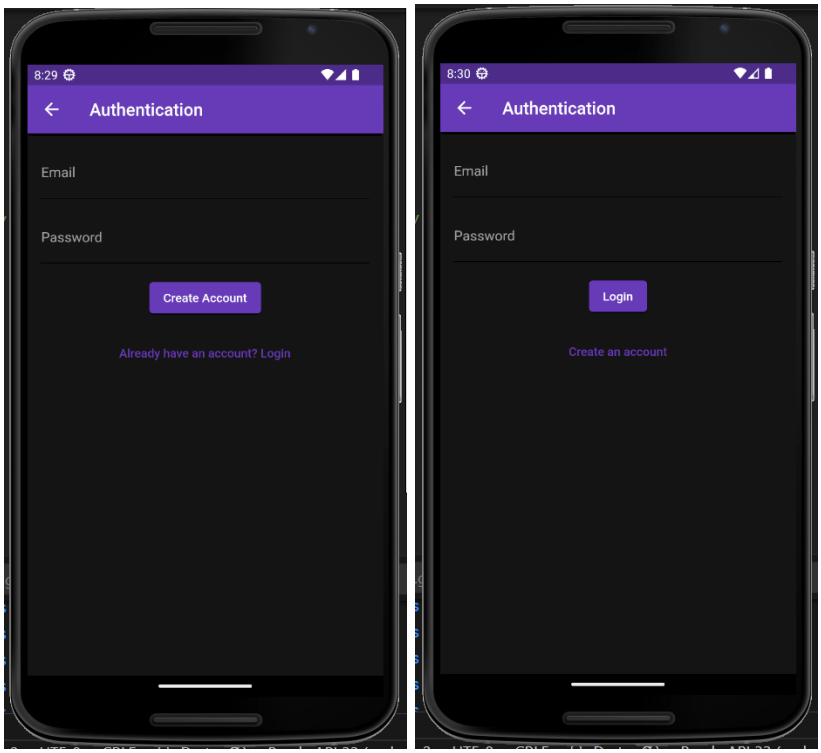
5. _FeedbackScreenState:
    - FeedbackService: An instance of a service handling feedback-related logic.
    - feedbackMap: A map to store feedback categorized by category.
    - TextEditingController: Controllers for feedback and category input fields.
6. Location Detail Dialog (Stateless Widget):
    - AlertDialog: Represents a dialog with a title, content, and actions.
    - title: Displays the name of the location from the provided locationDetails map.
    - content: Column containing various widgets to display details about the location.
    - Image.asset: Displays the location's photo from the provided asset path.
    - Text: Displays the country of the location.
    - Text: Displays the cost for the trip package in USD.
    - Row: Displays the rating using the RatingBar widget.
    - Text: Displays the description of the location.
    - actions: Contains a TextButton for closing the dialog.
    - onPressed: Callback to close the dialog when the "Close" button is pressed.
7. Location Screen (Stateless Widget):
    - LocationScreen (StatelessWidget):
    - Scaffold widget: Represents the basic structure of the screen.
    - AppBar: Displays the app bar with the title "Famous Tourist Locations."
    - body: The main content of the screen.

- ListView.builder: Builds a scrollable list of locations using the provided famousLocations list.
- ListTile for each location:
- Text: Displays the name of the location.
- CircleAvatar: Displays a circular avatar with the location's photo.
- onTap: Opens a dialog with detailed information about the selected location using the LocationDetailDialog.

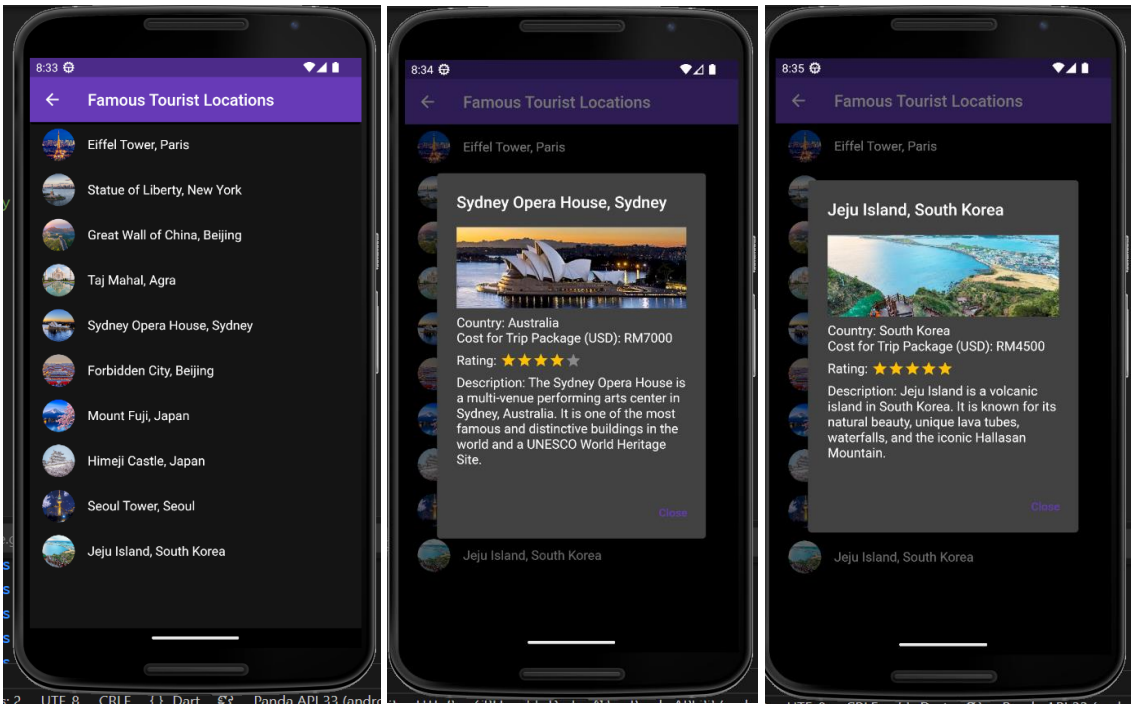
SAMPLE OF INTERFACE



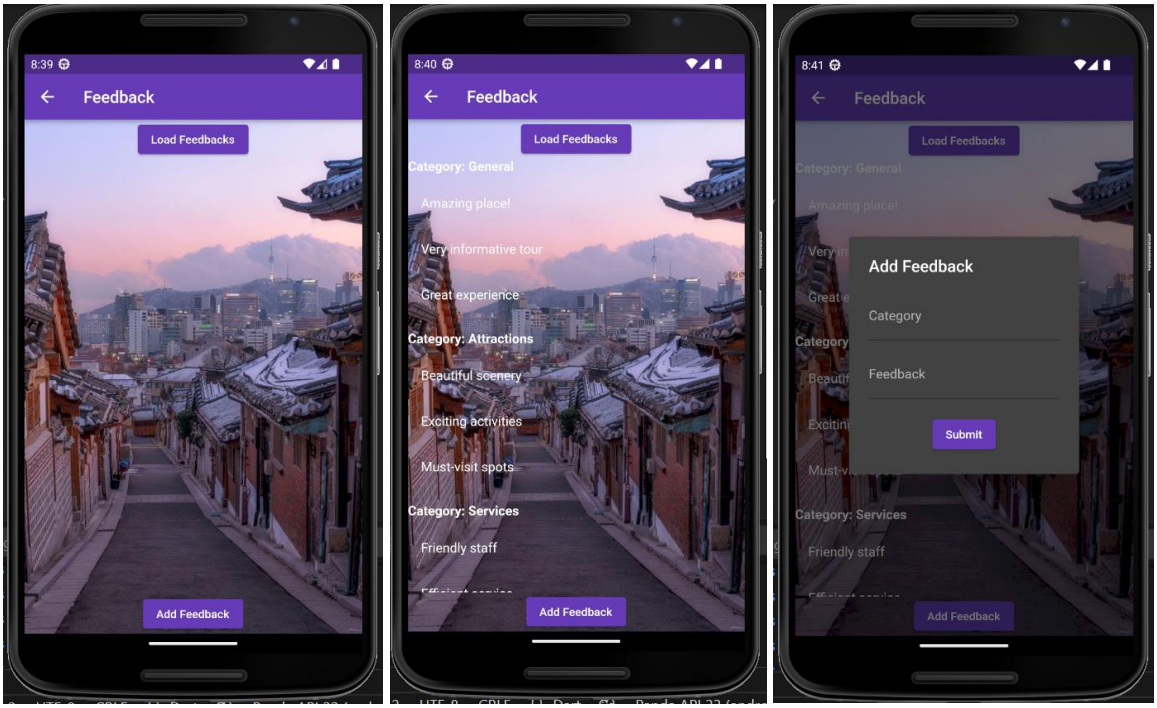
Home Screen – basically is the main page that user will see once they open the application. Here I implemented 4 different backgrounds that automatically changes after a fixed time which is 4 seconds for my case. It is the page to navigate to other functionalities in the app.



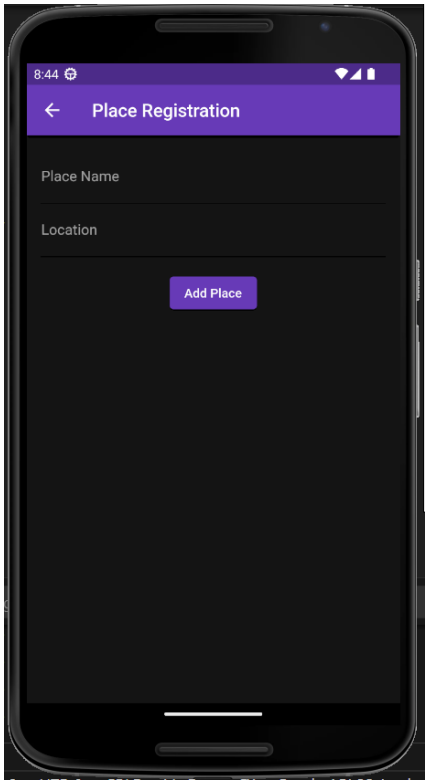
Authentication Screen – the place for users to create a new account when first time using the application and the page for users to login to their account.



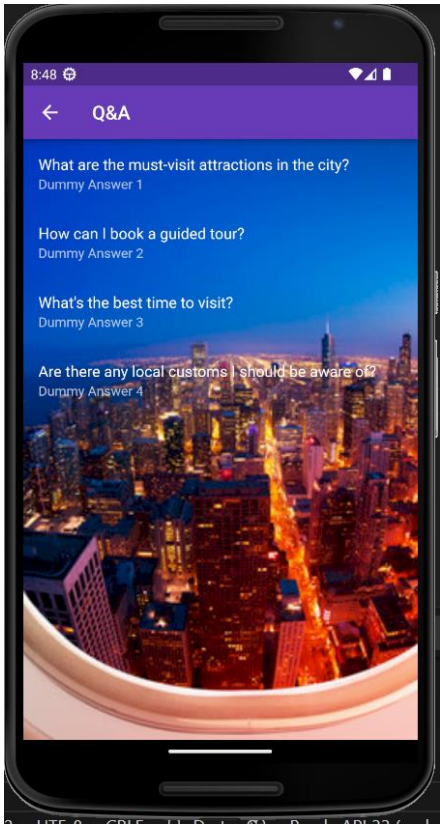
Location Screen – displays the current top famous tourist locations in a list and a circular icon with a photo of the famous location. Each of the locations in the list can be tap and it will display a popup for further details of the location.



Feedback Screen – displays a list of feedback by users who have experienced the travel package provided and are divided into 3 different categories. Users can also easily add their feedback by tapping the Add Feedback button.



Place Registration Screen – for users to add their favourite tourist location to be registered in the application.



Q&A Screen – for users to add their questions and usually it can be answered by other users anonymously.

CONCLUSION

In conclusion, users' travel experiences can be improved with the help of the comprehensive and user-focused Tourist Helper App. The app tackles important facets of travel-related procedures with an emphasis on effectiveness, user involvement, and clarity. A Q&A system, place registration, location viewing, user authentication, category-based feedback, and location viewing are among the primary features.

The app provides a carefully chosen list of ten top tourist attractions for destination exploration, along with comprehensive details about travel package prices, reviews, and other pertinent information. Knowledge-based decision-making is promoted by the feedback system, which enables users to express their experiences within predefined categories. By giving users a place for searching and discuss travel-related findings, the Q&A feature fosters social interaction among users.

Although the original plan was to retrieve real-time information from tourism portals, the current version uses fixed dummy data for the locations listed because a particular API was difficult to obtain. Nevertheless, because it provides instant

access to details about the carefully chosen destinations, the app continues to be a useful tool for users visiting well-known spots.

To sum up, the Tourist Helper App is proof of its dedication to streamlining travel-related chores and encouraging community involvement, offering users a useful and educational resource for a more pleasurable trip.

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