Test Project

Session 2 – Map Navigation

IT Software Solutions for Business

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Introduction to Test Project

This project is an offline-map application. Its functional modules include map display, route planning, nearby restaurant and attraction search, review management for restaurants and attractions, and user profile management.

In this module, contestants can use the self-implemented API interfaces from Session 1. If contestants have not completed the APIs for Session 1 and want to avoid impacting the development of the second module, they may use the provided standard API service instead. Under this circumstance, contestants need to follow the **API Server Deployment Guide** to launch the standard-version API service.

Instructions to the Competitor

Files to Submit:

- A directory containing the complete source code
- Session1_README.txt: A README file with instructions on how to launch the App application, plus optional additional notes for the judging panel

All above files and directories shall be placed inside the Competitor-Module2 folder for submission.

Other Requirements and Notes

- All developed Android UIs shall follow the provided prototype design strictly with neat layout, consistent style and clean visual appearance.
- The project shall ensure all Android pages run stably with proper data display and no application crashes or runtime exceptions.
- Input box legality verification, network exception prompt and empty-data page processing need to be added for all interactive pages.

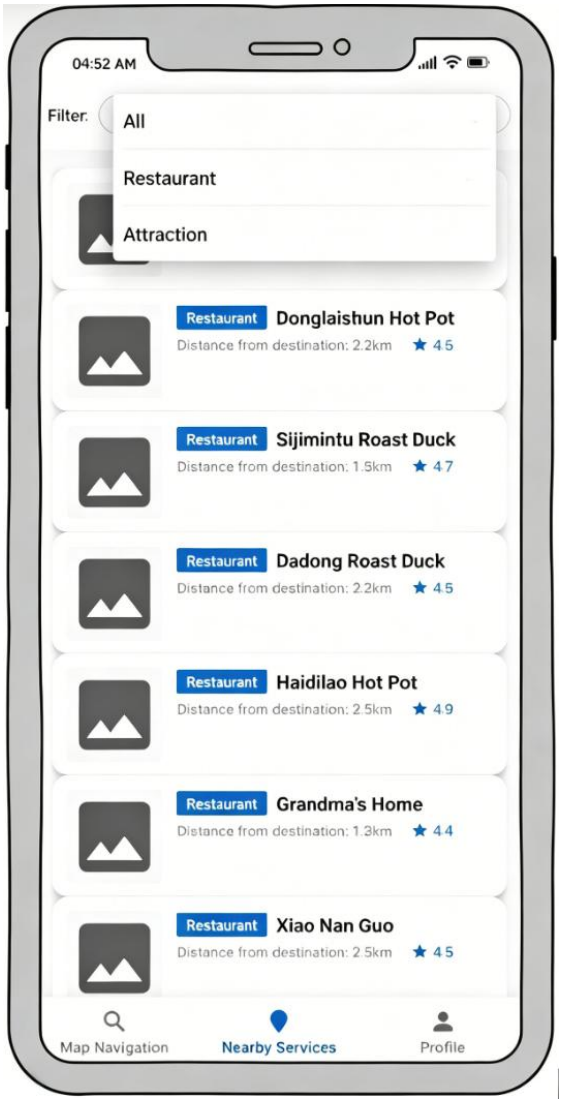
Description of project and tasks

Create a mobile application named Model2. In this phase, develop the mobile application with the Model1 API service.The app includes three bottom navigation tabs: Map Navigation, Nearby Services and Profile.

2.1 Nearby Services

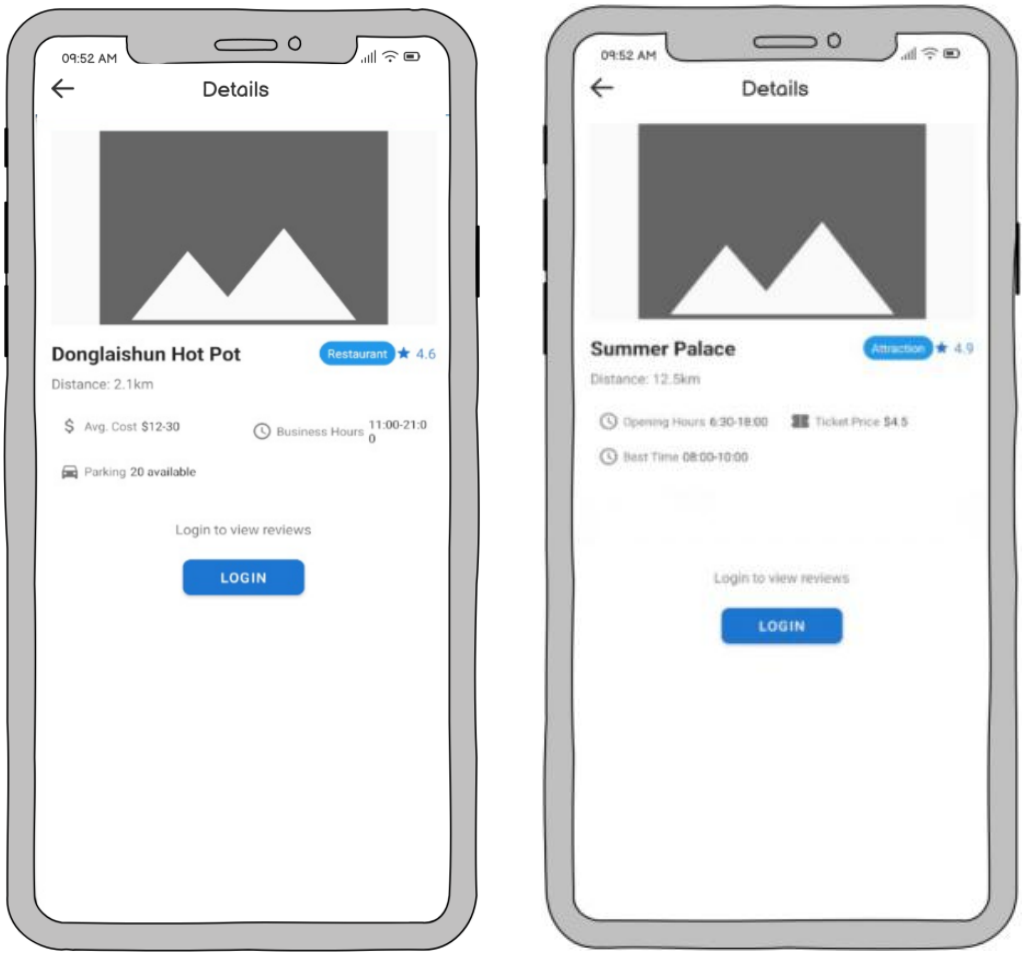
Select appropriate APIs from the provided API list to implement the functions.

- Tap the **Nearby Services** option on the bottom navigation bar to enter the corresponding page, where a recommendation list of nearby services is displayed. Users may filter items by category: **Restaurants** or **Attraction** (Scenic Spots). Each list entry consists of venue name, distance to destination, cover image and user rating score.

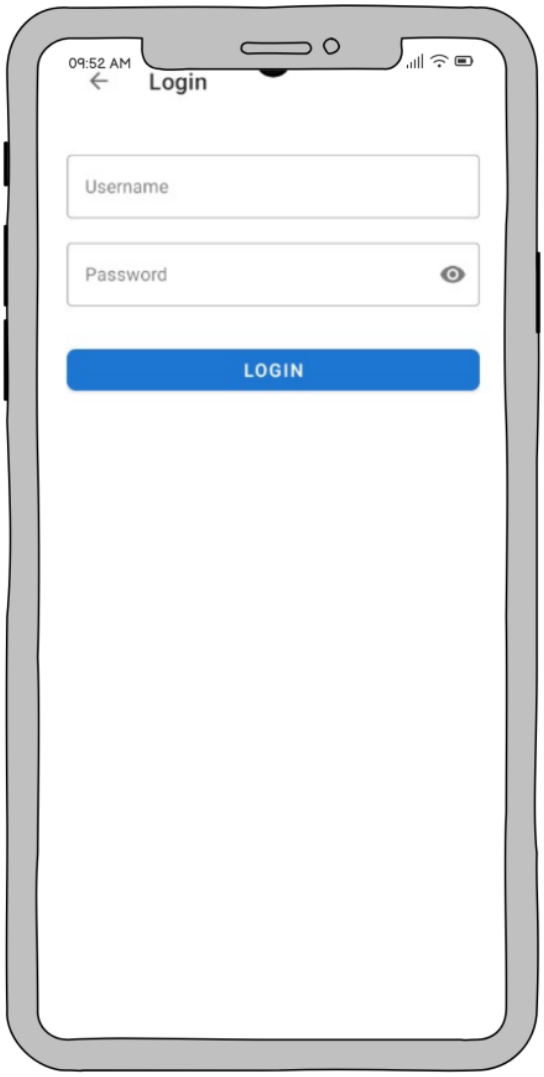


- Tap a restaurant or attraction entry on the list to open its detail page.
- If the user is not logged in, a Login button is displayed at the bottom of the detail page and user reviews are hidden.

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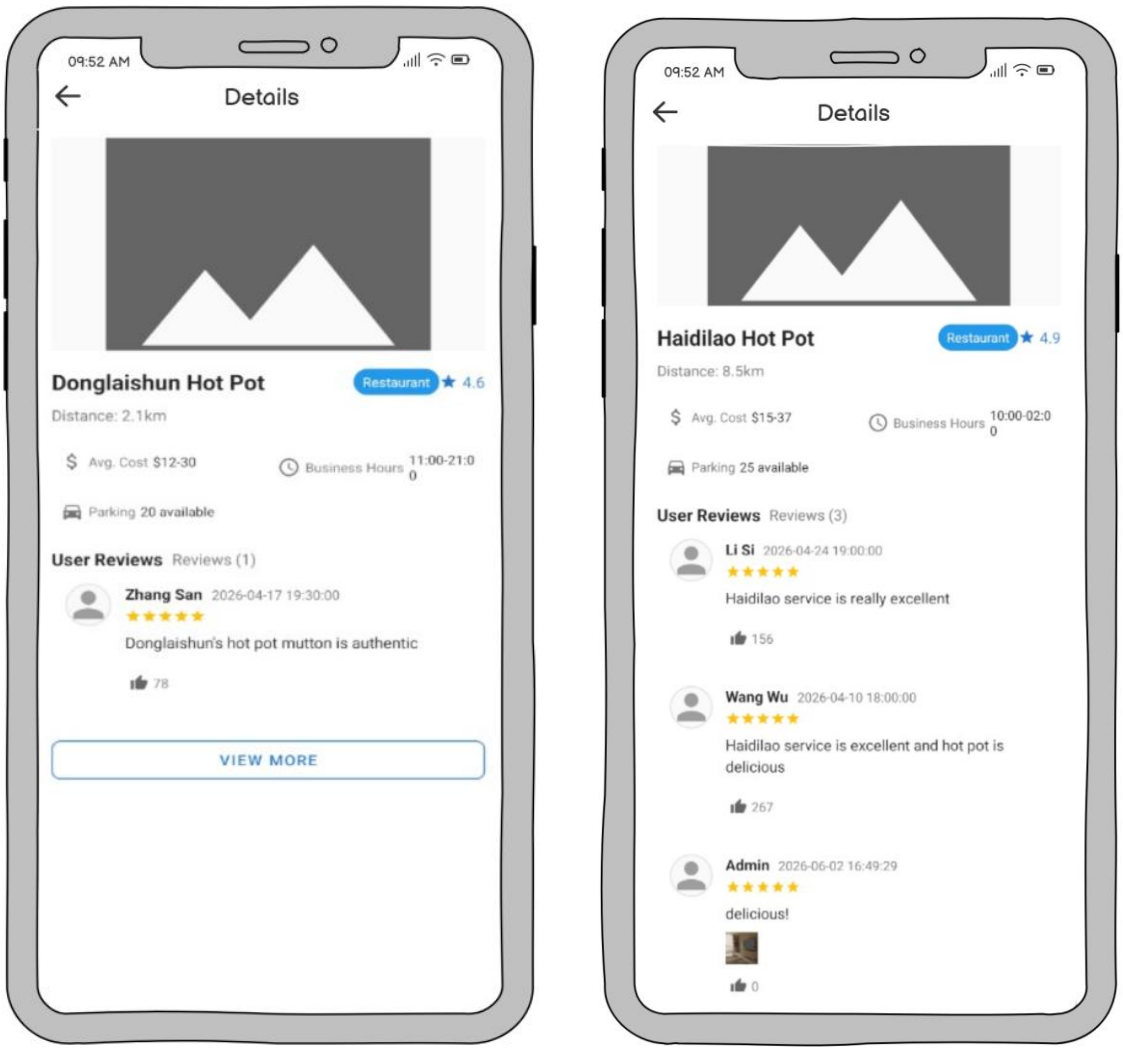


- Tap to open the login page, then input username and password to sign in (default account: username user1, password 123456).
- If the username or password is incorrect, a pop-up message prompts: "Invalid username or password, please try again."



- The restaurant detail page contains: restaurant image, restaurant name, average cost（Price Range）, business hours, remaining parking space, rating, distance to destination and user reviews.
- The attraction detail page contains: attraction image, rating, distance to destination, opening hours, ticket price, recommended visiting period and user reviews.
- Each user review consists of: user avatar, username, comment posting time, comment text, star rating, thumbnail of review photo and like count.

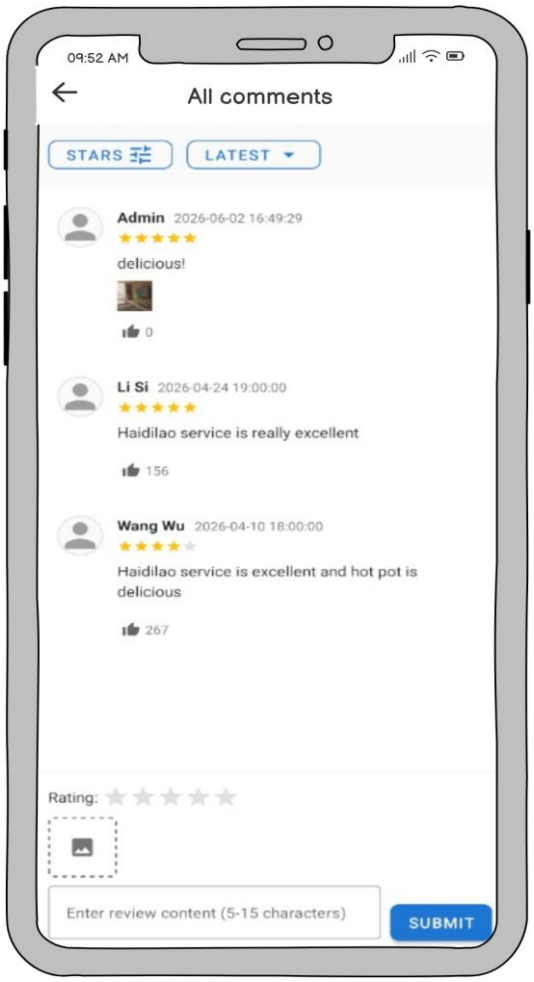
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2.2 Review Management

- Select appropriate APIs from the provided API list to implement the functions.
- Tap the View More button to navigate to the review list page.
- Each list item includes: user avatar, username, comment date, comment content, star rating and review image thumbnail.
- Filter list by Starts selection, and order list by Latest selection (order publish time Ascending/Descending).
- The comment input area enables star rating selection and text entry of 5 to 15 characters; the input box displays remaining character count in real time. Users may upload 1 to 3 review photos. Tap the Submit Review button and the review list refreshes instantly upon submission.

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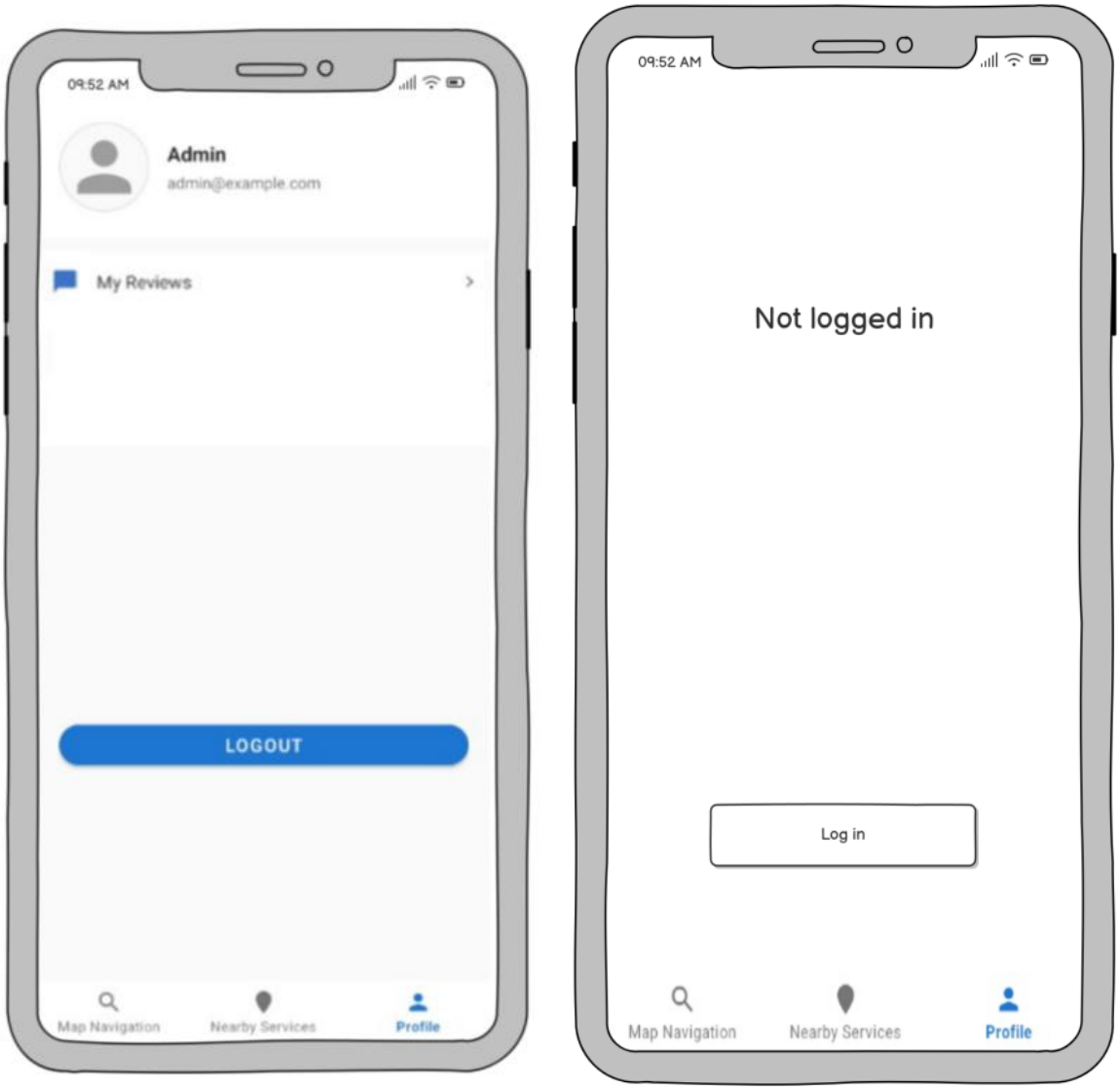


2.3 User Profile

Select appropriate APIs from the provided API list to implement the functions.

- Users tap the **Profile** option on the bottom navigation bar to enter the page.
- When logged in, the page displays user avatar, username and email. Below are entrances for My Reviews and a Log Out button; tapping the button signs out the current account.
- When not logged in, the profile area shows the text "Not Logged In", and the bottom button changes to **Login**.

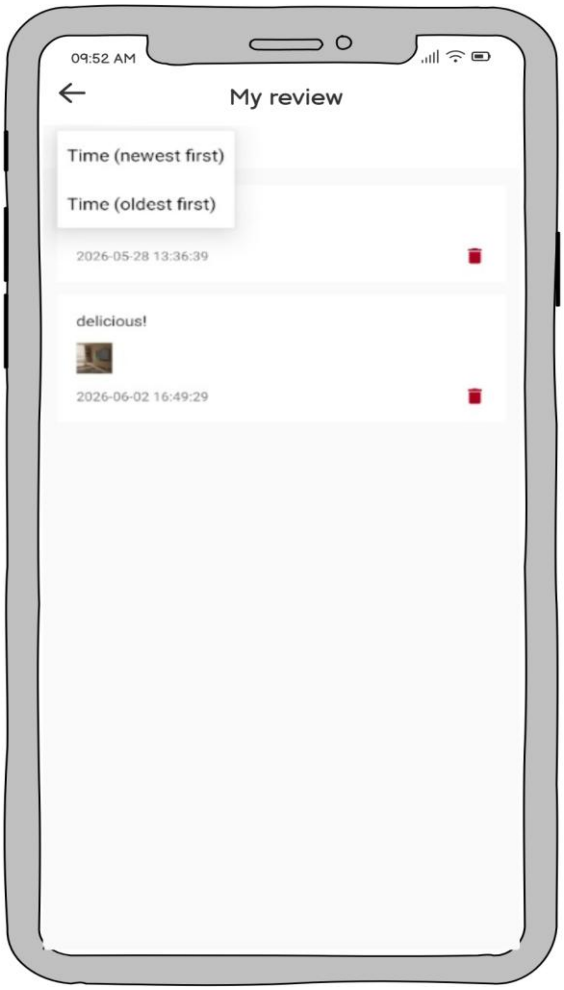
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2.3.1 Personal Review Management

Select appropriate APIs from the provided API list to implement the functions.

- On **Profile** page, tap the **My Review** button to open the page, which displays a full list of all reviews submitted by the logged-in user. Each list item includes review content, review images and post time.
- Sorting by post time is available via drop-down options: ascending or descending order.
- Users may delete their own reviews; once deleted, the corresponding entry is removed from the review list of the relevant restaurant or attraction.



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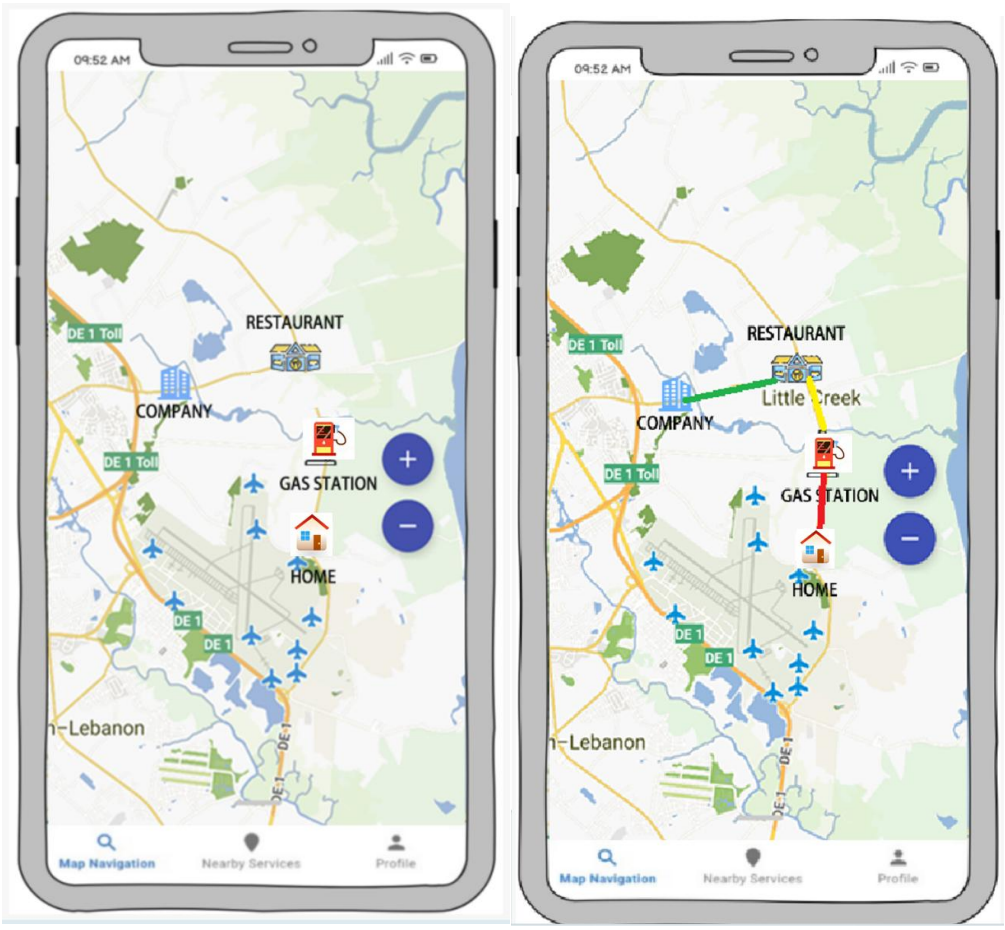
2.4 Map Navigation

2.4.1 Map Display with Zoom Functionality

Render a map on the page; floating **Zoom In(+)** and **Zoom Out(-)** buttons are fixed on the right side of the screen. Users can tap the two buttons to scale the map.

2.4.2 Set Start and Destination coordinates

- On the map image, set the starting point as Home, with intermediate points Gas Station and Restaurant in sequence, and the destination as Company.
- Route segment from Home to Gas Station: congested, displayed in red.
- Route segment from Gas Station to Restaurant: slow moving, displayed in yellow.
- Route segment from Restaurant to Company: normal traffic, displayed in green.



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