



## **Project 2 CSM3114**

Guided By: Dr. Mohamad Nor Bin Hassan

Prepared By:

Name	Chong Qi Zheng
Matric No	S65487
Program	Bachelor of Computer Science (Software Engineering) with Honours
Course	Framework-Based Mobile Application Development

# Table of Contents

<b>1. Summary.....</b>	<b>2</b>
<b>2. Use Case .....</b>	<b>3</b>
<b>3. Common Structure of Tree Widgets .....</b>	<b>4</b>
<b>4. Flutter Widget and Features .....</b>	<b>6</b>
<b>5. Sample UI and Explanation .....</b>	<b>8</b>
<b>6. Conclusion .....</b>	<b>11</b>
<b>7. References.....</b>	<b>12</b>

# 1. Summary

---

The Smart Parking App is a user-friendly and highly efficient mobile application designed to assist users in finding specific parking slots. To use this application, users need to register for an account if they don't already have one. Registration requires basic information, including a username, phone number, car plate number, and a password. Each car plate number can only be associated with one account.

Upon logging in, users are presented with three main functions. First is the 'View and Update Parking Information' feature, where users can see their personal information, such as name, phone number, car plate number, and current parking slot. If the user hasn't selected a parking slot, the status will be marked as '-'. Users can register for their entrance parking slot by selecting the level, area, and slot. Exiting a parking slot is as simple as clicking the 'exit' button.

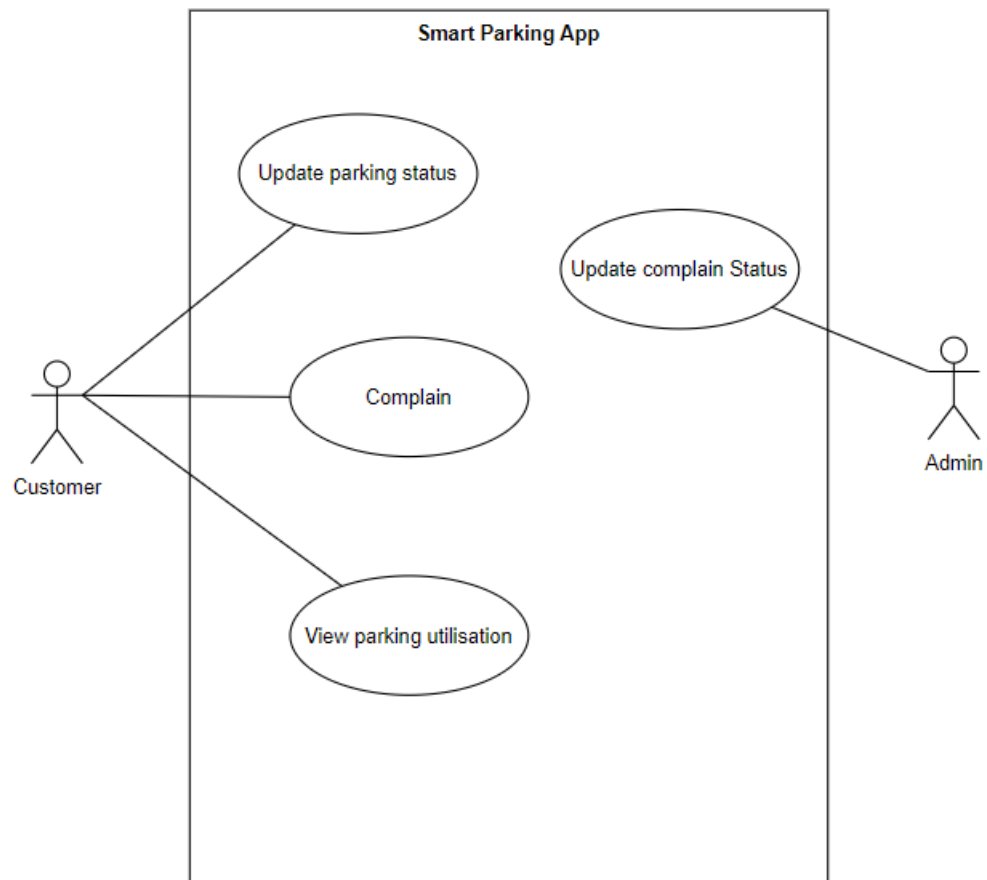
The second feature is 'View Parking Utilization.' After selecting the level and area, users can view available slots. Available slots are displayed in blue, while reserved parking slots are shown in red.

The third feature is 'Complaints.' Users have the option to file complaints related to car or parking slot issues. A complaint history section allows users to view the status of their complaints, whether they have been resolved or cancelled.

The Smart Parking App aims to provide a seamless and convenient experience for users managing their parking needs.

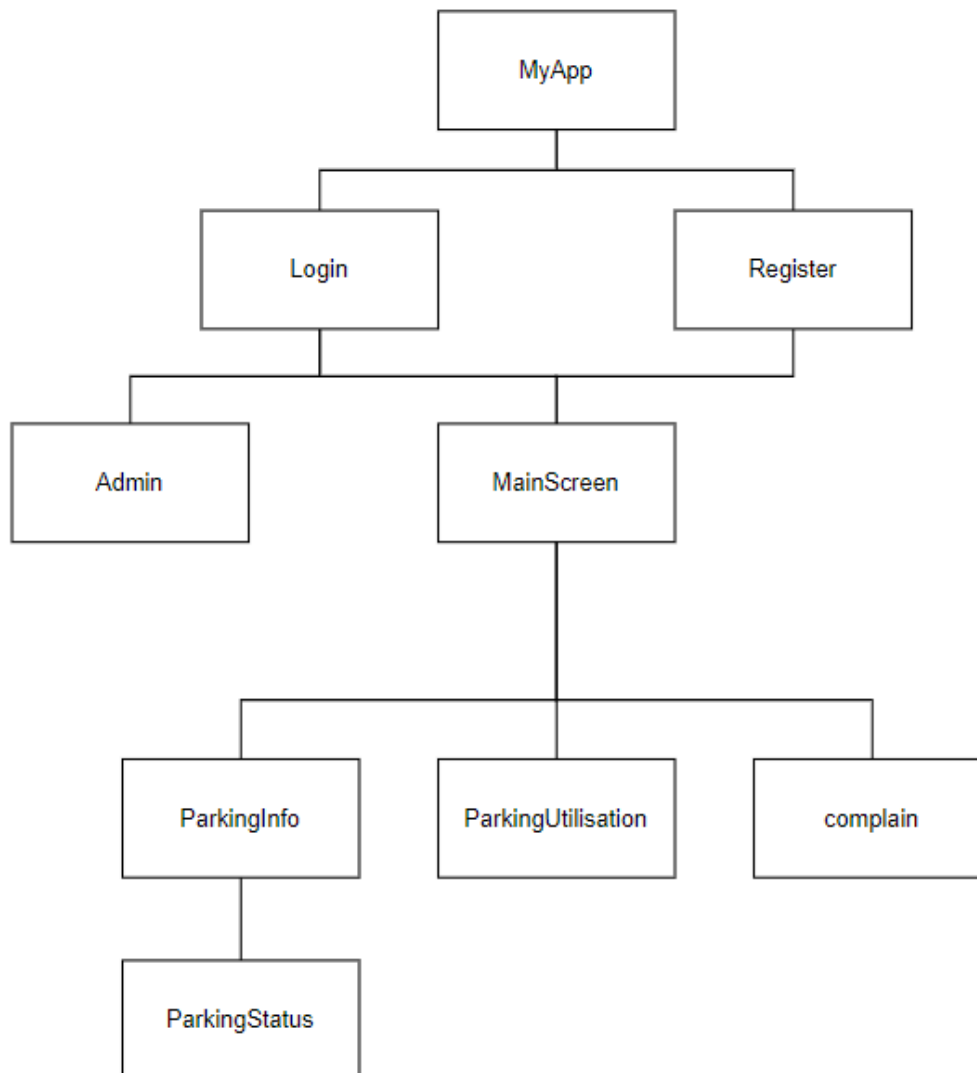
## 2. Use Case

---



### 3. Common Structure of Tree Widgets

---



Login – Log in back to existing account

Register – User needs to register if they don't have account

Admin – Admin uses to update complain Status

MainScreen – Navigate to ParkingInfo, Parking Utilisation and complain

ParkingInfo – Customer can view their parking status

ParkingStatus – Customer can update their parking status

ParkingUtilisation – Customer can view for the available parking slot

Complain – Customer can do complain with the car or parking slot

## 4. Flutter Widget and Features

---

Flutter Widget and Features that I adopted in the application

- a. MaterialApp  
Main design for application
- b. Scaffold  
Implements the basic Material Design
- c. Navigator  
Navigate to other page
- d. Center  
Centers its child within itself
- e. BottomNavigationBar  
Change screen when clicking it
- f. AppBar  
Use to put title and action
- g. Column  
Children inside it will become vertical
- h. ListView  
A scrollable list of widgets arranged linearly

i. ListTile

A single fixed-height row that typically contains some text as well as a leading or trailing icon.

j. ElevatedButton

Button to do some function

k. SizedBox

Wrap child inside it with size

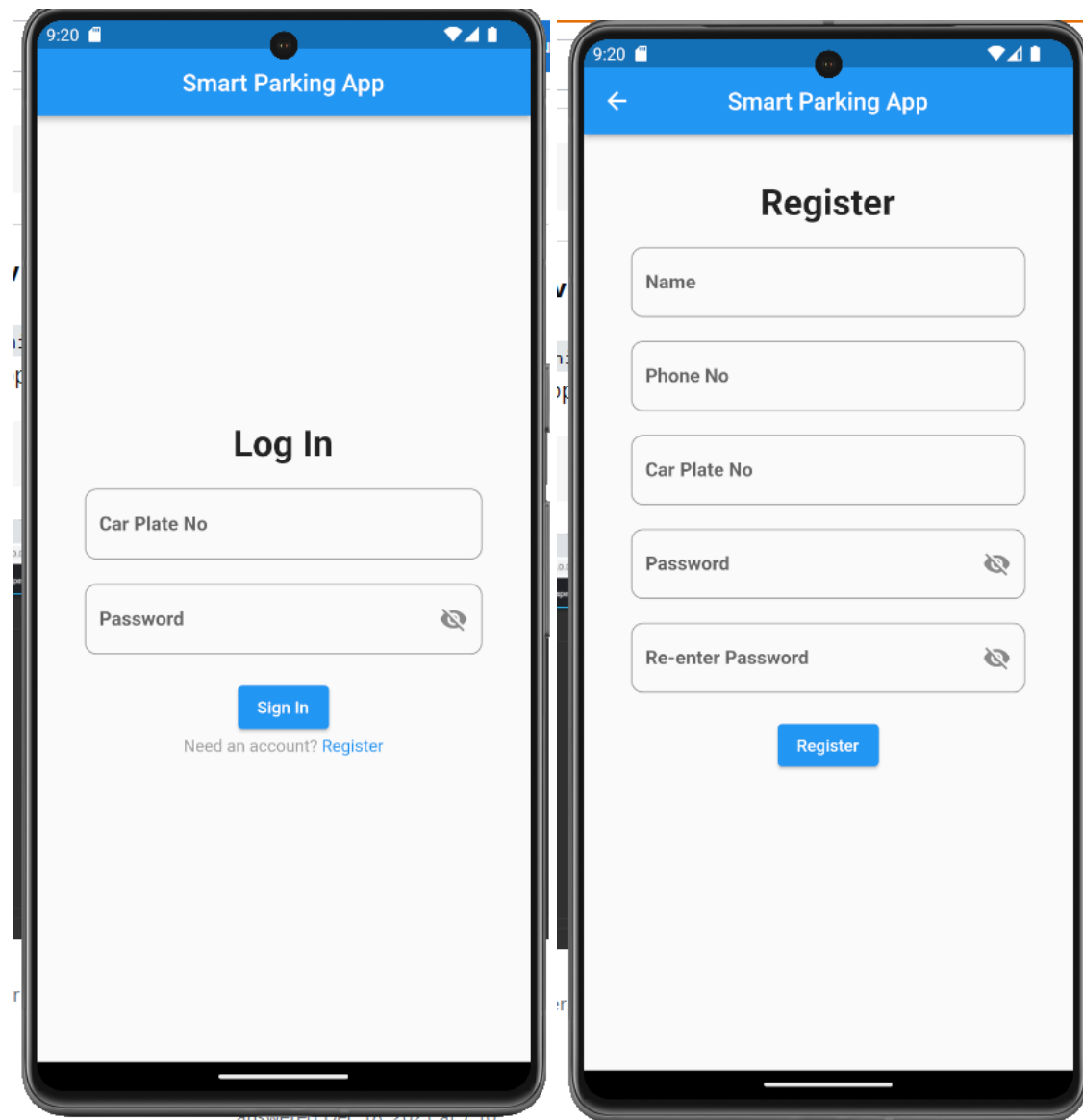
l. Container

Wrap child inside it with size

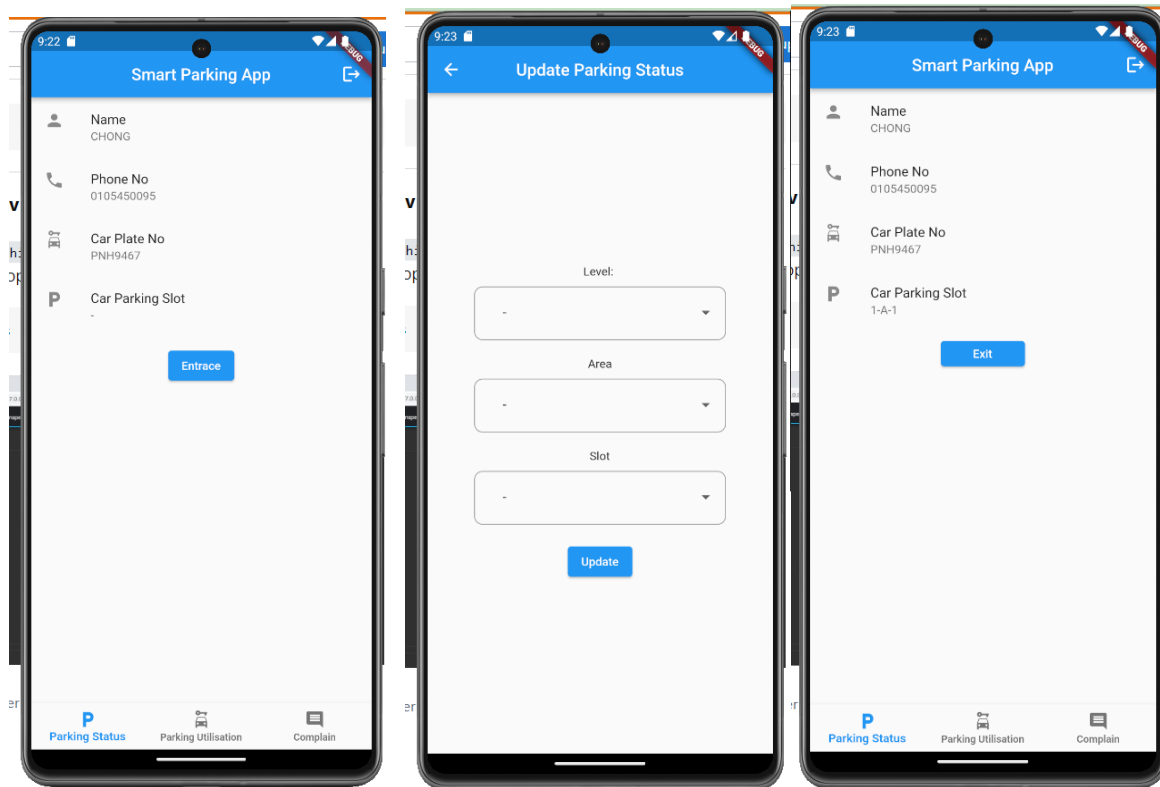


## 5. Sample UI and Explanation

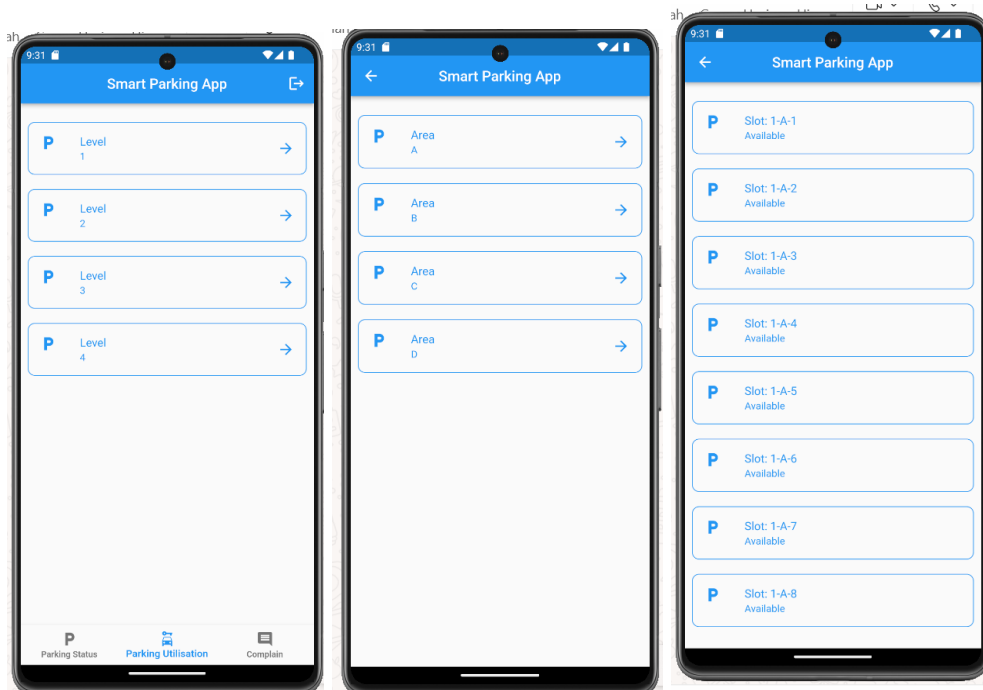
---



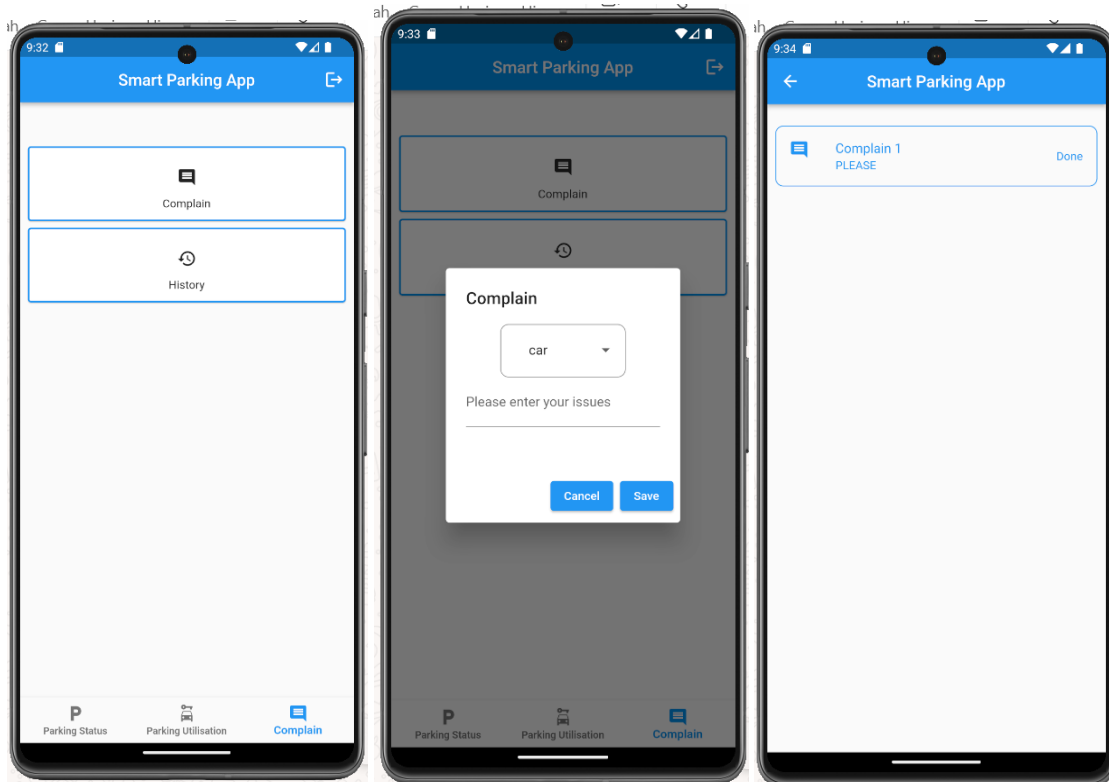
- 1) Log In – Car Plate No must be registered already, and password must be correct
- 2) Register – Car Plate No cannot be registered twice, password must be at least 8 characters.



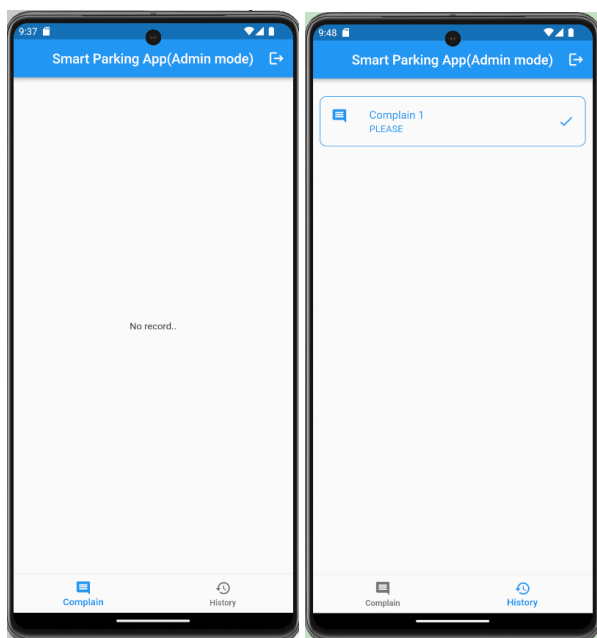
Customer can select parking slot by select level, area, and slot. If customer want to go out just simplify click exit button.



Customer can view available by select level and area. Available parking slot will be presented in blue colour



Customer can complain by clicking complain button. After that, customer can view status in history.



Admin can clicking the complain after fix it.

## **6. Conclusion**

---

In conclusion, the Smart Parking App emerges as a trending mobile application that significantly enhances our daily lives. The app eliminates the need for traditional ticket machines in parking slots, allowing users to effortlessly enter parking areas using just their phones. This modern solution not only simplifies the user experience but also presents a cost-effective alternative for companies, eliminating the need to invest in and maintain ticket machines. The Smart Parking App represents a step forward in leveraging technology to streamline and improve everyday tasks.

## 7. References

Flutter-Dart API docs. (n.d.). Api.flutter.dev.

<https://api.flutter.dev/index.html>

Lomibao, L. (2022, May 17). How to Navigate Screens Using BottomNavigationBar - Flutter. Nucleio Technologies IT Solutions.

[https://www.nucleiotechologies.com/how-to-navigate-screens-using-bottomnavigationbar-flutter/#google\\_vignette](https://www.nucleiotechologies.com/how-to-navigate-screens-using-bottomnavigationbar-flutter/#google_vignette)