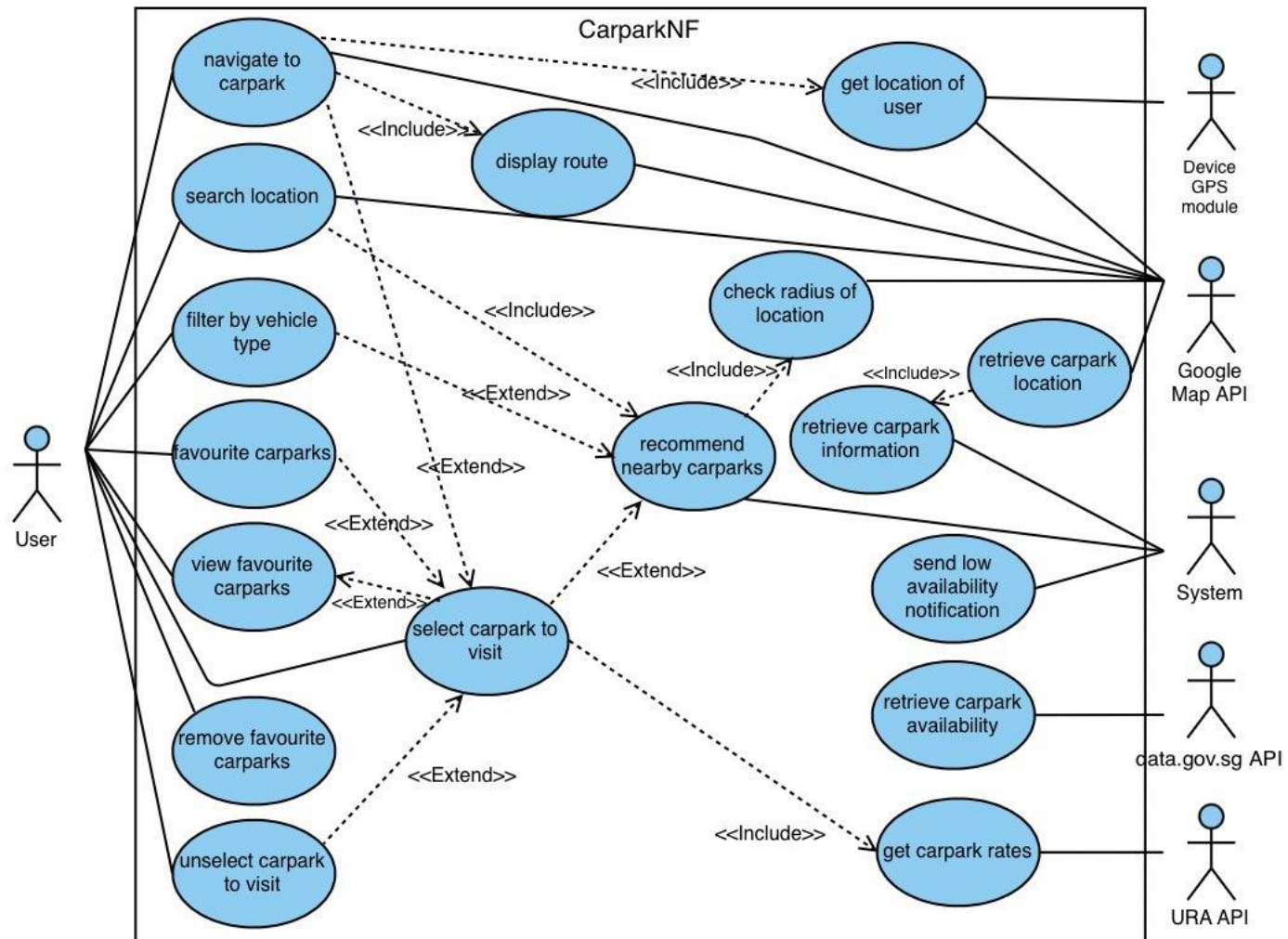
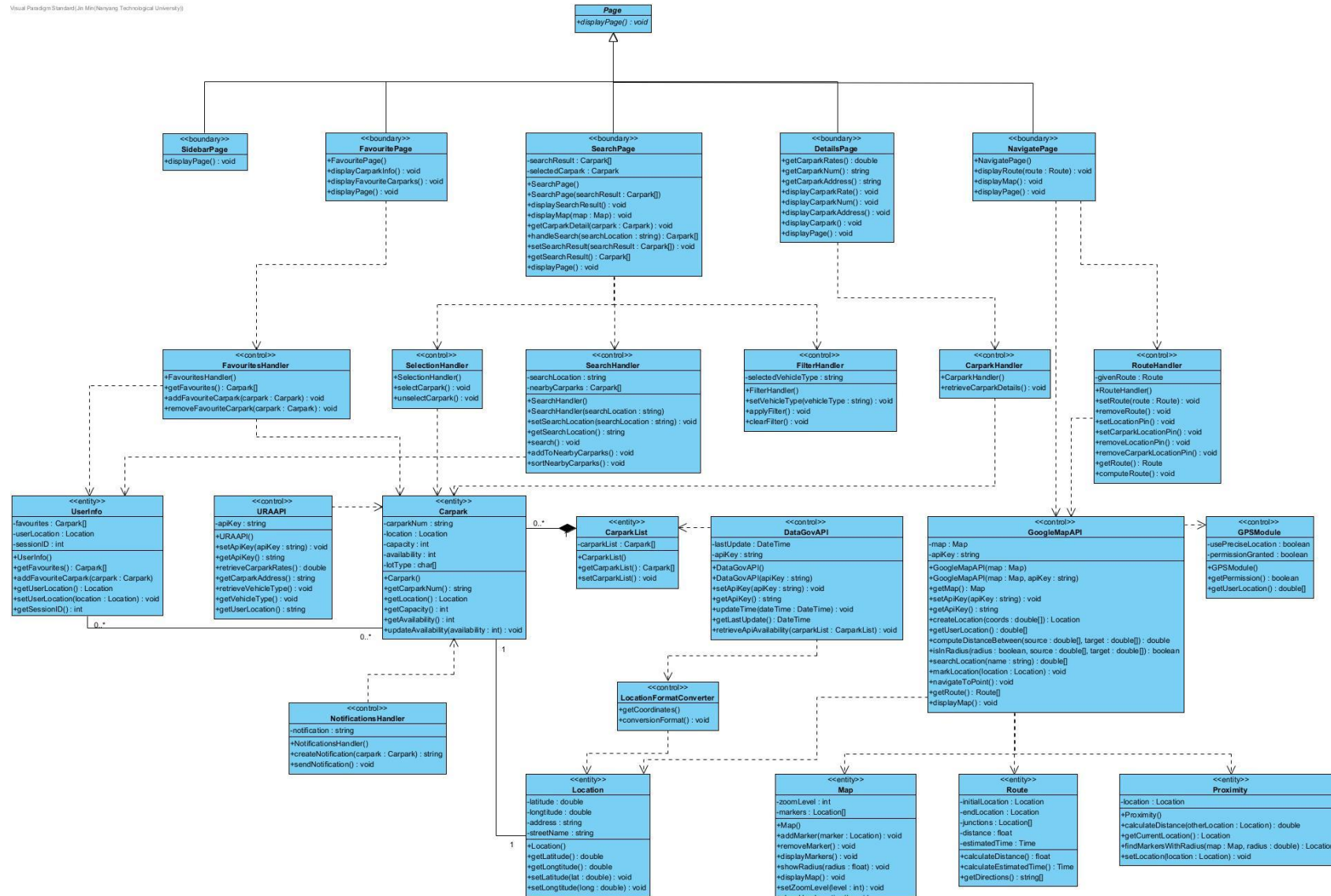


Use Case diagram



Class diagram of entity classes (and boundary and control classes)

Visual Paradigm Standard (Jin Mei/Nanyang Technological University)



Classes (key boundary classes and control classes, and entity classes)

Boundary Classes

1. Page {abstract}
 - a. Abstract class containing general features of a page in the application
2. SidebarPage
 - a. User interface for users to go to the different pages
3. FavouritePage
 - a. User interface for users to view their favourite car parks
4. SearchPage
 - a. User interface for users to search for a location to which the system will recommend car parks near that location
5. DetailsPage
 - a. User interface for users to view details of a car park
6. NavigatePage
 - a. User interface for users to navigate from his location to a selected car park

Control Classes

1. FavouritesHandler
 - a. Control class that provides the logic for users to manage (view, add, remove) favourite car parks
2. SelectionHandler
 - a. Control class that provides the logic for users to select a car park to visit
3. SearchHandler
 - a. Control class that provides the logic for users to search a location
4. FilterHandler
 - a. Control class that provides the logic for users to filter car parks according to vehicle types
5. CarparkHandler
 - a. Control class that provides the logic to retrieve the car park information
6. RouteHandler
 - a. Control class that provides the logic for navigation from user's location to the selected car park
7. URAAPI
 - a. Handles API requests and responses of the URA API for car park rates
8. DataGovAPI
 - a. Handles API requests and responses of the Data.Gov.sg API for car park availability
9. GoogleMapAPI
 - a. Handles API requests and responses of Google Maps API
10. GPSTModule
 - a. Handles the GPS-related functionality
11. NotificationsHandler
 - a. Control class that provides the logic for sending notification to the user
12. LocationFormatConverter
 - a. Handles the conversion of location formats between the APIs

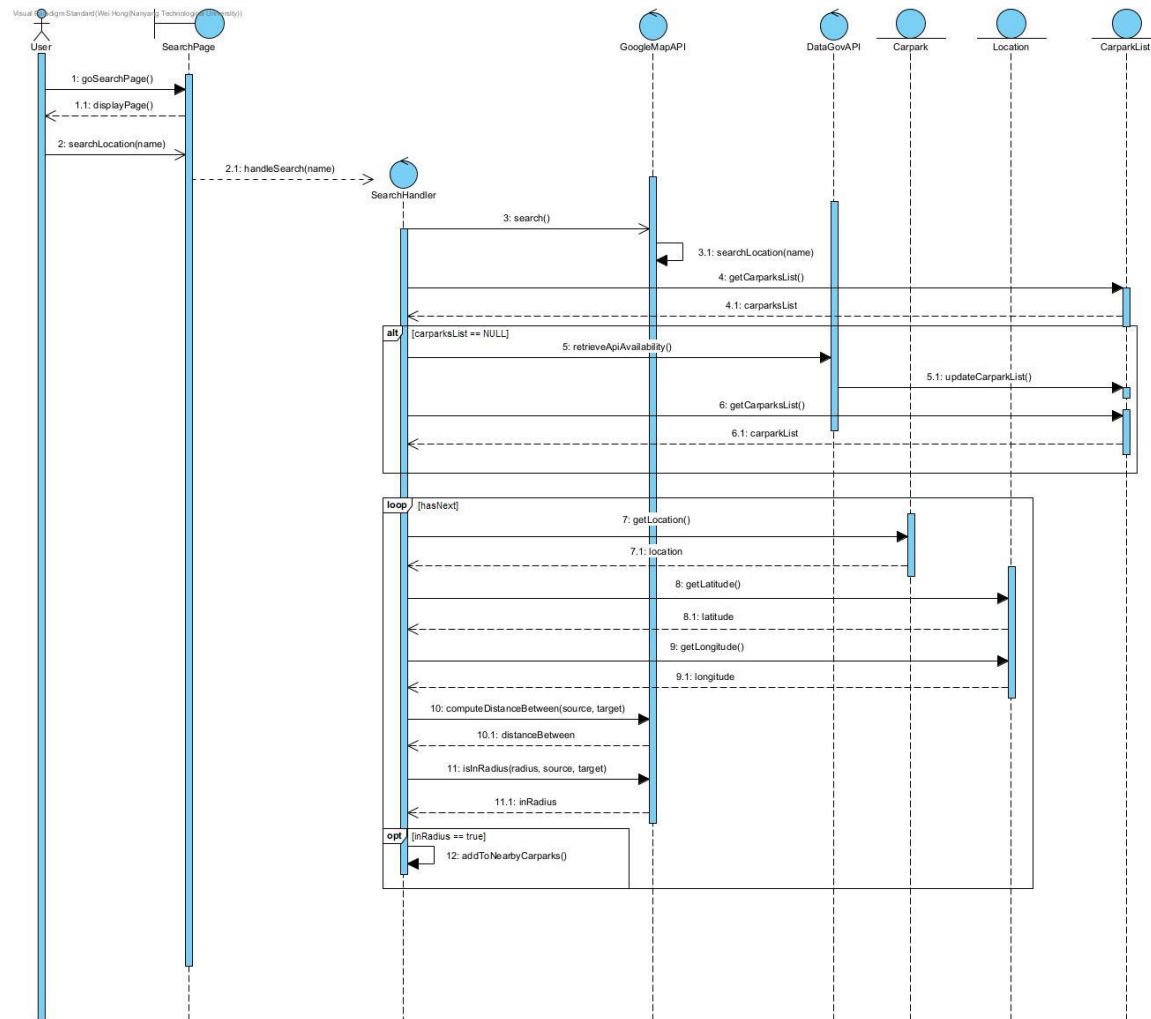
Entity Classes

1. User
 - a. For users' favourite carpark
2. Carpark
 - a. Information about a carpark
3. Location
 - a. Geographic coordinates of a location
4. Map
 - a. Map-related data
5. Route
 - a. Information of a route
6. Proximity
 - a. Proximity-related data
7. CarparkList
 - a. List of all carpark

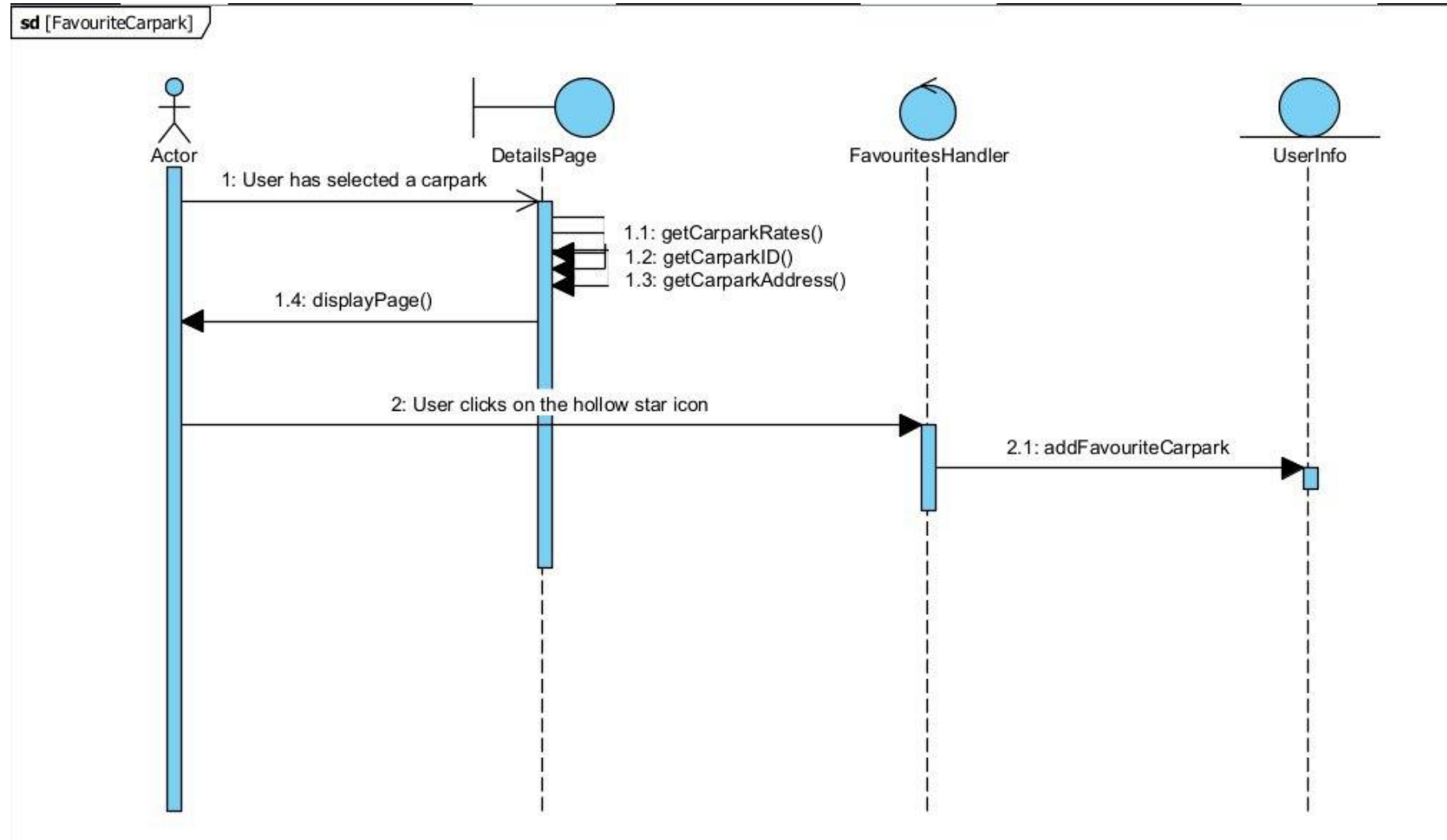
Sequence diagram

Use Case 1: Search Location

sd [Search Location]

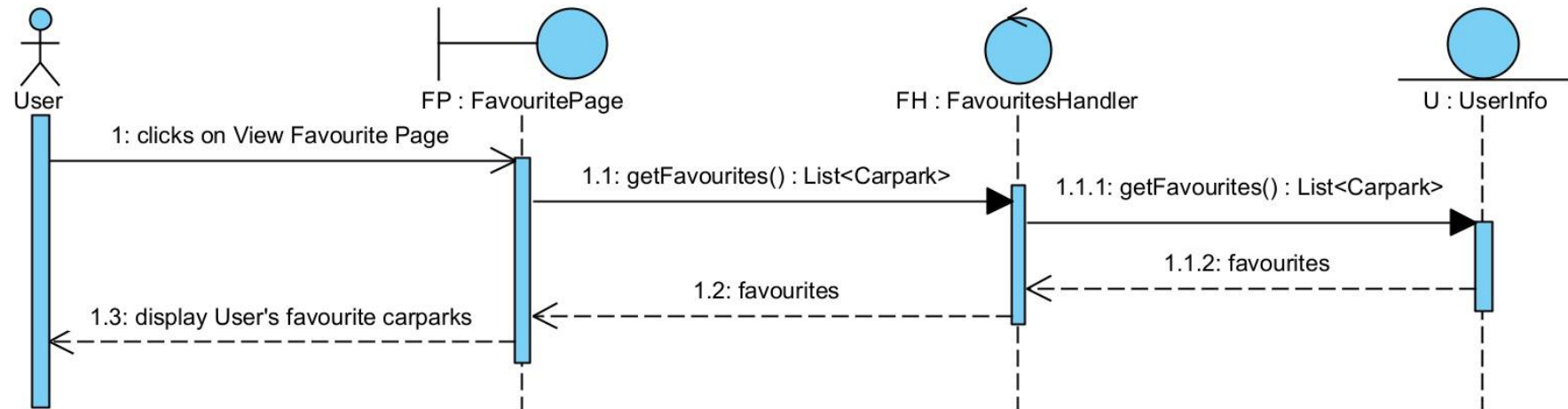


Use Case 2: Favourite Carpark



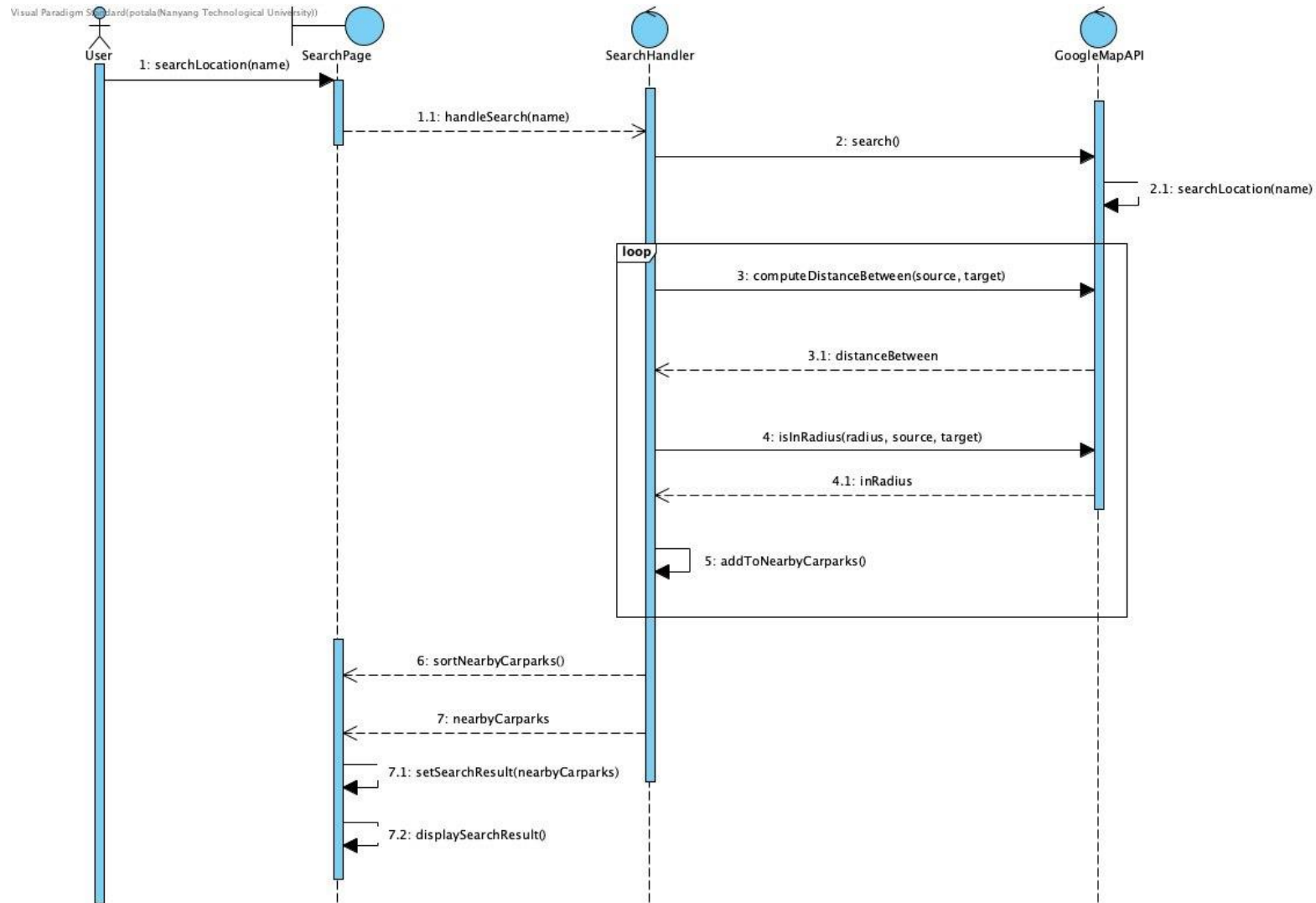
Use Case 3: View Favourite Carpark

sd [View Favourite Carpark]



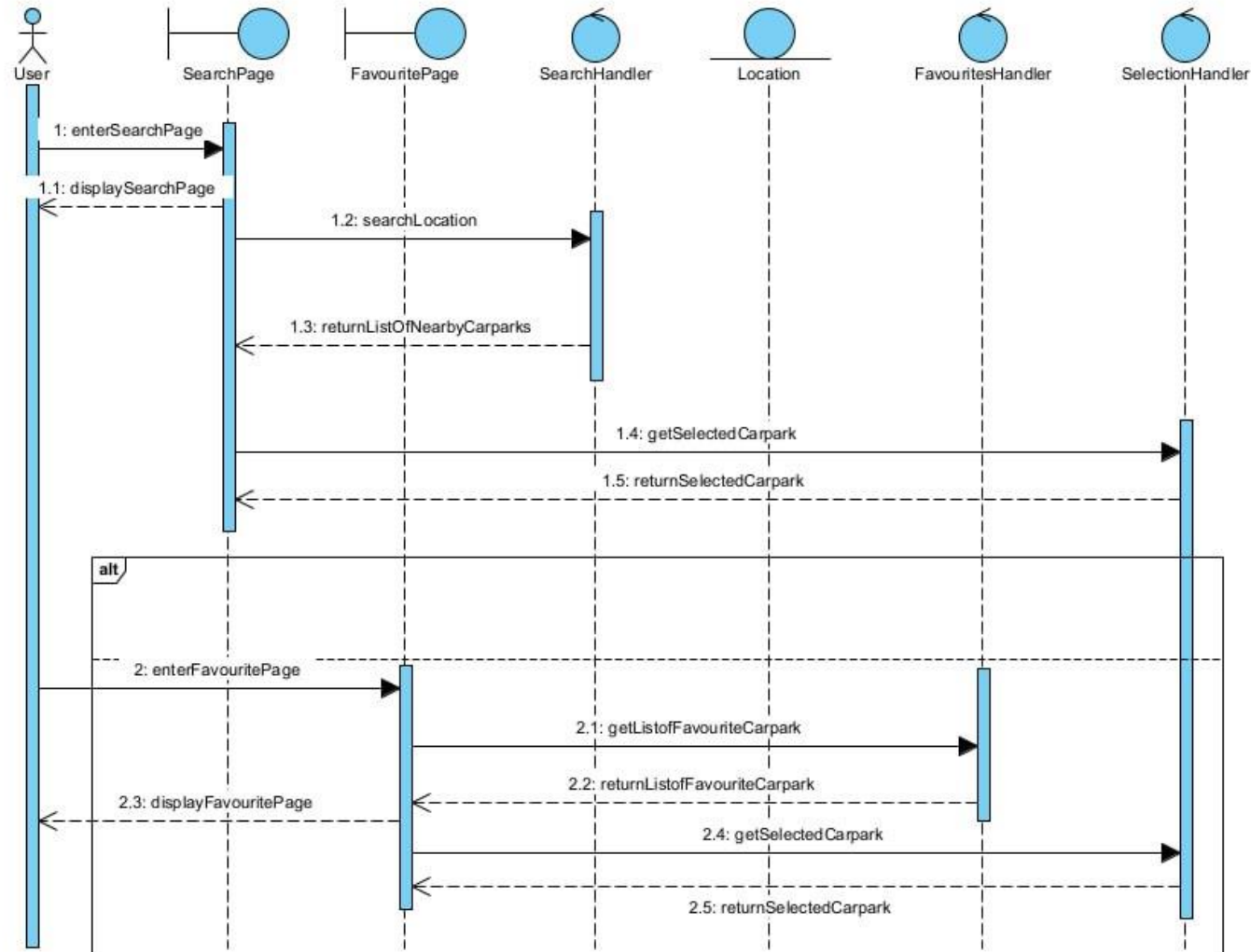
Use Case 9: Recommend Nearby Carpark

sd [Recommend Nearby Carpark]

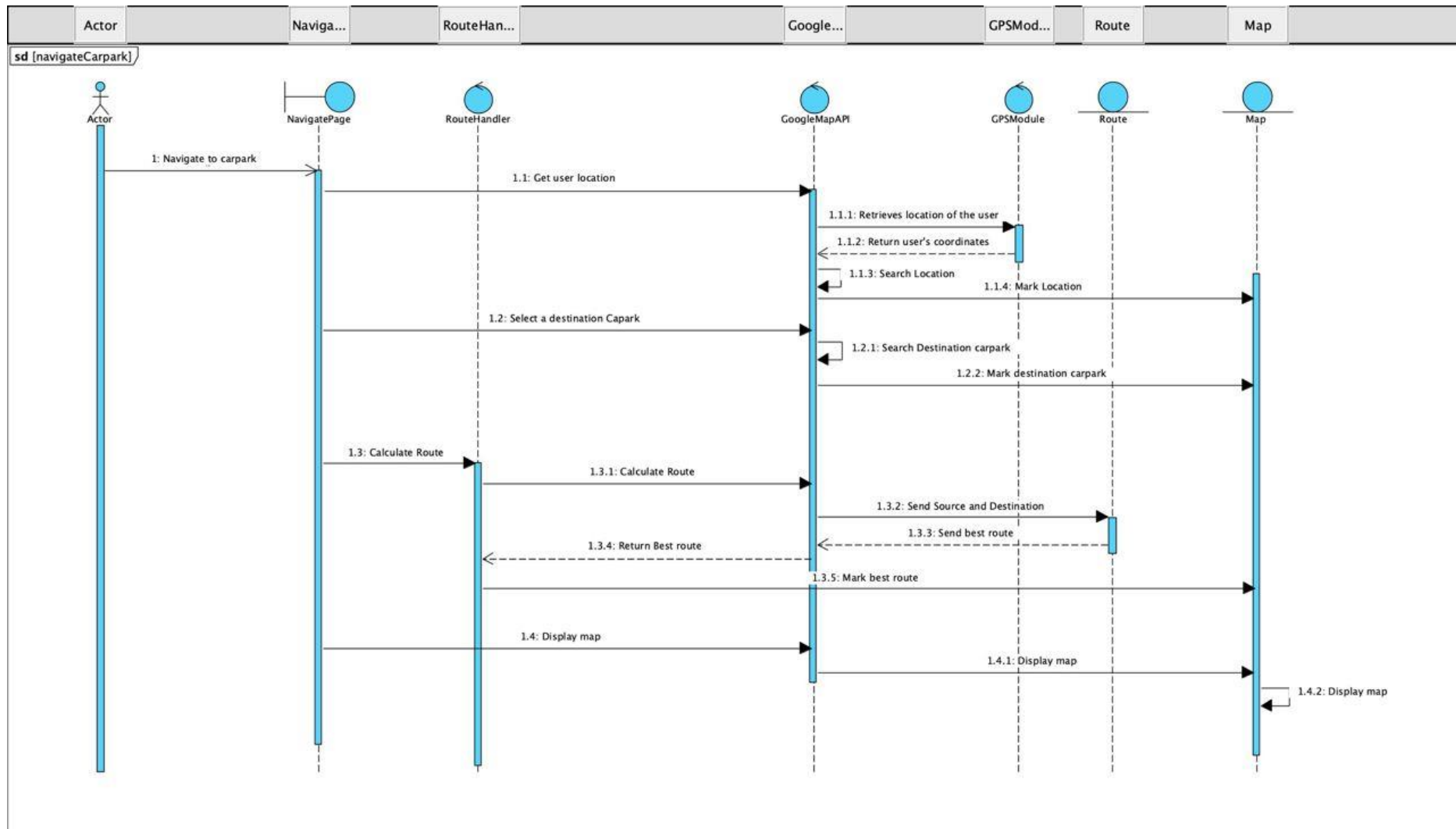


Use Case 10: Select Carpark To Visit

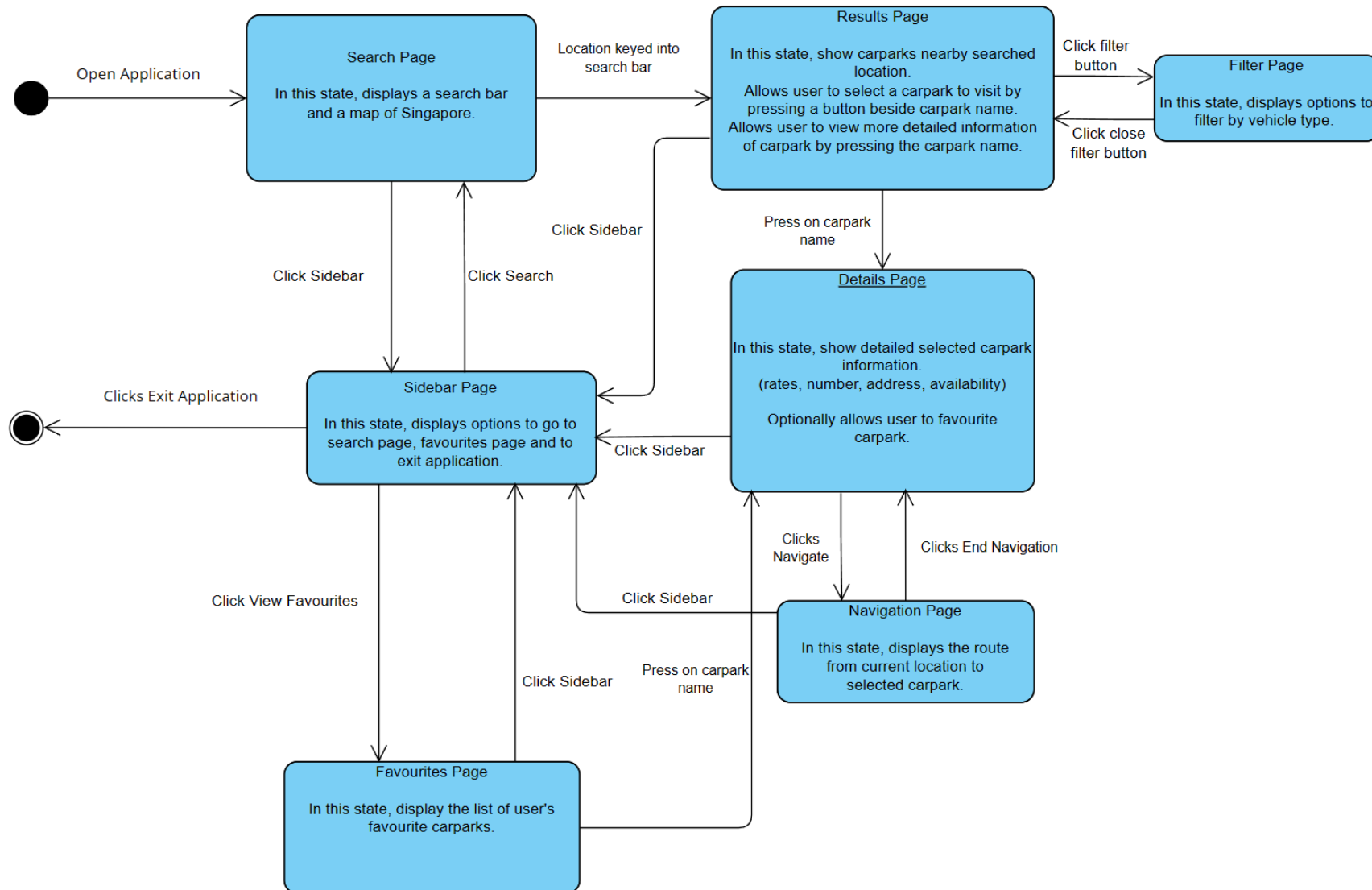
sd [SelectCarparktoVisit] /



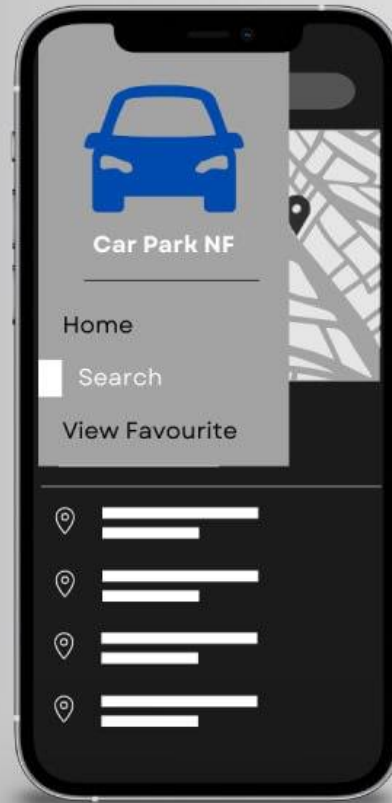
Use Case 14: Navigate Carpark



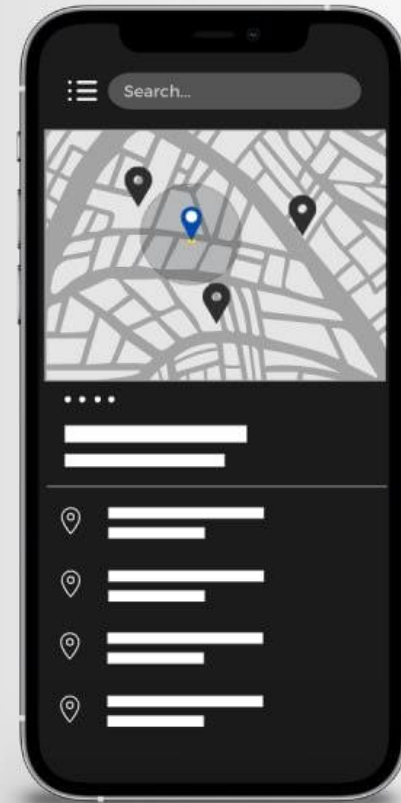
Initial Dialog Map (State Machine Diagram)



UI Mockup (for reference)



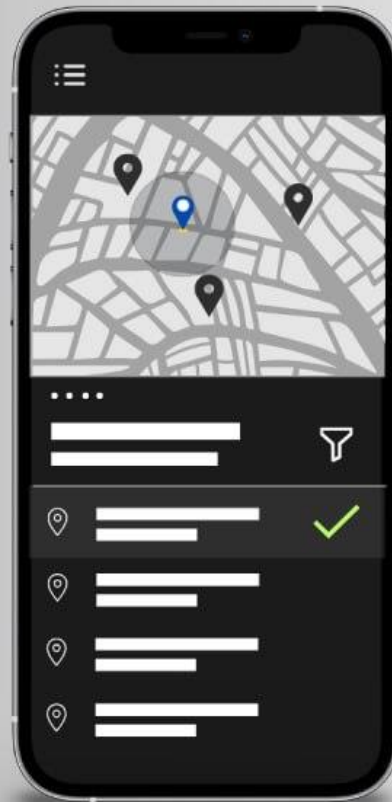
Sidebar Page



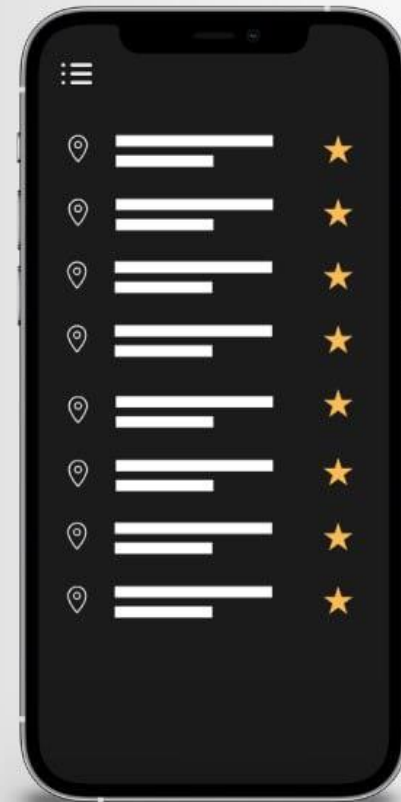
Search Page



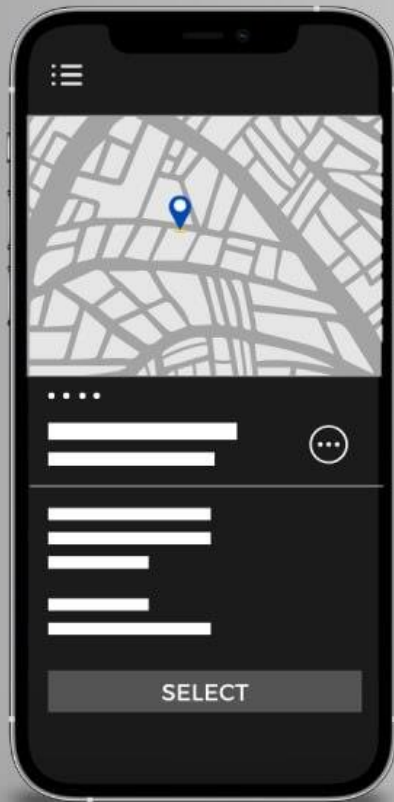
Results Page(Clicked into a location)



Results Page



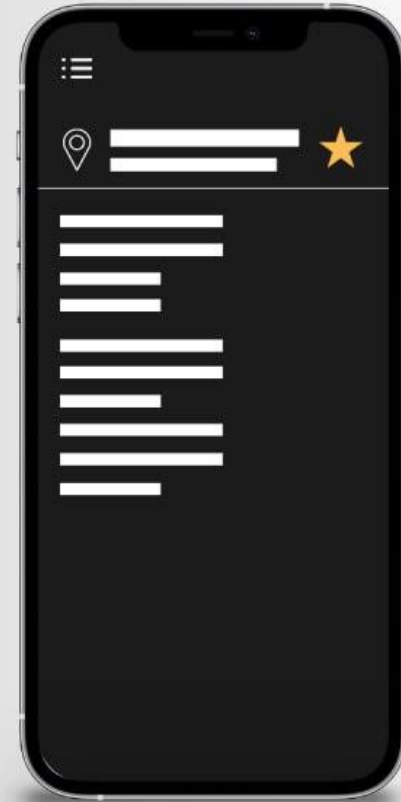
Favourite Page



Results Page(Clicked into a location)



Details Page



Details Page