Data Dictionary

Website	The online pages where the intended features are available and accessible.
User	The user of the website, most likely a driver in Singapore.
Destination	The target location of the user. This will be in any vehicle-accessible area of Singapore.
HDB	Housing Development Board, a statutory board responsible for public housing in Singapore. HDB is also responsible for HDB car parks.
Car Park/Parking	Car parks in HDB buildings, popular shopping centres, tourist destinations, or hotels.
Radius	The linear distance from the destination, for all 360°.
Map	A geographical representation of Singapore, specifically in the locality of the user's destination.
Pins	Visual tags pointing to specific points on the map, which can be clicked on to reveal more information.
Rates	The price per hour of parking your vehicle in the designated lot.
Available Lots	Vacant parking lots where drivers can leave their vehicles.

Target Users of Application: Drivers

Functional Requirement

1. The website must utilise 3 data sources, 2 datasets and 1 API. The 2 datasets are HDB carpark information and major shopping malls, attractions, hotels carpark information.
2. The user must provide the location of the destination and specify a radius after entering the website.
3. The default radius is 1.5km and can be adjusted within the range of 0.5km - 2km.
4. The website must return a map with pins of available parking locations within the specified radius.
5. Each pin must display the carpark name and/or address, available hours, corresponding rates, current available lots and availability of handicap amenities once selected.
6. The user must be able to sort the list of car parks in the selected area according to distance from destination, day rates, night rates and lot availability.
7. The website must provide an option to view the direction of the selected car park using external application/website (i.e. Google Maps) after the user selects the car park.

Non-functional requirements

1. The website must be fast and responsive for every user's request. The search results after the user inputs the information must be returned within 500ms.
2. The website must be aesthetically pleasing and have a responsive layout, which can adapt to different screen sizes and devices. Check for alignment on the following devices: (1) desktop site on desktop/laptop, (2) Android phones and (3) iOS phones. There must not be unwanted overlapping of display objects.
3. The website must be user-friendly. 85% of first-time users must be able to retrieve desired information within 5 minutes of entering the website.
4. The website must be accessible to those with disabilities. (i.e. visual impairment). The website must ensure minimum font size on the page, sufficient contrast for readability and that it has a text to speech option. The user should be able to command the text to speech easily and it voices out direction well.
5. The website must be able to run on modern web browsers and be minimally backward-compatible with old web browsers. 95% of users should be able to access 100% of intended features of the website. 5% of users should be able to access 70-99% of features of the website.
6. The website must display help messages for each required action in English.

UI Mockups

Parking4TheWin Home

Welcome to the Parking App

Carpark:

Atrium @ Orchard

Category:

Orchard Area

Weekdays Rate 1:

Mon-Thurs: 12am-5.59pm: $1.07 for 1st hr; $0.32 for sub. 15mins; Fri & Eve of PH: $1.07 for 1st hr; $0.32 for sub. 15mins

Weekdays Rate 2: -

Mon-Thurs: 6pm-11.59pm: $2.14 per entry; Fri & Eve of PH: 6pm-2.59am (the next day): $2.14 per entry

Saturday Rate: -

3am-5.59pm: $2.14 for 1st 2 hrs; $0.32 for sub. 15mins; Aft 6pm: $2.14 per entry

Sunday and public holiday: -

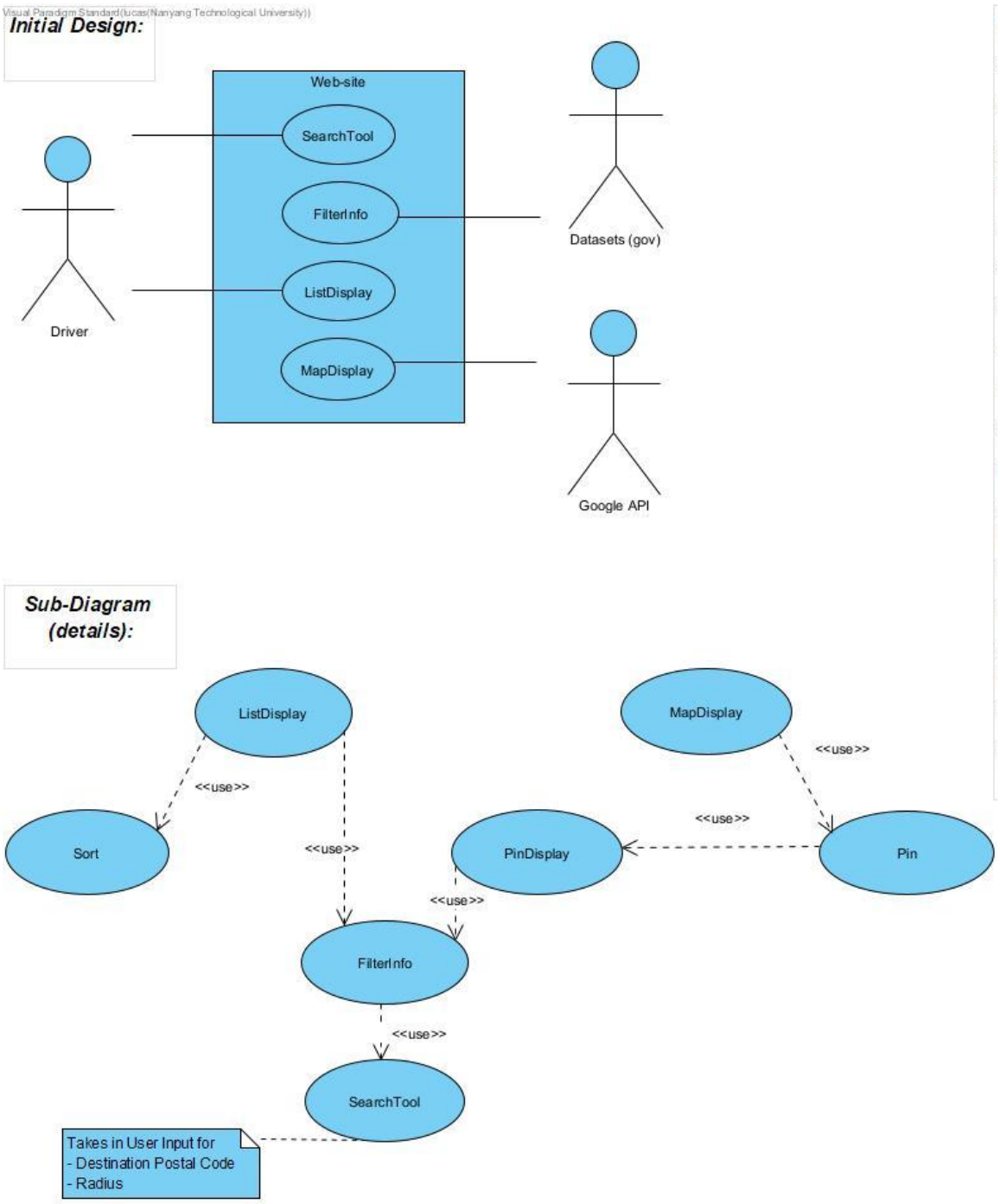
3am-5.59pm: $2.14 for 1st 2hrs; $0.32 for sub. 15mins. 6pm-11.59pm: $2.14 per entry

Car Park Vacancies: -

987 Parking Lots Available

Search Search

Use Case Model (Diagram and Description)



Use Case Description:

Use Case: To find car parks near the user's destination

Actor: Driver

Basic Flow:
This scenario describes the situation briefly on the use of the web-site by the user. Specific variations to be descri
in alternate flow.

1) Driver enters the destination postal code into the search box (SearchTool).

2) Driver enters the acceptable radial distance from destination (SearchTool).

3) Driver views the desired information displayed by the web-site.

4) Driver chooses a parking location from the suggestions provided.

5) Driver views the recommended directions to the car park.

6) Driver proceeds to the car park (independent of the web-site).

Termination Outcome) Driver can find a suitable car park for the destination.

Alternate Flow 3A:
Driver uses the ListDisplay for suggested car parks.

3A.1) Driver sorts the car parks by distance (from destination), rates (day or night), or lot availability.

3A.2) Driver selects each option to view details of the car park.

Alternate Flow 3B:
Driver uses the MapDisplay for suggested car parks.

3B.1) Driver views the location pins on a geographical map.

3B.2) Driver selects each pin to view details of the car park represented at the pin.