SINGAPORE POLYTECHNIC
School of Electrical & Electronic Engineering

2018/19 S1 – Mini Project Proposal/Report

CA3
10%

Admin No. : 1234567

Module Class: DEB/FT/2B/01 **Marks** :

SECTION ONE – 20%

A. Proposal Submitted On Time

	Submitted by 22rd Jun 2018, 5pm (20%)	**Submitted after 22rd Jun 2018, 5pm (0%)**
Proposal Submission	√	

SECTION TWO – 80%

Application Title: Reach MRT Liao

B. Application Description (Describe your concept in terms of how end user uses the application)

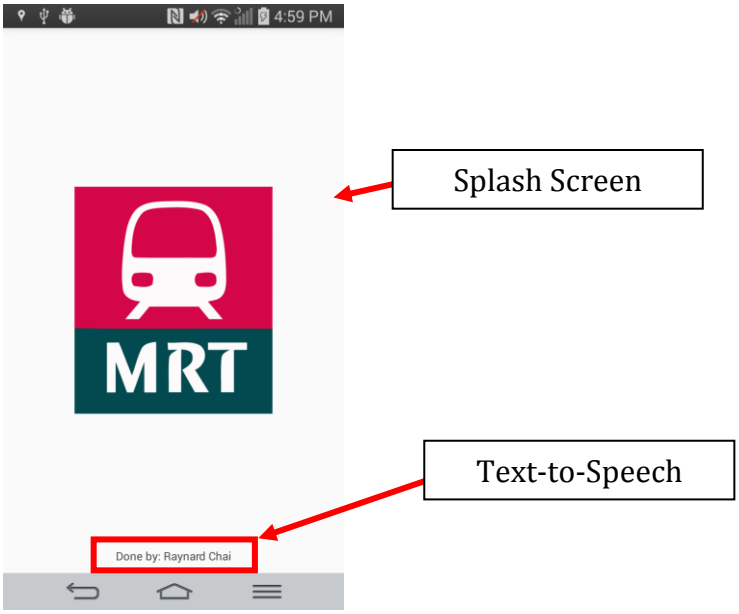
Taking the MRT to travel around Singapore is something that most people, if not all, do in their daily lives as it is one of the most convenient ways to get around our city. Currently, there is an announcement system when the MRT is approaching an MRT Station and another announcement when it arrives at the station.

However, there is a group of people who tend to shut their ears off from their surroundings and immerse themselves in their own entertainment with earpieces and headphones, which may cause them to miss the important announcements by the AV. This can also happen to people who are fast asleep on the MRT and they may not be aware that they have already arrived at their stop.

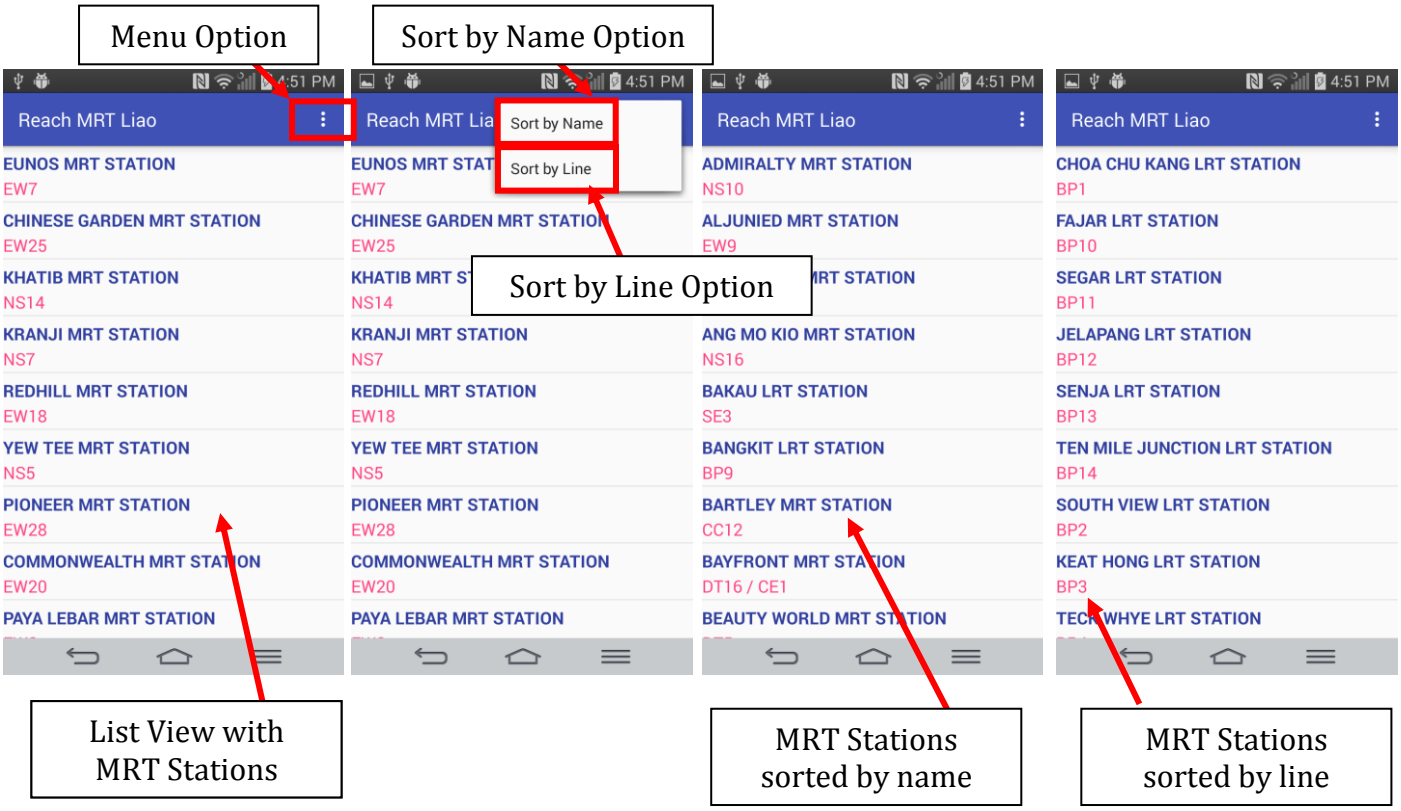
Therefore, the Reach MRT Liao App allows users to be alerted when they are approaching their desired MRT Station and when they arrive at their desired MRT Station via a notification.

The application provides the functionalities below:

1. Splash Screen with Text-to-Speech
   When the user launches the app, he/she is greeted with a splash screen with Text-to-Speech that reads out the text “Done by: Raynard”.



2. Lists every MRT Station available in Singapore (as of Jan 2018)
   Once the user enters the app, a List View of all the MRT stations in Singapore is loaded.
   The user also has the option to sort them according to the names of the stations or the line of the station in alphabetical order with the menu option.

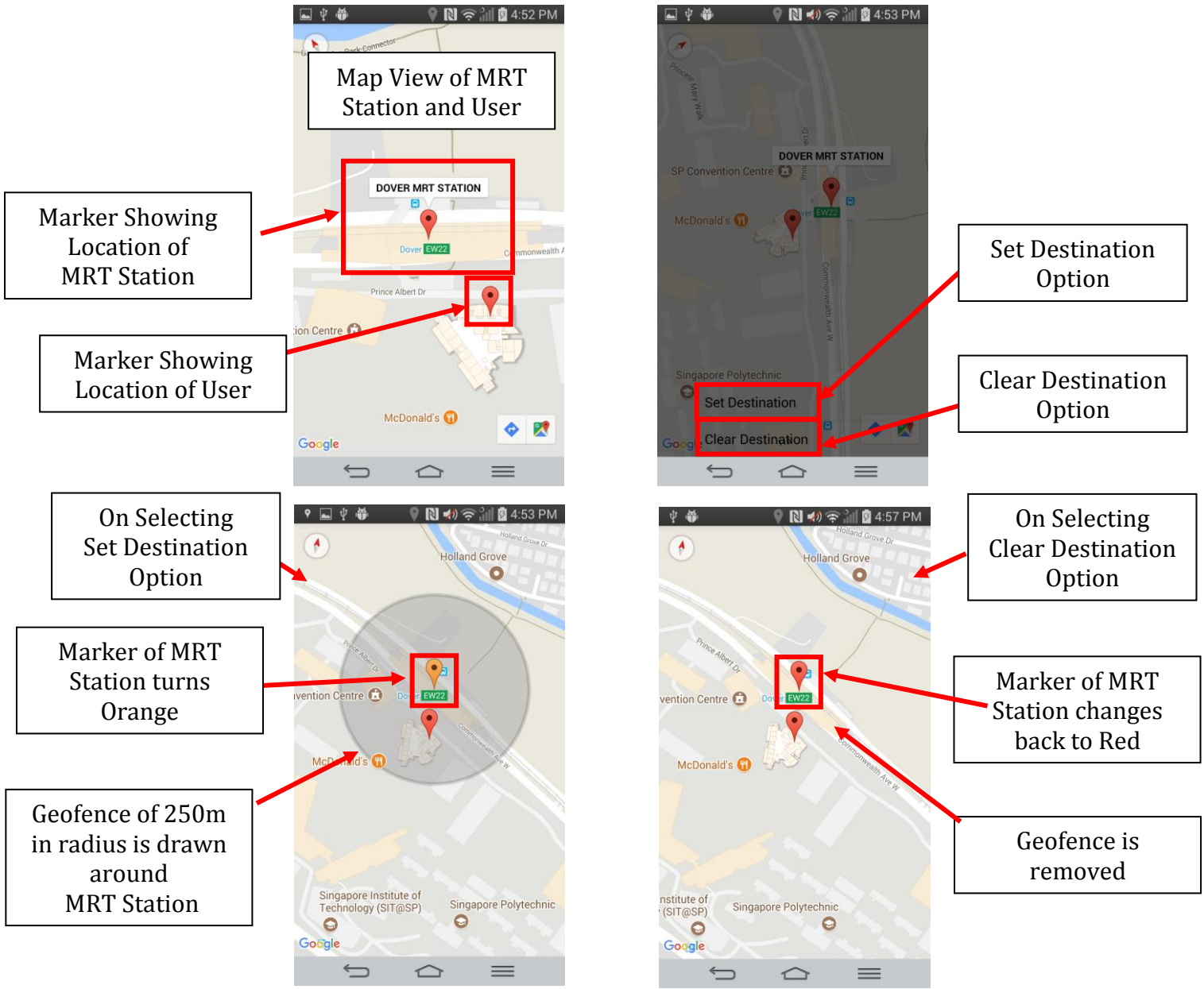


3. Select an MRT Station to receive notifications for
   From the List View, the user can select any of the MRT Stations
   - Upon selecting their desired MRT Station, the user will be directed to a Google Map view of the stations' location as well as the user's own location.

   - If the selected MRT Station is the one the user wants to receive a notification for, the user can select 'Set Destination' from the menu option and the app will send the user a notification for when he/she is arriving at the MRT Station, arrived at the MRT Station and leaving the MRT Station.

   - If the user wrongly selects the wrong MRT Station, he/she can select the 'Clear Destination' option from the menu and it will prevent any notification to be sent to the user.

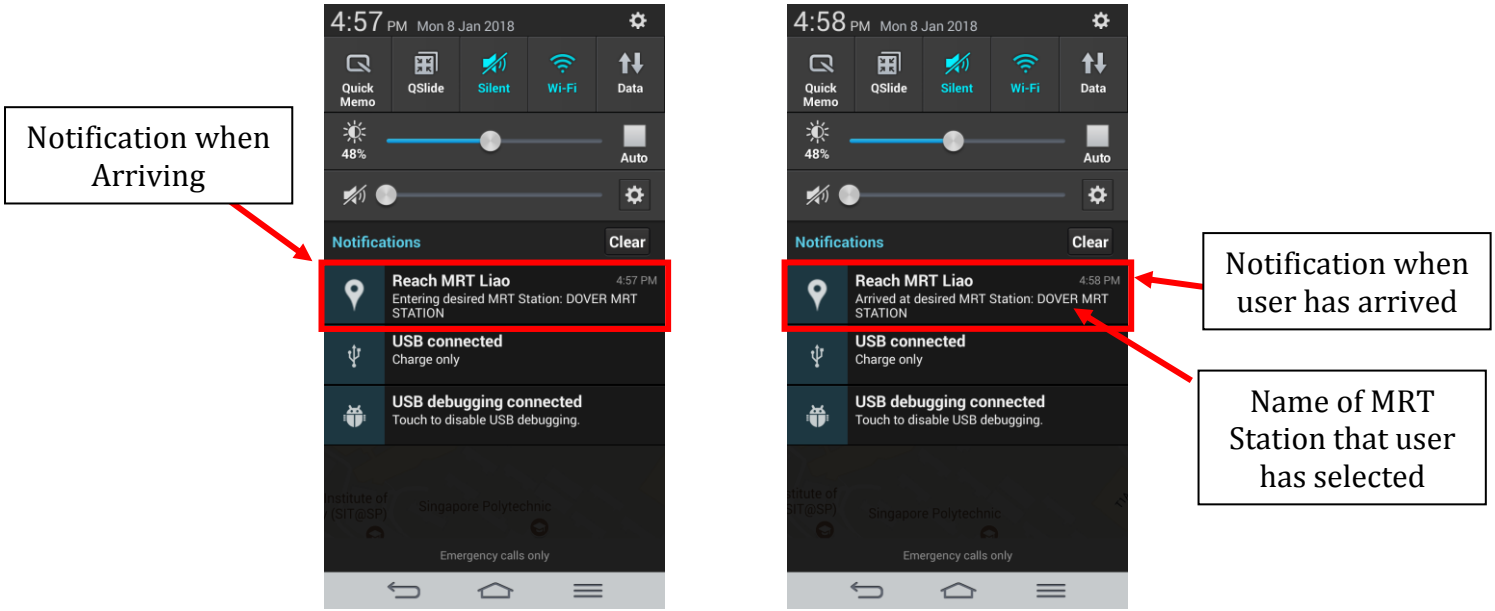
   - The user will also be able to rotate the map freely and the map will follow the user's orientation.



4. Receive notifications upon arriving, arrival and exit of the MRT Station
   When the user is within 250m of the MRT Station, the user will receive a notification from the app that he/she is entering their desired MRT Station.

   When the user stays within the area of the MRT Station for more than 20 seconds, the user will receive a notification from the app that he/she is has arrived at their desired MRT Station.

   The app will also send a notification to the user when he/she misses their stop if they leave the desired MRT Station.



C. What makes the application compelling (Describe why do you think users would be find your application cool or useful)
This is an app for the everyday commuter that may need a reminder when they reach their desired MRT station. It is simple to use and doesn't take up any effort to set the reminder.

D. Target Market Segment (App target market segment – Consumer/Business. What is the age group and profile of the "end users")
The app targets all the Consumer Market and the end users are anyone tech-savvy who commutes with the MRT.

E. Technical Aspects (Please give a brief description of your high level technical approach to implement this application. Please refer to Appendix for different technical aspects can assist you in implementing your application features. The amount of technical aspect uses in your application will greatly affect the final score of you project marks. Please check with your lecturer if you have any query.)

APPENDIX

Technical Aspects

i.	Basic UIs	– 05%	☐
ii.	Splash Screen Only	– 05%	☐
iii.	Using Explicit/Implicit Intent	– 05%	☐
iv.	Using Telephony (Call using app with dynamic phone number)	– 05%	☐
v.	Using Telephony (receive using app)	– 05%	☐
vi.	Using Splash Screen	– 05%	☐
vii.	Using Media Player (play music)	– 05%	☐
viii.	Using Social Media (Google API)	– 05%	☐
ix.	Using SMS (send & receive using app)	– 10%	☐
x.	Using Broadcast Receiver for Multiple Alarm (Allow to set more than one alarm time the same time)	– 10%	☐
xi.	Using Splash Screen with music	– 10%	☐
xii.	Using Web View with dynamic link	– 10%	☐
xiii.	Using Text-to-Speech	– 10%	☐
xiv.	Using SQLite (Create own data structure - Read/Write/Delete; 5% for no Delete)	– 10%	☐
xv.	Using Broadcast Receiver for Others	– 15%	☐
xvi.	Using Splash Screen with Text-to-Speech	– 15%	☐
xvii.	Using Service (playing music at background not counted)	– 15%	☐
xviii.	Using Phone book (Read/Write/Delete)	– 15%	☐
xix.	Using Local Phone Calendar (Read/Write/Delete)	– 15%	☐
xx.	Using XML/JSON Parsing	– 15%	☐
xxi.	Using Accelerometer	– 15%	☐
xxii.	Using Compass (must be incorporated into map i.e. map will rotate whenever phone rotates)	– 15%	☐
xxiii.	Using 2D Graphic	– 15%	☐
xxiv.	Using Bluetooth Connection	– 15%	☐
xxv.	Using Camera (Read/Write/Delete)	– 15%	☐
xxvi.	Using Face Detector	– 15%	☐
xxvii.	Using Client/Server (send & receive)	– 15%	☐
xxviii.	Using Barcode/QR Scanning (read & save data)	– 15%	☐
xxix.	Using Google Geofencing	– 15%	☐

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