Project Management Plan

App: Sir Veyer Jr.

Lecturer: **Mr. Rasika Alahakoon**

Team02: { teamName : undefined }

Developers: Nuwan Sanjeewa
Raidh Ramzee
Randil Silva
Ujitha Hennayake

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1. Introduction and Purpose

1.1 Introduction

Prop & Tee Pty. Ltd, a British property development company, wants us to develop an app that can be used by contractors to easily size up a property, ultimately giving them an estimate of how big the property is and how much it would cost them to develop.

In summary the app allows users to save the perimeter of a region by walking around it, and view them in a later instance.

1.1 Purpose of this document

This document represents a detailed project project plan for developing a surveying app called "Sir Vayer Jr.". This is created at the beginning at the project and therefor will be subject to change if any change in the project organization is made.

This project management plan is used to guide both project execution and project control and typically covers topics used in the project execution system, which includes the following aspects:

- Scope management
- Requirements management
- Schedule management
- Communications management
- Quality management
- Risk management

It describes general information about "Sir Veyer Jr." project which documents all the milestones and deliverables and their due dates. It also describes the team organization and the role of each team member as well as the development process and the resources used in general. Detailed information about meeting scheduling and a general communication plan is also included.

1.1 Intended audience

The Project Management plan is intended for all the current team members, possible recruits and the customers. Team members working on the project should use this document to help them keep track of the deliverables and any work methodologies.

New Team members should use this to understand the project and what is expected of them from the team. The customer should use it to get an understanding of the project organization.

2. Project Information

2.1 Background and Objectives

The main goal of this project is to develop a functional Surveying app that allows users record a region and view it at a later time. Prop & Tee is a well known property development company in UK and are interested in expanding into Australia and Malaysia. In order to make this expansion easier we propose a support tool for surveying purposes in the context of a mobile app.

The contractors will be able to view a list of regions they previously recorded or a empty list if it's the first time and if they choose to record a new one, a map would come up and they'd be able to save a property as a new region with respect to their current location. They'll be able to see all the regions they've saved so far as a list and when in the "view region" mode, the following information would be displayed.

- Area of the region (in square meters)
- Perimeter length of the region (in meters)
- Fencing required

The regions will be saved to local storage with a unique key generated for each region. The region can be saved under a name of their choice and can be accessed later to view and get the above information mentioned.

The web-app is being specifically developed for the Prop & Tee Pty. Ltd. to use by the contractors and will be an important part of surveying new properties before considering the development.

If the app is well received among the contractors, the winning team will be commissioned to make the full version of the app with all the complex surveying features required in the industry.

2.2 Scope

The app will be intended to be accessible via any web browser (Chrome recommended) by using any smart phone (iOS, Android and Windows mobile). This app has a wide scope from contractors working with Prop & Tee Pty. Ltd. from Australia and Malaysia to easily size up a property before considering investments and developments.

2.2.1 Included

This web-app is consisted of three main web pages.

1. Index page
2. Record region page
3. View region page

The following functionalities are required in the initial attempt.

1. <u>Create a class/constructor instance for a region</u>

   A constructor function must be created so that a region instance of each region can be created which has the following private attributes.

   - ❖ cornerLocations
   - ❖ dateCreated
   - ❖ nickname

2. <u>Location detection and tracking</u>

   As soon as "Record Region" page is loaded, the current location of the user is detected and displayed on the map with a marker. The location accuracy will also be detected and displayed on the same map. The user's location will be tracked and updated whenever the current location of the user is changed or the accuracy of the user is changed.

   Also, this page let the user to repeatedly "add a corner" (an instance of the <u>Google Maps LatLng Class</u>) based on their current location as they walk the perimeter of a property and these corners will form a new Region. The updated region polygon would be graphically modified with the addition of each new corner.

   The addition of a new corner should be restricted if the GeoLocation accuracy is less than 10m and finally there should be a method to reset the region in case of any mistakes occurred.

3. Persistent storage of Region instances

   "Save Region" button will redirect the user to view region page. As soon as it is clicked the information will be stored the local Storage to be accessed later by the user and the region can be saved with title of users choice.

4. Showing a list of Regions

   A dynamic list is generated from the information in local storage which includes the title, date and time the region was recorded.

5. Viewing a Region

   Once a particular region is selected, the user is redirected to a page that displays the details on an interactive map, which should include following information/functionalities.

   - Region polygon
   - Area and the Perimeter of the Region
   - Toggle posts option to display the fencing required
   - Remove region option to clear the region from local storage

6. Region area and perimeter

   Required public methods should be added to the Region class which calculate and return the area and the perimeter of the region.
   (computeDistanceBetween() and computeArea() functions can be used)

7. Calculate fencing required

   Another public method named boundaryFencePosts should be added to the Region to return an array of suggested fence post locations spaced at most 4m, equally along each side of the boundary polygon and additional fence post at each corner.
   Additionally, the user should be able to set the maximum distance between fence posts (instead of 4m).

2.2.2 Excluded

- This project doesn't include the providence of mobile phones to the users.
- This project will exclude training the users to use the app.
- This project doesn't give the user any information on the calculation of Area, Perimeter and the fencing required.
- This project is limited to build a proof of concept so dimensions, elevation, calculation of expandable areas, looking up local zoning laws are ignored.
- This project also excludes sharing of knowledge on the coding aspects with any user.

2.2.3 Assumptions made

The following assumptions were taken into account with respect to both project organization and the coding of the app.

- It is assumed that the contractors of Prop & Tee Pty. Ltd. are willing to move from their traditional surveying methods to this app and make maximum use of it.
- All contractors of Prop & Tee Pty. Ltd. have mobile phones with required GPS accuracy in order to access this app.
- Any sudden delays during the development of the app would be accounted for and included in the Due dates section so that the app will be delivered on time.
- Necessary changes to the project plan will be made when certain issues arise.
- Team members will follow the Communications Plan accordingly.

2.3 Intended use

The main objective of this project is to develop a location detecting and tracking app that will allow the users to conduct a light survey of a property before investing in it.

The web-app is made up mainly of following three pages.

- Index page
- Record Region page
- View Region page

The app will display a dynamic list of properties saved and an option to save properties. In that option an interactive map would be displayed and it'd allow users to walk the perimeter of a property and save the boundary by adding corners. By touching the entries in the list, the corresponding property will be displayed and the Area and Perimeter of the property would be shown as well. As an additional feature, the locations suggested for build fence posts would be displayed in the map with a button.

2.4 Deliverables / Due dates

	Date	20-Dec	21-Dec	22-Dec	23-Dec	27-Dec	28-Dec	29-Dec	30-Dec	31-Dec	1-Jan	2-Jan	3-Jan	4-Jan	5-Jan	6-Jan	7-Jan	8-Jan	9-Jan	10-Jan
Deliverable	Task Bearer																			
Hosting the skeleton in Azure.	Nuwan																			
Creating the Git repository.	Nuwan																			
Create the Project management plan.	Nuwan																			
Design the GUI.	Randil																			
HTML elements added to the Record Region.	Nuwan																			
Create a class/constructor for Regions.	Nuwan																			
Figure the localStorage methods for save.	Ujitha																			
Figure the localStorage methods for delete.	Ujitha																			
Read position using GPS.	Raidh																			
Account for location inaccuracy.	Raidh																			
Adding corners to Region.	Nuwan																			
Reset Region.	Nuwan																			
Save Region.	Nuwan																			
HTML elements added to the Index.	Raidh																			
Region list entries and selecting a Region.	Raidh																			
HTML elements added to the View Region.	Ujitha																			
Code the map to be interactive.	Ujitha																			
Calculate Region area.	Randil																			
Calculate Region perimeter.	Randil																			
Obtain the fence posts LatLng objects array.	Raidh																			
Display the fence posts in the map.	Nuwan																			
Delete Region.	Nuwan																			
Check code quality and documentation.	Randil																			
User guide: How to use.	Randil																			
User guide: troubleshooting.	Ujitha																			
Creating the final user guide.	Ujitha																			
Overall project management.	Raidh																			

Figure 01 - Project Timeline

3. Personnel / HR Management

Role	Responsibilities	Members' Information
Team Leader	* Distribute work among team members. * Executive chief in designing and delivering the code. * Integrates the system.	Nuwan Sanjeewa +94 76 623 3689 nraj0003@student.monash.edu
Project Manager	* Maintain the Project management plan. * Ensure timely delivery of component codes.	Raidh Ramzee +94 77 763 5375 rabd0003@student.monash.edu
UI Designer	* Design the GUI in collaboration with the whole team. * Use MDL principles to maintain a standard design concept throughout the app.	Randil Silva +94 77 339 2904 asil0004@student.monash.edu
Documenter and Tester	* Documents the code appropriately. * Creates and maintains the HTML and CSS files used by the JS code. * Test the app throughout the development using Azure tools.	Ujitha Hennayake +94 77 5321523 uhen0001@student.monash.edu

Table 01 - List of responsibilities designated to team personnel

4. Decisions on Process

Following software and hardware tools and methods will be utilized by the whole team in order to keep track of the responsibilities as well as the progress of the each individual tasks. All the divided coding deliverables will go through a peer assessment before integrating with the final code.

4.1 Softwares Utilized

4.1.1 Coding tools

The Git repository will be updated with the completion of each step and will be reviewed by the team leader in terms of the functionality and project manager will keep track of timely delivery and if there is any delay, penalize accordingly.

Languages Used

- Javascript (ECMAScript 2017)
- JSON 3
- HTML 5
- CSS v4
- Google Maps Geolocation API
- Material Design Lite

Tools Utilized

- Brackets :

  Brackets 1.11 was used as the main code editor.
- Bitbucket :

  Bitbucket is used to restrict the and share Git repository only among the team members. This ensures that all team members are updated on the progress of the project.

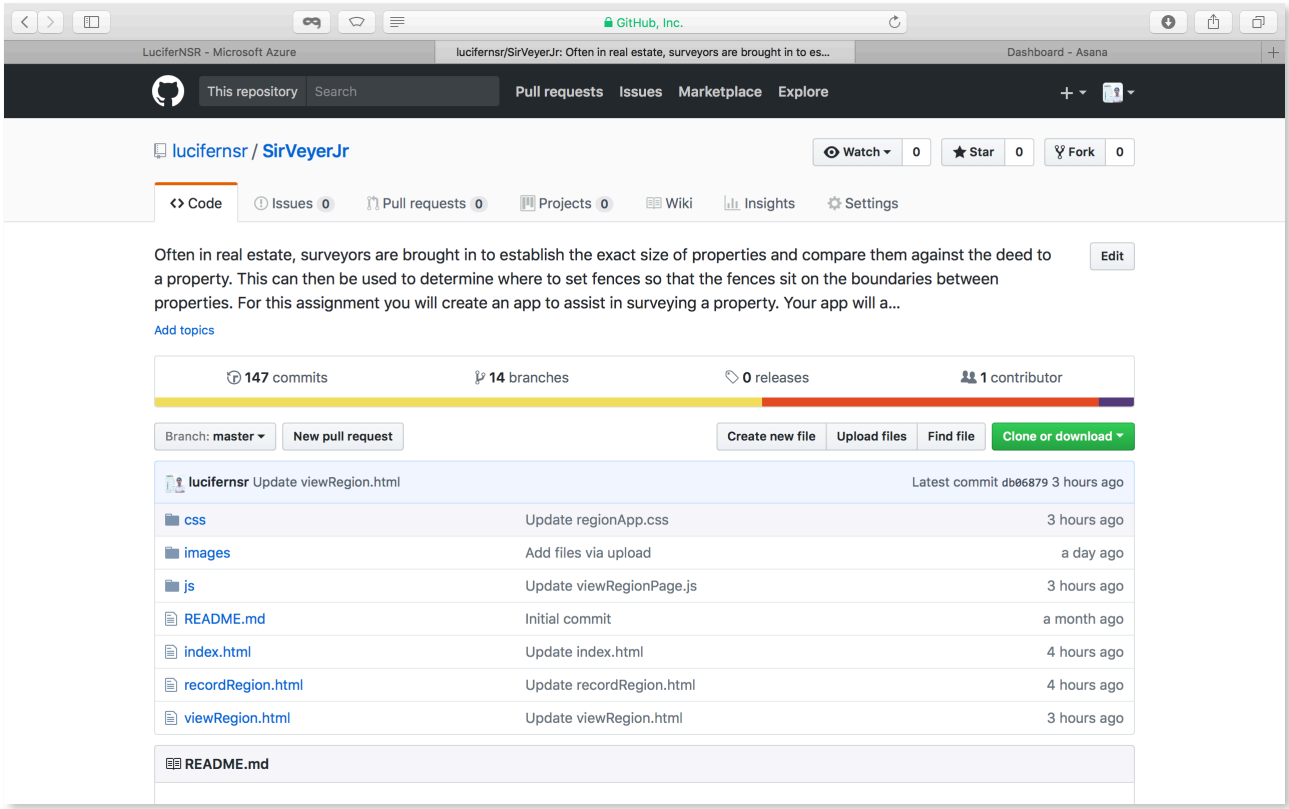


Figure 02 - Screenshot of the Git Repository taken in a testing cycle of the project.

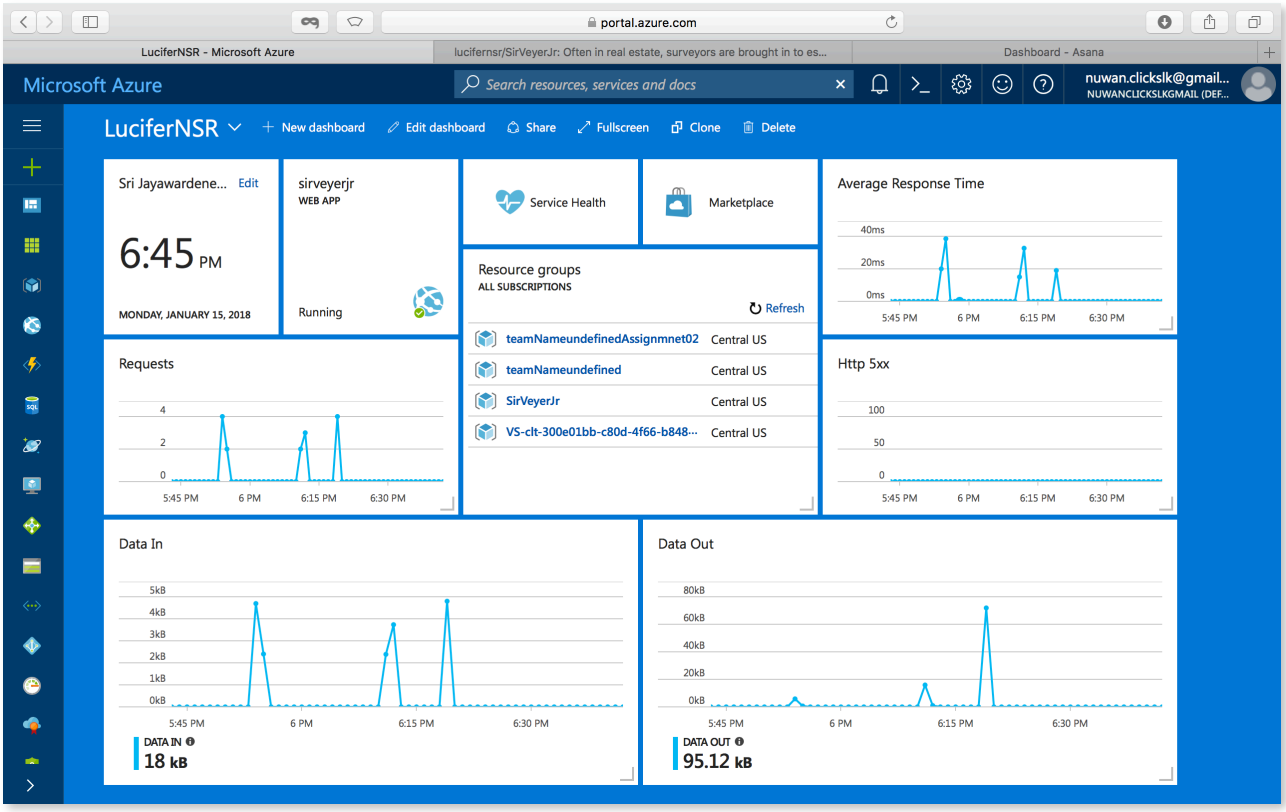


Figure 03 - Screenshot of the Azure dashboard used to host and test the app.

4.1.2 Documentation

The Project Management Plan and the User guide is created locally by the project manager and shared with the team and a selected representative from the Prop & Tee Pty. Ltd. Project manager will update and notify the progress of the project using various tools.

Tools Utilized

- Pages :

  Pages was used as the main word processing software and an exported PDF will be shared with the team.

- Google Drive :

  All the project documents will be shared and maintained using Google drive.

4.1.3 Scheduling

Work delegation has been done using special tools to ensure the timely delivery of all components. and the meeting were scheduled taking into account the available times of all team members.

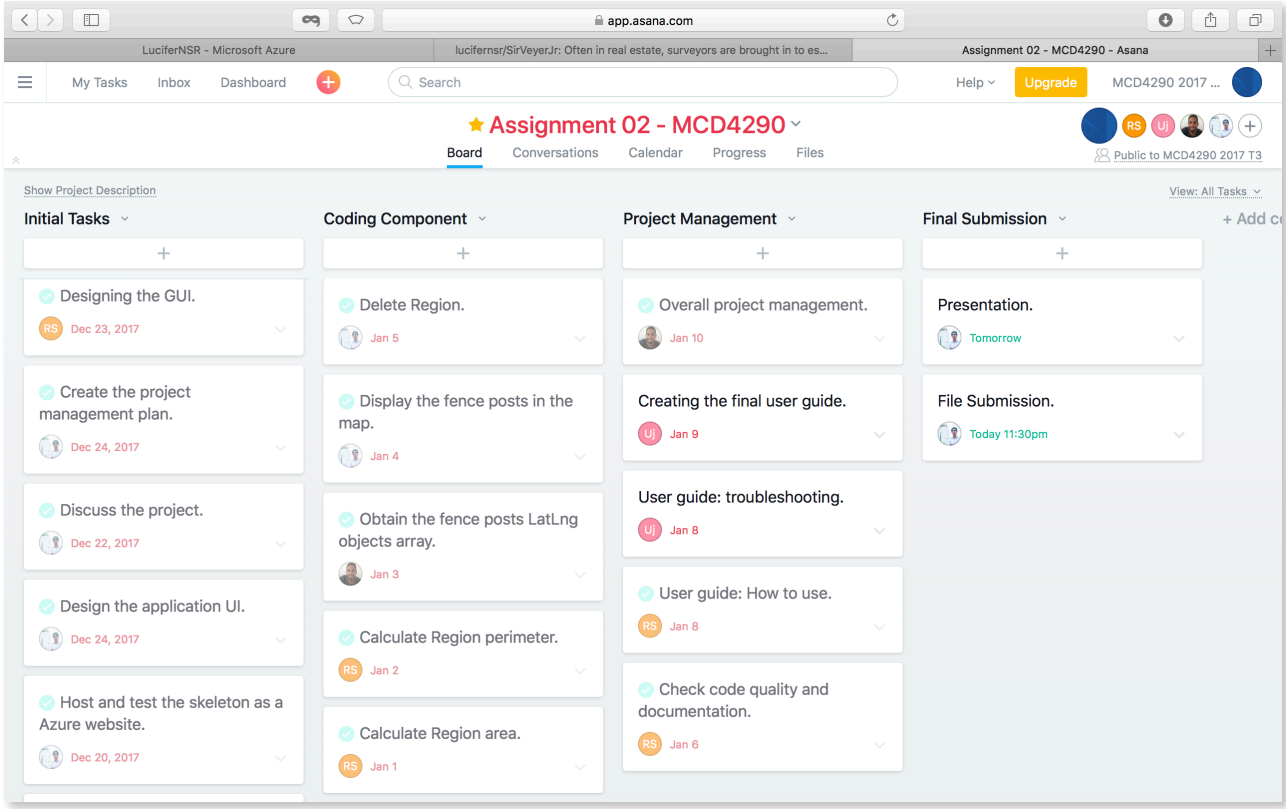
Tools Utilized

- Asana :

  Asana is used as the main scheduling tool and each member is expected to keep track of their individual components using asana mobile app.

- Google Form :

  Google forms was used to inquire team members about available times before scheduling meetings .



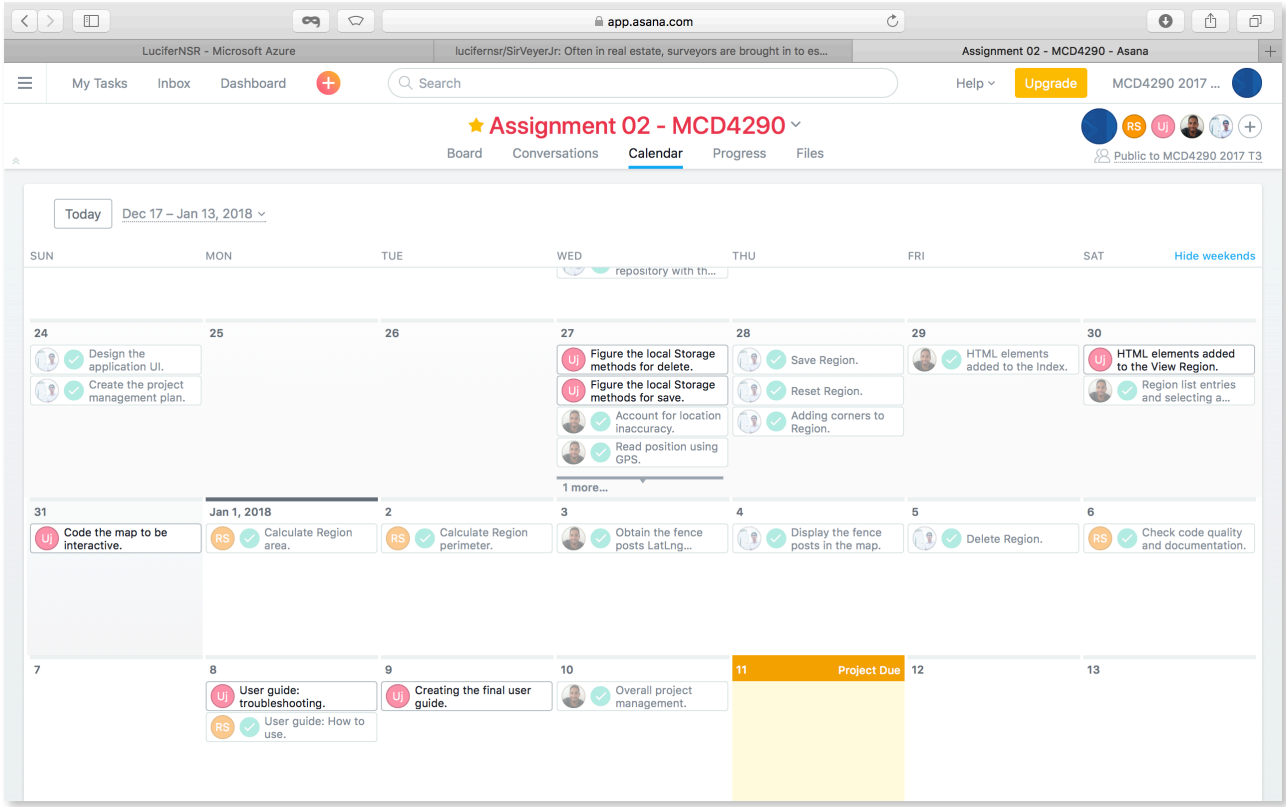
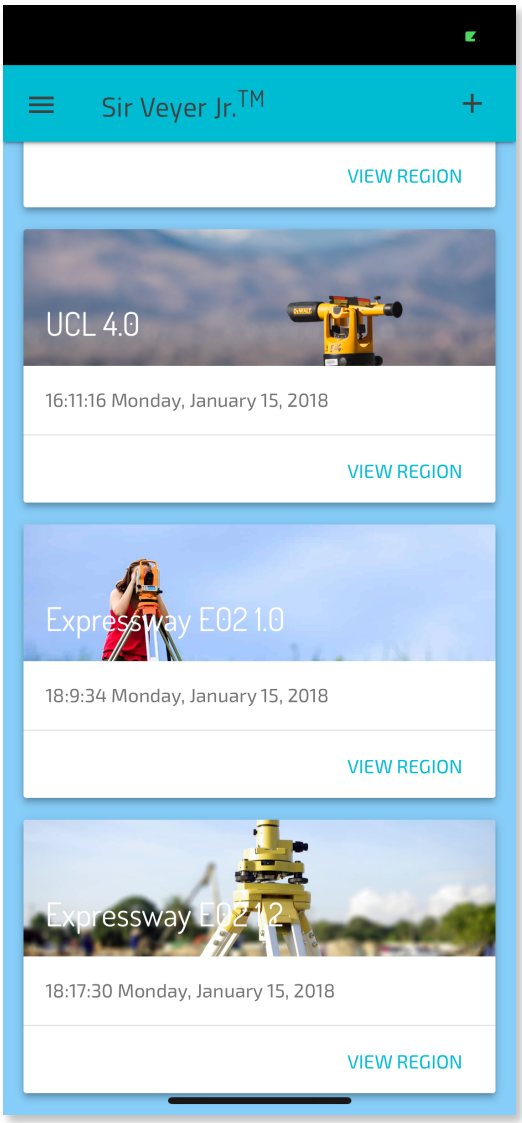


Figure 04 and 05 - Screenshots of the Asana Dashboard of the project taken at the completion of the project.

4.1 Softwares Utilized

Application was tested using a Motorola Moto E (3rd Gen) device and an iPhone X device to ensure the cross-platform supportability.



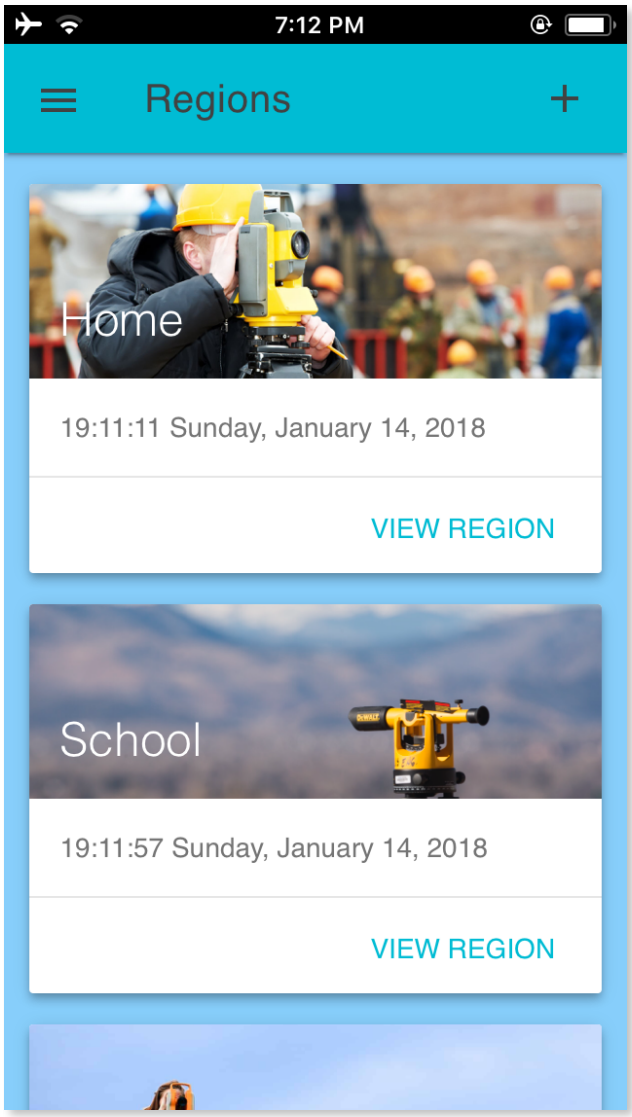


Figure 06 and 07 - Screenshots of the taken using a iPhone X device (left) and a iPhone 5S device (right) in between a testing cycle.

5. Communications Management

The **Sir Veyer Jr.** Communications Management Plan (CMP) defines the project's structure and methods of information collection, screening, formatting, and distribution and outline understanding among the team regarding the actions and processes necessary to facilitate the critical links amongst members, ideas, and information that are necessary for project success.

The intended audience of this CMP is the Team leader, UI Designer and Documenter, the Head of Project Planning and anyone else from the Prop & Tee Pty. Ltd. management whose support is needed to carry out communication plans.

5.1 Meetings

5.1.1 WhatsApp group discussions

Informal group discussions happen on a daily basis to update the team on the status of the deliverables. Due to the team consisting of only four members, this is in fact the most effective and convenient mode of communication. Strategic decisions are also taken quite frequently during such conversations. There is no specific time duration allocated for such discussions and they usually span out during the course of the day.

5.1.2 Formal meetings

Such meetings only occur when very important decisions are made and may or may not include a representative from Prop & Tee Pty. Ltd. as well depending on the case at hand. Attendance is made compulsory for such meetings and one team member is appointed to record the minutes for future references if required.

Following is a summary of the only meeting that occurred in such a manner.

Date	Venue	Points Discussed
02/01/2018	UCL	* Distribution of tasks among team members. * Discussion of the project progress and modification of the timeline accordingly. * Discussion on the documentation (User guide) of the project.

Table 02 - Summary of the meeting conducted

5.2 Sharing project material

5.2.1 Team google drive folder

All the documentation and resources required were shared using the team Google drive folder,

(https://drive.google.com/open?id=1j1IAKT5fA694MAjNyOAcE3mWD6CL3aH3) and team leader is responsible for maintaining the folder.