NIPPON KOEI

BACHELOR OF COMPUTING SCIENCE

CSC2011 TEAM PROJECT

Team 07 & Team 15

P05 Nippon Koei

[Activity survey application for smart city planning]

Team Project

Proposal for Team Merge

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1. Team Breakdown

1.1. Team 7

Name	**Role**
Tang Guan You (Darryl)	Scrum Master & Project Representative
Peh Yuen Yenn, Shermaine	Product Owner & Frontend Developer
Terence Teh Han Yuan	Tech Lead
Lee Jun Hao Jeff	UI / UX Lead & Frontend Developer
Nazir Ahmed S/O Raja Mohamed	QA Lead & Backend Developer

1.2. Team 15

Name	**Role**
Lau Jun Xiang	Scrum Master & Backend Developer
Roshan Dew	Product Owner & UI / UX Lead
Koh Ding Yuan	Tech Lead
Amiir Hamzah	Database Architect & Backend Developer
Kim Beomjun	QA Lead & Frontend Developer

2. Technical Architecture

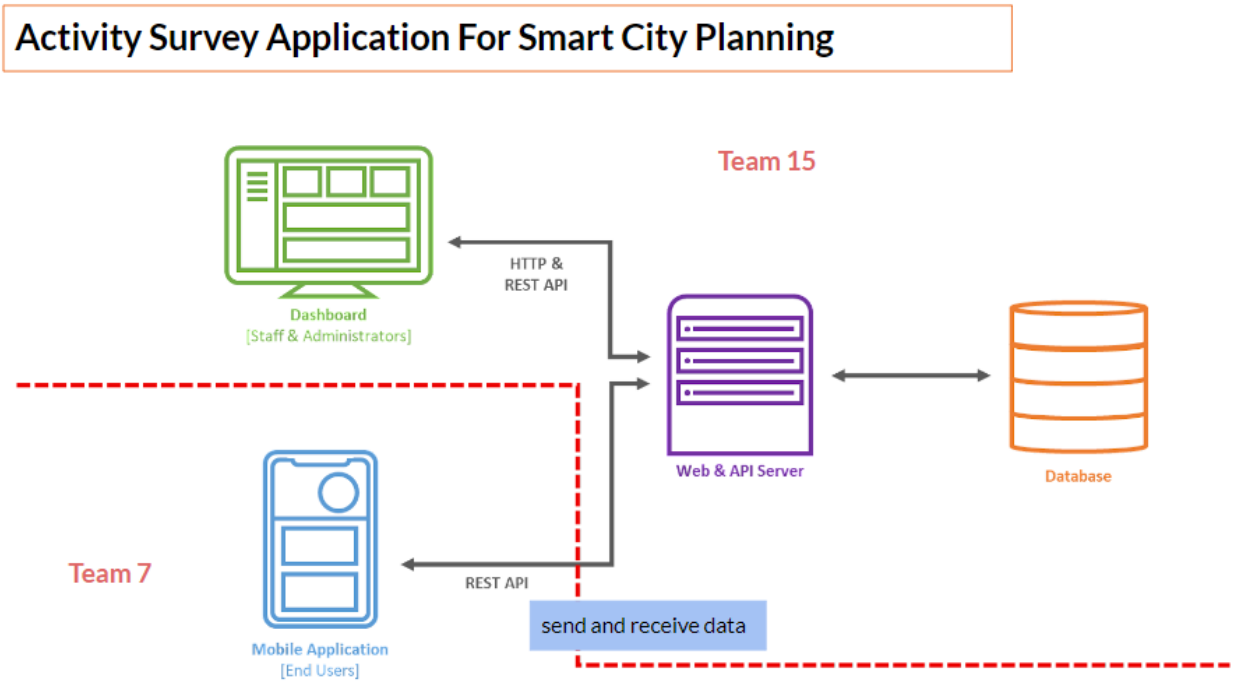


Figure 1

Web & API Server is the central location where the backend would work. The frontend is the Dashboard and Mobile Application. Both Frontend will be retrieving data from the Web & API Server using REST JSON to transfer data across. The Web & API Server will be the only sole connection to the database for both saving and retrieving data.

3. Equal Work Contributions Between Two Teams

3.1. Team 7's Mobile App's Use Case Diagram

This section explains the features that both teams will be working on.

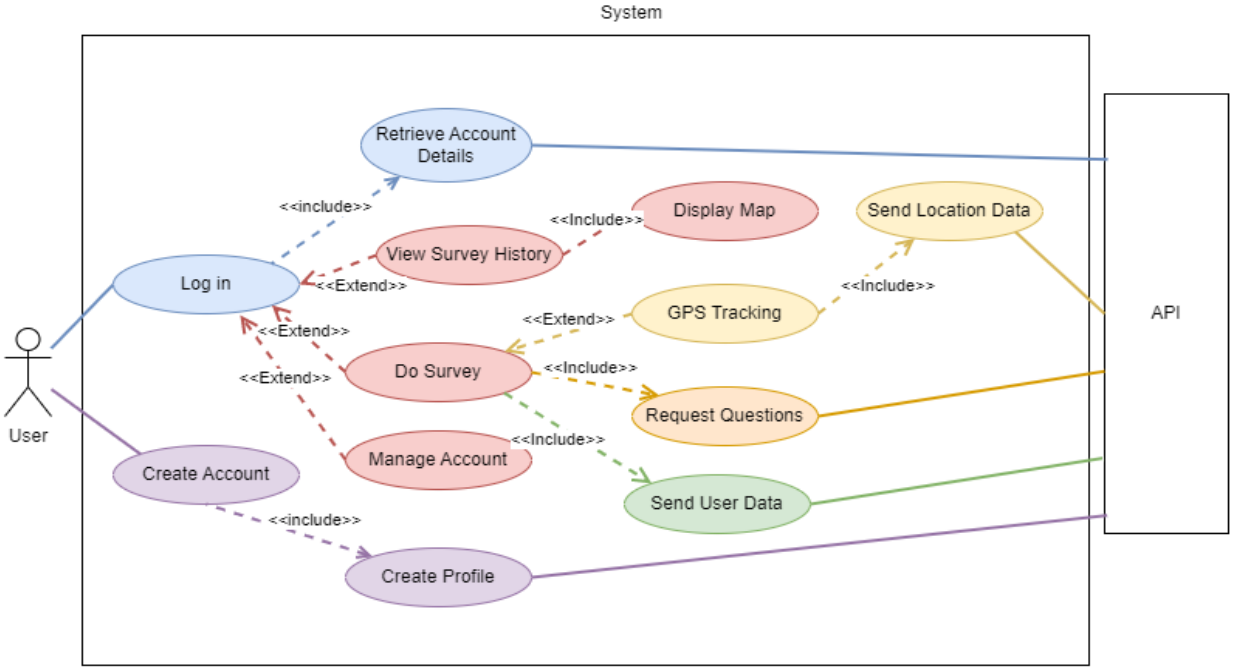


Figure 2

*From the diagram, the GPS features on the mobile application is projected to take about 1 sprint (4 weeks) to complete. GPS path drawing and current pinned location. Auto population of fields like time. Continual background tracking on the user as they use the application.

3.2. Team 7’s Mobile App’s Activity Diagram

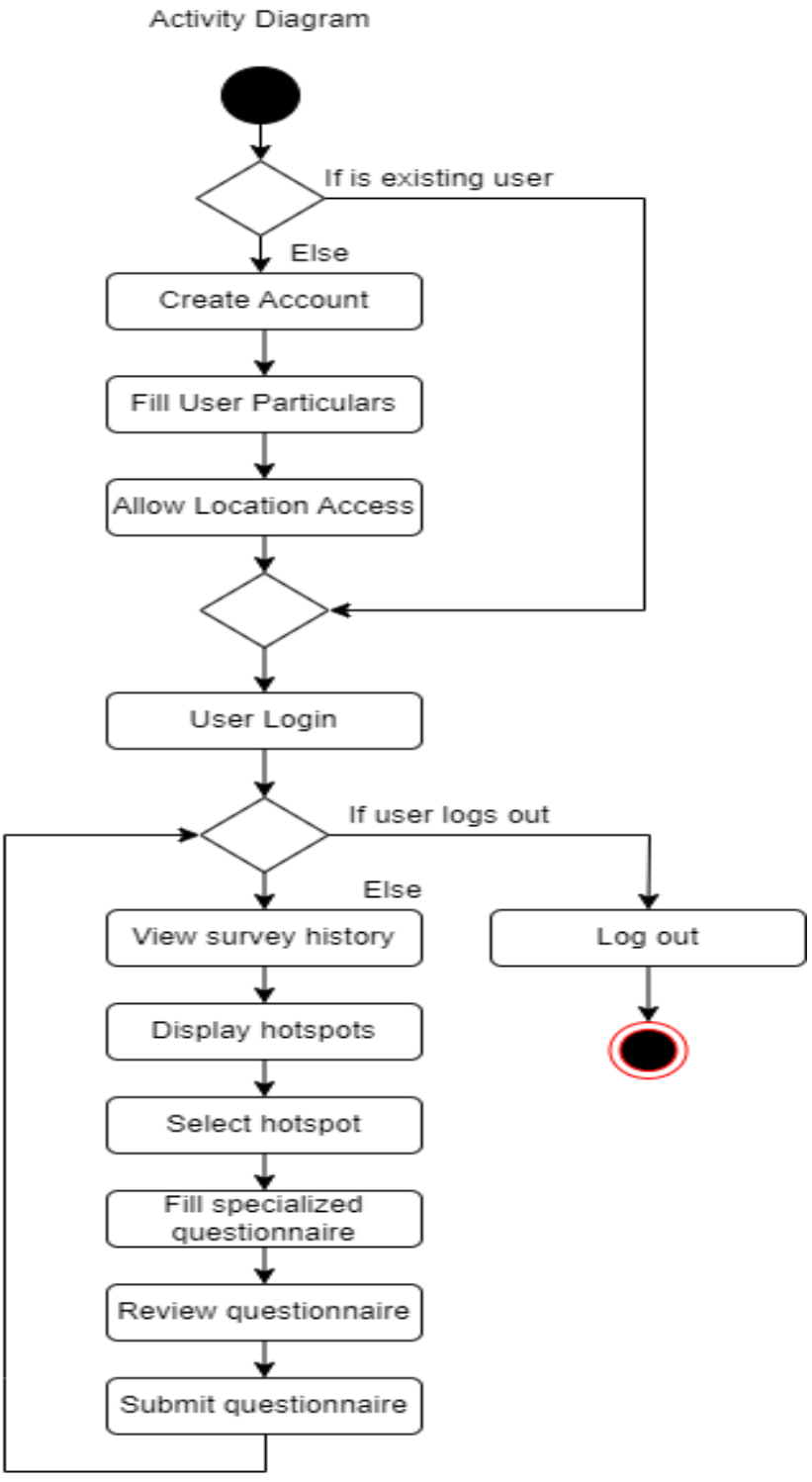
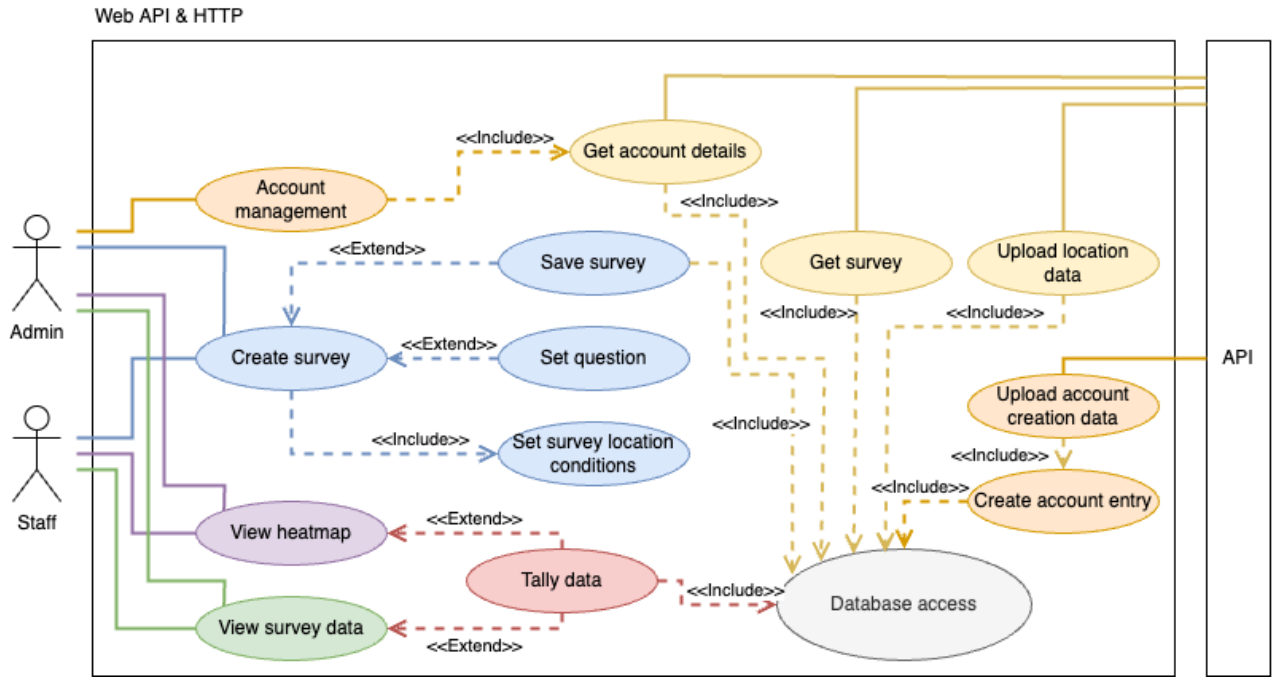


Figure 3

3.3. Team 15's Web & Backend API Use Case Diagram



All Admin, Staff and API needs to do authentication.

Figure 4

4. Overview of Application Behavior (Web and Mobile)

1. Users have to login with a registered account
2. Users must consent to PDPA form
3. Users must consent to Approximate Locations tracking
4. Mobile will automatically take in GPS Data
5. Mobile will prompt survey questionnaires based on Historical GPS Location
6. Staffs can create survey
7. Staffs can view survey results
8. Staffs can view heatmap
9. A staff can also be an Admin
10. Admin can manage users

5. Frameworks

1. Team 7 will be using ReactNative
2. Team 15 will be using ASP.Net Core & Leaflet paired with GeoJSON as our GIS Mapping.

6. Potential problems and solutions

Team 7 will be working on the UI and GPS feature as goals for the first few sprints. The team will not require the API until later. Based on the timeline and proposed features that both teams are working on, there shouldn't be a period where team 7 will be waiting on team 15 to complete the integration of the API.

Team 15 on the other hand will work on dummy data (aligned with team 7’s data sent from the mobile app) when they work on the analytical features of the website.

7. Milestones

Team 7

1. Milestone 1 - UI Figma Prototype (Mobile Application) & Frontend Development
2. Milestone 2 - GPS
3. Milestone 3 - API Calls and Integrations
4. Milestone 4 - Survey & Questionnaire
5. Milestone 5 - UI Refining and Documentation
6. Milestone 6 - Testing & Debugging

Team 15

1. Milestone 1 - UI Figma Prototype (Dashboard) & Accounts
2. Milestone 2 - API and Backend (Data Transform and Filter)
3. Milestone 3 & 4 - Dashboard and integration
4. Milestone 5 - Documentation
5. Milestone 6 - Testing & Debugging

8. Timeline Overview

Sprint # (4 weeks long)	Team 7 Features	Team 15 Features
Sprint 1 (OCT)	UI Figma Prototype and Frontend	UI Figma Prototype and Accounts
Sprint 2 (NOV)	GPS	API and Backend (Data Transform and Filter)
Sprint 3 (DEC)	API calls and Integration	Dashboard (Heatmap and Analytics) and Integration
Sprint 4 (JAN)	Survey & Questionnaire	
Sprint 5 (FEB)	UI Refining and Documentation	Documentation
Sprint 6 (MAR)	Testings and Debugging	

9. UI Color Scheme

Color Code	Emphasis	Representation
Steel Blue #2E81C3 Nippon Logo	Primary Color	
Off White #F5F5F5	Background	
Umber #584D3D	Accent	
Khaki Web #D3C19C	Accent Light	
Dark Sky Blue #86BAC8	Primary Light	
Black #000000	Texts	