Business Case for Campus Map with AR

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1.0 Introduction / Background

The aim of our project, Campus Map with AR is to allow users access to our campus map using an advance technology called Augmented Reality integrated inside the camera of our smartphones. This assist users to find the desired location through navigation function in the application. We believe this project will help raise awareness of the school and provide students with a more convenient way to find their way around.

2.0 Business Objective

The primary goal of this project is to develop an advanced mobile application that provides AR cues to navigate users such as visitors and students within a campus with the use of strategically placed location indicators (Bluetooth beacons) to show positioning in real-time of a user's location. By doing so, users will be able to navigate through unfamiliar surroundings around the campus.

3.0 Current Situation and Problem/Opportunity Statement

As for the current situation of our project, our campus only provides physical campus floor plan for students to navigate themselves to their desired location. However, the floor plan is limited such that students will be confused sometimes and couldn't find their way to their destination. So, this is an opportunity for our team to create a mobile application cater to all students so that they can see the live view directory through their own smartphones at anytime and anywhere.

4.0 Critical Assumption and Constraints

To ensure that our application is nearly perfect and profitable, we need to consult our client more often. Not only can it enable us to improve the application based on the client's needs, we can also satisfy the client as we follow the instruction from the client. As for the minimum hardware requirement, we must ensure that

the application is lightweight and can be used on most smartphones, even smartphones that existed for years. Besides that, the application should only be covered at Monash University area and any unauthorised user that is not affiliated with Monash University is not allowed to use the application.

5.0 Analysis of Option and Recommendation

There are three options for addressing this opportunity:

1. Do nothing, if the project is successful and profitable.
2. Extend the area coverage but separate within private and public areas so that more users are welcomed to use the application.
3. Improve the usability so that the application has a better user experience.

After having a discussion with the stakeholders, we think that the second option is the best option.

6.0 Preliminary Project Requirements

The main features of this AR navigation mobile application include the following:

- Development of a user-friendly mobile application along with a user-friendly general user interface on a selected platform
- Functionality to extract positional information and indicate position in real time
- Functionality to indicate directions during navigation using AR and/or audio clues
- Deployment of adaptive algorithms to assist in navigation for example to obtain the shortest path from the start to the end position.
- Possible translation services to afford for multilingual capability in the application to assist visitors or students with language barriers.

7.0 Schedule Estimate

The supervisor would like to see the project completed before next semester 2024 ended. We also assume that the map can be used for at least 10 years.

8.0 Potential Risks

This project carries several risks. The foremost risk is a lack of interest for clients in the project itself. Besides that, being unable to complete before the deadline is also a potential risk. In addition, compatibility issues with different smartphone models and operating systems might affect user experience such as missing features due to old operating system versions. Lastly, user adoption may vary based on familiarity and comfort with AR technology.