

Redefining the Use of Augmented Reality

Project Plan

Version 3.0
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Jason Gerbes
1274664

Joshua Son
1388288

Paul Lee
1264218

Sean Young
1302108

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0.0 Version History

VERSION 1.0

Version 1.0 is the original version of the Project Plan Document. This version of the document was created as part of the Project Proposal Version 1.0.

VERSION 1.1

Version 1.1 has been changed to address the recommendation provided by the AUT project marking team. The log of changes is below:

Section	Overview of Changes	Date
Title Page	Updated version number and date.	06/05/15
2.0	Work Breakdown Structure changed to better show the iterative process of XP development.	14/04/15
3.1	Project Schedule revised to reflect the reduced number of hours remaining to complete the project.	14/04/15

VERSION 2.0

Version 2.0 reflects the plan proposed in the Change Statement 1 document. This plan changed the scope of the project to, instead, be focused on creating a 'wayfinding' application as specified by Auckland City Council.

Section	Overview of Changes	Date
Title Page	Updated version number and date.	27/05/15
1.0	High Level Overview changed to reflect the new project plan.	15/05/15
2.0	Work Breakdown Structure changed to reflect the new project plan	16/05/15
3.0	Project Schedule revised to reflect the reduced number of hours remaining to complete the project and the new project stages. Milestones changed to reflect the new project milestones.	27/05/15
4.0	Scope changed to reflect the new project plan.	16/05/15

VERSION 3.0

Version 3.0 reflects the plan proposed in the Change Statement 2 document. The project plan was changed back to an altered version of the original plan after contractual negotiations with the Auckland City Council regarding the 'wayfinding' application fell through. This new plan reflects the revised approach and reduced timeframes.

Section	Overview of Changes	Date
Title Page	Updated version number and date.	22/07/15
1.0	High Level Overview changed to reflect the new project plan.	15/07/15
2.0	Work Breakdown Structure changed to reflect the new project plan	17/07/15
3.0	Project Schedule revised to reflect the reduced number of hours and the new project stages.	21/07/15
4.0	Scope changed to reflect the new project plan.	20/07/15

1.0 High Level Overview

1.1 An Augmented Reality Platform Prototype

Luminary Promotions have been in recent contractual negotiations with the Auckland City Council. The Council were exploring the idea of creating a 'wayfinding' application that would help tourists navigate through Auckland City. The negotiations have stalled as the Council currently feels that creating the application would be too "high risk." Luminary would like a prototype of the application built to demonstrate its potential to the Council.

The application to be created is an Augmented Reality platform with GPS functionality. A user would be shown the view from their phone's camera. Overlaid on this view will be GPS positioned markers near the user's current location. The compass from the user's phone will be used to orientate the markers in such a way that rotating the phone in space will show the markers in the direction of the camera's lens. The application would allow Luminary to deploy/modify GPS nodes at runtime, and content could be streamed from Luminary's servers to reduce the application's size.

1.2 Phase One: Background Research

Phase One is a research process that is expected to take one week to complete. During this time, each member of the group will perform background research about the Augmented Reality technologies available for us to use.

The knowledge gained from this research will allow us to form our requirements specification in such a way that is feasible, given our time constraints.

1.3 Phase Two: Requirements Specification

Phase Two is the requirements specification phase. Requirements will first be elicited from Luminary as a feature 'wish list.' The group will leverage their background research of Augmented Reality technology to ask provoking questions, in order to create a full requirements list.

Bigger requirements will be broken down into their smaller counterparts. The small, specific requirements will be rewritten in a standardised format. After being confirmed by Luminary, the requirements will be prioritised. The prioritised requirements will be used to establish the scope and expectations of the project.

1.4 Phase Three: Development

Phase Three will be the development phase of the application, in accordance to the approved Requirement Specification document created in Phase Two. We will follow the Extreme Programming methodology for the planning, execution and evaluation of the software system.

Phase Three will result in a working prototype of the Augmented Reality application for further development by Luminary Promotions and demonstration to the Auckland City Council.

The exact timeframes for Phase Three will be determined by the length of Phases One and Two, but the expected overall duration of Phase Three is 12 weeks.

2.0 Work Breakdown Structure

Disclaimer: The processes stated are indicative only and subject to change later into development. It can be expected that some sub-processes cannot yet be accounted for.

Below is a high-level work breakdown structure in tabular form with PMI numbering:

1. Phase One: Background Research
 - 1.1. Individual Research of Augmented Reality technologies available (based on Action Research Methodology)
 - 1.1.1. Plan
 - 1.1.2. Act
 - 1.1.3. Observe
 - 1.1.4. Reflect
 - 1.2. Collaboration of Ideas
 - 1.2.1. Presentation of Individual Research
 - 1.2.2. Group Discussion
 - 1.2.3. Prioritisation of Ideas
2. Phase Two: Requirements Specification
 - 2.1. Elicit requirements 'wish list' from Luminary
 - 2.1.1. Gather preliminary requirements
 - 2.1.2. Provoke further requirements
 - 2.2. Break large requirements down into smaller counterparts
 - 2.3. Rewrite requirements in a standardised format
 - 2.4. Confirm the gathered requirements with Luminary
 - 2.5. Get Luminary to prioritise the requirements
 - 2.6. Decide on the scope of the project, aka which requirements will be met
 - 2.7. Create a contract with Luminary regarding scope and expectations of the project
3. Phase Three: Development (based on Extreme Programming Methodology)
 - 3.1. Execute Development Iteration (repetitive process)
 - 3.1.1. Plan
 - 3.1.2. Design
 - 3.1.3. Coding
 - 3.1.4. Testing
 - 3.1.5. Evaluate (Listening Through Feedback)
 - 3.1.6. Return to 3.1

3.0 Time Management

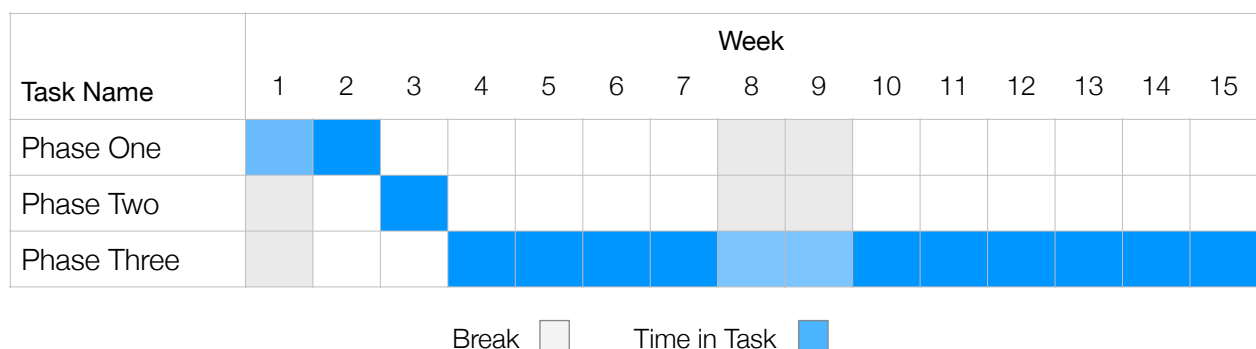
3.1 Project Schedule

Disclaimer: This project schedule is indicative only and subject to change. It is to be interpreted as a high-level overview of the project tasks only and will be refined later into development.

Each project team member will work 10 hours per week during working weeks. A reduced number of hours will be worked during break weeks, as decided by the group on a case-by-case basis. Development tasks may be scheduled during break weeks, but meeting duration and frequency will likely be reduced during these times.

Project Start Date: 22 July 2015 (week 1)

Project End Date: 25 October 2015 (week 15)



- **Phase One: Background Research**

Duration: 2 working weeks

- Start Date: 22 July 2015
- End Date: 5 August 2015

- **Phase Two: Requirements Specification**

Duration: 1 working week

- Start Date: 5 August 2015
- End Date: 12 August 2015

- **Phase Three: Development**

Duration: 10 working weeks + 2 weeks during breaks with reduced work hours

- Start Date: 12 August 2015
- End Date: 25 October 2015

3.2 Milestones

Each of the three phases' end dates will be considered a major milestone of the project, as will the project start date and end date. As the phases are broken into smaller sub-processes, minor milestones will be set during each phase (especially during development — Phase Three).

These milestones will be agreed with the supervisor and client, and will usually result in a deliverable of some description. The final deliverables of each phase are crucial for the following phase, with Phase Three resulting in the completed project.

4.0 Scope

The project is split into three phases: a background research phase, a requirements specification phase and a development phase. The result of the research and requirements specification phase will determine the scope of the development phase.

It can be expected, given the constrained timeframe, that the Augmented Reality platform application produced will be an early prototype only. The prototype application will give Luminary a head start into production, and will act as a basis for further contractual negotiations with the Auckland City Council.

Disclaimer: The information below is a current, incomplete view of the scope as of 22 July 2015. The scope of the developed application will be determined by the result of Phase Two.

4.1 Objectives

We aim to create a prototype Augmented Reality platform application which:

- Implements Augmented Reality to display nearby GPS markers.
- Can have GPS markers added, removed and modified at runtime.
- Meets the requirements agreed with Luminary.
- Acts as a working prototype/proof-of-concept.
- Can be developed by Luminary further.

4.2 High-Level Requirements

The high-level requirements of the system are below. These requirements will be refined throughout Phase Two of the project.

- Research will be performed to give the group background knowledge around Augmented Reality technologies. This research will aid in development and requirements specification.
- The high-level 'wish list' requirements need to be gathered from Luminary.
- A working prototype/proof-of-concept of the application will be produced.

4.3 Major Deliverables

Each phase will result in a key deliverable:

- Phase One — Background research of Augmented Reality technologies, as well as functional prototype applications.
- Phase Two — A complete, prioritised and approved requirements specification document, as well as a contract with Luminary around the scope and expectations of the project.
- Phase Three — A working prototype/proof-of-concept of the platform application.

4.4 Boundaries

The boundaries of the scope are as follows:

- We will not be creating the Augmented Reality content. This will be done by Luminary.
- We will not be responsible for marketing the application.
- The UI and UX design will be decided by Luminary (in part).
- We will not be creating the Augmented Reality technology itself. Vuforia will instead be used. Our focus will be on the implementation of the technology.
- The application will be an early prototype only. It will not be a fully functional application.