WikiWalks – Inception Phase Status Assessment

# Assessment Against Objectives

## Do We Know What We Are Trying to Achieve?

The aim of the project is to develop an application and server that allows users to crowdsource bush paths in their area.

We understand the main functional requirements of the project are:

* displaying paths in a user’s area over a map
* allowing users to record paths
* allowing users to mark points of interest
* allowing users to rate paths
* allowing users to schedule group walks
* saving data offline
* saving paths for later

We understand the main non-functional requirements of the projects are:

|  |  |
| --- | --- |
| Requirement | Priority |
| Performance – the back-end needs to be quick, and the front-end needs to run smoothly on all devices | 1 |
| Scalability – the server needs to be able to handle having many paths and many users | 2 |
| Backup – in case there is data corruption, backups are important | 3 |
| Ease of use – the app should be simple and easy to navigate | 4 |
| Reliability – the server should have as little downtime as possible, and the app should retain basic capabilities when there is no server access | 5 |
| Privacy – the app and server should collect as little information as possible about users | 6 |

This is shown in the completed non-functional requirement model embodied in the vision and the requirement model documents.

## Do We Know How We Are Going to Achieve It?

We have a good idea of how we are going to achieve our aims. We are going to use a server built in Python to send and receive JSON data to an Android application built in Java using the Google Maps API. This is shown in the completed architecture notebook.

We have a good understanding of the project specific risks facing our project and how we are going to deal with them. The risks are:

|  |  |
| --- | --- |
| Risk | Priority |
| WikiWalks will be unable to complete the project initiation stage. | 1 |
| Individual task in the project takes longer than expected to complete. | 2 |
| Google Maps API is too expensive to use for the WikiWalks project. | 3 |
| A member of the WikiWalks development team leaves the project. | 4 |
| Team is affected by COVID-19 or other illness. | 5 |
| Application front-end is unable to be implemented on older Android versions. | 6 |

Our evolving understanding of risks is shown in the ongoing risk list, with more specific software risks in the master test plan, and discussed further below in Section 4.

We have a good understanding of how we are going to check that our application delivers the intended functionality and system properties. Our key areas of concern are as follows:

* performance
* data integrity
* reliability
* scalability
* usability
* recording paths
* adding paths
* getting paths
* editing paths
* working offline

These will be primarily addressed with the following test strategies:

* unit testing, done upon each component’s completion, using test driver Python scripts for the back-end and JUnit for the front-end
* integration testing, done upon each software part’s completion, using test driver Python scripts for the back-end and JUnit for the front-end
* system testing, done upon completion of both software parts, using some scripts, but mostly by testing builds of the software like a user
* acceptance testing, done upon completion of all components, using real-world users to find bugs and provide feedback

This is shown in the completed Master Test Plan

We have a good understanding of the dependencies and likely completion times for different parts of the project. Target completion dates for key aspects of the project are as follows:

|  |  |
| --- | --- |
| Aspect | Target Completion Date |
| Server | 2020-04-26 |
| Front-end – pulling paths | 2020-05-10 |
| Front-end – recording paths | 2020-05-24 |
| Front-end – everything else | 2020-09-06 |
| Testing | 2020-10-03 |

This is shown in the initial project plan.

## Skills Required

Our project requires skills using the following key tools and technologies:

* Python, along with Flask, SQLAlchemy, and Marshmallow
* Java
* Android API
* Google play services
* Google Maps API

We have demonstrated that we have the skills to use these technologies through the implementation of a technology competency demonstrator.

# Deliverables

## Project Vision

The project vision has been fully completed with all required information. There were no issues encountered producing the document.

## Initial Requirement Model

The initial requirement model has been completed with required diagrams and most required information. One issue encountered was a lack of understanding of what needed to be in the document and not realising a lot of it was required until late. This was mostly solved by reading the rubric, however the extent of what was needed and the term “system-wide service” were confusing and were not able to be clarified before submission. Another issue was a misunderstanding of what was required for the domain model, meaning that part had to be redone entirely.

## Proposed Architecture

The proposed architecture has been completed and submitted. There was initially an issue of poor understanding of what needed to be included, however this was resolved after a meeting.

## Risk List

The risk list has been completed with a number of risks. The team was not sure if these were supposed to be generalised “what could go wrong” risks, or specific software and NFR risks, so the former was used with specific and NFR risks being in the requirement model and test plan.

## Master Test Plan

The master test plan has been completed to a standard with all information that could be thought of. There were no issues producing the document.

## Initial Project Plan

The initial project plan was completed. There were no issues encountered.

## Technical Competency Demonstrator

The technical competency demonstrators were developed, one for the server, one for the app, and successfully show competency in the required skills for this project. There were no issues.

## Inception Phase Project Status Assessment

This document has had no issues being developed, save for it having to be relatively rushed.

# General Issues

## Isaac Leaving Team

Mid-way through the phase, Isaac announced he will be switching to a different project. The team has accepted this, and he has finished his assigned work. However, this will result on a bigger workload each for the rest of the team from now on, so members will need to get used to that.

## Slow Start

Due to misunderstandings of terms, the phase had a slow start and required redoing a lot of sections. This was resolved by members working extra hard and everything was completed on time, but lead to some tight time constraints.

# Risks

## Unable to Complete Initiation or Inception

The biggest time for failure of any project is right at the start due to messy, vague ideas and plans. This risk has been resolved as the initiation phase has been passed and the project is looking like it has a high chance of succeeding.

## Individual Task Causes Hang-Up

Tasks sometimes may take far longer than expected, and this will continue to be the case throughout this and really all projects. There is no solution to this, however the team is preparing to help mitigate it by communicating regularly and redistributing work if necessary.

## Google Maps API Cost

Google Maps provides a free tier with plenty of functionality and $200 of credit each month, but for more advanced functionality it can end up costing money to the developers. The team does not have an external sponsor that could help with this. It is unlikely that this risk will ever become a reality as those advanced features mostly aren’t needed, but in the occurrence that it does happen, the team will plan to switch to a free alternative such as OpenStreetMaps.

## Member Leaving

This ended up occurring. Due to another project being short on members, one team member transferred to another project. The mitigation strategy is simply to have the member complete their already assigned work as much as they can, then reassigning the work and future work to just the remaining members. This is not a huge blow to the project currently as 3 members should be sufficient, however if it happens again it could be devastating.

## Illness

Due to the global coronavirus pandemic, there is a non-negligible chance that at least one team member infects it and is unable to work effectively for a period of time. The mitigation strategy is the same here as for the member leaving – reallocating work to the other members. This could lead to extremely high workloads on the remaining members, however it’s all that can be done.

## Application Incompatibilities with Older Android

The app aims to work on as many devices as possible, whether old or new, high end or low end. For that reason, the app will be avoiding using APIs that make it impossible to function on versions ideally down to Jellybean, at least to KitKat. If there is simply no efficient way to keep these compatible, support may be dropped at the expense of a small amount of potential market share. This is an on-going risk, however it unlikely to occur, just worth keeping in mind in case.

# Summary

The project is on-track and has successfully completed and submitted all deliverables for the inception phase. The project’s vision and plan is clear. This meets the team’s goals for this phase.

There are no current on-going issues, and all on-going risks have been taken into account for as best as they can, although they are primarily either not addressable at this phase or are out of the team’s control.