**Software Engineering Group Project**

**(Group 13)**

**Template**

|  |  |
| --- | --- |
| Author: | Tim Au |
| Ref: | [Category] |
| Date: | 2013-10-26 |
| Version: | 1.1 |
| Status: | Draft |

CONTENTS

[CONTENTS 2](#_Toc370861628)

[Overview of the Proposed System 3](#_Toc370861629)

[*Platforms* 3](#_Toc370861630)

[Android: 3](#_Toc370861631)

[Java: 3](#_Toc370861632)

[PHP: 3](#_Toc370861633)

[PostgreSQL: 3](#_Toc370861634)

[*High Level Architecture* 3](#_Toc370861635)

[Database and Internet connectivity: 3](#_Toc370861636)

[Record Walk: 3](#_Toc370861637)

[Record Walk Options: 4](#_Toc370861638)

[New Location: 4](#_Toc370861639)

[Adding Photos: 4](#_Toc370861640)

[Walking Tour Displayer: 4](#_Toc370861641)

[*Target User Description* 4](#_Toc370861642)

[GANTT CHART 5](#_Toc370861643)

[USE CASE DIAGRAM 6](#_Toc370861644)

[Usecase of Android App 6](#_Toc370861645)

[Usecase of Web Interface 6](#_Toc370861646)

[RISK ANALYSIS 7](#_Toc370861647)

[Task 7](#_Toc370861648)

[Hazard 7](#_Toc370861649)

[Risk Level 7](#_Toc370861650)

[Procedure 7](#_Toc370861651)

[UI DESIGN 9](#_Toc370861652)

[DOCUMENT HISTORY 10](#_Toc370861653)

Overview of the Proposed System

*Platforms*

Android:

It is an explicit requirement of the client for the Walking Tour Creator (WTC) to be developed for an Android mobile phone.

Java:

As specified in the requirements specification provided by the client, it is corporate policy for all Android software to be developed in Java, using Android Studio or Eclipse as the IDE. Since more people in the group have more experience in Eclipse and, unlike Android Studio, is not still undergoing alpha testing, this is the IDE we will use.

PHP:

The client specified that we are required to use HTTP POST to send to the server in the form of a Multipurpose Internet Mail Extensions (MIME) message. We will use PHP to do this.

PostgreSQL:

Required by the client is that the database used to store the walks created by the Walking Tour Creator should be SQL-based and should be available in the Computer Science department of Aberystwyth University. Since PostgreSQL is being taught in lectures and is widely used in the industry, we will use it for the web side of our application.

*High Level Architecture*

## **Database and Internet connectivity**:

This is the requirement of the system that allows data to be sent across to the database server. Without both of these, it won’t be possible to save the walk on the server.

## **Record Walk**:

The main requirement of this app is for users to be able to record walks using their phone’s GPS tracking feature. They should then be asked to provide details about the walk.

This is the main app start screen, whereby the user can start recording a walk. This is also where the user should be prompted for the details on the walk.

## **Record Walk Options**:

The specification for the group project states that when a user chooses to start walking, they should be given the option to cancel or save the walk recording or add a location. This component will be where the user can select one of these options.

## **New Location**:

This is the component where the user will enter information about a new location on the walk.

## **Adding Photos**:

In order to capture new photos to store alongside the walk, we will need to use the Android device’s camera application. If the user instead chooses to use an existing photograph, we will need to access the Android device’s gallery application. This is where the user will be able to do this.

## **Walking Tour Displayer**:

This is where the users will be able to view the walks they have created and any information stored about them. This will be achieved using the Google Maps API. The reason for this being that it is widely used and is intuitive to use. Our target user group are likely to have a resounding knowledge of Google Maps and so this is a justifiable solution. This will be in the form of a web application.

*Target User Description*

The specified target user group for our product will be Second Year Computer Science students. They are said to be typically lazy but familiar with standard computer interfaces. It is therefore vital that we make the system as intuitive as possible, designing the software so that as few keystrokes and mouse movements as possible need to be made.

# **GANTT CHART**

# **USE CASE DIAGRAM**

|  |
| --- |
| Usecase of Android App |
| **C:\Users\Tim Au\Desktop\Usecase%202.png**Usecase of Web Interface |

RISK ANALYSIS

|  |  |  |  |
| --- | --- | --- | --- |
| Task | Hazard | Risk Level | Procedure |
| Develop an android app to capture GPS coordinates and take photos of a walking trail around Aberystwyth | Requires knowledge of Android, which isn't among regular courses so will require extracurricular learning. GPS coordinates might be difficult to capture if the device used to capture them has no signal. | Moderate | Attend Android workshops and follow worksheets for basics. |
| Develop a web interface to view the photos and locations on Google maps | Might need to find hosting for the site, as well as requiring PHP. | Low | Could use the university hosting, already have PHP enabled for other module's assignments. |
| A database to store the GPS coordinates | Will need to ensure more than 1 person can connect at the same time. | Moderate | If not on the uni hosting, make sure speeds are good and that the database is coded well. |
| Create the work by the deadlines | Team members could miss meetings or fall behind on work due to illnesses or other unforeseeable things, as well as having to focus on other assignments. | Moderate/High | Have people in a backup role to the role leader in case of absence. Keep communication between the main and the backup so each is up to speed and can communicate that to the rest of the team. |

UI DESIGN

DOCUMENT HISTORY

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Version* | *CCF No.* | *Date* | *Changes made to document* | *Changed by* |
| 1.0 | N/A | 27/10/13 | First version of the document | yta |
| 1.1 | N/A | 29/10/13 | Added Risk ,Usecase,Overview | yta |
|  |  |  |  |  |