Project Research Document – Gigs Around Me.

X00107586 Michael Smith

11 October 2016

**1. Detailed Discussion**

My proposed idea for the final year project is the creation of a mobile phone application that will allow users to enter their location and the app will return a list of concerts within a specific distance from the user. The user will enter a specified dateline as well so they can see what upcoming concerts will be on around them in a specified period.

The app will also give the user the ability to search for a specific band or artist to see if they have any upcoming gigs around the user’s area. The user will also be able to search by genre so if they have an interest in a certain genre they will be able to see all the gigs in that genre.

The app will also allow a user to listen to samples of bands songs, so for example if a user searches by genre and finds a band they have not heard of before they will be able to listen to a short sample to find out whether this band appeals to them.

The users can create their own accounts on the app and then will be able to purchase tickets to the concerts they find through the app. I am hoping that I can add a feature where a user will pay through the application and then receive confirmation and their tickets through the application. The users will then show their ticket in the app when they get to the concert and it will be scanned allowing a user to enter a concert without the need of printing any tickets off or waiting for them to be posted out.

I would also like to take the most popular concerts and create a trending section by taking tickets sales and showing users, which concerts are the most popular and this will also let users know which concerts tickets are selling fast.

A user can also search for artists to see if they have any tours that will be coming to their area in the future and will be able to track artists and receive alerts if an artist they are tracking announces a concert. Artists will also have a short biography about them.

I am also considering adding a competition section that will allow the user to answer a question and then at the end of a specified period, e.g. on a monthly basis, be entered into a draw and win tickets to a concert.

This app is aimed mainly at people who love going to festivals and concerts, giving them ability to easily check what concerts are coming to a location near them. This app is aimed at people who love to discover new artists, allowing users to listen to samples of music by artists they may not have heard before. This app is aimed at people who want to receive the tickets they purchased securely and immediately, with no waiting around to receive tickets by post or having the possibility of them being lost during transit.

Simply put this app is for all music lovers.

**2. Existing Applications in this domain.**

Throughout my research, I have come across a few websites that offer a similar service to the application I intend to design. Below is a table of some similarities and differences between these sites and my proposed application.

|  |  |  |
| --- | --- | --- |
| **NAME** | **SIMILARITIES** | **DIFFERENCES** |
| BandsInTown | * Allows users to purchase concert tickets online. * Can track artists. * Has a similar trending format. | * Does not allow a user to find concerts based on location. * Does not allow users to sample unknown artists. * No search option for artists. * Hoping to add a competition section. |
| Songkick | * Ability to enter location. * Ability to track artists. * Can search by artist or concert. * Has a popular section similar to the trending one I want to implement. | * Competition section. * Samples of music. * More specific location accuracy. * Songkick is a website, unavailable as an app. |
| JamBase | * Ability to search for an artist * Ability to enter location * Tour information * Competitions | * Music samples * Trending section * Available as an app. |

**3. Platform, Technologies and Libraries**

The OS I will be using during implementation of my application will be Windows as I will be using Android Studio as the environment to create the application.

The language I will be using to write the code will be Java; I will be using IntelliJ as the software on which I will write my code.

I will be using Microsoft Azure to create and run a website in which a user will be able to download the app. May also use Azure to create a server for streaming audio.

I will need to create a database to store and retrieve data in the application so I will use Oracle SQL Developer for this purpose.

I will also be using RESTful Web Services to minimize the coupling between the application and the server I will create.

Some of the libraries I intend to use include Retrofit, which turns a RESTful API into a Java interface. In conjunction with Retrofit, I will be using GSON, which is used for the serialization of Java objects. I have also been looking at ActiveAndroid which will allow me to communicate with my database easily without having to write SQL statements. Another library I want to use is Universal Image Loader for the loading of images within the app.

I will also be using EventBus, which is used to simplify code, remove dependencies and speed up the app development.

These are just a few of the libraries I want to include in the development of the app.

I will also need a QR scanner to show that the QR code on the user’s tickets can be scanned.

I will also need a mobile device to test that the application is working.

**4. The risks**

There are numerous risks involved in the production of this application. The first that comes to mind is a lack of any real experience with some of the technologies that I will be using. I have never created an application before so have not used Android Studio. This should not affect me too much though as I am certain there are numerous videos and tutorials explaining how to use Android Studio.

It has also been a long time since I have used Java to write any code so trying to remember the syntax and working out the rustiness may take a while although I should find my way with that quickly.

Some of the bigger risks are the use of Azure and RESTful web services. I have almost no experience using these technologies and it is a little daunting knowing that I will have to learn and implement these in my project.

There are a number of libraries I wish to include in the app so there is also a risk involved in selecting the correct libraries so that the app will run correctly.

I will also need to ensure that the GPS location that I use is accurate, as it will display the wrong results if the accuracy is off.

There are a number of risks involved when you create a project using a lot of new technologies and creating a piece of software that you have never created before but I am feeling confident in my ability to complete this project and look forward to taking on the challenge.