School of Computing

Year 4 Project Proposal Form

SECTION A

Project Title: Airport Assistant

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Stream: CASE

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SECTION B

General area covered by the project

Airport Assistant is an Android Application to help users, primarily those who suffer from anxiety, with dealing with passing through an airport. According to travelweekly.co.uk a study conducted by CPP found that one third of people find a working week to be less stressful that taking a flight and a quarter say it would be less stressful to move house than to take a flight. The purpose of this application is to take the stress out of air travel and make it more accessible to people who avoid travelling due to fear of the panic it will cause. Airport Assistant works by, instead of overloading users with information about the airport, bringing them through the process step by step, completing checks, giving advice and providing important information. It is almost like someone holding the user's hand and being their assistant throughout the journey.

Outline of the Proposed Project

Background

Airports can be stressful for most people but are especially daunting for those who suffer from anxiety. I came up with this idea as I myself struggle to handle the strain associated with airports. Such an application would help remove the ambiguity and lack of control users may feel when in the airport and hence the stress involved with air travel.

Achievements

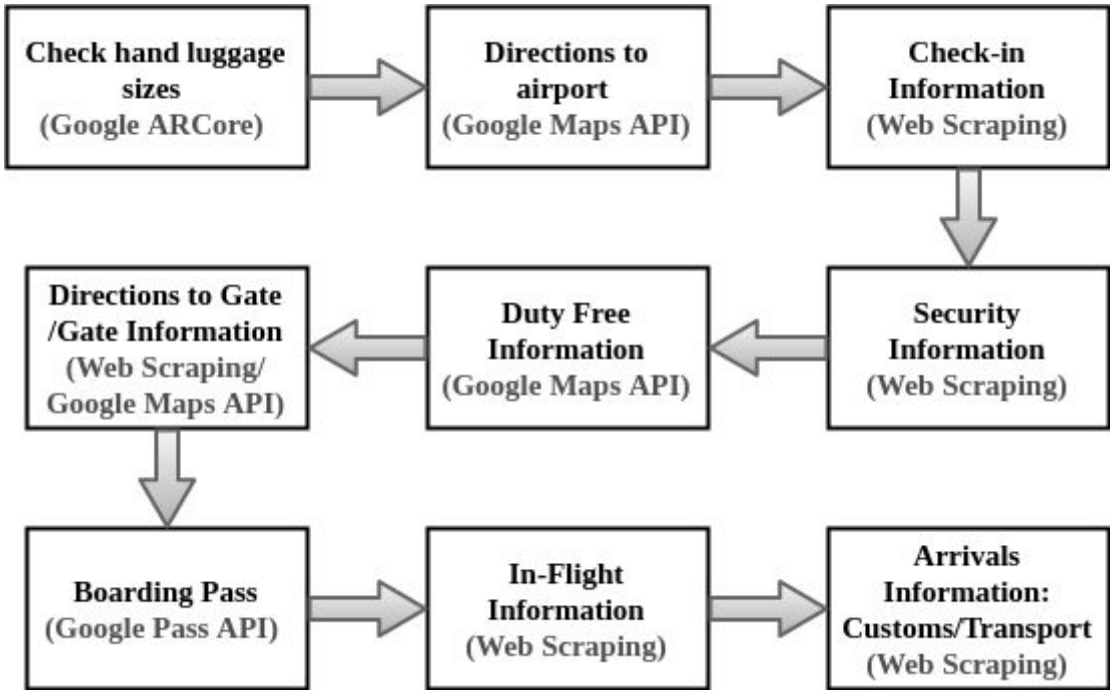
The purpose of Airport Assistant is to help people who are passing through the airport handle the nerves associated with the process, especially those who may suffer from anxiety or are nervous about travelling. The application brings them step by step through the process, almost like someone is holding the user's hand. The primary feature of the application is the AR (Augmented Reality) functionality for

measuring luggage sizes. This will help ease the worries of users who are concerned that their hand luggage may not meet the requirements of there airline before the leave home. Similarly, features such as security tips and walk times to gates will help make the entire process less stressful.

Justification

Airport Assistant will be used by people who are heading to or are at the airport and is primarily focussed at those who find airports to be nerve-wrecking.The application will help put travellers at ease by keeping them informed on whether their luggage meets the airlines requirements, being kept up to date on each stage of the process, getting helpful advice throughout the airport and being informed on walk times so that there is no need to worry about how far away the gate may be. Currently users can obtain information about certain elements of the process but cannot access them all in one place where they are carried through the airport journey almost as if they have an assistant with them taking care of the worrying so that they do not have to.

A diagram of how Airport Assistant would work...



Programming Languages I intend to use and why…

- Java
    - Many libraries and plugins to interact with other technologies I intend to use throughout the development of the application.
    - The AR functionality of the application will be written using Java.
- XML
    - User Interface
- Python, Bash Scripts
    - These will be used for the web scraping aspect of the project.

- SQL
    - For querying the MySQL database

Programming tools I intend to use and why…

- Intellij for development
    - Intelligent IDE
    - Works well with Android projects, eg. Can run emulator

- Google ARCore SDK
    - Google's platform for building AR experiences
    - Create AR functionality of the application using this SDK

- Google Pay API for passes
    - To extract data from boarding passes
    - Display boarding pass in application

- Google Maps API
    - Map directions to specific gate and give estimated walking times
    - Map directions to airport

- MySQL Database
    - Open source SQL database

Learning Challenges

- Working with AR (Augmented Reality)
- Web Scraping
- MySQL Database
- Working with selected Google APIs

Hardware/Software Platform

- A Linux PC
- Android