School of Computing  
CA326 Year 3 Project Proposal Form

**SECTION A**

Project Title: DCUGO

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Project Description (1-2 pages):

The design of this project is to create an android app that’s target audience is aimed towards newly beginning first year students, foreign exchange as well as non-knowledgeable DCU students, tourists and people that may have sight impairment. The application will require the user to input their student timetable

The table will be initially read from user input and hopefully at a later date we plan to incorporate OpenCV to read a picture of the student’s timetable automatically for increased efficiency. As a result of this they will be notified in real time throughout the day of their oncoming lectures. From this notification the student can then open up the app where it can be further utilized to direct the student in the most efficient route possible to their upcoming lecture. To do so we will need to implement Google Maps API to acquire the current location of the student so it can be compared against their current goal location. By using these libraries, we will be able to get their precise location within DCU. We will then overlay our own designated image of DCU over google maps using MapTiler, mapping the image to their actual coordinates on google maps and create a pixel grid which will allow us to create the desired waypoints to buildings using A\* search indicating to the user the most efficient path/route to goal location. After splitting room code a string will be read and as a result the building and the floor are highlighted. once the building is reached a further map of the inside of the building is displayed directing the student to the lecture/lab room.

**Programming Tools:**

We will mainly be using Java, with the possibility of also using HTML and CSS,Javascript to develop a web based application. We will also be using Intelij for working on our Java program.

**Programming Languages:**

Java

HTML

CSS

Android Studio

**Learning challenges:**

Developing and manipulating A\* search.

Understanding OpenCV.

Creating 2D mappings of the DCU Glasnevin campus.

Associating current location and goal locations.

**Hardware / Software Platform:**

Android

**Special hardware / software requirements**

No requirements needed