

PROJECT AT AVOCADO CHOCOLATE

LOADSHEDDING MAPS APP

During this vacation work at Avocado Chocolate (AvoChoc) a software company, aspects from Mobile Development in CSC2002S were used.

THE OBJECTIVE

I was tasked with developing an Android application which finds a route between two locations avoiding areas with loadshedding.

SOFTWARE USED

Kotlin (a programming language) was used in Android Studio (an Integrated Desktop Environment). Jetpack Compose was used to generate the GUI (Graphical User Interface). Compose uses Kotlin code as opposed to XML to create GUI components. Eskom se push (ESP) API (Application Programming Interface) was used to get loadshedding times of areas between user inputted locations.

IMPLEMENTATION

I created a GUI with two textboxes and a button. The two textboxes are for the user to enter the addresses, and the button to find a route between the entered locations.

Using the locations, a route was to be obtained using a Google Maps API and the areas between the locations' areas were to be acquired. I implemented code that would take these areas and make API calls to determine if any areas were in loadshedding. If any areas are in loadshedding, the program would have to find another route.

The first API call I made was "area-search". This call took in an area name and searched for areas of similar names. Assuming the area name (that was obtained from Maps) was detailed enough, I used the first search result and returned its area id.

The second API call was "area-info". This call took the area id and returned the loadshedding details of the area. This info would be parsed to determine if the area was in loadshedding.

I was able to get JSON strings from the API call response. I passed the string into a JSON object, so that the data could be parsed using the class's member functions.

FUTURE WORK

I have developed a basic GUI, and functions that can call from the ESP API. However (due to time constraints) I was unable to implement: the Maps API, construct the Maps GUI, and parse the "area-info" JSON object. I indicated in the source code what still needs to be implemented marked "TODO". I added comments for the existing code and readable names so that the code can be easily understood by future developers.

TAKEAWAYS

My experience at AvoChoc has reinforced my realization that: in the workplace, projects do not necessarily draw from your knowledge like in university. Rather, you are expected to learn on the job, since the field of Engineering is incredibly wider than what university can prepare you for.