[Date]

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Final year ecse project 2021

Final Report

Human Decision Making when boarding public transportation

# i. Significant Contributions

Implemented a simulation running a bus route from Chadstone Shopping Centre to Monash University, including

* Implemented a randomisation algorithm to get the passenger count on busses in python
* Imported network from openstreet map and developed route, configuration, etc. files
* (Any other subcontribution relating to the sumo simulation side of things goes here)

(new contribution point)

Designed and developed an android application that can provide details of the simulation

Collected data on human decision making regarding boarding public transportation

# ii. Poster

[insert copy of poster]

# iii. Executive Summary

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# 2.0 Introduction

The aim for this project is to design and develop an application that is able to gather data on human decision making when boarding public transportation. The application has the capability to obtain bus data from a simulation such as passengers on board and time of arrival, display this data for a user to see, and allows the user to select the best option and provide a response as to why the user chose that option. A server running the simulation will be able to receive and store the data obtained from the application.

Currently there are projects being developed around the world in gathering data on human decision making when boarding public transportation. These projects involve creating methodologies to study commuter’s preference, conducting research to understand the reasons behind avoidance of using public transportation, and following the travel experiences of regular public transport users to understand the positive user experiences and travel needs of the users. While these projects are contributing to the research into the topic, this project differs from past projects as the outcome is to build an application to gather the information while the other projects are solely focused on gathering and analysing the data.

The objectives of the project have been split into 4 different sections. At a high level, the application will be able to communicate with the SUMO simulation, the application will show the user details of busses arriving to a given stop, the application will use the device’s GPS positioning to determine the user’s location, and the application will allow the user to record their reasoning behind their decision. These high-level requirements have been broken down into functional, non-functional, and communication requirements that the application will require.

# 3.0 Literature Review / Background