

Asia Pacific College

School of Computing and Information Technologies

**Project Proposal**

**Commute-Aid**

In Partial Fulfillment of the Requirements for the Subject

Software Quality Management

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# **Introduction**

Commuting has been an essential part of every person’s daily routine. Whether it may be traveling to a workplace, school, mall, or elsewhere, commuting is ineluctably an integral element in our diurnal tasks. However, due to a significantly increasing number of commuters combined with the troublesome process commuters have to endure every day, those traveling across Metro Manila have been proven to be the most dissatisfied in Asia Pacific region. (The Manila Times, 2016) The problems contributing to the disgruntlement of those dependent upon certain means of transportation the government offers include heavy traffic primarily caused by the sheer number of vehicles as well as the deficiency in major roads, the long waiting lines during rush hours before getting a ride, and the unreliability of transportation vehicles. The challenges aforementioned make it necessary for all means that may contribute to the improvement of the current commuting process across the Metro. Hence, the development of a commuting application that aims to address these problems so as to provide ease and comfort for the commuters.

Commute-Aid is an application intended to make the commuting process more convenient to the commuters. One of its main functionalities enables provision of optimal route as well as a wide variety of modes of transportation along with the breakdown of fares and total time estimate of routes provided. This will be helpful to the commuters in deciding upon which route and modes of transportation to take. Another feature of the solution enables community-based estimation of total traveling time that are contingent upon the reviews and reports of those utilizing the application through the use of Waze’s Application Programming Interface (API). In addition, the application allows its users to provide reviews and share their experience on the route the application suggested. These reviews consist of the accuracy of the travel time, their comfortability whilst taking the route, the price of taking the route (whether if it is a reasonable price or if it is too pricey for the average commuter), and the availability (ease-of-access) of the route. Another important feature of the application enables buzzing of an alarm that serves as a notification when the user is approaching their destination. This will be based from the Global Positioning System (GPS) information provided by their mobile phone, as well as the estimated time of arrival provided the application prior to taking the route. This feature is mainly for helping commuters with routes that they are not familiar with or for commuters that have a tendency to fall asleep during their commute so as to ensure that users do not miss their drop-off point and get lost.

# **Objectives**

The objectives of this project are defined to serve as a guideline to determine success of the project. These objectives must be met in order to ensure that the features and functionalities agreed upon are successfully delivered by the end of project development.

## **2.1 General Objectives**

The general objectives of the project are to create a fully-functional commuting application that is free of errors as well as to deliver the features and functionalities included in the scope of the project. The specific objectives are the following:

## **2.2 Specific Objectives**

* To create an application that provides optimal route and different modes of transportation for the users
* To provide reliable time and fare estimates with high accuracy to each route suggested by the application
* To enable notification to users through alarm activation that is geo-based or time-based when users are approaching proximity to drop-off point
* To enable provision of reviews from users regarding the route they have taken
* To help improve the commuting process by at least 50%
* To ameliorate commuter’s dread of the commuting process in Metro Manila through providing ease to commuters by at least 40%

# **Scope and Limitations**

The developers formulated the scope and limitations of this project to identify the boundaries of this study.

## **Scope**

The scope of the project includes development and implementation of a mobile application that includes the following features:

* Route provider that suggests the optimal route to be taken for a trip specified by the user
* Different modes of transportation provider that includes an estimate time of arrival and fare estimate
* Alarm that serves as a notification when user approaches proximity to destination
* Route rater that enables users to rate the routes they have taken based on accuracy, comfortability, and availability

## **3.2 Limitations**

The project will be limited to the following considerations:

* The backend of the system is web-based
* The frontend of the system is mainly a mobile application to be used and downloaded by the users, but will also be made accessible through the web
* The application requires internet connection; otherwise, provision of routes and suggestion of different modes of transportation do not take place
* Only those authorized are capable of modifying records