DEVELOPMENT OF AN ANDROID-BASED MOBILE APPLICATION FOR FINDING THE NEAREST BUS STOP AND PREDICTING THE ESTIMATED TIME OF ARRIVAL

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INTRODUCTION

The study focuses on developing an android-based mobile application that provides real-time arrival of BGC Bus in certain stations. It also provides predictions of estimated arrival times of the commuters to the bus stop and ETA of the next bus. The application must access the current location of the user and it can determine the nearest bus stop based on his current location. The study's location is only limited to the BGC area and its bus stops. The aim is to enhance the urban commuting experience for commuters. Mobile applications with machine learning capabilities will be developed to search the bus stops on the map. The application needs a stable internet connection for it to run smoothly because of its GPS feature and ETA Flutter Framework. The app will be available on iOS and Android platforms from the App Store and Google Play. It will also be available in Europe from the end of the year on the Google Play store. The software will be released in the UK in the spring of 2018. It is not available in the U.S. yet.

METHOD

The BGC CarbuncleApp is a mobile application designed to enhance the commuting experience within the Bonifacio Global City area. The application will utilize the GPS of the user by accessing his current location and show a list of bus routes. The widget will be refreshed every 3 minutes to change the positioning, and travel distance of the passenger and the accuracy of bus? ETA as well. In the backend of the application, the admin can assign bus routes to the driver. The project's success will enhance commuters' experiences by offering a reliable and reliable travel tool. The application should collect feedback from end-users on the accuracy of the ETA predictions, ease of use, and reliability. The system needs to be free of any glitches or issues that could impact the user's experience or potentially cause the software to malfunction. The application should be able to provide accurate ETA. predictions based on real-time data on bus routes, traffic conditions, and. traffic conditions. It should be user-friendly and easy to use. It will provide real time Bus ETA and ETA to the nearest bus stop, detailed bus routeinformation, and a shared location option to enhance communication and safety. The system's program flowchart, as depicted in Figure 4, provides a clear and precise representation of the logical sequence and flow of the system. The primary system feature is: "To deliver timely and accurate bus-related information, thereby optimizing the commuting experience within BGC through enhanced connectivity and reliability" The mobile application system should have internet access and the GPS should be turned on. The application should be able to handle peak usage times, such as rush hour, without any performance issues. The feedback from end-users is essential in evaluating the success of the application.

RESULTS

The study developed a mobile application called ?BGC Bus,? which provides commuters with the Nearest Bus Stop based on their current location. The system was evaluated according to the respondent's answers from sets of questions based on its functionality, performance efficiency, usability, reliability, and ISO25010. The mean score for learnability was 3.47, interpreted as "Highly Acceptable," indicating that users find the system easy to learn and quickly become proficient in its use. The operability.pect received a mean score of 3.41, also interpreted as ?Highlyacceptable," suggesting that the system is user-friendly and allows for efficient and effective user operation. The application is believed to benefit commuters to easily find the Nearest Bus Stop as they travel. Show markers on the map widget of bus stops based on the selected route. Show the next bus stop. Show a map of the BGC area. Show bus routes and stop names. Show information about the bus stop and how to find it. Show where the bus is. Show how long it will take to reach the next stop. Use the map to find the next Bus Stop. Show an image of the route.

DISCUSSION

The application allows users to locate the shortest bus stop routes based on their current location. It also provides predictions for the estimated arrival times (ETA) of both passengers to the nearby bus stop and the next bus to the bus stop. Included in this chapter is the summary of findings, final conclusions, and further recommendations for people who may want to pursue related studies to the study. The application was evaluated successfully based on ISO/IEC 25010 in terms of: front-end, back-end and database functionalities.