College Bus Tracking and Student Authentication using Android

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Abstract: **Location based Services offer many advantages to the mobile users to retrieve the information about their current location and process that data to get more useful information near to their location. Now days in this fast life where everyone in is hurry to reach their destination. Waiting for bus is a hectic and even many of us are unaware of the bus timing, hence to overcome this problem we have come up with system "Bus Locator via SMS Using Android Application" which aims to build an Android application that automates all the aspects related to the college bus arrival.**

Keywords— **GPS, Android SDK, GPRS, XML, Google API.**

1. Introduction

Android is becoming very popular in embedded market for two main reasons. First, it is open source software; moreover there are no royalty fees for Java VM (Virtual Machine). Second deriving from the first, Android is highly suitable for expansion as the developer sees fit.

Being students ourselves, we have been motivated to develop this project for the benefit of the student masses,by the idea of providing an easier means of accessing various web resources related to the college bus, thus providing them with a better, riche experience of travelling to college. Further, the recent advent and popularity of Android technology motivates us to create an Android application for the same. Bus Locator system is an application for Smart phones that supports Android Operating system at client side. This application uses the GPS function, available in most of Smart phones today, to pin point current location fairly accurate. With this application installed on smart phone, all a student need to do is to start up with application when he/she needed.

This is purely Android application which only runs on Android devices or Android phones. Basically, this application at client side fetches the co-ordinates by using Google Maps, sends the co-ordinates to server, then server send SMS Alerts to students who are registered for this service, also server provides Graphical Map of current Bus Location by having markers on to the Map. It also runs in the background so students are free to use their phones for other activities

2. Literature Survey

A literature survey is studying several scholarly papers on the said topic, which includes the current knowledge including substantive findings, as well as theoretical and methodological contributions to a particular topic. Literature review is focused on a research questions, trying to identify, appraise, select any synthesize all high quality research evidence and arguments relevant to that question. And further by using statistical methods to effectively combine the data used on all selected studies more reliable result can be produced. The Wenzhong Li, Member, IEEE, Yuefei Hu, Student Member, IEEE, Xiaoming Fu, SeniorMember, IEEE, Sanglu Lu, Member, IEEE, and Daoxu Chen, Member, IEEE, "Cooperative Positioning and Tracking in DisruptionTolerant Network. Chakradhara Rao CH, Pushpalatha P, and Aditya Sundar N, "GPS Based Vehicle Navigation System using Google Maps", International Journal of Computer Science and Information Technologies, Vol.4, Issue.6, Dr.(Mrs) SaylGhargl, Moral Chhaa, Gaurav Chheda, Jitesh, and Niket, "Real Time Bus Monitoring System using GPS", VES Institute of Technology, Mumbai University, India.

3. EXISTING SYSTEM

The existing system has some of the drawbacks like

- The exact position of the vehicle cannot be retrieved.
- This application mainly used only by owners and administrator.
- The bus location cannot be retrieved from anywhere.
- The movement of the bus is also not visible in the Google map.
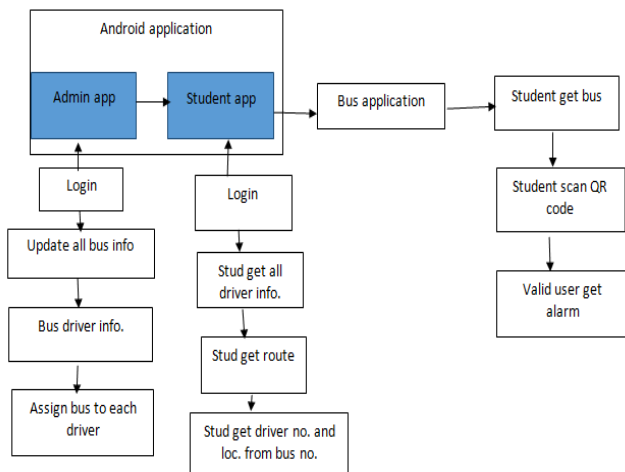
4. Proposed System

The proposed system provides the user to find exact location of the bus from where they are. The bus routes are displayed in the user interface so the users can select the bus route which they want to travel. The position of the bus is displayed in the Google map. The distance between the bus and the user is also displayed so this application helps the students/staffs to be aware of where the bus is exactly. Depending on the information like distance and position displayed in the Google map the user can plan and start accordingly.

The proposed system provides following

Advantages:
1. It provides exact position in Google map.
2. The details of the bus can be seen by everyone at anytime and anywhere.
3. This also enhances security because the movement of the bus is always available.

1) Admin app
2) Student app
3) Bus

5. Conclusion

Thus, we studied and completed the literature survey of our project, Bus locator using android System. We completed the requirement analysis by studying requirements for our project. In the design phase we designed the working of project and draw the different UML diagrams, further we designed the prototype of our system.

6. Acknowledgements

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