

Project Proposal **for** **Improving Bus Transportation Services in Indian Cities**

Mode of Preparation: Group
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Project Title

Improving Bus Transportation Services in Indian Cities

Team Members

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Supervisor

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Date

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Version Number

1.0

Start Date: 20-01-2014 **Estimated End Date:** 31-05-2014

Objectives of the Project

In most urban centers in India, public transportation poses a considerable discomfort not only for daily commuters but also for concerned administrative authorities. Although most of the major cities such as Delhi, Chennai, Bangalore, Kolkata and others run an expanded system of public bus transportation system within the cities, predictability of such services requires much improvement. This project aims at developing an Android application that will

- provide a timetable of public bus transportation system
- provide the number of buses available in a particular route from a particular station
- provide time of the next bus arriving in a particular route at a particular stop
- provide duration your destination will take
- provide updated information on any disruption in the schedule
- provide real-time bus locations on routes of interest
- provide traffic updates

Functionalities

The Android application will have the following functionalities:

- **Provide a timetable of public bus transportation system**
The application will provide a static bus timetable.
- **Provide the number of buses available in a particular route from a particular station**
The application will let users find out how many buses ply on a particular route.
- **Provide time of the next bus arriving in a particular route at a particular stop**
The application will provide the estimated time of arrival of the next bus in particular routes at a particular stop (the user's source) based on real-time bus location data. The routes in this case are all routes which pass through the users source and destination stops.
- **Provide duration your destination will take**
The application will provide the duration based on the real-time distance of your bus from the destination.
- **Provide updated information on any disruption in the schedule**
The application will provide this information based on inputs it receives from the officials.

- **Provide real-time bus locations on routes of interest**
The application will show on a map the real-time bus locations of the approaching buses on the routes of interest. The routes of interest are all routes that pass through the user's source and destination stops.
- **Provide traffic updates**
The application will take feeds from the traffic police and broadcast them to all users.

Project Deliverables

a) Milestones

- Conducting a survey to gather requirements of passengers
- Reading existing journals and other material related to the problem
- Reviewing existing Android applications
- Analysing the survey results, journals and reviews of the existing applications to identify the requirements and documenting them (Software Requirements Specification)
- Preparing a technical design (Technical Design Document) that could be traced back to the requirements
- Implementing the static functionality
- Implementing the real-time bus location functionality
- Implementing the traffic update functionality
- Unit testing and peer reviews
- Integration of components developed by individual team members
- Integration and system testing
- Submission of the project report and the software along with the relevant documents

b) List of Final Deliverables

- Project Proposal Document
- Project Management Document
- Software Requirements Specification
- Technical Design Document
- Unit Test Cases and Results
- Code
- Integration/System Test Cases and Results
- Project Report
- User guide
- Timesheet

Estimated Total Time (in Hours): 400 man hours

Hardware Requirements

- An x86 based computer per team member
- At least two Android phones

Software Requirements

- Android SDK, version 2.3 (Gingerbread)
- Eclipse, version Indigo, with ADT (Android Development Toolkit) plug in

Architecture/Design

- The classic Model-View-Controller (MVC) pattern will be used.
- The database design will be done by all team members together.
- Each member will develop one or two features of the application.
- Integration will be done.

Technology

- The Android application will be written in Java.
- MySQL RDBMS will be used to store all application data.