Real Time Online Bus Tracking System

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Introduction

- The main aim of developing such a software is to make smart the existing public transport in an otherwise unorganized sector in India.

- **What is the existing problem in public & school buses?**
  1. Current status of bus is Unknown
  2. The Language problem
  3. Overcrowding problem at particular time
  4. Boarding and de-boarding of students in not noticed.
  5. Overcrowding problem in School buses.
  6. Safety Norms evaluation.

Introduction

- **Solution of the existing problem in public & school buses**
  1. Share the data on app of user
  2. Install IoT kit on the buses and connect them to the cloud.
  3. Locate the position of the bus using Global positioning system (GPS)
  4. Count the number of people present in the public buses.
  5. Mark the attendance using RFIDs in school buses.
- Overall this app would be of great convenience to the public and in the future be also great for smart traffic management**.**

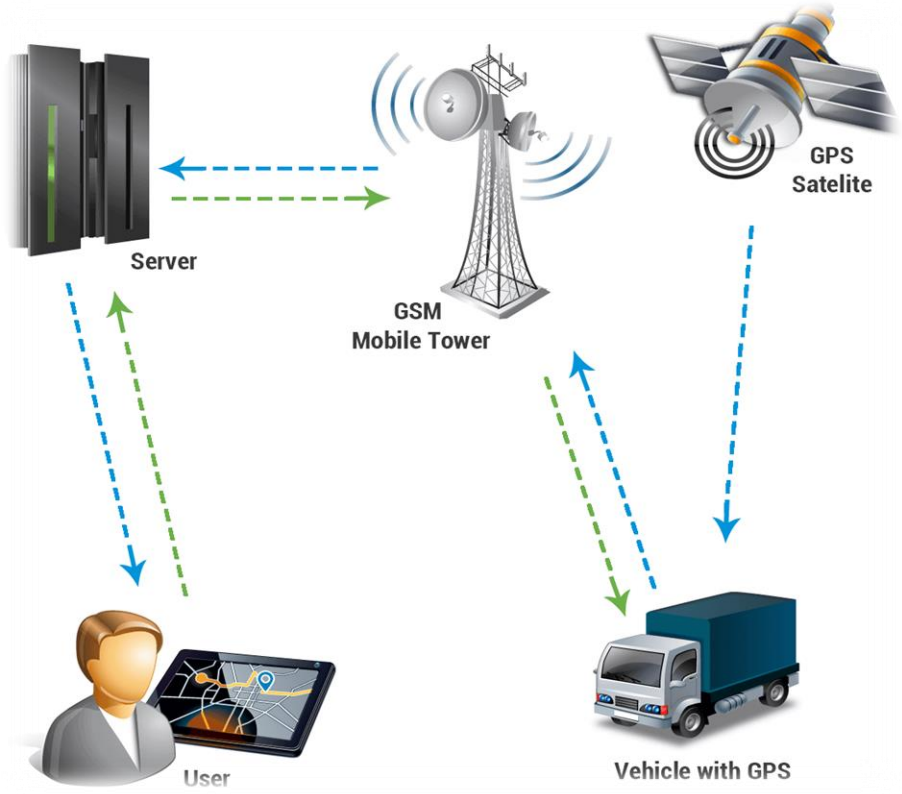
Approach

- Bus Tracking System(BTS) system has 3 modules:

  1.Bus module(Bus with GPS)

  2.Central control unit (admin module or server)

  3.Client side application (User module)



Work & progress

- Learnt about the Ionic platform for mobile application development. I spent considerable time reading documentation, developing and running simple prototype applications and using it.
- As I was complete beginner to the project, I had to get a firm grasp over several Languages and Technologies like: AngularJS, JavaScript, HTML, CSS, MySQL and Node.JS.
- For this I read their documentation and tutorials and also developed simple products using them. Before starting to develop my final application.

Work & progress

- Task1: Creation of Login page
- Task2: Connection with GPS device
- Task3: Route & Direction implementation
- Task4: Server side implementation
- Task5: Data Base management

Work & progress

- I learnt using these technologies for specific functionalities that I would require for my application.
- Connecting with the cloud, data fetching, data storing, back-end management, getting GPS data from mobile devices, developing user login systems and integrating all these into the final product.
- Overall, I wrote approximate 2000 lines of code, read the documentation of 4 GPS tracking software's, read at least 2 research papers, innumerable articles and websites for tutorials, ideas and debugging.

Future work

- Show a cluster map of waiting passengers to the bus driver, and transport officials.
- Using google places and data from competition , send the information of collision / attack to nearest hospital and police station (through sms and email from server).
- Analyses traffic information and route times from collected data for the transport route.
- Improve the features and UI of the mobile application.

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