

# Project Report

## Smart Passenger Alert System



*Submitted to*  
*Prof. M. Balakrishnan*  
*Dept. of Computer Science and Engineering*  
*IIT Delhi*

*By*  
**Abhinav**  
**Harsh Prasad**

**Hitesh Kumar**  
**Manan Agarwal**

# Motivation

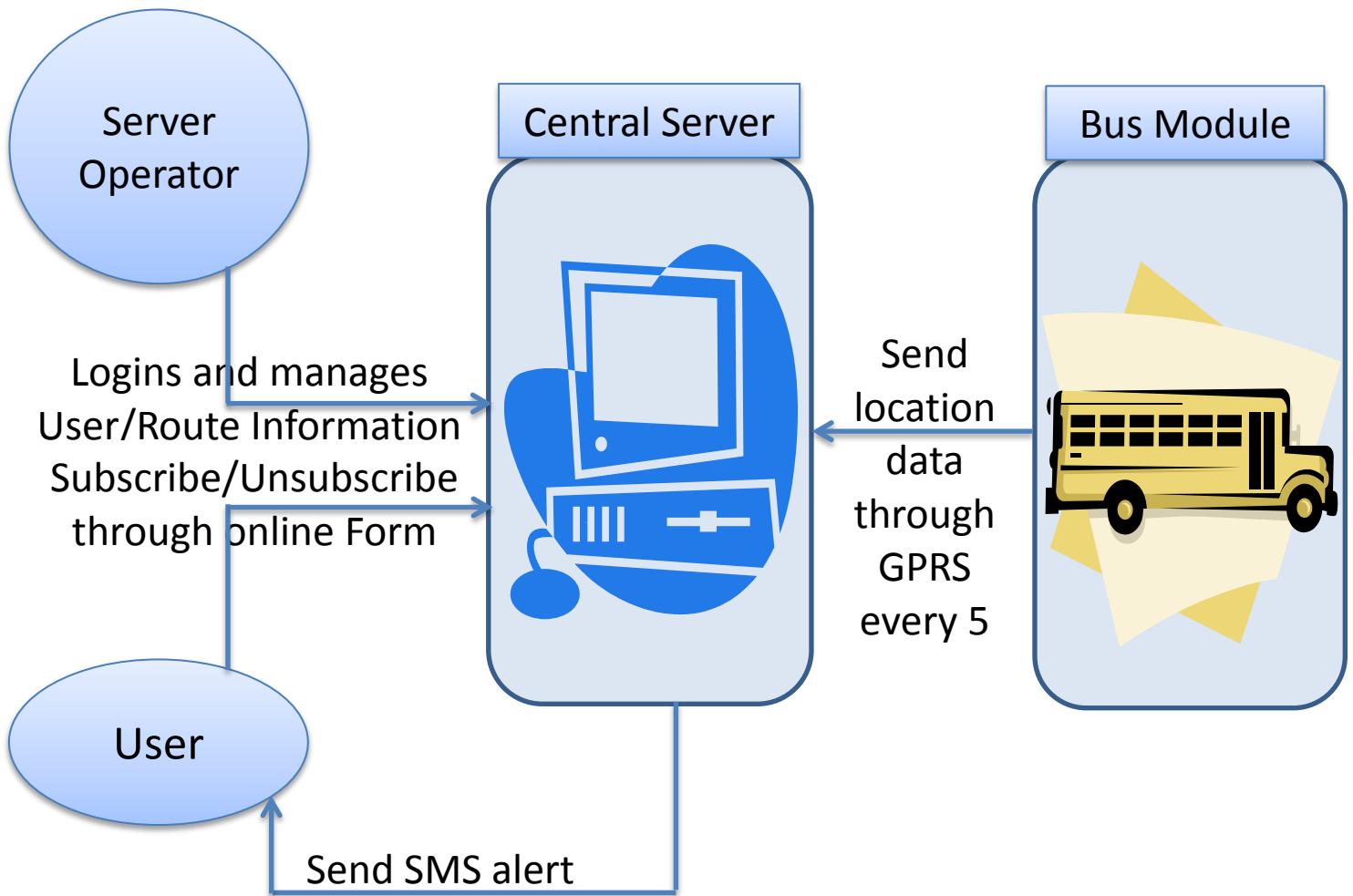
---

In today's world, time is money. Because of the unpredictable traffic conditions these days, the people using chartered bus services waste precious time waiting for the bus at their respective stops. So there is a need for an early warning system, for the approaching transportation vehicle.

# Objective

---

We are creating an early warning system which would provide automatic alerts to passengers corresponding to their respective bus stops. These alerts would be in the form of SMS to the passengers on their registered mobile numbers. So the passengers can reach their stop just in time and board the bus without any waiting.



# Approach & Design

---

## Server Operator

- We have used PHP language and MySQL server on an apache server to make the server site.
- Users can create accounts here and upload personal data like phone number and address, bus number, bus stop and time.
- Also google maps will be added to facilitate user input.

## Bus Module

- We are currently using Nokia N900 as our GPS device.
- It has support for python/C++. So a script in this language will be used to get the GPS location of the bus.
- Also, we checked the GPRS of the phone with 'Vodafone live!', but it wasn't working. The reason behind this was found to be that Nokia n900 requires full internet access whereas GPRS only provides WAP access.
- So we will have to take full internet access from the service provider like the 'Vodafone Mobile Connect'. Thus we will be able to ping the server with the required GPS data using this.

## Central Server

- We will use PHP language to retrieve the GPS data sent by the bus.
- This GPS data will be used to track down the bus and depending on the location, the bus number and time the SMS will be send to the required users.
- To send the SMS we will again be using Internet only. For this again a PHP script will be run.

## Hardware Used

---

- Nokia N900
- Sim card with internet connection for Nokia N900.
- Server system with internet connection.

## Current Progress

---

- 1. The user interface for registering has been made.**
- 2. The administrator account also has been added. He can manage the various user accounts and bus routes and also delete them as and when required.**
- 3. The various functionalities of Nokia n900 are being tested.**
- 4. GPS of Nokia n900 has been used. It has been found to be a bit slow but with faster internet it should work better.**
- 5. GPRS has been tested, but it didn't work. So complete internet connection will be required.**

# Project Timeline

ID	Task Name	Duration	Aug 2010				Sep 2010				Oct 2010				Nov 2010		
			8/1	8/8	8/15	8/22	8/29	9/5	9/12	9/19	9/26	10/3	10/10	10/17	10/24	10/31	
1	<b>Designing Website For User Registration</b>	4w															
2	<b>Interfacing GPRS And GPS</b>	6w															
3	Understanding How GPS/GPRS Works	2w															
4	Decoding The GPS Output	2w															
5	Designing a Mobile App To Use GPRS To Notify The Server Every 5 Sec.	4w															
6	<b>Setting Up The Server</b>	9w															
7	Integrating GPRS Modem To Receive GPS Data	4w															
8	Integrating SMS Sender	4w															
9	Storing And Managing Database of Users/Buses/Routes	3w															
10	Implementing Operator Interface For adding/deleting/modifying Routes/Buses.	3w															
11	Testing The Device	2w															

# Web link

---

[www.cse.iitd.ac.in/~cs5080211/pas](http://www.cse.iitd.ac.in/~cs5080211/pas)