[Prototype for train arrival warning & timer for human less railway crossing system]

By

[Mr Sameer Makwana]
[(09BCE026)]

DEPARTMENT OF COMPUTER SCIENCE AND ENGINERING
Ahmedabad 382481
November 2012

[Prototype for train arrival warning & timer for human less railway crossing system]

Minor Project

Submitted in partial fulfillment of the requirements

For the degree of

Bachelors of Technology in Computer Engineering

By

[Mr Sameer Makwana
(09BCE026)]

Guide
[Prof Manish Chaturvedi]

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Ahmedabad 382481
November 2009

CERTIFICATE

This is to certify that the Major Project entitled "[Prototype for train arrival warning & timer for human less railway crossing system]" submitted by [Mr Smaeer Makwana (09BCE026)], towards the partial fulfillment of the requirements for the degree of Bachelors of Technology in Computer Engineering of Nirma University of Science and Technology, Ahmedabad is the record of work carried out by him under my supervision and guidance. In my opinion, the submitted work has reached a level required for being accepted for examination. The results embodied in this major project, to the best of my knowledge, haven't been submitted to any other university or institution for award of any degree or diploma.

Prof Manish Chaturvedi
Project Guide,
Assistant Professor
Department of Computer Engineering,
Institute of Technology,
Nirma University,
Ahmedabad

Prof Vijay Ukani
Assistant Professor,
Department of Computer Engineering,
Institute of Technology,
Nirma University,
Ahmedabad

ACKNOWLEDGEMENT

[It gives me great pleasure in expressing thanks and profound gratitude to I like to give my special thanks to **Mr. Manish Chaturvedi,** Project guide, for his continual support throughout the project Work. I heartily thankful to his for his time to time suggestion and the clarity of the concepts of the topic that helped me a lot during this study.

I am also thankful to **Prof Sanjay Garg** , Head, Department of CE, IT and MCA Department, Institute of Technology, Nirma University, Ahmedabad for his continual kind words of encouragement and motivation throughout the Major Project. I am also thankful to **Dr K Kotecha**, Director, Institute of Technology for his kind support in all respect during my study.

I am thankful to all faculty members of Department of Computer Engineering, Nirma University, Ahmedabad for their special attention and suggestions towards the project work.

The blessings of God and my family members makes the way for completion of major project. I am very much grateful to them.

The friends, who always bear and motivate me throughout this course, I am thankful to them.

Mr Sameer Makwana
Roll No.09ffBCE026

ABSTRACT

The 500 words abstract shall highlight the important features of the major project - I. It should consist of objective of work, scope of work, preliminary work carried out and important findings.

CONTENTS

1. INTRODUCTION

This project is basically a prototype for timer generation of train arrival at human less railway crossing system. This prototype is basically powered by gps system. So, we have taken android supported phone as a train which has inbuilt gps transmitter & receiver. As a server we have deployed java application on pc at a human less railway crossing system. So, basically this project is a combination of both android & java programming as well as hardware like microcontroller also.

1.2 Objective of study

The objective of study for this project is android application development because as a train we are going to use android enabled phone. More specifaically methods & class for gps transmission & receiveing as well as establishment of tcp connection between client & server.

2. Working Of android application & java pgm.

In this application first of all user add ip address of server for establishment of tcp connection after starting of gps in android phone. In this application I have also enabled tosting of gps location on screen so that we can identify current location of phone. Then this gps location are transfered to specific pc on the railway track.

Scrren shot of android phone

In this application gps coordinates are transmitted after every 3 seconds on the change of location or not.

Screen shot of java program

Java program do the task of receiving gps coordinates , speed estimation & distance estimation between current location of train & server deployed at station in which java program is running. This program continuously check distance with some threshold value of distance before which signal should be generated & timer must be started.

3. Requirement analysis

Functional requirements

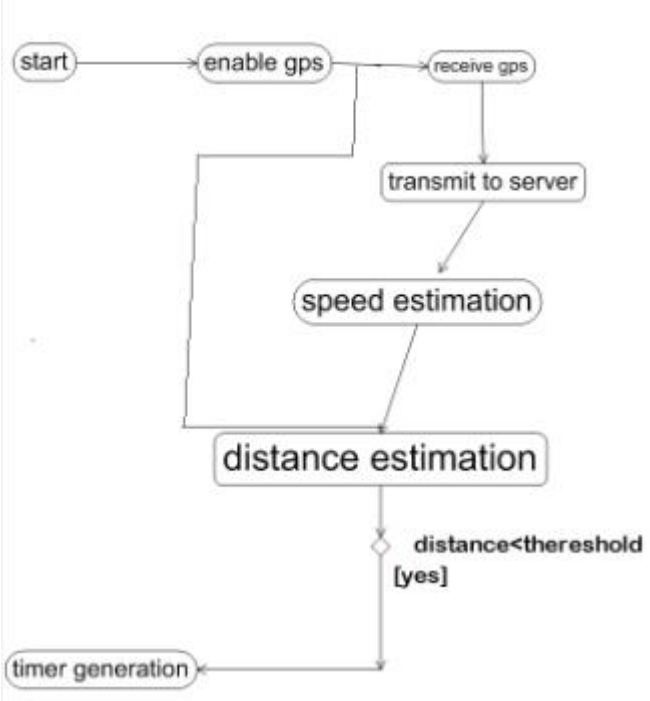
Functional requirement of this project is most precisely dependent on the accuracy of gps coordinates & breakless connectivity between train & server which is deployed at station as well as timeliness of receiving gps coordinates at server side because this is a real time system.

System requirements

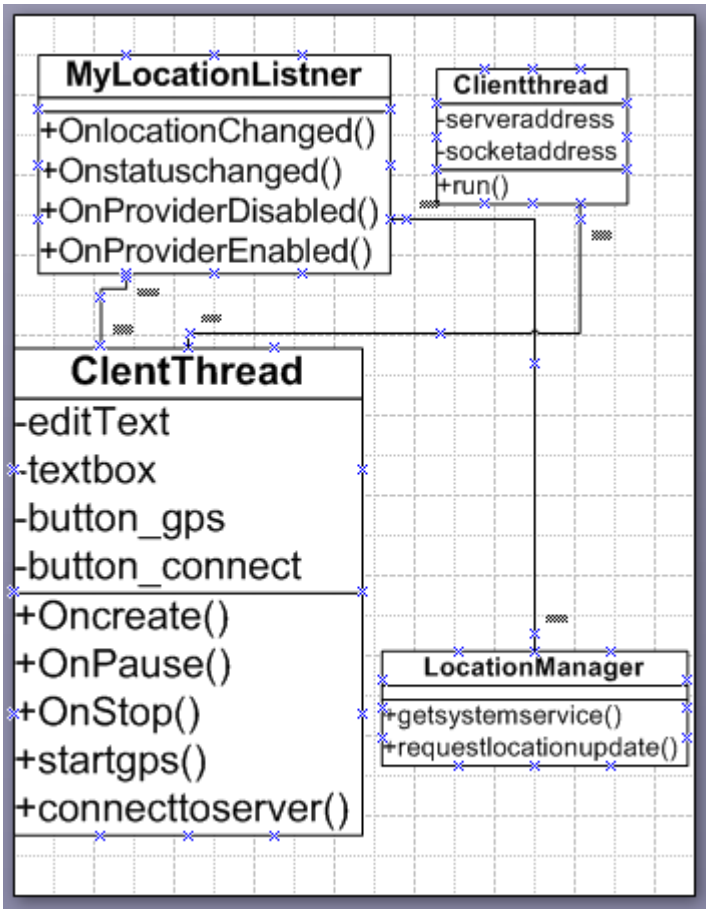
System requirements are as following…….

- Android device requirement
  - Android os version above 2.2
- Pc requirements
  - Pc with any operating systems like linux, windows, mac o/s
  - Jdk 6.0 onwards, processor after x86 series of intel.
  - Ram 256mb.

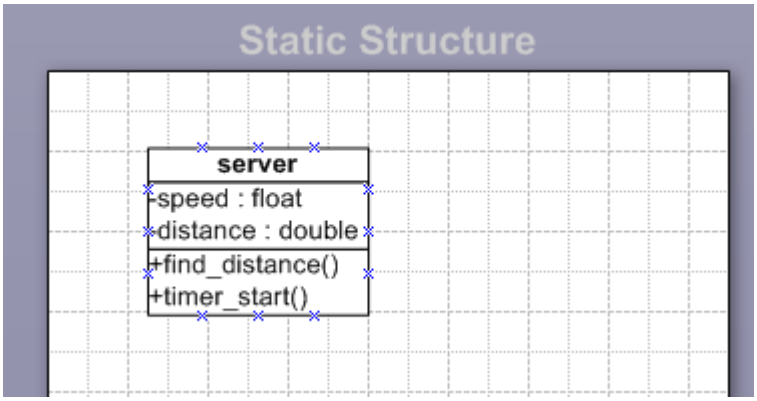
4. uml diagrams



activity diagram



class diagram of android application



Class diagram server

MyLocationListner	
responsibility	Collaborator class
To obtain gps coordinates from gps transmitter which is deployed in satellite at every 3 second	Location manager

Client1 thread	
Responsibility	Collaborator class
Tranfer coordinates to server which is deployed at human less railway crossing	Client2

Collaboration diagram

4. References

www.androiddeveloer.com

www.gpscommunity.com