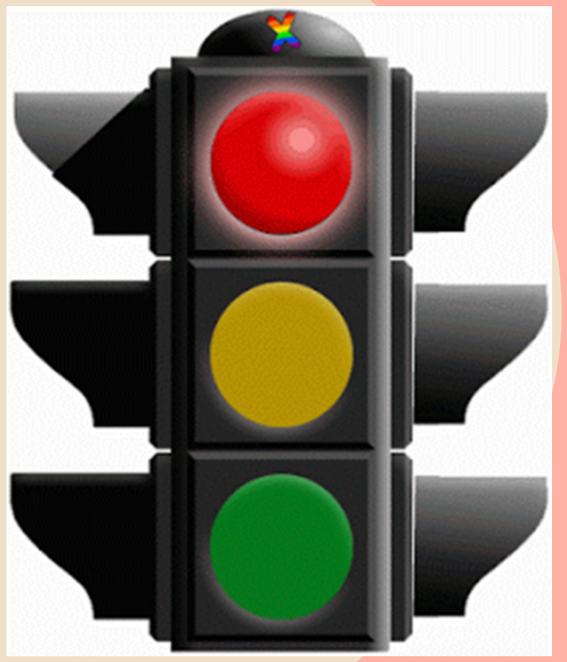
Traffic Management System



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Objective & Problem Statements

The application like Traffic Control Management Project is essential for easy and scientific traffic control in modern society.

We cannot control the vehicles manually hence we need a device to control it and to avoid accidents.

Introduction

One of the major problems of modern India is Road Traffic.

This is due to the enormous addition of vehicles every day. There are around 50-55 thousand new vehicles registered in India every day, but the number of vehicles removed off the road are very less. This has led to the explosion of traffic on roads, resulting in road rage, higher number of accidents, deaths and increase in commuting time over the years. Since the number of vehicles is increasing day by day, traffic jams are becoming a common scenario in large cities . These frequent traffic jams at major junctions kill a lot of man hours.

Thus it creates a need for an efficient traffic management system.

This project proposes to implement a smart traffic control system which is based on the measurement of traffic density using real time video processing technique and digital image processing(DIP).

Digital Image Processing (DIP)

- Image processing is any form of signal processing for which the input is an image, such as photographs or frames of video; the output of image processing can be either an image or a set of characteristics or parameters related to the image.
- Image processing usually refers to digital image processing, but optical and analog image processing are also possible.

Methodology

The study helps to clearly understand the concept, approach and certain terminology that revolve around the project. The data from the GPS collar will be uploaded to the database and then the database will send the last data uploaded to the Android application.

The development of both GPS tag and Android devices are done separately. This is because, both tasks are connected only to the database. For GPS collar, the task that is required to accomplish is to link the tag to the database.

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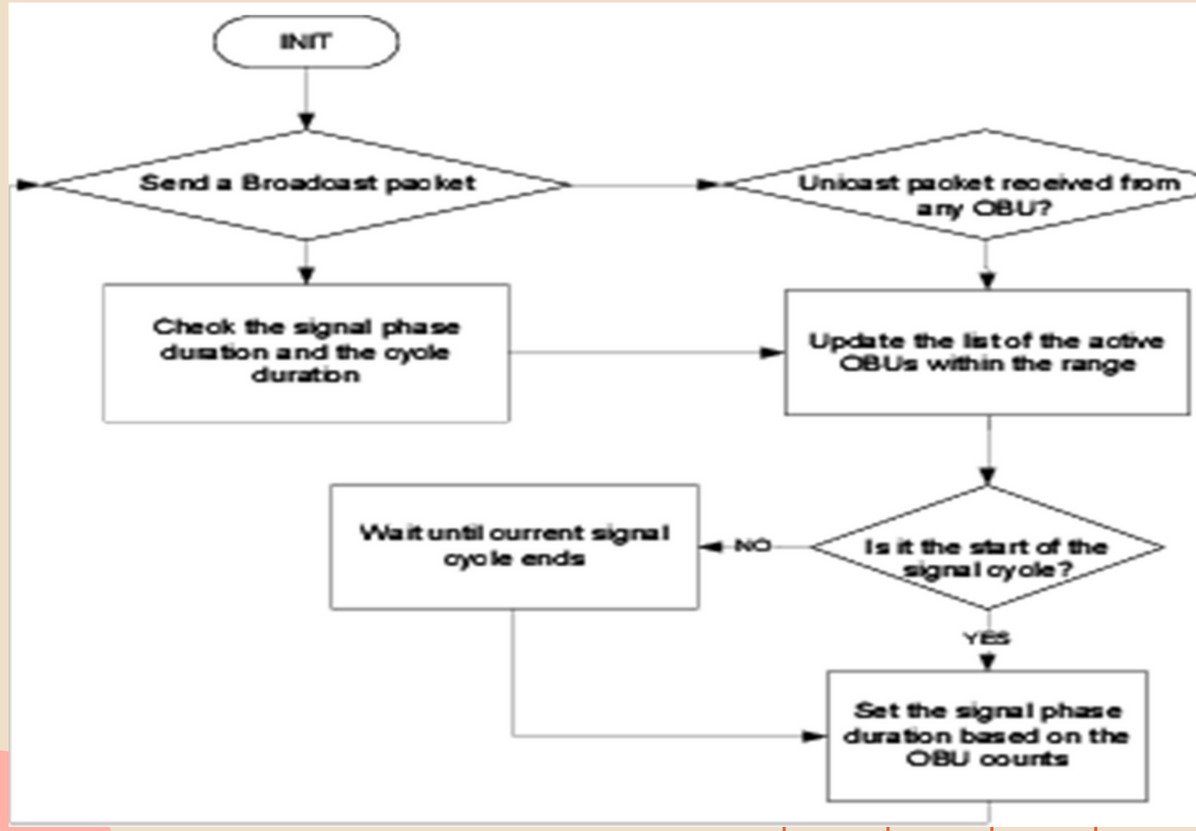
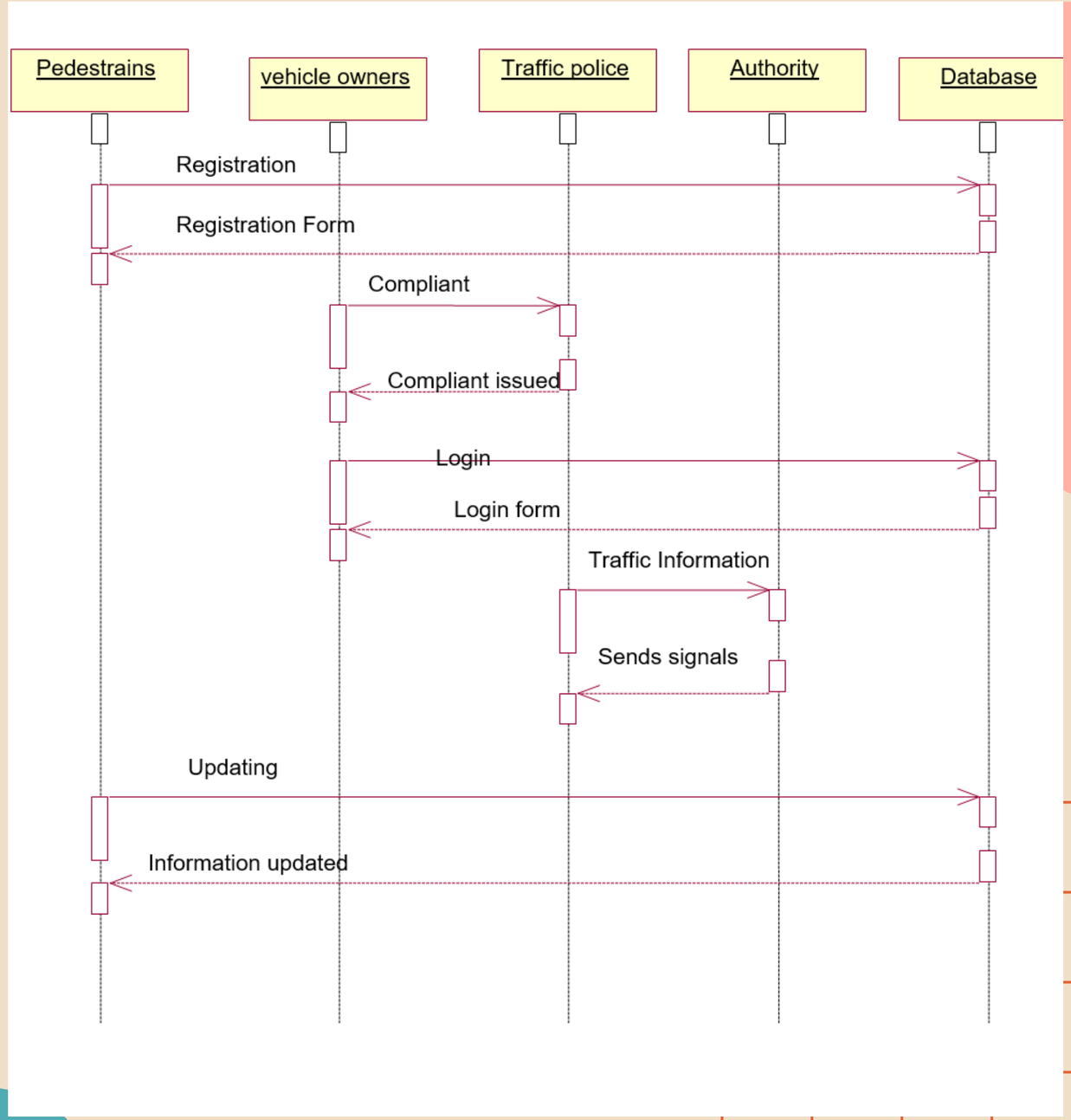


Sequence Diagram

A Sequence diagram in Unified Modeling Language (UML) is a kind of interaction diagram that shows how processes operate with one another and in what order. It is a construct of a Message Sequence Chart.

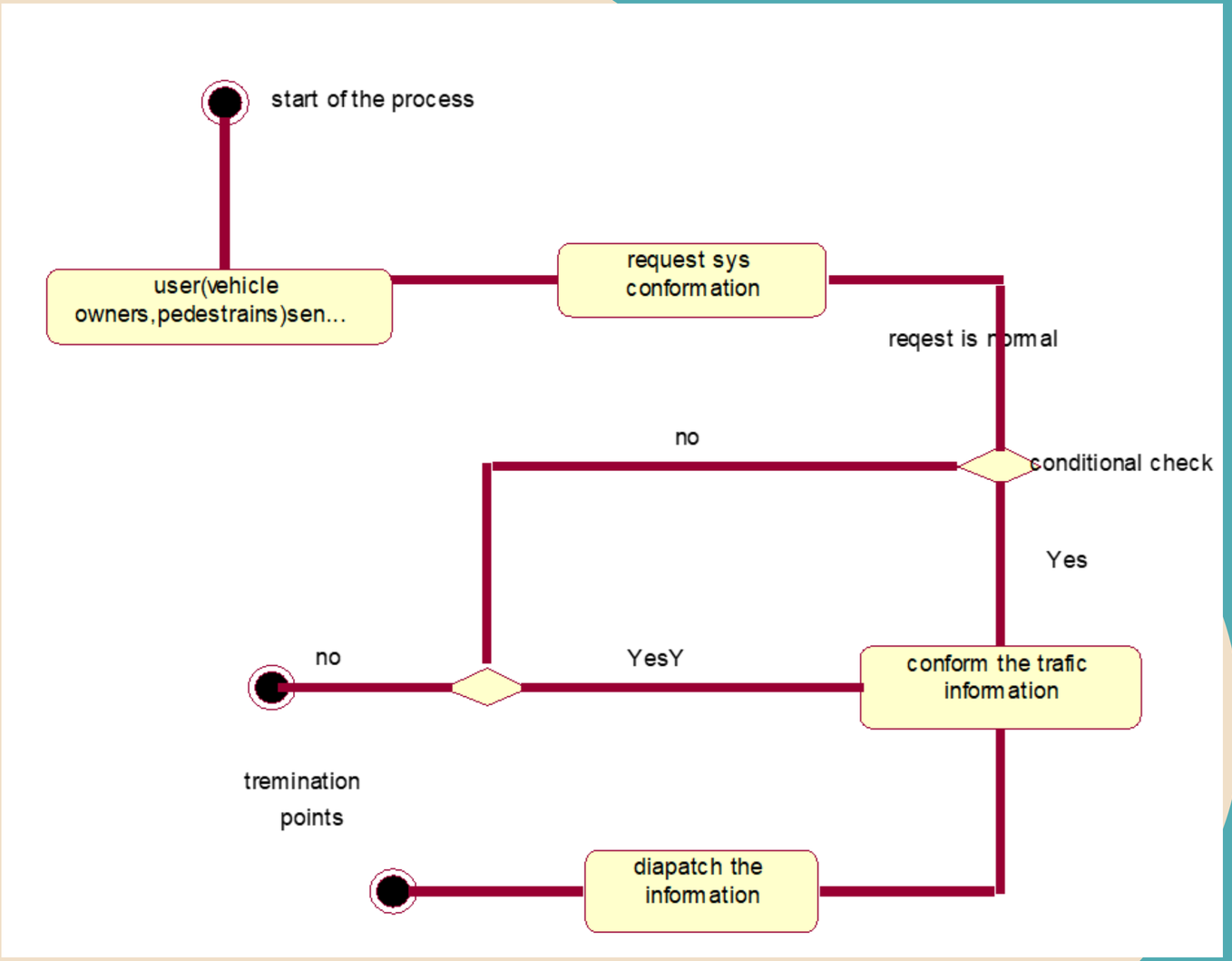
Sequence diagrams are sometimes called event diagrams, event scenarios, and timing diagrams.



Activity Diagram

In activity diagram the object may be real or abstract in either case create a swim lane for each attribute imported object, firstly identify the precondition of initial state and post condition of final state.

Render the transaction that connect these actions and active states and state with sequential flows consider branching, forking and joining.



Functions used in the program :

- glutInit() : interaction between the windowing system and OPENGL is initiated
- glutInitDisplayMode() : used when double buffering is required and depth information is required
- glutCreateWindow() : this opens the OPENGL window and displays the title at top of the window
- glutInitWindowSize() : specifies the size of the window
- glutInitWindowPosition() : specifies the position of the window in screen co-ordinates
- glutKeyboardFunc() : handles normal ascii symbols
- glutSpecialFunc() : handles special keyboard keys
- glutReshapeFunc() : sets up the callback function for reshaping the window
- glutIdleFunc() : this handles the processing of the background
- glutDisplayFunc() : this handles redrawing of the window
- glutMainLoop() : this starts the main loop, it never returns
- glViewport() : used to set up the viewport
- glVertex3fv() : used to set up the points or vertices in three dimensions

Advantages of Smart Traffic Management System

·Provide for orderlymovement of traffic;
·Increase traffic-handling capacity of an intersection;
·Reduce frequency and severity of certain types of crashes, especially right-angle
·collisions;
·Provide for continuous movement of traffic at a definitespeed along a given route;
·Interrupt heavy trafficat intervals to permit other vehicles or pedestrians to cross

Summary

In summary, this program proivdes an easy solution for managing the traffic system making it a very valuable tool in any urbal or rural place, trying to manage traffic.

Thank You