

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

Jnana Sangama, Belgaum-590018



A PROJECT REPORT (15CSP85) ON “TRAFFIC SQUAD”

Submitted in Partial fulfillment of the Requirements for the Degree of
Bachelor of Engineering in Computer Science & Engineering

By

KRISHNA N(1CR17CS406)

KIRAN A(1CR17CS404)

VENKATESH G H (1CR17CS414)

YASHWANTH D (1CR16CS182)

Under the Guidance of,

SHET RESHMA PRAKASH

Designation, Dept. of CSE



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

CMR INSTITUTE OF TECHNOLOGY

#132, AECS LAYOUT, IT PARK ROAD, KUNDALAHALLI, BANGALORE-560037

CMR INSTITUTE OF TECHNOLOGY

#132, AECS LAYOUT, IT PARK ROAD, KUNDALAHALLI, BANGALORE-560037

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING



CERTIFICATE

Certified that the project work entitled “**TRAFFIC SQUAD**” carried out by **Mr. KRISHNA N**, USN **1CR17CS406**, **Mr. KIRAN A**, USN **1CR17CS404**, **Mr. VENKATESH G H**, USN **1CR17CS414**, **Mr. YASHWANTH D**, USN **1CR16CS182**, bonafide students of CMR Institute of Technology, in partial fulfillment for the award of **Bachelor of Engineering** in Computer Science and Engineering of the Visveswaraiah Technological University, Belgaum during the year 2019-2020. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the Report deposited in the departmental library.

The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the said Degree.

Prof. Shet Reshma Prakash
Assistant Professor
Dept. of CSE, CMRIT

Dr. Prem Kumar Ramesh
Professor & Head
Dept. of CSE, CMRIT

Dr. Sanjay Jain
Principal
CMRIT

External Viva

Name of the examiners

- 1.
- 2.

Signature with date

DECLARATION

We, the students of Computer Science and Engineering, CMR Institute of Technology, Bangalore declare that the work entitled "**TRAFFIC SQUAD**" has been successfully completed under the guidance of Prof. Shet Reshma Prakash , Computer Science and Engineering Department, CMR Institute of technology, Bangalore. This dissertation work is submitted in partial fulfillment of the requirements for the award of Degree of Bachelor of Engineering in Computer Science and Engineering during the academic year 2019 - 2020. Further the matter embodied in the project report has not been submitted previously by anybody for the award of any degree or diploma to any university.

Place: Bangalore

Date: 10/06/2020

Team members:

KRISHNA N (1CR17CS406)

KIRAN A (1CR17CS404)

VENKATESH G H (1CR17CS414)

YASHWANTH D (1CR16CS182)

ABSTRACT

Traffic Squad is an app which helps the police as well as the police by means of time and efficiency. With the increasing importance of corruption has become major factor to be considered as a result the number of vehicles and the rapid development of population are growing in our everyday life. Existing system makes the use of pen and paper that is a challans that are given to the offender on breaking the traffic rules. As the system consist of paperwork the papers are mostly gets damaged or tempered. Due to this hard time for RTO office to maintain the proper records. During patrolling if an offender commits a crime and is caught it is difficult to find out if the license is fake or real and in the same manner it is difficult for common people to find out if the officer who is pretending to be anofficial authority is fake or real one. There are many cases where the user runs away after being caught and the police person can't take the appropriate action on the offender. Even there are many cases where the vehicles possess fake number plate and the police officers can't recognize it. So to overcome this loophole in the existing system we have proposed a new system to help us to solve the issues. Since the proposed framework is digitalized and android based, it will serve as handier instrument and helpful option implies for traffic. And android application is provided to traffic police to retrieve vehicle information, fine details.

ACKNOWLEDGEMENT

I take this opportunity to express my sincere gratitude and respect to **CMR Institute of Technology, Bengaluru** for providing me a platform to pursue my studies and carry out my final year project

I have a great pleasure in expressing my deep sense of gratitude to **Dr. Sanjay Jain**, Principal, CMRIT, Bangalore, for his constant encouragement.

I would like to thank **Dr. Prem Kumar Ramesh**, Professor and Head, Department of Computer Science and Engineering, CMRIT, Bangalore, who has been a constant support and encouragement throughout the course of this project.

I consider it a privilege and honor to express my sincere gratitude to my guide **Shet Reshma Prakash, Assistant Professor**, Department of Computer Science and Engineering, for the valuable guidance throughout the tenure of this review.

I also extend my thanks to all the faculty of Computer Science and Engineering who directly or indirectly encouraged me.

Finally, I would like to thank my parents and friends for all their moral support they have given me during the completion of this work.

TABLE OF CONTENTS

	Page No.
Certificate	ii
Declaration	iii
Abstract	iv
Acknowledgement	v
Table of contents	vi
List of Figures	vii
List of Tables	viii
1 INTRODUCTION	1
2 LITERATURE SURVEY	3
3 SYSTEM REQUIREMENTS SPECIFICATION	4
3.1 Hardware Requirements	
3.2 Software Requirements	
4 SYSTEM ANALYSIS AND DESIGN	5
4.1 UML Diagrams	
4.1.1 UseCase Diagrams	
4.1.2 Sequence Diagrams	
4.1.3 Collaborate Diagrams	
4.2 Table Description	
4.2.1 User Register & Login	
4.2.2 Manage Case Table	
4.2.3 Live Traffic	
4.2.4 Admin Login	
4.3 Class Diagram	
4.4. Data Flow Diagram	
4.5. ER Diagram	
4.6. Activity Diagram	
5 IMPLEMENTATION	18

6	RESULTS AND DISCUSSION	27
7	TESTING	31
8	CONCLUSION AND FUTURE SCOPE	34
	REFERENCES	35

LIST OF FIGURES

	Page No.
Fig 6.1 Login Screen	27
Fig 6.2 Admin Dashboard Screen	28
Fig 6.3 Adding Department Screen	28
Fig 6.4 Police Dashboard Screen	29
Fig 6.5 Update Traffic details Screen	29
Fig 6.6 User Dashboard Screen	30
Fig 6.7 View Case details Screen	30

LIST OF TABLES

	Page No.
Table 4.1 User Register	12
Table 4.2 Mange Case Table	12
Table 4.3 Live Traffic	13
Table 4.4 Admin Login	13

CHAPTER 1

INTRODUCTION

In many situations, time is wasted before proper medical attention is provided to the people affected in an accident. In many cases the accidents are severe enough to leave the victims incapacitated and they fail to summon help. In most cases fellow human beings on the road communicate with the Police, but the response time increases during the night. In AUTOVeCoN, the design tries to minimize the response time using mobile tower location of both the Collided Vehicle and Policemen. The Civilian Vehicle consists of a collision detector and in case of a collision the detector would provide a signal to an embedded processor which shall generate a steady amplified digital feedback to the owner's cell-phone. The owner's cell-phone, with the help of its custom software would notify the Police Control Room Server.

The Police Control Room Server which would receive regular update from the mobile phones carried by its personnel (to keep a track of the latest position) would use its Decision Support Software to inform (as a SMS Order) the nearest police personnel from the accident location. Also under certain circumstances, Policemen are out of the Vehicle attending to Law & Order Problems, and to make sure that they do not miss out the communication, Short Messages (SMS) would record all information passed on from the Control Room Server, which again would serve as a Log. Computer Algorithms would be implemented in the Control Room Server, to select the nearest three Officers who are in a Location nearest from the BTS (Base Transceiver Station) of the accident area. A totally automatic calculation would thin out manual error totally and help in efficient deployment. In order to appreciate a quick response time, once an "SMS Order" have been generated, the Control Room Server would wait for the location of those Officers to match that of the Action Area and update the response time accordingly and completely automatically, which later would help Superior Officers to check, if problems were attended by the right vehicle at the right time. Base Transceiver Station ID or commonly known as Cell ID based

TRAFFIC SQUAD

location detection varies largely depending on the cellsize ranging from 100 metres to over 3000 metres but in theCity (Kolkata) it has been statistically found out by the Authorsusing Field Strength Meters, that the cell radius is around 200-300 metres. That means, that an Officer is within around 300metres of a Base Transceiver Station whose ID is updated inthe Control Room Server.

We count among our past and present members some of West Michigan finest citizens, including Gerald R. Ford, Sr., who was Captain in 1936 and 1937 and just happens to be the father of President Gerald R. Ford, Jr. This long tradition of service and leadership lives on today. As needs change in the law enforcement community, our efforts and services are also evolving and expanding to address these needs.

To meet these increasing demands, The Squad continues to recruit qualified men and women who have a strong interest in law enforcement oriented community service and are able to meet the rigorous personal and ethical standards required of individuals active in law enforcement.

No one wants to be stuck in traffic, which is why having a traffic app on your smartphone is an absolute necessity. Whether you are commuting to work daily or planning to rent a car and drive in a high-traffic city or area, there is likely a traffic app for your needs. The traffic functions are usually integrated into existing navigation apps, giving you real-time estimates of travel time and in some cases, real-time traffic situations and alternate routes. Here are some of the best traffic apps available in 2020. Many have a free version, with the possibility of paid add-ons.

If you want accurate traffic information for your city or state, think about downloading the state department of transportation app. Not only do these exist, but they often provide accurate local traffic information and access to local traffic cameras.

CHAPTER 2

LITERATURE SURVEY

Quick medical & police response as well as efficient policedeployment is a major concern in both Developing as well as Developed Countries to decrease fatality rate and also to tackle Law & Order problem. Manual modes of communication have a significant effect in response time as it has to pass through different departments and varies with the level of manpower present. Very few works have been carried out to minimize human intervention and automate collision response to emergency service providers. Some researchers tried to develop a collision notification system using wireless networks [1][2] but in developing countries such as India, on road wireless networks are not very common.

Other works that have been done are designing of location awareness devices using Map and GPS services to help police vehicles reach the location of activities, and take pictures to send them back to the HQ [4]. These kinds of systems are known as LAS and are also used for receiving short messages from the HQ to the Police Vehicle.

Remote Fleet Management is also a new area where work is being done but is mostly used for obtaining vehicle position and status, determining the Officer Safety and monitors the fleet wirelessly [3][5]. Various deployment algorithms have also been discussed in [6][7] which help in decision support to deploy vehicles at strategic locations close to important accident prone areas. They also discuss models of deployment based on traffic densities, shift time and numbers of cars assigned. In another work [8], Greedy Algorithm has been used to deploy Police vehicles efficiently using parameters like cost, capability of response and deterrent capability.

CHAPTER 3

SYSTEM REQUIREMENTS SPECIFICATION

3.1 System Specifications

3.1.1 Hardware Requirements:-

➤ PROCESSOR	:	Intel Pentium IV 1.8 GHz
➤ MOTHERBOARD	:	Intel 915GVSR chipset board
➤ RAM	:	1 GB DDR2 RAM
➤ HARD DISK DRIVE	:	160 GB
➤ MONITOR	:	17" Color TFT Monitor
➤ KEYBOARD	:	Multimedia Keyboard 108 Keys
➤ MOUSE	:	Logitech Optical Mouse

3.1.2 Software Requirements: -

Front End: HTML5, CSS3, Bootstrap

Back End: PHP, MYSQL

Control End: Angular Java Script

Android Tools:

Android Emulator

xampp-win32-5.5.19-0-VC11

Android SDK - adt-bundle-windows-x86

IDE: Eclipse Mars

jdk-8u66-windows-i586

CHAPTER 4

SYSTEM ANALYSIS AND DESIGN

Design is the first step in the development phase for any techniques and principles for the purpose of defining a device, a process or system in sufficient detail to permit its physical realization.

Once the software requirements have been analyzed and specified the software design involves three technical activities - design, coding, implementation and testing that are required to build and verify the software.

The design activities are of main importance in this phase, because in this activity, decisions ultimately affecting the success of the software implementation and its ease of maintenance are made. These decisions have the final bearing upon reliability and maintainability of the system. Design is the only way to accurately translate the customer's requirements into finished software or a system.

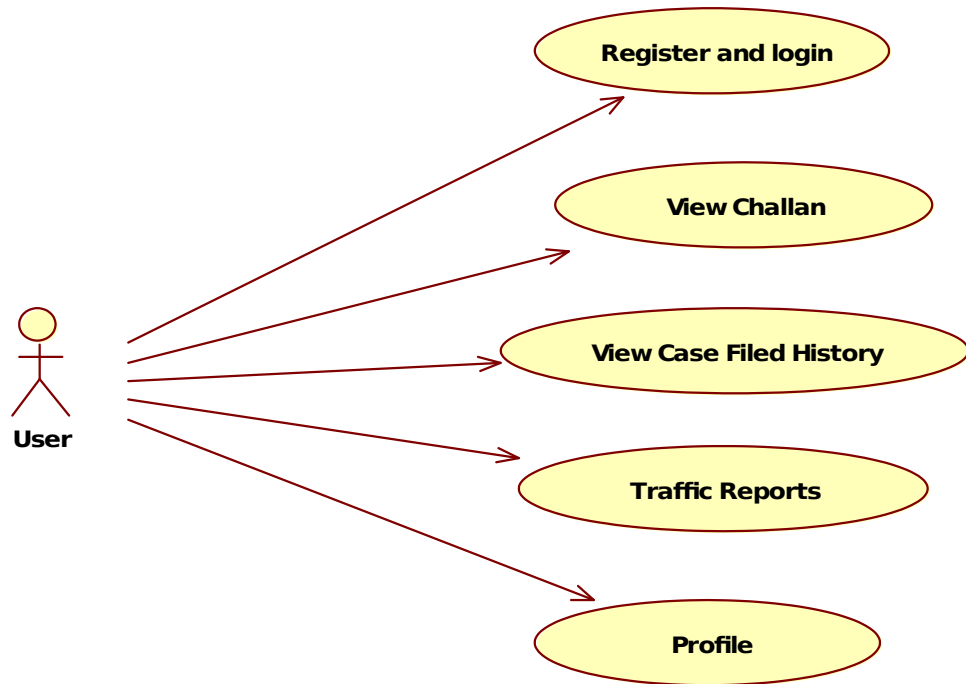
Design is the place where quality is fostered in development. Software design is a process through which requirements are translated into a representation of software. Software design is conducted in two steps. Preliminary design is concerned with the transformation of requirements into data.

4.1 UML Diagrams:

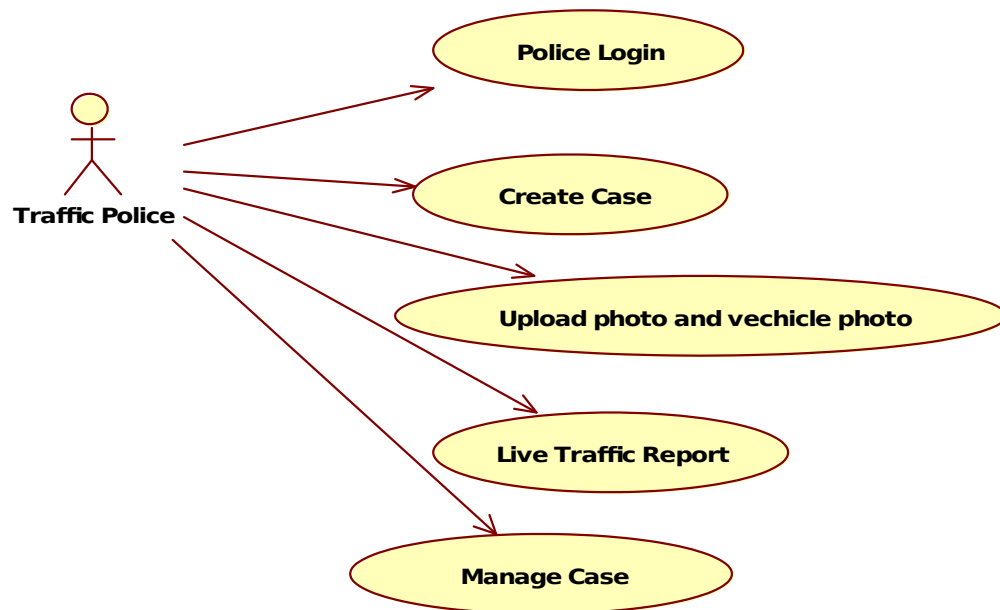
UML stands for Unified Modeling Language. UML is a language for specifying, visualizing and documenting the system. This is the step while developing any product after analysis. The goal from this is to produce a model of the entities involved in the project which later need to be built. The representation of the entities that are to be used in the product being developed need to be designed.

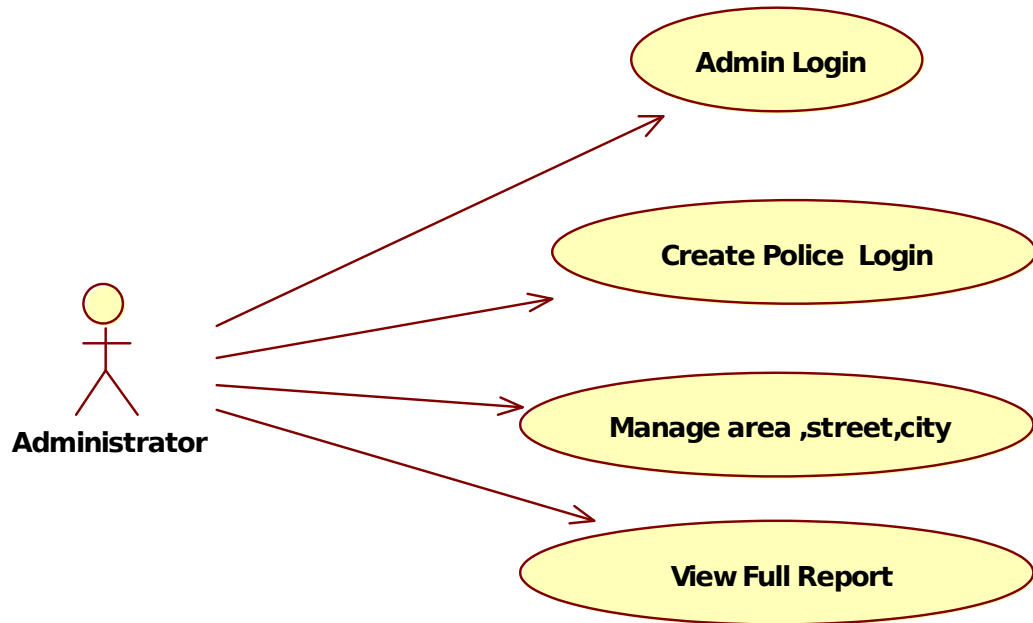
4.1.1 Usecase Diagrams:

Use case diagrams model behavior within a system and helps the developers understand of what the user require. The stick man represents what's called an actor. Use case diagram can be useful for getting an overall view of the system and clarifying that can do and more importantly what they can't do.



TRAFFIC SQUAD





TRAFFIC SQUAD

Use case diagram consists of use cases and actors and shows the interaction between the use case and actors.

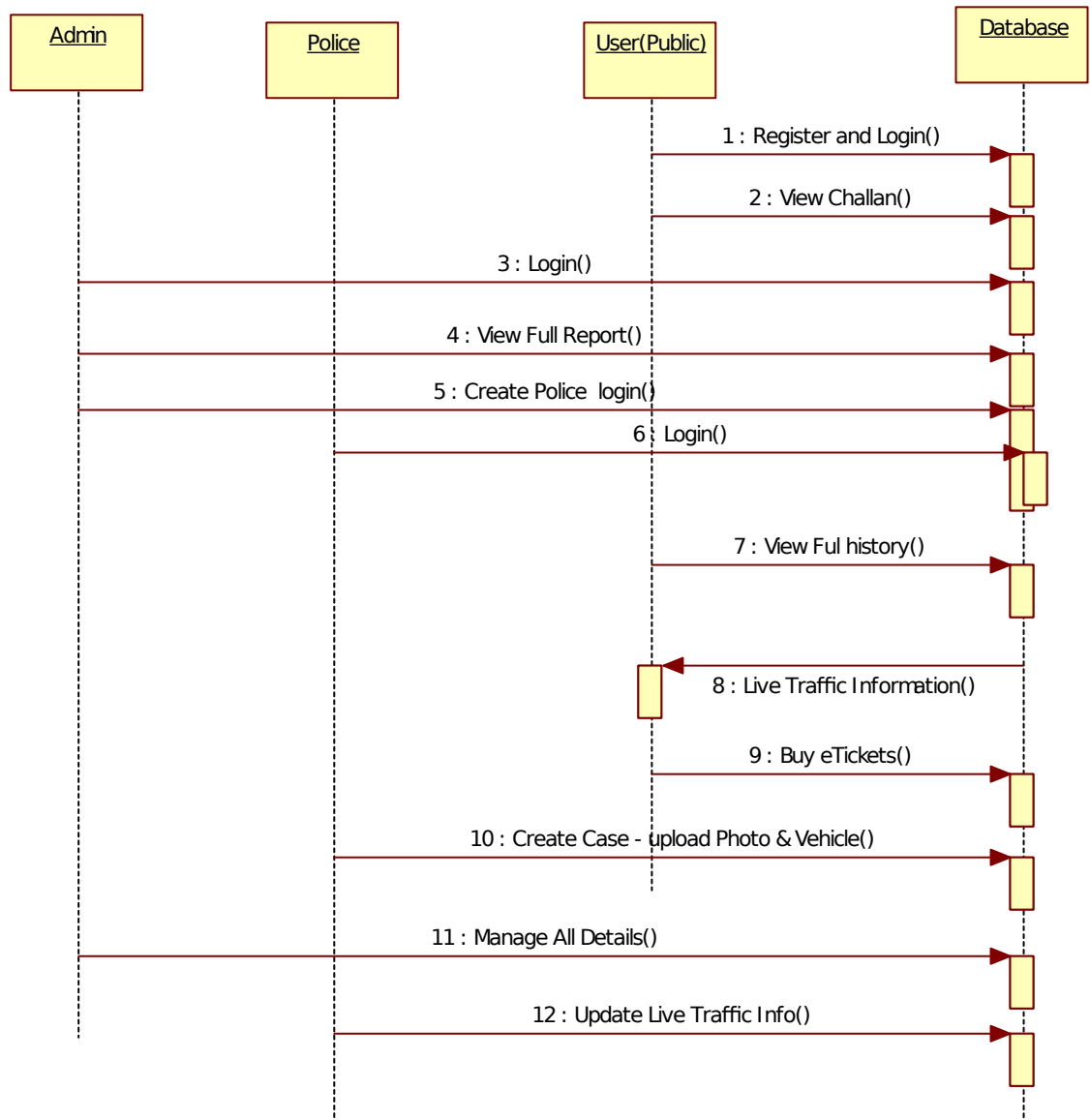
- The purpose is to show the interactions between the use case and actor.
- To represent the system requirements from user's perspective.
- An actor could be the end-user of the system or an external system

4.1.2 Sequence Diagram:

Sequence diagram and collaboration diagram are called INTERACTION DIAGRAMS. An interaction diagram shows an interaction, consisting of set of objects and their relationship including the messages that may be dispatched among them.

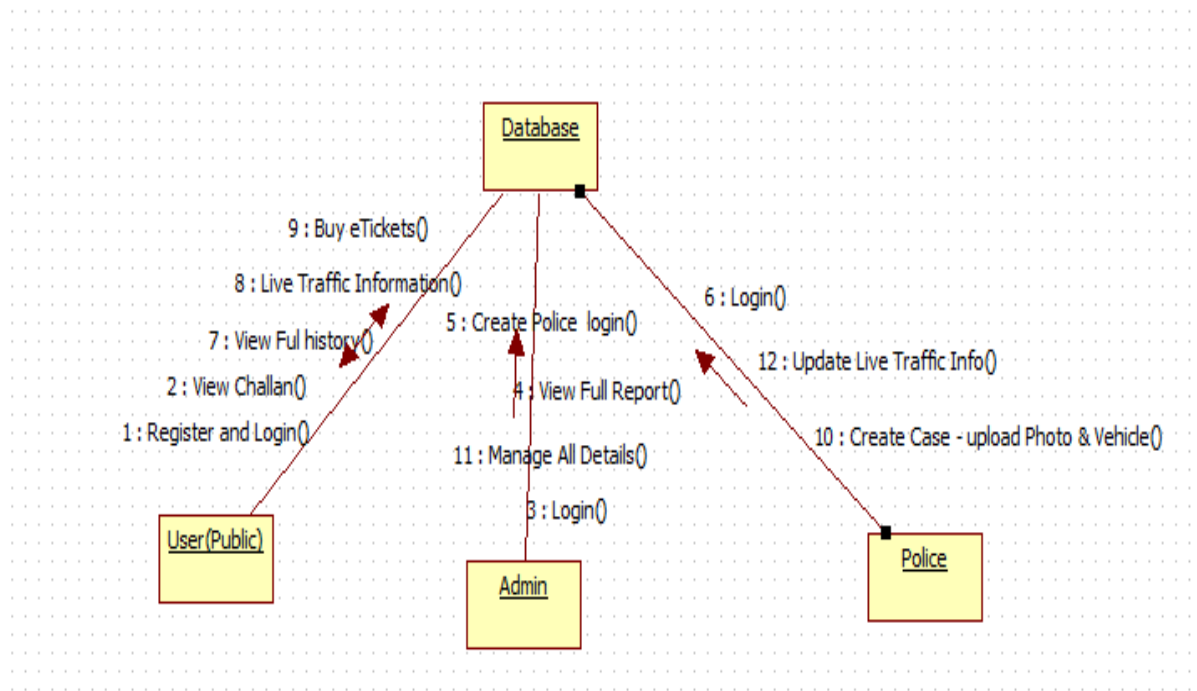
A sequence diagram is an introduction that empathizes the time ordering of messages. Graphically a sequence diagram is a table that shows objects arranged along the X-axis and messages ordered in increasing time along the Y-axis.

TRAFFIC SQUAD



4.1.3 Collaborate Diagram:

A collaboration diagram, also called a communication diagram or interaction diagram, is an illustration of the relationships and interactions among software objects in the Unified Modeling Language (UML).



4.2 Table Design

4.2.1 User Register & Login

User ID	Name	Email Id	Password	Mobile	Address	City	Question 1	Question 2
Int	Varchar	Varchar	Varchar	Varchar	Varchar	Varchar	Varchar	Varchar
100	100	100	100	100	100	100	100	100
Primary key								

Table 4.1 User Register

4.2.2 Manage Case Table

User ID	Name	Email Id	Area	City	Pentalty	Date	Vehicle photo	Person photo
Int	Varchar	Varchar	Varchar	Varchar	Varchar	Varchar	Varchar	Varchar
100	100	100	100	100	100	100	100	100
Primary key								

Table 4.2 Mange Case Table

TRAFFIC SQUAD

4.2.3 Live Traffic

User ID	City	Area	Place	Traffic level	Time to readce
Int	Varchar	Varchar	Varchar	Varchar	Varchar
100	100	100	100	100	100
Primary key					

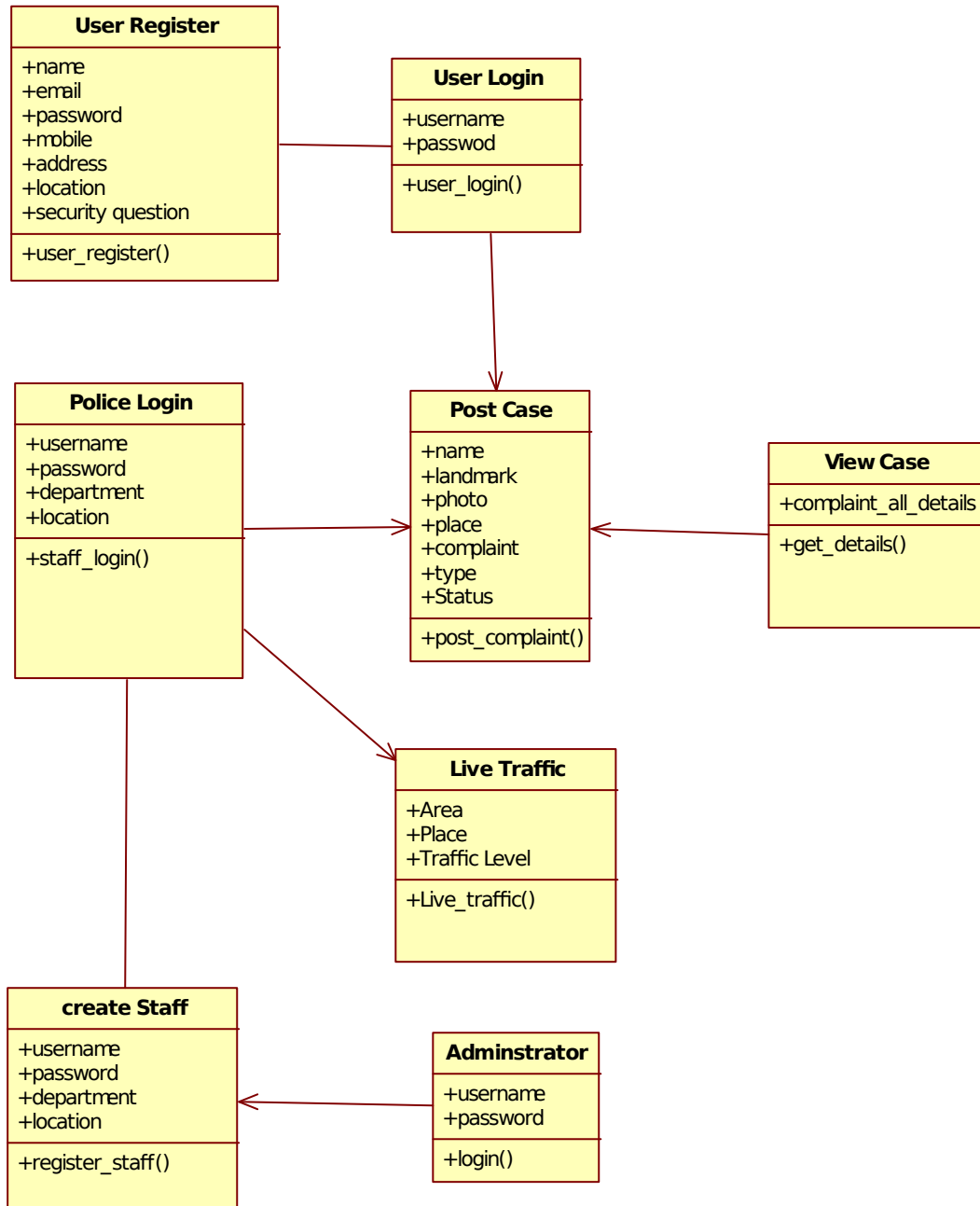
Table 4.3 Live Traffic

4.2.4 Admin Login

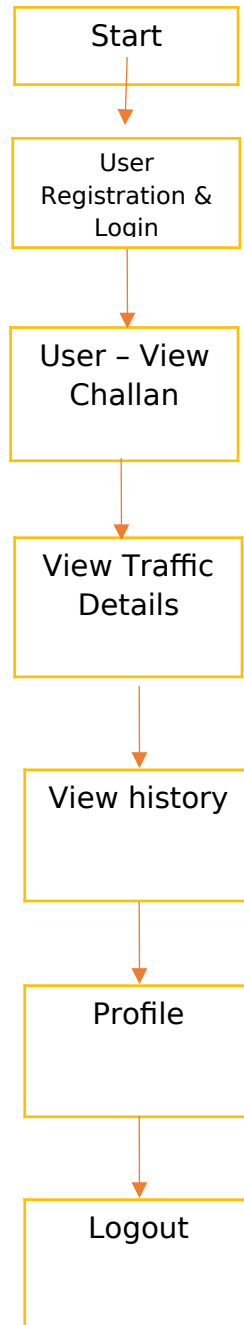
User ID	Admin Login	Pass word	Data
100	100	100	100
Primary key			

Table 4.4 Admin Login

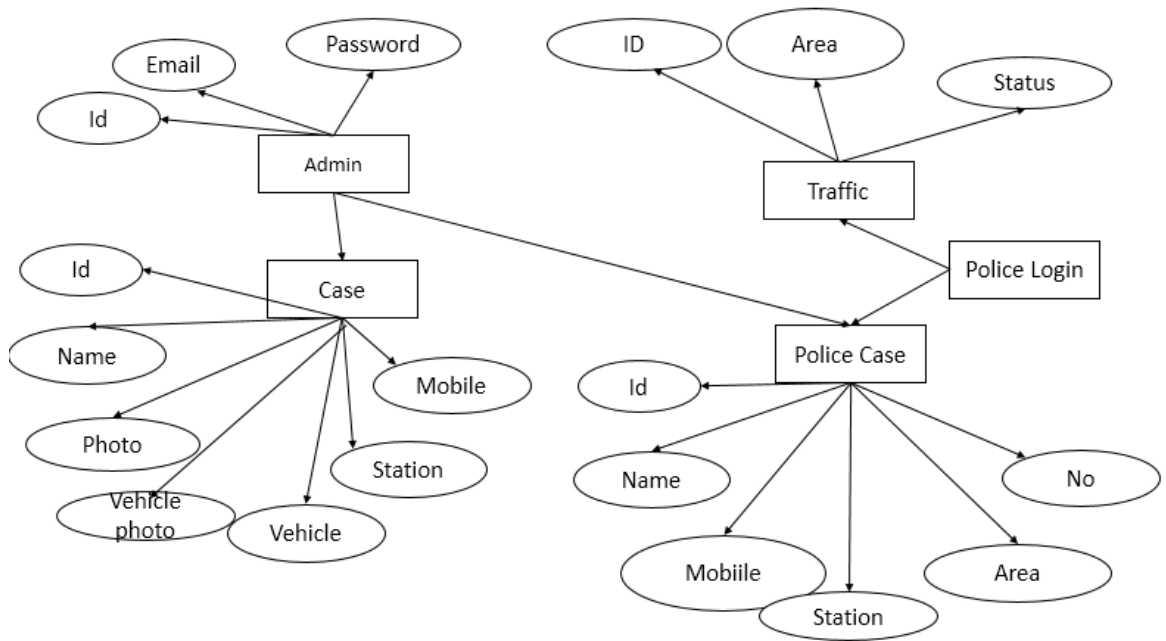
4.3 Class Diagram



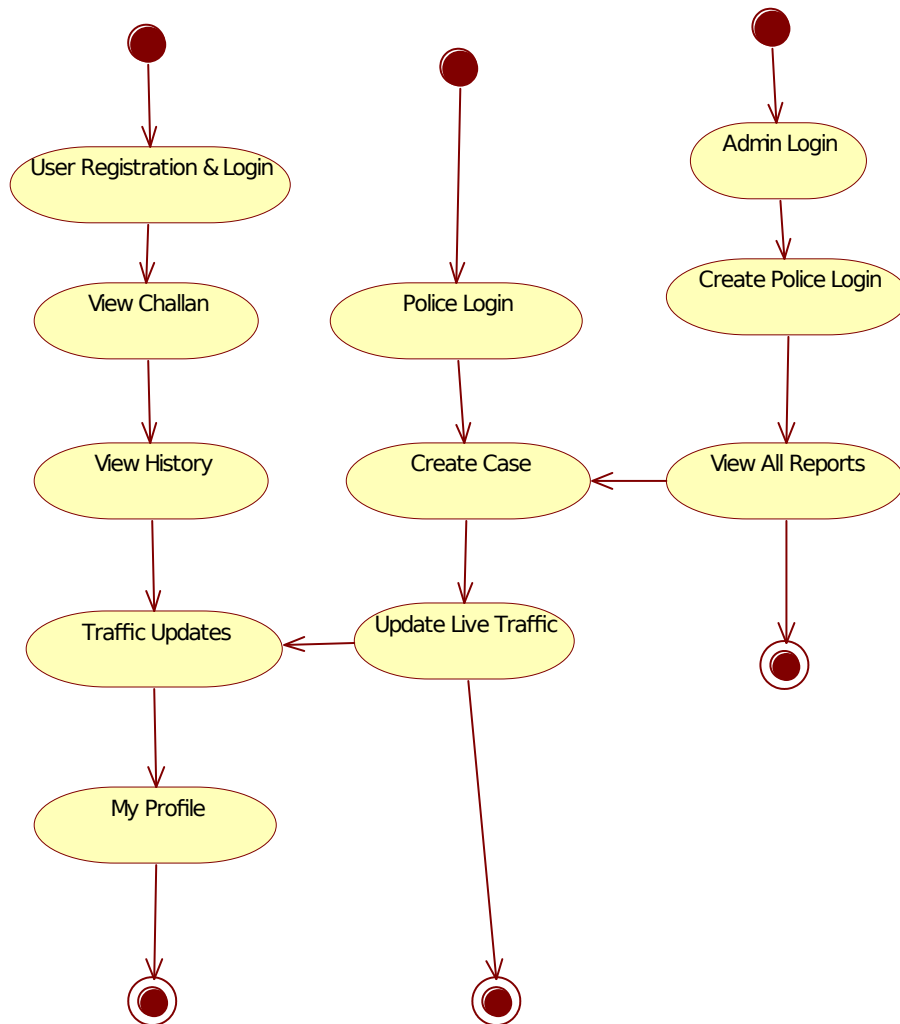
4.4. Data Flow Diagram



4.5. ER Diagram



4.6. Activity Diagram



CHAPTER 5

IMPLEMENTATION

6.1 Introduction to Html Framework

Hyper Text Markup Language, commonly referred to as HTML, is the standard markup language used to create web pages. Along with CSS, and JavaScript, HTML is a cornerstone technology used to create web pages, as well as to create user interfaces for mobile and web applications. Web browsers can read HTML files and render them into visible or audible web pages. HTML describes the structure of a website semantically along with cues for presentation, making it a markup language, rather than a programming language.

HTML elements form the building blocks of HTML pages. HTML allows images and other objects to be embedded and it can be used to create interactive forms. It provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. HTML elements are delineated by tags, written using angle brackets. Tags such as `` and `<input />` introduce content into the page directly. Others such as `<p>...</p>` surround and provide information about document text and may include other tags as sub-elements. Browsers do not display the HTML tags, but use them to interpret the content of the page.

HTML can embed scripts written in languages such as JavaScript which affect the behavior of HTML web pages. HTML markup can also refer the browser to Cascading Style Sheets (CSS) to define the look and layout of text and other material.

HyperText Markup Language (HTML) is the standard markup language for creating web pages and web applications. With Cascading Style Sheets (CSS) and JavaScript it forms a triad of cornerstone technologies for the World Wide Web. Web browsers receive HTML documents from a webserver or from local storage and render them into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document.

HTML elements are the building blocks of HTML pages. With HTML constructs, images and other objects, such as interactive forms, may be embedded into the rendered page. It provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. HTML elements are delineated by tags, written using angle brackets. Tags such as `` and `<input />` introduce content into the page directly. Others such as `<p>...</p>` surround and provide information about document text and may include other tags as sub-elements. Browsers do not display the HTML tags, but use them to interpret the content of the page.

HTML can embed programs written in a scripting language such as JavaScript which affect the behavior and content of web pages. Inclusion of CSS defines the look and layout of content. The World Wide Web Consortium (W3C), maintainer of both the HTML and the CSS standards, has encouraged the use of CSS over explicit presentational HTML since 1997. HTML is a markup language that web browsers use to interpret and compose text, images, and other material into visual or audible web pages. Default characteristics for every item of HTML markup are defined in the browser, and these characteristics can be altered or enhanced by the web page designer's additional use of CSS.

6.2 Cascading Style Sheets (CSS)

CSS is a style sheet language used for describing the presentation of a document written in a markup language. Although most often used to set the visual style of web pages and user interfaces written in HTML and XHTML, the language can be applied to any XML document, including plain XML, SVG and XUL, and is applicable to rendering in speech, or on other media. Along with HTML and JavaScript, CSS is a cornerstone technology used by most websites to create visually engaging webpages, user interfaces for web applications, and user interfaces for many mobile applications.

CSS is designed primarily to enable the separation of document content from document presentation, including aspects such as the layout, colors, and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple HTML pages to share formatting by specifying the relevant CSS in a separate .css file, and reduce

TRAFFIC SQUAD

complexity and repetition in the structural content, such as semantically insignificant tables that were widely used to format pages before consistent CSS rendering was available in all major browsers. CSS makes it possible to separate presentation instructions from the HTML content in a separate file or style section of the HTML file. For each matching HTML element, it provides a list of formatting instructions. For example, a CSS rule might specify that "all heading 1 elements should be bold", leaving pure semantic HTML markup that asserts "this text is a level 1 heading" without formatting code such as a `<bold>` tag indicating how such text should be displayed.

CSS is designed primarily to enable the separation of document content from document presentation, including aspects such as the layout, colors, and fonts.[3] This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple HTML pages to share formatting by specifying the relevant CSS in a separate .css file, and reduce complexity and repetition in the structural content.

Separation of formatting and content makes it possible to present the same markup page in different styles for different rendering methods, such as on-screen, in print, by voice (via speech-based browser or screen reader), and on Braille-based tactile devices. It can also display the web page differently depending on the screen size or viewing device. Readers can also specify a different style sheet, such as a CSS file stored on their own computer, to override the one the author specified.

Changes to the graphic design of a document (or hundreds of documents) can be applied quickly and easily, by editing a few lines in the CSS file they use, rather than by changing markup in the documents.

The CSS specification describes a priority scheme to determine which style rules apply if more than one rule matches against a particular element. In this so-called cascade, priorities (or weights) are calculated and assigned to rules, so that the results are predictable.

TRAFFIC SQUAD

The CSS specifications are maintained by the World Wide Web Consortium (W3C). Internet media type (MIME type) text/css is registered for use with CSS by RFC 2318 (March 1998). The W3C operates a free CSS validation service for CSS documents.

In CSS, selectors declare which part of the markup a style applies to by matching tags and attributes in the markup itself.

Selectors may apply to:

all elements of a specific type, e.g. the second-level headers h2

elements specified by attribute, in particular:

id: an identifier unique within the document

class: an identifier that can annotate multiple elements in a document

elements depending on how they are placed relative to others in the document tree.

Classes and IDs are case-sensitive, start with letters, and can include alphanumeric characters and underscores. A class may apply to any number of instances of any elements. An ID may only be applied to a single element.

Pseudo-classes are used in CSS selectors to permit formatting based on information that is not contained in the document tree. One example of a widely used pseudo-class is :hover, which identifies content only when the user "points to" the visible element, usually by holding the mouse cursor over it. It is appended to a selector as in a:hover or #elementid:hover. A pseudo-class classifies document elements, such as :link or :visited, whereas a pseudo-element makes a selection that may consist of partial elements, such as ::first-line or ::first-letter.

Selectors may be combined in many ways to achieve great specificity and flexibility. Multiple selectors may be joined in a spaced list to specify elements by location, element type, id, class, or any combination thereof. The order of the selectors is important. For example, div .myClass {color: red;} applies to all elements of class myClass that are inside div elements, whereas .myClass div {color: red;} applies to all div elements that are in elements of class myClass.

6.3 MYSQL Server

MySQL is an open-source relational database management system (RDBMS);[6] in July 2013, it was the world's second most widely used RDBMS, and the most widely used open-source client-server model RDBMS. It is named after co-founder Michael Widenius's daughter, My. The SQL acronym stands for Structured Query Language. The MySQL development project has made its source code available under the terms of the GNU General Public License, as well as under a variety of proprietary agreements. MySQL was owned and sponsored by a single for-profit firm, the Swedish company MySQL AB, now owned by Oracle Corporation. For proprietary use, several paid editions are available, and offer additional functionality.

SQL Server Management Studio (SSMS) is a software application first launched with Microsoft SQL Server 2005 that is used for configuring, managing, and administering all components within Microsoft SQL Server. The tool includes both script editors and graphical tools which work with objects and features of the server.[1]

A central feature of SSMS is the Object Explorer, which allows the user to browse, select, and act upon any of the objects within the server.[2] It also shipped a separate Express edition that could be freely downloaded, however recent versions of SSMS are fully capable of connecting to and manage any SQL Server Express instance. Microsoft also incorporated backwards compatibility for older versions of SQL Server thus allowing a newer version of SSMS to connect to older versions of SQL Server instances.

Starting from version 11, the application was based on the Visual Studio 2010 shell, using WPF for the user interface.

In June 2015, Microsoft announced their intention to release future versions of SSMS independently of SQL Server database engine releases.[3].

6.4 PHP

PHP is a server-side scripting language designed for web development but also used as a general-purpose programming language. Originally created by RasmusLerdorf in 1994, the PHP reference implementation is now produced by The PHP Group. PHP originally stood for Personal Home Page, but it now stands for therecursive backronym PHP: Hypertext Preprocessor.

PHP code may be embedded into HTML code, or it can be used in combination with various web template systems, web content management system and web frameworks. PHP code is usually processed by a PHPinterpreter implemented as a module in the web server or as a Common Gateway Interface (CGI) executable. The web server combines the results of the interpreted and executed PHP code, which may be any type of data, including images, with the generated web page. PHP code may also be executed with a command-line interface(CLI) and can be used to implement standalone graphical applications.

The standard PHP interpreter, powered by the Zend Engine, is free software released under the PHP License. PHP has been widely ported and can be deployed on most web servers on almost every operating system andplatform, free of charge.

The PHP language evolved without a written formal specification or standard until 2014, leaving the canonical PHP interpreter as a de facto standard. Since 2014 work has gone on to create a formal PHP specification.

PHP is a server-side scripting language designed primarily for web development but also used as a general-purpose programming language. Originally created by Rasmus Lerdorf in 1994, the PHP reference implementation is now produced by The PHP Development Team. PHP originally stood for Personal Home Page, but it now stands for the recursive acronym PHP: Hypertext Preprocessor.

PHP code may be embedded into HTML or HTML5 code, or it can be used in combination with various web template systems, web content management systems and web frameworks. PHP code is usually processed by a PHP interpreter

implemented as a module in the web server or as a Common Gateway Interface (CGI) executable. The web server combines the results of the interpreted and executed PHP code, which may be any type of data, including images, with the generated web page. PHP code may also be executed with a command-line interface (CLI) and can be used to implement standalone graphical applications.

The standard PHP interpreter, powered by the Zend Engine, is free software released under the PHP License. PHP has been widely ported and can be deployed on most web servers on almost every operating system and platform, free of charge.

The PHP language evolved without a written formal specification or standard until 2014, leaving the canonical PHP interpreter as a de facto standard. Since 2014 work has gone on to create a formal PHP specification.

6.5 ANGULAR JAVA SCRIPT

AngularJS (commonly referred to as "Angular" or "Angular.js") is an open-source web application framework mainly maintained by Google and by a community of individuals and corporations to address many of the challenges encountered in developing single-page applications. It aims to simplify both the development and the testing of such applications by providing a framework for client-side model-view-controller (MVC) and model-view-viewmodel (MVVM) architectures, along with components commonly used in rich Internet applications.

The AngularJS framework works by first reading the HTML page, which has embedded into it additional custom tag attributes. Angular interprets those attributes as directives to bind input or output parts of the page to a model that is represented by standard JavaScript variables. The values of those JavaScript variables can be manually set within the code, or retrieved from static or dynamic JSON resources.

According to JavaScript analytics service Libscore, AngularJS is used on the websites of Wolfram Alpha, NBC, Walgreens, Intel, Sprint, ABC News, and approximately 8,400 other sites out of 1 million tested in July 2015.

TRAFFIC SQUAD

AngularJS is the frontend part of the MEAN stack, consisting of MongoDB database, Express.js web application server framework, Angular.js itself, and Node.js runtime environment.

AngularJS is an open source web application framework. It was originally developed in 2009 by Misko Hevery and Adam Abrons. It is now maintained by Google. Its latest version is 1.4.3.

Definition of AngularJS as put by its official documentation is as follows –

AngularJS is a structural framework for dynamic web apps. It lets you use HTML as your template language and lets you extend HTML's syntax to express your application's components clearly and succinctly. Angular's data binding and dependency injection eliminate much of the code you currently have to write. And it all happens within the browser, making it an ideal partner with any server technology.

Features

- AngularJS is a powerful JavaScript based development framework to create RICH Internet Application(RIA).
- AngularJS provides developers options to write client side application (using JavaScript) in a clean MVC(Model View Controller) way.
- Application written in AngularJS is cross-browser compliant. AngularJS automatically handles JavaScript code suitable for each browser.
- AngularJS is open source, completely free, and used by thousands of developers around the world. It is licensed under the Apache License version 2.0.
- Overall, AngularJS is a framework to build large scale and high performance web application while keeping them as easy-to-maintain.

Core Features

Following are most important core features of AngularJS –

- **Data-binding** – It is the automatic synchronization of data between model and view components.

TRAFFIC SQUAD

- **Scope** – These are objects that refer to the model. They act as a glue between controller and view.
- **Controller** – These are JavaScript functions that are bound to a particular scope.
- **Services** – AngularJS come with several built-in services for example \$http: to make a XMLHttpRequests. These are singleton objects which are instantiated only once in app.
- **Filters** – These select a subset of items from an array and returns a new array.
- **Directives** – Directives are markers on DOM elements (such as elements, attributes, css, and more). These can be used to create custom HTML tags that serve as new, custom widgets. AngularJS has built-in directives (ngBind, ngModel...)
- **Templates** – These are the rendered view with information from the controller and model. These can be a single file (like index.html) or multiple views in one page using "partials".
- **Routing** – It is concept of switching views.
- **Model View Whatever** – MVC is a design pattern for dividing an application into different parts (called Model, View and Controller), each with distinct responsibilities. AngularJS does not implement MVC in the traditional sense, but rather something closer to MVVM (Model-View-ViewModel). The Angular JS team refers it humorously as Model View Whatever.
- **Deep Linking** – Deep linking allows you to encode the state of application in the URL so that it can be bookmarked. The application can then be restored from the URL to the same state.
- **Dependency Injection** – AngularJS has a built-in dependency injection subsystem that helps the developer by making the application easier to develop, understand, and test.

CHAPTER 6

RESULTS AND DISCUSSION

6.1 SCREENSHOTS

6.1.1 Login Screen

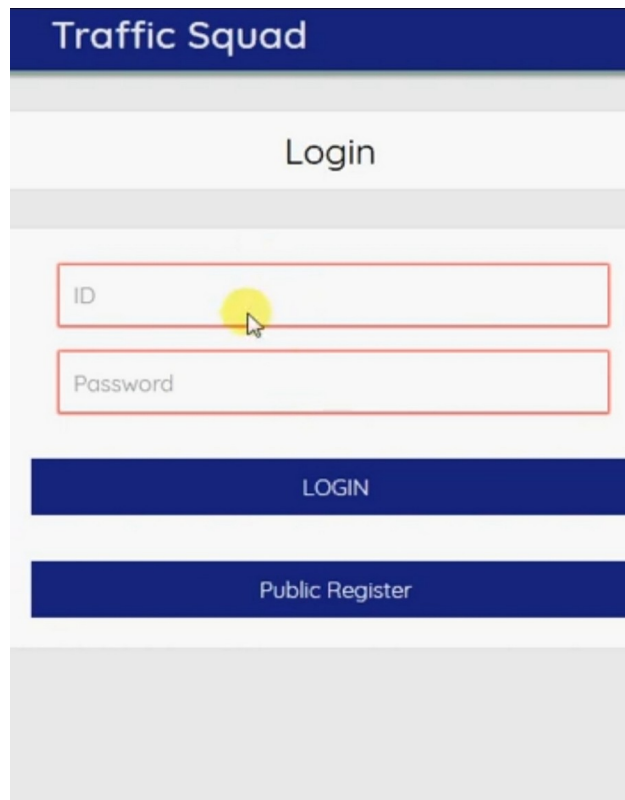


Fig 6.1 Login Screen

6.1.2 Admin Screen

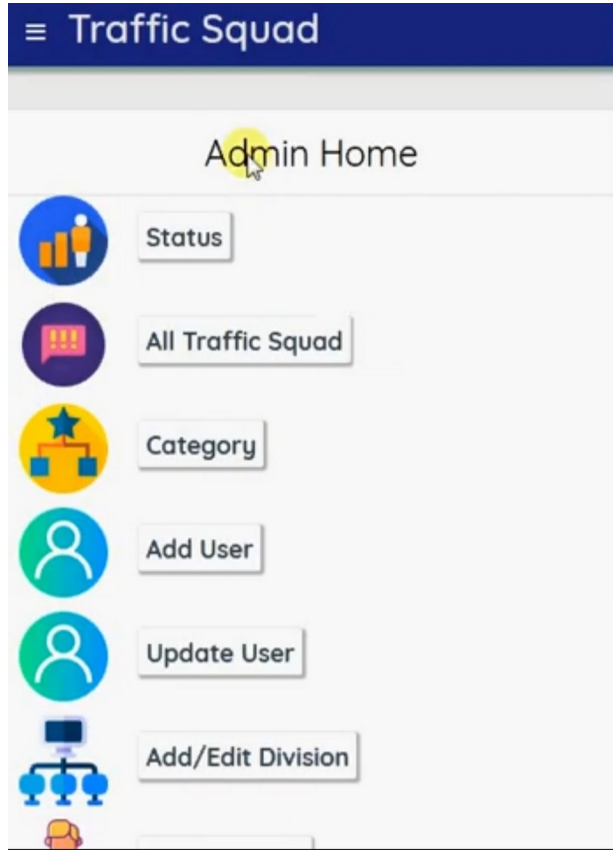


Fig 6.2 Admin Dashboard Screen

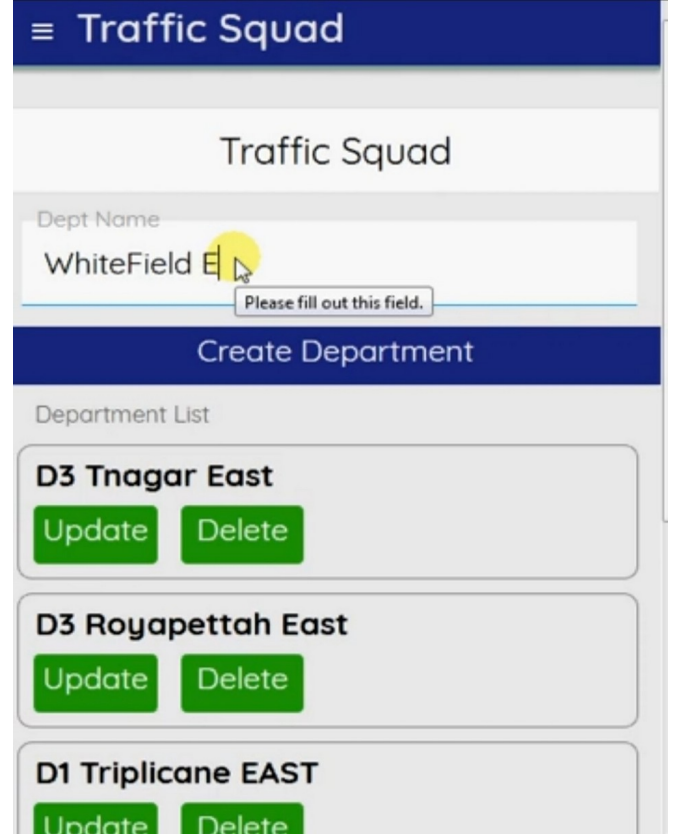


Fig 6.3 Adding Department Screen

6.1.3 Police Screen



Fig 6.4 Police Dashboard Screen

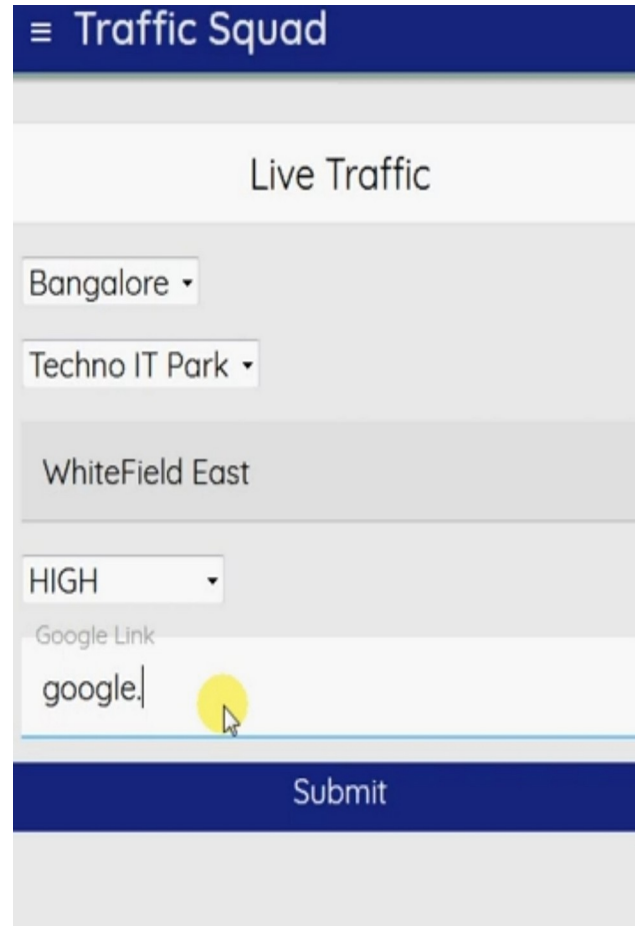


Fig 6.5 Update Traffic details Screen

6.1.4 User Screen



Fig 6.6 User Dashboard Screen

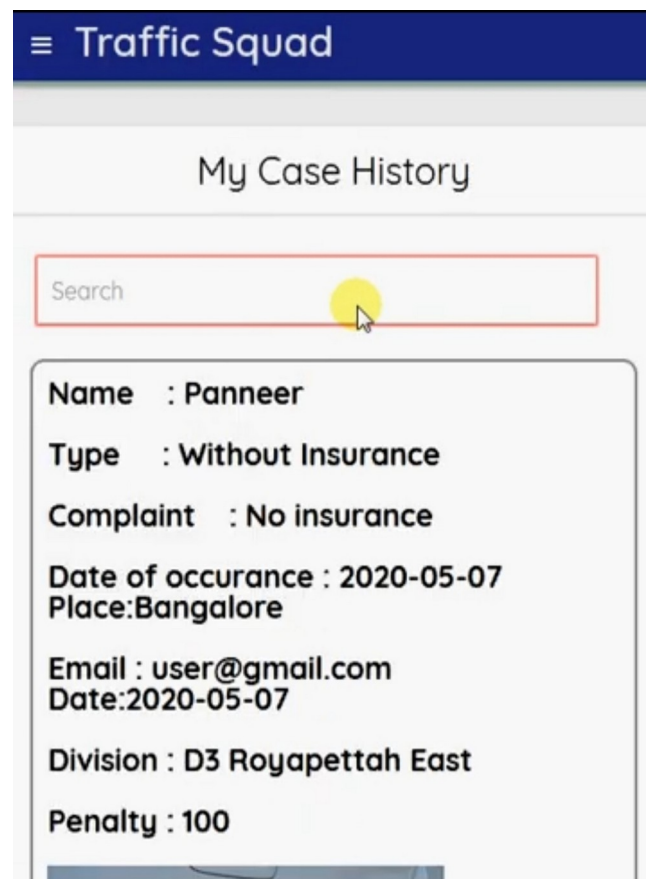


Fig 6.7 View Case details Screen

CHAPTER 7

TESTING

The purpose of testing is to discover errors. Testing is the process of trying to discover every conceivable fault or weakness in a work dress. It provides a way to check the functionality of components, sub-assemblies, assemblies and/or a finished dress It is the process of exercising software with the intent of ensuring that the

Software system meets its requirements and user expectations and does not fail in an unacceptable manner. There are various types of test. Each test type addresses a specific testing requirement.

7.1 TYPES OF TESTS

7.1.1 Unit testing

Unit testing involves the design of test cases that validate that the internal program logic is functioning properly, and that program inputs produce valid outputs. All decision branches and internal code flow should be validated. It is the testing of individual software units of the application .it is done after the completion of an individual unit before integration. This is a structural testing, that relies on knowledge of its construction and is invasive. Unit tests perform basic tests at component level and test a specific business process, application, and/or system configuration. Unit tests ensure that each unique path of a business process performs accurately to the documented specifications and contains clearly defined inputs and expected results.

7.1.2 Integration testing

Integration tests are designed to test integrated software components to determine if they actually run as one program. Testing is event driven and is more concerned with the basic outcome of screens or fields. Integration tests demonstrate that although the components were individually satisfaction, as shown by successfully

unit testing, the combination of components is correct and consistent. Integration testing is specifically aimed at exposing the problems that arise from the combination of components.

7.1.3 Functional test

Functional tests provide systematic demonstrations that functions tested are available as specified by the business and technical requirements, system documentation, and user manuals.

Functional testing is centered on the following items:

Valid Input : identified classes of valid input must be accepted.

Invalid Input : identified classes of invalid input must be rejected.

Functions : identified functions must be exercised.

Output : identified classes of application outputs must be exercised.

Systems/Procedures: interfacing systems or procedures must be invoked.

Organization and preparation of functional tests is focused on requirements, key functions, or special test cases. In addition, systematic coverage pertaining to identify Business process flows; data fields, predefined processes, and successive processes must be considered for testing. Before functional testing is complete, additional tests are identified and the effective value of current tests is determined.

7.2 System Test

System testing ensures that the entire integrated software system meets requirements. It tests a configuration to ensure known and predictable results. An example of system testing is the configuration oriented system integration test. System testing is based on process descriptions and flows, emphasizing pre-driven process links and integration points.

7.2.1 White Box Testing

White Box Testing is a testing in which in which the software tester has knowledge of the inner workings, structure and language of the software, or at least its purpose. It is purpose. It is used to test areas that cannot be reached from a black box level.

7.2.2 Black Box Testing

Black Box Testing is testing the software without any knowledge of the inner workings, structure or language of the module being tested. Black box tests, as most other kinds of tests, must be written from a definitive source document, such as specification or requirements document, such as specification or requirements document. It is a testing in which the software under test is treated, as a black box .you cannot “see” into it. The test provides inputs and responds to outputs without considering how the software works.

CHAPTER 8

CONCLUSION

Notification with Intelligent Police Force Deployment in developing countries which integrate Mobile Computing and Embedded Systems and are diverse in nature. Though no large scale prototype is created till the time this paper has been written, few small works have been done in the Mobile Computing as well as in the traffic squad using Open Source technology, and it has been estimated out that a real life project may be implemented with limited amount of funds and yet improvement in Police Response Time may be obtained successfully.

REFERENCES

- [1] Muhammad Baqer Mollah, Kazi Reazul Islam, Sikder Sunbeam Islam, E-Police System for Improved E-Government Services of Developing Countries MAY-2012.
- [2] Anand Kulkarni, Naved Khan, Ajinkya Modak Voice Enabled Android Application for Traffic Complaint and Pothole Notification System Using GPS and GSM-GPRS Technology International Journal of Advanced Research in Computer and Communication Engineering Vol. 3, Issue 3, March 2014 .
- [3] Garima Pandey, Diksha Dani, Android Mobile Application Build on Eclipse International Journal of Scientific and Research Publications, Volume 4, Issue 2, February 2014 1 ISSN 2250-3153.
- [4] Roxanne Hawi. George Okeyo “Techniques for Smart Traffic Control: An In-depth Review”, 2015.
- [5] Manjunath S Patil, Basavaraj K Madagouda, Vinod C Desai “E-RTO Management System” In IJERT ISSN: 2278-0181 V2IS70177 Vol. 2 Issue 7, July –2013.
- [6] E. Ray Knickel, Albert W. Van Horn, “Improving Police Command and Control with a Patrol Car Emitter-Call Box Sensor Car Location System”, IEEE Transactions on Vehicular Technology, Vol VT-19, No2, May 1970, p.178-184.