Chapter 1

Introduction

1.1 Overview of the Project

E-COP system is a COP management system used to fill the gaps between public & police. By E-COP system Indian people can put their FIR online to any police station in India. Aim of this project is increasing interaction between Indian citizens and Indian Police. In India most of people are fear to lodge FIR in police station because of that we need a police website where we can securely lodge FIRs. As an Introduction to our project we can say that we are going to build a project which is a online police website. In our website we give the feature of lodge FIRs, also we can see workflow or investigation of the particular FIR. We are trying to make our website secure. Our main aim is to fill the gaps between Indian people & police. Both can keep in contact through online.

Chapter 2

System Study

2.1 Existing System

E-COP system mainly consist two types of end user one is Indian citizens and another one is Indian police. Problem statement stated that in this website is mainly use to publish public complaining that is make a FIR (First Information Report) online.

FIR is a written document prepared by the police when they receive information about the commission of a cognizable offence. It's a report of information that reaches the police first in point of time and that is why it's called First Information report. It is generally a complaint lodged with the police by victim of a cognizable offence or by someone his/her behalf. Cognizable offence is one in which the police may arrest a person without warrant. They are authorized to start investigation into a cognizable case on their own and do not require any orders from the court to do so. Non cognizable offence is an offence in which a police officer has no authority to arrest without warrant. The police cannot investigate such an offence without the court's permission.

An FIR is a very important document as it sets the process of criminal justice in motion. It is only after the FIR registered in the police station that the police take up investigation of case. Here FIR can be lodged online by our website. Anyone who knows about the commission of a cognizable offence can file an FIR. It is not necessary that only the victim of the crime should file an FIR. A police officer who comes to know about a cognizable offence can file an FIR himself/herself.

In India, FIR is lodged only in police stations and not online. Although Delhi police and Mumbai police have recently provided facilities for online FIR's, but in most of the cases FIR's are lodged by Indian people in their local police stations. This means FIR's are a hand written document written by police by taking information from victim. In our system we are planning to make FIR online for quick lodging of FIR and also quick service taken by COP.

2.1.1 Limitations of the Existing System

The existing system is purely a manual one. The officer has to write down all the FIR information to be stored in the record book. As the years increases the number of FIR's records also increases. This makes a huge complicated process of searching. Maintenance and manipulation of the old records will be complicated. Searching for a particular FIR-ID will also take more time if the FIR information requited is quite old.

Updating of FIR status or information is also very difficult. All this things starting from updating, inserting FIR information needs to be done manually. That's make it as a time consuming process. Every day it has to be checked manually.

It's also not possible for a complainant to check their FIR status or keep track with the investigation information. Every time they have to call police inspector and inspector will search his/her FIR information and tell him the status.

2.2 Proposed System

Proposed system is mainly built to fill FIR online at any police station in given states in India. This project will be used by two types of end user one is police and another one is public. Indian citizens who are the victims can put their complaint or fill FIR online and publish it to selected police station. The FIR filling procedure will consist:

- Your name and address and voter-id or any id issued by government;
- Date, time and location of the incident you are reporting;
- The true facts of the incident as they occurred;
- Names and descriptions of the persons involved in the incident
- Witnesses, or any audio, video, document proof if any.

After filling all the details victim will publish it by providing a police station name. A unique FIR number will be given to victim with the copy of FIR, to know the later status of the FIR.

Now the police will get an email about the FIR and providing his name & id police will log on to E-COP and read the total FIR details. Police can also provide the status of the enquiry in the website by which victim can track on the enquiry status. Police officers also keep contact with the victim by phone or by the address provided by victim.

Police officer also login to our website to see details of each police station that is how many number officers are there and how many FIRs lodged there.

2.2.1 Scope of the System:

The scope of the ECOP SYSTEM project is as follows:

- Aggrieved person or someone on behalf of that person or some witnesses can lodge there complain or FIR in our website securely.
- A random generated unique FIR-ID will be provided to complainant, after fill-up there FIR details as well as personal details.
- Police Station where the FIR lodged can view the details and start investigation.
- By providing FIR-ID complainant can view the current status of the FIR.
- Complainant & police can also communicate through e-mail using this application.
- Senior police officers can view and update the details of police station under him.

2.2.2 Benefits of the system:

There are following benefits in our project:

- Aggrieved person or someone behalf of that person or some witnesses can lodge there complain or FIR in our website securely.
- A random generated unique FIR-ID will provide to complainant, after fill-up there FIR details as well as personal details.
- Police station where the FIR lodged can view the details and starts investigation.
- Police inspector can also update the current status of the investigation.
- By providing FIR-ID complainant can view the current status of the FIR.
- Complainant & Police also communicate through email from our system.
- Police officer who is the in charge of a particular state can view the details of police station under him.
- State Officers can add new station in that state and also update station information.

Chapter 3

Software Requirement Specification

Definition:

Software requirement specification is the beginning point of the development activity. Software requirement is one such area, to which a little importance was attached in the early days of Software development as the emphasis was in coding and design. The tacit assumption was that developers understood the problem clearly when it was explained to them. As system grew more complex, it becomes evident that the goals of the entire system couldn't be easily comprehended.

Hence the needs for a rigorous requirement analysis phase arrive. Now for larger software system the requirement analysis is the most difficult and iterative activity.

The software project is initiated by the clients need. These needs are in mind of various people in the client organization. The requirement analyst has to identify the requirement after discussing with the people and understanding their needs. In situations where the software is to automate a currently manual process, most of the needs can be understood by observing the current practice.

Hence, identifying requirement involve specifying what some people have in their minds as the information in their minds is not formally sorted or organized. When inputs from multiple people are to be gathered, as in most cases, these inputs are likely to be inconsistent as well.

The SRS is a means of translating the ideas in the minds of the client into a formal document. Thus, the output of the phase is a set of formally specified requirements, which hopefully are complete and consistent, while the input has none of these properties. Clearly the process of specifying requirements cannot be totally formal. Any formal translation process producing a formula output must have a precise and unambiguous input.

3.1 Functional Requirements (Module View):

ECOP SYSTEM project is divided into 3 major components or module:-

i) Complainant Module

ii) Police station Module

iii) Officers Module

i) Complainant Module:

In our project complainant module works for the aggrieved person or some witness of crime. Complainants provide his/her details and also fill the FIR or complain. Compliant provide his/her personal details like name, address, voter-id, phone number, email-id, sex, age etc. In FIR details complainant will provide the crime details, incident date, complainant type like he/she is aggrieved person or witness or someone behalf of aggrieved person, subject of complain, state, police station, proofs etc. After fill-up all the FIR details & personal details a unique FIR-ID will provide to complainant. Later complainant can see the investigation status by providing there FIR-ID. They can view or update their fir by giving some important proof for that particular crime. Complaints can provide some audio, video, document proof for that particular crime. Police stations can able to communicate with complainant through email during the investigation. Later the complainant also able to provide some additional details on lodged fir.

ii) Police station Module:

Based on the complaints given by the complainant, police can take appropriate actions timely. The police have to login with proper password and its state and station name. In police station module the firs lodged for that particular police station will show to the police officers. Police can view all firs details and also can able to download the details. After checking all the details police change the fir status from 'lodged' to 'verified'. After verification completed police starts investigation. Police also update the investigation status to the website to inform the complainant about the status of investigation or progress of that particular fir.

Police can also send investigation report like 'how many people arrested?' or 'who are arrested?' etc. When investigation completed successfully the police change the status of investigation to 'close'.

iii) Police officer module:

In officer module officers has to login by providing passkey and his state name. In officer page officer can see the details of the police stations in that particular state. Officer is able to add new stations and he/she can update police stations information in that state. Officer is also view all FIR details under a particular police station in that state. Mainly officer module works as an administrator in our ECOP system. Being the head of the state all police stations under that state should inform any issues to police officer.

3.2 Non Functional Requirements:

The non functional requirements & constraints of this website are as follows:

- **Response time:** Response time is a constraint that is nothing but the time of process where system gives the result after taking input from the external environment. For example if a user gives the any kind input in the system then system takes some time and respond the result or output to user which is known as response time of a system.
- **Memory space:** Memory space is constraint that is nothing but the memory requires to the system. This website run on web in distributed environment. Memory space required for this system is not constant it could be depend on the inputs given by the user.
- **Security:** Security is main constraint of the system where system should be protected from external environment. This website is very secure where system could not be harmed by external environment. Authentication is used where username and password to the administrator to protect the system from unauthorized user access.
- **Portability:** Portability is the main constraint where system should be portable and could run in different environments. This system is portable which can run in different operating system and different web browsers.

3.3 System Requirements:

The Hardware and software required for **development** of this website are as follows:

3.3.1 Hardware Requirements

- Processor : Pentium4 Processor
- Hard Disk : 1 GB space on HDD
- Memory : 256 MB RAM
- Cache : 512KB

3.3.2 Software Requirements

- Development Environment:

The system is fully developed using PHP & JavaScript in Macromedia Dreamweaver & Flash environment. .

- Front End:

PHP Version 5.2.6, JavaScript

- Back End:

MYSQL 5.0.51b

- Deployment Environment:

WAMPSEVER 2.0, Apache 2.2.8

The website can be best viewed in Flash enable browser like Google chrome, Mozilla Firefox browsers.

Chapter 4

System Design

4.1. System Architecture:

The Proposed system is Developed as a three-tier web architecture as shown in the below diagram.

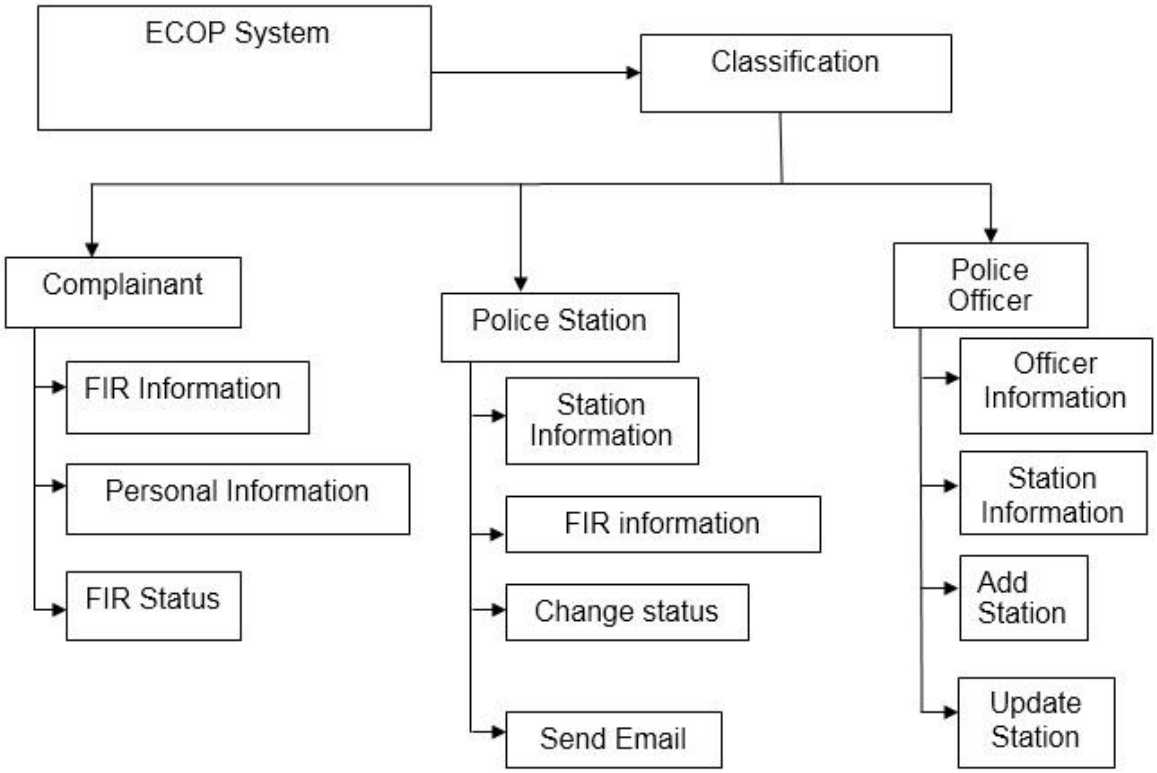

Fig 1: Three Tier Web Architecture

4.2. E.R Diagram:

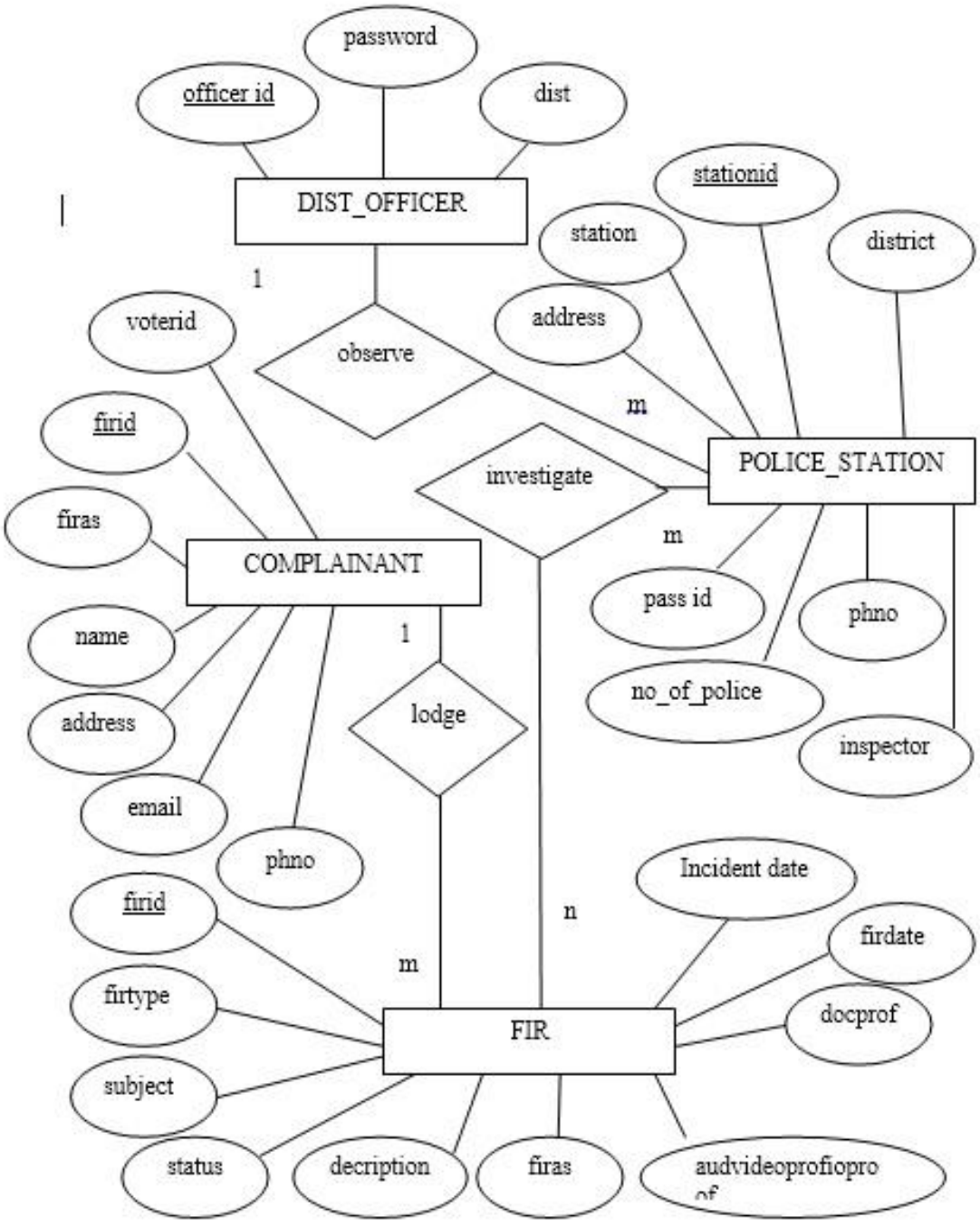

Fig 2: ER Diagram

4.3. Database Design

Complainant Table:

Firid	Varchar(15)
Firas	Char(20)
Name	Char(20)
Voterid	Varchar(15)
Address	Varchar(50)
Phno	Bigint(15)
Email	Varchar(20)
Gender	Char(5)

Table 4.1: Complainant Table

Fir Table:

Firid	Varchar(15)
Firtype	Char(5)
Stationid	Varchar(10)
Subject	Char(30)
Status	Varchar(30)
Incidentdate	Varchar(10)
Firdate	Varchar(10)

Table 4.2: Fir Table

Fir Details:

Firid	Varchar(15)
Description	Varchar(50)
Audioprof	Varchar(15)
Docprof	Varchar(15)
Videoprof	Varchar(15)

Table 4.3: Fir Details

Officers Table:

Officername	Varchar(15)
Password	Varchar(15)
State	Char(15)

Table 4.4: Officers Table

Police Station:

Stationid	Int(5)
Station	Char(15)
Addresss	Varchar(20)
Phno	Bigint(15)
District	Char(15)
no_of_police	Int(4)
Inspector	Char(20)
Passid	Varchar(10)

Table 4.5: Police Station

4.4. UML Diagrams:

UML diagram is standard language for specifying, visualizing, constructing and documenting the artifacts of software systems, business modeling and other non-software systems. The UML represents a collection of best engineering practices that have proven successful in the modeling of large and complex systems. The UML is a very important part of developing objects oriented software and the software development process. The UML uses mostly graphical notations to express the design of software projects. Using the UML helps project teams communicate, explore potential designs, and validate the architectural design of the software.

4.4.1. Class Diagrams:

Class diagrams show the classes of the system, their inter-relationships, and the operations and attributes of the classes. Class diagram explore domain concepts in the form of a domain model, analyze requirements in the form of a conceptual/analysis model and depict the detailed design of object-oriented or object-based software.

- The main building block in object oriented modeling.
- They are used both for general conceptual modeling of the systematic of the application, and for detailed modeling translating the models into programming code.
- The classes in a diagram represent both the main objects and/or interactions in the application and the objects to be programmed.
- In the diagram these classes are represented with boxes which contain three parts.

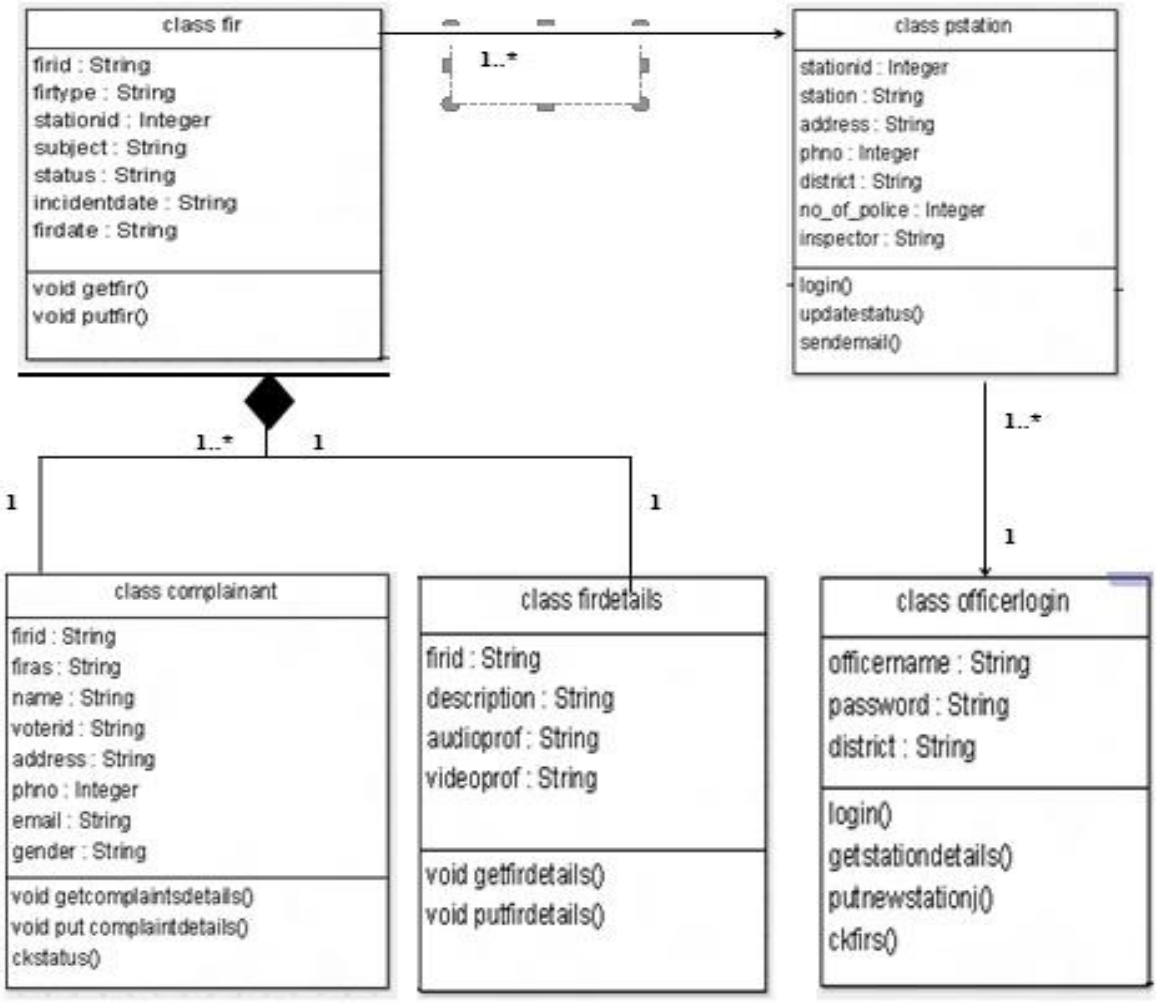

Fig 3: Class Diagram

4.4.2. Use Case Diagram:

Use Case diagram describes the behavior of the target system from an external point of view. Use cases describe "the meat" of the actual requirements.

- **Use cases**: A use case describes a sequence of actions that provide something of measurable value to an actor and is drawn as a horizontal ellipse.
- **Actors**: An actor is a person, organization, or external system that plays a role in one or more interactions with your system. Actors are drawn as stick figures.
- **Associations**: Associations between actors and use cases are indicated by solid lines. An association exists whenever an actor is involved with an interaction described by a use case.

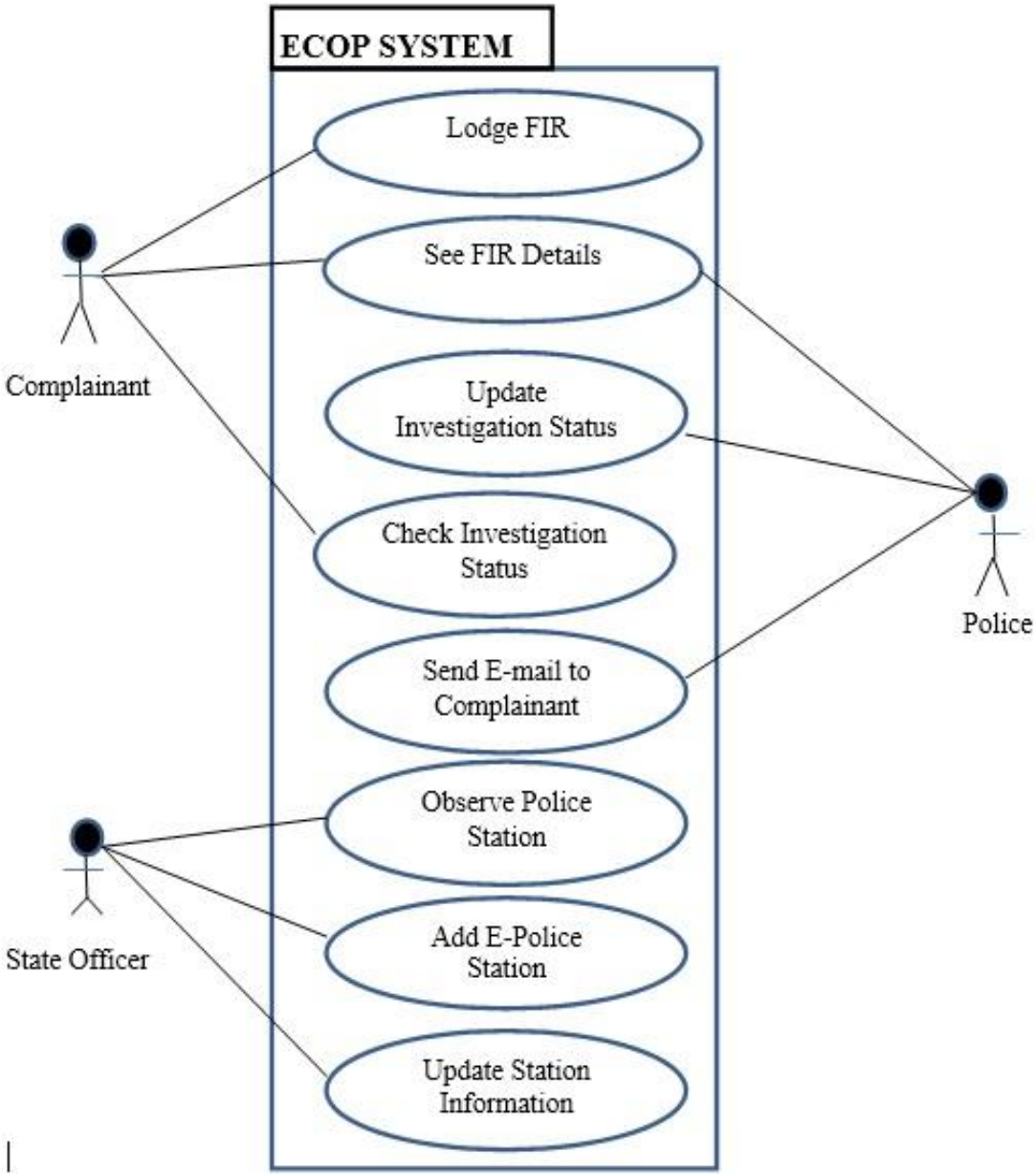

Fig 4: Use Case Diagram

4.4.3. Activity Diagram:

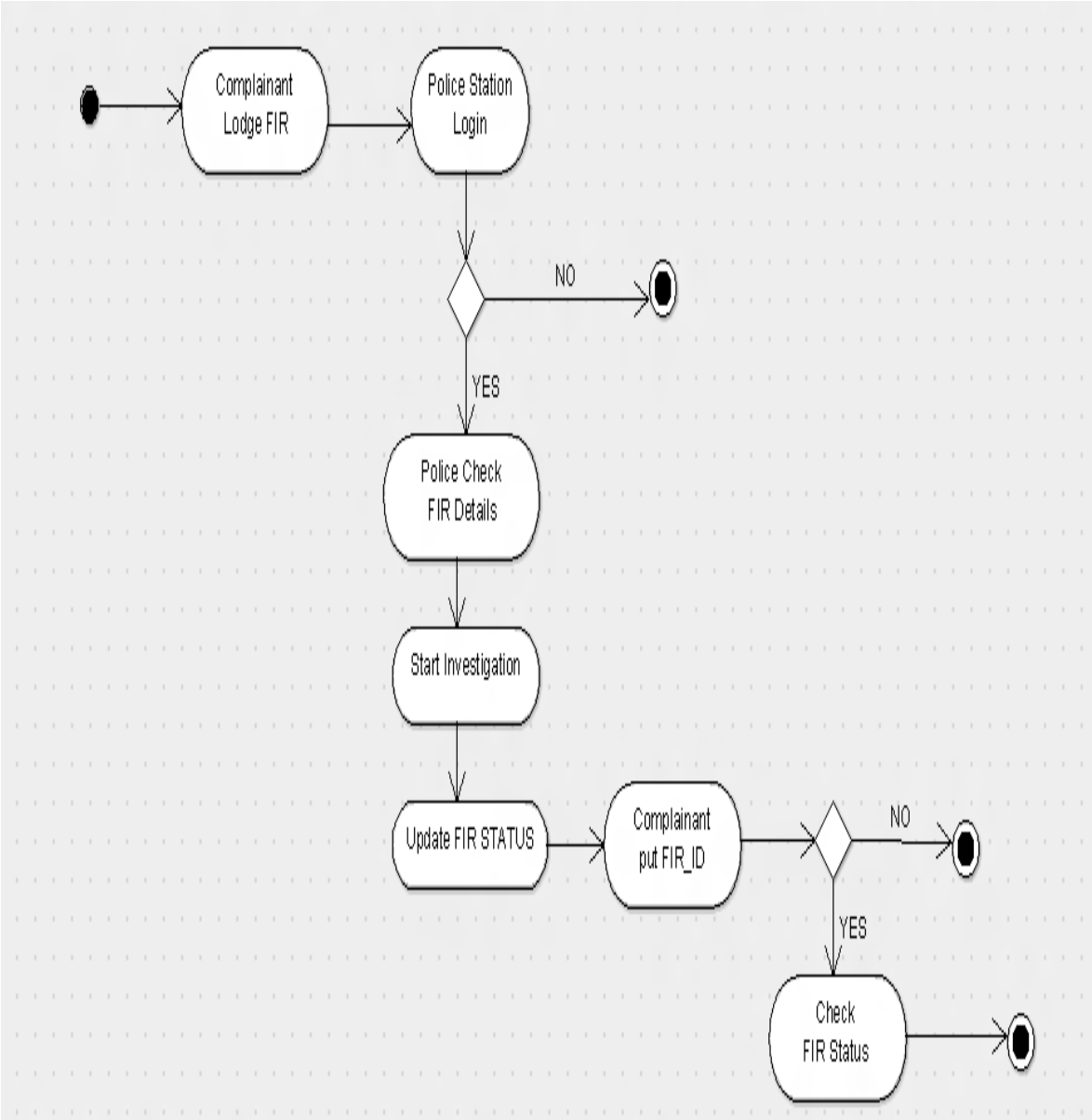

Fig 5: Activity Diagram

4.4.4. Sequence Diagram:

Sequence diagrams models the collaboration of objects based on a time sequence. It shows how the objects interact with others in a particular scenario of a use case.

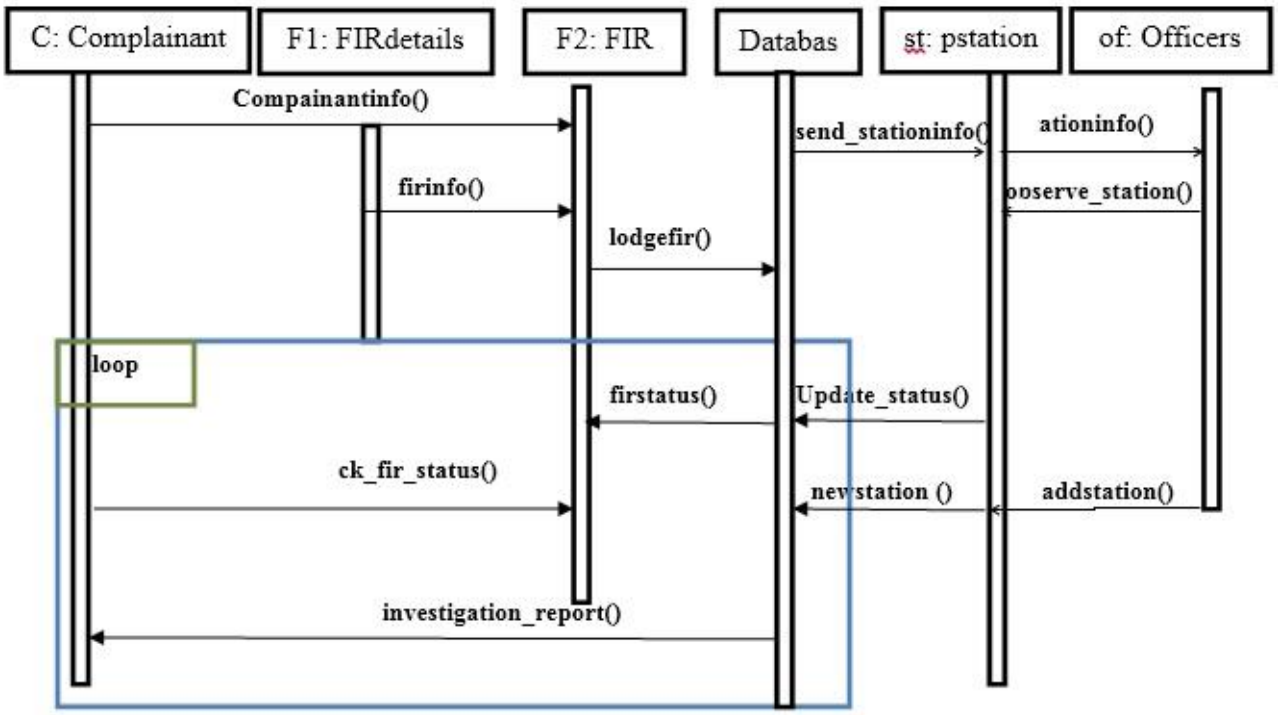

Fig 6: Sequence Diagram

4.5. Gantt chart and Pert chart:

Gantt and PERT charts are both "CPM" (Critical Path Method) tools to:

- Manage the tasks involved in big and complex projects.
- Let project managers organise time, people, equipment and money.
- Ensure the right people and equipment is in the right place and the right time.
- Allow managers to monitor the progress of a project.

4.5.1. Gantt Basics:

- Basically, a timeline with tasks that can be connected to each other
- Note the spelling!
- It is not all-capitals!
- Can be created with simple tools like Excel, but specialised tools like Microsoft Project make life easier

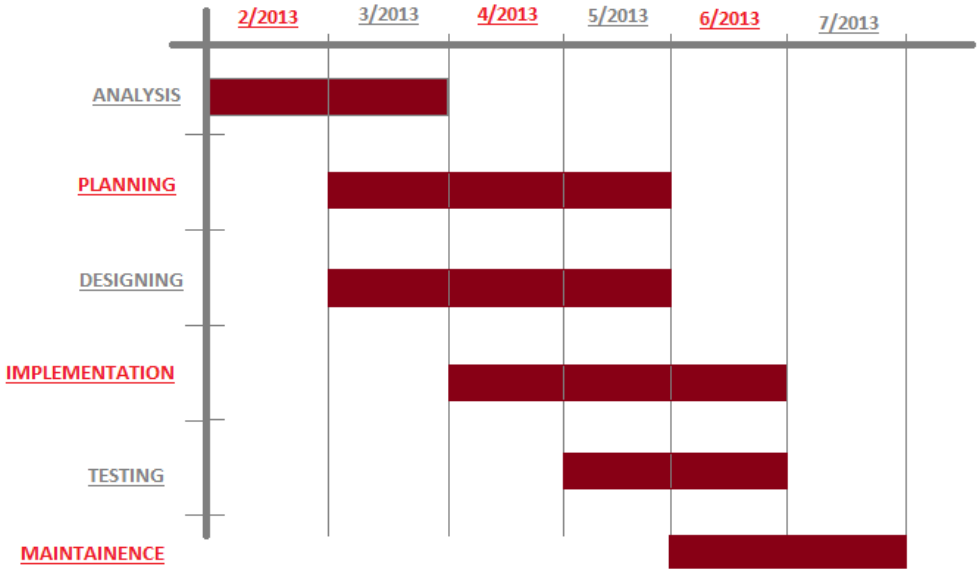

Fig 7: Gantt Chart

4.5.2. PERT basics:

- PERT is an acronym so it's in capital letters
- Gantt is a name, so only has an initial capital
- In Gantt chart, the length of a task's bar is proportional to the length of the task. This rarely applies to PERT charts.
- There are a few different "flavours" of PERT and Gantt charts…

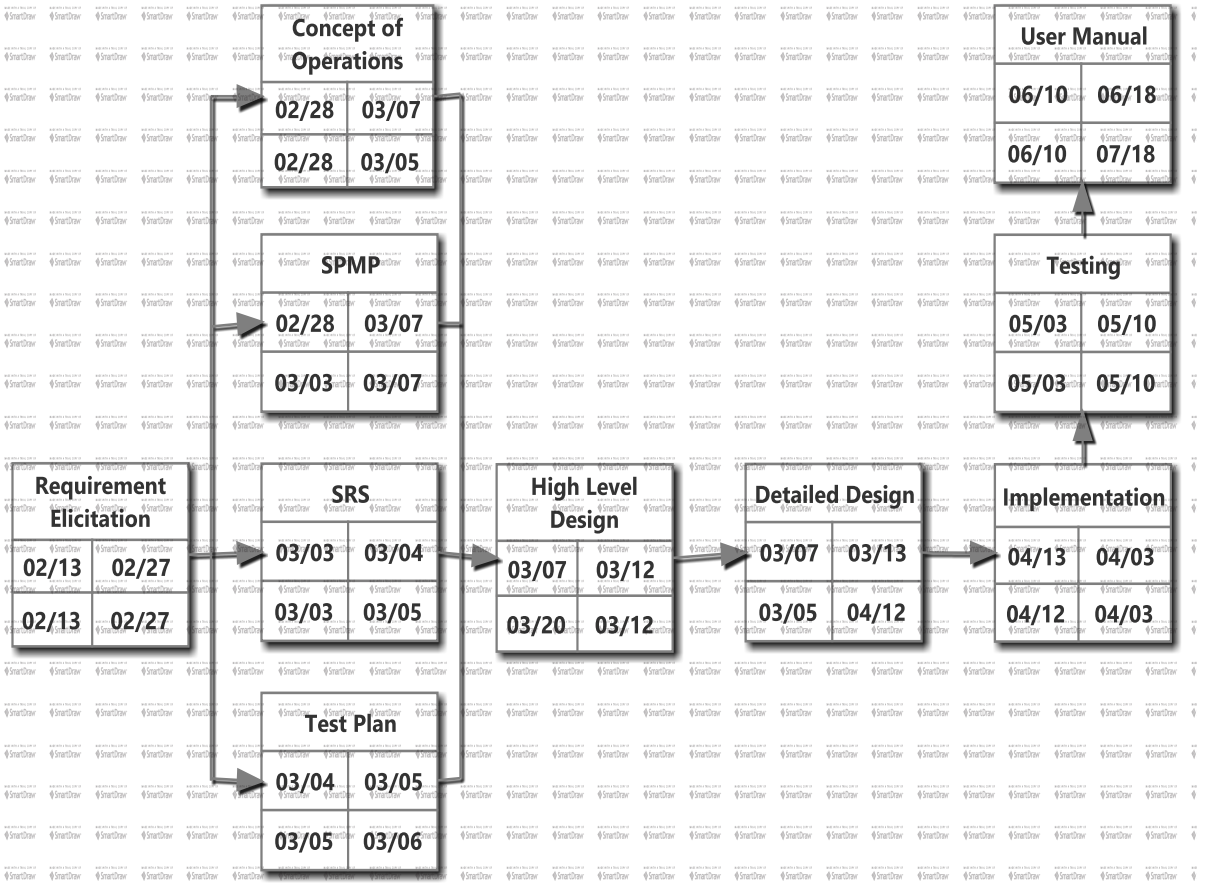

Fig 8: Pert Chart

Chapter 5

Implementation

5.1. Module Description

5.1.1. Complainant Module:

In our project complainant module works for the aggrieved person or some witness of crime. Complainants provide his/her details and also fill the FIR or complain. Compliant provide his/her personal details like name, address, voter-id, phone number, email-id, sex, age etc. In FIR details complainant will provide the crime details, incident date, complainant type like he/she is aggrieved person or witness or someone behalf of aggrieved person, subject of complain, state, police station, proofs etc. After fill-up all the FIR details & personal details a unique FIR-ID will provide to complainant. Later complainant can see the investigation status by providing there FIR-ID. They can view or update their fir by giving some important proof for that particular crime. Complaints can provide some audio, video, document proof for that particular crime. Police stations can able to communicate with complainant through email during the investigation. Later the complainant also able to provide some additional details on lodged fir.

Complainant module contains:

a) FIR page
b) Verification page
c) Investigation status page

5.1.2. Police station Module:

Based on the complaints given by the complainant, police can take appropriate actions timely. The police have to login with proper password and its state and station name. In police station module the firs lodged for that particular police station will show to the police officers. Police can view all firs details and also can able to download the details. After checking all the details police change the fir status from ‘lodged’ to ‘verified’. After verification completed police starts investigation. Police also update the investigation status to the website to inform the complainant about the status of investigation or progress of that particular fir.

Police Station module contains:

a) Station home page
b) FIR information page
c) Send email page
d) Download FIR page

Police can also send investigation report like 'how many people arrested?' or 'who are arrested?' etc. When investigation completed successfully the police change the status of investigation to 'close'.

5.1.2. Police officer module:

In officer module officers has to login by providing passkey and his state name. In officer page officer can see the details of the police stations in that particular state. Officer is able to add new stations and he/she can update police stations information in that state. Officer is also view all FIR details under a particular police station in that state. Mainly officer module works as an administrator in our ECOP system. Being the head of the state all police stations under that state should inform any issues to police officer. Police officer module contains:

a) Officer home page.
b) Add new station page.
c) Update station page.

5.2. Pseudo code

5.2.1. Police Station Login

1. select state & police station
2. take password as input
3. If password is correct for the selected police station then
4. go to police station home page and fetch information for that station.
5. Else print "Wrong Password".
6. End If.

5.2.2. Investigation status update

1. Select a FIR-ID to update
2. Select new status of the investigation
3. Update new status.

4. Print “Update Successfully”.

5.2.3. Police Officer Login

1. Select state and put password
2. If password is match with selected state password then
3. go to officer home page
4. Else print “Wrong Password”.
5. End If.

5.2.4. FIR lodge

1. put personal details.
2. put FIR details.
3. put security code
4. If correct then
5. Save FIR details send verification code through email go to step 8
6. Else print put correct security code
7. End If
8. put valid verification code
9. If verification code match then
10. Set FIR status to ‘Lodge’
11. Else print “please verify your account”.
12. End If.

5.2.5. Check Investigation Status

1. put FIR-ID
2. If FIR-ID exists then
3. Show FIR status and additional information
4. Else print ‘FIR-ID not exists’

5.2.6. Add New Police Station

1. put new station’s details
2. put new station-id
3. If new station-id already exists then
4. Print “station-id already exists”

5. Else save new station information.
6. End If

5.2.7. Update Station Information

1. put station-id.
2. If station-id exists then
3. Put new station information and save
4. Else “Station-ID invalid”
5. End If

Chapter 6

System Testing

6.1 Introduction to Software Testing:

Software testing is an important element of s/w quality assurance and represents the ultimate review of specification, Design and coding. The increasing visibility of s/w as a system element and costs associated with a s/w failure are motivating forces for well planned, through testing.

Testing presents an interesting challenge for the s/w engineer. During the earlier definition and development phases, the engineer attempts to build s/w from an abstract concept to an acceptable implementation. In testing the engineer creates a series of test cases that are intended to demolish the s/w that has been built. Testing requires that the developer discard preconceived notions of the correctness of the s/w developed and overcome a conflict of interest that occurs when errors are uncovered.

Theoretically, a newly designed system should have all the pieces in working order, but in reality, each piece works independently. The purpose of system testing is to consider all the likely variations to which it will be subjected and then push the system to its limits. It is a tedious but a necessary step in a system development.

6.2. Testing Techniques

6.2.1 Unit Testing:

Unit testing focuses verification effort on the smallest unit of the software design of the module. "This is also known as **Module Testing**". The modules are tested separately in the phase. In the testing phase, each module is found to be working satisfactorily with regard to the expected output from the module. Also the control paths are tested to uncover errors within the boundary of the module.

The Project is tested for a carefully prepared test series; the Test cases for the some module are given below:

Some examples of unit testing:

Police Station Login Page

Fig 9: Police Station Login as unit testing after successful login it will go to particular Police Station

Police Station

Fig 10: Police Station Page as unit testing after successful login

6.2.2 Integration Testing:

In this Testing, separately generated web pages are being integrated and checked if they are working properly after their integration ; tests will be conducted that whether output of page will be redirect to specific web pages. After that regression testing strategy help us to ensure that changes do not introduce unintended behavior or additional errors.

6.2.3 Acceptance Testing:

Upon Which acceptance of the completed software is best. This will often use a subset of the system test, witnessed by the clients for the software or system. The regression testing is used to refer to the repetition of earlier successful test. In order to make sure that changes to the software have not introduced any side effect.

6.2.4 Validation Testing:

Validation testing is the step where requirements established as a part of the software requirements analysis, are validated against the software already been developed. This test provides the final assurance that the software meets all the functionality, behavioral and performance requirement and rectifies the errors, which are uncovered during the coding.

Deviation or errors discovered at this step as corrected prior to the completion of this project with help of user negotiating to establish a method for resolving deficiencies. Thus, the proposed system under consideration has been tested by using validation testing and found to be working satisfactorily.

Some examples of validation testing:

Fir Lodge page as Validation Testing

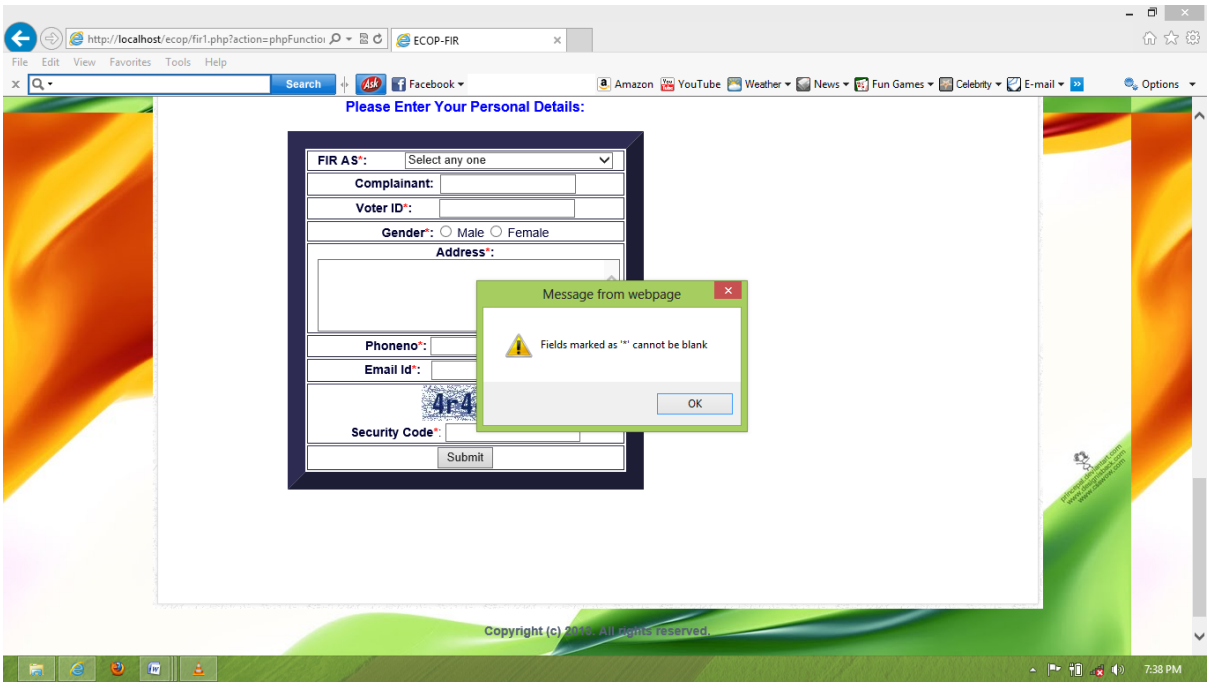

Fig 11: Fir Lodge Page after Validation Testing

6.3. Test Cases:

Module Name	**Test Case Paths**	**Test Cases**	**Expected Output**		**Result**
Police Station Login	2 paths	a)correct input b)invalid input	a) Go to station page. b) Incorrect username & password	a) Go to station page. b)Incorrect username & password	Get Information
Police Officer Login	2 paths	a)correct input b)invalid input	a)Go to login page b) Incorrect username & password	a)Go to login page. b) Incorrect username & password	Get Information
FIR form	2 paths	a)correct input b)invalid input	a)Go to firstatus page b)Wrong input	a)Go to firstatus b)Wrong Input	Display Information

Chapter 7

Conclusion & Future Enhancement

7.1. Conclusion:

Crime is present in various forms in India. Organized crime includes drug trafficking, gunrunning, money laundering, extortion and murder for hire, fraud, human trafficking and poaching. Many criminal operations engage in black marketeering, political violence, religiously motivated violence, terrorism, and abduction. Other crimes are homicide, robbery, assault etc. Property crimes include burglary, theft, motor vehicle theft, and arson. Corruption is a significant problem.

ECOP system helps to reduce some crime or it is helps the people to protest against a crime. Indian people are not so comfortable to lodge FIR or complain against some criminal person, because they have some fear. Due to this reason Indian public forgot to protest against some crime. This web application helps them to protest against every single crime may be it small crime or big. Mainly ECOP System totally developed to minimize the gap between police and Indian people. We tried our best to develop our project as user friendly as possible. The complainant can lodge his/her complains or lodges a FIR easily and the process is done more securely. Personal information of the complainant will keep private.

The software application which was developed was implemented and tested with real data and the results were found to be error free and system worked successfully. We tried to make the system maximum user friendly by using adequate G.U.I. tools. Security has been the main consideration in this project. The system is protected from unauthorized access by giving user name and password during login process whenever a customer wants to make transaction through the application. All the necessary validation is carried out in this project. So that any kind of user can make use of this software and necessary messages makes them conscious of the error they have made.

7.2. Future Enhancement:

We tried to make our project "ECOP System" as good as possible. We put many features in "ECOP SYSTEM" to make this software good. The design of GUI is also very user friendly. Features like security, validation, verification, email and some necessary features we put in our project.

But there are some chances to enhance our project in future. ECOP System is one of the most demandable project because Indian Police does not have any website where the public can fill FIR from online. There are following area where we can enhance our project:

- ✓ In FIR module we will provide some more security. Also there are some scopes to take some later details about the FIR from complainant.
- ✓ In Police Stations module we can enhance some more features by adding some new one like direct online call to some other police stations.
- ✓ Chances of enhance better communication between the police station and complainant.
- ✓ Provide some feature like SMS by which we can verify the user or send some investigation report. In this project this features is given but instead of SMS we use E-mail.
- ✓ Officer's module has some huge area to enhance. In our project officer module works as an administrator. In feature we can enhance some more features or work that officer done.

So, our project has so many scopes to enhance it in future. We also want it to enhance because it is really needed software in Indian Police.

Chapter 8

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- http://www.w3schools.com/php/default.asp.
- http://www.w3schools.com/js/default.asp
- Introduction to Structured Query Language-James Hoffman.
- https://www.google.co.in
- https://www.wikipedia.com

Chapter 9

Screen shot

9.1 Home page:

Fig 12: Home Page

9.2 Fir page:

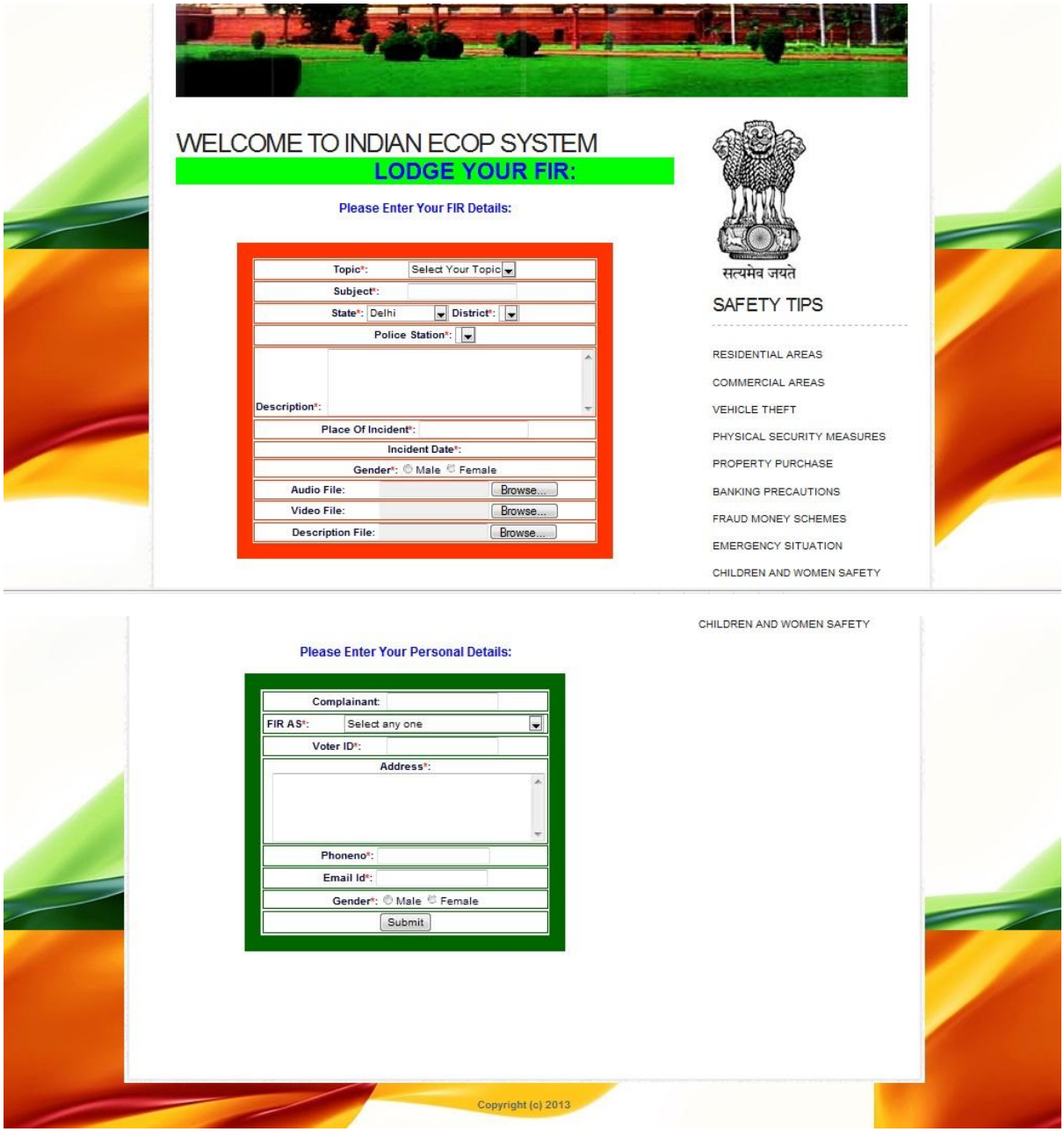

Fig 13: Fir Page

9.3 Check Fir Status:

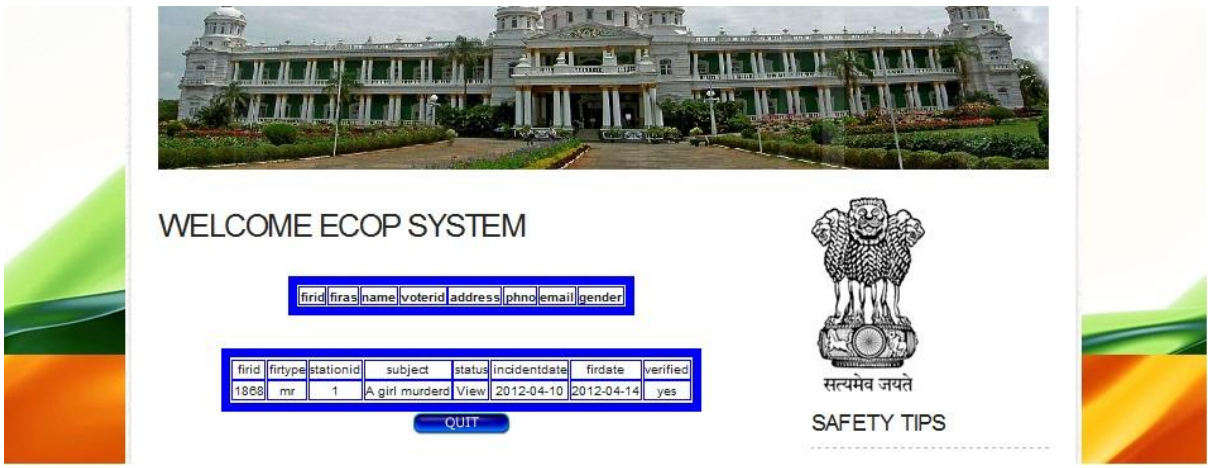

Fig 14: Fir Status Page

9.4 Officer's Login:

9.5 Station details:

Fig 15: Officers Page

9.6 Add new station:

9.7 Update station:

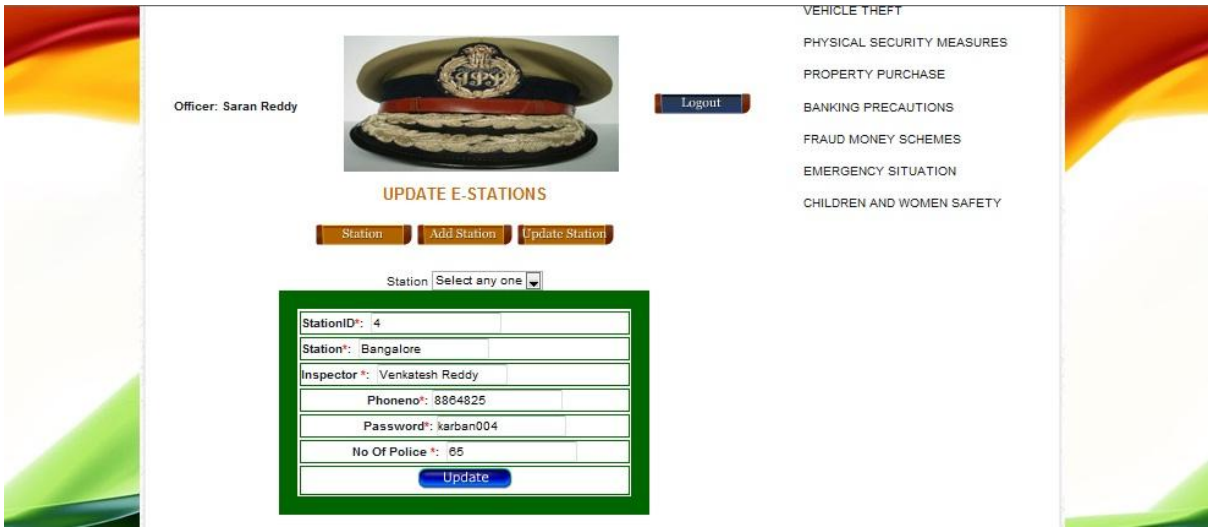

Fig 16: Add New Station & Update Station Page

9.8 Fir:

9.9 Change status of fir:

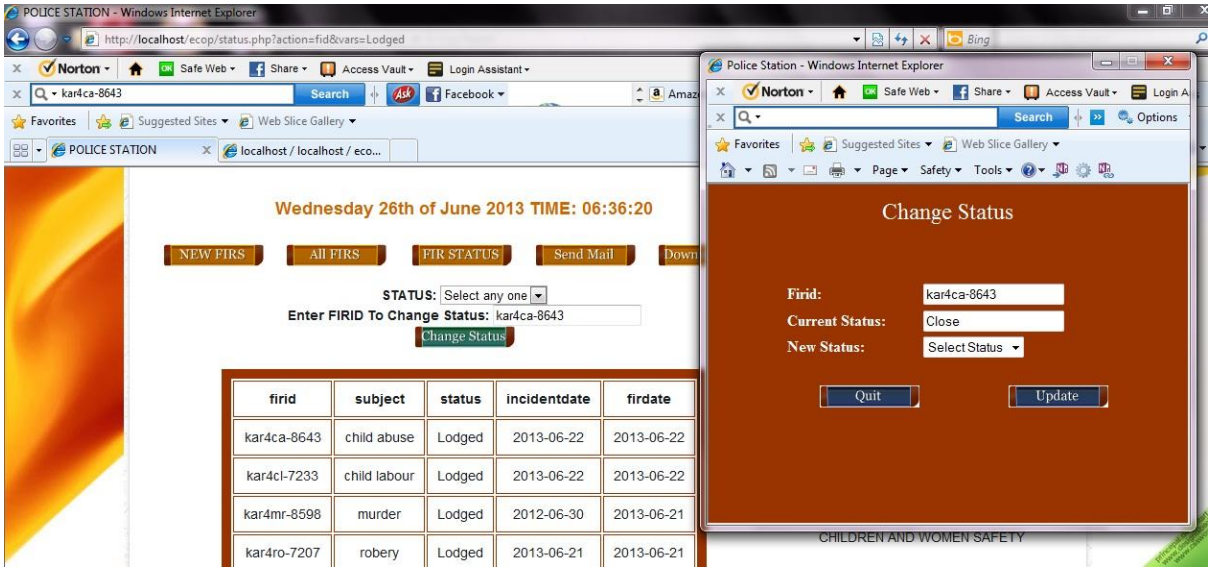

Fig 17: New Fir & Status of Fir Page

APPENDIX

Tools Used

- **PHP**

PHP is a general-purpose server-side scripting language originally designed for Web development to produce dynamic Web pages. It is one of the first developed server-side scripting languages to be embedded into an HTML source document rather than calling an external file to process data. The code is interpreted by a Web server with a PHP processor module which generates the resulting Web page. It also has evolved to include a command-line interface capability and can be used in standalone graphical applications. PHP can be deployed on most Web servers and also as a standalone shell on almost every operating system and platform free of charge.

Main features of PHP:

- Cookies - PHP transparently supports HTTP cookies.
- Sessions - PHP supports sessions to allow you to preserve certain data across subsequent accesses.
- Connection handling - PHP maintains a connection in 3 possible states: NORMAL, ABORTED, and TIMEOUT.
- Using remote files - PHP allows you to open remote files with Internet protocols like HTTP or FTP.
- Persistent Database Connections - PHP supports persistent connections to database servers.
- File uploads - PHP allows Web users to upload single or multiple files.

- **MySQL**
- MySQL is the world's most used open source relational database management system (RDBMS) that runs as a server providing multi-user access to a number of databases. It is named after co-founder Michael Widenius' daughter, My. The SQL phrase 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.

- Free-software-open source projects that require a full-featured database management system often use MySQL. For commercial use, several paid editions are available, and offer additional functionality. Applications which use MySQL databases include: TYPO3, Joomla, WordPress, phpBB, MyBB, Drupal and other software built on the LAMP software stack. MySQL is also used in many high-profile, large-scale World Wide Web products, including Wikipedia, Google (though not for searches), Facebook, and Twitter.
- **Macromedia Dreamweaver8**

  Macromedia Dreamweaver 8 is a web publishing program designed to allow both those versed and not so versed in code to create web pages and websites. Recent versions have incorporated support for web technologies such as CSS, JavaScript, and various server-side scripting languages and frameworks including ASP (ASP JavaScript, ASP VBScript, ASP.NET C#, ASP.NET VB), ColdFusion, Scriptlet and PHP.
- **Features**

  Dreamweaver 8 features a unified CSS panel and CSS layout visualization, which makes the design and usage of Cascading Style sheets considerably easier. Also included is the ability to drag and drop XML feeds onto pages within Dreamweaver, and to change the XML in the program's code view.

- **JAVASCRIPT**

  JavaScript (sometimes abbreviated JS) is a prototype-based scripting language that is dynamic, weakly typed and has first-class functions. It is a multi-paradigm language, supporting object-oriented, imperative, and functional programming styles.

  JavaScript was formalized in the ECMAScript language standard and is primarily used in the form of client-side JavaScript, implemented as part of a Web browser in order to give enhanced user interfaces and dynamic websites. This enables programmatic access to computational objects within a host environment.

  JavaScript's use in applications outside Web pages — for example in PDF documents, site-specific browsers, and desktop widgets — is also significant. Newer and faster JavaScript VMs and frameworks built upon them (notably Node.js) have also increased the popularity of JavaScript for server-side web applications.

- JavaScript uses syntax influenced by that of C. JavaScript copies many names and naming conventions from Java, but the two languages are otherwise unrelated and

have very different semantics. The key design principles within JavaScript are taken from the Self and Scheme programming languages.

❖ **HTML**

Hypertext Markup Language (HTML) is the main markup language for displaying web pages and other information that can be displayed in a web browser.HTML is written in the form of HTML elements consisting of tags enclosed in angle brackets (like <html>), within the web page content. HTML tags most commonly come in pairs like <h1> and </h1>, although some tags, known as empty elements, are unpaired, for example <img>. The first tag in a pair is the start tag, the second tag is the end tag (they are also called opening tags and closing tags). In between these tags web designers can add text, tags, comments and other types of text-based content. The purpose of a web browser is to read HTML documents and compose them into visible or audible web pages. The browser does not display the HTML tags, but uses the tags to interpret the content of the page.

HTML elements form the building blocks of all websites. HTML allows images and objects to be embedded and 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. It can embed scripts in languages such as JavaScript which affect the behavior of HTML web pages. Web browsers can also refer to Cascading Style Sheets (CSS) to define the appearance and layout of text and other material. The W3C, maintainer of both the HTML and the CSS standards, encourages the use of CSS over explicitly presentational HTML markup.