Social Awareness

Submitted by:

Md. Shohel Rana
ID: 152-35-1192
Batch: 17th
Department of Software Engineering
Faculty of Science & Information Technology

Supervised by:

Khalid Been Md. Badruzzaman Biplob
Senior Lecturer
Department of Software Engineering
Faculty of Science & Information Technology

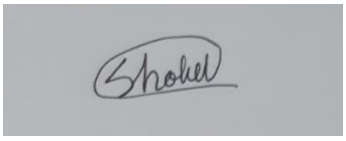
A project submitted in partial fulfillment of the requirement for the degree of Bachelor of Science in Software Engineering.

Department of Software Engineering

Daffodil International University

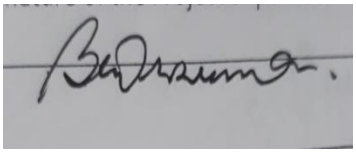
Declaration

We hereby declare that we have taken this project under the supervision of **Khalid Been Md. Badruzzaman Biplob**, Senior Lecturer, Department of Software Engineering, Daffodil International University. We also declare that neither this report nor any part of this has been submitted elsewhere for award of any degree.



Md. Shohel Rana
ID: 152-35-1192
Batch: 17th
Department of Software Engineering
Faculty of Science & Information Technology
Daffodil International University

Certified By:



Khalid Been Md. Badruzzaman Biplob
Senior Lecturer
Department of Software Engineering
Faculty of Science & Information Technology
Daffodil International University

ACKNOLEDGEMENT

At first, we are grateful to The Almighty Allah for making us eligible to complete this project. Then we would like to thank our supervisor **Khalid Been Md. Badruzzaman Biplob**, Senior Lecturer, Department of Software Engineering. We are extremely grateful and indebted to her expert, sincere and valuable guidance and encouragement extended to us.

We wish to express our sincere thanks to **Dr. Touhid Bhuiyan**, Professor & Head of Software Engineering department for his constant encouragement.

Last but not least, we would like to thank our parents, for their unconditional support, love and without this we would not have come this far.

Above all, we would like to thank to The Almighty Allah for giving me strength to complete this project.

Executive Summery

Social awareness is a web-based project. The purpose of this project is to make the big and small people of our society so that the road can easily be carried out in the office courts without any fear. In our society, school college university students are being victimized by 5 to 10 harasses per 100 people per day. They cannot tell anyone about these harassments. They are forced to leave the study once for a while. As a result, the backbone of education in our country is breaking. Similarly, crime theft and robbery in society are increasing day by day. So, to prevent this, I am creating a website by which people will be able to easily prevent these crimes. To prevent these crimes every person in the society has to be aware. If there is any crime you will immediately send a report of this crime and give it to the web site and the police will tell the police live chat or chat with this website. At the same time, the police will be able to destroy this crime or if the crime is ending it will be able to catch the culprit very quickly.

Table of Contents

List of Tables

List of Figure

Chapter 1
Introduction

1.1. Project Overview

This project is focused on establishing a system for social awareness for harmed people in our society. This project is to make the big and small people of our society so that the road can easily be carried out in the office courts without any fear. In our society, school college university students are being victimized by 5 to 10 harasses per 100 people per day. They cannot tell anyone about these harassments. They are forced to leave the study once for a while. As a result, the backbone of education in our country is breaking. Similarly, crime theft and robbery in society are increasing day by day. So, to prevent this, I am creating a website by which people will be able to easily prevent these crimes.

1.2. Project Purpose

The purpose of this project is to make the big and small people of our society so that the road can easily be carried out in the office courts without any fear. In our society, school college university students are being victimized by 5 to 10 harasses per 100 people per day. Increasing crime, girl's harassment, theft, robbery in day by day. So, we will use this website to prevent such incidents so that no one else is harmed in society.

1.2.1. Project Background

Social Awareness is a system that provides successful help to harmed people. In our society, every family have at least one harmed person. Our society is increasing crime, girl's harassment, theft, robbery in day by day. We will use this website to prevent such incidents, so that no one else is harmed in society, it may be crime, harassment, theft, robbery.

1.2.2. Beneficiaries and Benefits

This project is mainly beneficiaries for harmed people in our society. The following benefits will be provided by this system-

- User can
  - ➢ See different awareness reports
  - ➢ Various awareness reports can be written

- Police
  - ➢ Here's the location-based police phone numbers, live calls, and chat
  - ➢ At last the police will take immediate action

1.2.3. Project Goals

The basic functionality of this system is making the process user-friendly for harmed people. All people in the society can move well everywhere without fear of any kind. It helps users easily social awareness activities like-

- Create Account
- Read Reports
- Write Reports
- Like & Share
- Inform Police

The main purpose of this project is to reduce crime, girl's harassment and make a reliable system. So, People can move freely in society.

1.3. Stakeholders

There are two types of stakeholders in this system:

- User
- Police

1.4. Proposed System Model

The Proposed system means explaining what developers are going to do this project. What is the project about and what is new in the project other than existing things. And how they are going to do this. In short proposed system is explaining the project [1].

1.4.1. Agile-Model

Our proposed system model is agile model which is an incremental process of software development. Each iteration lasts one to three weeks on average. Engineering actions are carried out by cross functional teams. In software development the term 'agile' means the ability to respond to changes-changes from requirements, technology and people.

1.4.2. How I Used Agile

1. Ideate a plan from real life concerning issues.
2. Gathering and changing user requirements are embraced for the user's competitive advantage. Face-to-face communication is the best way to transfer information to and from a team.
3. Concentrate on delivering working software frequently.
4. Projects must be based on people who are motivated. Give them the proper environment and the support that they need.
5. Self-organized teams usually create the best designs. Constant attention to technical excellence and good design will enhance agility.
6. Simplicity is considered to be the art of maximizing the work that is not done, and it is essential.
7. At regular intervals, the team putted their concentration on how to become more effective, and they will adjust their behavior accordingly.
8. Regular monitoring personnel were attentive to test the system [2].

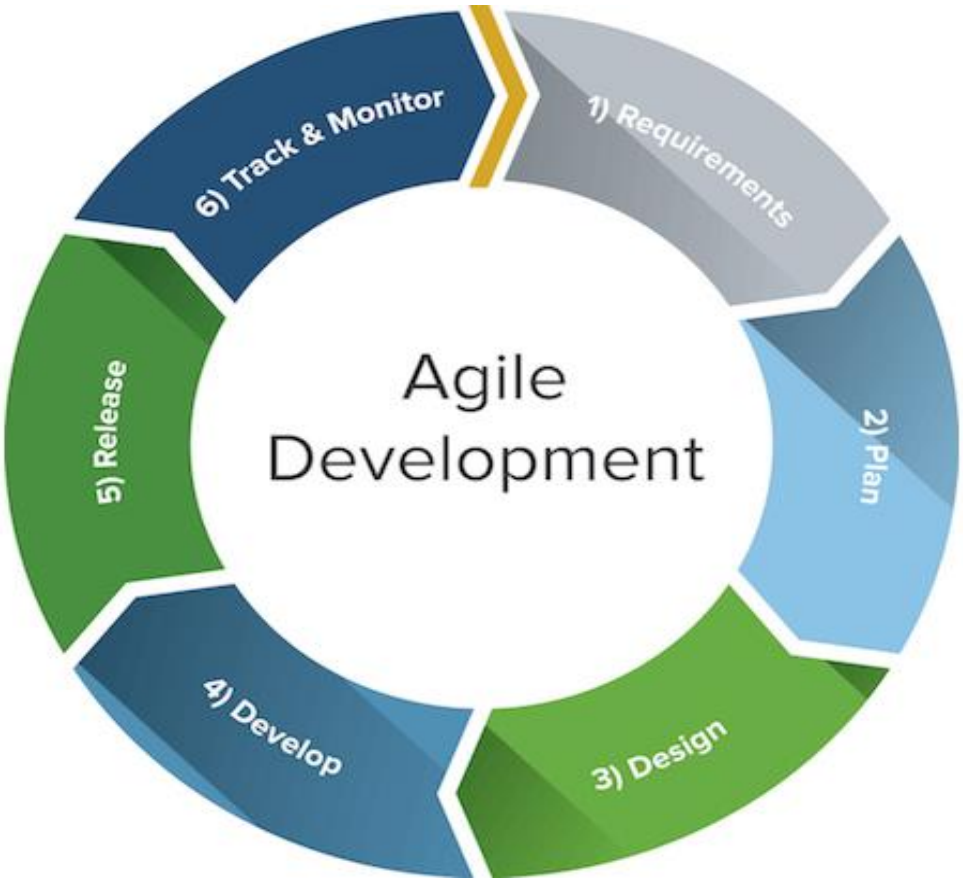


Figure 1: Proposed System Model: Block Diagram [3].

1.5. Project Schedule

In project management, a schedule is a listing of project's milestones, activities, and deliverables, usually with intended start and finish dates. A schedule is commonly used in the project planning and project portfolio management parts of project management.

1.5.1. Gantt Chart

A Gantt chart is a series of horizontal lines shows the amount of work done or production completed in certain periods in relation to the amount planned for those periods [4].

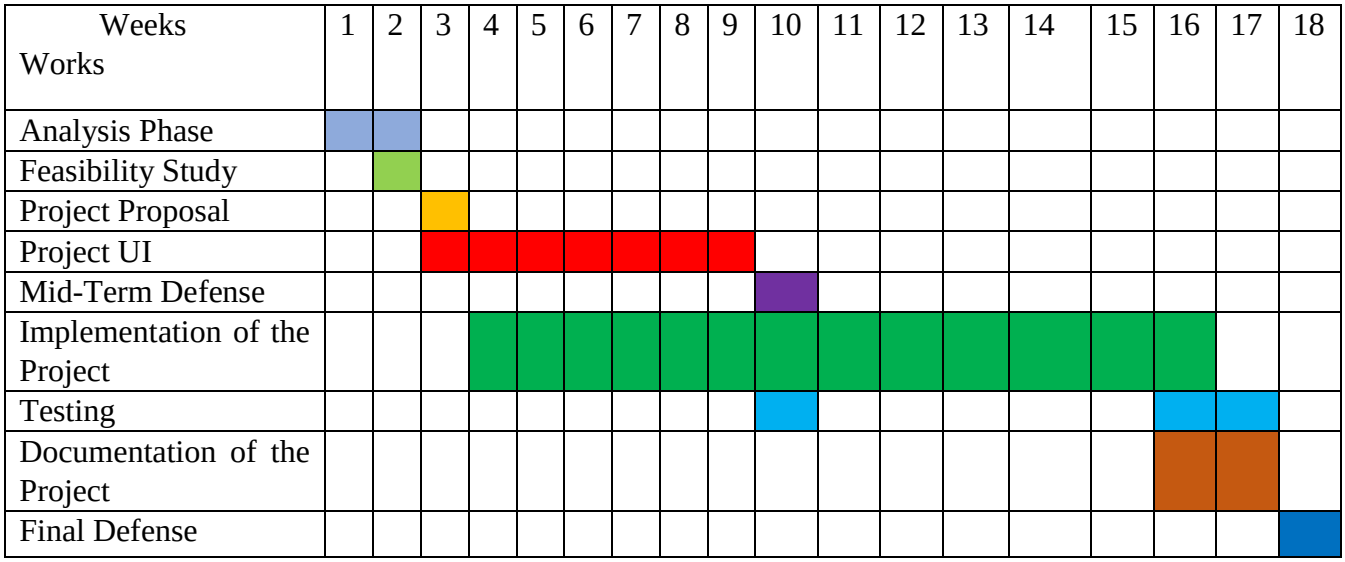


Figure 2: Gantt chart of us

1.5.2. WBS Planning for Development Phase

1. Project plan [01 Oct 2018 to 14 Oct 2018]

2. Analysis [01Oct 2018 to 14 Oct 2018]

3. Requirement gathering [06 Oct 2018 to 15 Oct 2018]
    - Brainstorming
    - Interview
    - Observation
    - Implementation Analysis

4. Design [15 Oct 2018 to 10 Nov 2018]
    - System design
    - Database design and Implementation
    - System User Interface (UI)

5. Development [20 Oct 2018 to 30 Jan 2019]
    - User Module
    - Others

6. Testing [07 Dec 2018 to 10 Jan 2019 (including two phase)]
    - Test plan
    - Test Case
    - Test Execution

7. Release Plan

Release	**Version**	**Date**
1st Release	Beta version 1.0.0	15/11/2018
2nd Release	Beta version 2.0.0	30/11/2018
3rd Release	Version 3.0.0	20/01/2019
4th Release	Version 4.0.0	10/02/2019

Chapter 2
Software Requirements Specification

2.1 Requirement Specification

A software requirements specification (SRS) is a comprehensive description of the intended purpose and environment for software under development. The SRS fully describes what the software will do and how it will be expected to perform [3].
Requirement prioritization is used in software product management for determining which candidate requirements are high, medium and low of a software function module should be included in a certain release. Requirements are also prioritized to minimize risk during development so that the most important or high-risk requirements are implemented first.

Table 2.1: Functional Requirements

FRQ_ID	FRQ_Name	Description	Priority
FRQ01	Registration	User can registration by using this module.	High
FRQ02	Registration	Police can registration by using this module.	High
FRQ03	Write Reports	User write report for harmed people and others user & police can see the report.	Medium
FRQ04	View Reports	User and police can view reports.	Low
FRQ05	Inform Police	User can inform police.	Medium
FRQ06	Action Police	Police will take immediate action	Medium

2.2 Data Requirements

Table 2.2: Data Requirements

No	Description	Priority
DR01	User name, profession, age, live, contact, address.	High
DR02	Police name, profession, age, live, contact, address.	High
DR03	Crime name, crime type.	High
DR04	Report date, time and place.	High

2.3 Performance Requirements

2.3.1 Speed and Latency Requirements

Table 2.3.1: Speed and Latency Requirements

No	Description	Priority
SLR01	When system requires the code for registration it should send verification code to entered Email.	High
SLR02	When user contact to the police, Firebase's database should send info to server in real-time	High
SLR03	When Police accept request, Firebase's database should add info to server in real-time	High

2.3.2 Precision and Accuracy Requirements

Table 2.3.2: Precision and Accuracy Requirements

No	Description	Priority
SLR01	The input post should be accurate when user provide data to the system.	High
SLR02	All data should be in place accurately where it is associated	Low

2.3.3 **Capacity Requirements**

Table 2.3.3: Capacity Requirements

No	Description	Priority
CR01	The web base application size must able to load at hosting site.	Medium
CR02	The MYSQL database size must be able to store the system data.	Low
CR03	System should support 100k user at the beginning version.	Medium
CR04	System should support 1000 post per second.	Medium

2.4 Dependability Requirements

2.4.1 **Reliability Requirements**

Table 2.4.1: Reliability Requirements

No	Description	Priority
RR01	All confidential data must have to be encrypted.	Medium
RR02	All data should collect from users by permission and by accepting privacy policy	Low
RR03	No one can use user's data for any other purpose except system needs.	Low

2.4.2 **Availability Requirements**

Table 2.4.2: Availability Requirements

No	Description	Priority
AR01	The system should work 24 hours a day.	Medium
AR02	The system should provide the desired data to the user in time.	Low

2.4.3 **Robustness or Fault-Tolerance Requirement**

Table 2.4.3: Robustness or Fault Tolerance Requirements

No	Description	Priority
FTR01	If the system has been crashed, it should not be more than an hour.	Low

2.5 Maintainability and Supportability Requirements

2.5.1 **Maintenance Requirements**

Table 2.5.1: Maintenance Requirements

No	Description	Priority
MR01	The system maintenance should be quick.	Low

2.5.2 **Supportability Requirements**

Table 2.5.2: Supportability Requirements

No	Description	Priority
SR01	The system should support latest PHP Version and MYSQL version.	Low

2.5.3 **Adaptability Requirements**

Table 2.5.3: Adaptability Requirements

No	Description	Priority
AR01	The system should adapt all upgrading version and time.	Low
AR02	New version of system should support latest MYSQL.	Low

2.6 Security Requirements

2.6.1 Access Requirements

Table 2.6.1: Access Requirements

No	Description	Priority
AR01	User's access have to be limited with their use case boundaries.	Low
AR02	Users need to be authorized first to access data.	Medium
AR03	Only Administrative authority will be able to enter the system to make maintenance.	Low
AR04	User's boundaries should be within the system	Medium

2.6.2. Integrity Requirements

Table 2.6.2: Integrity Requirements

No	Description	Priority
IR01	Only authorized user can update data with their respective accessibility and authorization.	Medium
IR02	Only administrative authority can access and update or delete user's information.	Medium

2.6.3 Privacy Requirements

Table 2.6.3: Privacy Requirements

No	Description	Priority
PR01	The user data should not contain any private issues.	Medium
PR02	All the confidential data should be encrypted.	Low

2.7 Usability and Human-Interaction Requirements

Table 2.7: Usability Requirements

No	Description	Priority
UR01	User can inform Police and police can accept request to the user.	Medium
UR02	Police can take action for this situation	Medium
UR03	User can view all report.	Medium
UR04	.Police can take immediate action	Medium

2.8 Look and field Requirements

2.8.3 Appearance Requirements

Table 2.8.1: Appearance Requirements

No	Description	Priority
AR01	The user interface must be attractive.	High
AR02	The user interface must be user friendly.	Medium
AR03	The user interface must be user interactive with user experiences.	High

2.8.2. Style Requirements

Table 2.8.2: Style Requirements

No	Description	Priority
SR01	The interface color should be material.	Low

Chapter 3
System Analysis

3.1. Use Case

A use case is a methodology used in system analysis to identify, clarify, and organize system requirements. In this context, the term "system" refers to something being developed or operated, such as a mail-order product sales and service website. Use case diagrams are employed in UML (Unified Modeling Language), a standard notation for the modeling of real-world objects and systems.

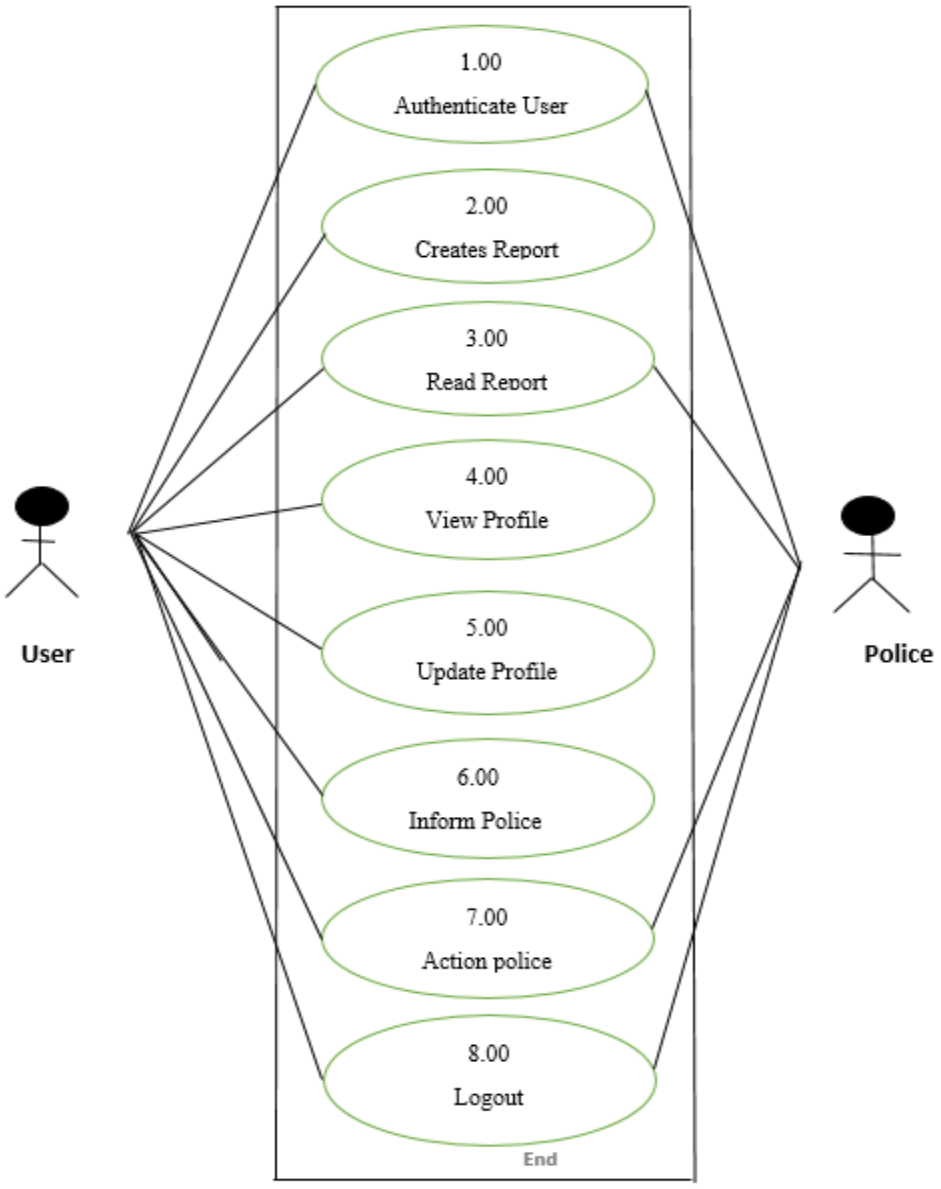


Figure 01: Use Case Diagram

3.2. Use Case Description

3.2.1. Authenticate User

User authentication is a process that allows a device to verify the identity of someone who connects to a network resource. There are many technologies currently available to a network administrator to authenticate users.

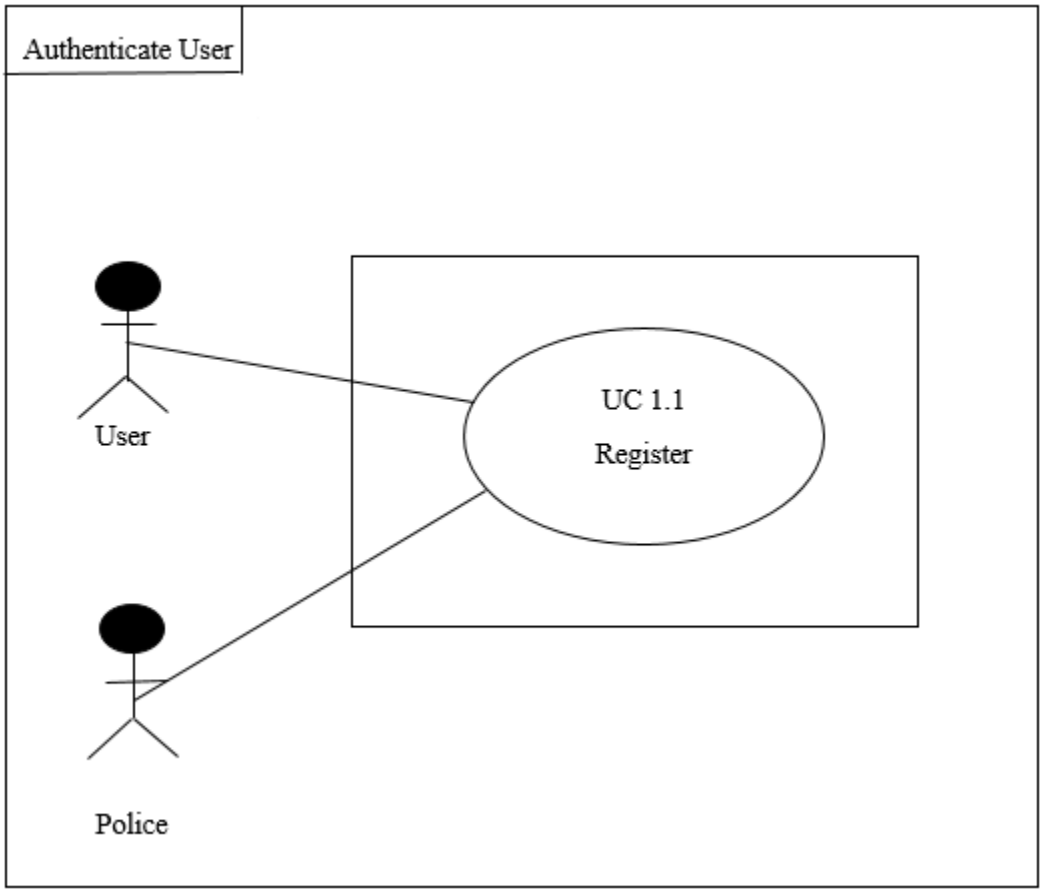


Figure 02: Use Case: Authenticate User

Table 3.2.1: Authenticate User

Use Case Name	Authenticate User
Scenario	User can Register
Brief Description	User can select option whether they are user or police can register using this method.
Actor	1. User 2. Police
Precondition	User has to provide required credentials and phone number.
Post Condition	User must choose this registration method.

Main Success Scenari	1. User can be a user or a police. 2. User provided all required credentials. 3. User provided phone number and inputted the verification code.
Scenario Extensions	1. If user has no phone number, they cannot register. 2. Proper registration procedure must needed either they cannot register.

3.2.2. Create Reports

Creating a report for harmed people.

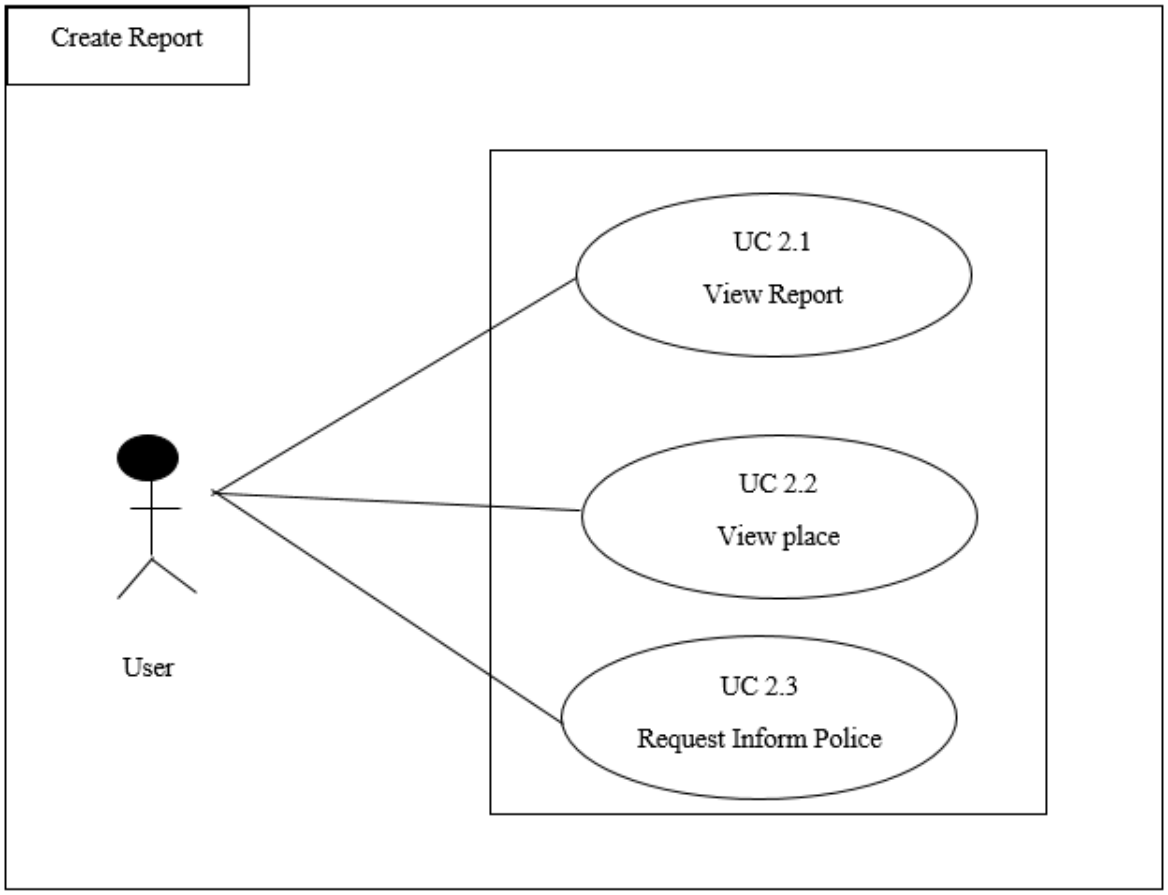


Figure 03: Use Case: Create Report

Table 3.2.2: Create Report

Use Case Name	Create report
Scenario	User can create reports
Brief Description	User click news feed and then create report
Actor	● User
Precondition	User has to register to the system.
Post Condition	User must choose this method.
Main Success Scenario	● Patient can view reports. ● User can inform police.
Scenario Extensions	● If user isn't registered, they cannot send request. ● Proper registration procedure must needed either they cannot request.

3.2.3. Read Reports

User and police those can read reports.

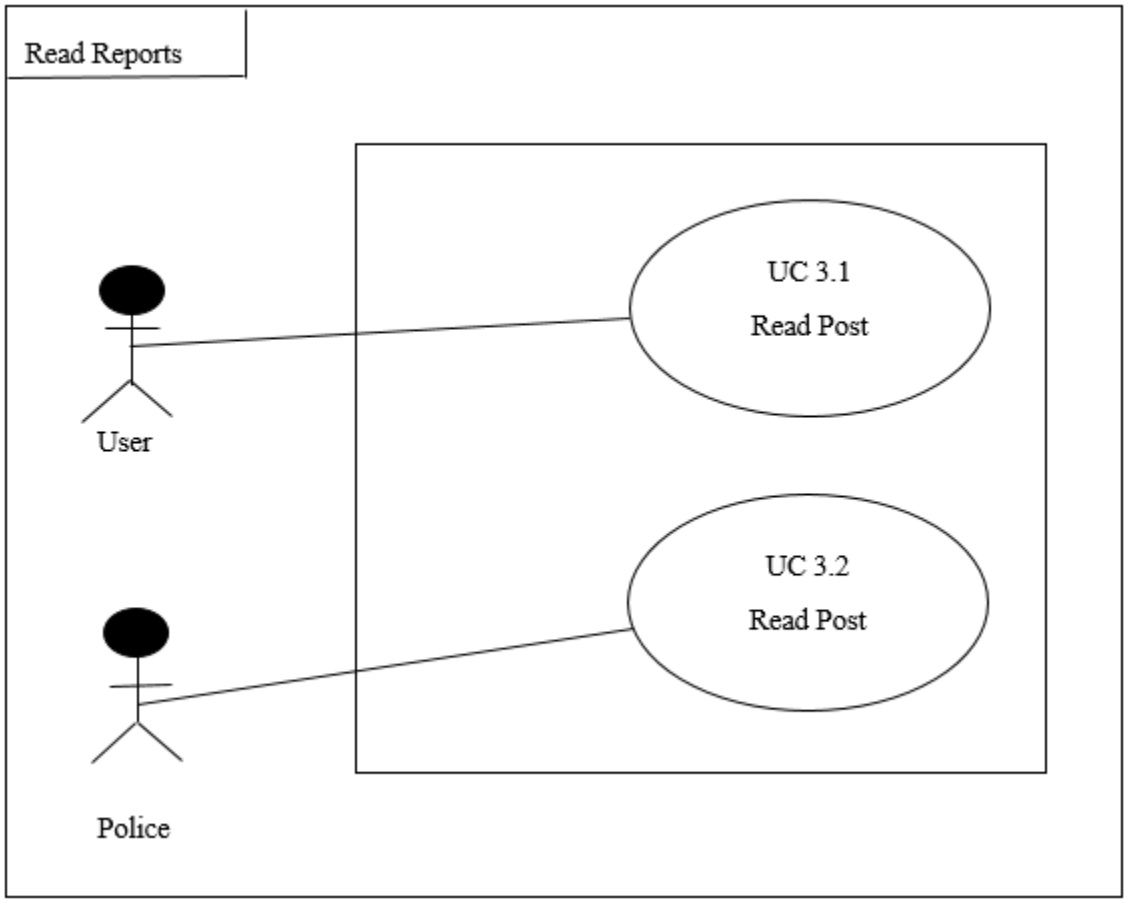


Figure 04: Use Case: Read Reports

Table 3.2.3: Read Reports

Use Case Name	Read reports
Scenario	User & police can read reports
Brief Description	User can read report and inform police
Actor	● User ● Police
Precondition	User & police has to register to the system.
Post condition	User & police must choose this method.
Main Success Scenario	● User can inform police. ● Police can take action.
Scenario Extensions	● If user isn't registered, they cannot send request. ● Proper registration procedure must needed either they can approve a request.

3.2.4. View Profile

Only one user can view your profile.

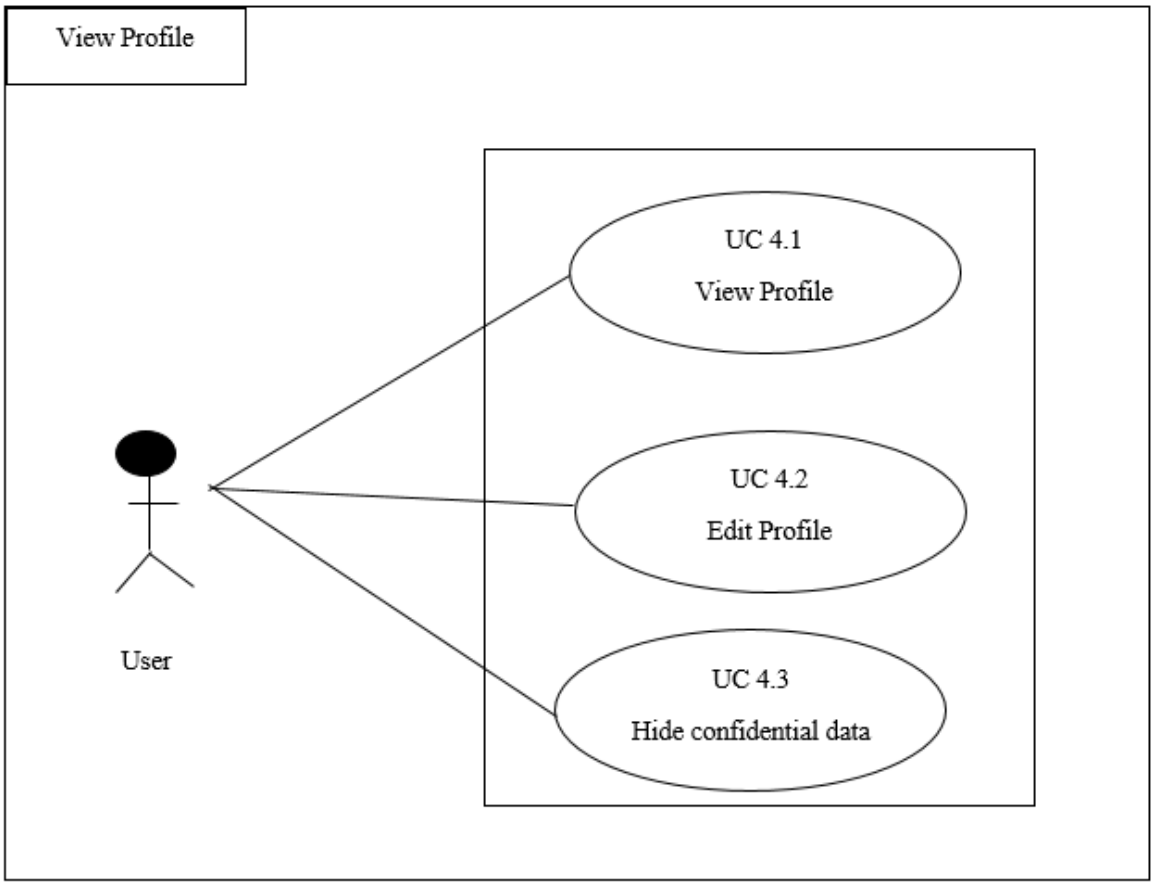


Figure 05: Use Case: View Profile

Table 3.2.4: View Profile

Use Case Name	View profile
Scenario	User can view your profile
Brief Description	User can view your profile
Actor	• User
Precondition	User has to register to the system.
Post condition	User must choose this method.
Main Success Scenario	• User can view your profile.
Scenario Extensions	• If user isn't registered, they cannot view profile.

3.2.5. Update Profile

User can update your profile.

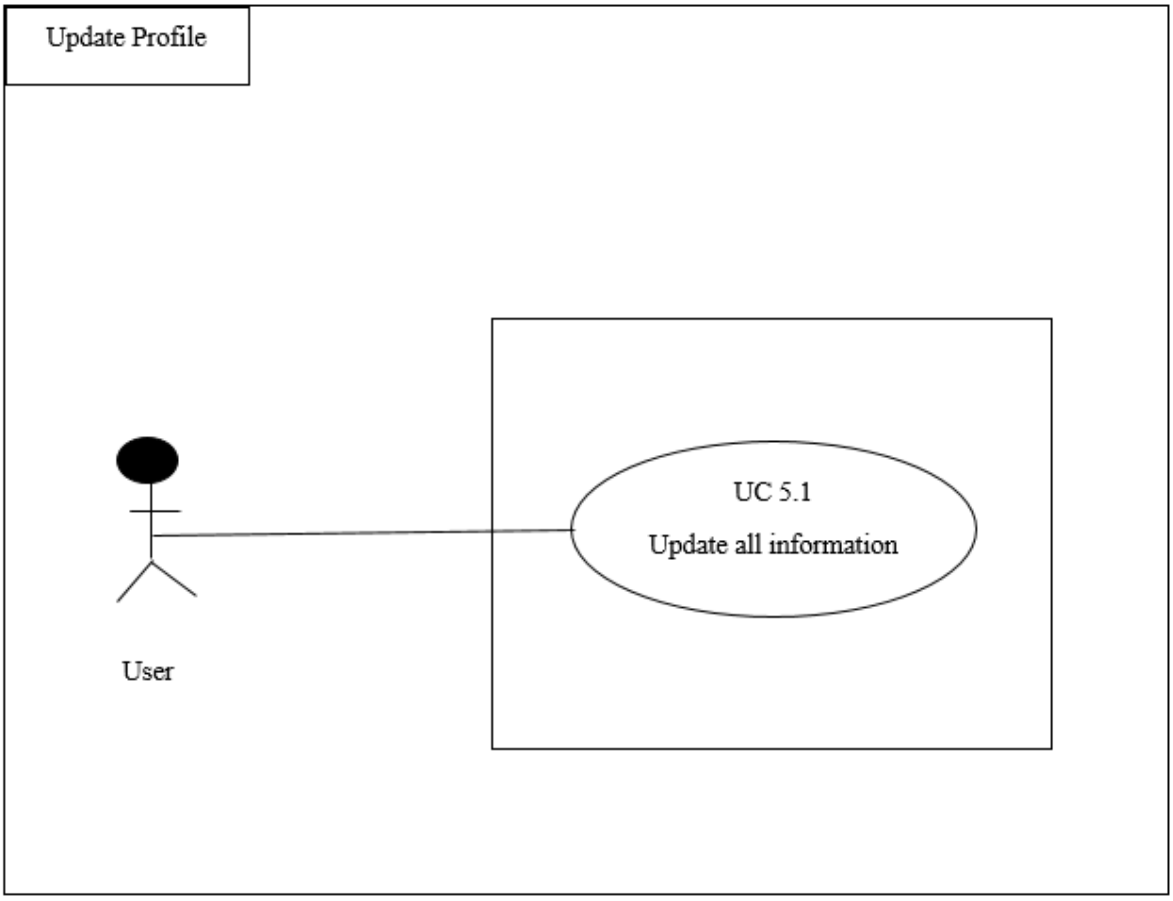


Figure 06: Use Case: Update Profile

Table 3.2.5: Update Profile

Use Case Name	Update Profile
Scenario	User can update your profile.
Brief Description	User can update your profile.
Actor	● User
Precondition	Update request accepted.
Post condition	User must choose this method.
Main Success Scenario	● User can update your profile.
Scenario Extensions	● If user isn't registered, they cannot update profile.

3.2.6. Inform Police

User can inform police.

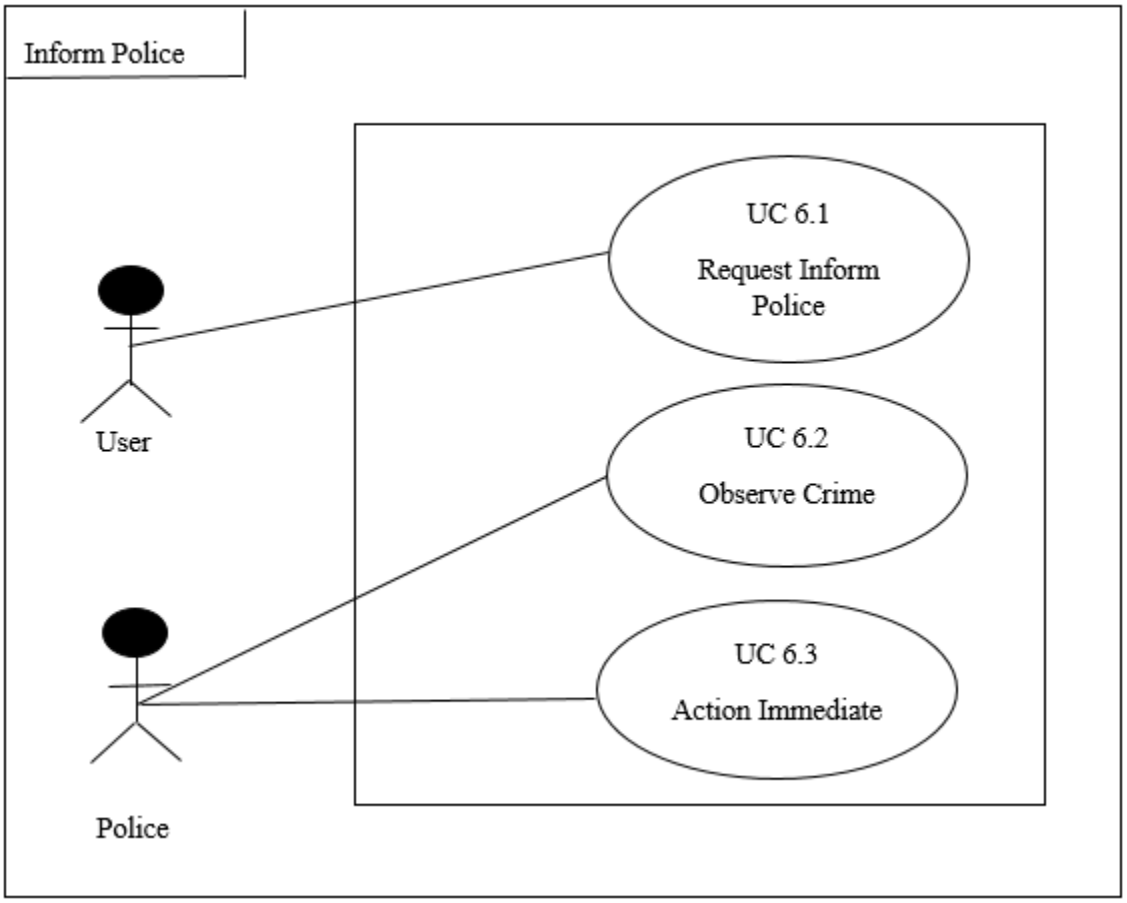


Figure 07: Use Case: Inform Police

Table 3.2.6: Inform Police

Use Case Name	Inform Police
Scenario	User can inform police.
Brief Description	User can inform police
Actor	User
Precondition	User can inform police.
Post condition	User must choose this method.
Main Success Scenario	User can inform police and police can take action
Scenario Extensions	If doctor isn't registered, they cannot take action police.

3.2.7. Action Police

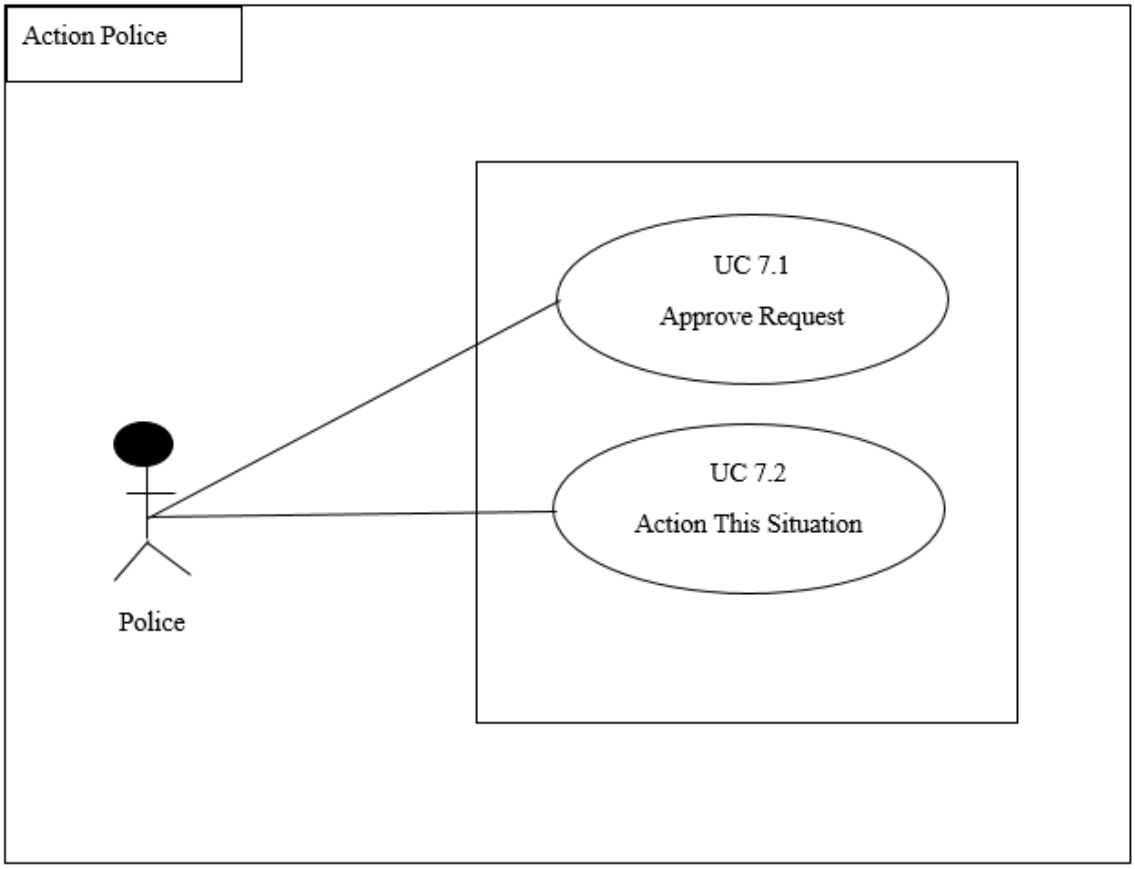


Figure 08: Use Case: Action Police

Table 3.2.7: Action Police

Use Case Name	Action police
Scenario	Police can take action.
Brief Description	Police can take action.
Actor	• Police
Precondition	Police can take action.
Post condition	Police must choose this method.
Main Success Scenario	• Police can take action.
Scenario Extensions	• If police isn't registered, they cannot take action police.

3.3. Activity Diagram

3.3.1. Activity Diagram for User

Activity diagram is another important behavioral diagram in UML diagram to describe dynamic aspects of the system. Activity diagram is essentially an advanced version of flow chart that modeling the flow from one activity to another activity.

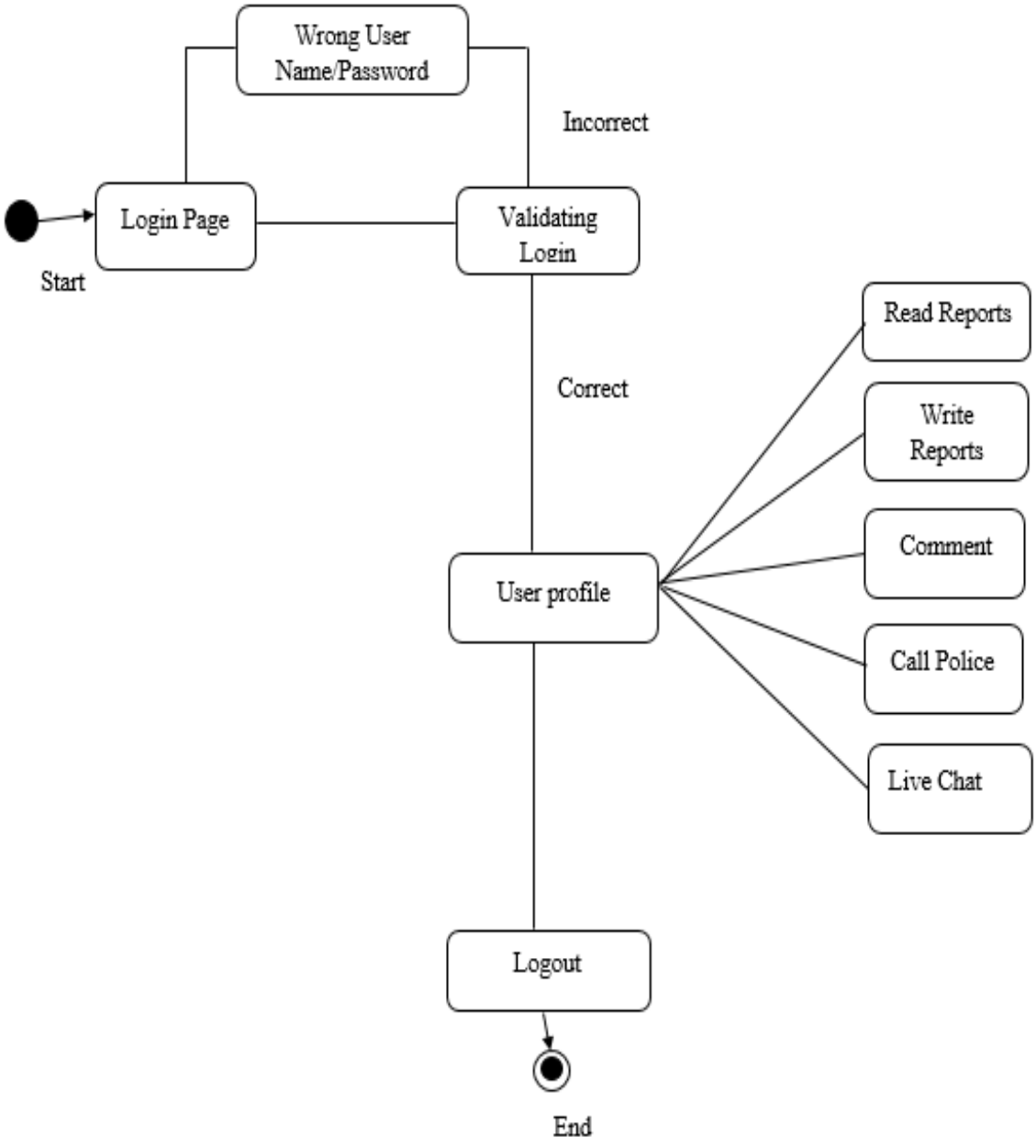


Figure 09: Activity Diagram: User

3.3.2. Activity Diagram for Police

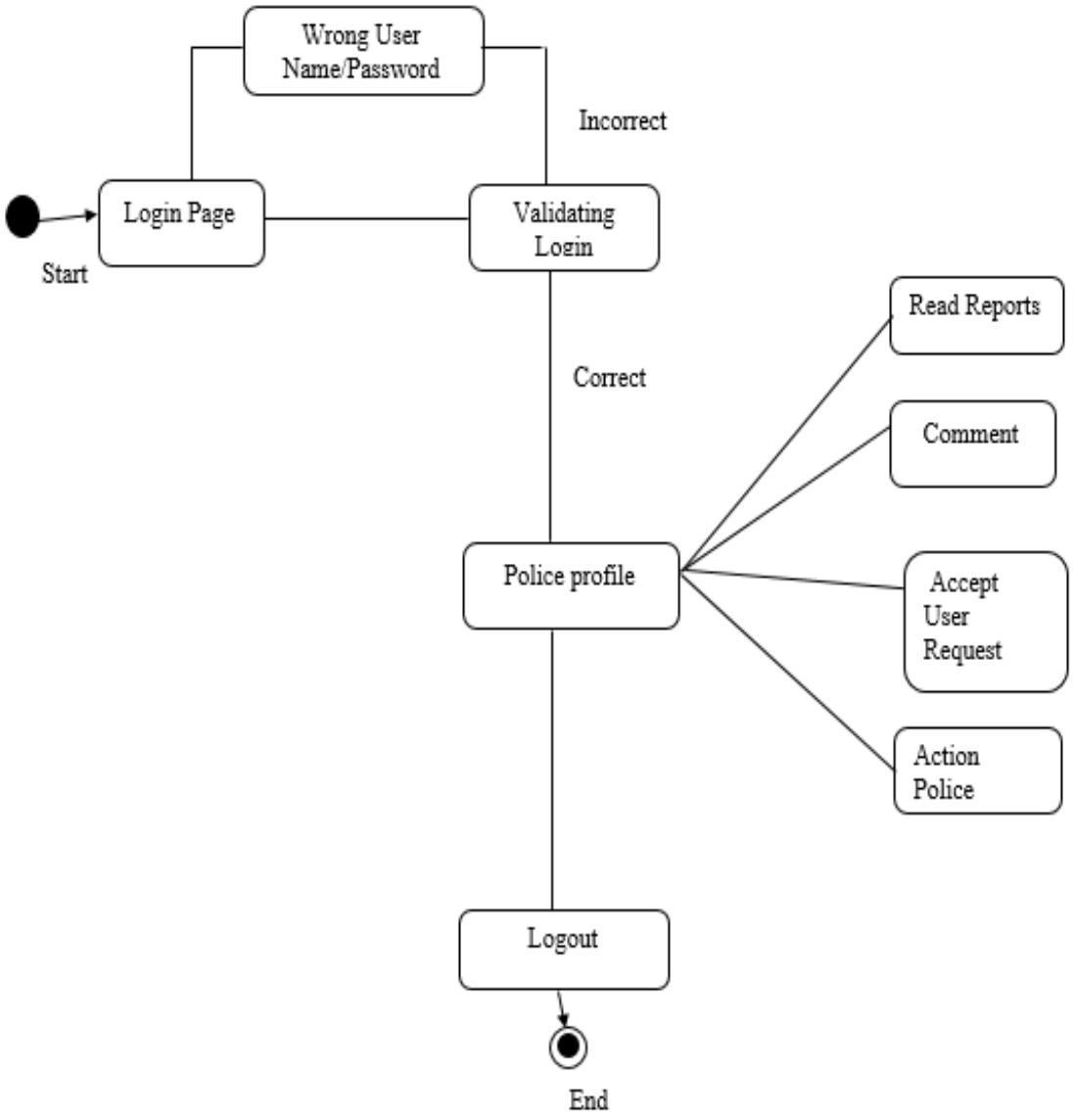


Figure 10: Activity Diagram: Police

Chapter 4
System Design Specification

4.1. Sequence Diagram

UML Sequence Diagrams are interaction diagrams that detail how operations are carried out. They capture the interaction between objects in the context of a collaboration. Sequence Diagrams are time focus and they show the order of the interaction visually by using the vertical axis of the diagram to represent time what messages are sent and when.

4.1.1. System Sequence Diagram: Authenticate User: User

Patient can registration by requesting to the system.

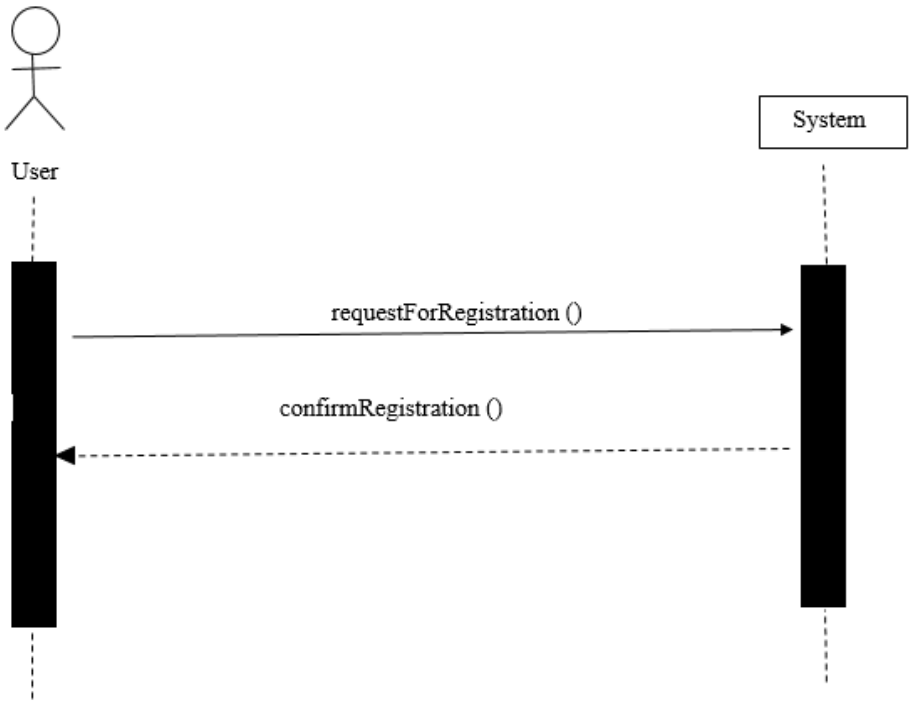


Figure 11: System Sequence Diagram: Authenticate User: User

4.1.2. System Sequence Diagram: Authenticate User: Police

Police can registration by requesting to the system.

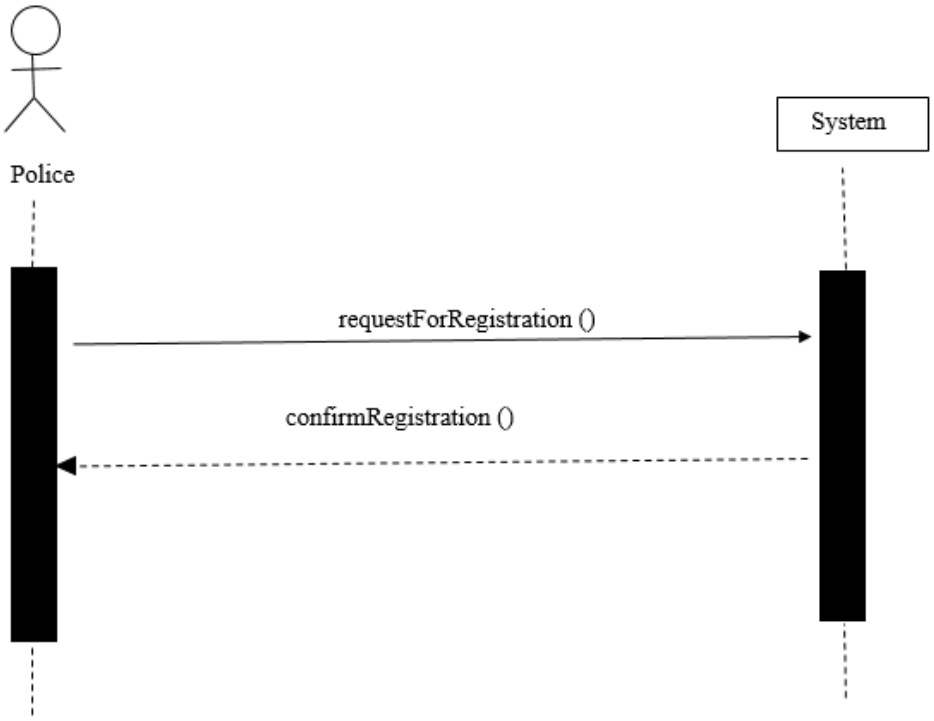


Figure 12: System Sequence Diagram: Authenticate User: Police

4.1.3. System Sequence Diagram: Create Reports

User can see the report and click to the post.

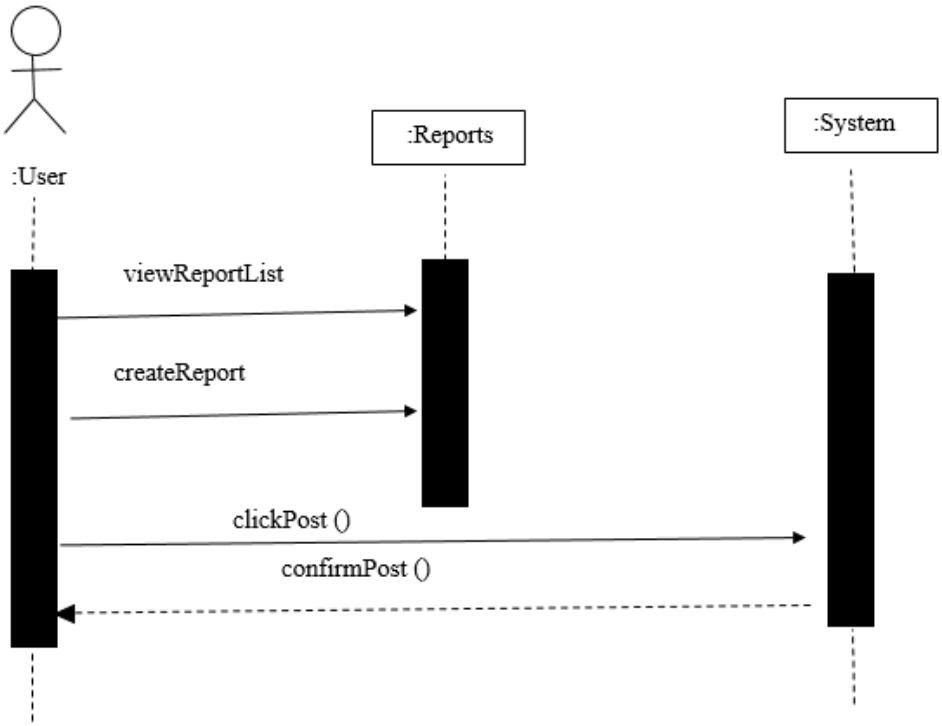


Figure 13: System Sequence Diagram: Create Reports

4.1.4. System Sequence Diagram: Read Reports

User and police can see report.

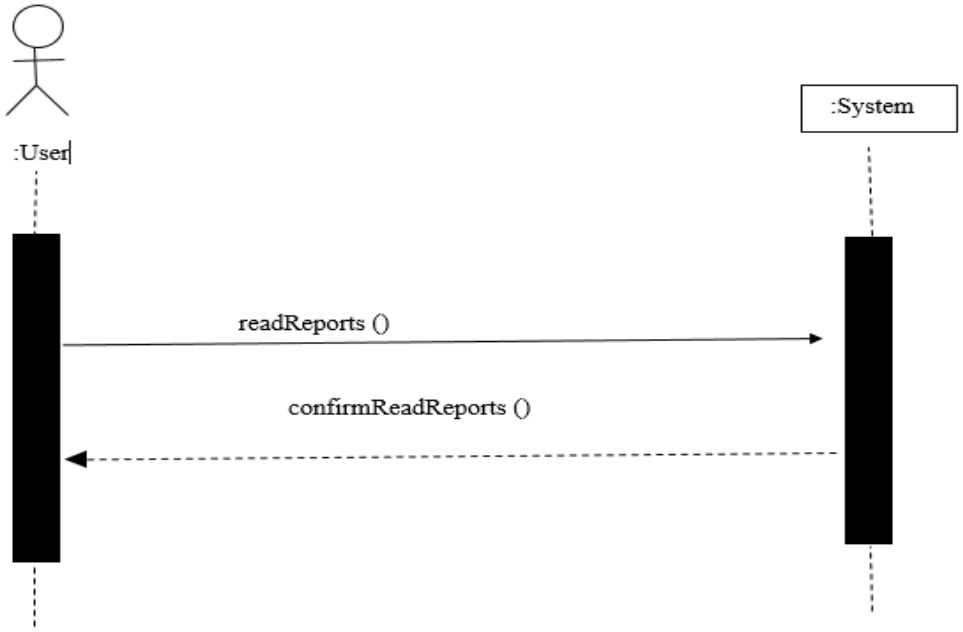


Figure 14: System Sequence Diagram: Read Report

4.1.5. System Sequence Diagram: User Inform Police

User can inform police.

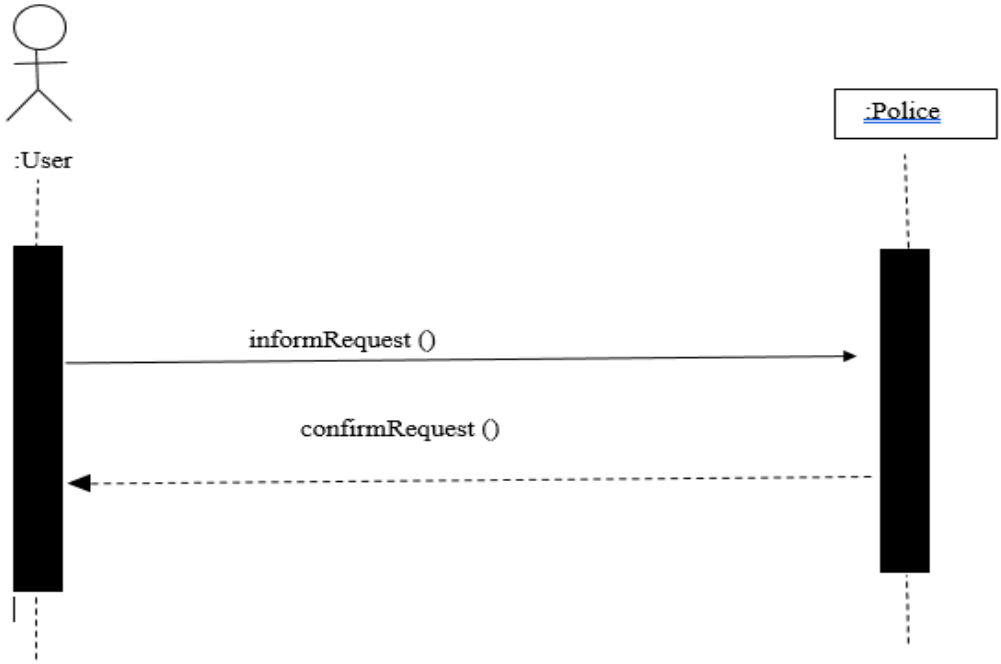


Figure 15: System Sequence Diagram: User Inform Police

4.1.6. System Sequence Diagram: Take Action Police

Police can take action.

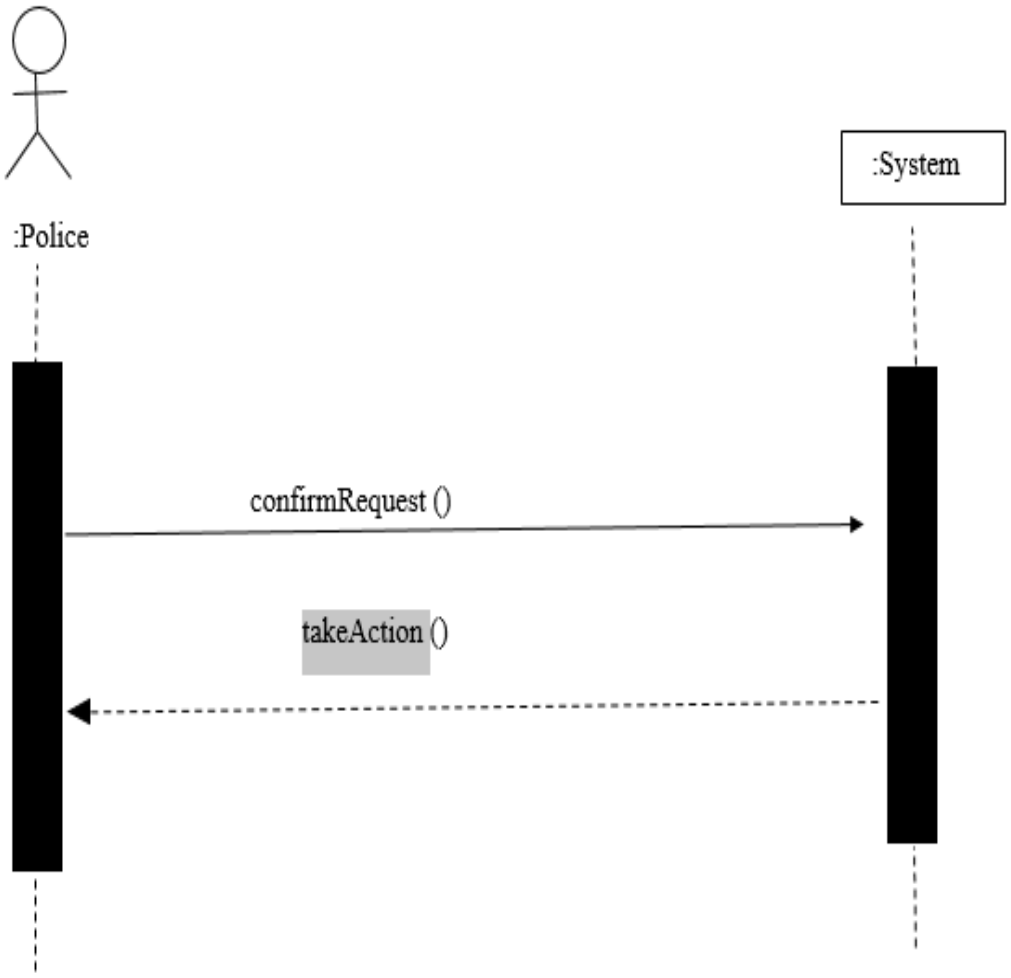


Figure 16: System Sequence Diagram: Manage Medicine: Take action police

4.2. Data Flow Diagram

4.2.1. DFD Level 0

A data flow diagram (DFD) illustrates how data is processed by a system in terms of inputs and outputs. As its name indicates its focus is on the flow of information, where data comes from, where it goes and how it gets stored.

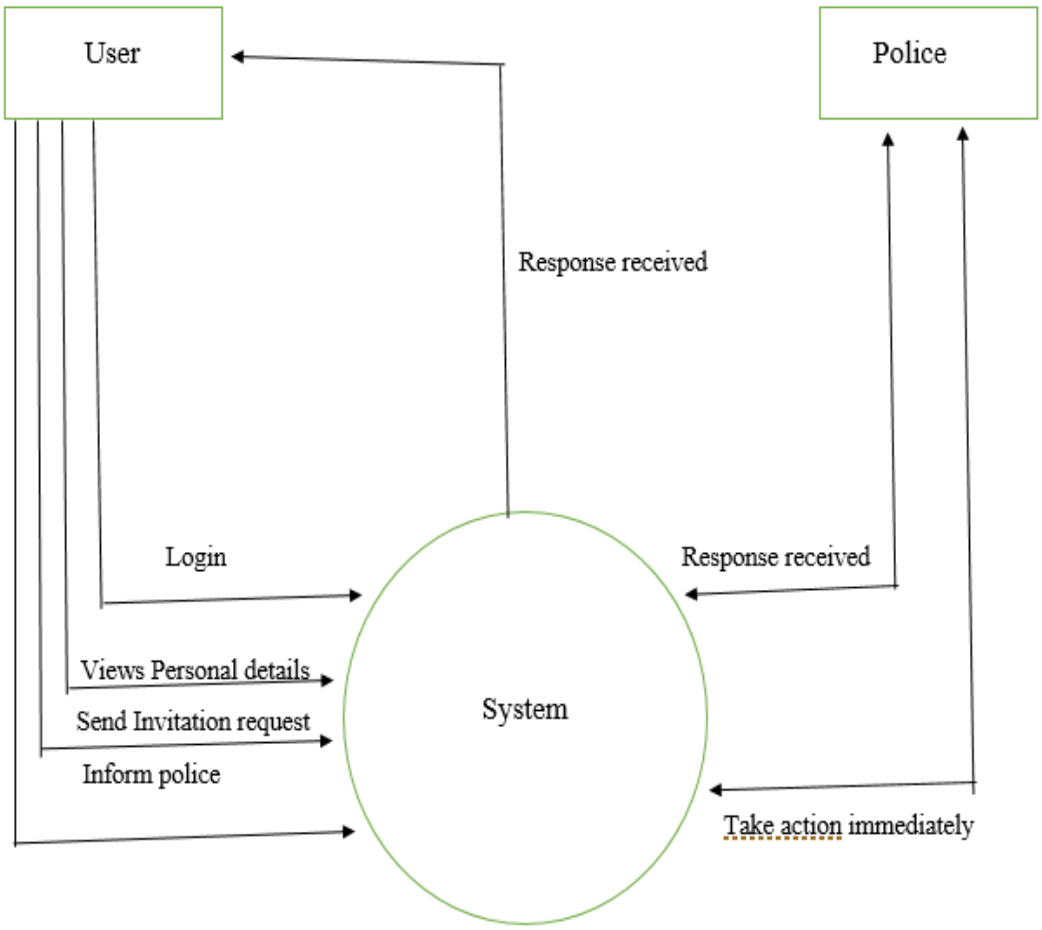


Figure 17: Data Flow Diagram

4.2.2. DFD Level 1

The Level 1 DFD shows how the system is divided into sub-systems (processes), each of which deals with one or more of the data flows to or from an external agent, and which together provide all of the functionality of the system as a whole.

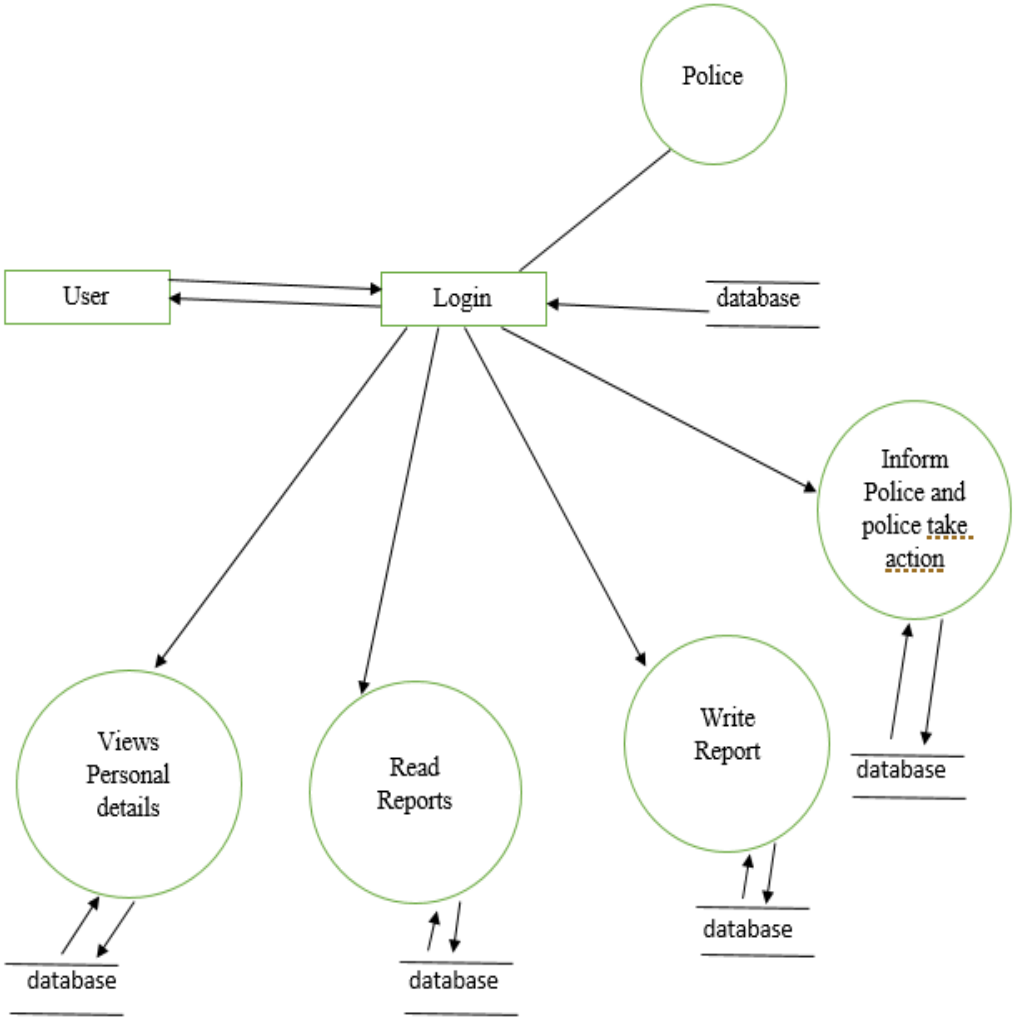


Figure 18: Data Flow Diagram

4.2.3. Entity Relationship Diagram

An entity relationship diagram (ERD), also known as an entity relationship model, is a graphical representation of an information system that depicts the relationships among people, objects, places, concepts or events within that system. An ERD is a data modeling technique that can help define business processes and be used as the foundation for a relational database.

- Rectangle: Uses to define entity
- Eclipse: Uses to attribute
- Diamond: Uses to define action

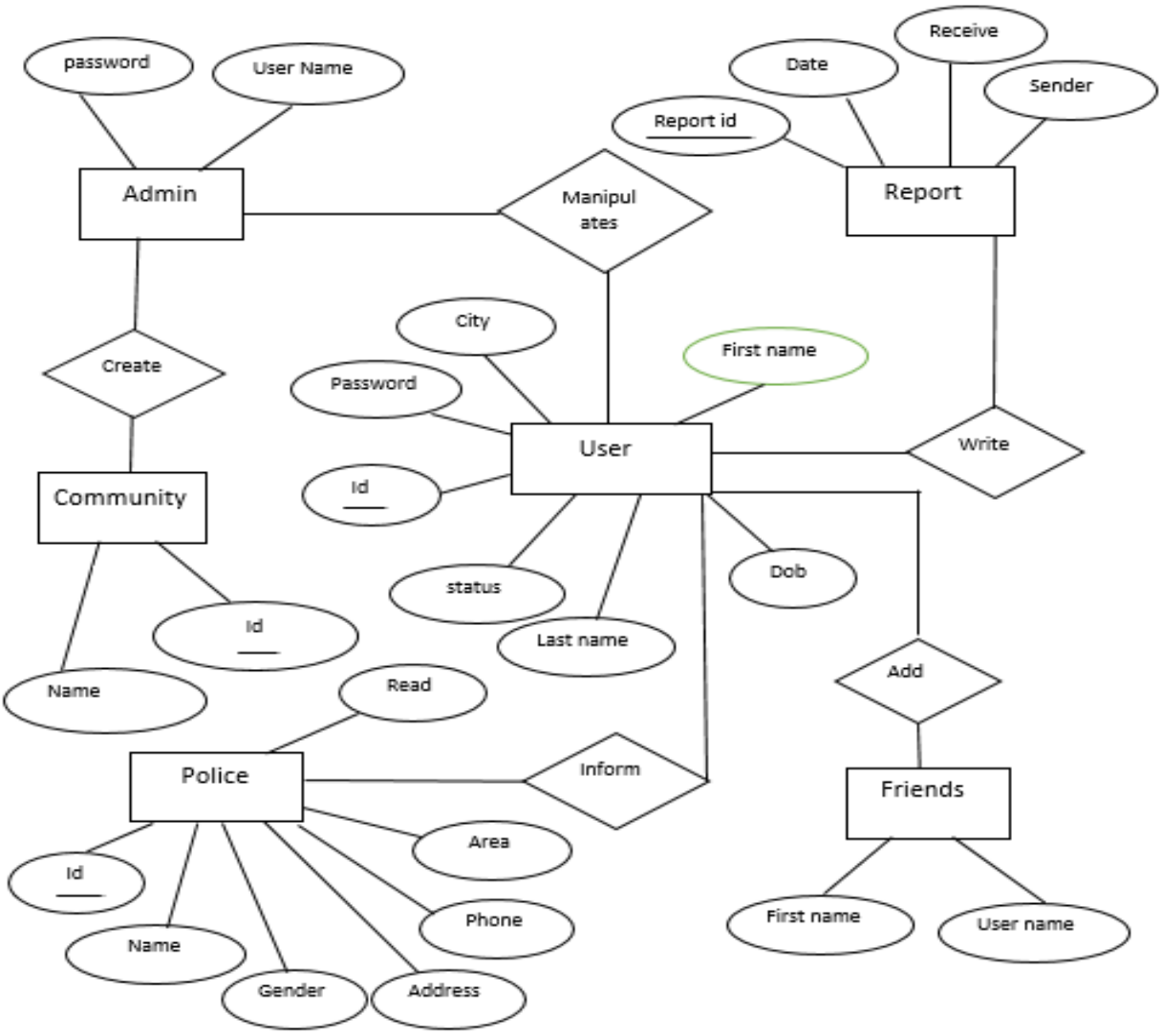


Figure 19: Entity Relationship Diagram

4.2.4. Class Diagram

A class diagram in the Unified Modeling Language (UML) is **a type of static structure diagram** that describes the structure of a system by showing the system's classes, their attributes, operations (or methods), and the relationships among objects.

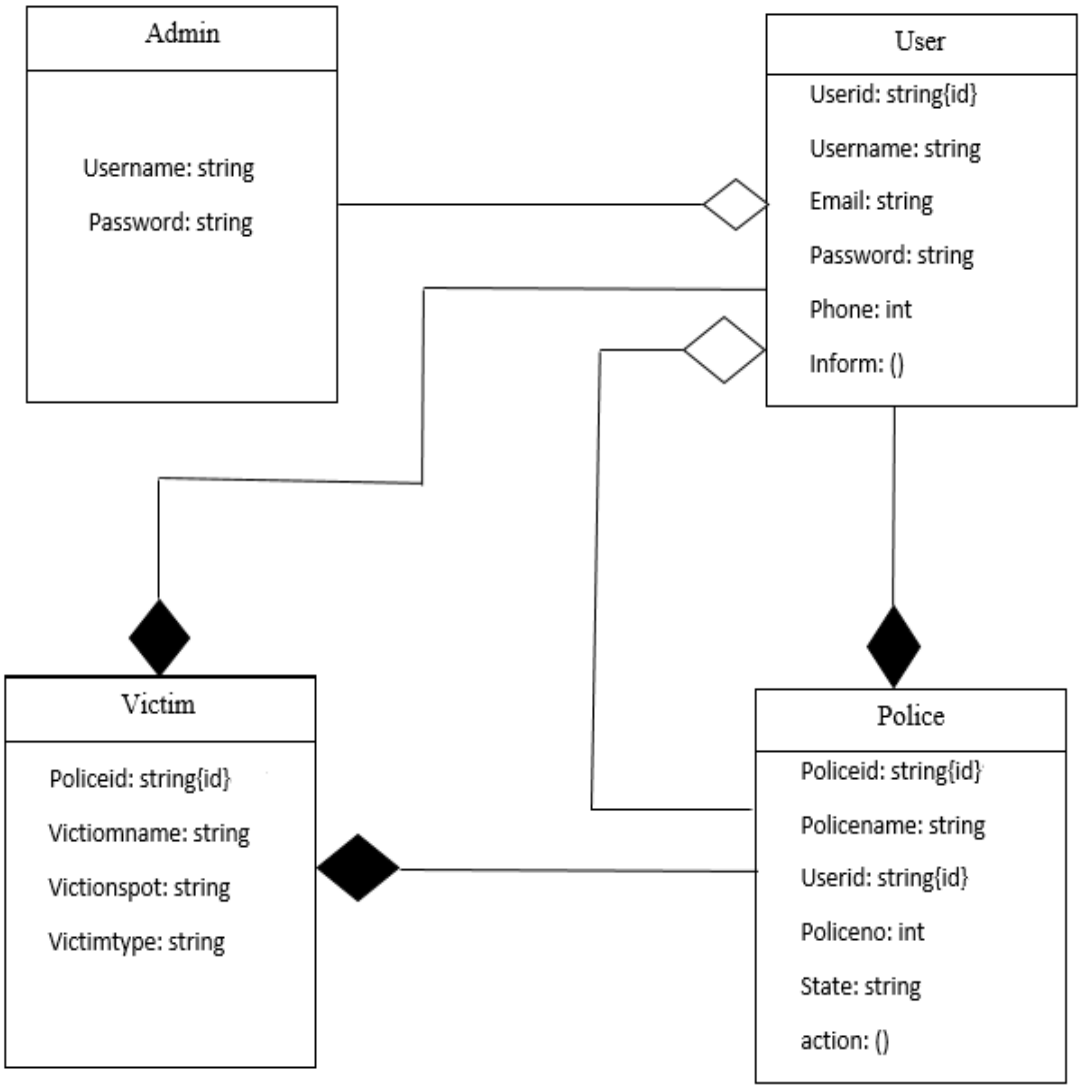


Figure 20: Class Diagram

Chapter 5
User Interface

5.1. User Interface

5.1.1. Social awareness website home page.

Figure 21: Home Page

5.1.2. Registration page

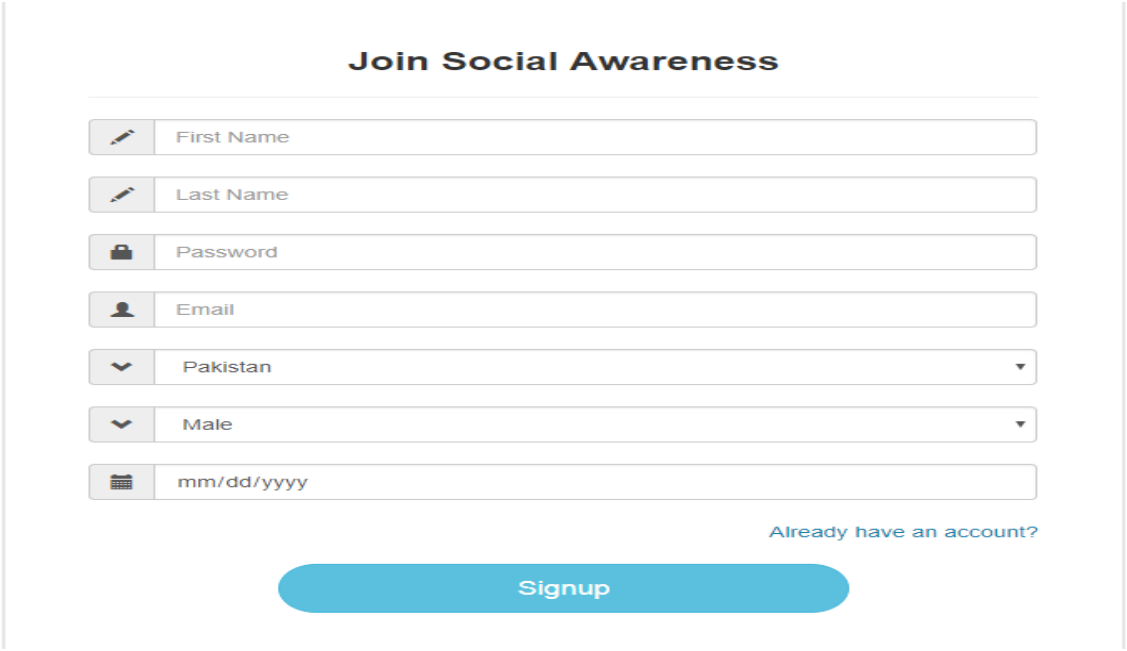


Figure 22: Registration Page

5.1.3. Login Page

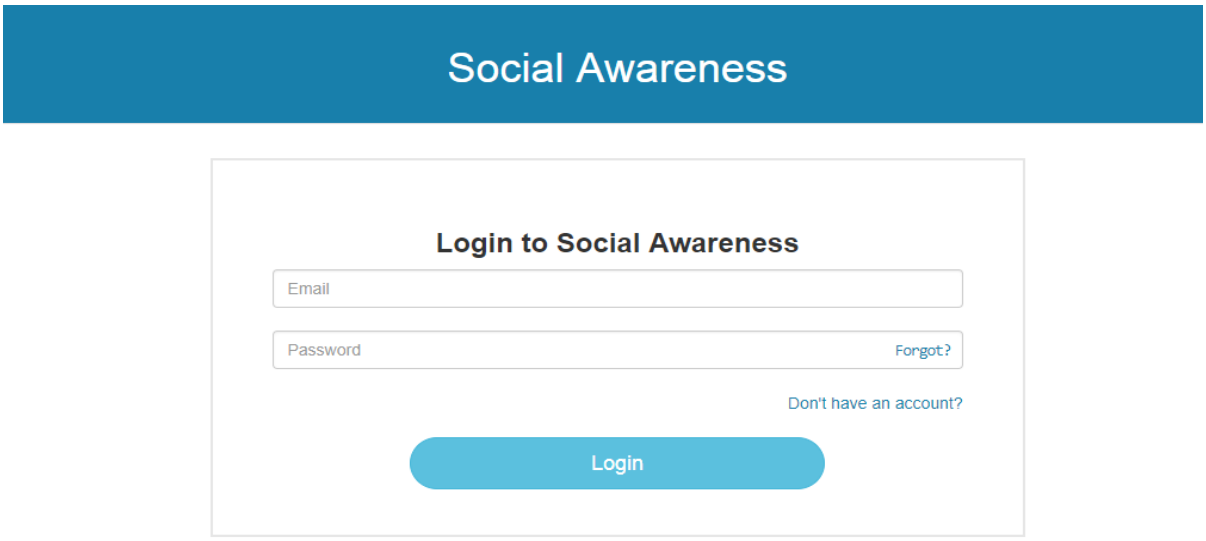


Figure 23: Login Page

5.1.4. Profile

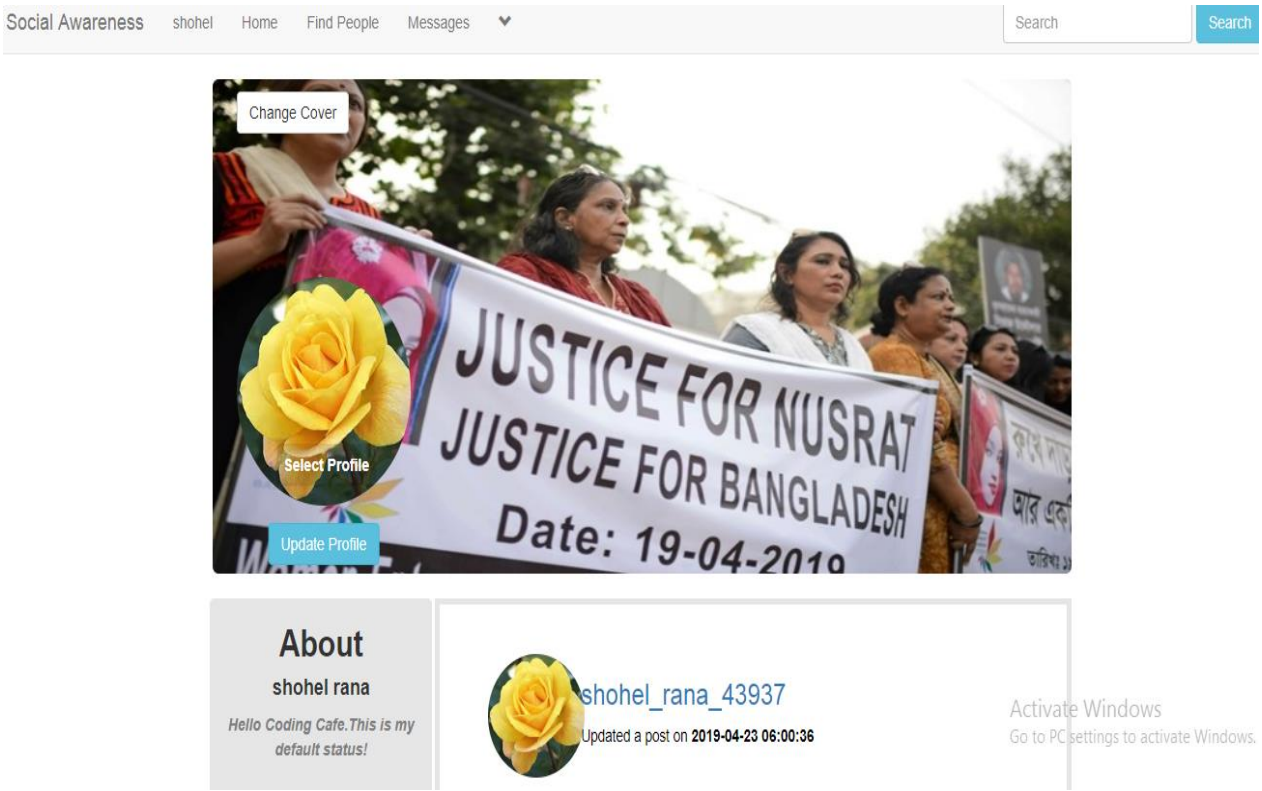


Figure 24: Profile

5.1.5. News Feed

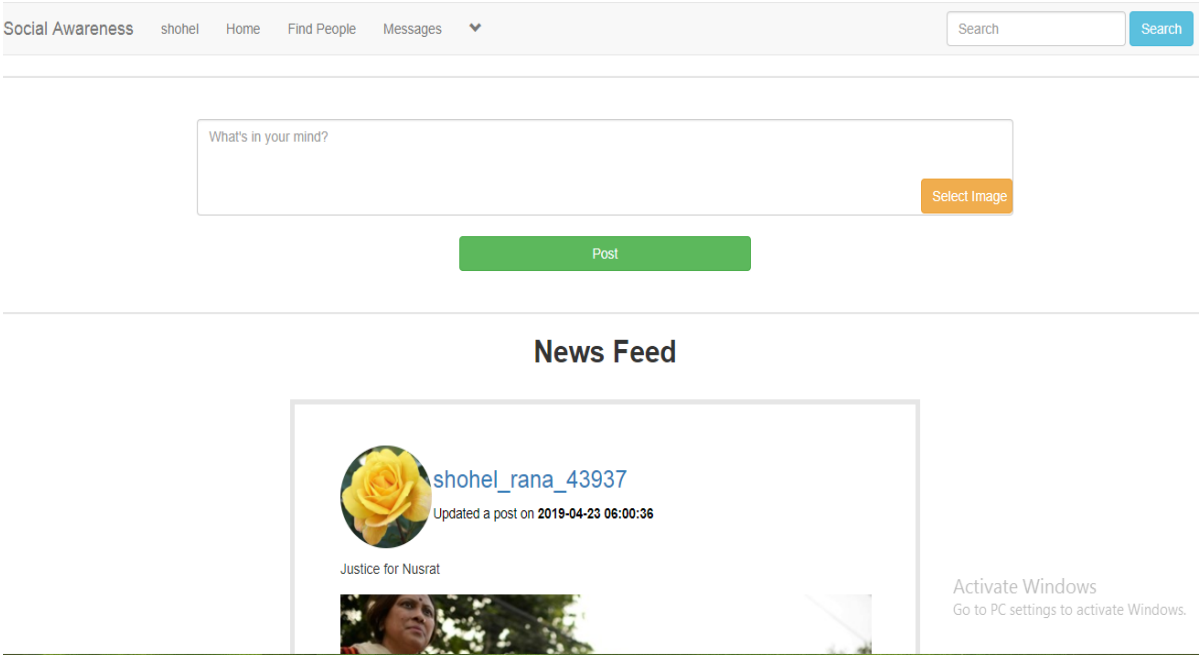


Figure 25: News Feed

Figure 26: News Feed

Chapter 6
Development Tools and Technologies

6.1. User Interface Technologies
- UTF-18
- Material Font
- Material icon

6.2. Implementation Technologies
6.2.1. PHP
A concurrent, class-based, object-oriented programming language (PHP).

6.2.2. JAVA Script
A concurrent JAVA script proper use this system

6.2.3. HTML, CSS

6.2.4. Firebase
Firebase is a mobile and web application development platform developed by Google. Firebase provides a real-time database and backend as a service. The service provides application developers an API that allows application data to be synchronized across clients and stored on Firebase's cloud.

6.2.5. Google Cloud Vision API

6.3. Platform and Environment
6.3.1. Hardware
- Processor: Intel Core i5.
- RAM: 8GB.
- Hard drive: 1TB.

6.3.2. Tools
- IDE/Editor: Sublime Text 3
- Server: MYSQL Database

6.3.3. Version Control
- Github

Chapter 7
System Testing

7.1. System Testing

Software testing is a process, to evaluate the functionality of a software application with an intent to find whether the developed software met the specified requirements or not and to identify the defects to ensure that the product is defect free in order to produce the quality product.

7.2. System Testing

The importance of the test plan is to show how the system is to be tested and gives precise procedure to be followed during test plan. The test data is identified, what is being tested and the expected outcome as well as actual input. Test plan is one of the standard documents that should be produced in most software engineering projects. If the project does not have any test plan this means that, the system produced is low quality. This may not be acceptable to the user it will not satisfy their needs. The test plan should be written as soon as requirements have been identified. The system will be tested with sample data to see how it would handle input and output functions as well as extreme data or conditions to determine the system behavior in overloaded situation, which will directly slow the system that behaves in failure, or extreme situation.

7.3. System module need to be tested

- Registration
- Write Reports
- View Report
- Contact Police
- Action Police

7.4. Test Case

A **test case** is a set of conditions or variables under which a tester will determine whether a system under test satisfies requirements or works correctly. The process of developing test cases can also help find problems in the requirements or design of an application.

- Ensure that logical decisions on their true and false side.
- Practice all the logical decisions on their true and false side.
- Check equivalent partitions and boundary value within their operations bounds.
- Exercise internal data structure to assure their validity.

7.4.1. Test Case of Registration

Table 7.4.1: Test Case of Registration

Test Case: TC01	Test Case Name: Testing the registration panel.
System: Social Awareness	Requirements ID: FRQ_01 (Registration)
Designed by: Shohel Rana	Design Date: 28.11.19
Executed by: Shohel Rana	Execution Date: 28.11.19
Short Description: This field will handle the registration functionality of the system.	
Precondition: Open the web application.	

Table 7.4.1: Test Case of Registration

Steps	Action	Input	Actual Result	Expected System Response	Pass/Fail
01	Enter all info in required field and a valid password.	F name, L name, Email, pass, Country, Gender, Dob	Get registered.	Registered in into the system.	Pass
02	Valid info and invalid password.	Password	Not registered in and an error toast message.	Not registered in and an error toast message.	Pass
03	Sign Up without any inputted data.	Click Sign Up	Show “Input field required” toast message.	Showed “Input field required” toast message.	Pass

7.4.2. Test Case of Write Report

Table 7.4.2: Test Case of Write Reports

Test Case: TC02	Test Case Name: Write Reports.
System: Social Awareness	Requirements ID: FRQ_03 (Write Reports)
Designed by: Shohel Rana	Design Date: 30.11.19
Executed by: Shohel Rana	Execution Date: 30.11.19
Short Description: This field will handle the Reports functionality of the system.	
Precondition: Registered the web application.	

Table 7.4.2: Test Case of Write Reports

Steps	Action	Input	Action Result	Expected System Response	Pass/Fail
01	Select new post and write report then send a request.	Click Post	Post selected and send post request.	Send an post request.	Pass
02	Show post	Click post	Not added in news feed list.	Added in news feed list.	Fail
03	Show post.	Click post	Added in news feed list.	Added in news feed list.	Pass

7.4.3. Test Case of Inform Police

Table 7.4.3: Test Case of Inform Police

Test Case: TC03	Test Case Name: Inform Police
System: Social Awareness	Requirements ID: FRQ_05 (Inform Police)
Designed by: Shohel Rana	Design Date: 04.11.19
Executed by: Shohel Rana	Execution Date: 04.11.19
Short Description: This field will handle the inform police & action functionality of the system.	
Precondition: Open the web application.	

Table 7.4.3: Test Case of Inform Police

Steps	Action	Input	Action Result	Expected System Response	Pass/Fail
01	Inform police, victim name, time and place to the module.	Crime name, time and place	Successfully inform police into the system.	Successfully inform police into the system.	Pass
02	Inform police, time, place and take action to the module.	Crime name, time and place	Successfully take action into the system.	Successfully take action into the system.	Pass
03	Police taken action that place and time.	Crime name, time and place	Didn't taken action successfully.	taken action successfully.	Fail
04	Police taken action that place and time.	Crime name, time and place	Taken action successfully.	taken action successfully.	Pass

Chapter 8
Conclusion & Future Work

8.1. GitHub Link

8.2. Conclusion
In our society every day, we have to facing various problems. Our society is increasing crime, girl's harassment, theft, robbery in day by day. They are disturbing their daily life. We will use this website to prevent such incidents, so that no one else is harmed in society.

8.3. Limitations
- The system has only few functionalities for international perspective.
- Always have good internet connection

8.4. Obstacle & Achievements
Obstacle:

- Learning new technology and environment
- Limited time and budget

Achievements:

- Learn new technology
- Successfully built a project for production level

8.5. Future Work
Though the system was developed as fine but the future work will include some major changes, as-

- Crime will be tracked in the spot.
- Real time communication media like chat
- The crime will notify in phone.
- Android apps Platform

References

[1].
https://www.modernanalyst.com/Resources/Articles/tabid/115/ID/1967/A-Proposal-for-an-Agile-Development-Testing-V-Model.aspx [Accessed: 28 March 2019]

[2].
https://www.scnsoft.com/agile-development [Accessed: 28 March 2019]

[3].
https://number8.com/kanban-versus-scrum/ [Accessed: 28 March 2019]

[4].
https://www.mindtools.com/pages/article/newPPM_03.htm [Accessed: 28 March 2019]