Crime Investigation System

This Project report has been submitted in fulfillment of the requirements for the Degree of Bachelor of Science in Software Engineering.

Submitted By

Md. Minhajul Islam

ID: 161 - 35 - 1513

Department of Software Engineering

Daffodil International University

Supervised by:

Khalid Been Md. Badruzzaman

Senior Lecturer

Department of Software Engineering

Faculty of Science & Information Technology

©Daffodil International University

APPROVAL

This project titled on "**Crime Investigation System",** submitted by Md. Minhajul Islam, **ID**:**161 -35 -1513** to the Department of Software Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of Bachelor of Science in Software Engineering and approval as to its style and contents.

BOARD OF EXAMINERS

Prof. Dr. Touhid Bhuiyan
Professor and Head
Department of Software Engineering — **Chairman**
Faculty of Science and Information Technology
Daffodil International University

Md. Shohel Arman
Lecturer
Department of Software Engineering — **Internal Examiner**
Faculty of Science and Information Technology
Daffodil International University

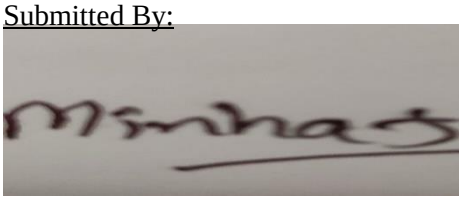
Prof Dr. Mohammad Abul Kashem
Professor
Department of Computer Science and Engineering — **External Examiner**
Faculty of Electrical and Electronic Engineering
Dhaka University of Engineering & Technology, Gazipur

©Daffodil International University

Declaration

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

Submitted By:



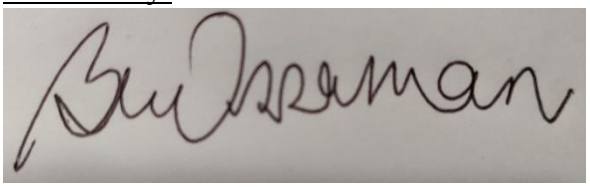
Md. Minhajul Islam

161-35-1513

Department of Software Engineering

Daffodil International University.

Certified By:



Khalid Been Md. Badruzzaman

Lecturer,

Department of Software Engineering

Daffodil International University.

©Daffodil International University

ACKNOWLEDGEMENT

Firs to fall, I express my gratitude to the Almighty Allah to give me the ability to complete this Project. I also grateful to my parents & friends who always support me and encourage to do something for the betterment of people. Now I would like to give tanks and appraisal to those who helped me to make my project, project documentation not only more effective but also completed perfectly. A special thanks and honor to my supervisor and our honorable teacher "Md. Khalid Been Bodruzzaman", whose help and inspiration helped me to coordinate my project specially writing this documentation and to select project features.

From my sincere thanks to friends, brothers who have supported my work on the project. Specially, Daffodil International University's family members, friends and brothers. Finally, I would like to thank my family and friend for their support. I wouldn't have been able to get here without them.

Md. Minhajul Islam
Department of software engineering

Daffodil International University

©Daffodil International University

EXECUTIVE SUMMERY

Now a day's people face a common problem which is time maintain in various purpose. Many of people can't maintain their time schedule. But in the busy life, people are not capable to maintain all of works properly such as go to the police station added the GD no time. so difficulties. This project will help to make life more comfortable in their busy schedule. The users of this system can easy life. In this system they can add GD and See the details of case and see the update of case.

©Daffodil International University

TABLE OF CONTAINS

Contents

Acknowledgement iv
Executive Summery v
Table of contains vi
List of figure viii
1 Introduction 1
1.1 Overview 1
1.2 Purpose 1
1.3 Background 1
1.4 Benefits and beneficiaries 1
1.5 Goals 1
1.6 Stakeholder 2
1.7 Proposed System 2
1.8 Project Schedule 2
1.8.1 Gantt chart 2
2 Software Requirements Specification 3
2.1 Functional requirement 4
2.2 Data Requirement 4
2.3 Performance Requirement 4
2.3.1 Speed and latency requirements 4
2.3.2 Precision and accuracy requirements 4
2.3.3 Capacity requirements 4
2.4 Dependability Requirement 5
2.4.1 Reliability and availability 5
2.4.2 Safety critical requirements 5
2.5 Maintainability and supportability 5
2.5.1 Supportability requirements specification 5
2.6 Security Requirements 5
2.7 Usability and human integrity requirements 5
2.8 Look and Feel 5

3 Requirements Analysis 06
3.1 Use Case Diagram 07
3.1.1 Analysis 08
3.2 Activity Diagram 11
3.3 Sequence Diagram 17
4 Technology & Tools 21
4.1 Development tools and technology 22
4.2 User Interface technology 22
4.3 Implemented tools and platform 22
4.4 Database Diagram 22
4.5 Class Diagram 23
5 Testing 24
5.1 Testing Features 25
5.1.1 Features to be tested 25
5.2 Testing Strategy 25
5.2.1 Test approach 25
5.2.2 Black box testing 25
5.2.3 White box testing 26
5.3 Pass/Fail criteria 26
5.4 Testing Schedule 26
5.5 Testing Environment 26
5.6 Test Cases 27
6 MANUAL 28
6.1 Login 29
6.2 User Panel 30
6.3 Officer Panel 31
6.4 Submit Information 32
6.5 Admin Panel 34
7 Conclusion 35
7.1 Project Summary 36
7.2 Limitations 36
7.3 Obstacles & Achievements 36
7.4 Future Scope 36
References 36

©Daffodil International University

LIST OF Figures

Figure 1: Gantt chart…..……..…….……... 02
Figure 2: Use-Case Diagram…….…..…….……... 07
Figure 3: Activity Diagram……..…….……... 11
Figure 4: Sequence Diagram…..……..…….……... 17

©Daffodil International University

1 Introduction

1.1 Project Overview

We here propose a criminal investigation tracker system that tracks the investigation status of criminal cases with logs and also predicts primary suspects. Crime Investigation System help to find out the suspects. Here officer find evidence for suspect. Admin can view the investigation result. Admin add the officer. Officer add suspect and show the evidence. Any officer can view their case history. The system keeps logs of a case which includes case summary, people involved, disputes, past criminal history of those involved, Items recovered on scene and other details. The system realizes the type of case, allows admin to update the status of investigation, upload more images of crime, items found on scene etc. This allows authorized officers to check case status and look into its status online and also update any important info as and when needed. The system also consists of a suspect prediction algorithm. Based on type of case, property, land, love or other entities involved the system studies past cases, it studies past criminal records of those involved and based on this data it provides suggestions of suspected persons in a logical order. The system is designed to aid investigation teams to work collectively on cases, coordinate and also speed up the process by suggesting logical suspects based on data provided.

1.2 Project Purpose

1.3 Background

Crime Investigation System help to find out the suspects. Here officer find evidence for suspect. Admin can view the investigation result. Admin add the officer. Officer add suspect and show the evidence. Any officer can view their case history.

1.4 Benefits and Beneficiaries

- Emergency GD.
- Regular Update Case.
- User Friendly.
- Availability 24 hours a day, 7 days a week.
- Increased professionalism.

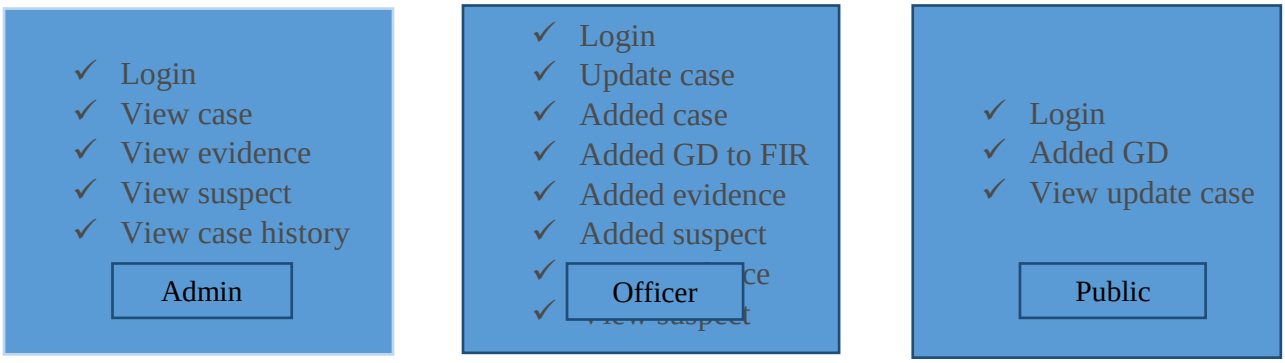
1.5 Goal

Every system developed based on goals. This system main requirements are emergency GD for any case. This project is to develop a web site based that are fill up to GD form in any case for making helping people.

1.6 Stakeholders

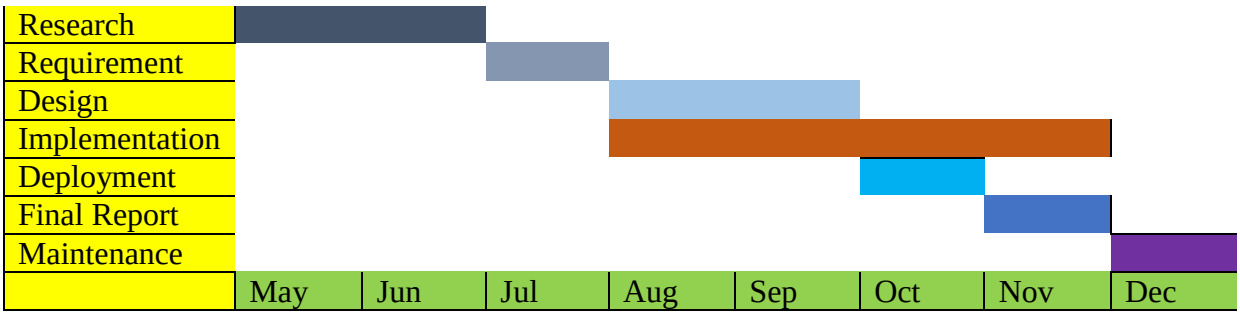
- Admin
- Officer
- Public

1.7 Propose System Model



1.8 Project Schedule

1.8.1 Gantt Chart



Chapter-2 Requirement Specification

2Software Requirement Specification

2.1 Functional Requirement

- Admin added officer
- Admin view evidence
- Admin view suspect
- Admin view case history
- Officer updated GD status for this case
- Officer added case
- Officer added evidence
- Officer added suspect
- Officer updated the case GD to FIR
- Public added GD
- Public view the update status for this GD

2.2 Data Requirements

Our system maximum data would be loaded from user submitted data so for this we need to focus on some points like:

- Capacity and resources of data requirements
- Availability of data
- Quantity of data

2.3 Performance Requirements

To maintain the system performance requirements are much too important. There is some points that enhance our project performance

2.3.1 Speed and latency requirement

Speed and latency I very important for a software when user retrieve any data from database. If system response quickly then the performance of the software go high.

2.3.2 Precision and accuracy requirements

This is a system where all users must be valid user. User submitted information is also must be valid. Any wrong information can ruin our whole system.

2.3.3 Capacity requirements

This system can handle thousands of data every month. This system also needs to have capacity to handle so many users and give them proper security.

2.4 Dependability requirements

Dependability depends on four things like

- Availability
- Reliability
- Safety
- Security

2.4.1 Availability and Reliability requirements

- Our system is available all day long every day in a month.
- Our system is web based so users can visit anywhere from any place

2.4.2 Safety requirements

This is a web based system so data cloud must be safe to make secure system.

2.5 Maintainability and Supportability Requirements

2.5.1 Maintainability requirements

It is very important to update the security system be sudden time period.

2.5.2 Supportability requirements

Supportability requirements related to

- Testability
- Extensibility
- Maintainability
- Configurability
- Serviceability

Our system meets all this supportability.

2.6 Security requirements

Security is so much important for software. Admin and Users all type of data is sensitive so our system give the full security to the users. Get access according to logged in user password is encrypted.

2.7 Usability and Human-Interaction Requirements

- Our system is easy to use and easy to understand
- Only authorized users get full access of this system

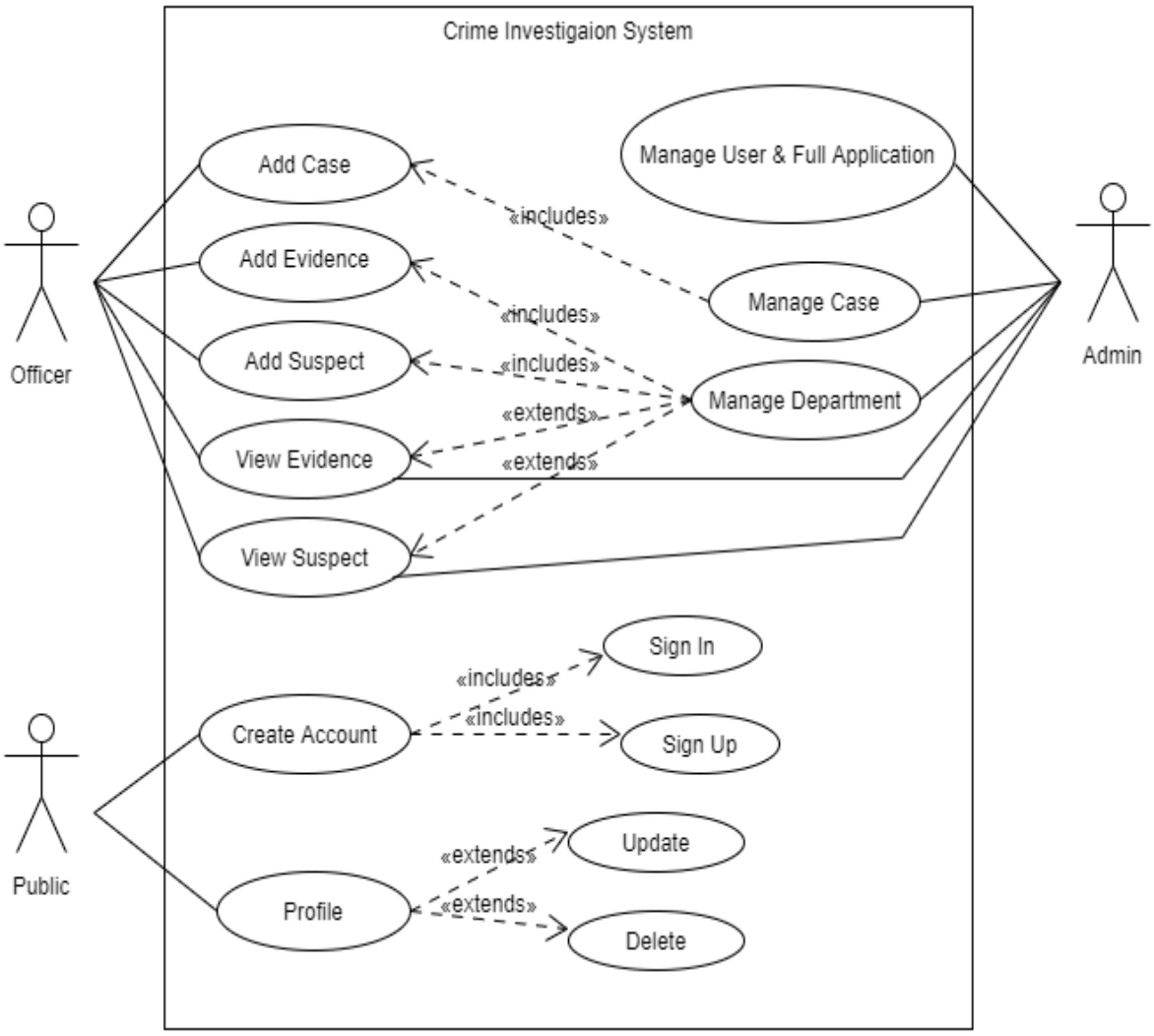
2.8 Look and Feel Requirements

Look and feel requirement refers how the user interface look like to the user. Our admin and user know that all the input field is required. Input field might be text, email, password or text-area.

Chapter-3
Software System Analysis

3 System Analysis

3.1 Use Case Diagram



3.1.1 Add Case

Use Case	Add Case	
Use case no	01	
Goal	Add all of case information.	
Preconditions	Officer must be login into the system	
Success End Condition	After login successfully officer can use the feature of the system.	
Failed End Condition	If they enter wrong email or password they cannot access to the system.	
Primary Actors:	Officer	
Secondary Actors:	N/A	
Description / Main Success Scenario	Step	Action
	1	Login into the system
	2	Select Submit option and Submit the data
	3	Select view option to see the chart and log out the system.
Post Condition	All Of Case information will be shown	
Alternative flow	N/A	
Quality requirements	User must be an officer of this system	

3.1.2 Add Evidence

Use Case	Add Evidence	
Use case no	02	
Goal	Add all of evidence for case information	
Preconditions	Officer must be login into the system	
Primary Actors:	Officer	
Secondary Actors:	N/A	
Description / Main Success Scenario	Step	Action
	1	Officer visit Add evidence page and fill up the data
	2	Select Submit option and Submit the data
	3	Officer log out the system
Post Condition	All Of Case information will be shown	
Alternative flow	N/A	

Quality requirements	User must be an Officer & Admin of this system

3.1.3 View Evidence

Use Case	View Evidence	
Use case no	03	
Goal	View the evidence which data entry him	
Preconditions	Officer must be login into the system	
Primary Actors:	Officer	
Secondary Actors:	N/A	
Description / Main Success Scenario	Step	Action
	1	Officer visit the View Evidence page.
	2	Show all of entry data
Post Condition	All Of Case information will be shown	
Alternative flow	N/A	
Quality requirements	User must be an officer & Admin of this system	

3.1.4 Add Suspect

Use Case	Add Suspect	
Use case no	04	
Goal	Add all of Suspect for case information	
Preconditions	Admin must be login into the system	
Primary Actors:	Officer	
Secondary Actors:	N/A	
Description / Main Success Scenario	Step	Action
	1	Officer visit Add Suspect page and fill up the data
	2	Select Submit option and Submit the data
	3	Officer log out the system
Post Condition	All Of Case information will be shown	
Alternative flow	N/A	
Quality requirements	User must be an officer & Admin of this system	

3.1.5 View Suspect

Use Case	View Suspect	
Use case no	05	
Goal	View the evidence which data entry him.	
Preconditions	Officer must be login into the system	
Primary Actors:	Officer	
Secondary Actors:	N/A	
Description / Main Success Scenario	Step	Action
	1	Officer visit the View Evidence page.
	2	Show all of entry data
Post Condition	All Of Case information will be shown	
Alternative flow	N/A	
Quality requirements	User must be an officer & Admin of this system	

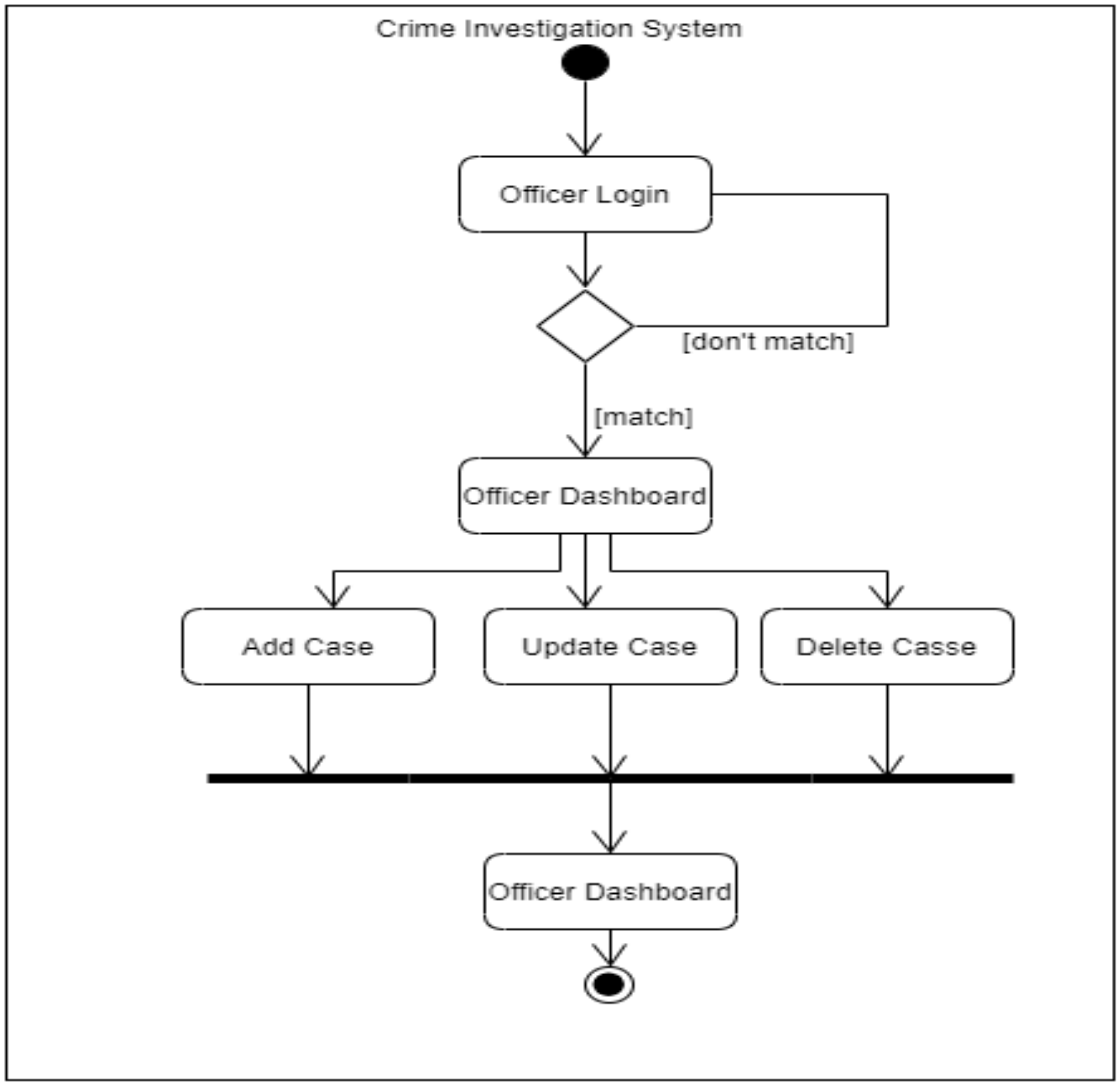
3.1.6 Login

Use Case	Login	
Use case no	06	
Goal	Login into the system to change anything into the system	
Preconditions	Must be registered	
Success End Condition	After login successfully Officer & Public can use the feature of the system.	
Failed End Condition	If they enter wrong email or password they cannot access to the system.	
Primary Actors:	Officer & Public	
Secondary Actors:	N/A	
Description / Main Success Scenario	Step	Action
	1	Visit the Home page this project and Select login option
	2	Submit email and password then system verify credentials
	3	If yes, Login successful
Post Condition	System response with a login successful message	
Alternative flow	N/A	
Quality requirements	Password must be at least 6 characters.	

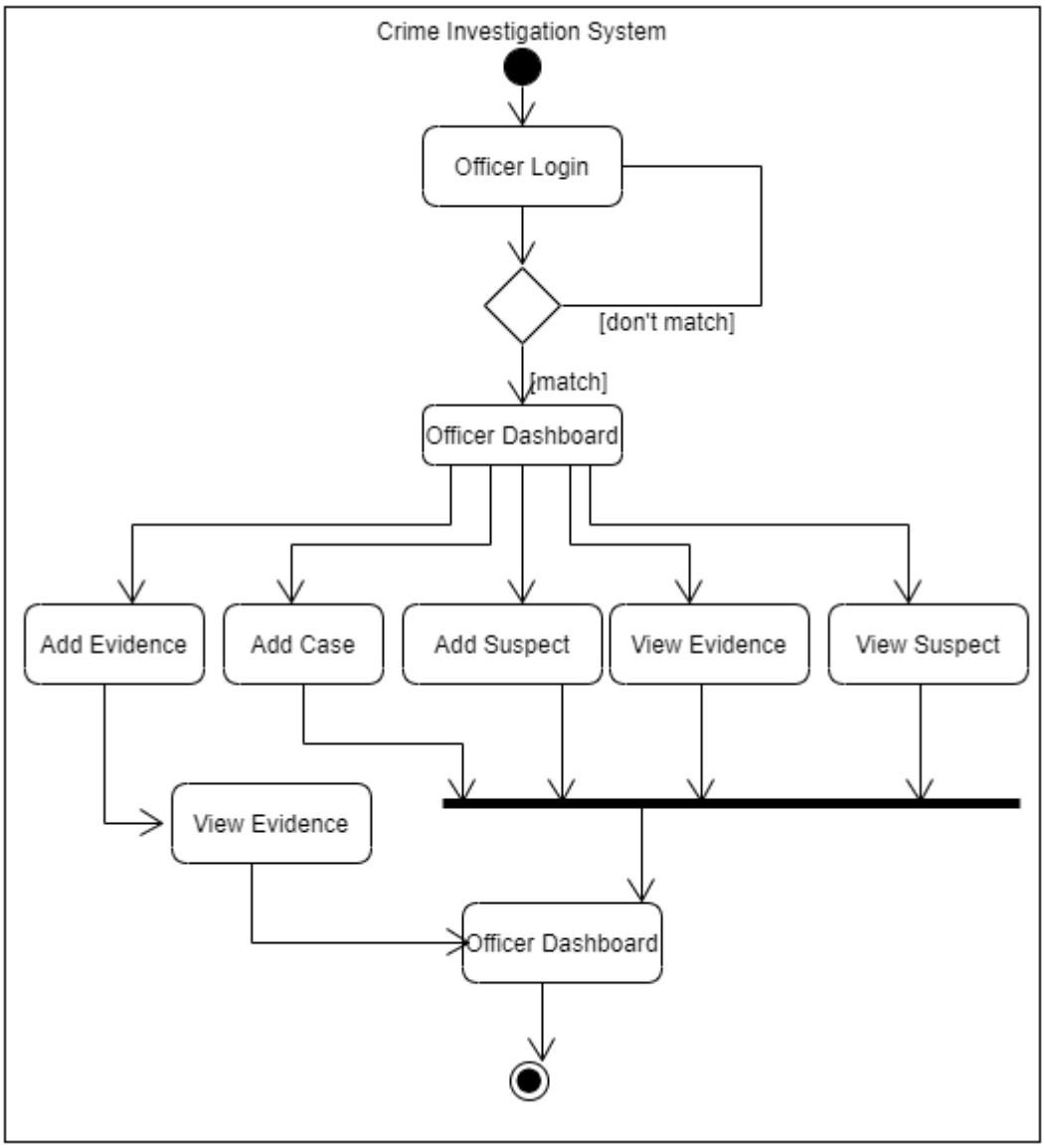
Post Condition	All Of Case information will be shown
Alternative flow	N/A
Quality requirements	User must be an admin of this system

3.2 Activity Diagram

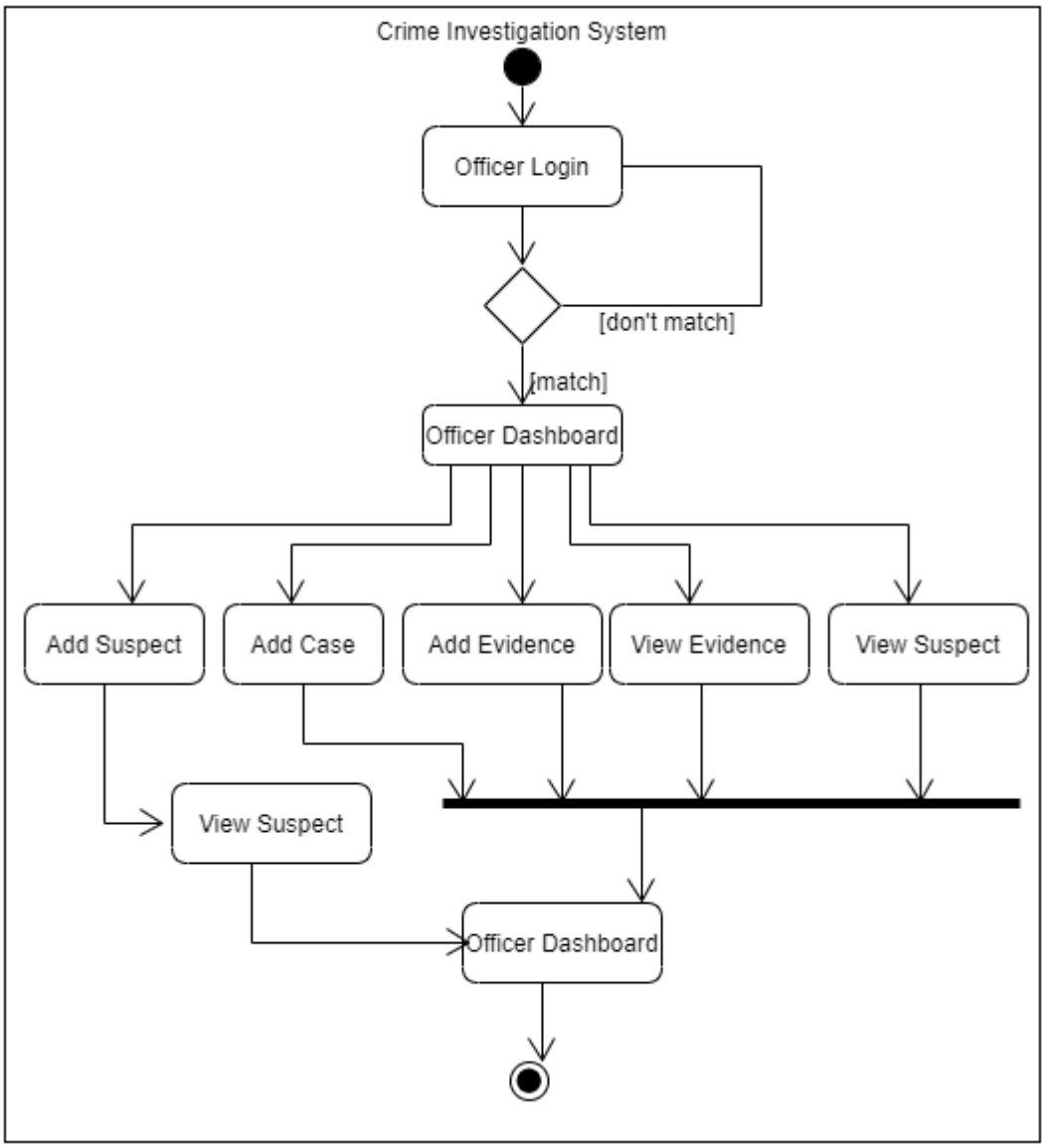
3.2.1 Add Case



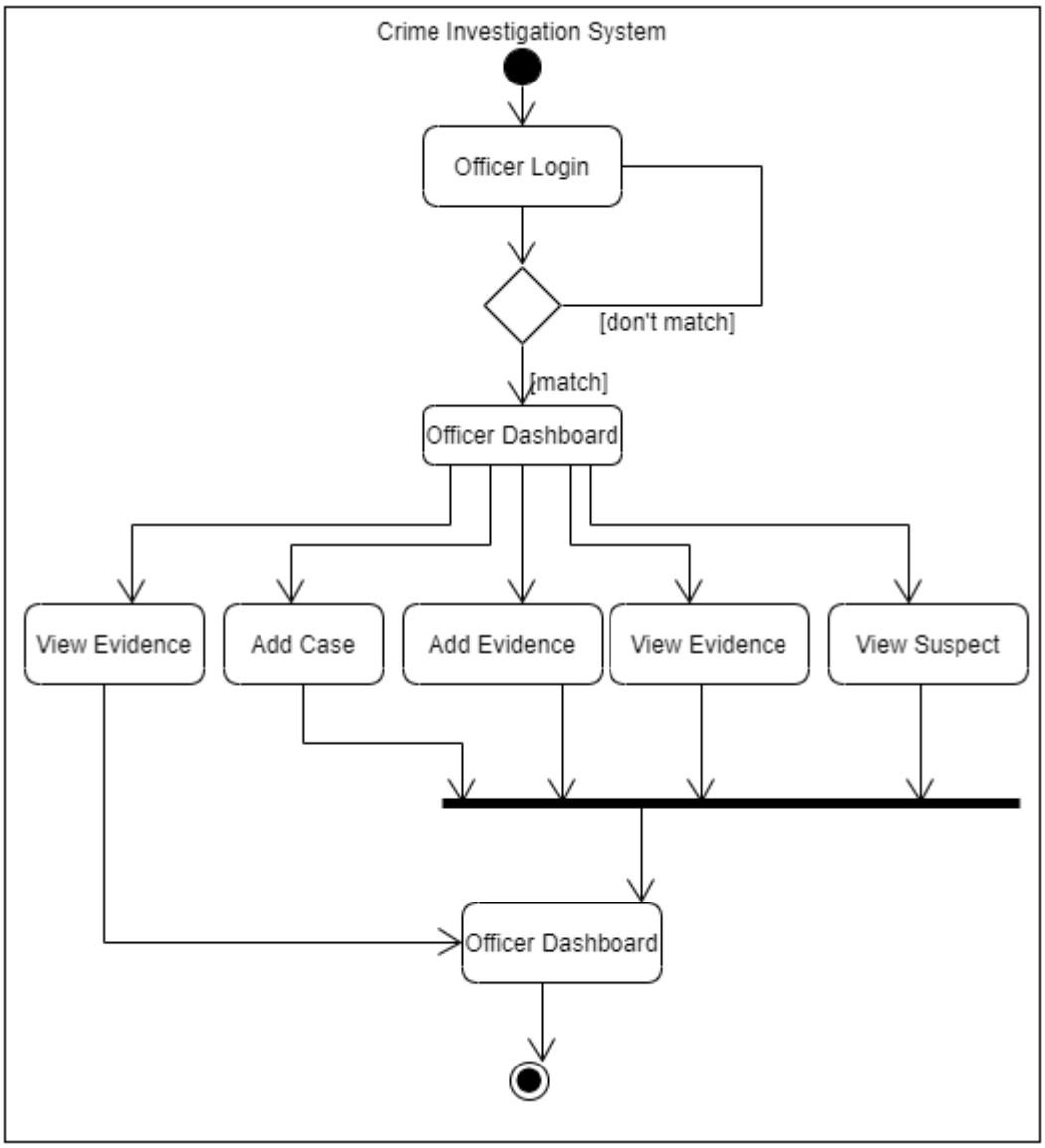
3.2.2 Add Evidence



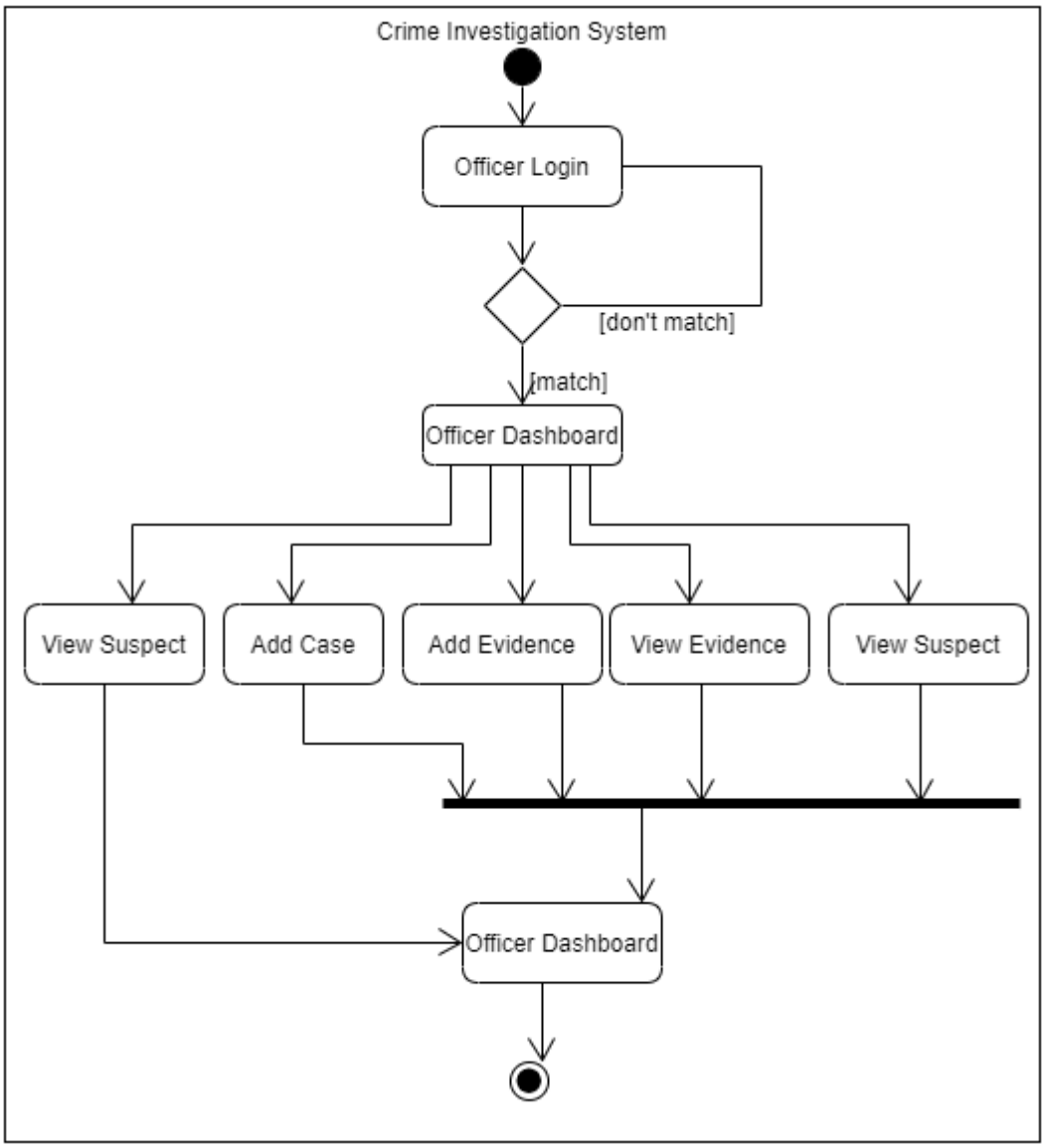
3.2.3 Add Evidence



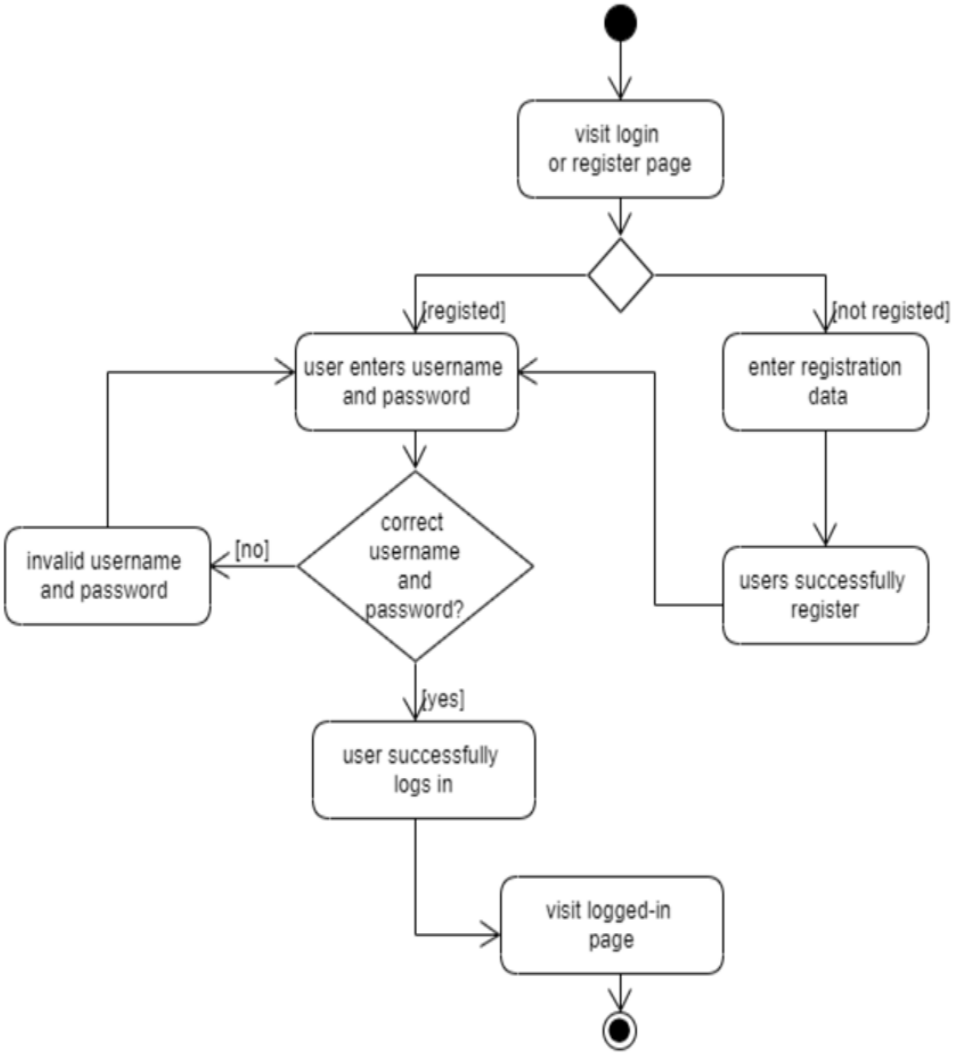
3.2.4 View Evidence



3.2.5 View Suspect

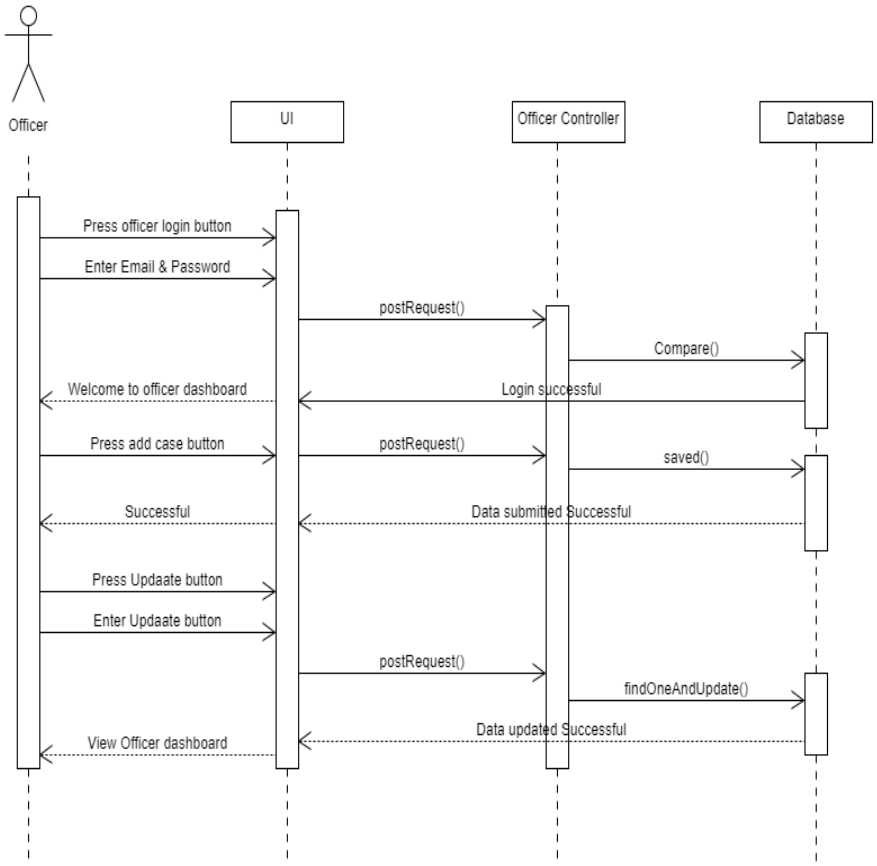


3.2.6 Login

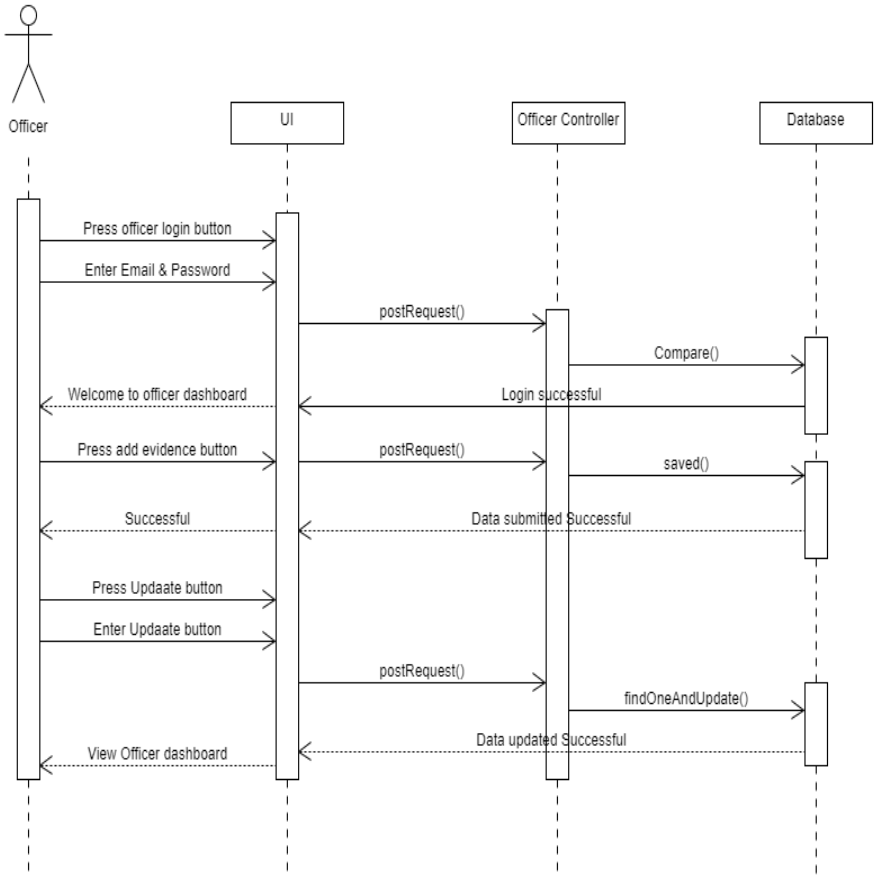

visit login
or register page
[registed]
[not registed]
user enters username
and password
enter registration
data
correct
username
and
password?
[no]
invalid username
and password
users successfully
register
[yes]
user successfully
logs in
visit logged-in
page

3.3 Sequence Diagram

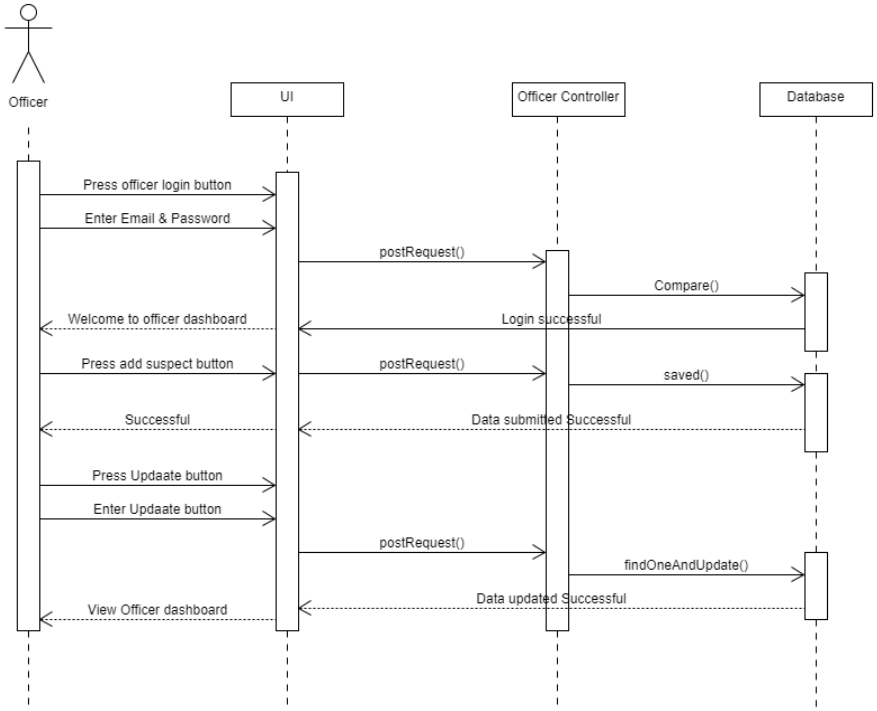
3.3.1 Add Case



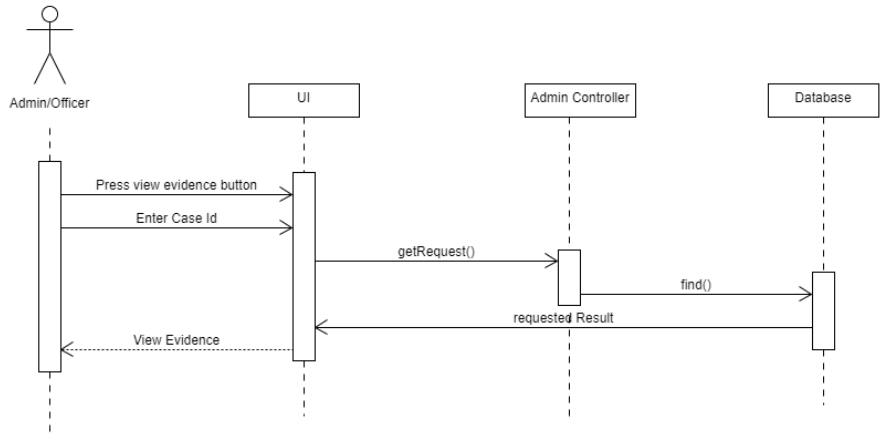
3.3.2 Add Evidence



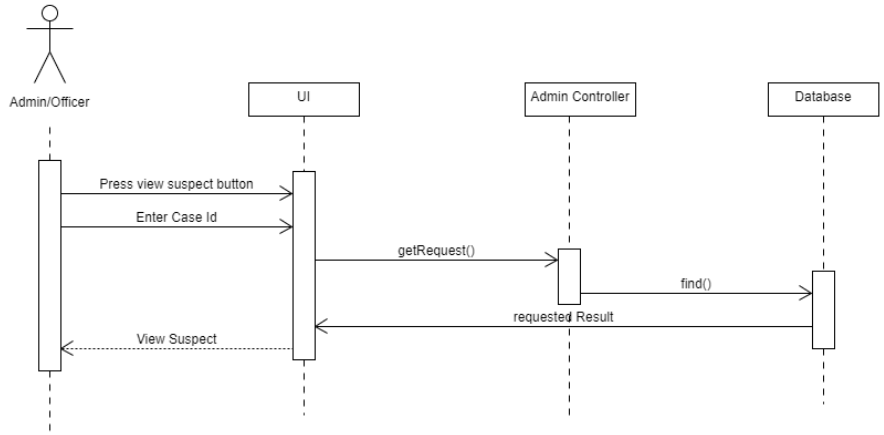
3.3.3 Add Suspect



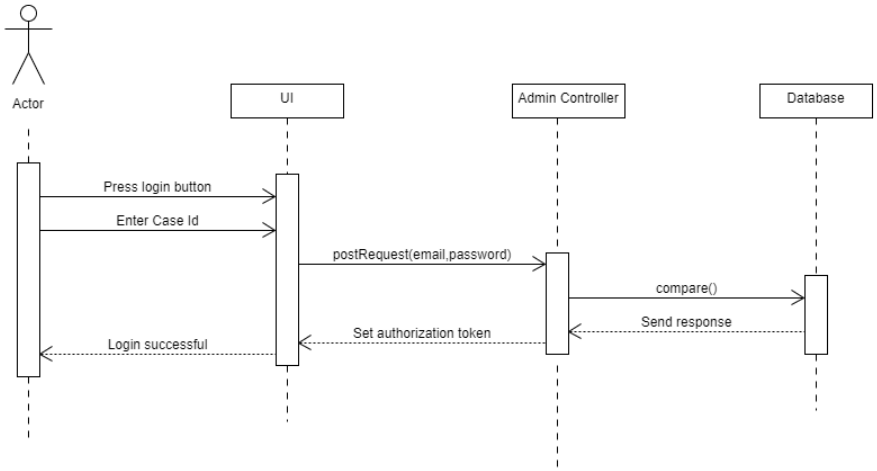
3.3.4 View Evidence



3.3.5 View Suspect



3.3.6 Login



Chapter-4
Technology & Tools

4 Technology & Tools

4.1 Development tools and technology

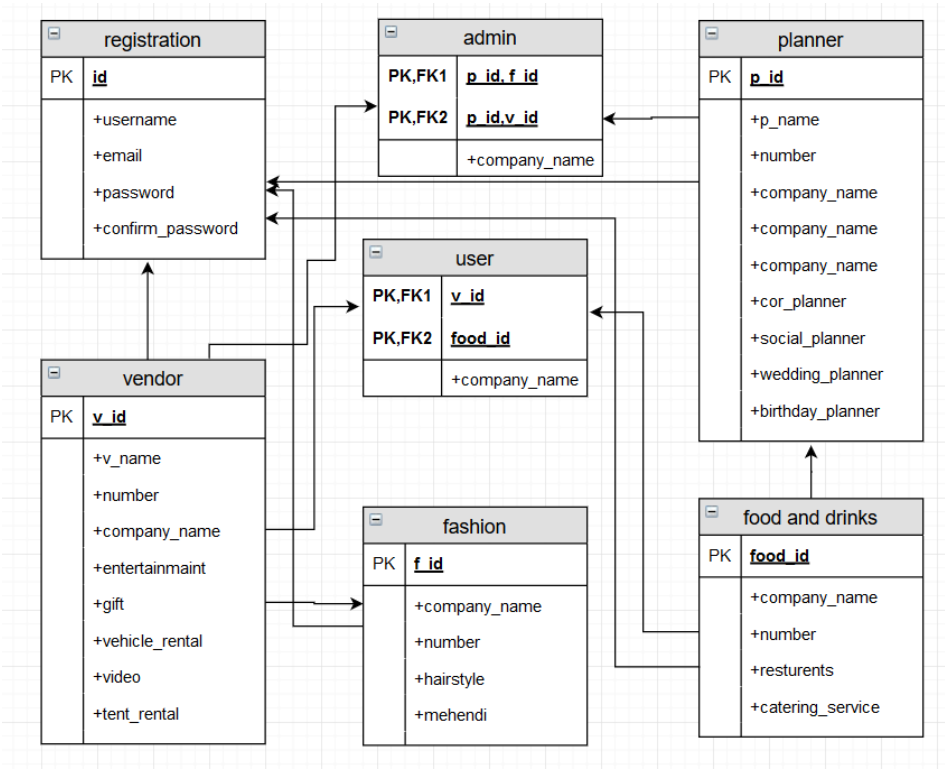
4.1.1 User Interface Technology

- Client Side: HTML, CSS, JS
- Server Side: PHP
- Database: MYSQLI

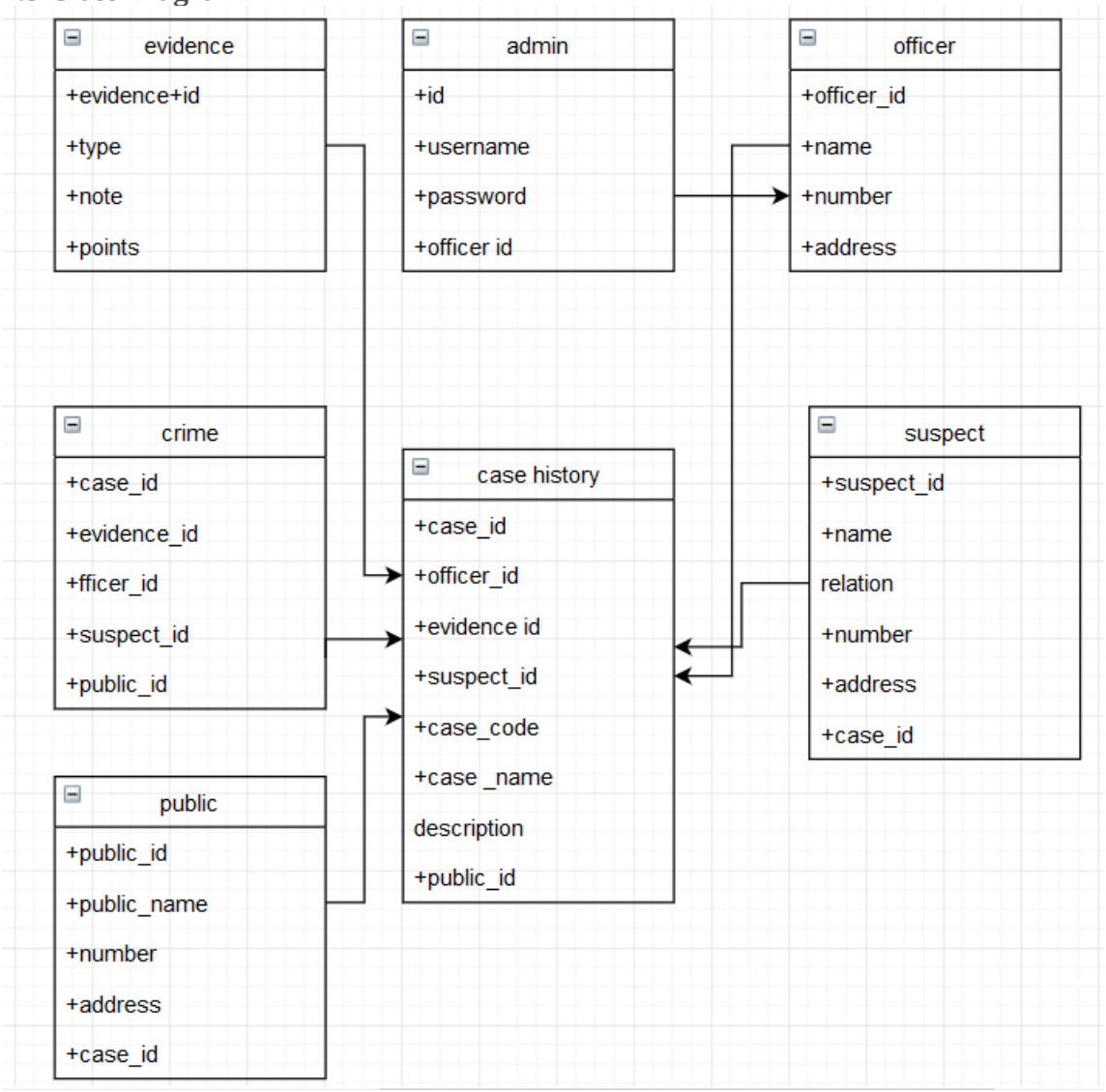
4.1.2 Implementation tools and platform

- IDE: NOTEPADE++
- OS: Windows

4.2 Database Design Diagram



4.3 Class Diagram



Chapter-5
Testing

5 **System Test**

5.1 Testing features

5.1.1 Features to be tested

Features	Priority	Description
Login	1	Authenticated user should be allowed
Logout	1	Session must be destroyed after logout
Public Registration	1	Only valid user information save into database properly
Add Case, Evidence & Suspect	1	User submitted information must be save into database properly
View Evidence	2	View user submitted information properly
Update Data	3	Update data all of case
Delete Data	2	Delete some data if you don't need
Update status	3	Make sure case are updated show result

Here,
1 = high priority,
2 = medium priority,
3 = low priority.

5.2 Testing Strategy

Testing strategy is a process which describes the software development cycle testing approach. Testing should justify the requirements and needs of stakeholders to succeed. It is made to inform project managers, developers and testers focus on some major issues of the testing process.

5.2.1 Test Approach

To complete the whole process testers must be taken some approaches

- Automation testing: Automation testing means use some automation tools to execute your test case suite. Nowadays this automation test approach uses most by the software company.
- Manual testing: Manual testing is the process of finding bugs or defects in a software program. The tester without using any automation tools manually executes test cases.

5.2.2 Black box testing:

Black box testing is known as a testing technique. The application under test is tested without knowing code structure and implementation details. Black box testing can be functional or non-functional. This method is used to find errors like incorrect or missing functions and

errors in data structures or database access.

5.2.3 White box testing:
White box testing is known as testing as testing of software solution internal structures, design, and coding. This testing also named as glass, structural, open box or clear box testing. When implementing white box testing the tester has to deal with the code and find out which unit or statement or chunk of the code is malfunctioning.

5.3 Pass/Fail criteria
Pass or fail criteria is prepared by test engineer on the basis of which input data is worked and which input data is not worked at all.

- If the system crash then it would be considered a failure case.
- If any criteria meet the requirements it would be considered as a pass case.
- If database data does not display properly then it would fail criteria.

5.4 Test schedule

Test phase	Time
Testing plan	6 days
Test specifications	8 days
Unit testing	During development time
Integration testing	6 days
Validation	During development time
Testing user interface	12 days
Testing software performance	14 days

5.5 Test environment
Testing environment means to prepare the environment with hardware and software for useful test cases. Some key points for the test environment:

- Hardware with an operating system.
- Network
- Database server
- Browser
- Documentation purpose(Configuration guide, User manual)
- Application or software
- Requirement
- Client operating system

5.6 Test Cases

A test case is a set of conditions that can help a tester whether a system under test works correctly or not. This process of test cases can help find problems in the requirements and design of a system. A test case contains test steps, test data, and post condition develop for specific test scenarios to verify problems.

Chapter-6
Manual

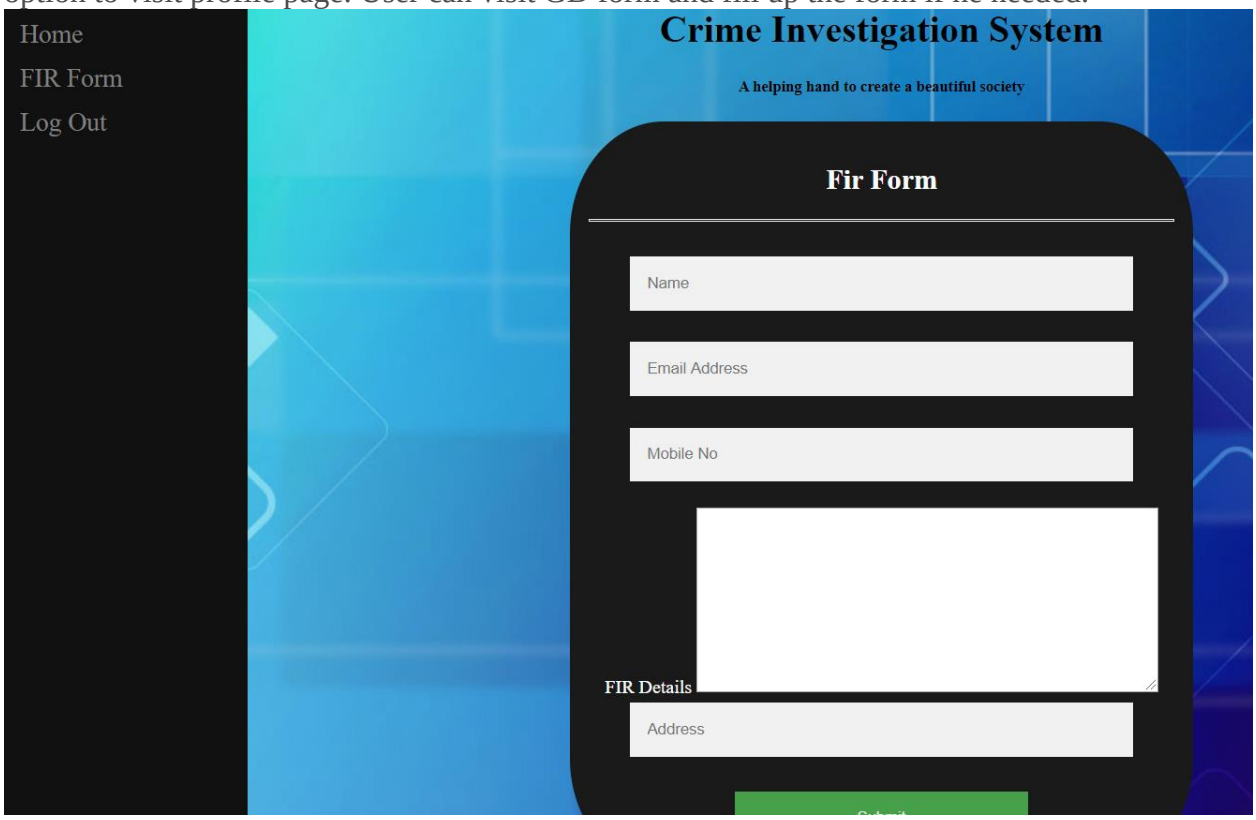
6 **User Manual**

6.1 Login panel

User first visit to the website then the login option. After visiting the login panel to need type valid email and password. If user are not register then must be registration before login. Then need to press the login button.

6.2 User panel

After successful login user redirected to profile page or after login user can choose profile option to visit profile page. User can visit GD form and fill up the form if he needed.

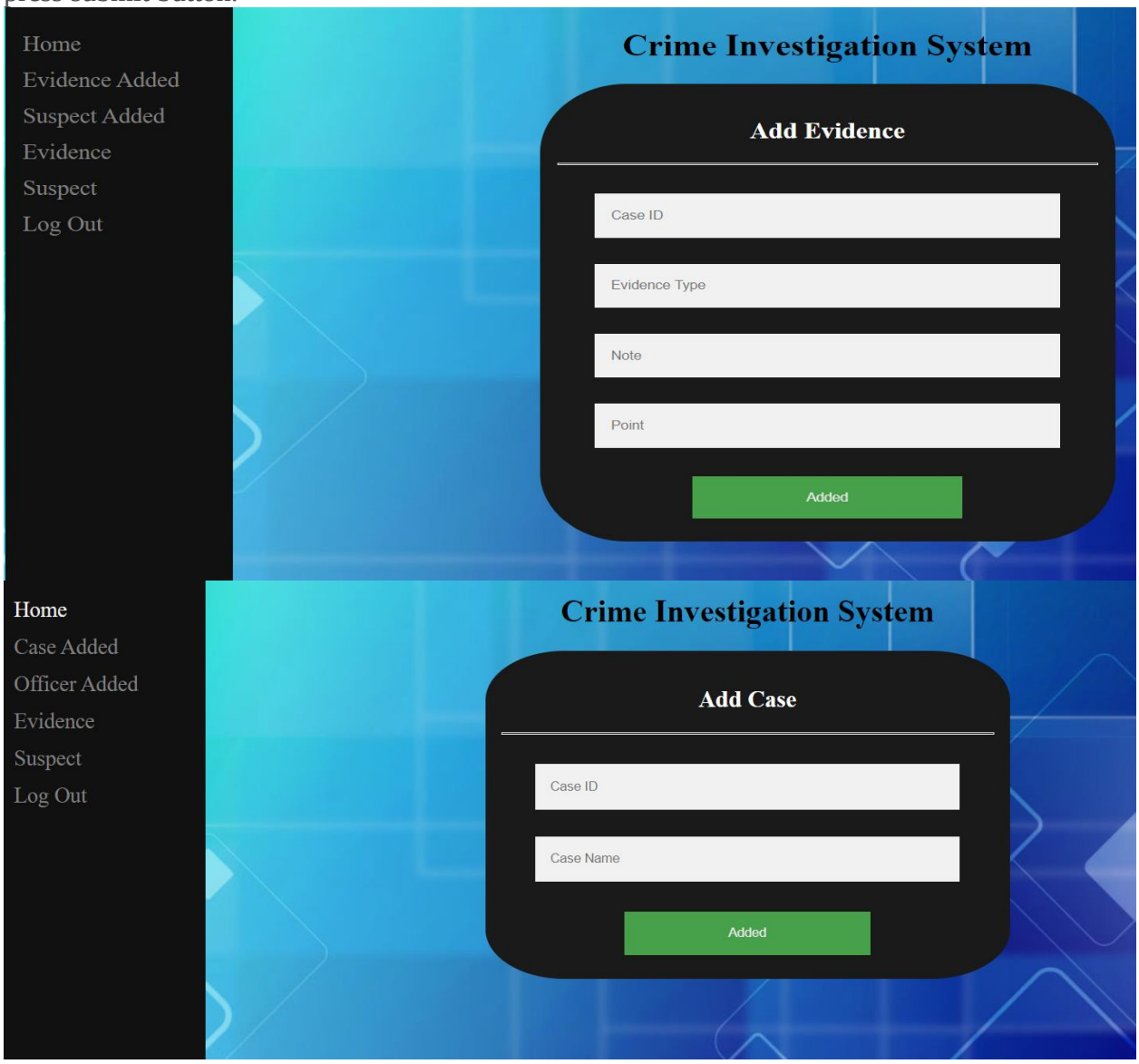


6.3 Officer Panel

Officer first visit to the website then the login option. After visiting the login panel to need type valid email and password. Then need to press the login button.

6.4 Submit information

After successful login officer can submit information. Officer need to enter information from the navigation bar then fill the form with valid data of evidence and suspect page and then press submit button.



Home
Evidence Added
Suspect Added
Evidence
Suspect
Log Out
Crime Investigation System
Add Suspect
Case ID
Suspect Name
Phone Number
Address
Relation
Note
Added

6.5 Admin Panel

After visiting the website select admin login. After successful login system redirected to admin dashboard.

Chapter-7
Conclusion

7: **Conclusion**

7.1 Project Summary

It has been a great pleasure for me to work on this exciting and challenging project. This project proved good for me as it provided practical knowledge of not only programming in PHP based SQL server, but also about all handling procedure related with **"Crime Management"**. It also provides knowledge about the latest technology used in developing web enabled application and client server technology that will be great demand in future. This will provide better opportunities and guidance in future in developing project independently.

7.2 Limitations

There are some limitations in this project. This is website version there is no desktop or android version for this project. User submitted information is manually validated by admin but there is no system auto validation.

7.3 Obstacles $ Achievements

While developing this project I face few challenges. While developing the project requirements I visit some website which is very helpful for me, I learned a lot of things from documentations. Obstacles, challenges and achievements are like a path to reach a goal. My supervisor helped me a lot from the very beginning to develop this project.

7.4 Future Scope

I tried to make this project satisfactory. When developing this project I face some problems and I tried to solve those problems which may help me in the future when I develop another project. In the near feature this system help Bangladeshi people any kind of crime help.

- Emergency help
- Google Map
- Chat Box.

7.5 References

When developing this project I learned a lot from some platforms.

[1]About HTML & CSS methodology, available at < https://www.w3schools.com>; last accessed on 17.11.2019, Time: 6:15pm

[2] About JavaScript methodology, available at < https://www.javascriptmancy.com>; last accessed on 29.11.2019, Time: 8:15pm

[3] About feasibility study, Available at < http://womeninbusiness.about.com/od/businessplans/a/feasibilitystud.htm >; last accessed on 01.12.2019, Time 10:50 am.

[4] About Bootstrap methodology, available at < https://getbootstrap.com>; last accessed on 30.11.2019, Time: 8:15pm