Superior University Lahore

PUNJAB POLICE WEB PORTAL

Version 1.0

Project Supervisor

SIR WAQAS ASGHAR

TEAM MEMBERS:

Shahid Mehmood	**MCSM_f14_006**
Muhammad Habib	**MCSM_f14_005**
Basharat Ali	**MCSM_f14_029**
Muawiz Bilal	**MCSM_f14_028**

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1.1 Project Title

Punjab Police Web Portal

1.2 Project Overview Statement

Punjab police is suffering from the problems like keeping the record manually that result in wastage of time. It is difficult to locate areas having more number of crimes so we are developing "Punjab Police Web Portal (PPWP)".

This system is basically an online system. This will automate the police department and will sort out problem faced by both the common people and police in the conventional system belonging to any area of Punjab.
The system will recommend the best and fast way to proceed on complains. This system will be better and efficient rather working manually. The system provides Google map facility to locate the areas where crimes were reported.

1.3 Project Overview Statement Template

Project Title: Punjab police Web Portal.

Group Leader: Shahid Mehmood

Project Members:

Name	Registration #	Email Address	Signature
Shahid Mehmood		Honeych410@gmail.com	
Muhammad Habib		Mian.habib009@gmail.com	
Basharat Ali		Basharatalig306@gmail.com	
Muawiz Bilal		muawizbilal@gmail.com	

Project Goal: Designing a technology oriented automated website for ease in complaining against crimes and be optimizing both time and money for every end user by avoiding paper work.

Objectives:

Sr.#	
1	Urgent complain registration
2	Privacy management.
3	Fast access to complaining
4	Keeping every end user up to date about crime statistics.
5	Keeping every end user up to date about crime status.
6	Area categorization for crimes through Google map

Project Success criteria: Proper implementation of mentioned features will create comfort zone for end user to complain against police or about any crime.

Assumptions, Risks and Obstacles:

- Current semester is short or may be the next one will also be short so we would be unable to complete all our features.
- No confirmation for getting actual NADRA's data.
- No confirmation for getting actual data from police station.

Organization Address (if any): CS&IT Superior University Lahore

Type of project: ❑Research ❑Development
Target End users: • Common people of Punjab
Development Technology: ❑Object Oriented ❑Structured
Platform: ❑Web based ❑Distributed ❑Desktop based ❑Setup Configurations ❑Other_____
Suggested Project Supervisor: Waqas Asghar
Approved By:
Date:

1.4 Project Goals & Objectives

1.4.1 Goals:

Designing a technology oriented automated website for ease in complaining against crimes and be optimizing both time and money for every end user by avoiding paper work. This system will be better and efficient rather working manually. The system provides Google map facility to locate the areas where crimes were reported.

1.4.2 Objectives:

Designing an online system that will possess the following features;

- **Urgent complain registration**
  Can be made against police, overseas and common people. So that police can take action against crime instantly.
- **Privacy management**
  Through every person is given a unique serial number against the FIR registered so that no other person can access his/her personal data.
- **Crime statistics**
  In every end user will stay up to date about the number of crimes reported in specific time.
- **Complain status**
  Through keeping the department will stay up to date about the number of complains registered against their officers and department?

1.5 High-level system components

Given below is a list of high level system components or the modules underlying the basic functionality which we commit to implement?

1.5.1 About us

Police information and messages of higher officers like chief minister or central police officer (CPO)

1.5.2 Complain Registration

Complain registration includes three kinds of complains

- FIR registration
- Complain registration against police officers for misbehaving or not taking action on complain at time
- Complain registered by overseas or against overseas

1.5.3 Crime statistics

In crime statistics each crime is categorized with its total count and is also maintained count of fake reports

- **Complain Status**
  Through complain number and CNIC we can identify that our complaint is under investigation, rejected or in progress.
- **Culprit sketch**
  An eye witness can provide the sketch of culprit along with the complain
- **Feedback**
  Every end user can give feedback about working of this system.
- **Police news and events**
  Top breaking news about police will be highlighted and photo gallery will be kept up to date.
- **Area categorization through Google map on basis of crime rate**
  A facility to specify the location where crimes were reported the most.

1.6 List of optional functional units

1.6.1 Recruitment management

This feature manages all latest news about vacancies in police department for job seekers, test schedules and application forms.

1.7 Exclusions

1.7.1 Arrest and Bail management

In this further procedure of investigation is handled that how and when culprit was arrested and when he got bail,
Bail type and either his/her case are in progress or not.

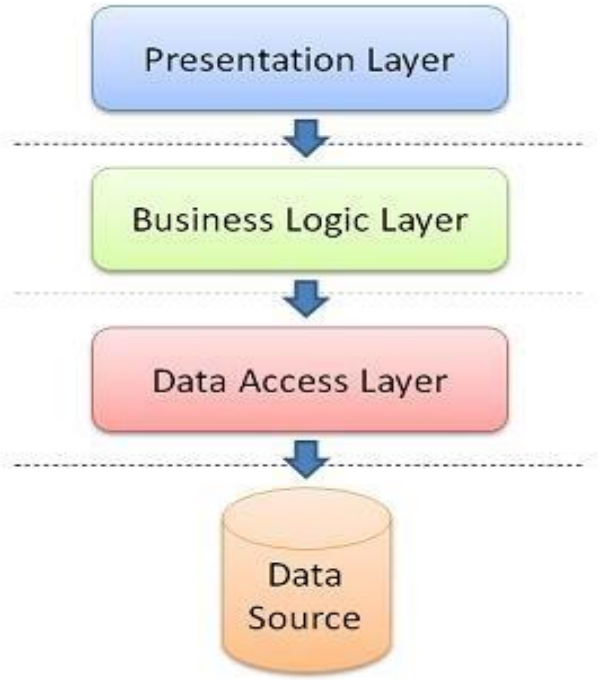
1.7.2 Case handling

Further procedure after reporting the complaint such as when culprit is taken to the court and further court procedures is handling here in this management.

1.8 Application Architecture

Our application will follow n-Tier architecture, where n=3
i.e.; it will be a 3 Layered Arch.

- Presentation Layer
- Business Logic Layer
- Data Access Layer



1.9 Hardware and Software Specification

1.9.1 Software

- Operating system: Windows must be XP or above.
- DBMS SQL server
- Browser: Firefox or chrome

1.9.2 Hardware

- PC with processor P4 and above

- RAM at least 1GB
- Secondary memory at least 30GB

1.10 Tools and technologies used with reasoning

1.10.1 Tools

- Microsoft project professional 2013 for designing charts
- Adobe Dreamweaver MX for writing web pages
- Microsoft SQL server for database
- Microsoft Visio 2013 for drawing diagrams
- Coral draw for graphic designing.
- Web browser for testing.
- Rational Rose for diagram.
- Google map for Location allocation.
- Microsoft Visual Studio 2012
- Microsoft word 2010

1.10.2 Technology

- HTML 5.0 /XHTML for webpage writing.
- CSS for applying style.
- Java script (J Query) for client side language.
- C # for developing web pages.
- ASP.NET MVC 4 for web developing.

Superior University Lahore

First Deliverable

Version 1.0

Punjab Police Web Portal

TEAM MEMBERS:

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1.11 Introduction

Punjab police is working manually these days .It is difficult to keep the record of the whole data manually and to locate areas having more number of crimes so we are developing "Punjab Police Web Portal (PPWP)".This system is basically an online system. The system will recommend the best and fast way to proceed on complains. This system will be better and efficient rather working manually. The system will also provide the Google map facility to locate the areas where crimes were reported the most.

1.12 Project/Product Feasibility Report

There are many types of feasibilities:

- Technical
- Operational
- Economic
- Schedule
- Specification
- Information
- Motivational
- Legal and Ethical

1.12.1 Technical Feasibility

It is an era of technology in which we have different type of technology available for developing excellent applications. Almost all of the real life applications are developed in Object Oriented Paradigm and require different type of technologies for development. In our current application we also require different technologies which are listed below.

ASP.Net ⇨ Used for server side development
Entity framework ⇨ Used for model binding
ASP.Net MVC ⇨ Used for developing three tier applications
Restful services ⇨ Used to respond request from client
HTML ⇨ Used for developing front end design
CSS ⇨ Used for designing front end design
JAVA Script ⇨ Used for client side validation
Jason ⇨ Way of Getting Response from Server
Xml ⇨ Used for developing android user interface

Our team members are familiar with these tools features. So it is technically feasible to work with these tools on our project.

1.12.2 Operational Feasibility

Our basic purpose is to provide easy way for complaint. User can make complaint against anyone using internet by sitting at home. Our systems also provide the facility of culprit's sketch. And Google map for checking the most crime committed area. And complain status for checking the complaint current status. All this results in time and money

saving. Using different tools and technologies with a focus on and this will make website easy to be used by end-users. Means it will be user friendly.

1.12.3 Economic Feasibility

For the evaluation of the effectiveness of the project Economic Analysis is mostly used. Cost Estimations are provided through FP Analysis technique in this deliverable. We are not using any costly software or hardware for our project. Any user can use this website by using high speed internet. It is very effective for users in term of saving time and money. It will require less number of person and resources to registers complaints.

1.12.4 Schedule Feasibility

The time given to complete the Project is almost 4 months. We are capable to complete the Project with in available time with available resources and staff. We will follow the deadlines given by project office (for Project's different phases like D1, D2 and so on).

1.12.5 Specification Feasibility

This system is basically an online system. This will automate the police department and will sort out problem faced by common people.

1.12.6 Information Feasibility

Information required for the development of this project is available on web. Many online examples of foreign countries are also provided which are very helpful and provide reliable information. We can take help from the KPK system.

1.12.7 Motivational Feasibility

We are preparing an online application, no need to install any extra device for use. You can easily use it from anywhere using the internet. This helps in saving time and money.

1.12.8 Legal & Ethical Feasibility

Our project meets the entire legal and ethical requirement. An ethical behavior for a website during its developments means not to use pirated versions of software, as we are using open source tools and technologies so there no chance of illegal activity in this project.

1.13 Project/Product Scope

- Designing a technology oriented automated website for ease in complaining against crimes to avoid paper work.
- This system will be better and efficient rather working manually.
- The system will provide Google map facility to locate the areas where crimes were reported.
- Keeping Crime statistics every end user will stay up to date about the number of crimes reported in specific time.

1.14 Project/Product Costing

We are doing project cost estimation by using function point analysis, which is mention as below in detail.

1.14.1 Project Cost Estimation by Function Point Analysis

Serial Number	Inputs	Complexity
1	Register FIR	High
2	Register complaint against police	High
3	Register complain for overseas	High
4	Check Complain Status	Medium
5	Give sketch	Low
6	View police history	Medium
7	View Crime statistics	Low
8	View Google map	Low
9	Upload Picture	Medium
10	News feed Picture	Medium
11	Update Police news	Low
12	Update Official Message	Low

Serial Number	Outputs	Complexity
1	Main Menu	Medium
2	FIR Form	High
3	Police complain Form	High
4	Overseas complain form	High
5	Google map	Low
6	Crime statistics	Low
7	Complain Number	Medium
8	Received Complains	High
9	Form to check complain status	Medium

Serial Number	Inquiries	Complexity
1	Action Buttons	Low
2	On click functions	Medium
3	Check complains	Medium
4	View Police Info	Low
5	View Police History	Low

6	View complain status	High

Serial Number	**Files**	**Complexity**
1	Dynamic Objects	High
2	Static Bars	Medium
3	Upload Images	Low
4	Fir Registration	High
5	Registration Of complain against police	High
6	Registration of complain for overseas	High
7	Server Configuration	Medium
8	Compatible of Browser	Low

Types of the components	**Complexity**			
	Low	**Medium**	**High**	**Total**
External Inputs	5*3=15	4*4=16	3*6=18	49
External outputs	2*4=8	3*5=15	4*7=28	51
External Inquiries	3*3=9	2*4=8	1*6=6	23
Internal Logical files	2*7=14	2*10=20	4*15=60	94
External interface files	5*5=25	5*7=35	3*10=30	90
Total number of unadjusted function points				307

1- Data Communication 4
2- Distributed data processing 3
3- Performance 4
4- Heavily used configuration 3
5- Transaction rate 4
6- On-Line data entry 4
7- End-user efficiency 5
8- On-Line update 3
9- Complex processing 3
10- Reusability 5

11- Installation ease	2
12- Operational ease	3
13- Multiple sites	2
14- Facilitate change	3

FP est. = Count Total * [0.65 + 0.01 * (Fi)]
Total Degree of influence = 48
Value Adjusted factor = (48*0.01) + 0.65=1.13
Total Adjusted Function Points = 307*1.13=346.91
FP est. =346.91

Productivity = 20 FP/per month
Labor rate=30,000 PRS
Cost / FP = labor rate / productivity parameter
30000/20=1500 PRS
Total Project Cost = FP est. * (cost / FP)
346.91*1500=520365 PRS
Total Estimated Effort = FP est. / productivity parameter
346.91/20=17.345 person Month

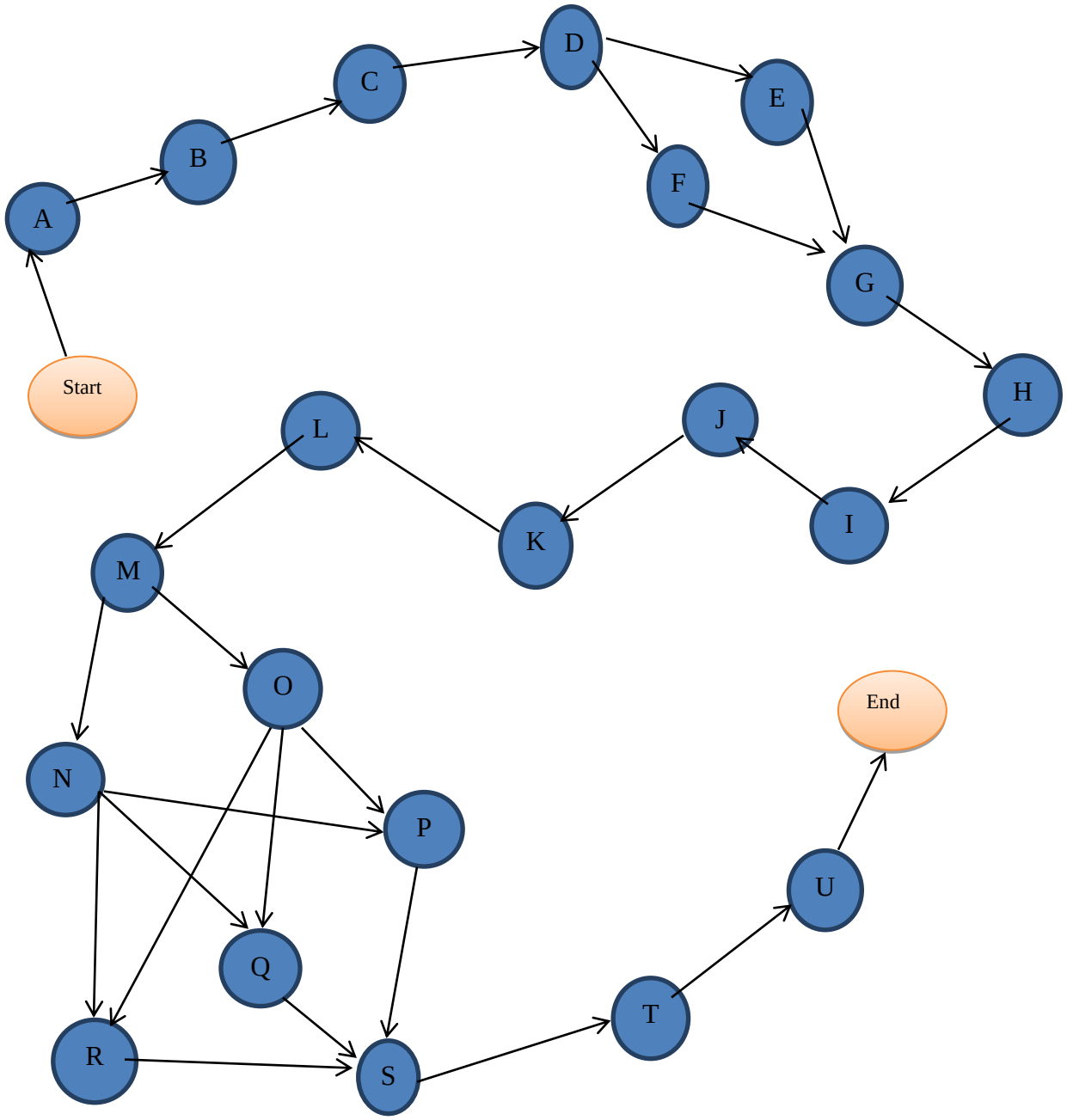
1.15 CPM - Critical Path Method

Activity	Original Activity
A	Requirement Gathering
B	Proposal
C	Costing
D	CPM
E	Define Use Cases
F	Define high level component
G	Project feasibility
H	Use Case Elaboration
I	Sequence Diagram
J	Collaboration Diagram
K	Domain Model
L	Design Class diagram
M	Data Model
N	Complain Module Coding
O	Complain Status Module Coding
P	Crime Statistics Module Coding
Q	Google Map Module Coding
R	Culprit Sketch Module Coding
S	Integration
T	Project Review
U	Testing and Deployment

Activity	Immediate Predecessor	Duration (Days)
A	None	3
B	A	7
C	B	15
D	C	15
E	D	7
F	D	7
G	E,F	7
H	G	7
I	H	3
J	I	4
K	J	3
L	K	1
M	L	1
N	M	12
O	M	12
P	N,O	10
Q	N,O	10
R	N,O	10
S	P,Q,R	1
T	S	1
U	T	2

Activity	Duration	ES	EF	LS	LF	TS	Predecessor
A	3	0	3	0	3	0	None
B	7	3	10	3	10	0	A
C	15	10	25	10	25	0	B
D	15	25	40	25	40	0	C
E	7	40	47	40	47	0	D
F	7	40	47	40	47	0	D
G	7	47	54	47	54	0	E,F
H	7	54	61	54	61	0	G
I	3	61	64	61	64	0	H
J	4	64	68	64	68	0	I
K	3	68	71	68	71	0	J
L	1	71	72	71	72	0	K
M	1	72	73	72	73	0	L
N	12	73	85	73	85	0	M
O	12	73	85	73	85	0	M
P	10	85	95	85	95	0	N,O
Q	10	85	95	85	95	0	N,O
R	10	85	95	85	95	0	N,O
S	1	95	96	95	96	0	P,Q,R
T	1	96	97	96	97	0	S
U	2	97	99	97	99	0	T

1.16 Network Diagram



A->B->C->D->E->G->H->I->J->K->L->M->N->R->S->T->U

1.17 Introduction to Team member and their skill set

Name of the Group Member

Name	@mail address	Authority	Skills
Shahid Mehmood	Honeych410@gamil.com	Group leader	coding
M.Habib	Mian.habib009@gamil.com	Coordinator	(CSS/html)
Basharat Ali	Basharatalig306@gamil.com	Coordinator	Ajax jQuery JavaScript)
Muawiz Bilal	MuawizBilal@gamil.com	Coordinator	Database handling

1.18 Tools and Technology with reasoning

1.18.1 Tools

Visual studio 2012 ⇨ Used for server side development

SQL Server ⇨ Used for database management

1.18.2 Technologies

ASP.Net ⇨ Used for server side development

Entity framework ⇨ Used for model binding

Web API ⇨ Used for creating web services

ASP.Net MVC ⇨ Used for developing three tier applications

Restful services ⇨ Used to respond request from client

HTML ⇨ Used for developing front end design

CSS ⇨ Used for designing front end design

JAVA Script ⇨ Used for client side validation.

Ajax ⇨ Used for A synchronic Call

Jason ⇨ Way of Getting Response from Server

MS word ⇨ Used for Documentation

1.19 Project Overview Statement

Punjab police is suffering from the problems like keeping the record manually that result in wastage of time. It is difficult to locate areas having more number of crimes so we are developing "Punjab Police Web Portal (PPWP)".This system is basically an online system. This will automate the police department and will sort out problem faced by both the common people and police in the conventional system belonging to any area of Punjab.

The system will recommend the best and fast way to proceed on complains. This system will be better and efficient rather working manually. The system provides Google map facility to locate the areas where crimes were reported.

1.20 Project Overview Statement Template

Project Title: Punjab police Web Portal.

Group Leader: Shahid Mehmood

Project Members:

Name	Registration #	Email Address	Signature
Shahid Mehmood		Honeych410@gamil.com	
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Objectives:

Sr.#	
1	Urgent complain registration
2	Privacy management.
3	Fast access to complaining
4	Keeping every end user up to date about crime statistics.
5	Keeping every end user up to date about crime status.
6	Area categorization for crimes through

Project Success criteria: Proper implementation of mentioned features will create comfort zone for end user to complain against police or about any crime.

Assumptions, Risks and Obstacles:

- Current semester is short or may be the next one will also be short so we would be

unable to complete all our features.

- No confirmation for getting actual NADRA's data.
- No confirmation for getting actual data from police station.

2.0 Project Goals & Objectives

2.0.1 Goals

Designing a technology oriented automated website for ease in complaining against crimes and be optimizing both time and money for every end user by avoiding paper work. This system will be better and efficient rather working manually. The system provides Google map facility to locate the areas where crimes were reported.

2.0.2 Objectives

Designing an online system that will possess the following features;

- **Urgent complain registration**
  It can be made against police, overseas and common people. So that police can take action against crime instantly.
- **Privacy management**
  Through every person is given a unique serial number against the FIR registered so that no other person can access his/her personal data.
- **Crime statistics**
  In every end user will stay up to date about the number of crimes reported in specific time.
- **Complain status**
  Through keeping the department will stay up to date about the number of complains registered against their officers and department?

2.1 Business Opportunity

Punjab police web portal is much needed for the public. All the people now a day, wants to register their complaints urgently and wants a prompt reaction. This application will help to implement these rules in an easy and secure way. People will find it easy and simple to register their complaint.

2.2 Problem Statement

The problem of	Not to follow the instructions about providing your personal information asked on the complaint form.
The impact of which is	The police will not be able to forward the incomplete compliant to the specific police station.
A successful solution would be	To define some checks on the form so that the user may not leave it incomplete.

2.3 Product Position Statement

For	Common people/admin /police
Who	It is being made for those who need to submit their complaint easily by sitting at home.
The (Technical Text Surfer)	Is a web based application.
That	This application will provide an easy way to make a complaint effective and mistakes free and to register quickly.
Unlike	Unlike manually implementing FIR it is quite easy.
Our product	Is more helpful and easy to use

2.4 Stakeholder and User Description

The Stakeholders involve in this product are Development Team, common people, police and admin.

2.5 Market Demographics

There was no such application in Punjab which can be used to make a complaint online. So, the need of hour was to have such application which allows the users to easily register their complaint sitting at their homes.

2.6 Stakeholder Summary

Name	Description	Responsibilities
Application development Team	Application development team will develop the software	Application development team will ensure that the application will be user friendly. There will be market demand of this software because it has some easy, different and innovative features

2.7 User Summary

Name	Description	Responsibilities	Stakeholder
Common people	They will use the application	They will make Urgent complain registration and can check Crime statics etc.	Users

2.8 User Environment

- Users can make complaints.
- Users can give feedback.
- User can also complain against police.

2.9 Product Overview

2.9.1 Product Perspective

Our Application will provide many features to manage complaint efficiently. Users will have privileges to use different features and to give us feedback to improve our performance. This application will be much easier to use.

2.9.2 Assumptions and Dependencies

- The running of the application will depend on the speed of internet.
- No such dependences occur in our project.

2.9.3 Cost and Pricing

The application will be available free of cost on Internet. User can access this application over WEB.

2.10 Key High Level Goals and Problems of Stakeholders

High-Level Goal	Priority	Problems and Concerns	Current Solutions
This application will provide facility of online police station in Punjab.	High	Manual System is not an efficient way to make complaints and keep the record.	To give users facility to make complaint at home. Check the complaint status and police news feed.

2.11 User-Level Goals

The users will visit our website in order to register his/her complaint.

2.12 Summary of System Features

- Urgent complaint registration
- Fast access to complaining
- Keeping every end user up to date about crime statistics.
- Keeping every end user up to date about complaint status.
- Area categorization for crimes through Google map.
- Culprit sketch.

2.13 Other Product Requirements

- File size can be maximum 1MB
- The system will have security mechanism to fulfill the security requirements of the product.

2.14 Documentation Requirements

- This application will provide complete hierarchy to guide about the system.
- There will be online feedback mechanism.
- The GUI of the system will be user friendly and easy to use.
- Tooltips usage actions for icons.
- This application will provide complaint form for which particular information will be necessary.

2.15 Risk List

2.15.1 Server Failure

The biggest risk is that the server may fail at the mid of the project.

2.15.2 Database failure

There could be a risk of database failure in the project.

2.15.3Technology

Components that may be difficult to extend with new capabilities or may fail after a short time.

2.15.4 Cost Forecasts are Inaccurate

Inaccurate cost estimates and forecasts.

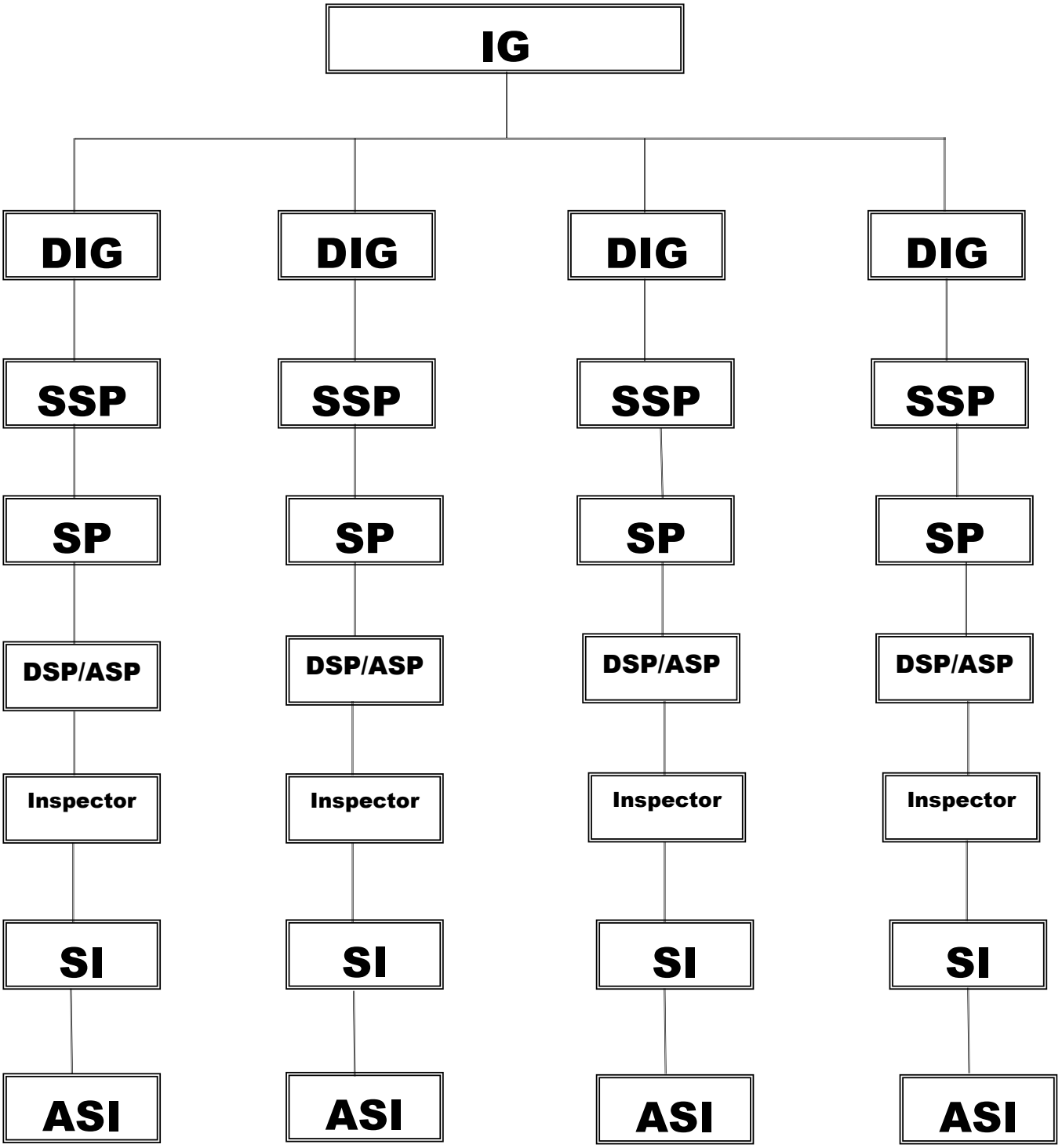
2.15.5 Estimates are inaccurate

Inaccurate estimate is a common project risk.

2.15.6 Failure to integrate with systems

The risk that your product will fail to integrate with existing systems.

2.16 Organizational Chart



2.17 Summary of Requirements: (Initial Requirements)

The purposed system must fulfill following requirements as follow:

2.17.1 Register Complaints:

A user can make complaint against any person. The user will Visit our website to fill the complaint form .The user need to fill the provided form will the required information. There could be three types of complaints. FIR registration*:* A FIR could be registered against any person .In this complaint will make complain and get complain number against it through which he can track its complaint progress.

Complain registration against police officers for misbehaving with common person or for not taking action on the registered complain after a specific time of period. Complain registered by overseas or against overseas. The overseas can also make complaints against police.

2.17.2 Crime Statistics Management:

In crime statistics each crime is categorized with its total count and is also maintained the count of fake reports. The crime statistics includes the count of crimes like murders, thefts, kidnap cases, and bomb blasting. The count of illegal weapons found in rate is also kept.

2.17.3 Complain Status Tracking:

A user can check the status of his complaint. Through the complaint number generated against the complaint registered by the user and the users CNIC. The user can also come to know about its complaint status that whether his complaint is under investigation, rejected or in progress. A particular time will also be mentioned there so that if no working has been started on the registered complaint in that time the complainant can also make complaint against the officers or can give us feedback.

2.17.4 Culprit sketch:

Our system will provide the facility of providing an eye witness can plot/draw the sketch of culprit along with the complaint which can be helpful for police officers for identifying culprits. This will not be necessary for every complaint.

2.17.5 Google map:

The facility of area categorization through Google map on basis of crime rate will also be given .A facility to specify the location where crimes were reported the most so it will make easier for police to identify that which areas has more crime reports till now so useful step can be taken to stop the crimes there. It will help the police department to improve their performance by taking certain steps in that particular area.

2.18 Identifying External Entities or Actors

The external entities will be

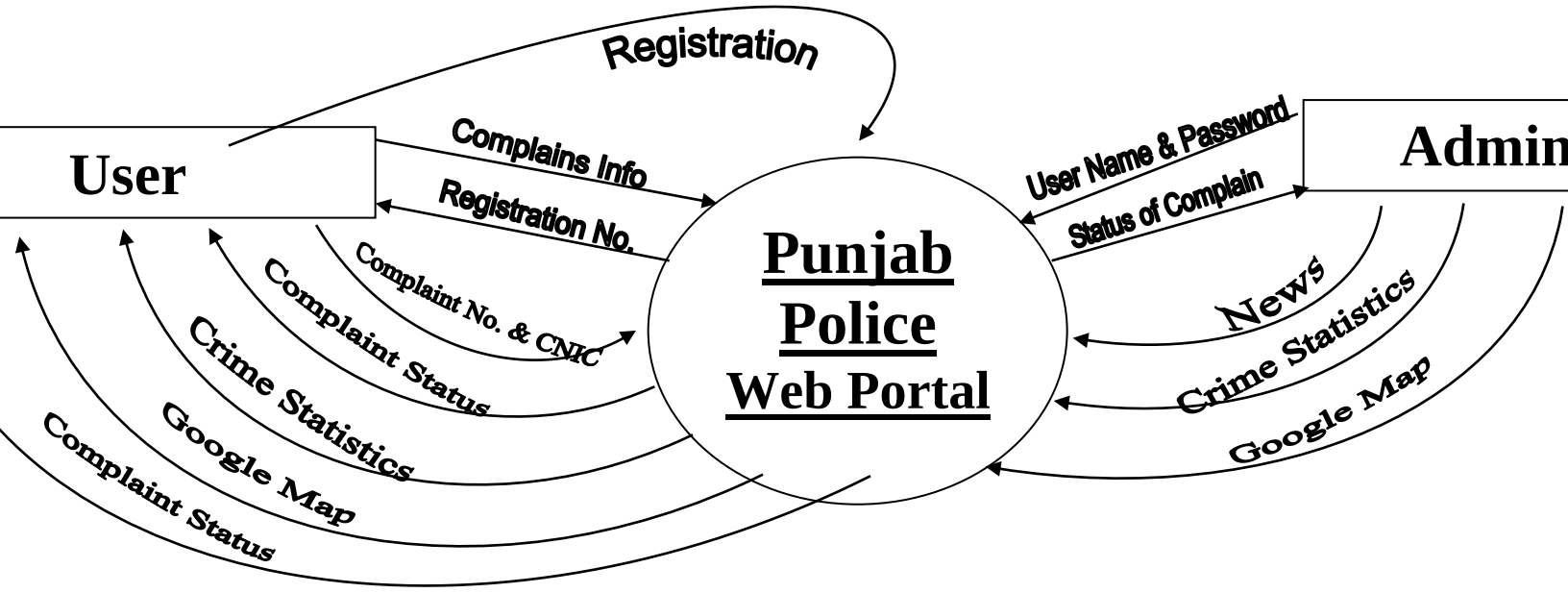
- **end users:**
  End users can be any common person of Punjab.
- **Administrator:**
  Handel the overall system.

2.19 Capture "shall" Statements and the external entities (Actors)

There are only two main actors in our system.

- User
- Admin

2.20 Context Level Data Flow Diagram



3.0 Capture "shall" Statements

Para #	External entity	Initial Requirements
1.0	User	A user “shall” register complain.
1.0	User	A user “shall” use his generated complain no to check his complain status.
1.0	User	A user “shall” visit our website to change his/her information about complaint.
1.0	Admin	An admin “shall” login to system.
1.0	Admin	An admin”shall” manage crime statistics.
1.0	Admin	Admin “shall” forward complains to specific police stations.
1.0	Admin	Admin “shall” View reports
1.0	Admin	Admin “shall” create , delete, update news feed crime statistics e.t.c

3.1 Allocate Requirements

Para #	Initial Requirements	Use Case Name
1.0	A user “will” register complaint.	UC_Register_Complaint
1.0	A user “shall” view newsfeed and crime statistics.	UC_View_Newsfeed
1.0	An admin “shall” login to the system.	UC_Admin_login
1.0	Admin“shall” login the system to manage crime statistics	UC_Manage_crime_Info

4.0	A user “shall” make a complaint first for giving the culprits sketch.	UC_draw_Culprits_Sketch
2.0	Admin “shall” send verification number to user against his registered complaint.	UC_update_Complaint_Status
3.0	Admin “shall” login the system to change Google map updating crime areas.	UC_manage_Google map

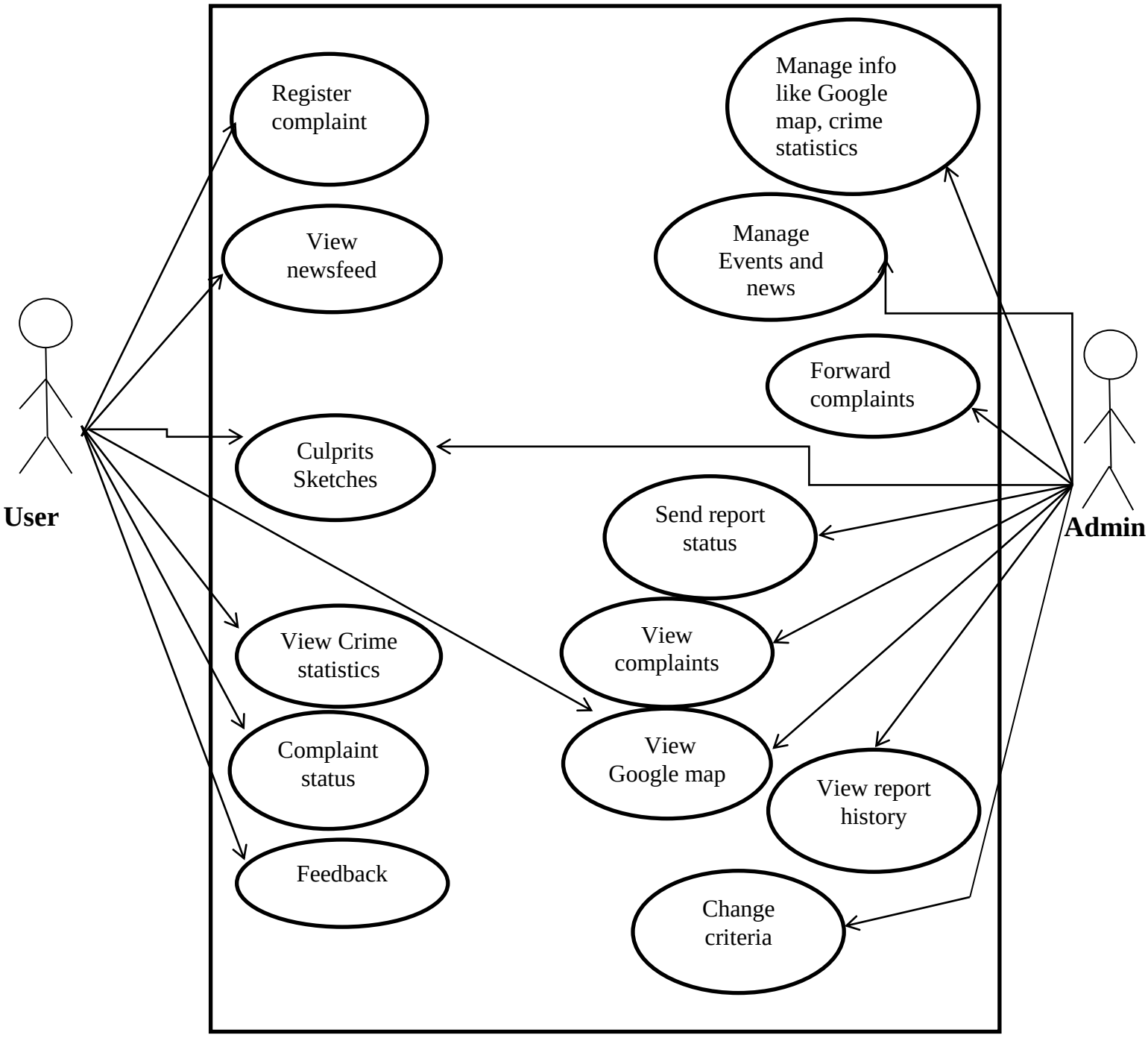
3.2 Prioritize Requirements

Para #	**Rank**	**Initial Requirements**	**Use case ID**	**Use Case Name**
1.0	Highest	A user “will” register complaint.	UC_1	UC_Register_Complaint
1.0	Highest	A Admin”shall” login to the system	UC_2	UC_Admin_login
1.0	Highest	A user “shall” view newsfeed	US_3	UC_View_Newsfeed
1.0	Highest	A user“shall” provide a culprits sketch.	UC_4	UC_Culprits_Sketch
2.0	Highest	A user “shall” view crime statistics.	UC_5	UC_ View_Crime_Statistics
2.0	Highest	A user “shall” view his complaint status	UC_6	UC_View_Complaint_Status
2.0	Highest	An admin“shall” give forward complaints to specific police stations.	UC_7	UC_Forward_Complaint
2.0	Highest	A admin “shall” mange information about crime statistics	UC_8	UC_Manage_crime_Info
3.0	Lowest	Admin “shall” View compliants	UC_9	UC_View_Complaints

3.3 Requirements Trace-ability Matrix

Sr #	Para #	System Specification Text	Build	Use Case Name	Category
1	1.0	A user “will” register complaint.	B1	UC_Register_Complaint	Business
2	1.0	A admin “shall” login himself to the system	B1	UC_Admin_login	Business
3	1.0	A admin “shall” login the system and can change crime information	B1	UC_Manage_crime_Info	Business
4	2.0	A use “shall” view crime statistics and his complaint status	B1	UC_View_Crime_Statistics UC_Complaint_Status	Business
5	2.0	Admin “shall” login the system and forward complaints.	B1	UC_Forward_Complaint	Business
6		Admin”shall” send the user a registration number	B1	UC_Send_Registtin_Number	Business
7		Admin “shall” View complaints	B1	UC_View_Complaints	Business

3.4 Use Case Diagram



Superior University Lahore

Second Deliverable for Object Oriented Approach

Version 1.0

Punjab Police Web Portal

TEAM MEMBERS:

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3.5 Introduction

Punjab police is working manually these days .It is difficult to locate areas having more number of crimes so we are developing "Punjab Police Web Portal (PPWP)".This system is basically an online system. The system will recommend the best and fast way to proceed on complains. This system will be better and efficient rather working manually. The system will also Provide Google map facility to locate the areas where crimes were reported the
Most.

- Use case description
- Use case diagram refined
- Domain Model
- Sequence Diagram
- Collaboration Diagram
- Operation Contracts
- Design Class Diagram
- Data Model

3.5.1 Use case Description

3.5.1.1 UC: Register Complaint

- **Scope:** Register complaint
- **Level:** User
- **Primary Actor:** User
- **Stakeholders and Interests:**
  User: The main concern of user is to register complain.
  Administrator: To validate the complaint.
- **Pre-Condition:** Must have an internet connection.
- **Main Success scenario/Basic Flow:**
  1. User visits our website.
  2. User enters his/her details.
  3. Select the type of complaint.
  4. User's information saved.
  5. User gets the complaint registered.
- **Post-Condition/ Success Criteria:**
  User's complaint is successfully registered.

- **Alternate Flow /Extensions:**

  At any time if internet connection disconnected
  1. User will face difficulty while visiting website.
  2. Please try later.

- **System database crashes or error occurs:**

  System displays "Database is inaccessible."

- **Special Requirements:**

  1. User must have a stable internet connection.
  2. User must be using an enabled web browser.

- **Technology and Data Variation list:** None.

3.5.1.2 UC: Received Complaint No

- **Scope:** Receive a number against its registered complaint.
- **Level:** User
- **Primary Actor:** User
- **Stakeholders and Interests:**

  User: The main concern of user is to get a complaint no against his complaint.

- **Administration:** To assign complaint no.
- **Pre-Condition:** User must have registered complaint.
- **Main Success scenario/Basic Flow:**

  1. User fills the required complaint form.
  2. User clicks the submit button.
  3. Information is validated by administration.
  4. User successfully gets the complaint no.

- **Post-Condition/ Success Criteria:**

  User will get a complaint no.

- **Alternate Flow /Extensions:**

    1. If some fields are left incomplete.
    2. System displays “Fill the required information."

- **Special Requirements:**

    1. User must have a stable internet connection.
    2. User must be using an enabled web browser.

- **Technology and Data Variation list:** None

3.5.1.3 UC: View Complaint

- **Scope:** Check the no of complaints registered in a specific periods of time.

- **Primary Actor:** Admin

- **Stakeholder & Interests:**

    Admin: User can see all the complaints registered to keep a count.

- **System:** System makes it possible to make the search easy for admin.

- **Pre-Condition:** Admin must be login to his account.

- **Post Condition**: Admin must see all the complaints registered.

- **Main Success Scenario:**

    1. Admin login the system.
    2. Visit the complaint registration form.
    3. View the no of complaints registered in a specific time.

- **Alternatives:**
    1. At any time if internet connection disconnected
    2. Admin will not able to see the registered complaints.
    3. Admin has to start search again.

- **Special Requirements:** User must have a stable internet connection

- **Technology and Data Variation list:** None.

3.5.1.4 UC: Forward Complaint

- **Scope:** Forward the complaints to particular police stations.
- **Level:** Admin Goal
- **Primary Actor:** Admin
- **Stakeholder & Interests:**

  Admin: Receive the complaint and forward it to the particular police station for further processing.

- **Pre-Condition:** Admin must be log in to his account.
- **Post Condition:** Complaint is forwarded to the particular police station.
- **Main Success Scenario:**

  1. Admin log in the system.
  2. Receive the complaints registered.
  3. Forward it to the particular police stations.

- **Special Requirements:**

  1. Admin must be login to the system.
  2. Complaints must be registered.
  3. Admin must have the access to all other police stations network to forward the complaint.

- **Technology and Data Variation list:** None.

3.5.1.5 UC: Discard Complaint

- **Scope:** Discard the complaints.
- **Level:** Admin Goal
- **Primary Actor:** Admin

- **Stakeholder & Interests:**

  Admin: Discard the complaints if not properly registered or the user has taken his complaint back

- **Pre-Condition:** Admin must be log in to his account.

- **Post Condition:** Complaint is discarded.

- **Main Success Scenario:**

  1. Admin log in the system.
  2. Receive the complaints registered.
  3. Check that all the required information is filled or not.
  4. If not registered properly discard the complaint.

- **Alternatives:**
  1. At any time if internet connection disconnected
  2. Admin will not able to see the registered complaints.
  3. Admin has to start search again.

- **Special Requirements:**

  1. Admin must be login to the system.
  2. Complaints must be registered.

- **Technology and Data Variation list:** None.

3.5.1.6 UC: Send Feedback

- **Scope**: Improve performance.

- **Level**: User level

- **Primary Actor:** User

- **Stake Holders and Interests:**

  User: Visit our website and wants to give us the feedback.

- **Administration:** To receive the feedback and save it to improve our performance.

- **Preconditions:**
  User should have visited our website and checked our performance.

- **Main Success Scenario:**

  1. The user visits our website.
  2. Viewed our performance.
  3. Should give a feedback with its email address.

- **Special Requirements:**

  1. User must have a stable internet connection.
  2. User must be using an enabled web browser.

- **Technology and Data Variation list:** None.

3.5.1.7 UC: View Feed Back

- **Scope:** Improve Performance

- **Primary Actor:** Admin

- **Stakeholder & Interests:**

- **Admin:** Admin will be able to view the feedback given by the user of our website to improve our performance. .

- **System:** System makes it possible to save the feedback to make the performance improve.

- **Pre-Condition:** Admin must be login to his account.

- **Post Condition**: Admin must see the feedback and store it for the improvement of the site.

- **Main Success Scenario:**

  1. Admin login the system.
  2. Visit the feedback section.
  3. View the feedback and store it for further use.

- **Alternatives:**
  1. At any time if internet connection disconnected
  2. Admin will not able to see feedback.
  3. Admin has to start search again.

- **Special Requirements:** User must have a stable internet connection
- **Technology and Data Variation list:** None

3.5.1.8 UC: Select Shape

- **Scope:** Draw culprit sketch.
- **Level:** User Goal
- **Primary Actor:** User
- **Stakeholder & Interests:**

  User: Draw the culprit sketch with the help of shapes given.

  Admin: Accept the sketch and use it for further procedure.
- **Precondition:** User must have registered a complaint.
- **Post Condition:** Culprits Sketch is attached with the complaint form
- **Main Success Scenario:**

  1. User visits our website.
  2. User registers a complaint.
  3. User selects the culprit sketch option.
  4. Draw the sketch
  5. Attach it with the complaint and submit it.
- **Alternatives:**
  1. At any time if internet connection disconnected
  2. User is unable to draw the complete sketch.
  3. User has to start search again.
- **Special Requirements:** User must have to register a complaint.
- **Technology and Data Variation list:** None.

3.5.1.9 UC: Save/Attach Sketch

- **Scope:** give culprit sketch.
- **Level:** User Goal
- **Primary Actor:** User
- **Stakeholder & Interests:**

  User: Draw the culprit sketch with the help of shapes given and attach it with the complaint.

  Admin: Accept the sketch and use it for further procedure.

- **Pre-Condition:** User must have registered a complaint.
- **Post Condition:** Culprits Sketch is attached with the complaint form
- **Main Success Scenario:**

  1. User visits our website.
  2. User registers a complaint.
  3. User selects the culprit sketch option.
  4. Draw the sketch
  5. Attach it with the complaint and submit it.

- **Alternatives:**

  1. At any time if internet connection disconnected
  2. User is unable to draw the complete sketch.
  3. User has to start search again.

- **Special Requirements:** User must have to register a complaint.

- **Technology and Data Variation list:** None.

3.5.1.10 UC: View Newsfeed

- **Scope**: View events and news.
- **Level**: User level
- **Primary Actor:** User
- **Stake Holders and Interests:**

  User: Visit our website and watch the newsfeed for job interviews and other information related to police section.

- **Pre-Conditions:**

  User should have an internet connection and have to visit our website.

- **Main Success Scenario:**

  1. User has an internet connection.
  2. The user visits our website.
  3. View the newsfeed for job interviews.

- **Special Requirements:**

  1. User must have a stable internet connection.
  2. User must be using an enabled web browser.

- **Technology and Data Variation list:** None.

3.5.1.11 UC: Update Newsfeed

- **Scope:** Keep user connected and update them with police related news
- **Primary Actor:** Admin
- **Stakeholder & Interests:**
- **Admin:** Admin will keep updating newsfeed, events and job related news.
- **Pre-Condition:** Admin must be login to his account.

- **Post Condition**: Admin would make some kind of updates in newsfeed.

- **Main Success Scenario:**

    1. Admin login the system.
    2. Visit the newsfeed section.
    3. Update the events, interviews of senior officers and other police related news.

- **Alternatives:**

    1. At any time if internet connection disconnected
    2. Admin will not able to see newsfeed.
    3. Admin has to start search again.

- **Special Requirements:** User must have a stable internet connection

- **Technology and Data Variation list:** None.

3.5.1.12 UC: View Crime Statistics

- **Scope:** Stay known with crime rate.

- **Primary Actor:** User

- **Stakeholder & Interests:**

  User: The main concern of user is to keep updated with the no of crimes attempted in a particular period of time.

- **Pre-Condition:** User must have an internet connection.

- **Post Condition**: User is known with the current crime count.

- **Main Success Scenario:** User will visit our website

- **Alternatives:**
  At any time if internet connection disconnected
    1. User will not able to see crime statistics.
    2. User has to start search again.

- **Special Requirements:** User must have a stable internet connection
- **Technology and Data Variation list:** None.

3.5.1.13 UC: Update Crime Statistics

- **Scope:** Keep the count of crime to improve the performance.
- **Primary Actor:** Admin
- **Stakeholder & Interests:**

  Admin: Admin will update the crime rate according to the no of crime attempted.

- **Pre-Condition:** Admin must be login to his account.
- **Post Condition**: Admin would have make updates in crime statistics.
- **Main Success Scenario:**

  1. Admin login the system.
  2. Visit the crime statistics section
  3. Update crime count.

- **Alternatives:**
  At any time if internet connection disconnected
  1. Admin will not able to see crime statistics.
  2. Admin has to start search again.

- **Special Requirements:** User must have a stable internet connection
- **Technology and Data Variation list:** None.

3.5.1.14 UC: View Crime Location on map

- **Scope:** Stay known with crime rate.
- **Primary Actor:** User
- **Level:** User

- **Stakeholder & Interests:**

  User: The main concern of user is to keep updated with the no of crimes attempted in a particular period of time and knows that in which area the no of crimes are attempted the more.

- **Pre-Condition:** User must have an internet connection.

- **Post Condition**: User is known with the current crime rate and the most crime attempted city.

- **Main Success Scenario:** User will visit our website

- **Alternatives:**
  At any time if internet connection disconnected
  1. User will not able to see crime statistics.
  2. User has to start search again.

- **Special Requirements:** User must have a stable internet connection

- **Technology and Data Variation list:** None.

3.5.1.15 UC: Update Crime Location on map

- **Scope:** Keep the count of crime to improve the performance.

- **Primary Actor:** Admin

- **Level:** User

- **Stakeholder & Interests:**

  Admin: Admin will update the crime rate on map according to the no of crime attempted in a particular area.

- **Pre-Condition:** Admin must be login to his account.

- **Post Condition**: Admin would have make updates in crime statistics on map.

- **Main Success Scenario:**

  1. Admin login the system.
  2. Visit the crime statistics section
  3. Update crime count.

- **Alternatives:**
  At any time if internet connection disconnected
  1. Admin will not able to see crime statistics.
  2. Admin has to start search again.

- **Special Requirements:** User must have a stable internet connection

- **Technology and Data Variation list:** None.

3.5.1.16 UC: Admin Login

- **Scope:** Allow access to make changes.

- **Primary Actor:** Admin

- **Level:** Admin

- **Stakeholder & Interests:**

  Admin: Admin will login in the system for making changes.

- **Pre-Condition:** Admin must have an account before login.

- **Post Condition**: Admin would have the access to the system.

- **Main Success Scenario:**

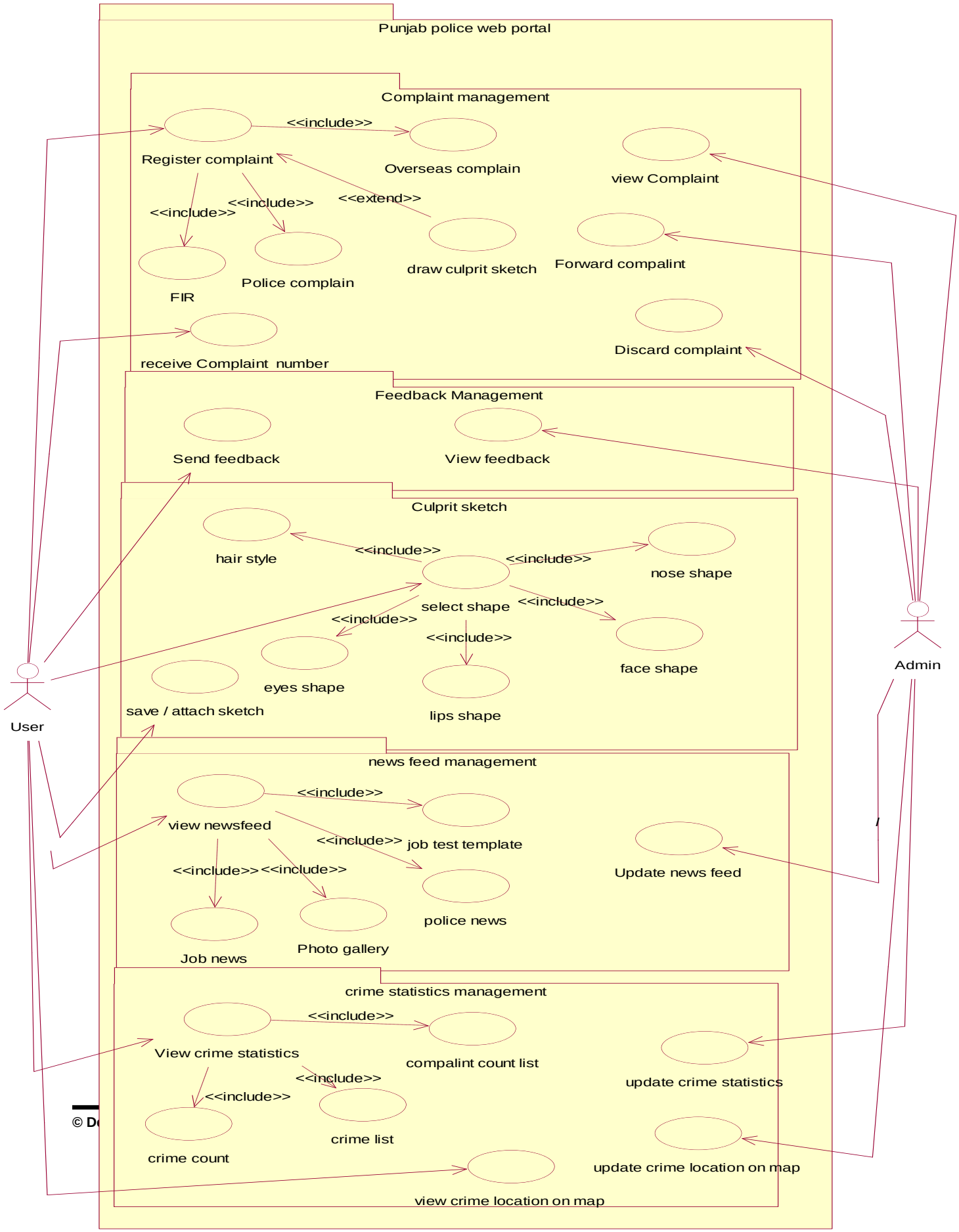
  1. Admin will give his id and password.
  2. Log in the system.
  3. Make further changes.

- **Alternatives:**
  At any time if internet connection disconnected
  1. Admin will not able to login.

- **Special Requirements:** User must have a stable internet connection

- **Technology and Data Variation list:** None

3.5.2 Use case diagram refined


Punjab police web portal
Complaint management
Register complaint
<<include>>
Overseas complain
view Complaint
<<include>>
<<include>>
<<extend>>
FIR
Police complain
draw culprit sketch
Forward compalint
Discard complaint
receive Complaint number
Feedback Management
Send feedback
View feedback
Culprit sketch
hair style
<<include>>
<<include>>
nose shape
select shape
<<include>>
<<include>>
<<include>>
face shape
eyes shape
lips shape
save / attach sketch
User
Admin
news feed management
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view newsfeed
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job test template
Update news feed
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<<include>>
police news
Job news
Photo gallery
crime statistics management
<<include>>
View crime statistics
compalint count list
update crime statistics
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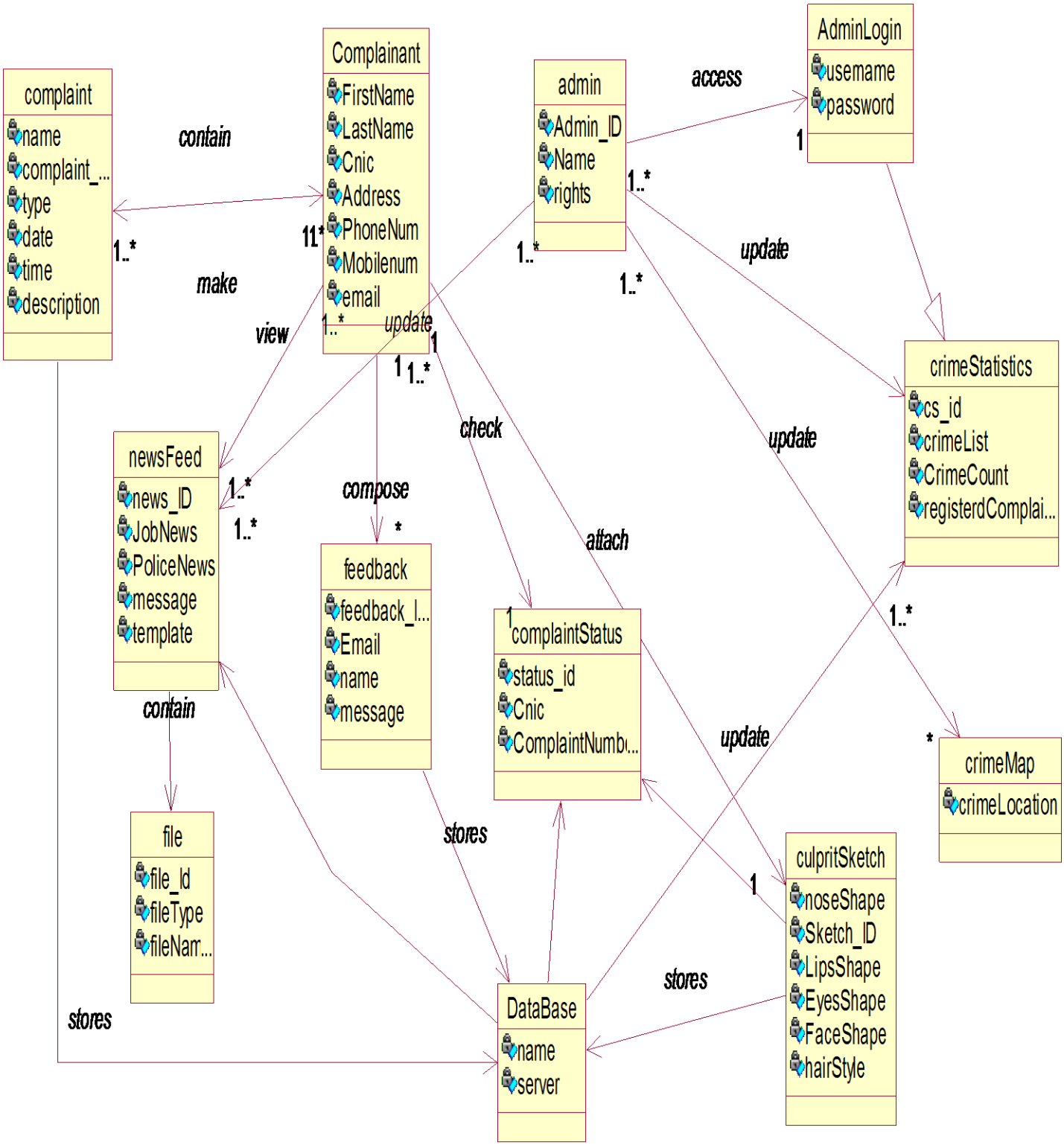
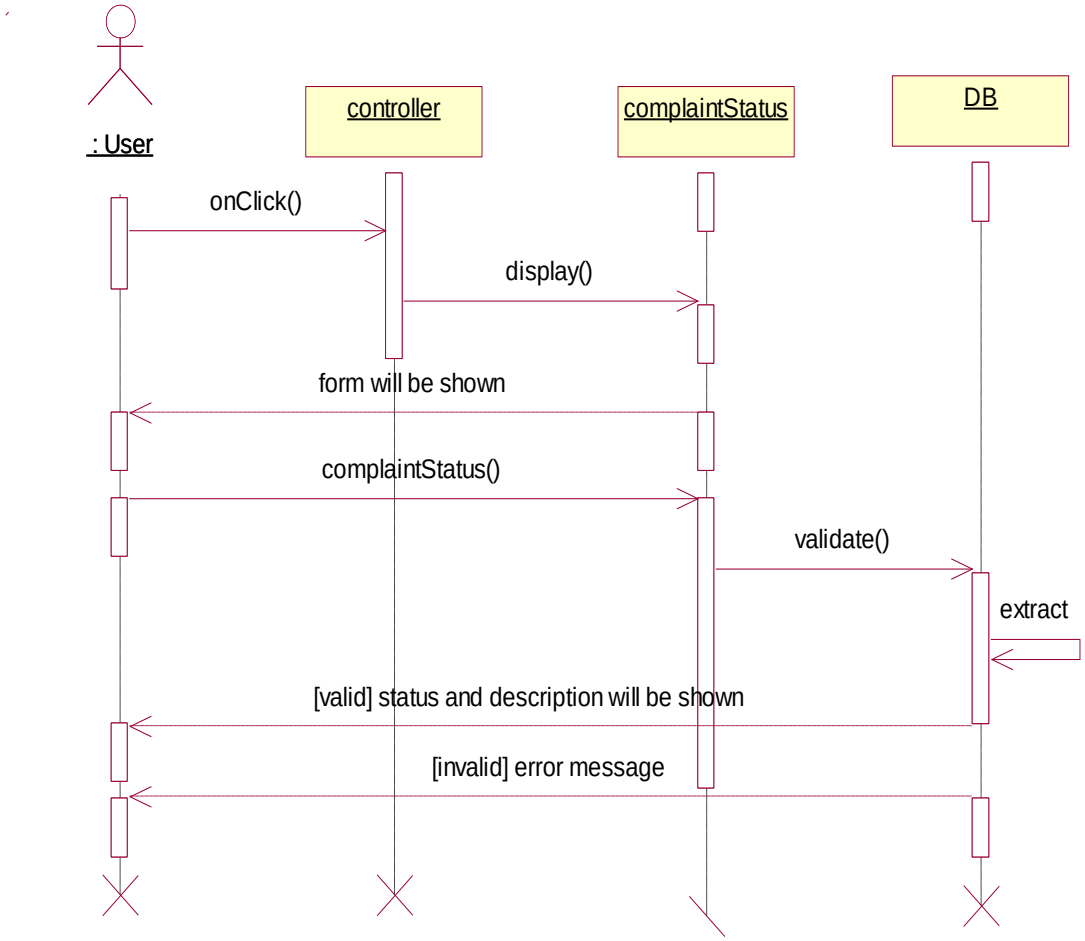
<<include>>
crime list
crime count
update crime location on map
view crime location on map

3.5.3 Domain Model

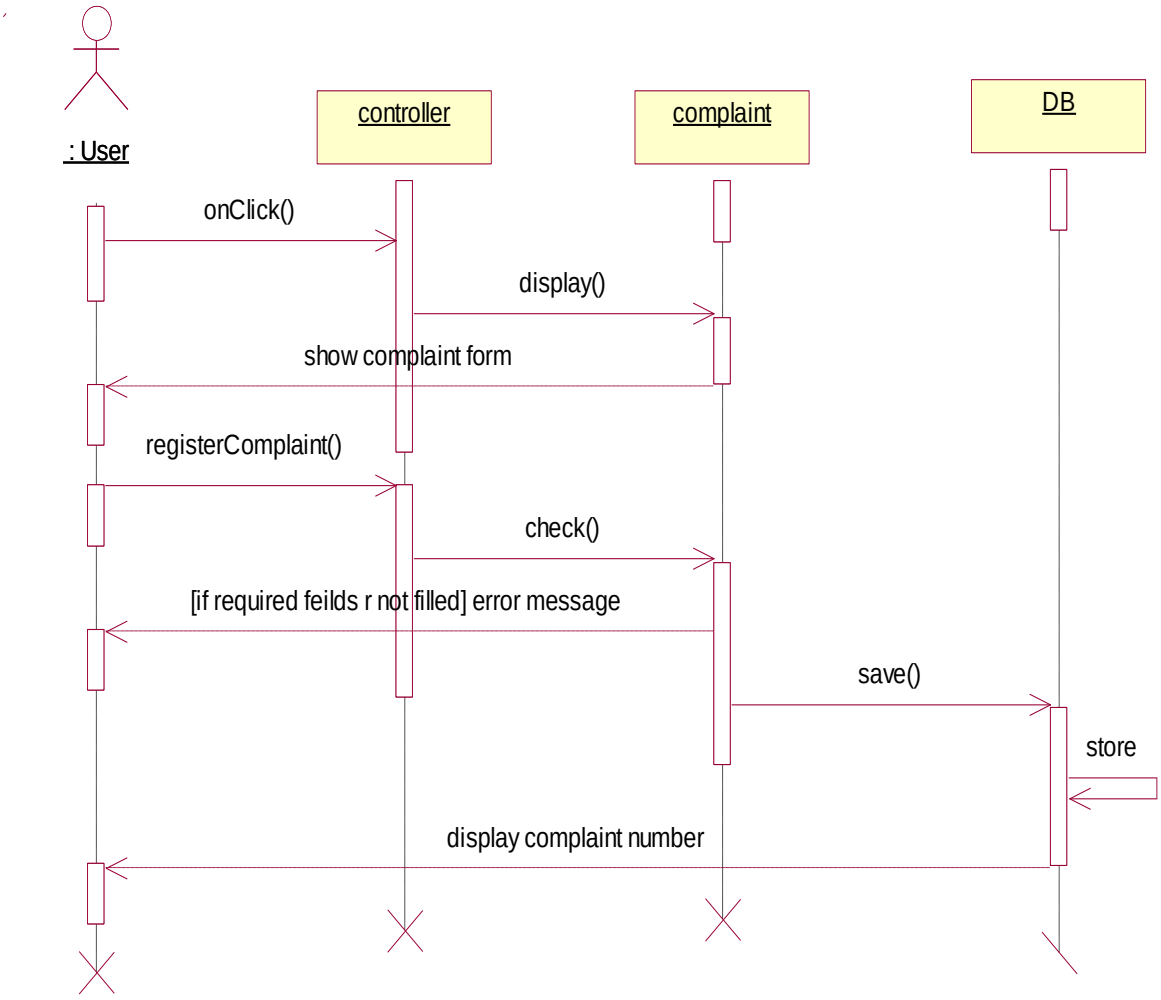


3.5.4 Sequence Diagram

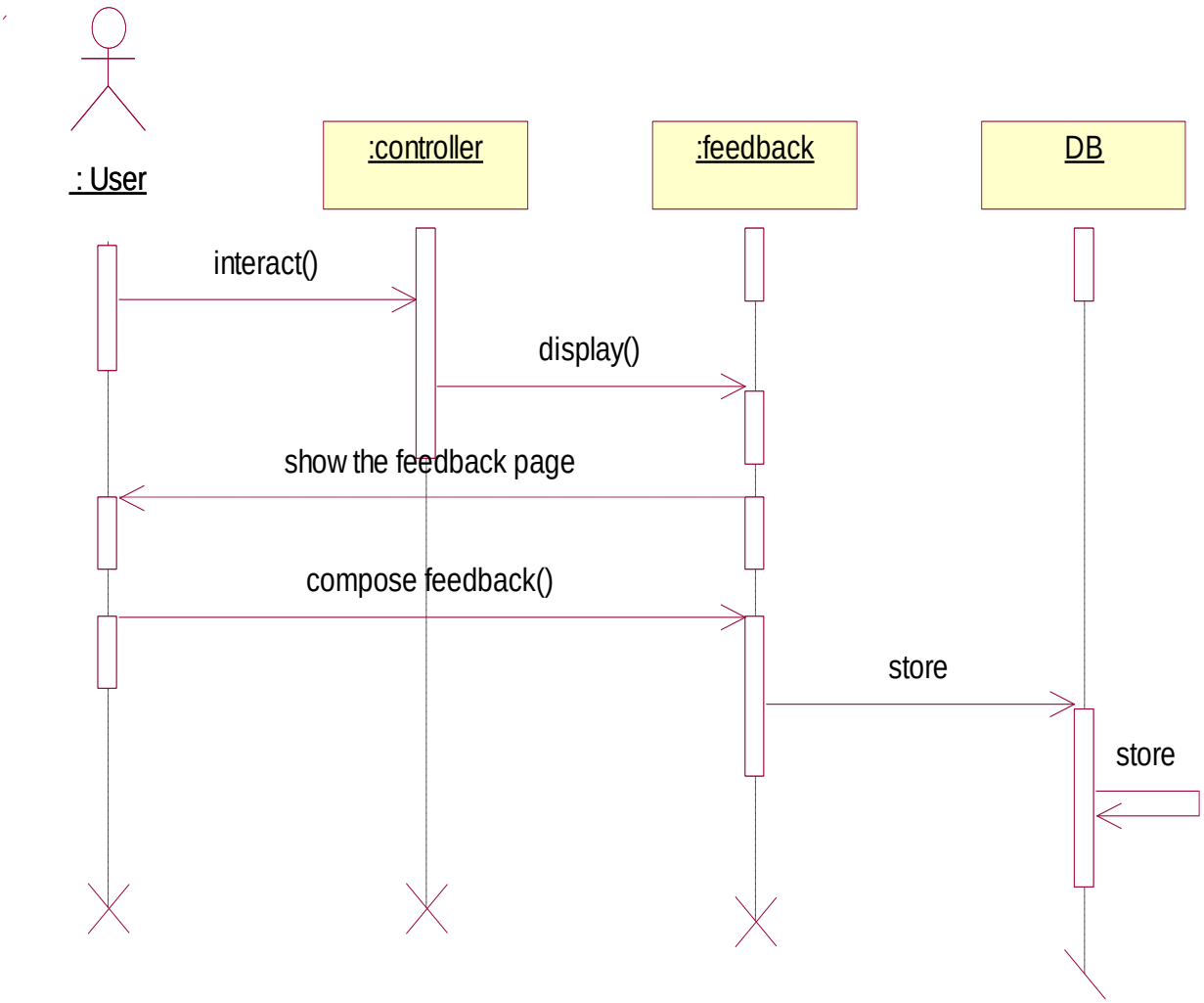
3.5.4.1 View complaint status



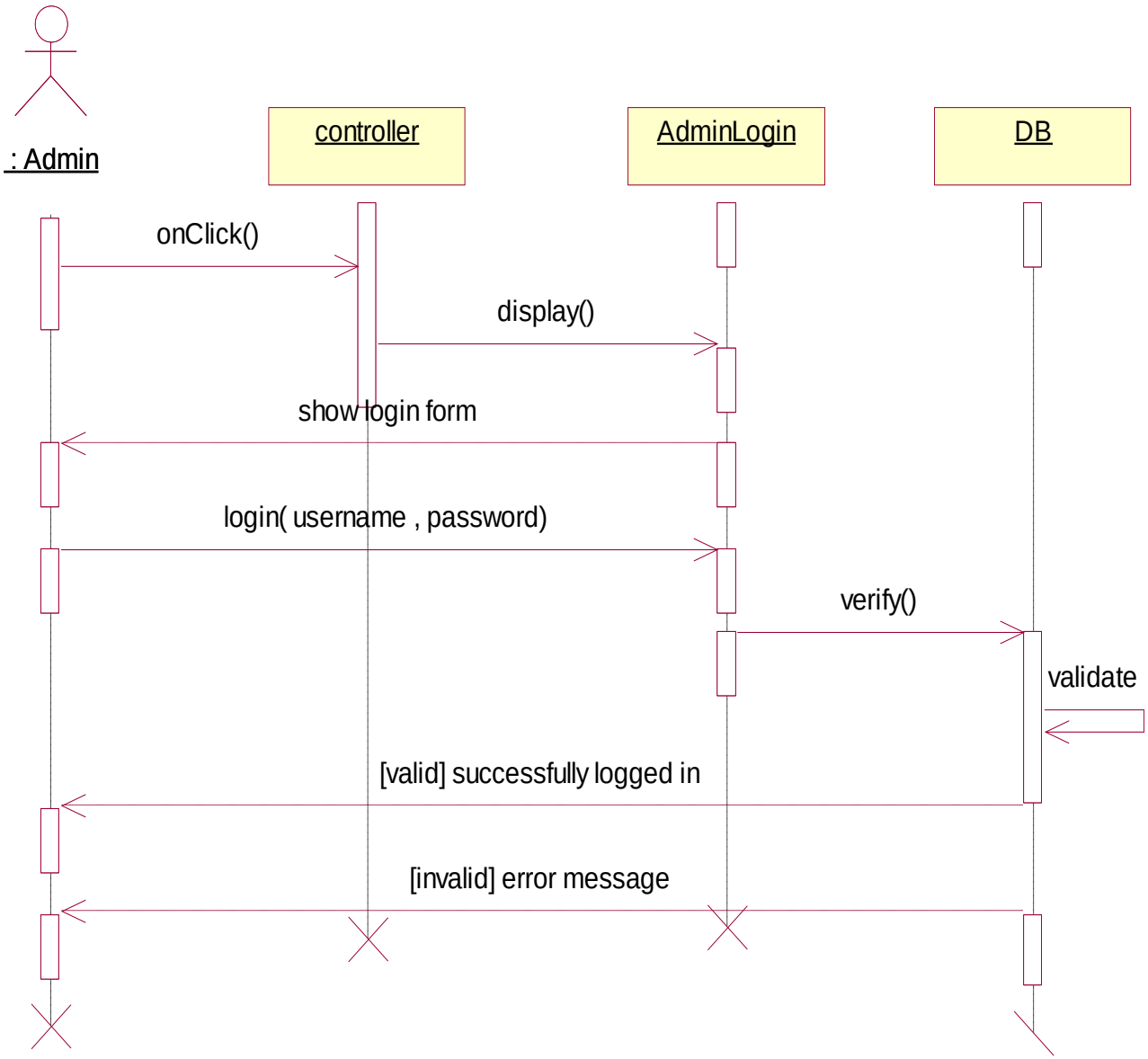
3.5.4.2 Registered complaint



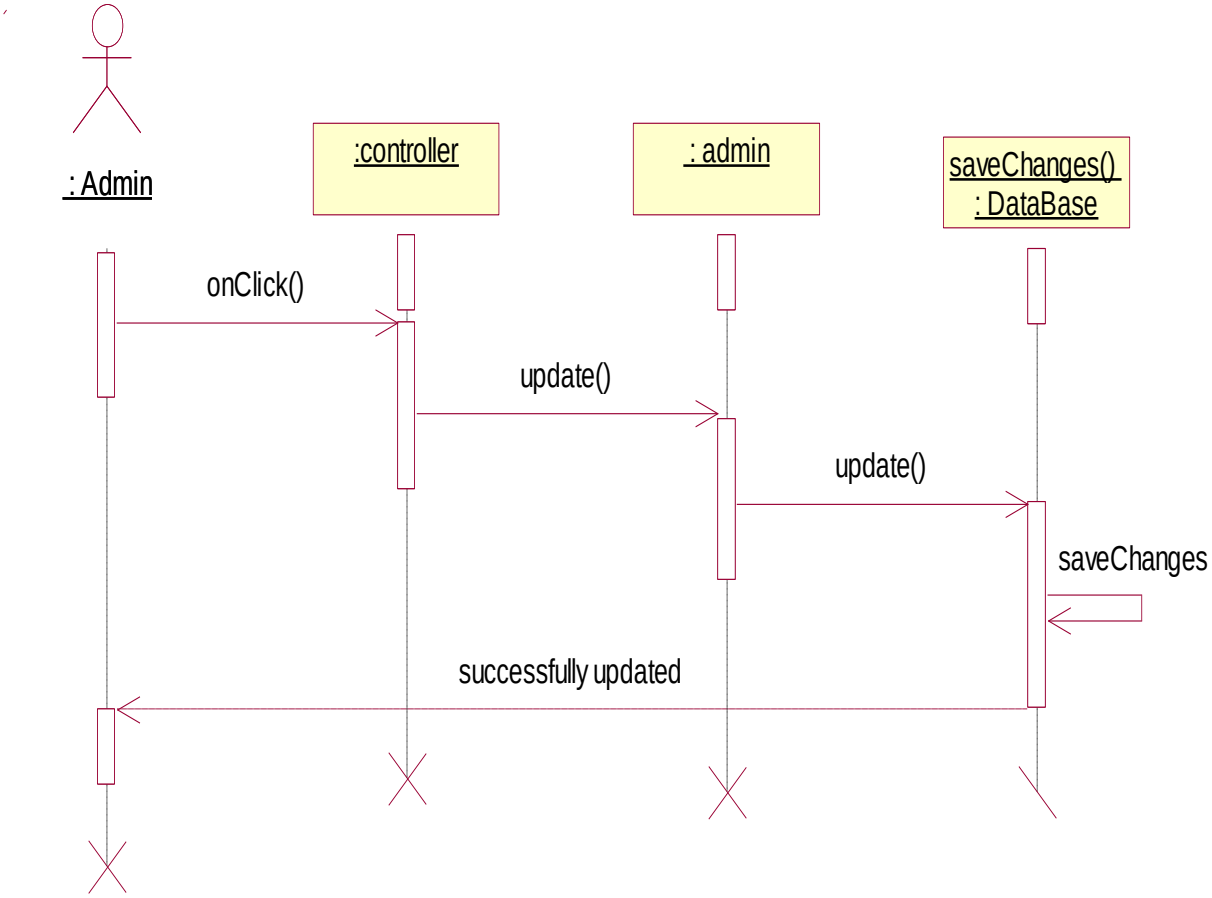
3.5.4.3 Compose Feedback



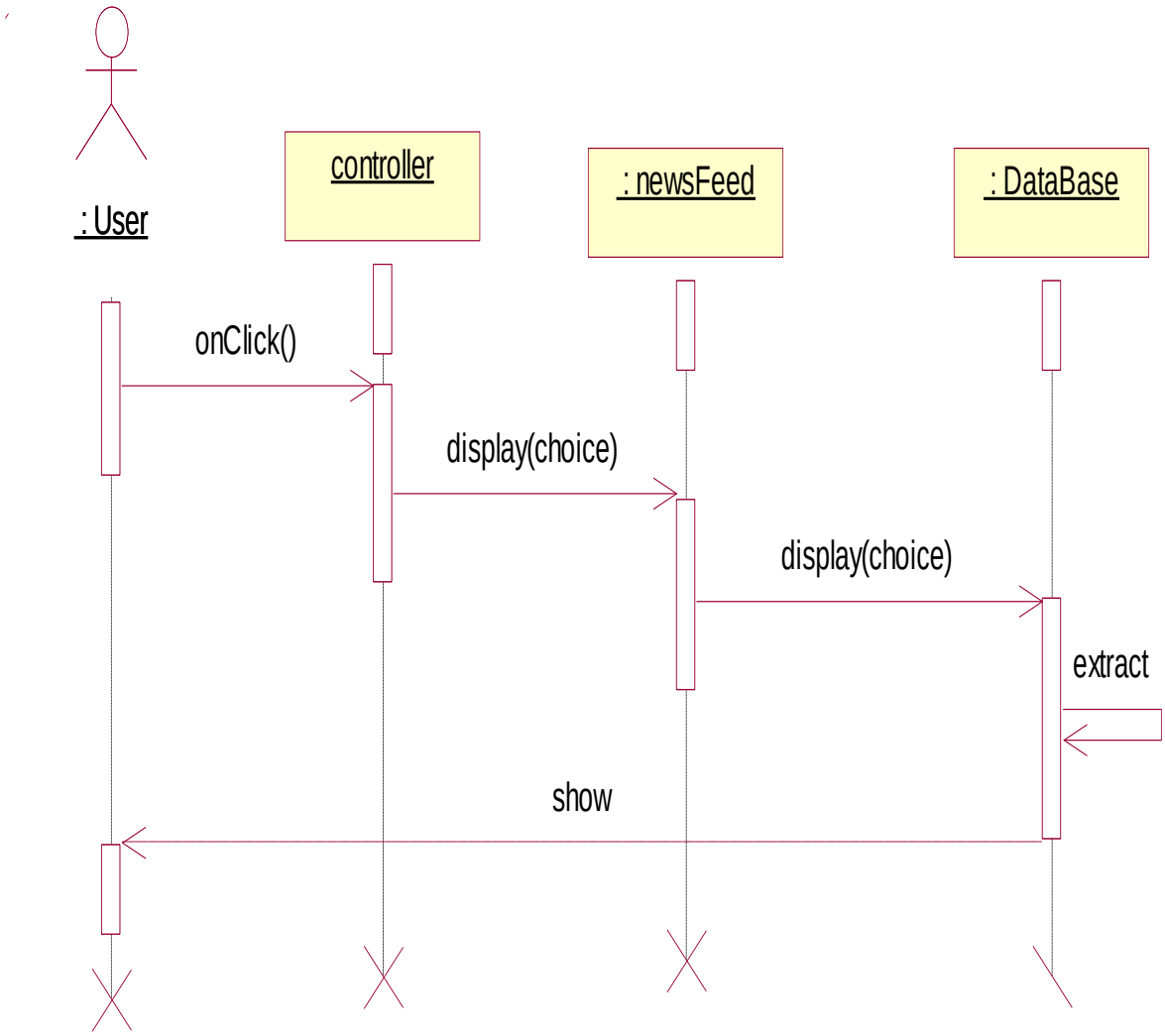
3.5.4.4 Admin Login



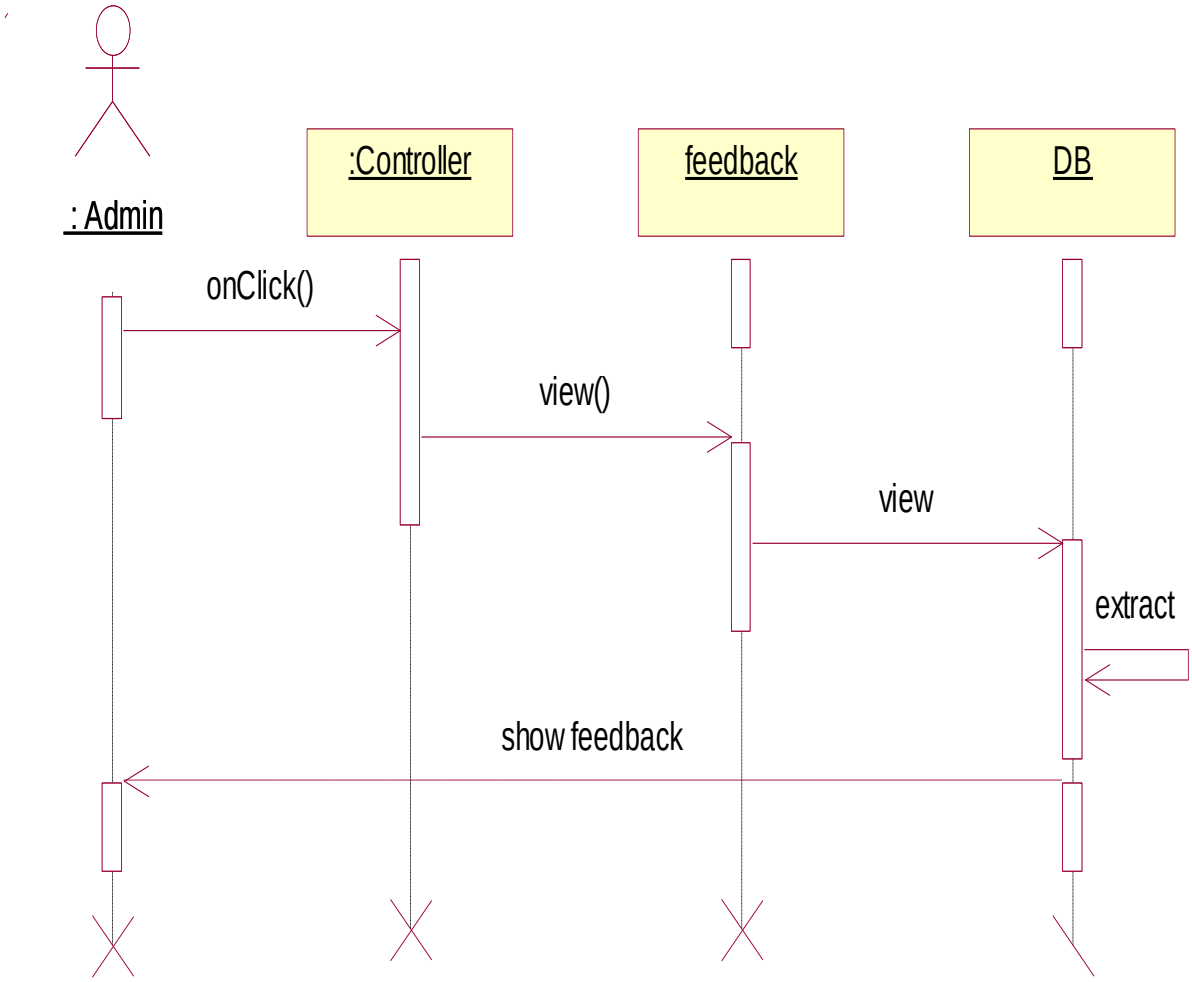
3.5.4.5 Update Newsfeed



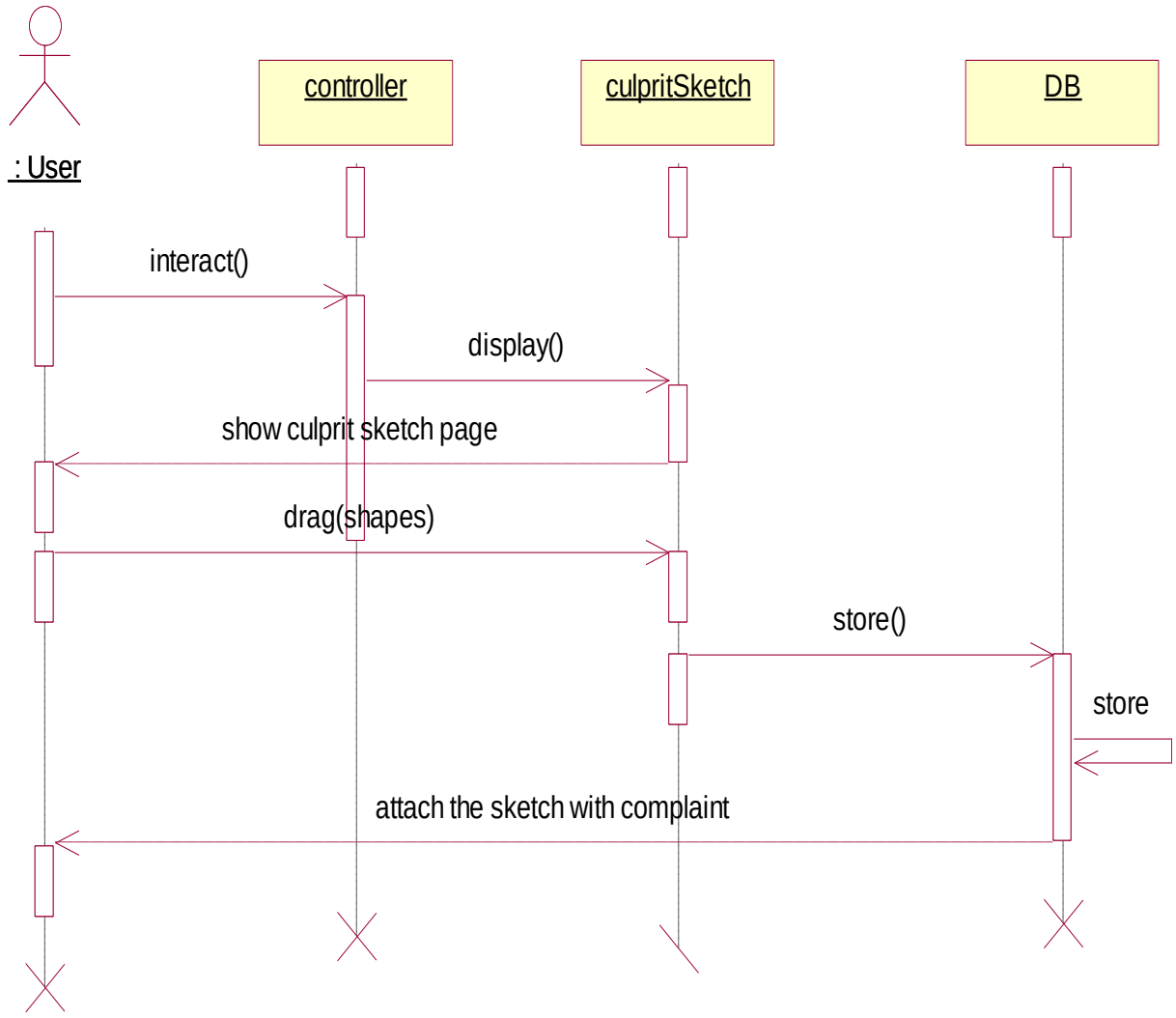
3.5.4.6 View News Feed



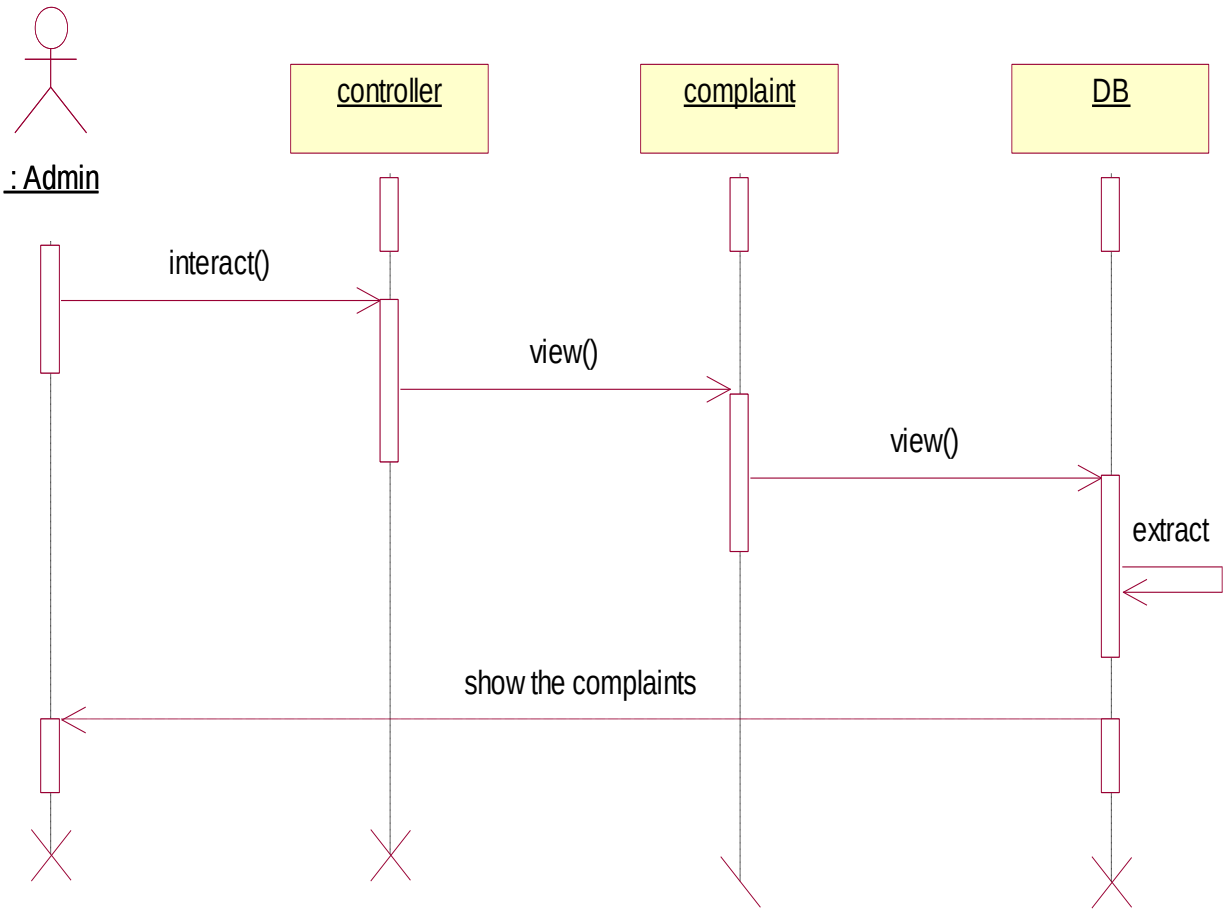
3.5.4.7 View Feedback



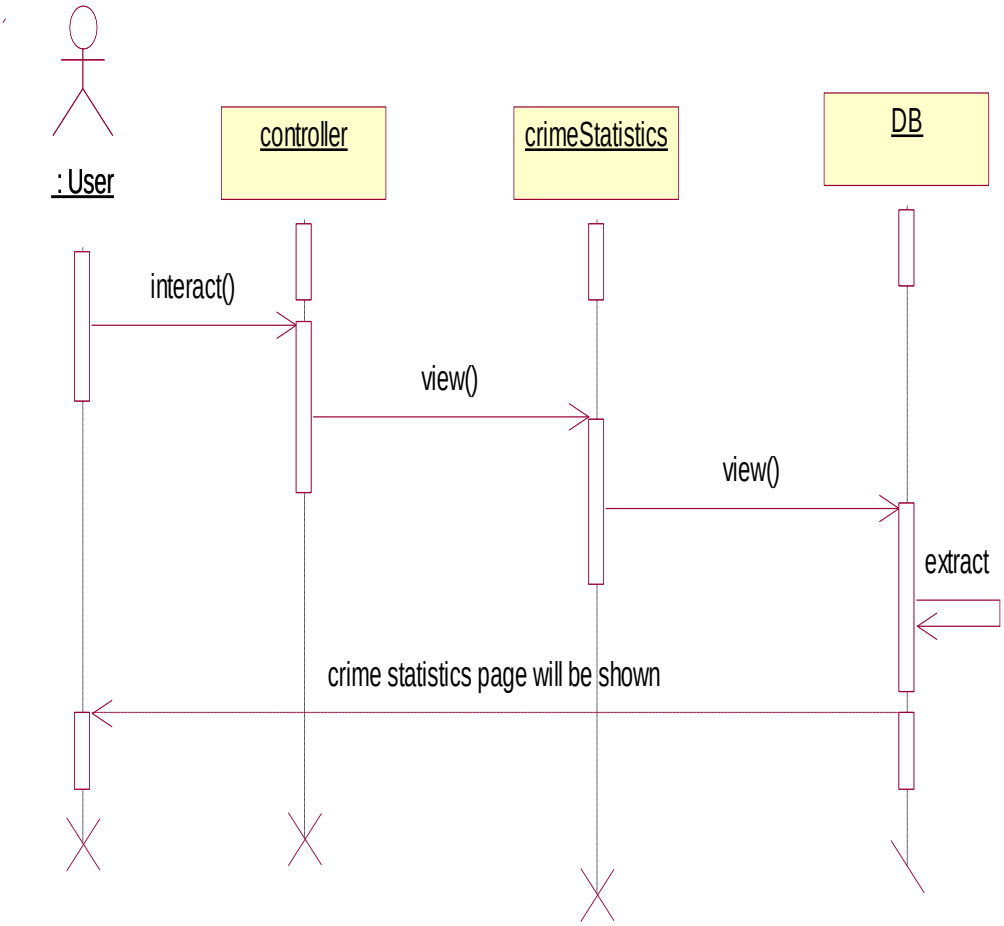
3.5.4.8 Draw Culprit Sketch



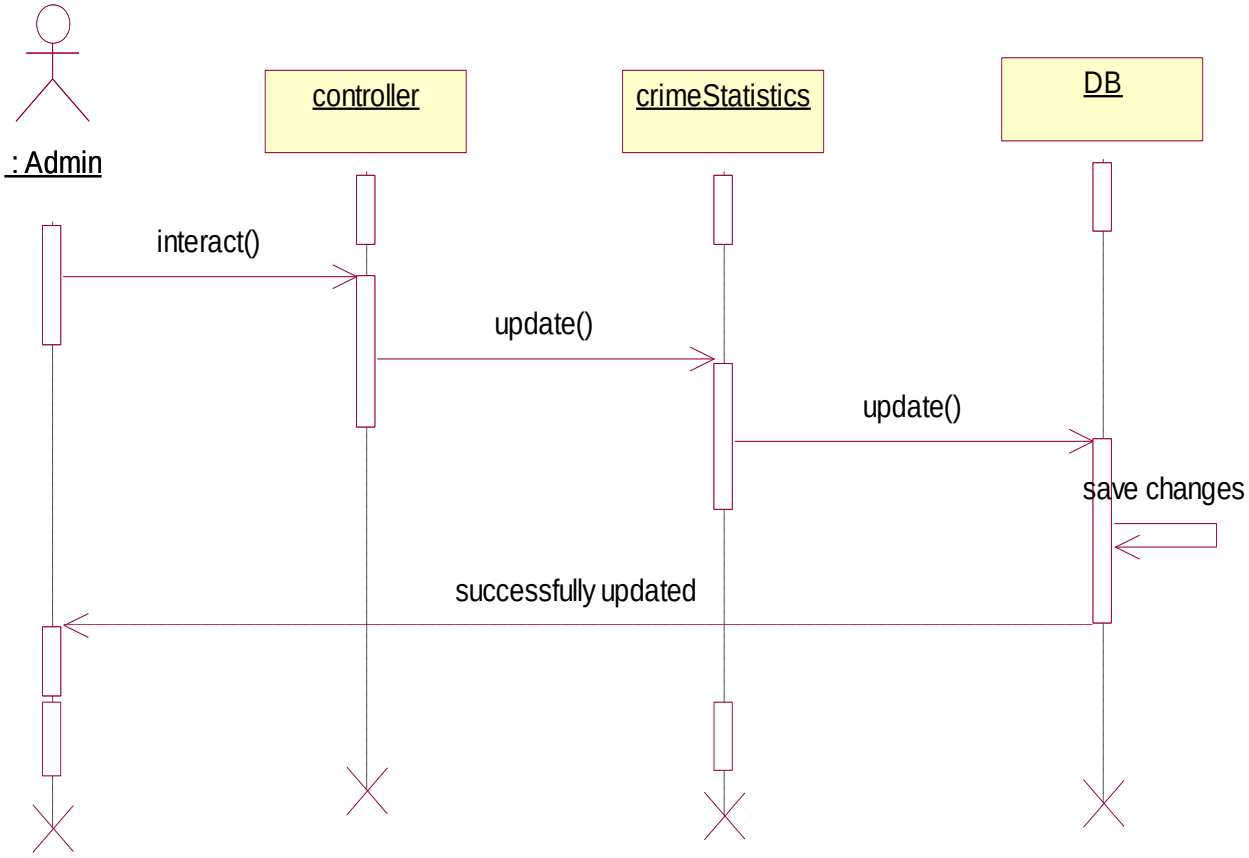
3.5.4.9 View complaint



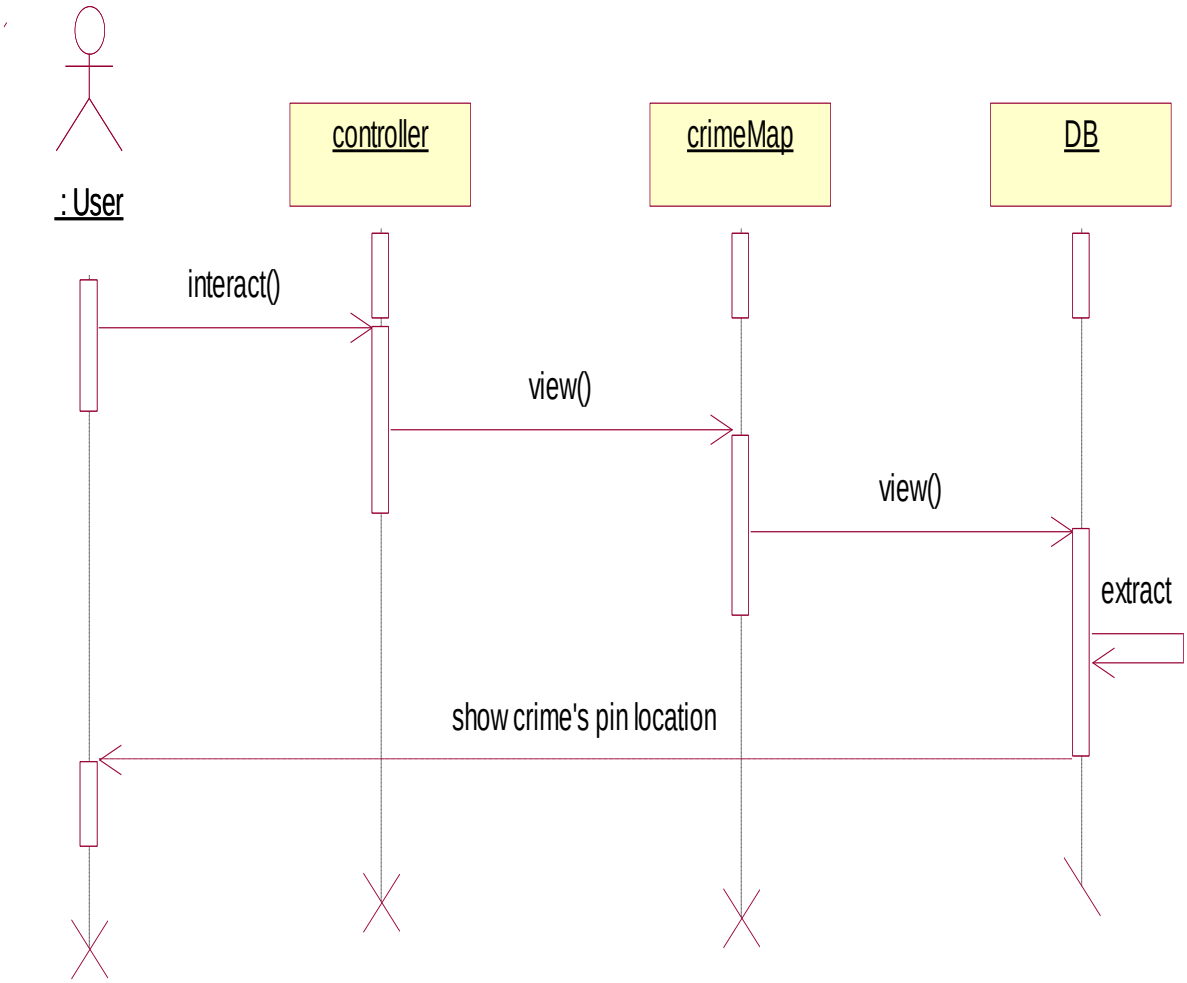
3.5.4.10 View crime statistics



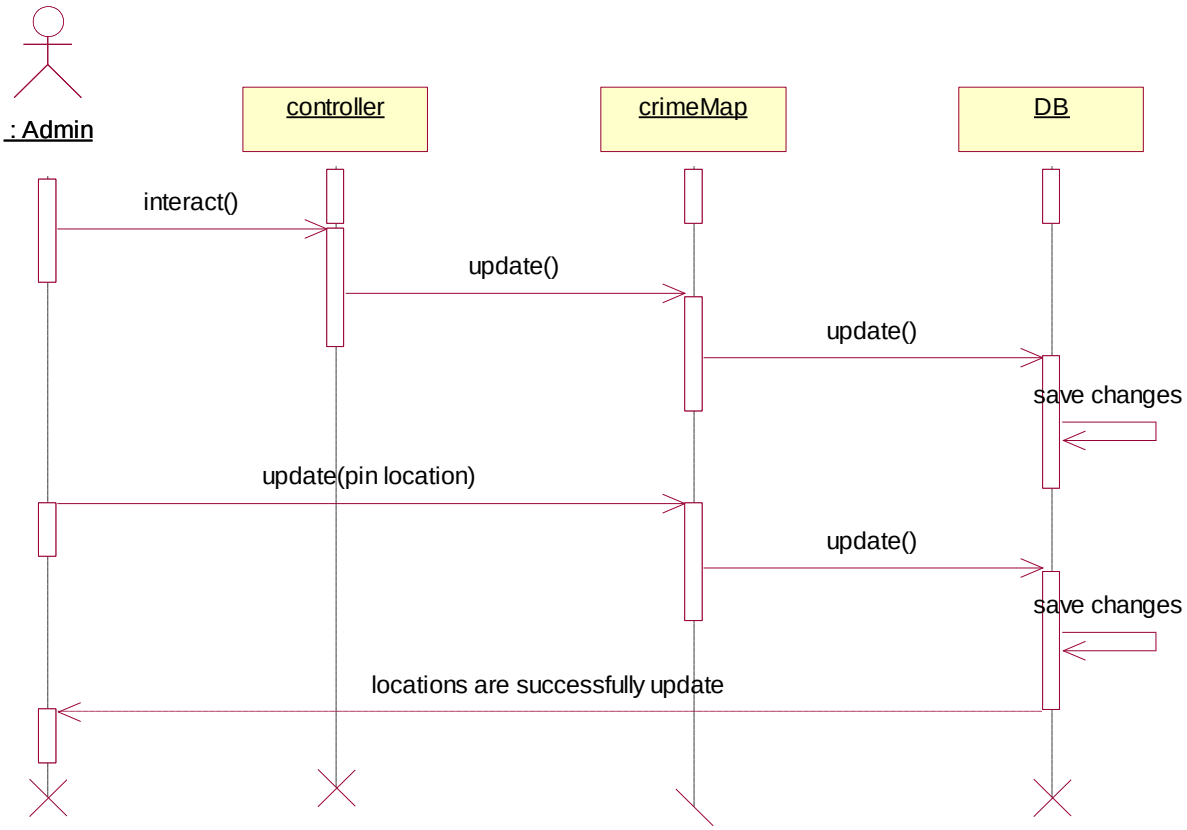
3.5.4.11 Update crime statistics



3.5.4.12 View crime location

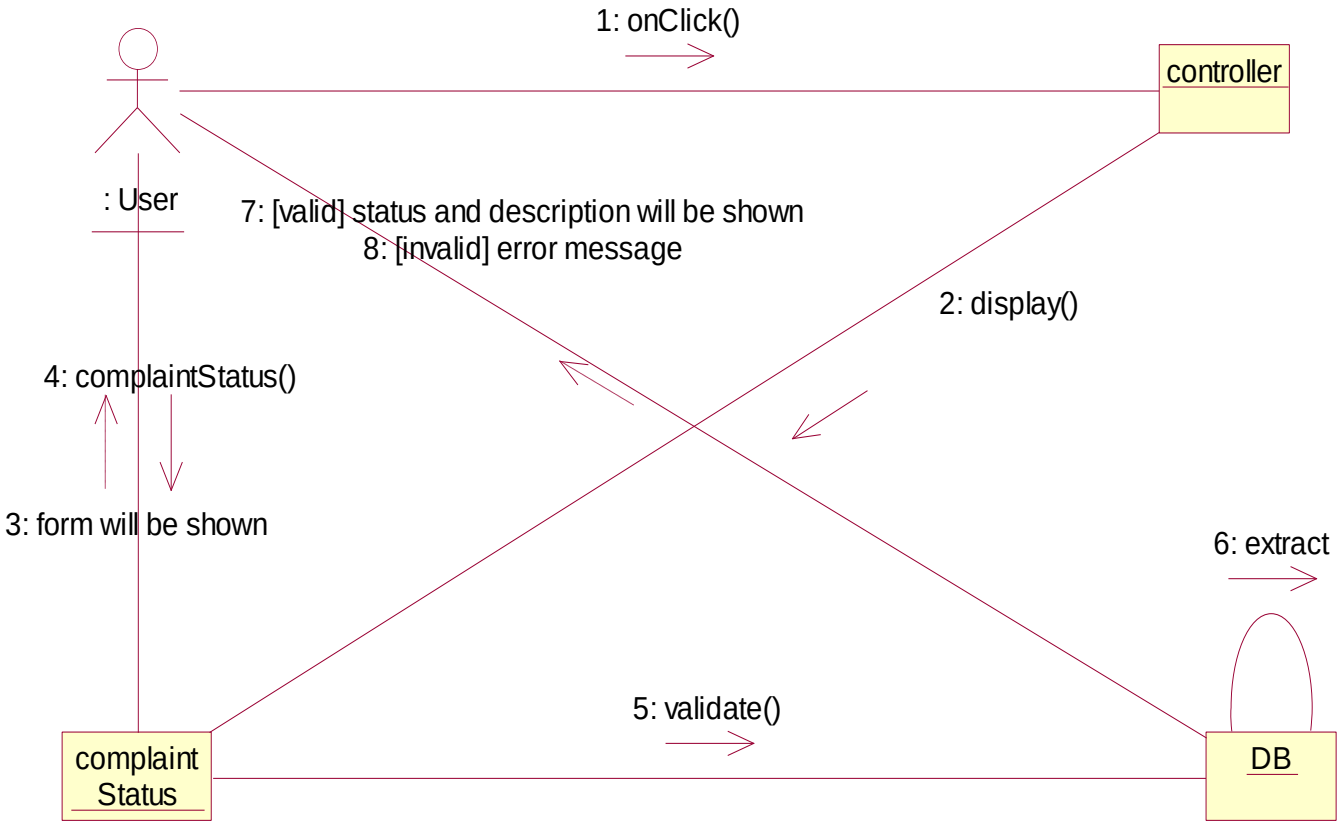


3.5.4.13 Update crime location

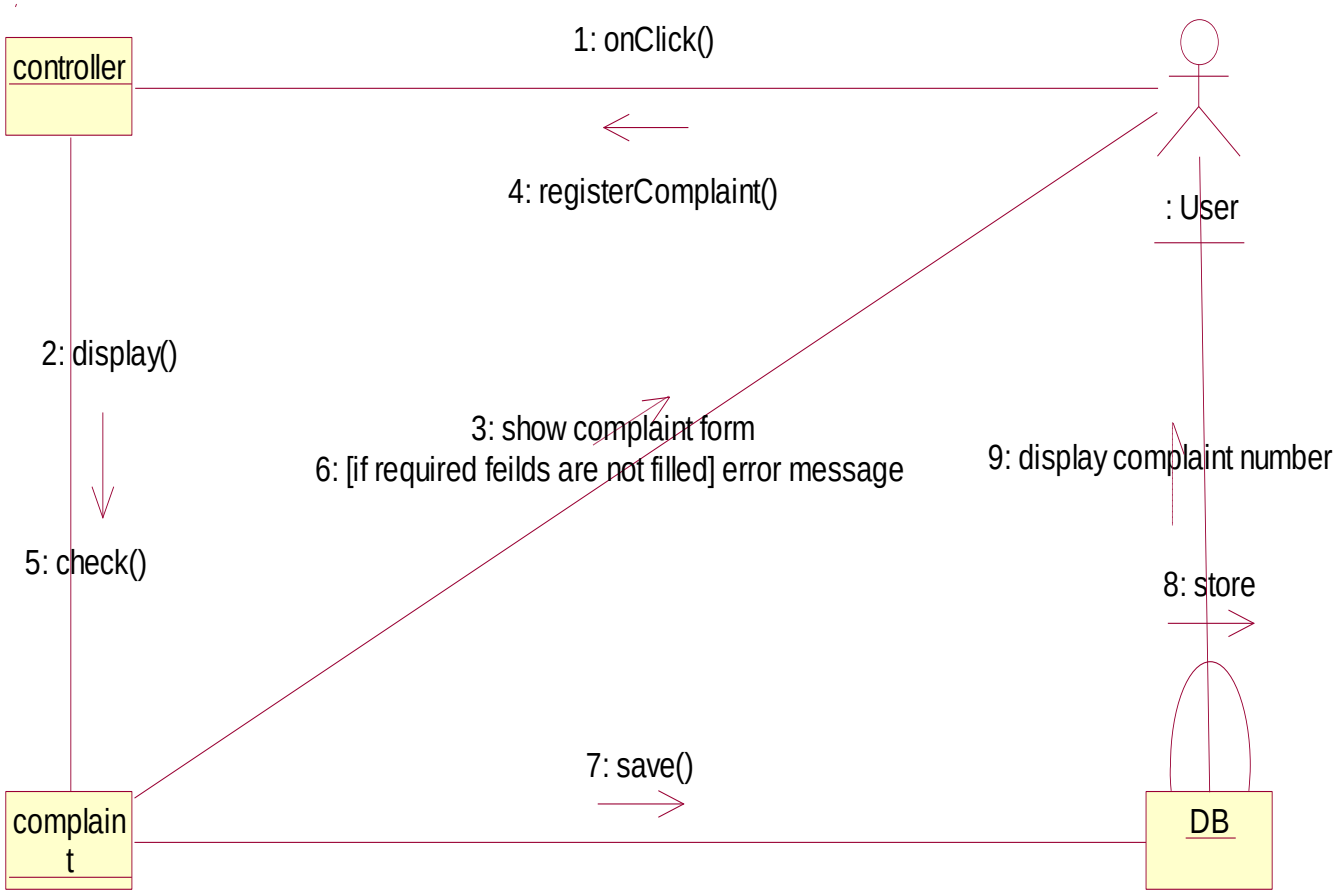


3.5.5 Collaboration Diagram

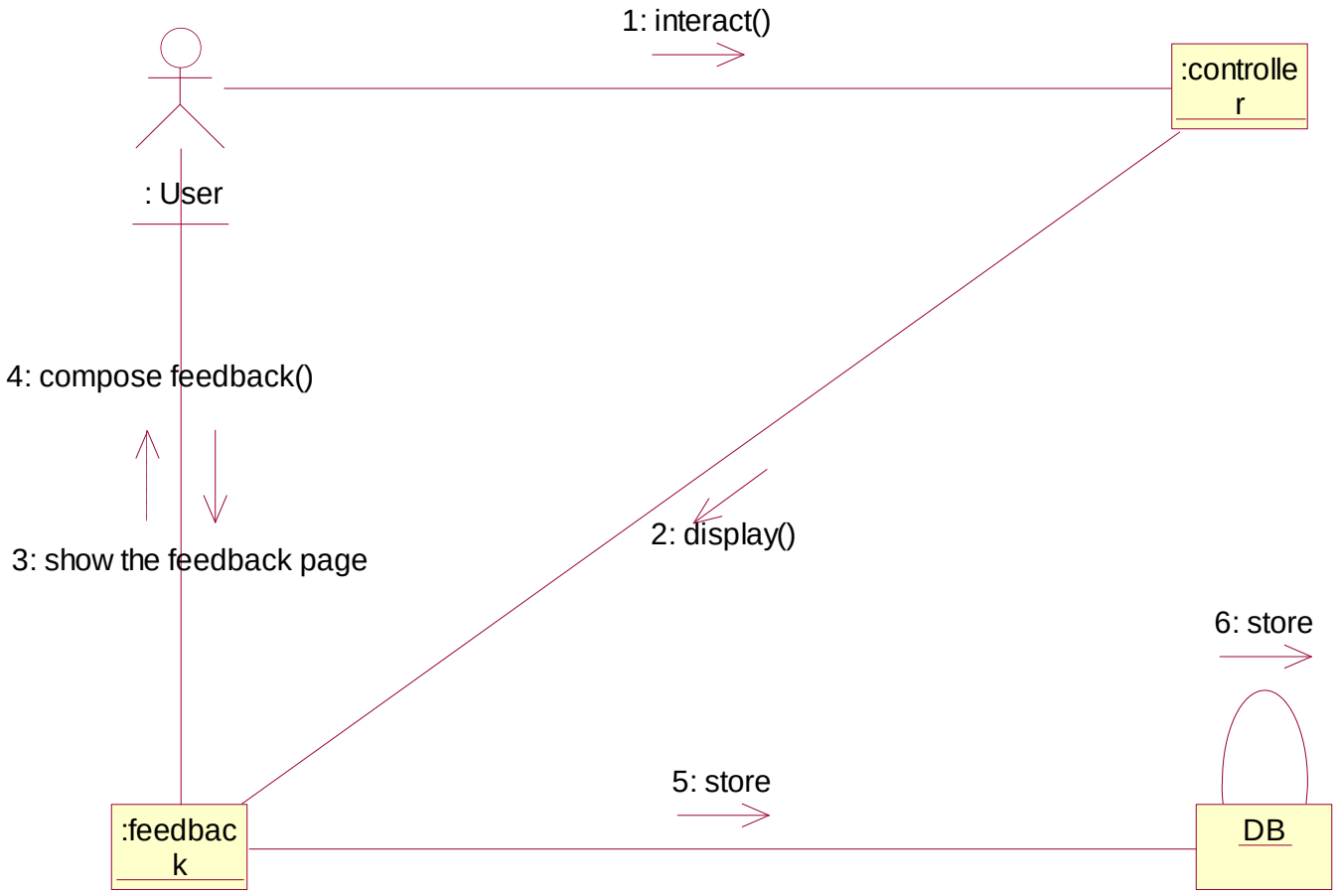
3.5.5.1 View complaint status



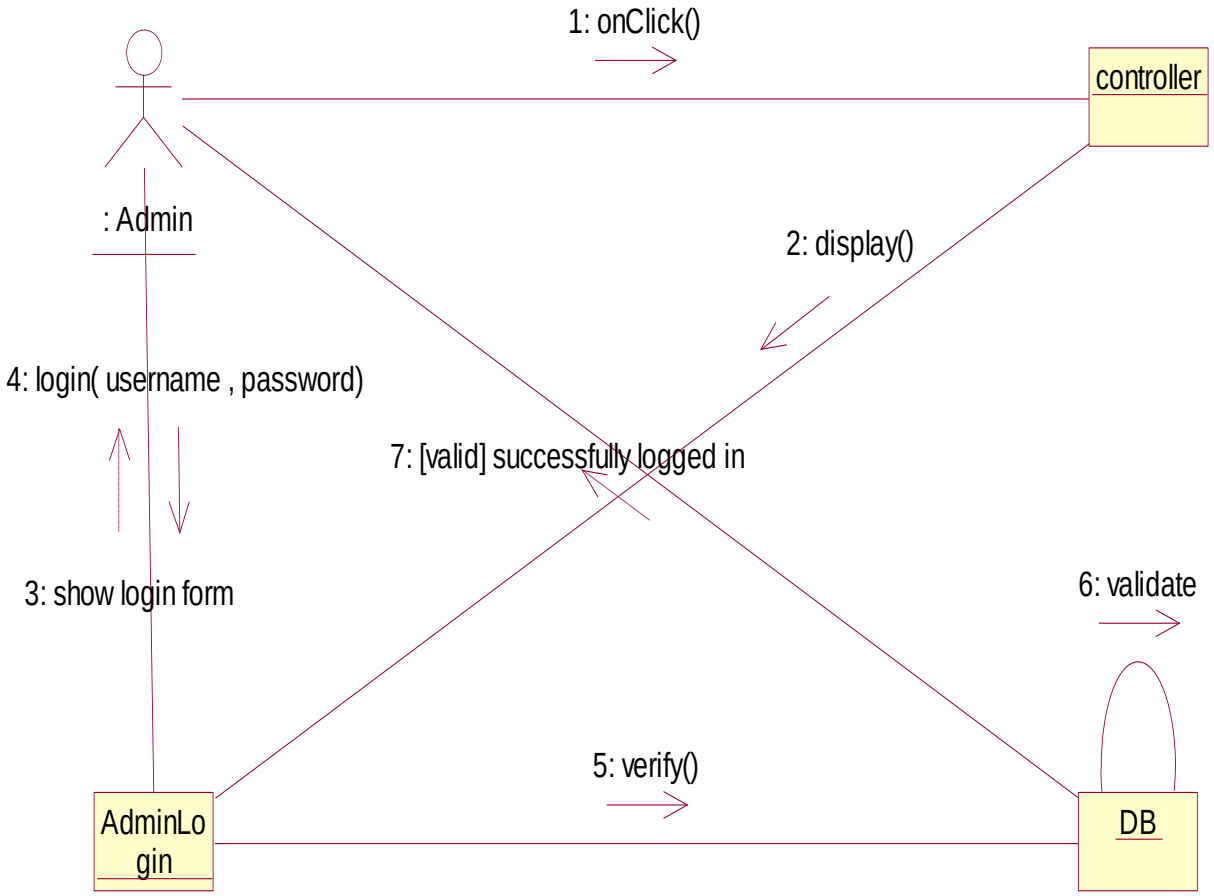
3.5.5.2 Registered complaint



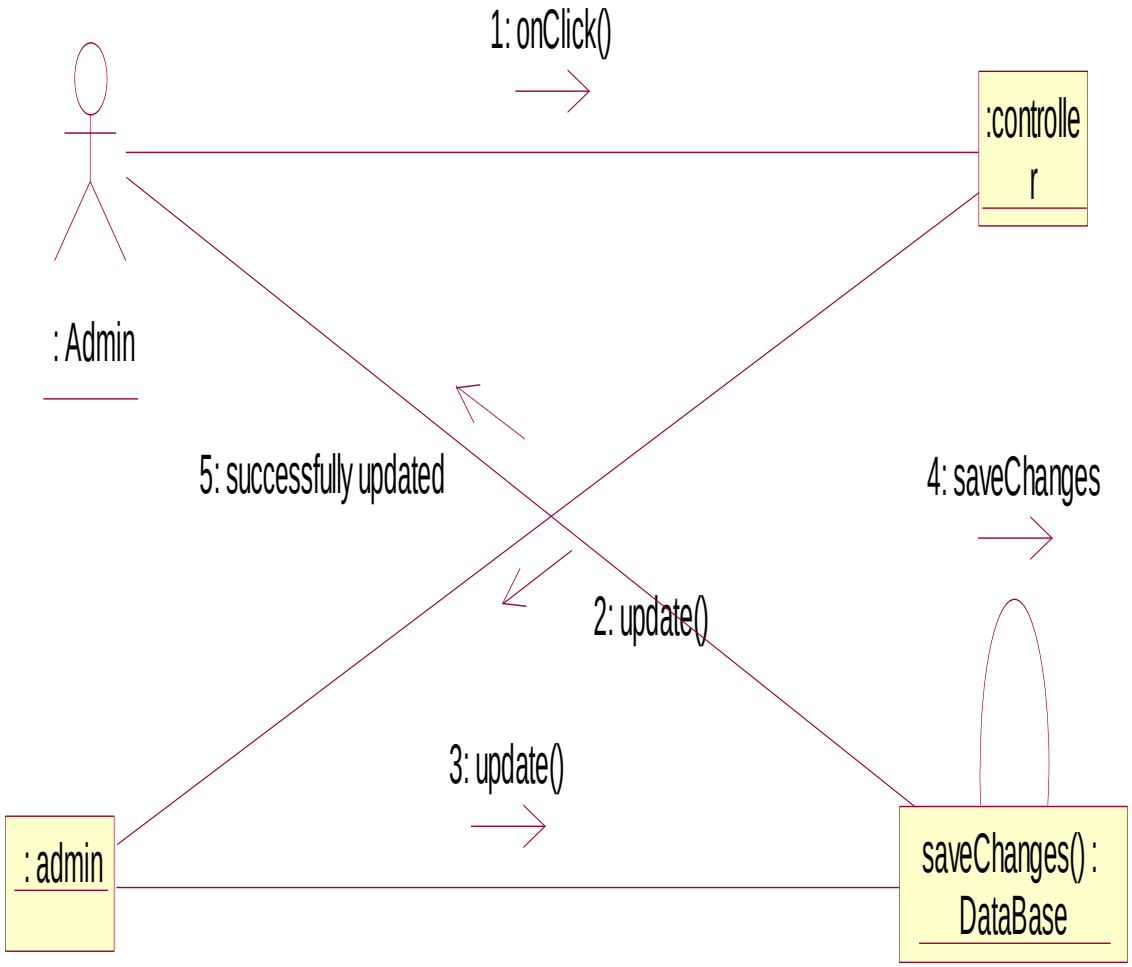
3.5.5.3 Compose Feedback



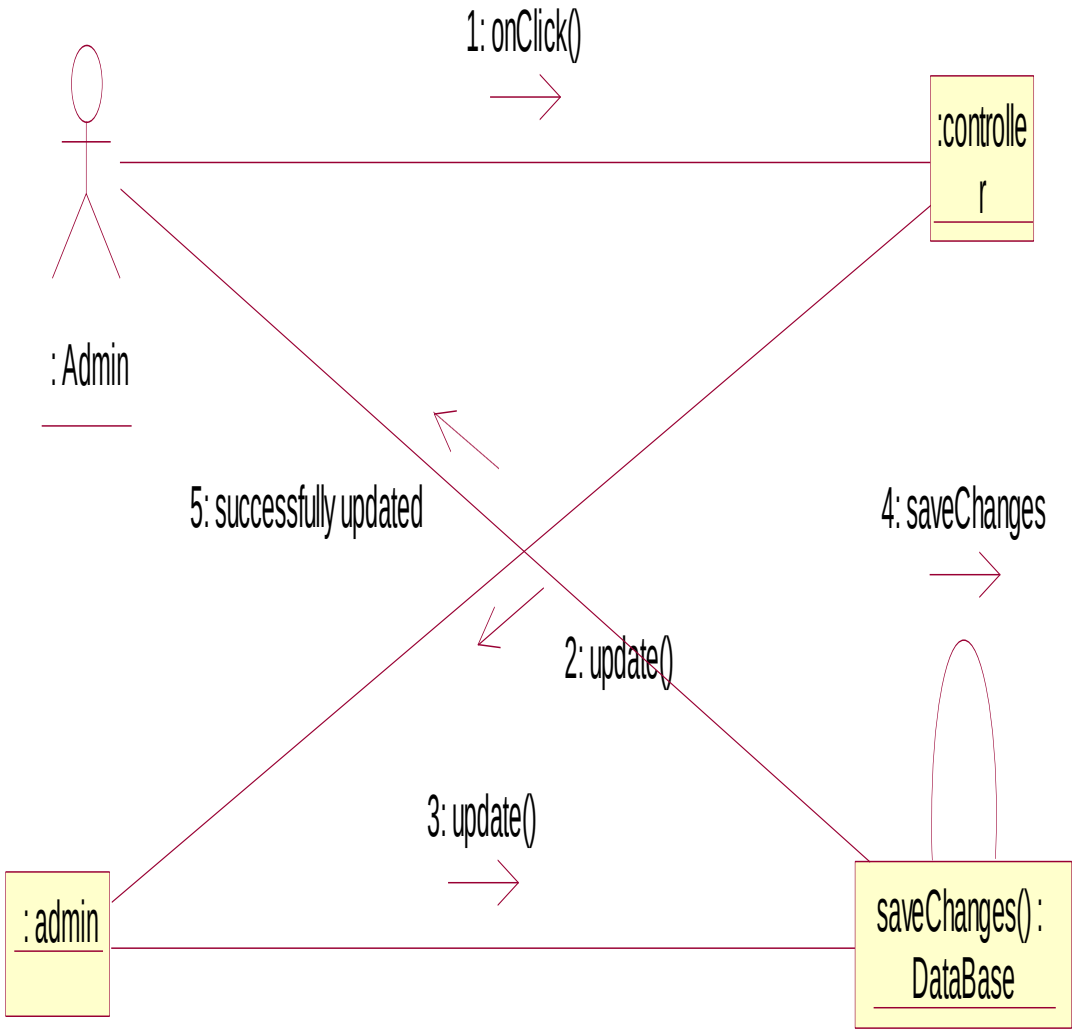
3.5.5.4 Admin Login



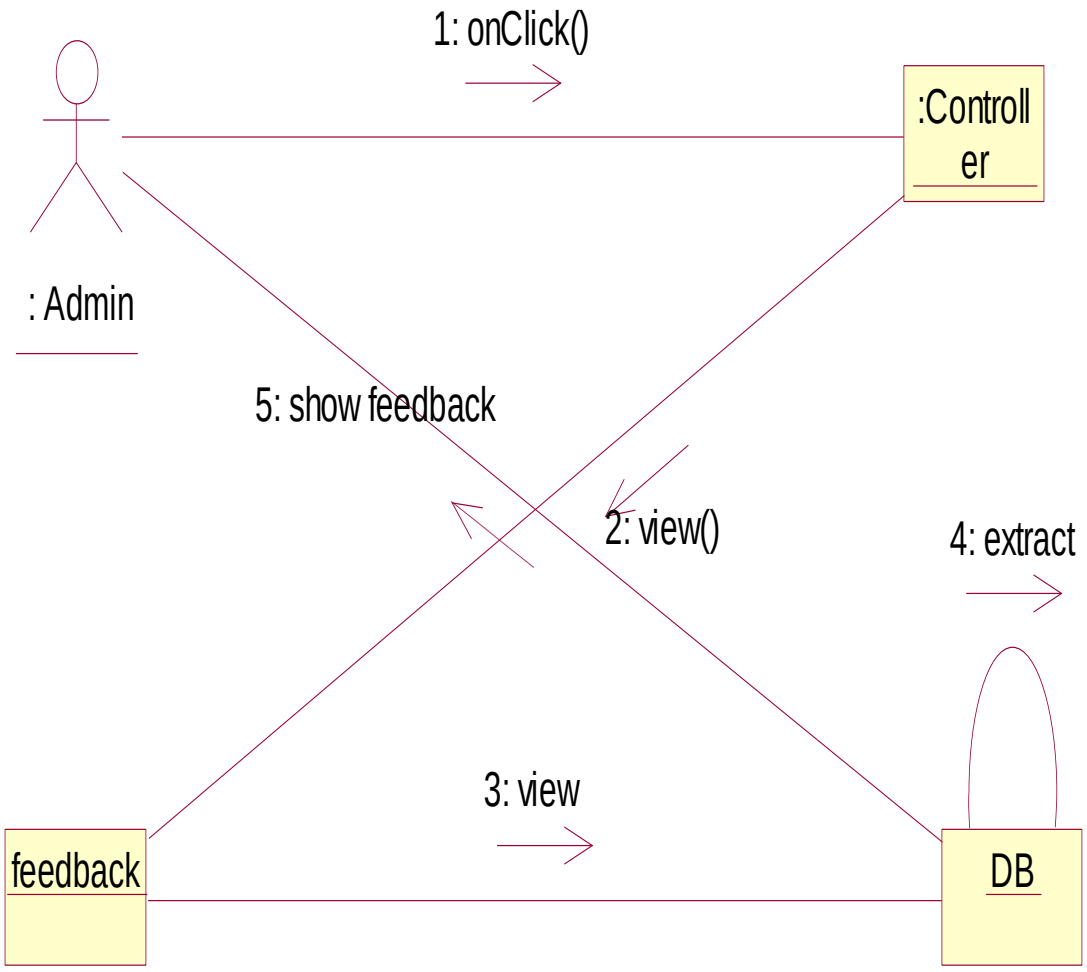
3.5.5.5 Update News Feed



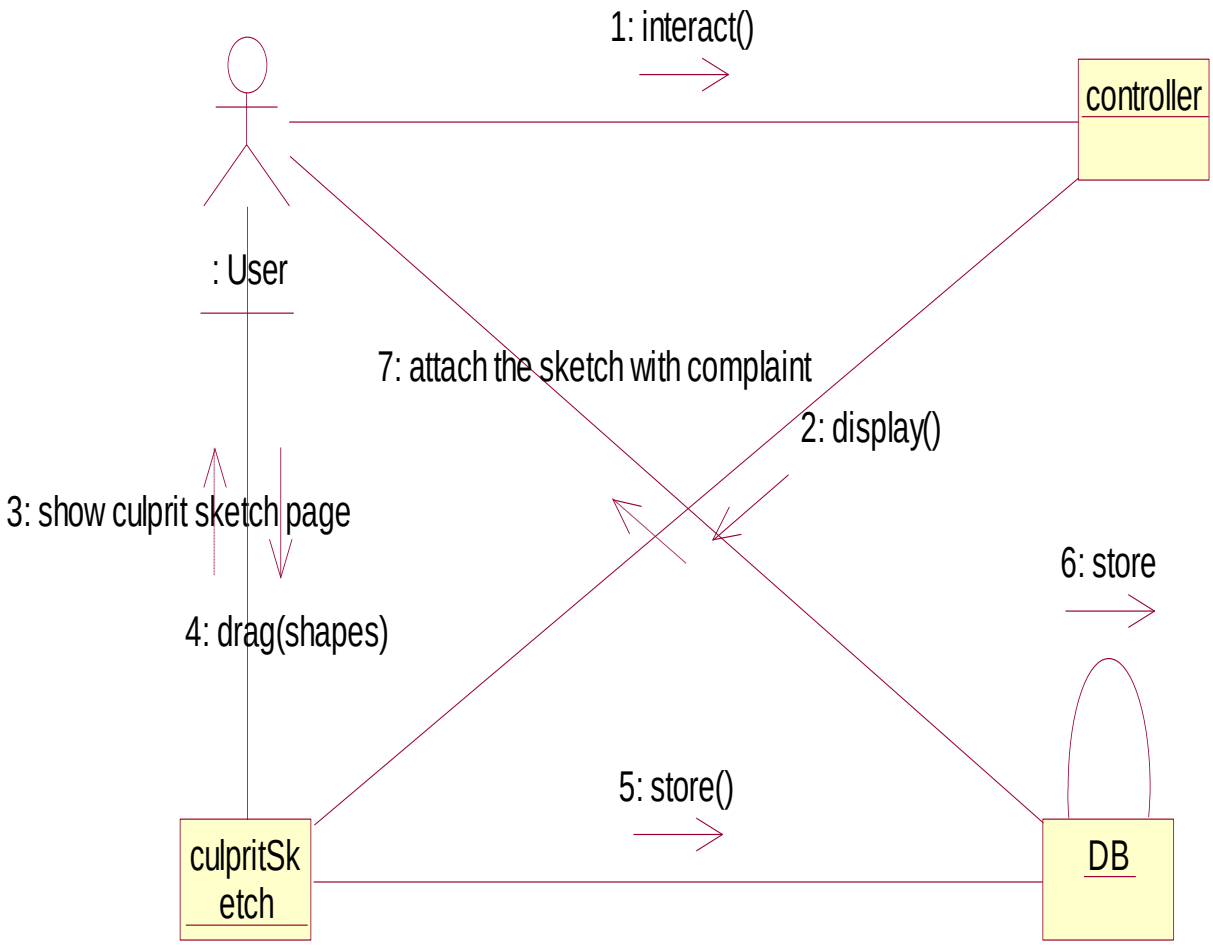
3.5.5.6 View News Feed



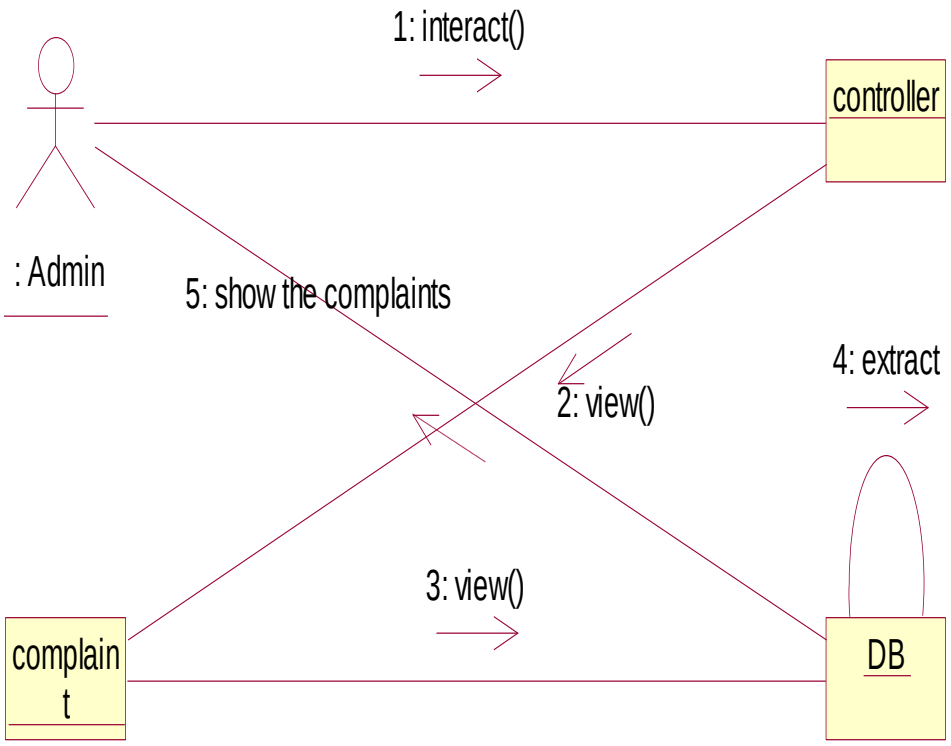
3.5.5.7 View Feed Back



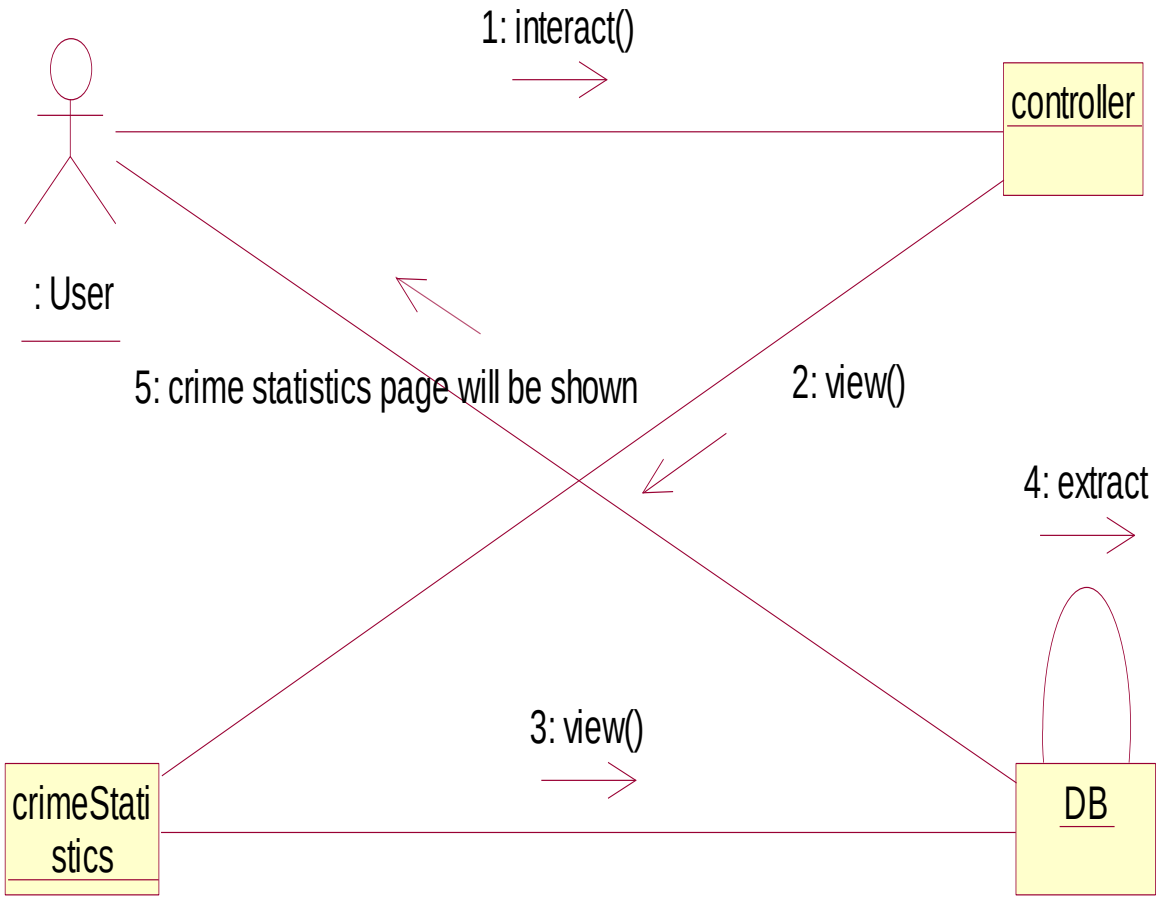
3.5.5.8 DRAW CULPRIT SKETCH



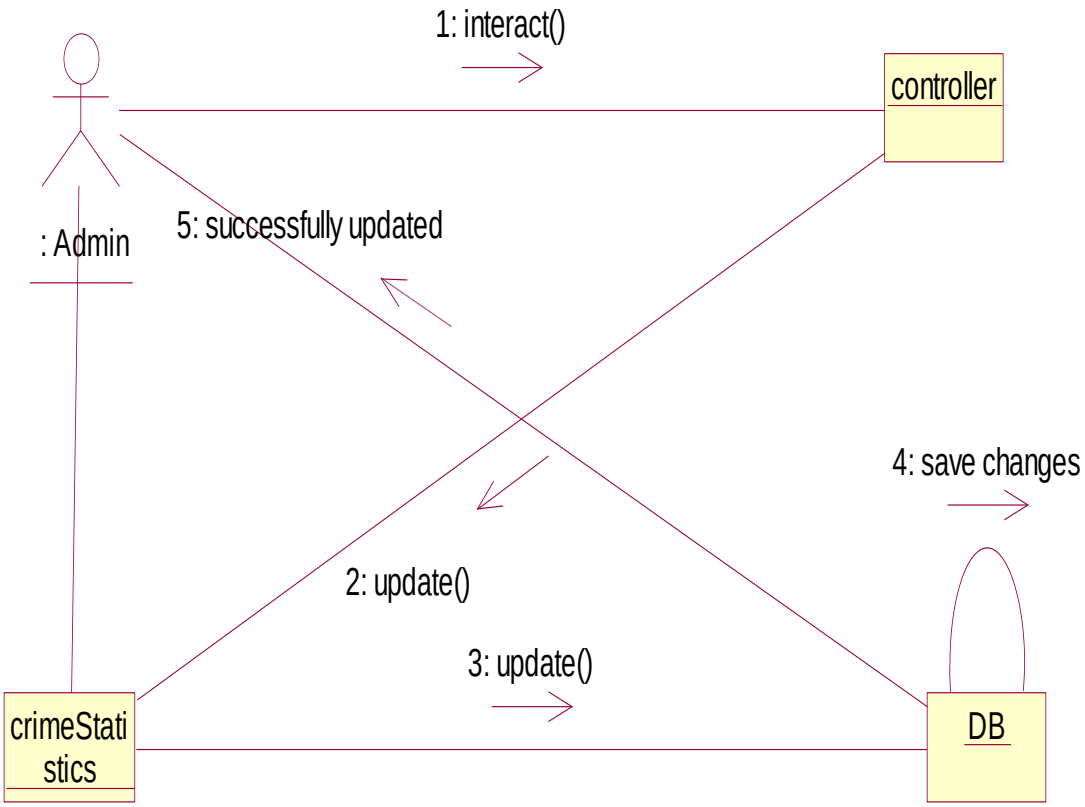
3.5.5.9 View complaint



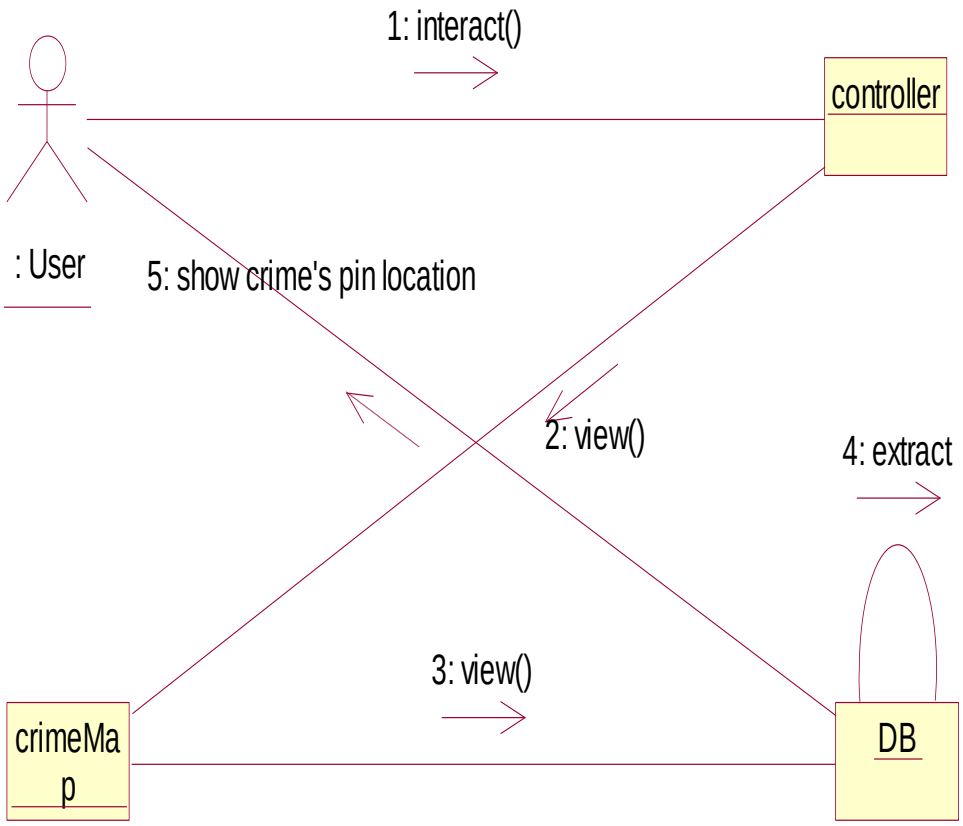
3.5.5.10 View crime statistics



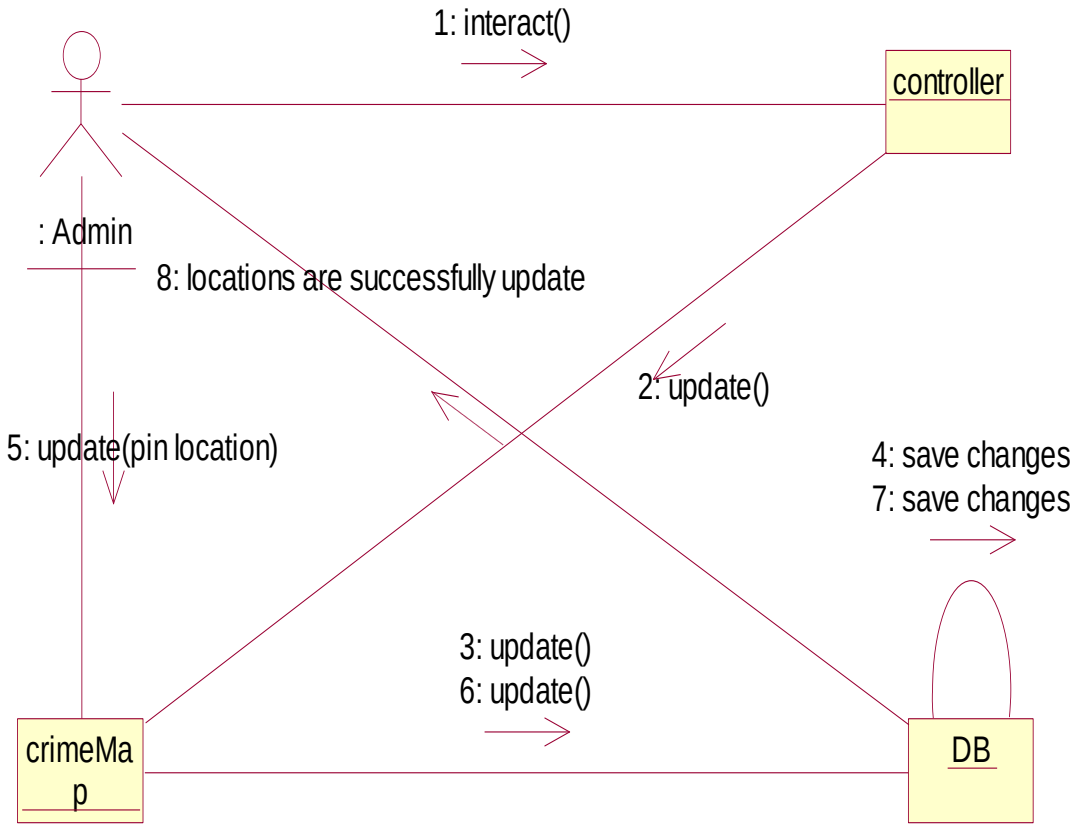
3.5.5.11 Update crime statistics



3.5.5.12 View crime location



3.5.5.13 Update crime location



3.5.6 Operation Contracts

3.5.6.1 OC: Register Complaint

- **Name:** Register ()
- **Responsibilities:** Fill all entries in the complaint form
- **Cross References:** Use Case: Register Complaint
- **Exceptions:**

    2. Server may be down
    3. Low speed internet connection

- **Pre-Conditions:** A user wants to register complaint.
- **Post Conditions:** The complaint of user will be registered successfully

3.5.6.2 OC: Receive Complaint No

- **Name:** Receive Complaint No ()
- **Responsibilities:** It will assign a unique no against every complaint.
- **Cross References:** Use Case: Receive complaint no
- **Exceptions:** User has not filed the complaint form properly.
- **Pre-Conditions:** User has made a complaint.
- **Post Conditions:** User will get a unique complaint no against its complaint.

3.5.6.3 OC: View Complaint

- **Name:** View Complaint ()
- **Responsibilities:**

  Admin will view all the complaint registered. Server gets the data from database.

- **Cross References:** Use Case: View Complaint
- **Exceptions:** Low speed of internet of breakdown of database could effect.
- **Pre-Condition:**

  1. Admin must have an internet connection
  2. Admin must be login

- **Post Condition**: Admin will see the complaints registered.

3.5.6.4 OC: Forward Complaint

- **Name:** Forward complaint ()
- **Responsibilities:**

  Forward complaint to the particular police station. Server gets the data from database.

- **Cross References:** Use Case: Forward complaint
- **Exceptions:**

  In case of slow speed of internet Admin will not be able to forward complaint.

- **Pre-Condition:**

  1. Admin must have an internet connection.
  2. Admin must be log in to the system

- **Post Condition:** Complaint is forward to particular police station.

3.5.6.5 OC: Discard Complaint

- **Name:** Discard ()
- **Responsibilities:** Admin discard the incomplete complaint.
- **Cross References:** Use Case: Discard Complaint
- **Exceptions:**

  In case of slow speed of internet admin may not be able to access the system.

- **Pre-Conditions:**

  1. Admin must have an internet connection.
  2. Admin must be log in to the system

- **Post Condition:** Complaint discards.

3.5.6.6 OC: Send Feed Back

- **Name:** Compose Feedback ()
- **Responsibilities:**

  Help the sector to improve the performance by giving feedback.

- **Cross References:** Use Case: Send feedback
- **Exceptions:**

  In case of slow speed of internet user may not be able to visit our site and give feedback.

- **Pre-Conditions:**

  1. User must have a stable internet connection.
  2. User must have viewed all our performance to give feedback.

- **Post Condition:** Feedback is given and stored in database.

3.5.6.7 OC: View Feedback

- **Name:** Show ()
- **Responsibilities:** View feedback for further use and to improve performance.
- **Cross References:** Use Case: View Feedback
- **Exceptions:**

  In case of slow speed of internet Admin will not be able to view feedback.

- **Pre-Condition:**

  1. Admin must have an internet connection.
  2. Admin must have an internet connection.
  3. Admin must be log in to the system

- **Post Condition:** View feedback for improving performance.

3.5.6.8 OC: Select shape

- **Name:** Select shape ()
- **Responsibilities:** Draw culprits sketch.
- **Cross References:** Use Case: select shape
- **Exceptions:**

  In case of slow speed of internet user will not be able to visit our site and draw sketch.

- **Precondition:**

  1. User must have an internet connection.
  2. User must have registered a complaint.

- **Post Condition:** Sketch would be drawn and submitted.

3.5.6.9 OC: Save/Attach Sketch

- **Name:** Attach ()
- **Responsibilities:** Attach sketch with the registered complaint.
- **Cross References:** Use Case: Save/Attach Sketch
- **Exceptions:**

  In case of slow speed of internet user will not be able to use draw tools and draw culprits sketch.

- **Pre-Condition:**

  1. User must have an internet connection.
  2. User must have registered a complaint.

- **Post Condition:** Sketch is attached with the complaint.

3.5.6.10 OC: View Newsfeed

- **Name:** View ()
- **Responsibilities:** Update the user with job news and other events.
- **Cross References:** Use Case: View Newsfeed.
- **Exceptions:**

  In case of slow speed of internet user will not be able to visit our site.

- **Pre-Condition:** User must have an internet connection.
- **Post Condition:** Updated with the currents events and news.

3.5.6.11 OC: Update Newsfeed

- **Name:** Update newsfeed ()
- **Responsibilities:**

  Keep user up to date with the events and all other news regarding police.

- **Cross References:** Use Case: Update Newsfeed.
- **Exceptions:**

  In case of slow speed of internet Admin will not be able to update newsfeed.

- **Pre-Condition:**

  1. Admin must have an internet connection.
  2. Admin must be log in to the system

- **Post Condition:** Newsfeed updated.

3.5.6.12 OC: View Crime Statistics

- **Name:** View Statistics ()
- **Responsibilities:** Update the user with crime rate and crime count.
- **Cross References:** Use Case: View Crime Statistics.
- **Exceptions:**

  In case of slow speed of internet user will not be able to visit our site.

- **Pre-Condition:** User must have an internet connection.
- **Post Condition:** Updated with the crime count and crime rate.

3.5.6.13 OC: Update Crime Statistics

- **Name:** Update crime statistics ()
- **Responsibilities:** Keep user up to date with the crime rate and count.
- **Cross References:** Use Case: Update Crime Statistics.
- **Exceptions:**

  In case of slow speed of internet Admin will not be able to update crime statistics.

- **Pre-Condition:**

  1. Admin must have an internet connection.
  2. Admin must be log in to the system

- **Post Condition:** Crime Statistics updated.

3.5.6.14 OC: View Crime location on map

- **Name:** View location ()
- **Responsibilities:** Update the user with crime rate and crime count in the city.
- **Cross References:** Use Case: View Crime location on map.
- **Exceptions:**

  In case of slow speed of internet user will not be able to visit our site and view map.

- **Pre-Condition:** User must have an internet connection.
- **Post Condition:**

  Updated with the crime count and crime rate on map and pin the location.

3.5.6.15 OC: Update Crime Location on map

- **Name:** Update crime statistics ()
- **Responsibilities:** Update the user with crime rate and crime count in the city.
- **Cross References:** Use Case: Update Crime location on map.
- **Exceptions:**

  In case of slow speed of internet Admin will not be able to update crime location on map.

- **Pre-Condition:**

  1. Admin must have an internet connection.
  2. Admin must be log in to the system

- **Post Condition:** Crime location on map is updated.

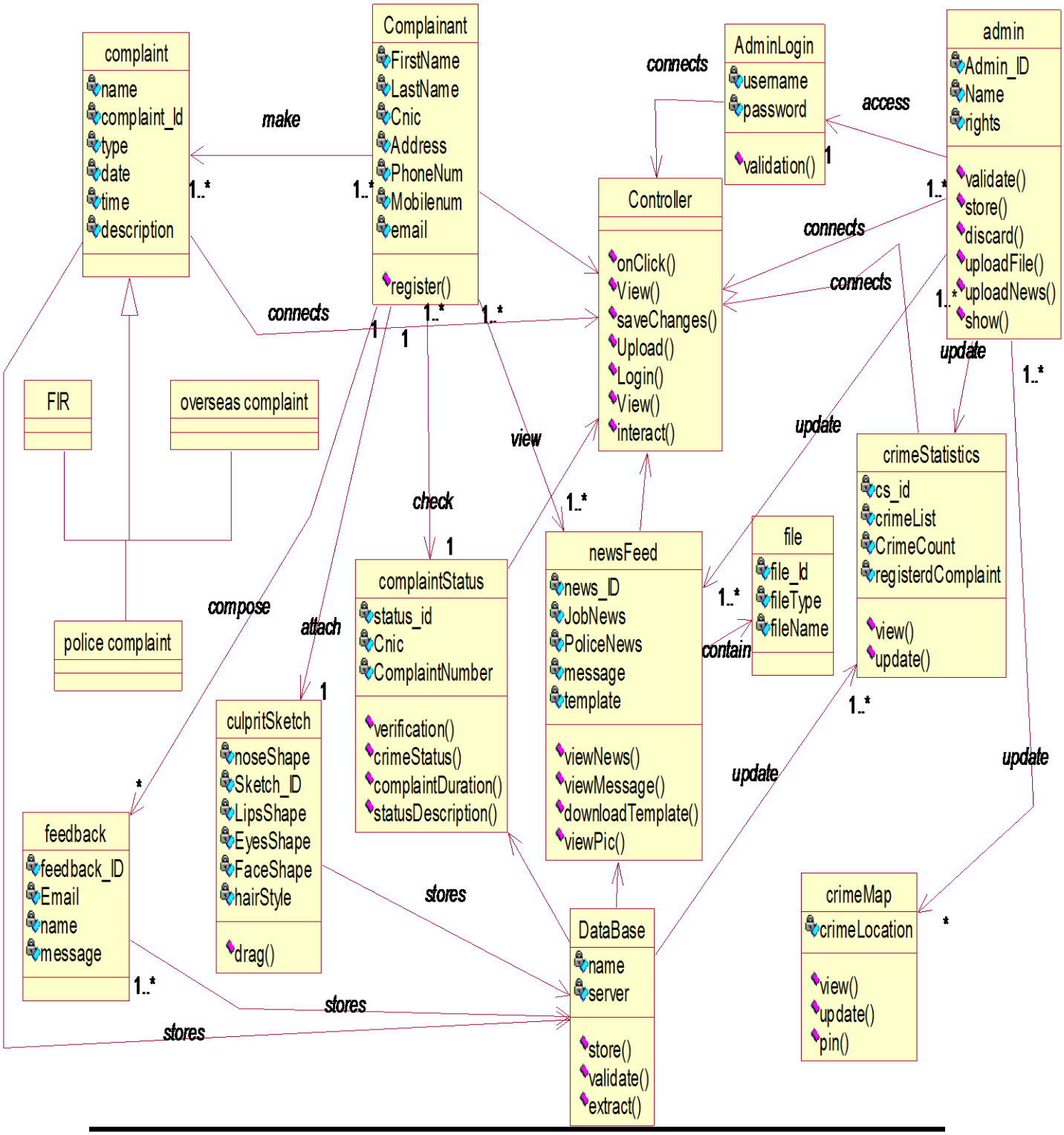
3.5.6.16 OC: Admin login

- **Name:** Login ()
- **Responsibilities:** Admin login the system to make changes and for updating.
- **Cross References:** Use Case: Admin login
- **Exceptions:** If the Admin forgets its password he have to register it again.
- **Pre-Condition:**

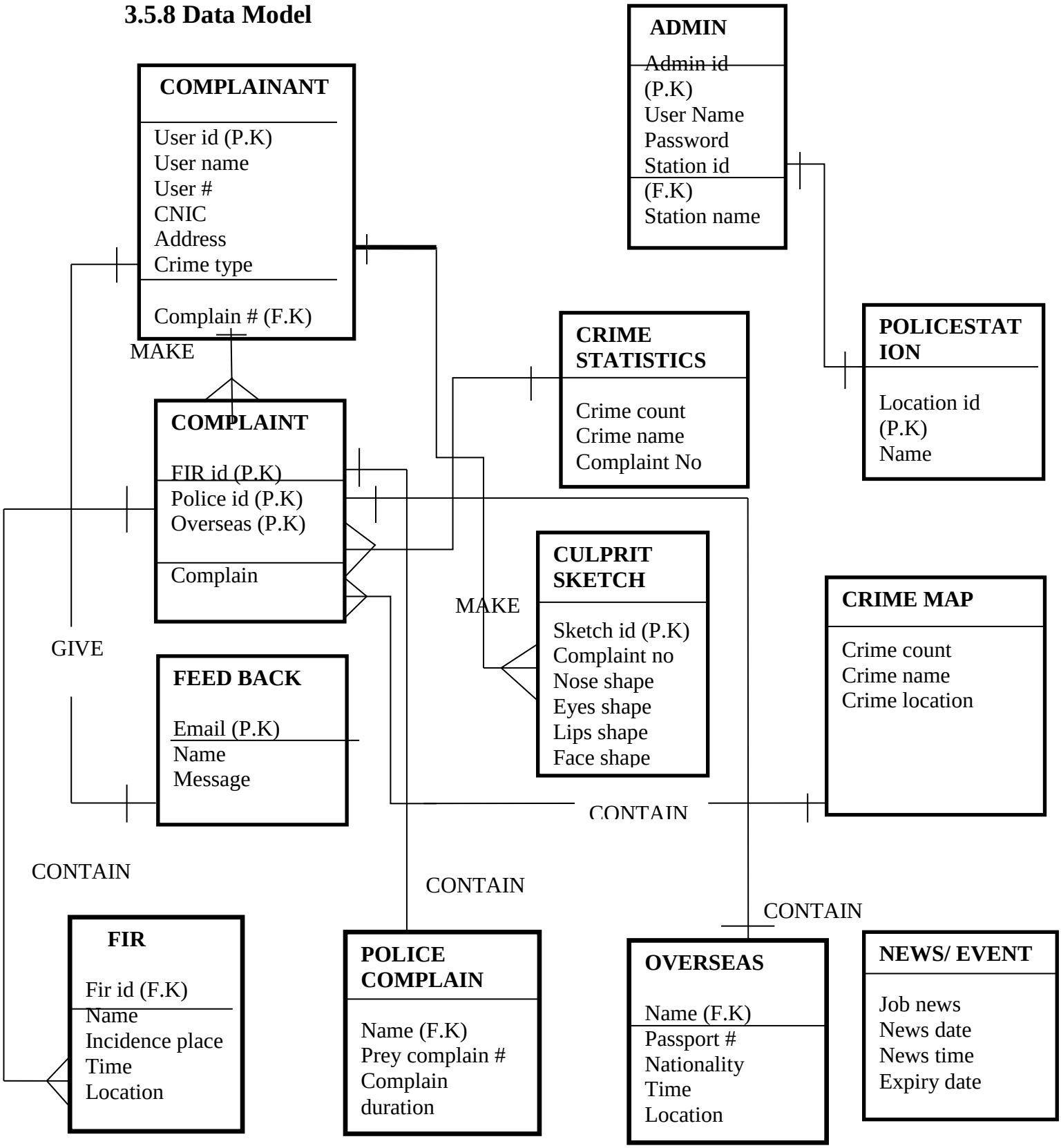
  1. Admin must have an internet connection.
  2. Admin must have an account.

- **Post Condition:** Admin will be login

3.5.7 Design Class Diagram



3.5.8 Data Model



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