



**National University of Computer & Emerging Sciences  
(FAST-NUCES)**

## **Community Engagement Portal**

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**National University of Computer & Emerging Sciences (FAST-NU)**

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## **ABSTRACT**

Citizens have many complaints to report in the different government sectors, where they have to write an application and to go to that particular department to register their complaints. The “Community Engagement Portal” (CEP) is an independent application by which citizens (common people) can lodge their complaints.

The traditional process of registering complaints consists of citizens meeting involving discussion usually among experts and often include audience participation. In general, the complaint may belong to a specific issue like electricity, gas, water, food. As citizens have to go to different sectors for their different complaints.

Our project will make it easy for citizens to register their complaints in different government sectors such as Food, Electricity, Gas, Water, etc. and their complaints are directly forwarded to their particular department, and users can check the status of their complaint that how it is further processed by the department officials through their web-based portal. Hence making the work easy for both citizens and government sector officials.

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# Chapter One: Introduction

## 1.1 INTRODUCTION

With the rapid development in science and technology, the field of IT and computer science is evolving exponentially. Different types of software and systems have been built which have contributed enormously to the betterment of the world, taking over many tasks and providing better results.

“Community Engagement Portal“ (CEP) is an idea to introduce a platform for the citizens where they can register their daily life complaints related to the different government sectors and Certain department will receive that complaint and that department can control the whole processing of the complaints through a web-based portal from where department officials will update the status of the complaints so that the particular citizen who has register complaint can track the status of his complaint.

## 1.2 PURPOSE

The purpose of this project is to develop a system where a citizen can register their complaints in government sectors without writing a manual application and submit that application to the particular department for resolution of their problem.

## 1.3 SCOPE

Community Engagement Portal is a system which provides the user an easy and time effective way to register their complaints through a mobile app. This system can provide citizens a way to track the status of their complaints.

## 1.4 ABOUT THE PROJECT

Community Engagement Portal is a Mobile App for citizens where citizens can create their account and register their issues in any government sectors which are mentioned and the complaint is transferred to the particular departments for their resolution, also citizens can check the status of their complaints and can get feedback about their complaints by the government officials of that department. Also, a Web portal for different government sectors is provided where government officials can view the complaints of their department and can respond to the complaints. Moreover, there is an Admin who can view all departments' complaints and can also create new departments.

## 1.5 EXISTING PORTAL

Pakistan Citizen Portal is a mobile application which link all the government sector organizations at the provincial as well as at the federal level. The application is the carrier of citizen's complaints to the related government department at the respective office all over the Pakistan for their further solution. Although citizen's can give their feedback for the concerned officers who were involved in the process of their complaint resolution, so, that to maintain the record of officer's performance at their work and also help the government to improve their services. The application is a good medium between government and citizens.

## 1.6 PROJECT SCHEDULING

Start Date	End Date	Project states and Objective
August 15	August 25	Meet with supervisor to discuss the idea, Project Abstract
August 26	September 16	Planning, Storyboarding levels, Screenplay, and Learning Technology.
September 17	October 26	Construct SRS and SDS document, choose tools, and Environment.
October 27	November 20	Basic User Interface
November 21	November 30	Database Management
December 1	December 5	Complaint Transformation
December 6	December 11	Web and App Designing
December 15	December 15	FYP-1 Demo
January 15	January 29	Web Services
January 31	February 10	Email Service
February 11	March 15	Sub-Admin Hierarchy
March 16	March 31	Tracking of Complain
April 01	April 10	Poster design and Final Overview
April 15	April 20	Complete Admin Portal
April 20	April 30	Last modification of the report.

## 1.7 Gantt chart

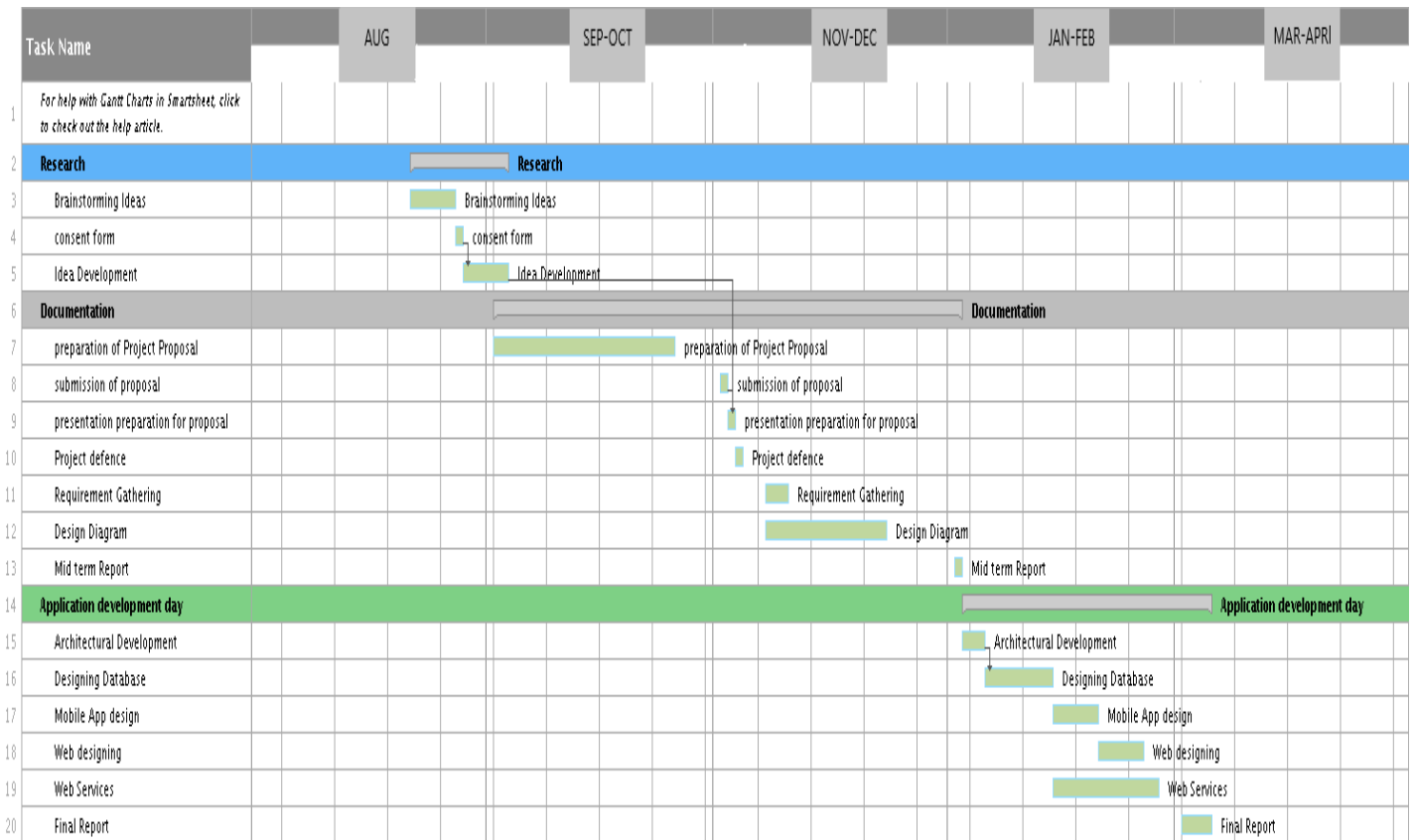


Figure 1 Gantt chart

## Chapter TWO: Requirement Analysis

### 2.1 Use Cases

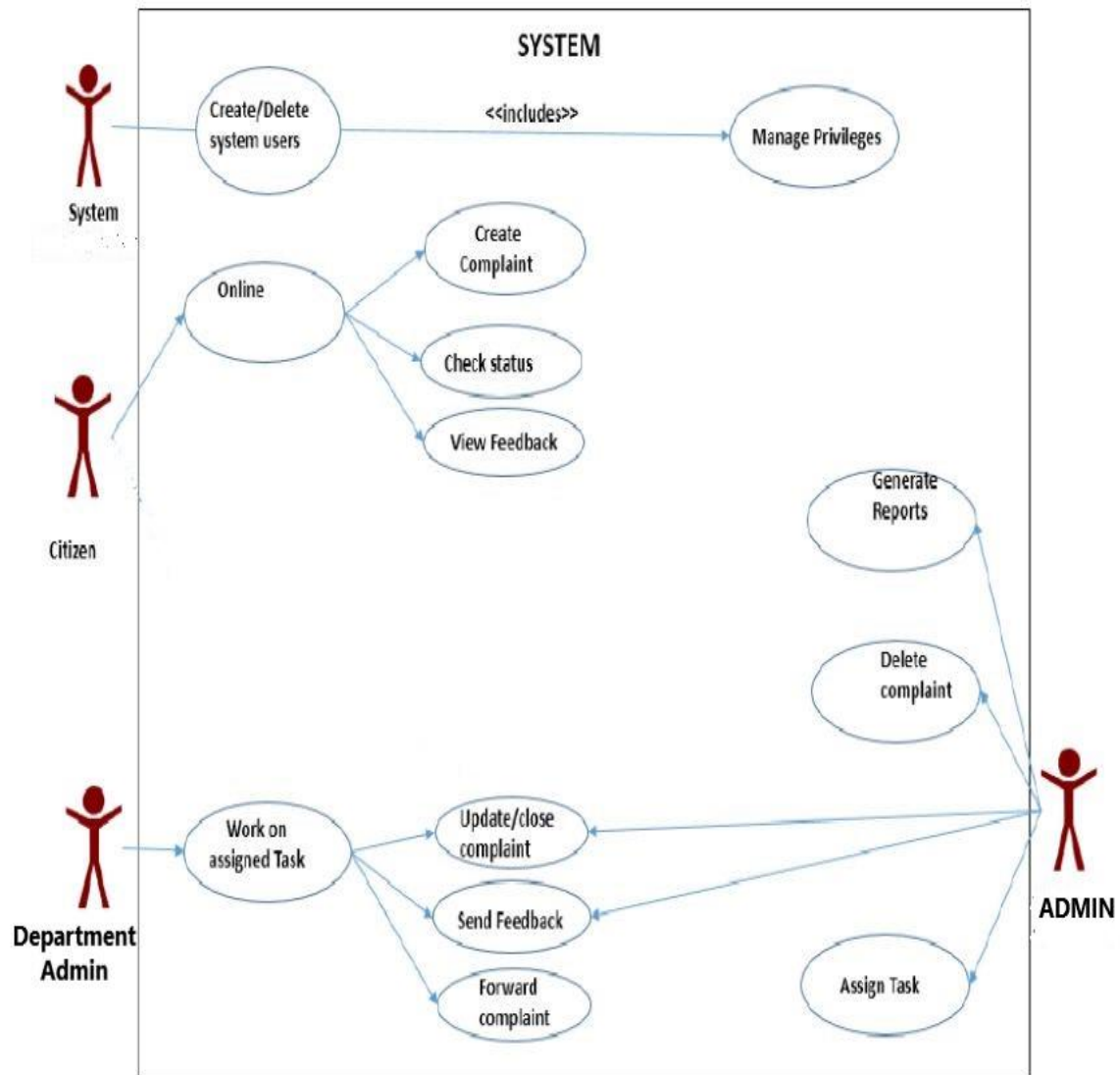


Figure 2 Use Case

## **2.2 Functional Requirements**

### **2.2.1 User Point of View**

- **Sign In / Sign Up**

A citizen can create his account by signing up and after sign up they can log in to their account.

- **Lodge Complaint**

Citizen/User Can register his complaint by selecting a department and other necessary fields and his complaint will be forwarded to the particular department.

- **Check Status of Complaints**

User can track the status off his complaints that they are being processed or not.

- **Change Password**

User is facilitated that he/she can change his password by providing the current password he can set his new password.

- **Check/Update Profile**

User has the privileges that he can modify his profile information and can also check it.

- **View Details of Complaints**

User can view the details of all his complaints through the app.

### **2.2.2 Admin Point of View**

- **View Complaints**

Admin is able to view all the complaints of all departments where Sub Admin can only be able to view the complaints of that department in which he is working.

- **Update Status of Complaints**

Admin is able to update status all the complaints of all departments where Sub Admin can only be able to update the status of the complaints of that department in which he is working.

- **View User Log**

Only admin has the privilege to view the user log that when that user has the last log on to the system.

- **Delete Users**

Only admin has the privilege to remove the users from the system.

- **Add Department**

Only the admin has the privilege to add a new department.

## **2.3 Non-Functional Requirement**

- **Required Resources**

Our system should be able to perform its tasks smoothly with 512 MB of RAM and should be able to take 4 GB of hard disk space.

- **Platform**

Our system should be able to run smoothly on any desktop browser and but the app must run on the devices which have API level minimum 19.

- **Maintainability**

The code that is being written for the System is maintainable for future enhancements.

- **Safety Requirements**

For the safety purpose when a user registers himself on the system an email verification and message is sent to the email address and phone number which the user has provided at the time of registration. Moreover, when the user registers a complaint, he will be notified through email about his complain registration.

## **2.4 Features**

- Smooth flow of data is shown without any redundancy.
- Proper validation checks for data input.
- Proper security of data.
- Proper facility to update user data anytime.
- Proper specific retrieval of data.
- Flexibility in the system according to the changing environment.
- Proper control of redundancy in storing the same data multiple times.
- Accuracy, timeliness, and comprehensiveness of the system output.
- Stable product and can be operated by people having average intelligence.

## Chapter THREE: DESIGN DETAILS

### 3.1 DELIVERABLE OF PROCESS MODELING

#### 3.1.1 Context Diagram

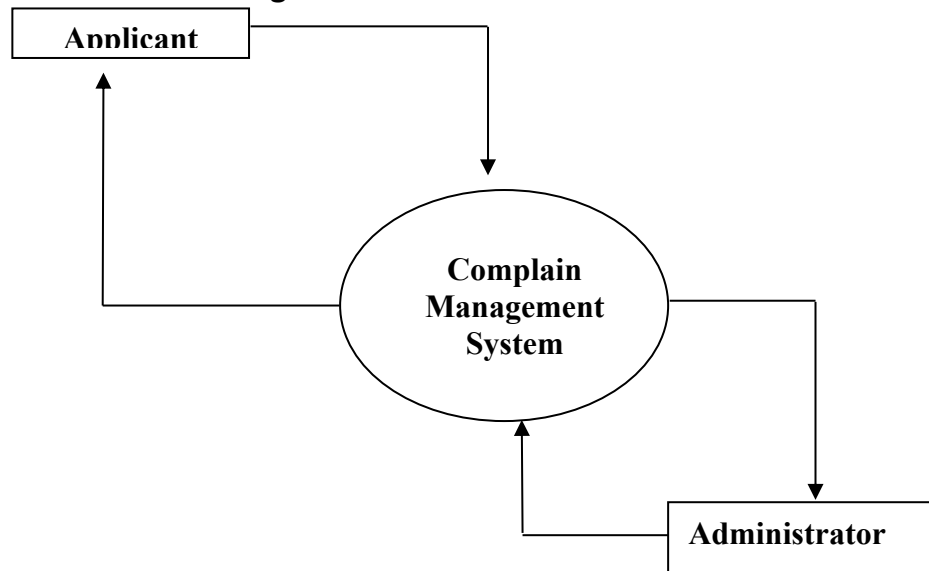


Figure 3 Context Diagram

#### 3.1.2 System Architecture

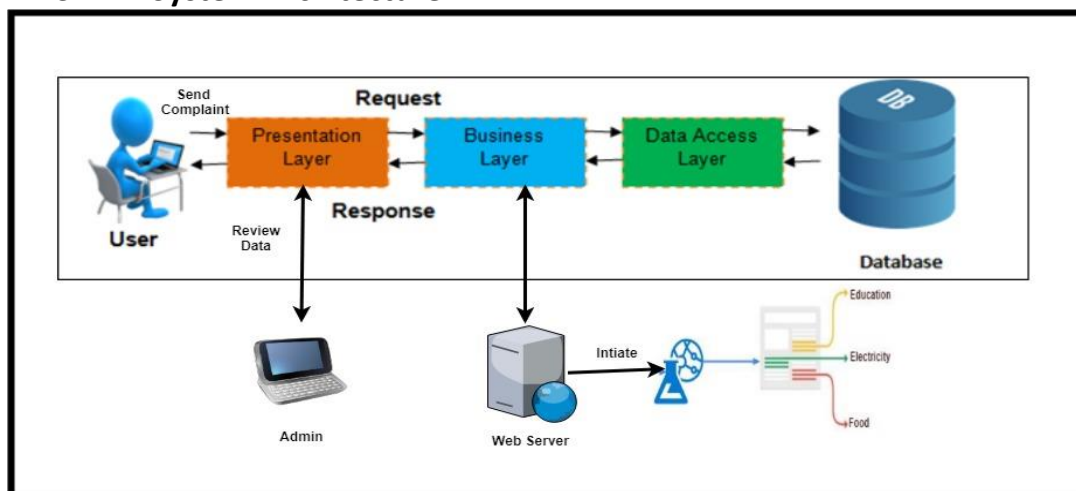


Figure 4 System Architecture



### 3.1.3 Class Diagram

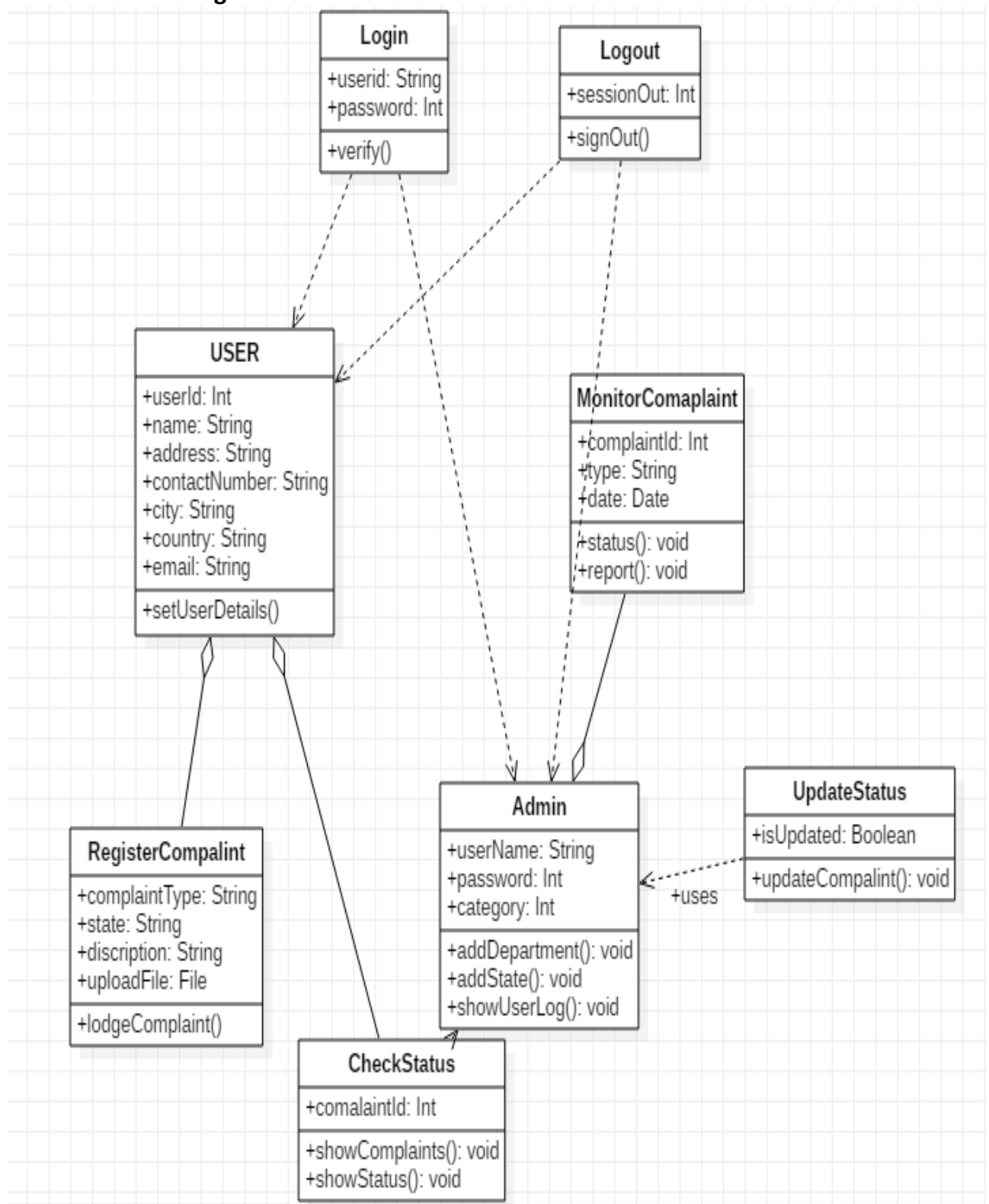


Figure 5 Class Diagram

### 3.1.4 Sequence Diagram

#### User Perspective

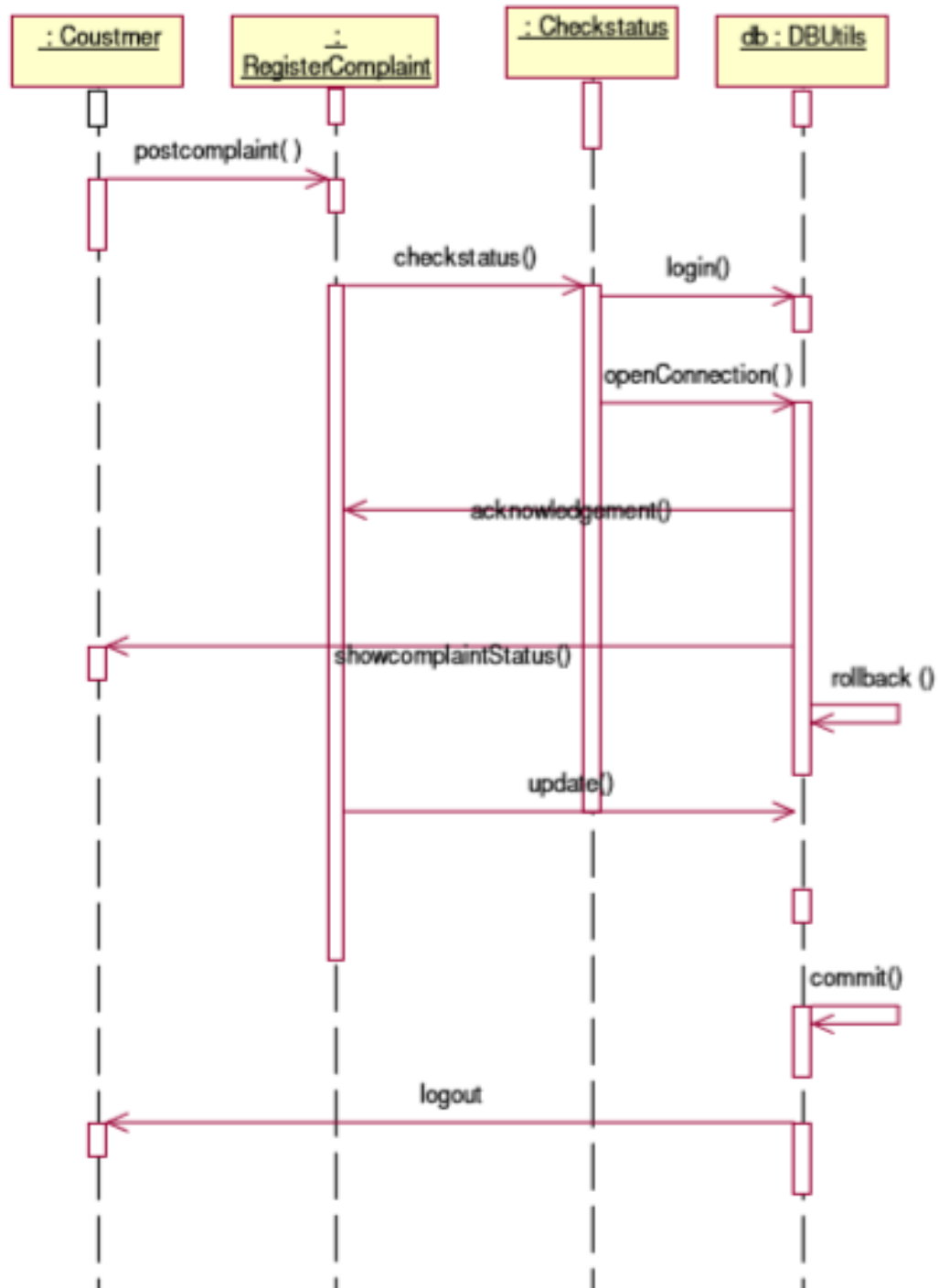


Figure 6 Sequence Diagram user Perspective

## Admin Perspective

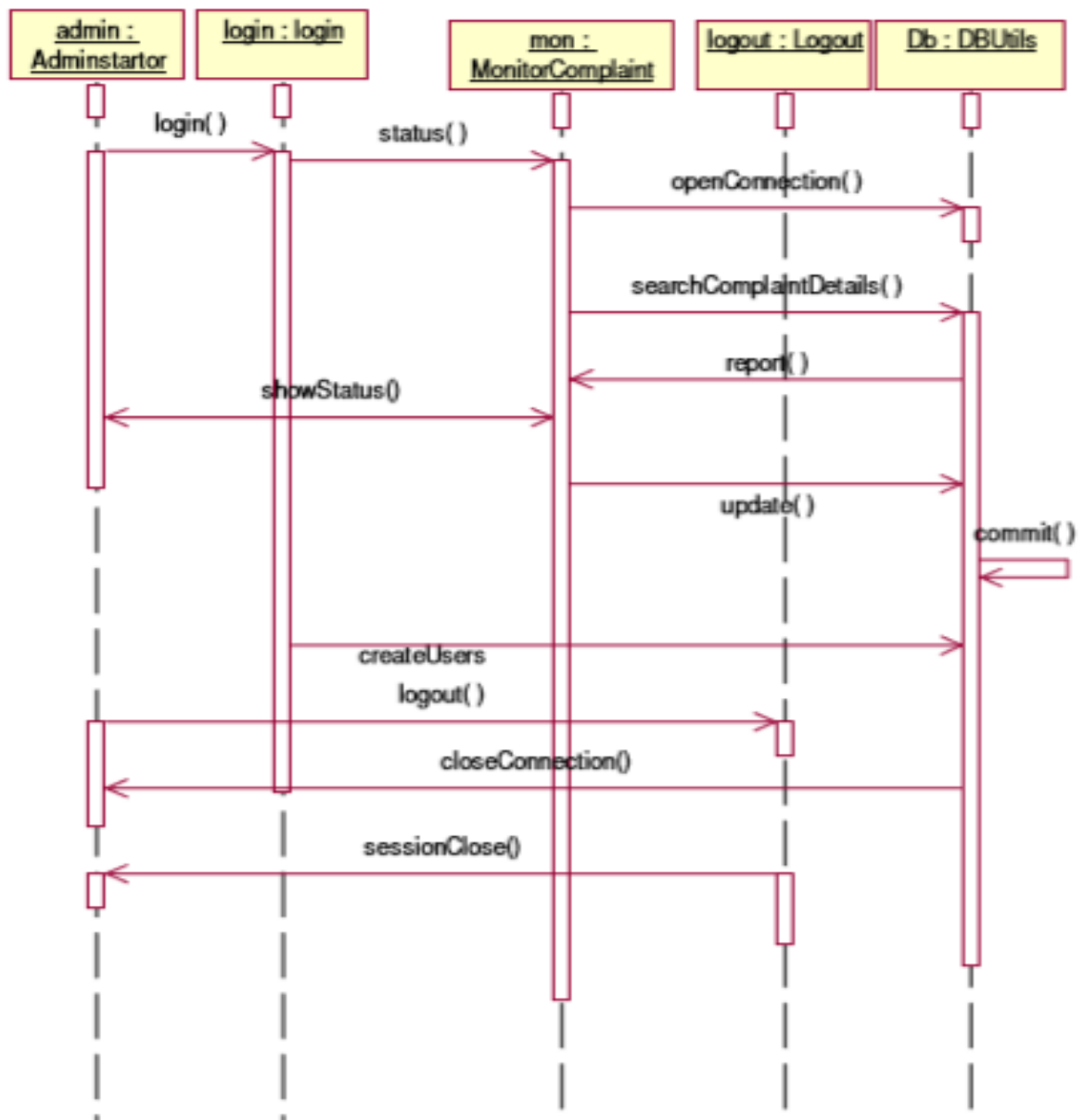


Figure 7 Sequence Diagram Admin Perspective

### 3.1.5 Collaboration Diagram

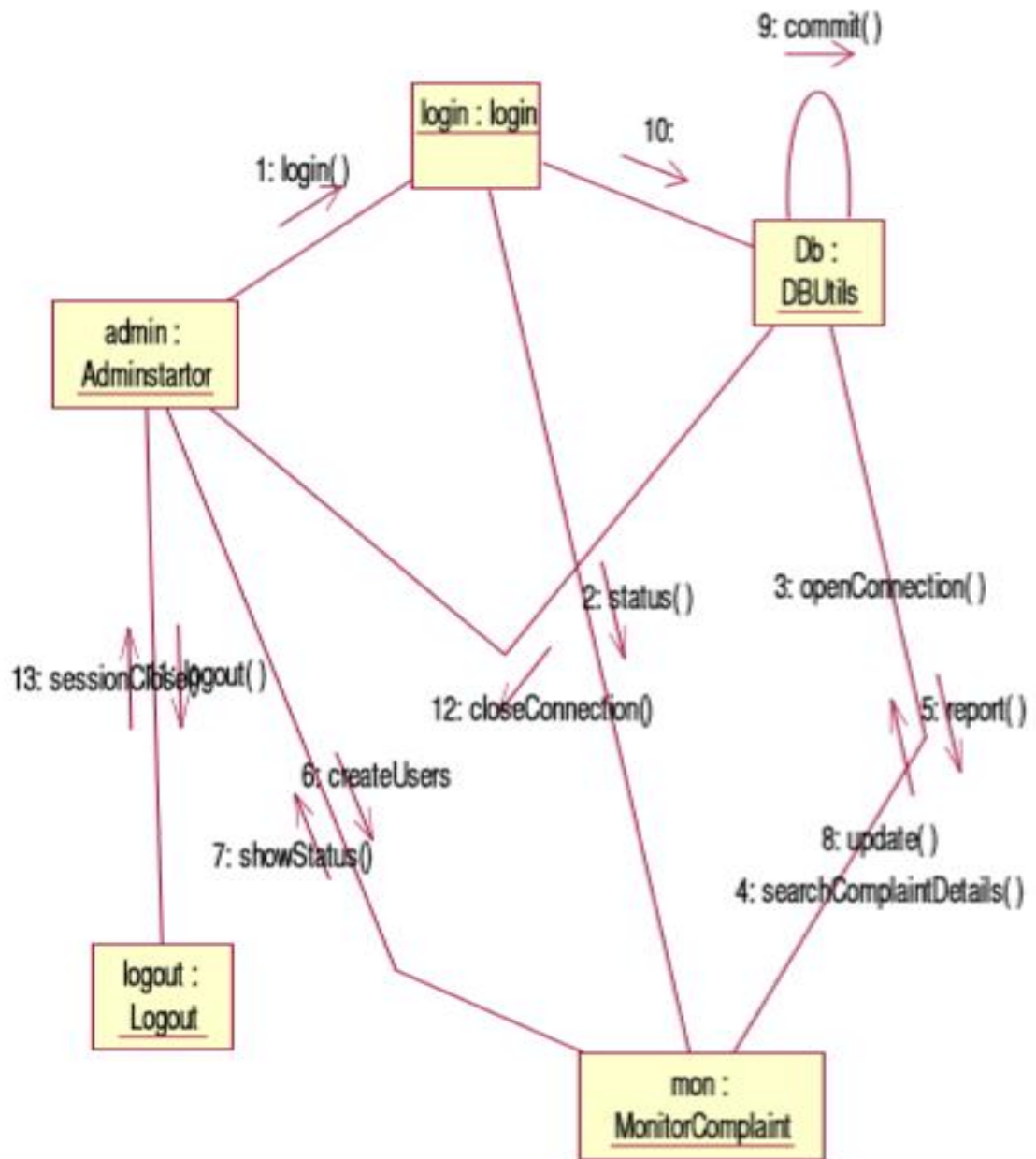


Figure 8 Collaboration Diagram

### 3.1.6 Deployment Diagram

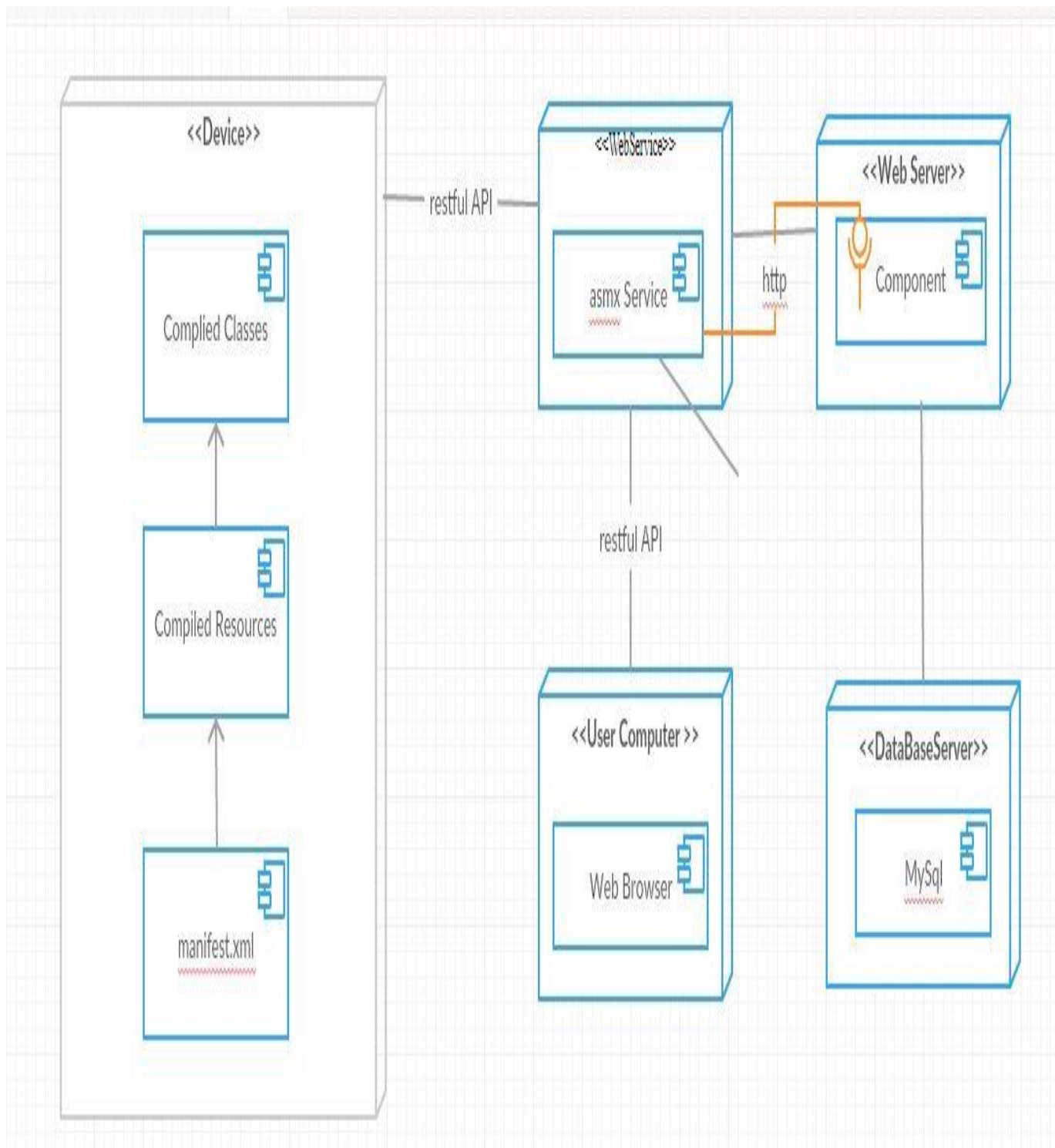


Figure 9 Deployment Diagram

### 3.1.7 Flow Chart

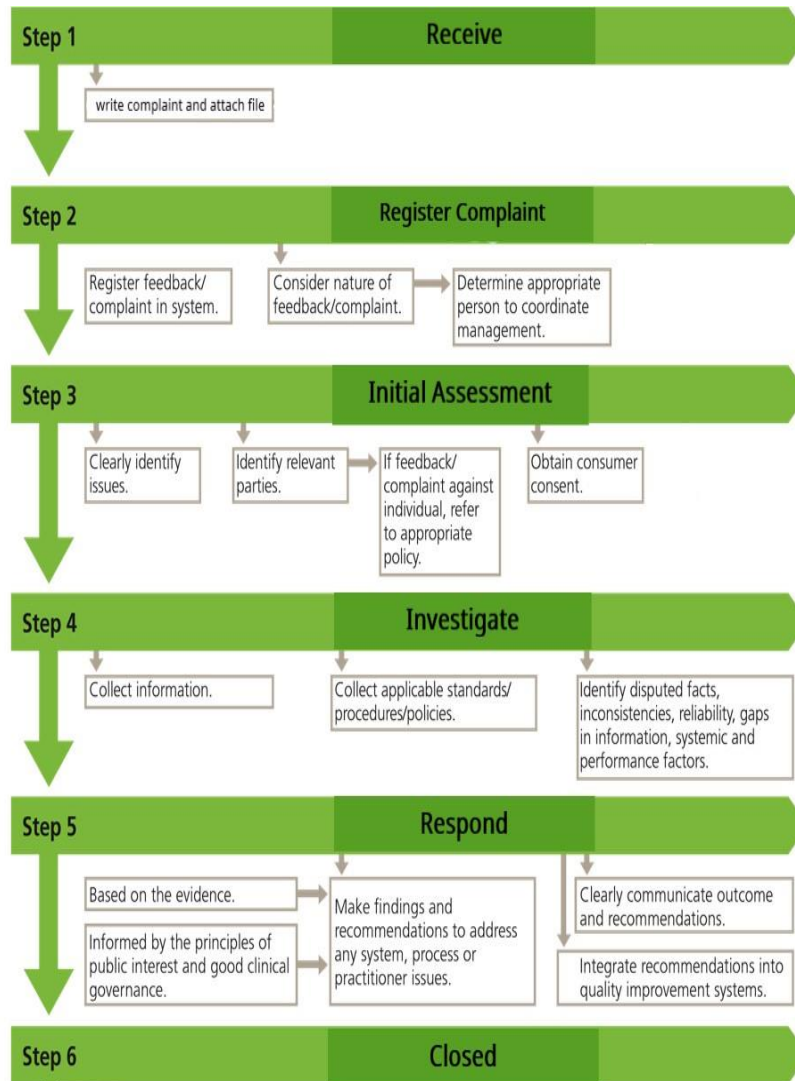


Figure 10 Flow Chart

### 3.1.8 Activity Diagram

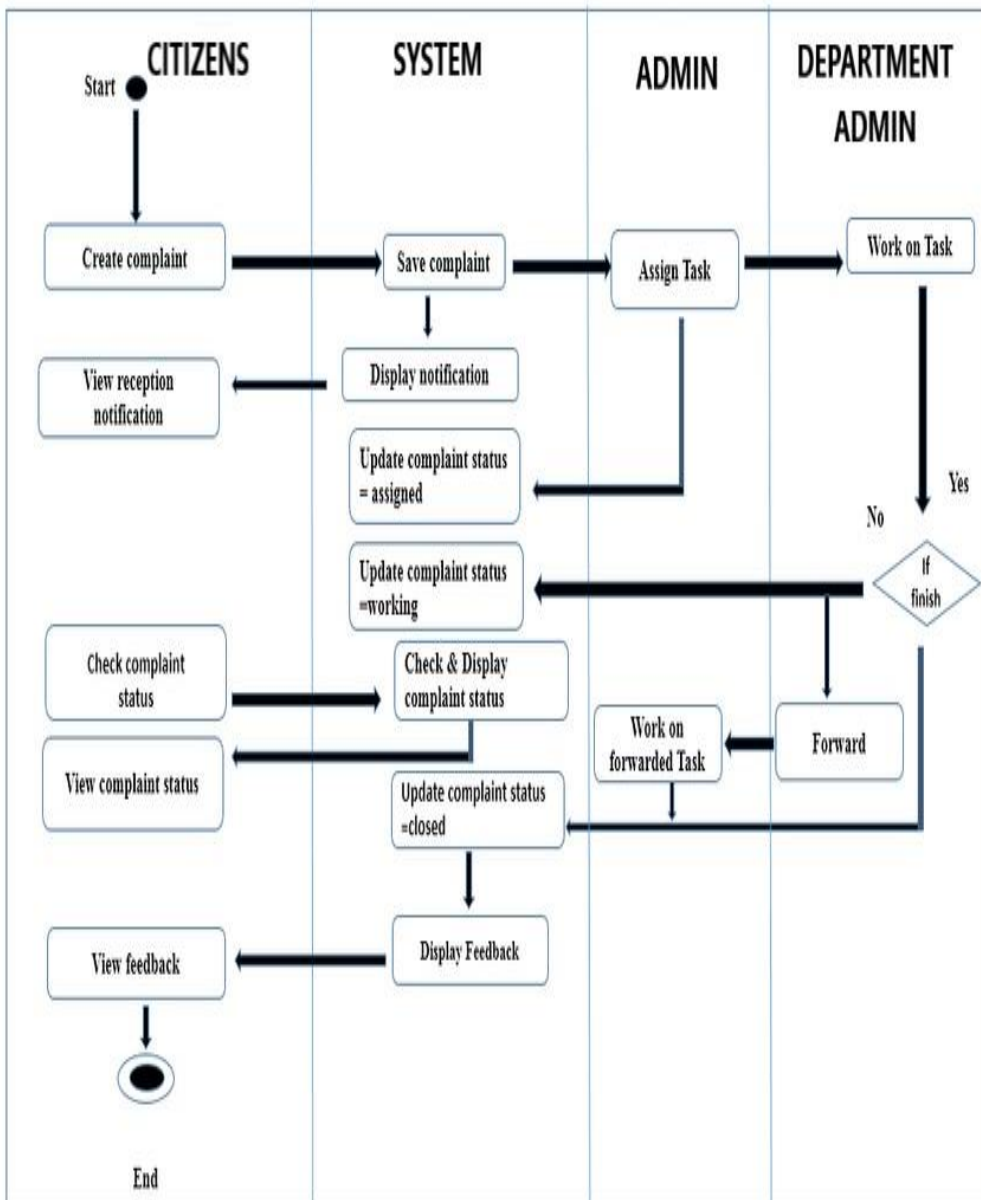


Figure 11 Activity Diagram

### 3.1.9 State Chart Diagram

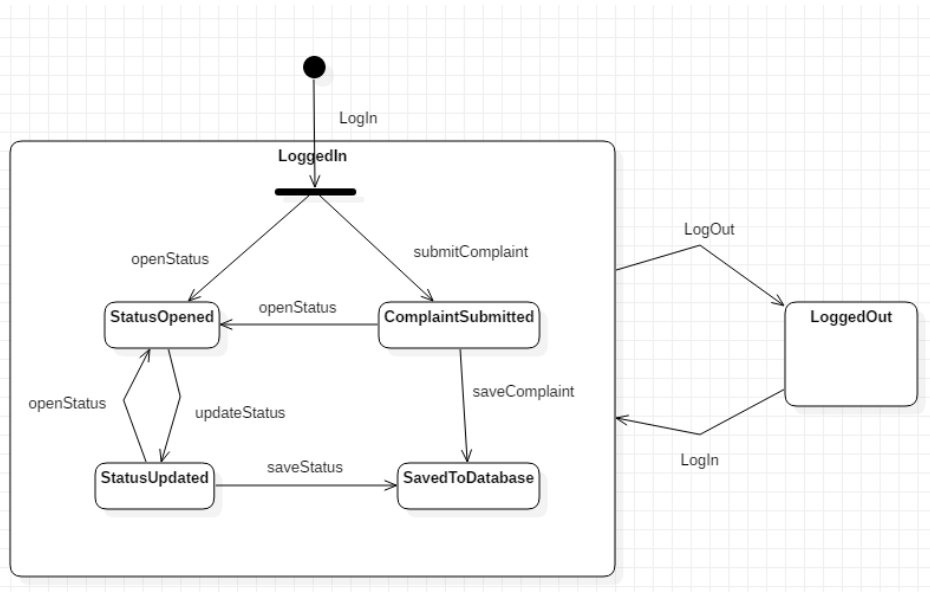


Figure 12 State Chart

### 3.1.10 Component Diagram

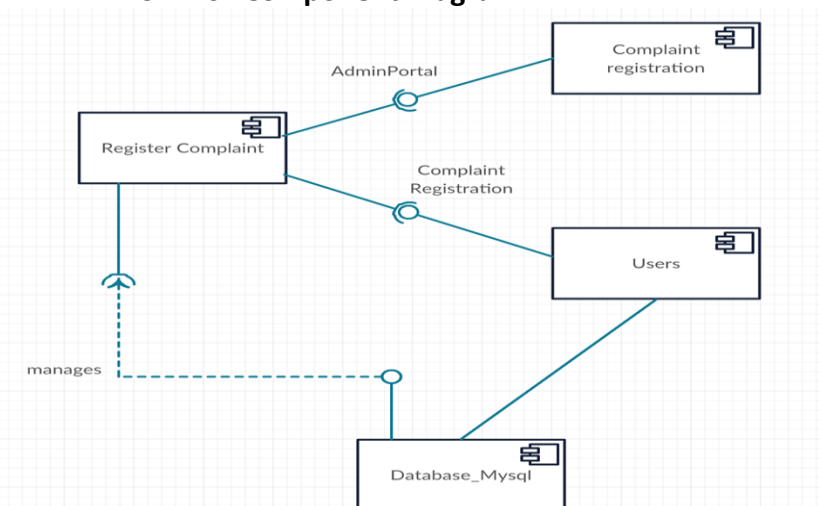


Figure 13 Component Diagram



## 3.2 Conceptual Data Modeling

### 3.2.1 Entity Relationship Diagram

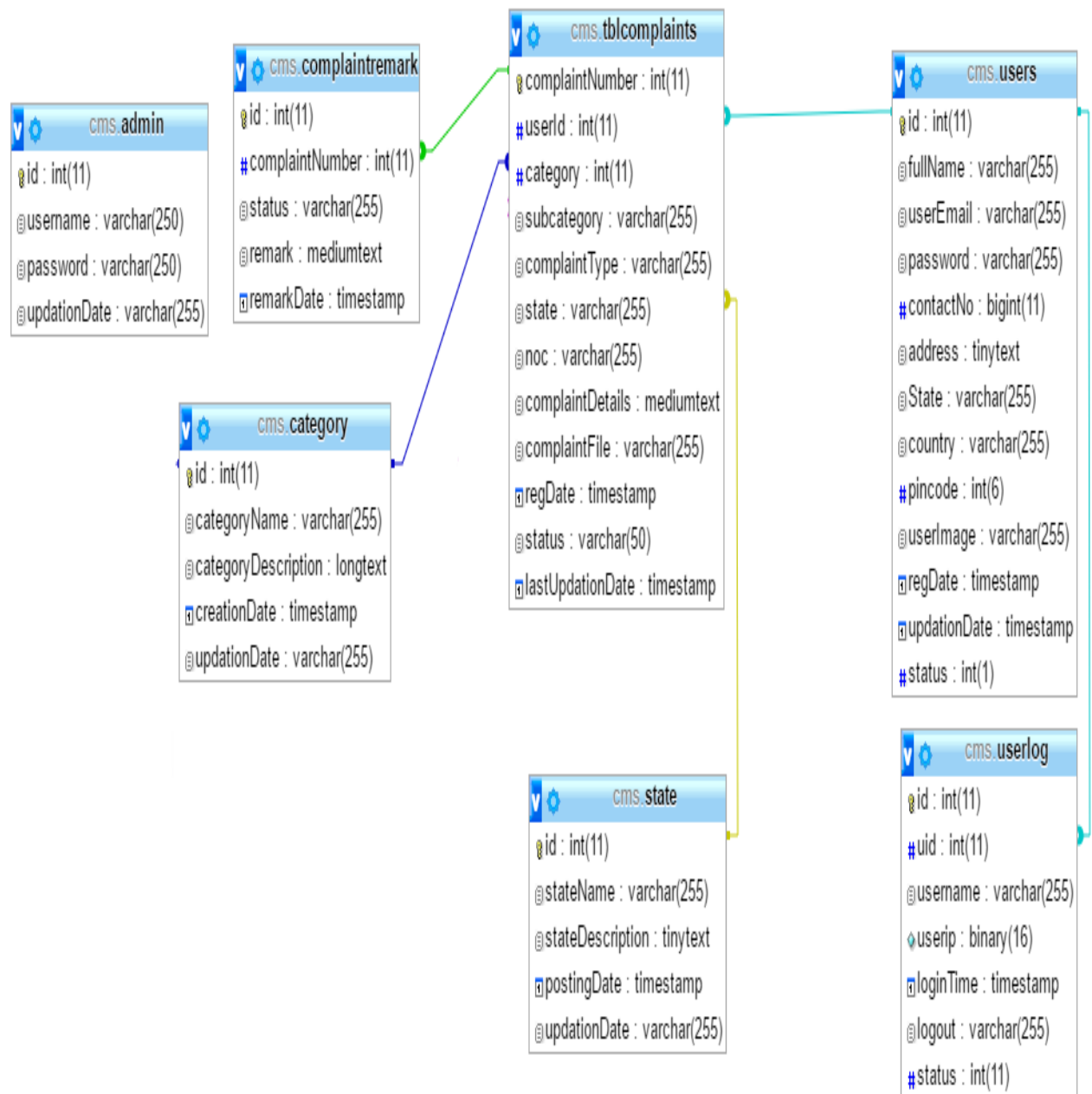


Figure 14 Entity Relationship Diagram

### 3.3 Software Process Model

The selected process model is the Spiral model. It is a flexible model with a repetitive approach, going forward in a circular manner where the project passes through four phases over and over in the form of a spiral, until it reaches the completion, hence allowing several rounds of refinement.

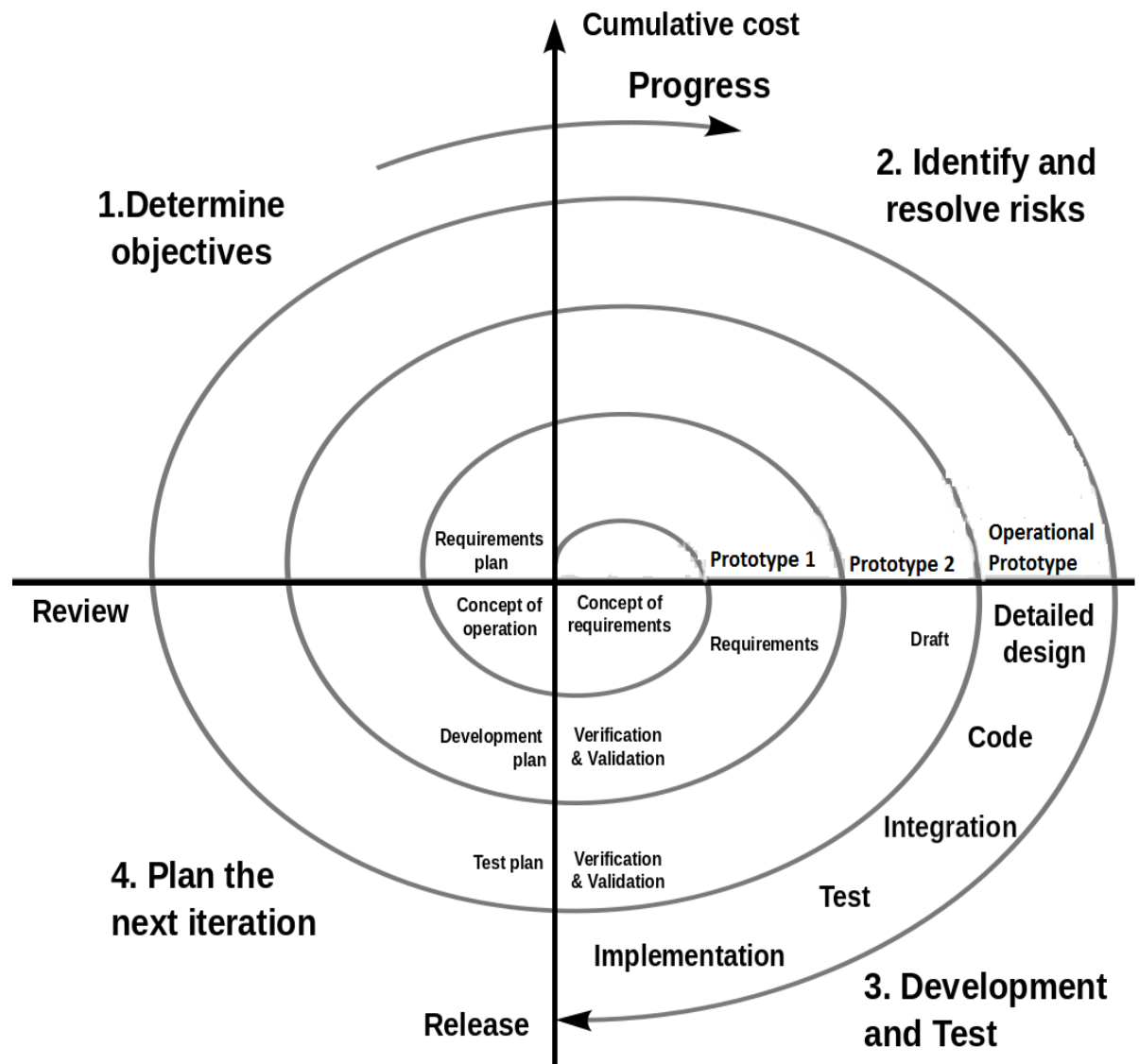







Figure 15 Software Process Model

## CHAPTER FOUR: IMPLEMENTATION DETAILS

### 4.1 IMPLEMENTATION

Following tools has been used in the overall project development. These tools are used under legally licensing agreements and are free to use. PHP is one of the web development language designed to develop web apps. Android Studio is used for creating mobile apps which requires less effort to develop mobile apps. However, MySQL and Xampp are used for hosting and database creation Visual Studio is used as an editor for PHP. All the tools are lightweight and easy to use except Android Studio.

### 4.2 DEVELOPMENT TOOL USED

	Product	Tool	Usage	Work Experience
	PHP	PHP 5	Web Designing	Web Development
	Android	Android Studio	Mobile Application	Mobile App Development
	MySQL	MySQL 16	Database	Create Databases
	Microsoft	Visual Studio 2015	PHP Code Editor	PHP Scripting
	Xampp	Xampp Portal	Server Side	Server Hosting

## 4.3 DATA DICTIONARY

### Users Table

#### **users**

Column	Type	Null	Default
id ( <i>Primary</i> )	int(11)	No	
fullName	varchar(255)	Yes	NULL
userEmail	varchar(255)	Yes	NULL
password	varchar(255)	Yes	NULL
contactNo	bigint(11)	Yes	NULL
address	tinytext	Yes	NULL
State	varchar(255)	Yes	NULL
country	varchar(255)	Yes	NULL
pincode	int(6)	Yes	NULL
userImage	varchar(255)	Yes	NULL
regDate	timestamp	No	CURRENT_TIMESTAMP
updataDate	timestamp	No	0000-00-00 00:00:00
status	int(1)	No	

#### **Indexes**

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	id	3	A	No	

### Category Table

#### **category**

Column	Type	Null	Default
id ( <i>Primary</i> )	int(11)	No	
categoryName	varchar(255)	No	
categoryDescription	longtext	No	
creationDate	timestamp	No	CURRENT_TIMESTAMP
updataDate	varchar(255)	No	

#### **Indexes**

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	id	0	A	No	

## State Table

### state

Column	Type	Null	Default
id ( <i>Primary</i> )	int(11)	No	
stateName	varchar(255)	No	
stateDescription	tinytext	No	
postingDate	timestamp	No	CURRENT_TIMESTAMP
updateDate	varchar(255)	No	

#### Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	id	3	A	No	

## Admin Table

### admin

Column	Type	Null	Default
id ( <i>Primary</i> )	int(11)	No	
username	varchar(250)	No	
password	varchar(250)	No	
updateDate	varchar(255)	No	

#### Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	id	0	A	No	

## Complaints Table

### tblcomplaints

Column	Type	Null	Default
complaintNumber ( <i>Primary</i> )	int(11)	No	
userId	int(11)	No	
category	int(11)	No	
subcategory	varchar(255)	No	
complaintType	varchar(255)	No	
state	varchar(255)	No	
noc	varchar(255)	No	
complaintDetails	mediumtext	No	
complaintFile	varchar(255)	Yes	NULL
regDate	timestamp	No	CURRENT_TIMESTAMP
status	varchar(50)	Yes	NULL
lastUpdateDate	timestamp	No	0000-00-00 00:00:00

#### Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	complaintNumber	15	A	No	

### Complaint Remark Table

## complaintremark

Column	Type	Null	Default
id ( <i>Primary</i> )	int(11)	No	
complaintNumber	int(11)	No	
status	varchar(255)	No	
remark	mediumtext	No	
remarkDate	timestamp	No	CURRENT_TIMESTAMP

### Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	id	3	A	No	

### User log Table

## userlog

Column	Type	Null	Default
id ( <i>Primary</i> )	int(11)	No	
uid	int(11)	No	
username	varchar(255)	No	
userip	binary(16)	No	
loginTime	timestamp	No	CURRENT_TIMESTAMP
logout	varchar(255)	No	
status	int(11)	No	

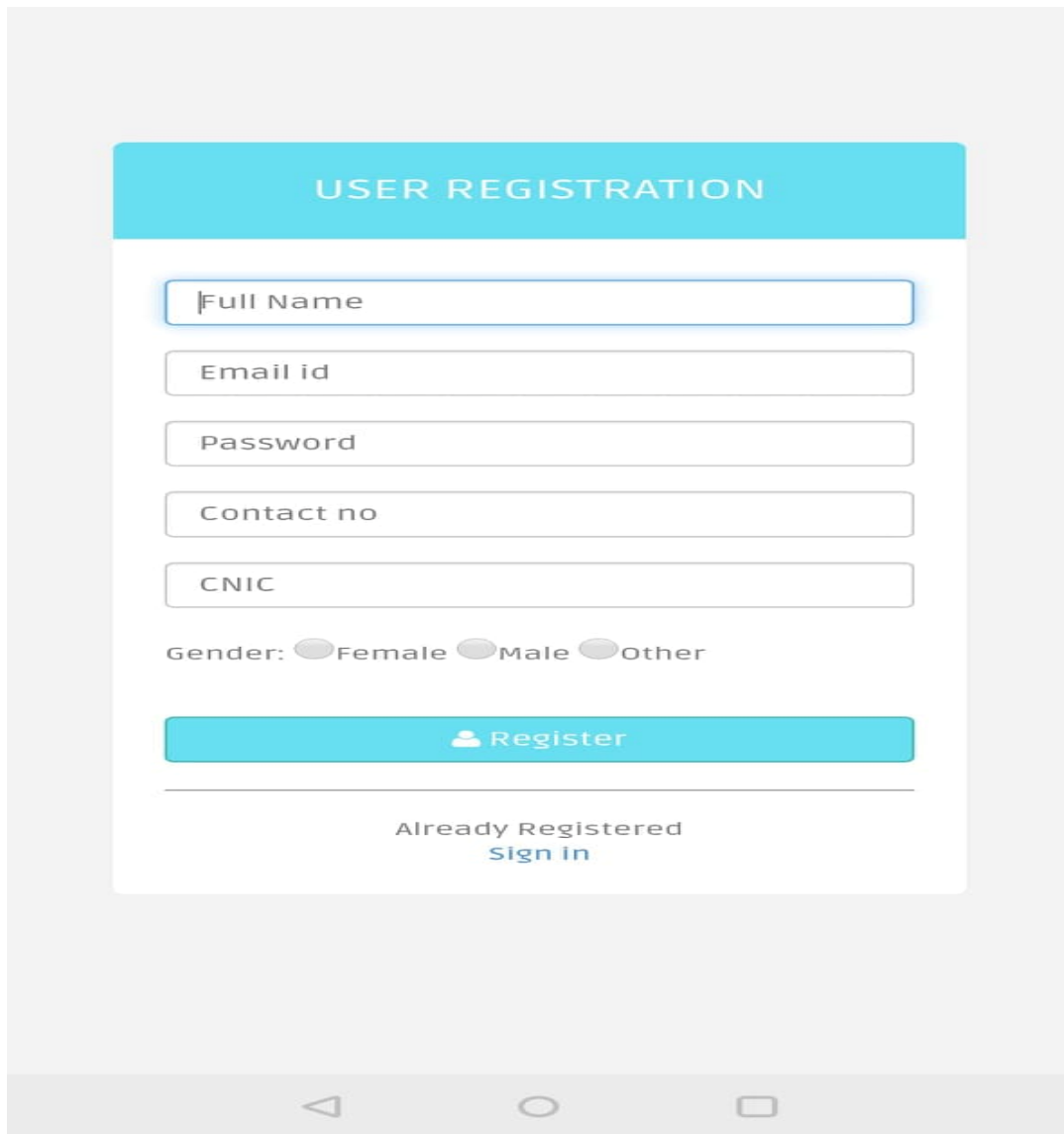
### Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	id	14	A	No	

## CHAPTER FIVE: SCREENSHOTS

### 5.1 Mobile App (User View)

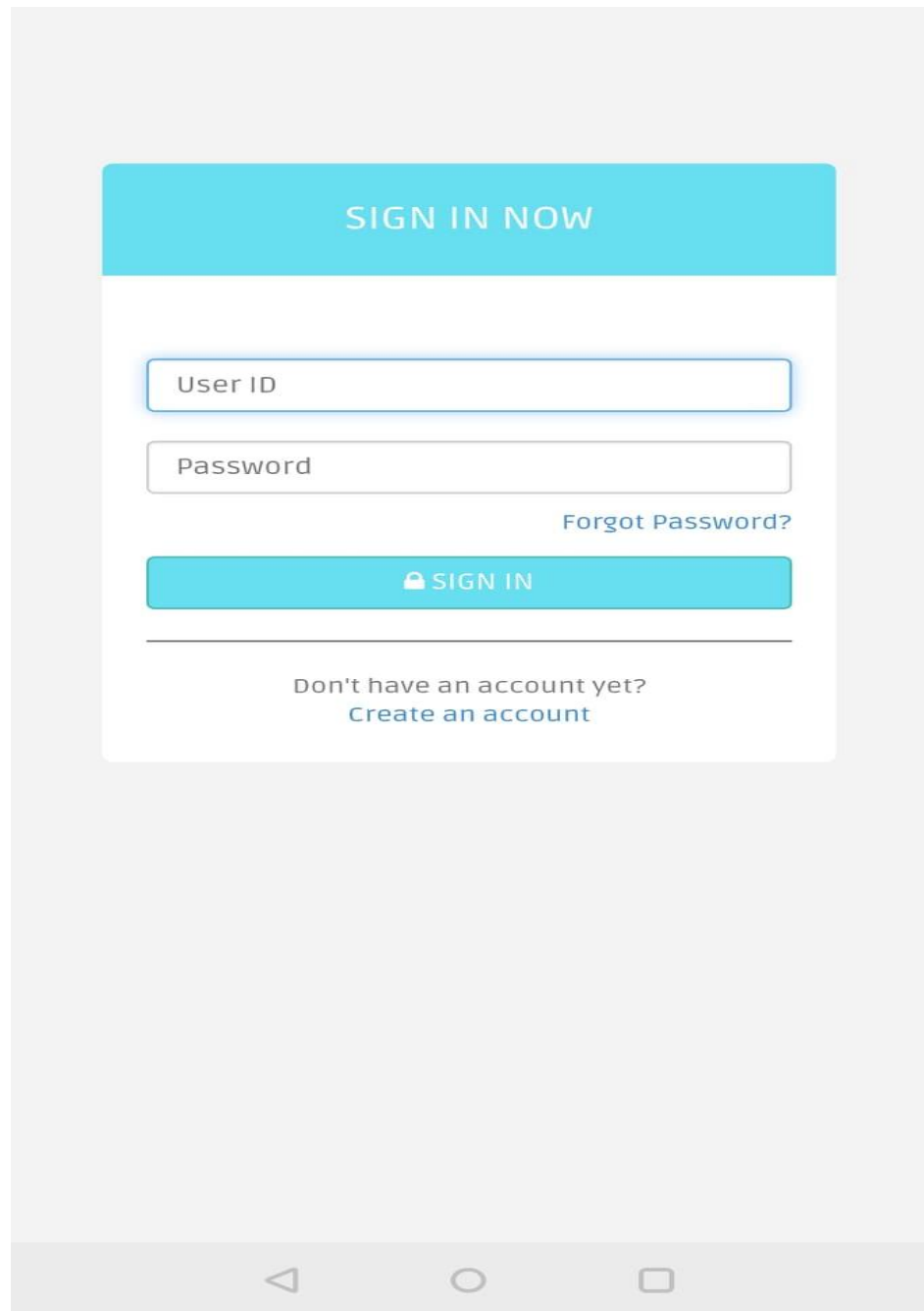
#### 5.1.1 User Registration Form



The screenshot displays a mobile application interface for user registration. At the top, a light blue header bar contains the text "USER REGISTRATION". Below this, the form consists of several input fields: "Full Name", "Email id", "Password", "Contact no", and "CNIC". Each field is a white rectangle with a thin grey border. Below the input fields, there is a "Gender:" label followed by three radio button options: "Female", "Male", and "Other". A prominent blue button with a white user icon and the text "Register" is positioned below the gender options. At the bottom of the form, the text "Already Registered" is displayed above a blue, underlined link that says "Sign in". The entire form is set against a light grey background, and the bottom of the screen shows the standard Android navigation bar with back, home, and recent apps icons.

Figure 16 User Registration Form

### 5.1.2 User Sign In



A mobile application sign-in screen. At the top is a teal header with the text "SIGN IN NOW" in white. Below the header is a white sign-in form. The form contains two input fields: "User ID" and "Password". To the right of the "Password" field is a link "Forgot Password?". Below the input fields is a teal button with a white lock icon and the text "SIGN IN". Below the button is a horizontal line, followed by the text "Don't have an account yet?" and a link "Create an account". At the bottom of the screen is a grey bar with three white navigation icons: a back arrow, a circle, and a square.

Figure 17 User Sign In



5.1.3 Complaint Dashboard

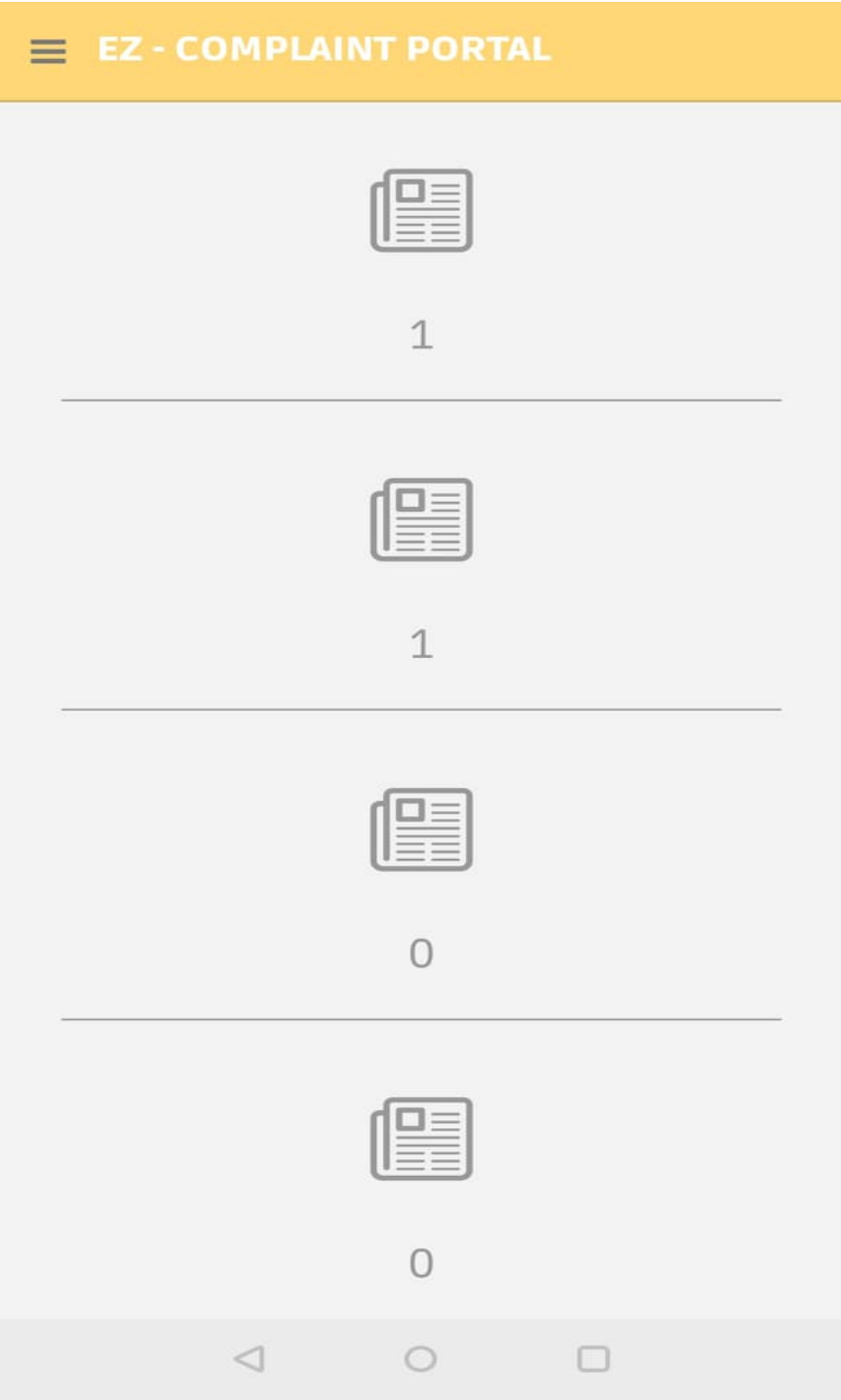
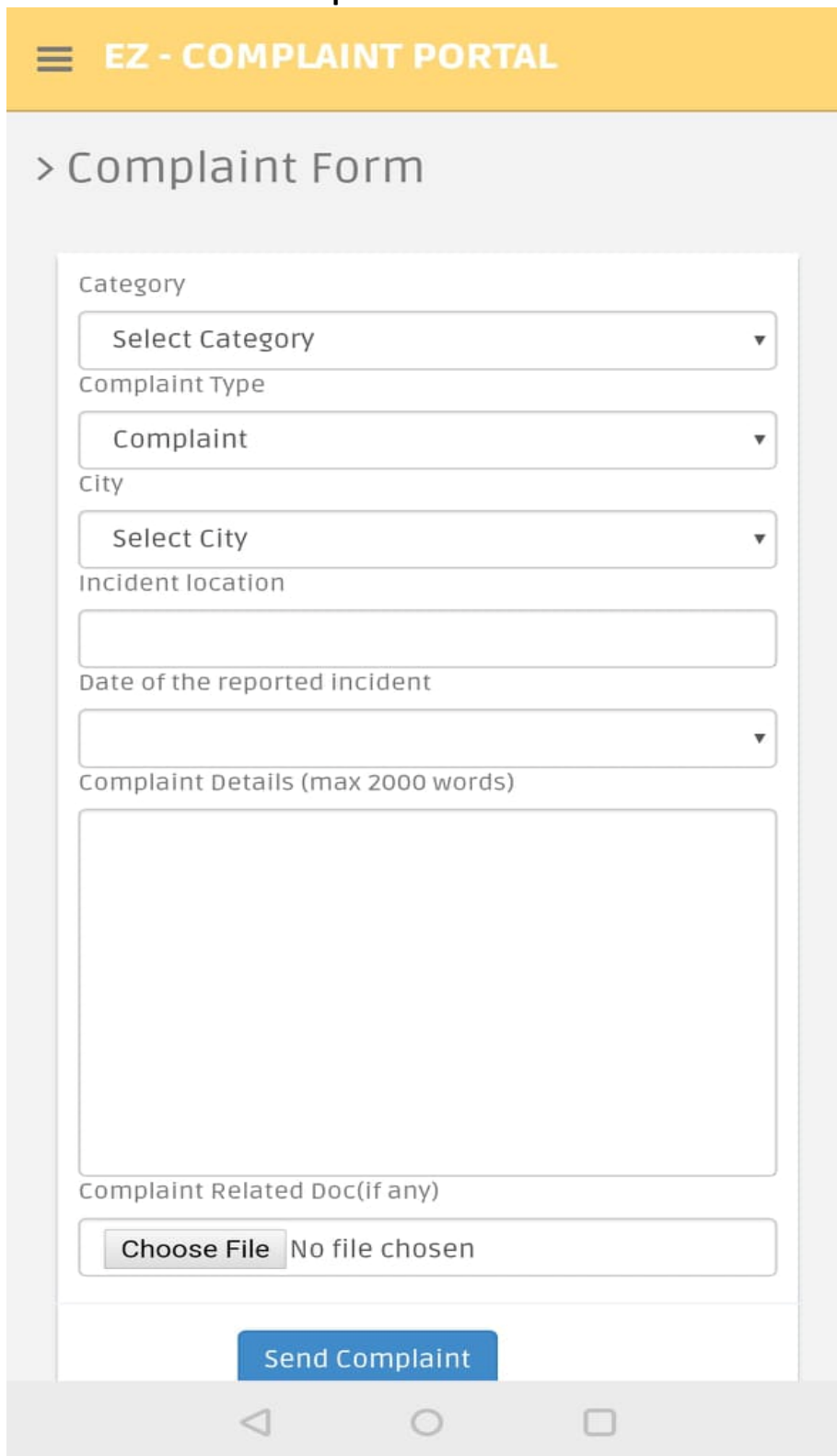


Figure 18 Dashboard

#### 5.1.4 Complaint form



The image shows a mobile application interface for a complaint portal. At the top is a yellow header bar with a hamburger menu icon and the text "EZ - COMPLAINT PORTAL". Below the header, the title "> Complaint Form" is displayed. The form itself is a white box with a light gray border. It contains several fields: "Category" with a dropdown menu showing "Select Category"; "Complaint Type" with a dropdown menu showing "Complaint"; "City" with a dropdown menu showing "Select City"; "Incident location" with a text input field; "Date of the reported incident" with a date picker; "Complaint Details (max 2000 words)" with a large text area; and "Complaint Related Doc(if any)" with a file upload button labeled "Choose File" and the text "No file chosen". At the bottom of the form is a blue button labeled "Send Complaint". The entire form is set against a light gray background, and at the very bottom, there is a white bar with three gray icons: a back arrow, a circle, and a square.

**EZ - COMPLAINT PORTAL**

> Complaint Form

Category  
Select Category ▼

Complaint Type  
Complaint ▼

City  
Select City ▼

Incident location

Date of the reported incident

Complaint Details (max 2000 words)

Complaint Related Doc(if any)  
Choose File No file chosen

Send Complaint

Figure 19 Complaint form

5.1.5 Complaint History

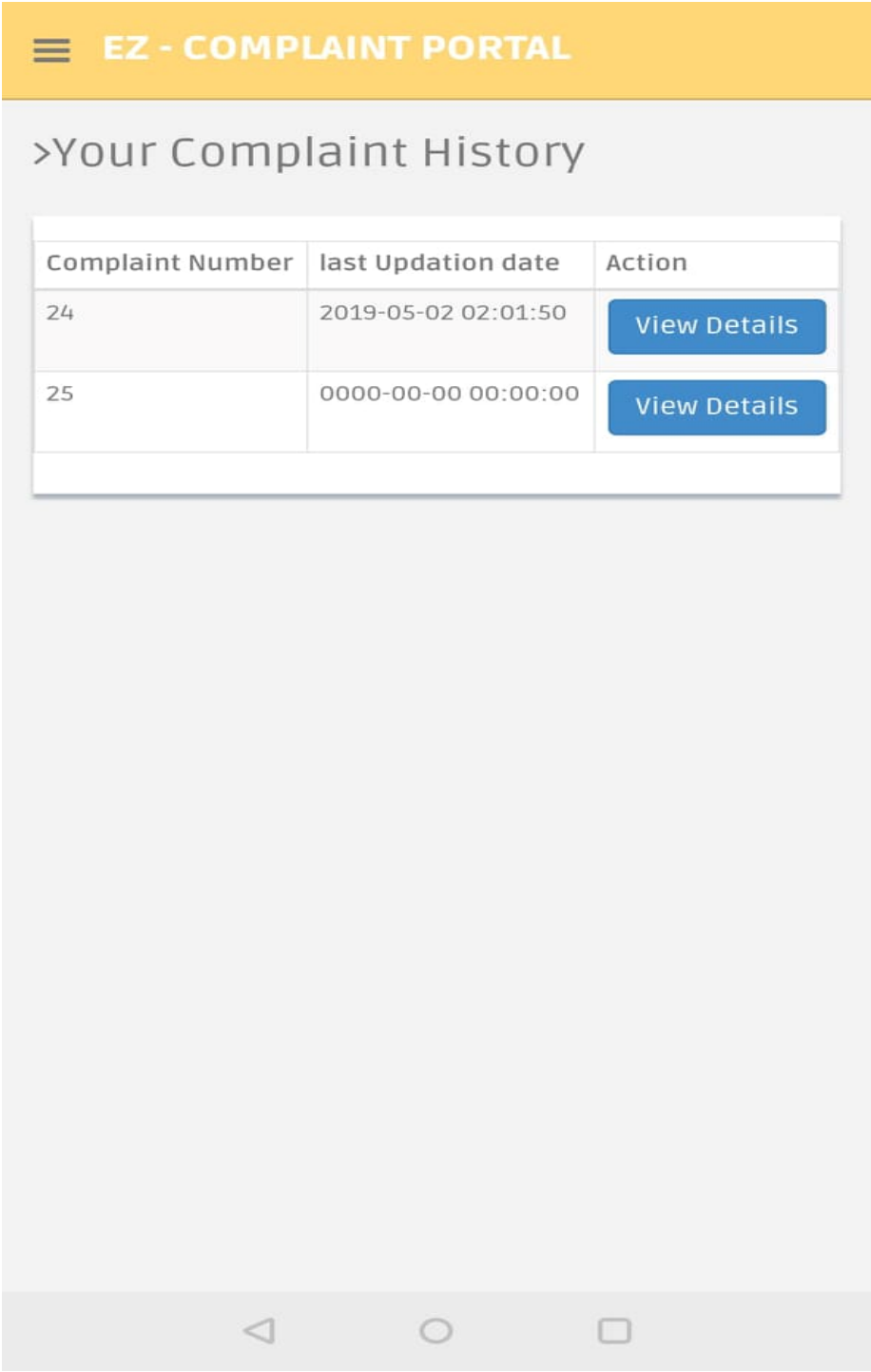


Figure 20 Complaint History

### 5.1.6 Complaint Details

> Complaint Details

---

**Complaint Number :**  
24

**Date of complaint:**  
2019-05-02 01:40:45

**Date of the reported incident:**  
2019-04-24

**Category :**  
Electricity

**Complaint Type :**  
Complaint

**City :**  
Karachi

**File :**  
[View File](#)

**Incident Location:**  
Garden East

**Complaint Details:**  
No electricity from last 3days

**Remark:**  
you complaint send an electrician    **Remark Date: 2019-05-02 02:01:49**

**Status:**  
send to relevant person

**Final Status :**

Status  
Start

Status  
Relevant  
Person

Status  
In  
Process


Status  
Closed

Figure 21 Complaint Details

## 5.2 Admin Portal

### 5.2.1 Admin Sign In

EZ - Complaint Portal | Admin



Sign In

Username

Password

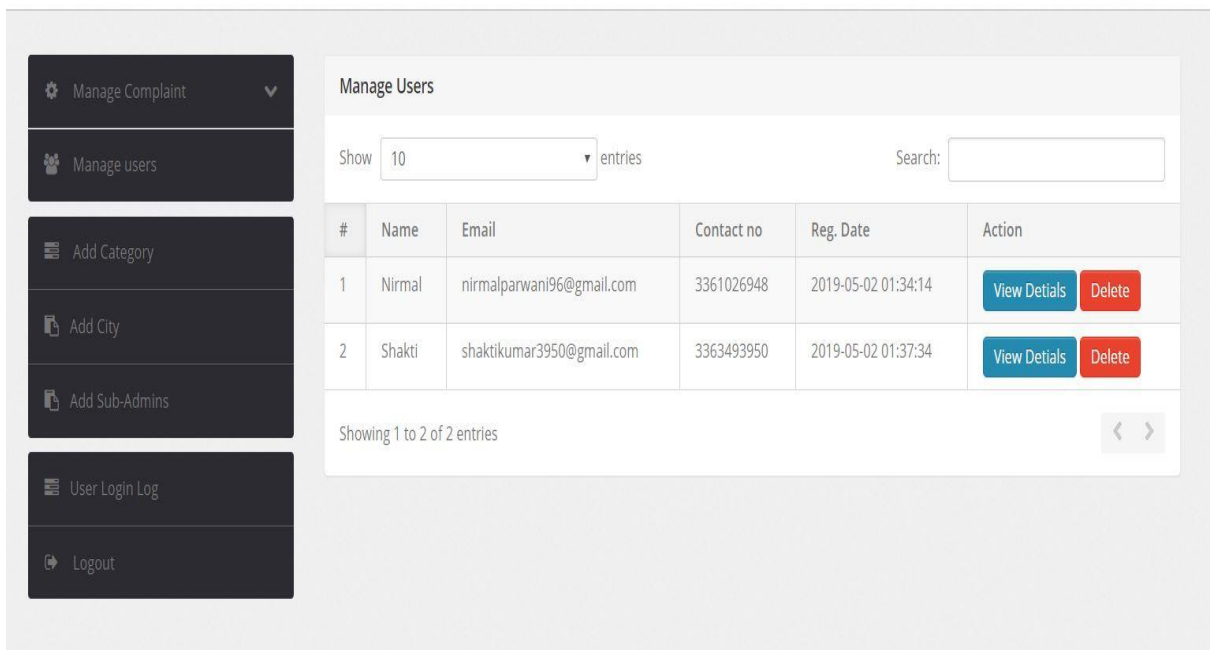
Login

Figure 22 Admin Sign In

### 5.2.2 Manage User

EZ - Complaint Portal | Admin

Welcome 



Manage Users

Show  entries Search:

#	Name	Email	Contact no	Reg. Date	Action
1	Nirmal	nirmalparwani96@gmail.com	3361026948	2019-05-02 01:34:14	<a href="#">View Details</a> <a href="#">Delete</a>
2	Shakti	shaktikumar3950@gmail.com	3363493950	2019-05-02 01:37:34	<a href="#">View Details</a> <a href="#">Delete</a>

Showing 1 to 2 of 2 entries [<](#) [>](#)

Manage Complaint

Manage users

Add Category

Add City

Add Sub-Admins

User Login Log

Logout

Figure 23 Manage User

### 5.2.3 User login log

EZ - Complaint Portal | Admin

Welcome 

Manage Complaint

Manage users

Add Category

Add City

Add Sub-Admins

User Login Log

Logout

Manage Users

Show 10 entries Search:

#	User Email	User IP	Login Time	Logout Time	Status
1	nirmalparwani96@gmail.com	192.168.43.54	2019-05-02 01:38:10		Failed
2	nirmalparwani96@gmail.com	192.168.43.54	2019-05-02 01:38:18	02-05-2019 02:23:10 AM	Successfull
3	nirmalparwani96@gmail.com	::1	2019-05-02 01:53:27		Successfull
4	nirmalparwani96@gmail.com	::1	2019-05-02 02:02:20		Failed
5	nirmalparwani96@gmail.com	::1	2019-05-02 02:02:34	02-05-2019 02:47:20 AM	Successfull
6	nirmalparwani96@gmail.com	192.168.43.54	2019-05-02 02:23:11		Successfull
7	nirmalparwani96@gmail.com	::1	2019-05-02 02:28:46	02-05-2019 03:04:00 AM	Successfull
8	nirmalparwani96@gmail.com	192.168.43.54	2019-05-02 02:35:44		Successfull
9	nirmalparwani96@gmail.com	::1	2019-05-02 06:48:26		Failed
10	nirmalparwani96@gmail.com	::1	2019-05-02 06:48:41		Successfull

Showing 1 to 10 of 16 entries

Figure 24 User login log

### 5.2.4 Add Category

EZ - Complaint Portal | Admin

Welcome 

Manage Complaint

Manage users

Add Category

Add City

Add Sub-Admins

User Login Log

Logout

Category

Department Name

Enter category Name

Department Email

Enter category Name

Description

Create

Manage Categories

Show 10 entries Search:






#	Department	Department Email	Description	Creation date	Last Updated	Action
1	Fire	k152210@nu.edu.pk		2019-02-02 19:24:24	28-02-2019 01:48:54 AM	 
2	Ambulance	nirmalparwani96@outlook.com		2019-02-02 19:25:02	20-04-2019 12:07:59 PM	 

Figure 25 Add Category

## 5.2.5 Add City

EZ - Complaint Portal | Admin Welcome 

Manage Complaint

Manage users

Add Category

Add City

Add Sub-Admins

User Login Log

Logout

City

City Name

Enter State Name

Description

Create

Manage Cities

Show 10 entries Search:










#	City	Description	Creation date	Last Updated	Action
1	Karachi		2019-02-02 19:04:12		 
2	Hyderabad		2019-02-02 19:04:57		 
3	Mithi		2019-02-02 19:05:51	20-04-2019 12:10:06 PM	 
4	Lahore		2019-02-02 19:05:59		 

Figure 26 Add City

## 5.2.6 Add Sub-Admin

EZ - Complaint Portal | Admin Welcome 

Manage Complaint

Manage users

Add Category

Add City

Add Sub-Admins

User Login Log

Logout

Sub-Admin

Sub-Admin Name

Enter Sub-Admin Name

Sub-Admin Password

Enter Sub-Admin Password

Sub-Admin Category

Enter Sub-Admin Category

Create


Manage Sub-Admins

Show 10 entries Search:

#	ID	UserName	Password	Category
1	2	firedepartment	fire123	3
2	3	ambulancedepartment	amb123	4

Figure 27 Add Sub-Admin

## 5.2.7 Manage Complaint

EZ - Complaint Portal | Admin Welcome 

Manage Complaint

Not Process Yet Complaint 3

Relevant Person 1

Pending Complaint 0

Closed Complaints 0

Manage users

Add Category

Add City

Add Sub-Admins

User Login Log

Logout

Closed Complaints


Show 10 entries Search:

Complaint No	complainant Name	Reg Date	Status	Action
25	Nirmal	2019-05-02 01:49:52	Not process yet	<a href="#">View Details</a>
26	Nirmal	2019-05-02 06:59:32	Not process yet	<a href="#">View Details</a>
27	Nirmal	2019-05-02 07:12:16	Not process yet	<a href="#">View Details</a>

Showing 1 to 3 of 3 entries

Figure 28 Manage Complaint

## 5.2.8 Complaint Detail

EZ - Complaint Portal | Admin Welcome 

Manage Complaint

Not Process Yet Complaint 1

Relevant Person 1

Pending Complaint 0

Closed Complaints 0

Manage users

Add Category

Add City

Add Sub-Admins

User Login Log

Logout

Complaint Details

Complaint Number	24	Complainant Name	Nirmal	Date of complaint	2019-05-02 01:40:45			
Category	Electricity	Complaint Type	Complaint	Date of the reported incident	2019-04-24			
City	Karachi	Incident Location	Garden East					
Complaint Details	No electricity from last 3days							
File(if any)	<a href="#">View File</a>							
Final Status	send to relevant person							
Remark	you complaint send an electrician Remark Date :2019-05-02 02:01:49							
Status	send to relevant person							
Action	<a href="#">Take Action</a> <a href="#">View User Details</a>							

Figure 29 Complaint Detail



## CHAPTER SIX: TESTING

### 6.1 Introduction

#### 6.1.1 Purpose of the Test Plan Document

The purpose of the Test Plan document is to track all the important information regarding the system testing that how the whole system is tested and on which test cases it is tested. Basically, the document is created in the planning phase of the project. The audience involved or who will verify that document are the project supervisor, project team, and testing team. Some parts of this document may be in certain circumstances will be shared with the client/user and also to the all other users whose input/approval into the testing process is needed.

### 6.2 ENVIRONMENTAL NEEDS

- An Android Phone with minimum SDK level 21 (Lollipop)
- A personal computer
- Browsers: Google Chrome, Firefox

### 6.3 Conformance/Validation Testing

#### 6.3.1 Items to be Tested / Not Tested

Item to Test	Test Description	Test Date	Responsibility
Lodge Complaint	Successful registration of a particular complaint by department name in max 2 seconds.	Feb 17, 2019	Citizen
View User Log	Successful checking of users logs in max 2 seconds.	Feb 22, 2019	Admin
Change Password	Successful changing of a user's password	Feb 26, 2019	Citizen
Department Creation	Successful creation of a department.	Feb 28, 2019	Admin
Upload File	Successful uploading of a file in the database.	Mar 01, 2019	Citizen

#### 6.3.2 Test Approach(s)

The system was made available to the following groups of users for testing:

1. General Citizens – to test the Android app for citizen related functionalities.
2. Team Members – to test the Web app for admin related functionalities.
3. Closed Group (FASTIAN) – to perform an integrated test for both, Android and Web app, identifying technical issues.

Each tester was given a Printed Form to fill out with feature satisfaction levels, bugs, hindrances, and any suggestions.

#### 6.3.3 Test Pass / Fail Criteria

The threshold for failure was set to be at least 25% of the testers finding difficulty in a particular operation.

### 6.3.4 Test Deliverables

The testing process yielded Printed Form submissions from each of the testers, which were further analyzed to produce the required reports.

### 6.3.5 Test Cases

<b>TEST CASE ID: 01</b>				
<b>DESCRIPTION:</b> Successful registration of a particular complaint by department name in max 2 seconds.				
No.	STEPS	EXPECTED RESULTS	ACTUAL RESULTS	PASS/FAIL
1.	Citizen clicks on the lodge complaint menu tab.	Fill complaint details page appeared.	Fill complaint details page appeared.	Pass
2.	Click on the submit button	Complaint registered successfully and saved to the database	Complaint registered successfully and saved to the database	Pass

<b>TEST CASE ID: 02</b>				
<b>DESCRIPTION:</b> Successful checking of users logs in max 2 seconds.				
No.	STEPS	EXPECTED RESULTS	ACTUAL RESULTS	PASS/FAIL
1.	Press o the user's log menu	Page appeared which contain the user log info.	Page appeared which contain the user log info.	Pass

<b>TEST CASE ID: 03</b>				
<b>DESCRIPTION:</b> Successful changing of a user's password				
No.	STEPS	EXPECTED RESULTS	ACTUAL RESULTS	PASS/FAIL
1.	Press change password menu, enter current password, new password and confirm password fields.	User password updated successfully and saved to the database.	User password updated successfully and saved to the database.	Pass

<b>TEST CASE ID: 04</b>				
<b>DESCRIPTION:</b> Successful creation of a department.				
No.	STEPS	EXPECTED RESULTS	ACTUAL RESULTS	PASS/FAIL
1.	Admin press on add department menu	Admin will be redirected to the add department page.	Admin will be redirected to the add department page.	Pass
2.	Fill department info and press submit button.	Department created successfully and department id is generated.	Department created successfully and department id is generated.	Pass

TEST CASE ID: 05 DESCRIPTION: Successful uploading of a file in the database.				
No.	STEPS	EXPECTED RESULTS	ACTUAL RESULTS	PASS/FAIL
1.	User press on file upload option	Redirect to the file select menu.	Redirect to the file select menu.	Pass
2.	User select a file to be uploaded	The file selected and highlighted.	The file selected and highlighted.	Pass
3.	User clicks submit file button	The selected file is submitted and saved to the database with reference to complaining number.	The selected file is submitted and saved to the database with reference to complaint number.	Pass

## 6.4 Functional Testing

### 6.4.1 Items to be Tested / Not Tested

Item to Test	Test Description	Test Date	Responsibility
Status Update	Successful status updated of citizens' complaints.	Mar 10, 2019	Admin
Email Notification	Successful receiving of notifications to citizens on their registration to the app and also when citizen register complaints	Mar 20, 2019	Citizens
Citizen receiving SMS.	Successful receiving of SMS in real-time by the citizen when he signs up.	Mar 30, 2019	Citizens
Remove Users	Successful deletion of the user from the system.	April 06, 2019	Admin

### 6.4.2 Test Approach(s)

The system was made available to the following groups of users for testing:

1. Actual Vendors – to test the Android app for citizens related functionalities.
2. Team Members – to test the Web app for admin related functionalities.
3. Closed Group (FASTIAN) – to perform an integrated test for both, Android and Web app, identifying technical issues.

Each tester was given a printed Form to fill out with feature satisfaction levels, bugs, hindrances, and any suggestions.

### 6.4.3 Test Deliverables

The testing process yielded printed Form submissions from each of the testers, which were further analyzed to produce the required reports.

#### 6.4.4 Test Cases

<b>TEST CASE ID: 01</b>				
<b>DESCRIPTION:</b> Successful status updated of citizens' complaints.				
<b>No.</b>	<b>STEPS</b>	<b>EXPECTED RESULTS</b>	<b>ACTUAL RESULTS</b>	<b>PASS/FAIL</b>
1.	Admin press change status of the complaint.	Pop-up asking the user to enable location appears.	Pop-up asking the user to enable location appears.	Pass
2.	User denies location.	Search is performed relevant to the default location.	Search is performed relevant to the default location.	Pass

<b>TEST CASE ID: 02</b>				
<b>DESCRIPTION:</b> Successful receiving of notifications to citizens on their registration to the app and also when citizen register complaints				
<b>No.</b>	<b>STEPS</b>	<b>EXPECTED RESULTS</b>	<b>ACTUAL RESULTS</b>	<b>PASS/FAIL</b>
1.	User signs up into the app via their Gmail account.	An email is sent to the citizen with their successful registration on app	An email is sent to the citizen with their successful registration on app	Pass

<b>TEST CASE ID: 03</b>				
<b>DESCRIPTION:</b> Successful receiving of SMS in real-time by the citizen when he signs up.				
<b>No.</b>	<b>STEPS</b>	<b>EXPECTED RESULTS</b>	<b>ACTUAL RESULTS</b>	<b>PASS/FAIL</b>
1.	User sign up into the app via their mobile number	The relevant SMS is sent to the respective citizen with the confirmation details.	The relevant SMS is sent to the respective citizen with the confirmation	Pass

<b>TEST CASE ID: 04</b>				
<b>DESCRIPTION:</b> Successful deletion of the user from the system.				
<b>No.</b>	<b>STEPS</b>	<b>EXPECTED RESULTS</b>	<b>ACTUAL RESULTS</b>	<b>PASS/FAIL</b>
1.	Admin press on the show user's button.	Admin will be redirected to the show all users page.	Admin will be redirected to the show all users page.	Pass
2.	Admin select user and press delete.	The selected user will be removed from the system.	The selected user will be removed from the system	Pass

## 6.5 Load Testing and Response Time

### 6.5.1 Web Application load Testing



Figure 30 Web Application load Testing

### 6.5.2 Web Application Response Time

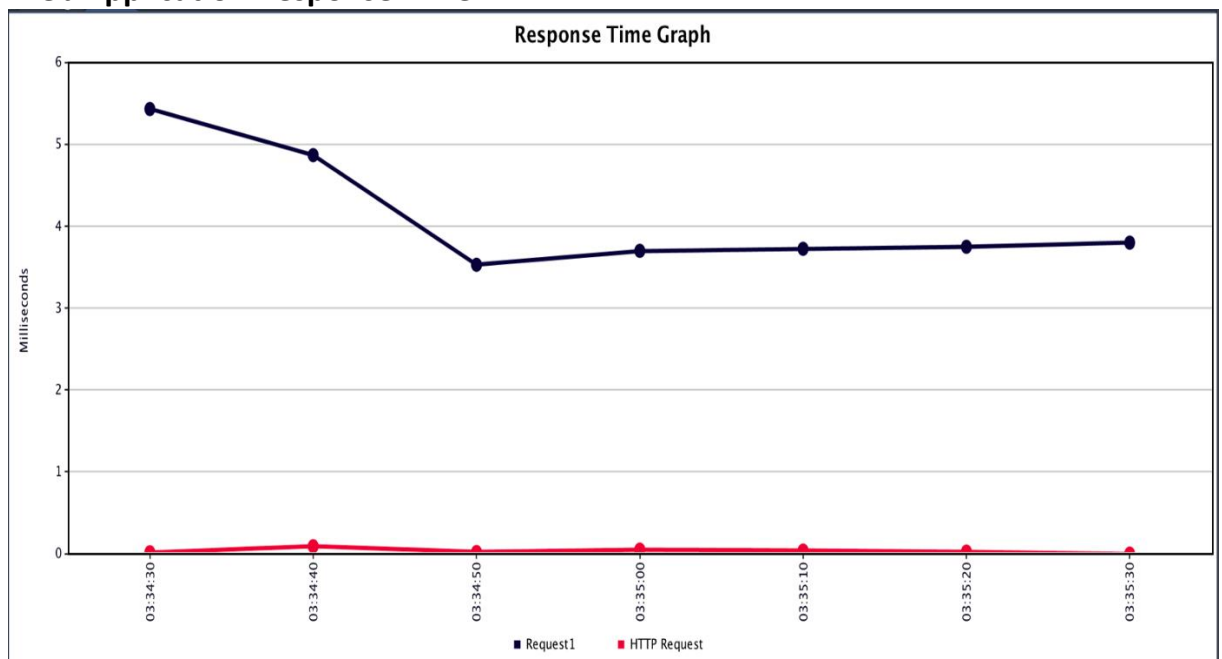


Figure 31 Web Application Response Time

### 6.5.3 Android Application Loading Testing

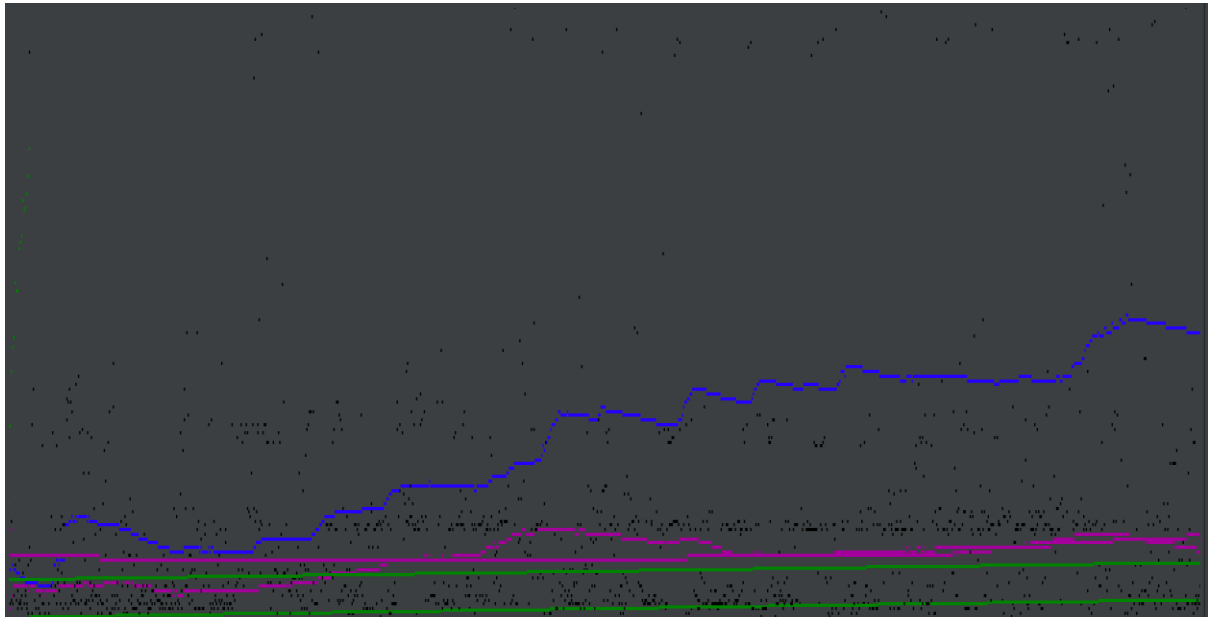


Figure 32 Android Application Loading Testing

### 6.5.4 Android Application Response Time

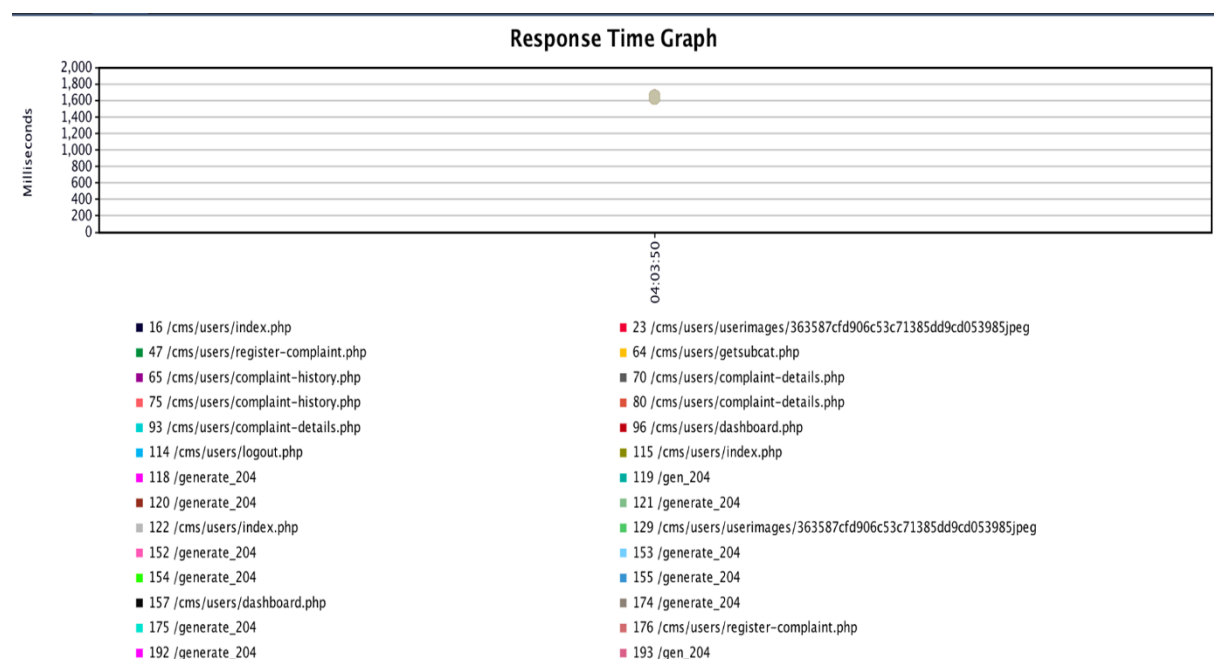


Figure 33 Android Application Response Time

## CHAPTER SEVEN: DESIGN DETAILS

### 7.1 Limitations of System

- Community Engagement portal doesn't prioritize complain as per their intensity
- Despite the latest technology used the minimum SDK requirement for the app is 19.
- Community Engagement portal doesn't offer scrutiny of the user registration.

### 7.2 Future Plan

Right now, our primary Focus is only on lodging of complaints and their proper management. But, we for the future we will be prioritizing the complaints as per their intent and priority level. As the user details are important to us so in future we also try to collaborate with NADRA for Cnic Verification of the citizen to confirm the valid user registration.

### 7.3 Conclusion

To conclude the description of the project: the project, is based on the needs and specification of the citizen and by the analysis of the existing system, with flexibility for future enhancement. Along with that community engagement portal will be facilitating the citizens with the lodge complain feature as well as displaying the current status of their complaints. Furthermore, sub-department is made so that complaint should be solved quickly without any interference. Higher management will be visualizing and monitoring local departments for better results.

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