Development of A Web Based Application Of Complain Portal

BY

Abdullah Al Jubayer
ID: 131-15-2193

Motaher Hossain
ID: 142-15-3594

Shoshi Deb Sarkar
ID: 143-15-4336

This Report Presented in Partial Fulfillment of the Requirements for the Degree of Bachelor of Science in Computer Science and Engineering

Supervised By

Anup Majumder
Lecturer
Department of CSE
Daffodil International University

Co-Supervised By

Shah Md Tanveer Siddiquee
Senior Lecturer
Department of CSE
Daffodil International University

DAFFODIL INTERNATIONAL UNIVERSITY

DHAKA, BANGLADESH

APPROVAL

This Project/internship titled **"Development of a web based application of complaint portal"**, submitted by Abdullah Al Jubayer ID No: 131-15-2193, Motaher Hossain, ID No: 142-15-3594, Shoshi Deb Sarkar ID No: 143-15-4336 to the Department of Computer Science and Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 16.09.08.

BOARD OF EXAMINERS

_____

Dr. Syed Akhter Hossain   **Chairman**
Professor and Head
Department of Computer Science and Engineering
Faculty of Science & Information Technology
Daffodil International University

_____

Dr. Sheak Rashed Haider Noori   **Internal Examiner**
Associate Professor and Associate Head
Department of Computer Science and Engineering
Faculty of Science & Information Technology
Daffodil International University

_____

Md. Tarek Habib   **Internal Examiner**
Assistant Professor
Department of Computer Science and Engineering
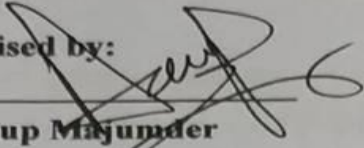Faculty of Science & Information Technology
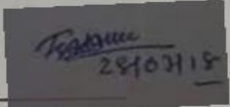Daffodil International University

_____

Narayan Ranjan Chakraborty   **Internal Examiner**
Assistant Professor
Department of Computer Science and Engineering
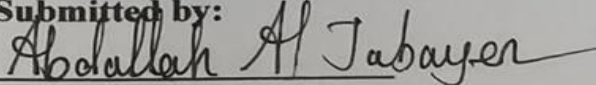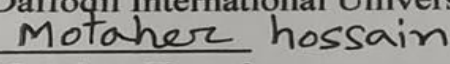Faculty of Science & Information Technology
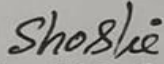Daffodil International University

DECLARATION

We hereby declare that, this project has been done by us under the supervision of **Anup Majumder, Lecture, Department of CSE,** Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

Supervised by:

Mr. Anup Majumder
Lecturer
Department of CSE
Daffodil International University

Co-Supervised by:

Mr. Shah Md Tanvir Siddiquee
Senior Lecturer
Department of CSE
Daffodil International University

Submitted by:

Abdullah Al jubayer
ID: 131-15-2193
Department of CSE
Daffodil International University

Motaher Hossain
ID: 142-15-3594
Department of CSE
Daffodil International University

Shoshi Deb Sarkar
143-15-4336
Department of CSE
Daffodil International University

ACKNOWLEDGEMENT

First we express our heartiest thanks and gratefulness to almighty God for His divine blessing makes us possible to complete the final year project/internship successfully.

We really grateful and wish our profound our indebtedness to **Anup Majumder**, **Lecturer**, Department of CSE Daffodil International University, Dhaka. Deep Knowledge & keen interest of our supervisor in the field of "*Web engineering*" to carry out this project. His endless patience ,scholarly guidance ,continual encouragement , constant and energetic supervision, constructive criticism , valuable advice ,reading many inferior draft and correcting them at all stage have made it possible to complete this project.

We would like to express our heartiest gratitude to Mr. Anup Majumder, Lecture, and Head**,** Department of CSE, for his kind help to finish our project and also to other faculty member and the staff of CSE department of Daffodil International University.

We would like to thank our entire course mate in Daffodil International University, who took part in this discuss while completing the course work.
Finally, we must acknowledge with due respect the constant support and patients of our parents.

ABSTRACT

This project titled "Development of a web based application of complain portal". The purpose of our project is solving issues on various fields. We face various kinds of problems in our day to day life. Sometime there is a damaged road, unwanted load Shedding or sewerage problem. We don't know where to complain or where to inform. We tried to build a system where anyone can give information or give complain about this type of problem. Anyone can complain to authority just through a simple web application. User can complain through registration or without registration. There will be phone number to identify the user or complainer. User will be notified after receiving the complaint via email. Authority will be notified about the problem. After taking the required action the complainer will be notified again through email or text on phone. By this application we are trying to solve some problems we face on daily life. Hope it will help a lot of people.

TABLE OF CONTENTS

REFERENCES 39

LIST OF FIGURES

CHAPTER 1

Introduction

1.1 Introduction

In our society we face different types of problems everyday like broken roads, blocked sewerage lines, electric line damage and so on. Some of them can be solved by the people of the society and some cannot be. Some time it needs proper equipment's to solve a particular problem. But the main problem is focusing the problem to the respected organization.

If they do not know about the problem they will not come to solve it. So that at first we need something that will be a media to present out problems to them. From that concept this idea to make a website that can connect people with different government organization like WASA, PWD, City Corporation, etc. came to our mind.

In our country we do not have any web application that can directly present people's problems to the respected authority. Therefore we came up with this idea to make a website to inform our problems to be solved.

Now a days problems like broken road, blocked sewerage line are very common and if they are not fixed in time it becomes difficult to solve later. At the same time it also creates more problems in our life. To avoid those extra waste of time, money, man power and resources we came up with this idea to create a website to inform respected authority about their respected problems to be solved on the right time.

Expected outcome of the project is developing a website that will have features of making complain with proper document to a selected organization. As all government organizations will be found in one website people will not need to visit multiple websites to make complain, so this will save everyone's valuable time. Moreover maybe it is not possible for all the organizations to find out problems, updates, status of their service, so it will be helpful for them to get updates and take necessary steps according to the situation as soon as possible.

1.2 Motivation

In developing country like Bangladesh, we face a lot of problem because of we don't have required maintenance. Authority is not informed in right process.

The system will provide an easy system to send complaints to specific authority in low cost and without any problem. In real life we don't have correct information about where to complaint, to whom to complain. Moreover if we know the information, then we have to face a lot of procedure. This long procedures discourage a lot of people to talk about the problems they face on their day to day life.

In Bangladesh we don't see lots researches and tasks regarding this discipline. So we've got attempted to do an assignment to construct an internet portal to conquer this problem. This is our first model, we will endeavor to create it more.

1.3 Objectives

Our intention is creating a web portal for gathering complaints about problems in our real life. As we can say in our electricity problem, water problem, road damage problem, transportation problem, gas supply problem. Anyone can just go to our website and inform us about the problem. The website will provide a system to complain to required authority. Our intention is to help normal people to talk about their problem and send information to exact authority.

This is the era of digitalization. This era demands online supporting platform for every aspect of our life. No more queue to an office, no more paper documents. Besides that, availability to internet is increasing day by day .So we have proposed a system of complaining through a website. Easy access to all possible people to complain about their sufferings.

1.4 Expected Outcome

Our project purpose is to build a web application which can help us to complain easily and effectively. The website will be maintained by an admin. There be some authority under admin, who will be given access to this portal. They will maintain the complaint and send feedback to complainers. This authorities will inform real life authorities to solve the problem.

- Complainer will go to website to and send complaints
- Authority will be received a notification.
- Real life authority will solve the problem.

1.5 Report Layout

The project is consist of five chapters. In report layout all chapter is condensed. We tried to summarize all the chapters. The summarization is given below:

1. In chapter one, we gave an introduction to our complaint portal. We discussed its objective, motivation and expected output.
2. In second chapter we discussed about the literature review of the projects have been done before on complaint portal.
3. In chapter four there are discussion on the methodology we used on this project. Then we discussed about application development. We tried to give answer how we developed the project.
4. Chapter four is about result and discussion. We tried to analyze the output. Some of the components were explained with figure.
5. Chapter five is about conclusion. In this chapter we explained our future plan on this project.

CHAPTER 2

Literature Review

2.1 Introduction

In this chapter we basically discussed about background study on complaint web portal. We discussed about few similar approaches that resembles our attempt. We discussed about what could be possible outcome.

The concept of this complaint portal is simple. The process is easy. Whenever a person face any kind of problem, but don't know where to complain, then he or she will go to this website and write down his or her problem. User must include a photo of the problem. User must give his phone number, so that we can track him down. As a result we can inform the user about the progress. Moreover, there won't be any spamming. This will be simple medium of communication of general people and the authority of City Corporation or any kind of organization who are in charge of public service.

2.2 Related works

We are going to recapitulate about some national and international complaint portals available.

1. EPA: EPA is an American complain portal where anyone can complain about environmental protection. If anyone feel environment is in danger because of certain people or organization can visit their website and make a complaint to this authority. They are trying to provide accurate information about environment management and pollution to reduce risk against human health and environmental degradation.[1]

2. IDEM: IDEM's full meaning is Indiana Department of Environmental Management. This website is a medium to file report about polluting activities. They take first action in response to complaint within 30 days of receiving the complaint and address the each complaint within 90 days. The site don't need

any personal information like name , phone numbers or social security number to file a complaint.[2]

3. LAPOR: LAPOR is an Indonesian complaint site. If someone have any kind of problem they are trying to solve by informing government and concerning authority via web platform, they can use LAPOR. LAPOR was launched in 2011. The meaning of "LAPOR" in English is report. The idea was, if there is a broken bridge near your home or if there are poor service in a hospital or if you want to make a copy of your lost national id card, how you will access your authority? So they launched this website.[3]

4. Grievance redress system Bangladesh: there is a website of Bangladesh government to complain. They named it Grievance redress system. Currently beta version of this website is running. It is maintained by a2i. If someone complain here they will notify the complainer through email and sms. Definitely it is an appreciable project by a2i and Bangladesh government.[4]

5. CPGRAMS: CPGRAMS stands for Centralized Public Grievance Redress and Monitoring System. It is a project of Indian government to reduce grievance on various fields. The service is open 24/7. This project is an attempt to centralized Grievance redress system. That means a simple platform where you can complain about anything. [5]

6. San Antonio portal: This site is mainly used for San Antonio city, a city of Texas. Where citizen of San Antonio can complain about the difficulties they face in the city. Citizen can use the site, use the android app, call to helpline, tweet or use the site to complain. Citizens can complain about pet animals problems, garbage recycling, tax payments , transportation etc.[6]

7. Illinois Commerce Commission: It is an organization of Illinois. It is a quasi-judicial tribunal. It conducts public utility services. It has a complaint service. It resolves consumer complaints. Anyone can file an informal complaint. [7]

8. Texas Commission on Environmental Quality: This is an institution on environmental quality. They basically works with air, land, water quality. [8]

9. Indiana Office of Utility Consumer Counselor: It is a helping concern of Indiana government where someone can complain about consumer rights. [9]

10. BMET complain system: It is a site to help complainer. It is also a Bangladeshi complaint system. BMET stands for Bureau of Manpower Employment and Training. They work with manpower employment. Their complain portal is for the people of Bangladesh who are immigrant and working outside of Bangladesh. If they are cheated by their Employer Company, agencies who took them to work abroad or agents they can complain here. Obviously it is appreciable work. [10]

11. Gold Coast complain portal: Gold Coast is a city of Australia. The authority of this city has different sites for their work. The site we are talking about is mainly for citizen of Gold Coast. They can report problem about animals, city parks and beaches, development compliance, graffiti rubbish and illegal dumping, noise, pollution, public health and safety, roads and footpaths, vehicles, water and swear. [11]

12. Queensland Government reporting system: Queensland an Australian city has a reporting system for their citizens. The reporting system we are discussing mainly used for pollution reporting. Air, water, soil, environmental nuisance, water problem and illegal dumping. Anyone can report their problem [12]

13. MACC complaint management system: MACC stands for Malaysian Anti-Corruption Commission. This is an anti-corruption commission. They have a

complaint management system where anyone can report about corruption. With proper documents and evidence victim can file a report online[13]

14. Hookumi, Qatar e-government: Hookumi is Qatar e-government system where there is a feature for e-complain. There is several department. There are different departments for different ministries. [14]

2.3 Comparative studies

From previous discussed we can easily say that the platforms we have discussed are individually used for some problems. But there is no specific web portal which can be used for centralized complaint system. The web portals we have discussed are individual sites for complaining.

Out of the previous related work done concerning customer complaint, the most recent research was: Razali et al. (2011) develop a new complaint management system called (e-Aduan) as a platform for UiTM Pahang's customers to complaint and comment regarding the services and facilities provided by the university. [15]

The user friendliness of our web site is an asset. On the other hand the portal we have mentioned above are not so much user friendly. Where we gave our best effort to make our project as friendly as possible.

Though the response time of our web portal is comparatively low. Where the response time of those site is higher. As we had limited time and resources, we did our best as we can. In future development we will work with that.

2.4 Scope of the problem

The scope of the problems we have mentioned above is great. We can create a new system where people can easily submit their problems. We can work with the data we will receive from the complainers.

As we mentioned before there is centralized system for complaining, where any one can submit their any kind of problem. Surely it has a great scope to work in future. We hope that someday this application can bring huge change on our system.

Work can be progressed with user friendliness and we can motivate people to submit more problems. As a result the traffic on the web portal can be increased.

More development can be done in the field of response time. Mass people don't want to waste their time on this type of thing. So we must work with this problem. We want to develop a system where complaining to authority won't be thought as a problem too.

Government can work with the data and can bring huge changes on the rural and urban development process. As Bangladesh is now a developing country, this type of problems should be solved as soon as possible.

2.5 Challenges

Though there are great scopes to work on, besides that there are great challenges to. We are going to emphasize on the challenges we are going to face in this field.

We know internet is not widely available in Bangladesh. Though there are available connection of internet in Dhaka and other cities of Bangladesh, the connection or availability of internet in rural area is very poor. If someone needs to complain via our system they must have internet connection. I hope we are going to overcome this problem. Moreover that, complainer must need upload a photo or video of the problem, so that admin or authority can identify the problem. So we can easily say that complainer must need a camera or at least smart phone to capture the problem.

Second problem is popularization of the system. Though we have built a successful system, but we must remember complainer or users are the heart this system. The more complainer we get, the more system will be the useful. It will encourage us to development in future. So we must popularize the system.

Third problem is future development and maintenances. As we have limited resources and financial solvency, it will be hard for us, if we don't get any sponsor or fund to run the system and make further development. We hope, we will get some funds on this project to make it more updated.

CHAPTER 3

Requirement Specification

3.1 Business Process Modeling

To play out a role complainer need to begin a program and go to the site page of Complain Portal. At that point the client must choose the Complain Us choice to make the complaint. In the structure there is a few options where somebody will have the capacity to make a choice and among them the correct one must be chosen. There will be a few required data that should be topped off accurately and client must transfer photograph or any record as the evidence of grumble. At the point when the client transfers or sends photo and every one of the information are given effectively information will be put away to the database.

A fruitful grumble will trigger a warning to the administrator and expert who is allowed to get to the site and view complaints. Later on the client or individual who influenced grumble to will get a warning as the expert have seen his complaint and will make important strides against it. Than the procedure will end. The information stream outline of the entire procedure is given beneath
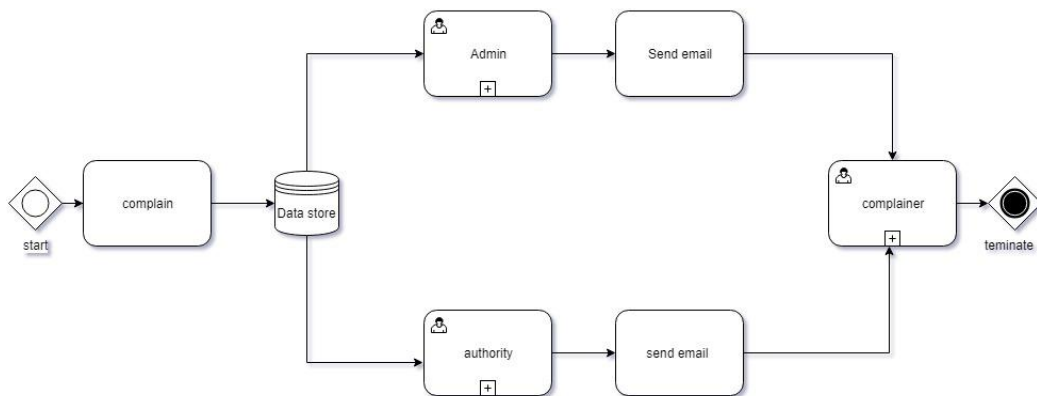
Figure 3.1: BPMN of a web based application of complaint portal

3.2 Requirement Collection and Analysis

From the above discussion we are almost clear about the requirements. The requirements are discussed below.

We need a complain module. A complain module will help us or user to submit their complaint. We will need to build a form setup. The form will collect data from the complainer. The form will help us to organize the data sequentially which data to be save and which data to remove. In form there will be several sections to collect data. Such as name, email id, phone number, national ID card, locations, problem descriptions and a photo of problem.

To save the data we need a database. Database will save the data permanently. All the data will be used for further and investigations. So we need to build a good database with proper connections.

We need to build a notification module to notify the admin and authorities who are in charge of the web portal. The notification module will notify the admin and authorities about the complaint submitted by the complainer this will trigger in notification which will be sent to dashboard of admin and authorities. To do all these things we need a local server to test the applications we need a framework to build the system. For this reason we will walk with codeigniter which is a php based framework. It's an open source software which helps to developers to develop dynamic websites. This Framework will help us to secure the system, to support the community, to utilize the resources and make the updates available

We need to choose a development methods to develop our web application. In this application we used agile a method as a process of development. It helped us to develop the system in a proper way as far possible. We went through some states like requirements analysis planning design development release and track and monitoring.

3.3 Use Case Modeling and Description
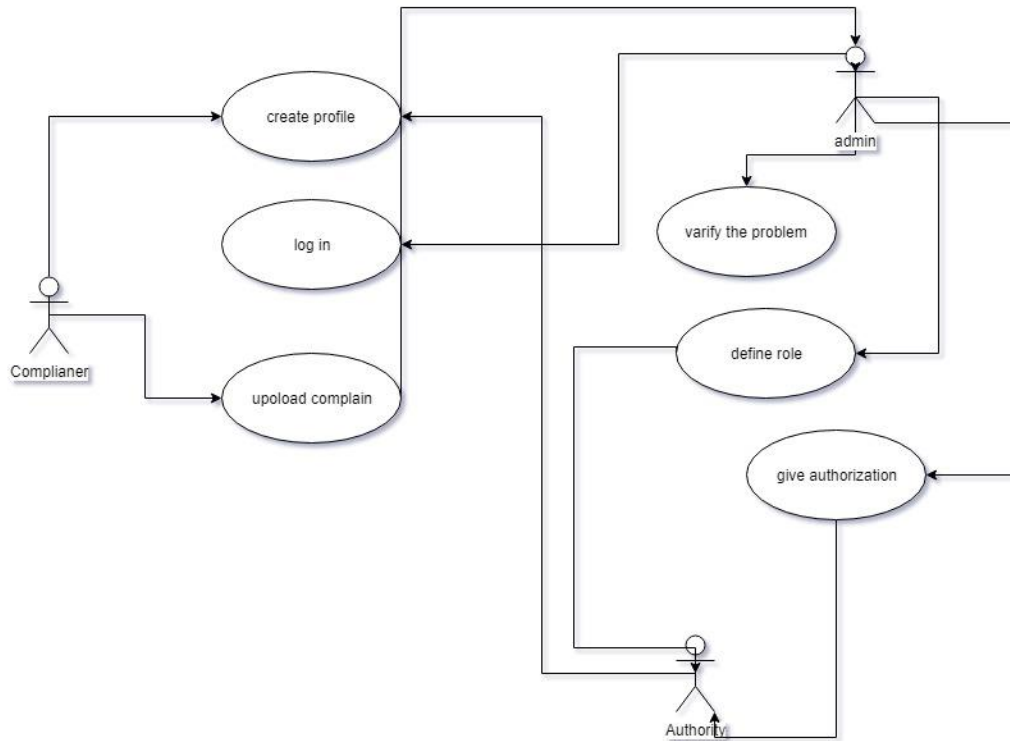
Figure 3.2: Use case modeling of a web based application of complaint portal

In use case modelling me you will see the actors of this system where we can see there are three types of actors. Firstly the user for complainer secondly the admin at last there is a role for authority. In our system a user or Complain can create profile and can upload complaint the role of admin is create profile and he will see the uploaded complaint he must login to play a role as admin. He can see the details of uploaded complaint. Moreover he can authorize the complaint. Admin can points of as authority. The people who will apply for the role of authority will be appointed by and verified by admin without the authorization of admin no one can be appointed an authority.

3.4 Logical Data Modeling

Now we will explain the logical data model of this process. Logical data model helps non-IT people to understand a model.
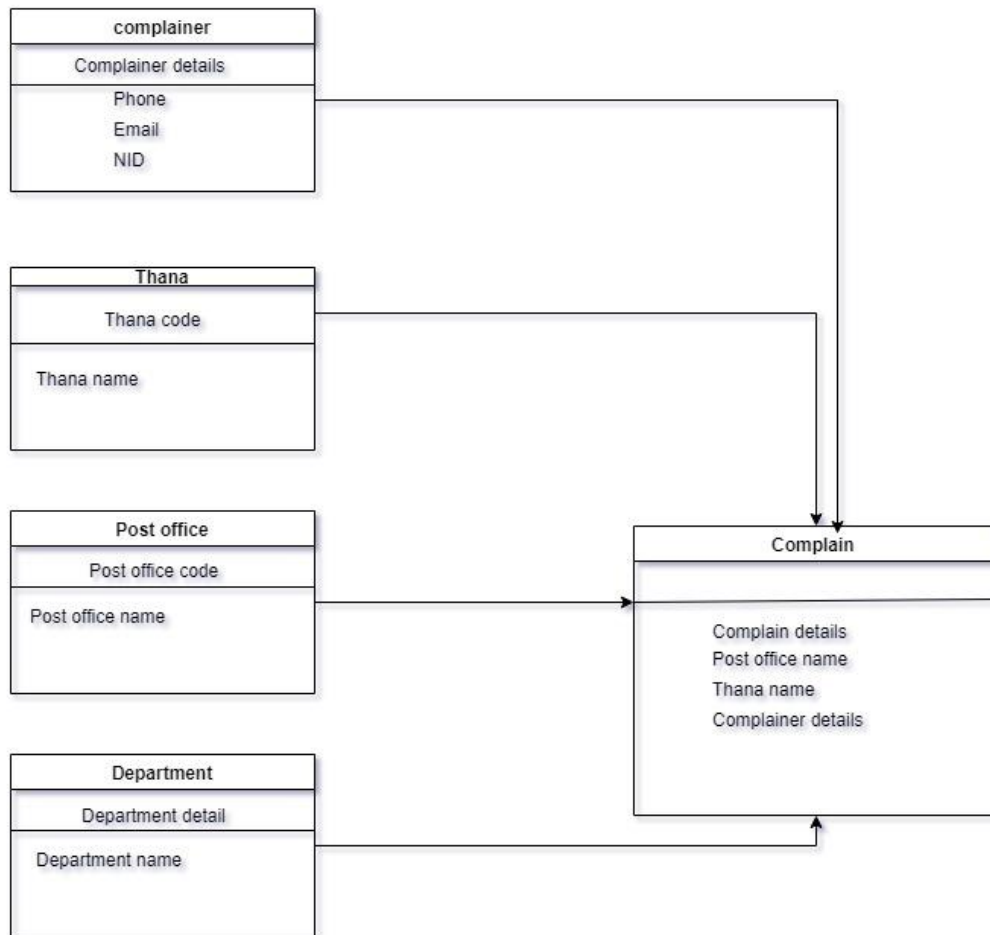
Figure 3.3: Logical data modeling of a web based application of complaint portal

We can see here Complain is consist of several data. Such as Thana details, post office details, department details complainer details. This several details will help to for a complete complain. If there is an error the complaint won't completed. So we have understand the relations between different data of this system.

3.5 Design Requirements

We will talk about design requirements for this system. There are few things that must be

Main functionality of our system is, it will help the users to submit their problems or complaints or their grievances. This will be a centralized platform to submit all kind of problems such as pollution, traffic problem, sewerage problem, electricity problem environmental degradation etc.

Besides that there will be scope to read newspapers from outside. There will be another section to watch online TV. There will be also a feature of finding the current position or place. We have also added a feature to know about post office info. User will give the post office name he will get the postal code or user will give postal code the system will return post office name. There are some features for previously uploaded problems or incidents. There will be archive and gallery to know about the past complaints.

Complaints the capacity of a system is not so much satisfactory. We have been this project or web portal as a prototype. Now it can help very few number of people. But we have a planning to enhance the system in broader scale.

We tried to build a system which can be customized if it's needed. As we know the platform or requirements can be changed at any time. We know the technology is advancing on their own way. So customizability is an important thing for any kind of system that is why we tried our best to make the system as customizable as possible,

We used several types of languages in the system search SQL, PHP, JavaScript, jQuery Json ajax and PHP basically we used a Framework based on PHP the name is codeigniter. To manage bigger quotes teeth help us to manage bigger codes

Chapter 4
Design Specification

4.1 Front-End Design

As we previously explained this is an online complain box where people will upload complain to respected departments for solutions. This web application have multiple webpages with different features. Those features are explained below with proper figure and description.

In the figure 4.1, it is the homepage of the application. When a user enter into the website he will be able to see this part where it has different menu bars as Home, About, Video, Newspaper, Find Place, Live TV, Post Office Info, Registration, Login and Others. Home page refers to the index page of the site, which is also the Home page of the website. About section describes about the website and why it is created. Video section contains some recent topics and public uploads. In the newspaper section people will able to read popular newspaper if they want. Using find place user will be able to locate a place. In live TV some popular channels will be available for the users. If user need to know the postal code of his area he can find it through the Post office Info. Anyone will be able apply for the admin position through the registration form for an organization. Admins and moderators will be able to log in through the login page. Other menu contains gallery and public uploads.

Figure 4.1: Homepage of the Complain Portal

There is also a slideshow of some photos that can anything like recent events, any major problem and so on. It can be changed by the admin of the page. In the center there is a section called "Complain US?" which will create a popup complain form when triggered. According to the figure 4.2, complain box require some information like name, phone, NID, email, address and information about complain type. It also require some document to verify the complaint. If the complainer want to add some description about complain he also be able to do that. Any empty slot on the form will not let the complaint happen. So user must fill up all the boxes.

The complaint list on the home page will view complains in different techniques or style. Those shorting can be divided in different sections like road problem, air pollution, water, soil pollution, corruption etc. Though different type of problems are listed, but most recent problems will be visible to the top of the list.

Figure 4.2: User Interface of the Complain form

SL	Complain Name	Complainer Name	Complain Details	Image	Compalin Place	Date
1	Road Problem	Faruk Khan	Road Problem		Dhaka	0000-00-00 00:00:00
2	Electricity Problem	Faruk Khan	Electricity Problem		Dhaka	0000-00-00 00:00:00
3	Drain Problem	Ratul	Damage Drain		Dhaka	28-06-2018 11:04:23
4	Water Problem	Badhon	N/A		Dhaka	09-07-2018 09:12:54
5	Lamp Post Problem	Rasel	N/A		Dhaka	13-07-2018 10:26:18
6	Lamp Post Problem	Rasel	n		Dhaka	20-07-2018 10:22:42
7	Roads Problem	Anup	n/a		Kalabagan, Dhaka	08-09-2018 20:06:31
8	Roads Problem	Safiul Islam	n/a		Mohammdpur	08-09-2018 22:02:17

Figure 4.3: Recently Uploaded Complain by the users

On the figure 4.4, it can be seen that on the newspaper section several popular Bangla and English newspapers are available. It is a simple process like click and visit to the newspapers online directory.

Figure 4.4: Available Online Newspapers (service of the site)

This feature also help people to know news of all around the world in a few clicks and as both top Bangla and English newspapers are available people don't need to find each one on separate places.

From the Live TV menu of figure 4.5 people will be able to browse their expected TV channel. Now a days, most of the people are dependent on internet rather than TV to watch programs. So as there is a lot of TV servers are included in this website they do not need to search randomly for a TV channel. Like the online newspaper it is also a click and visit process.
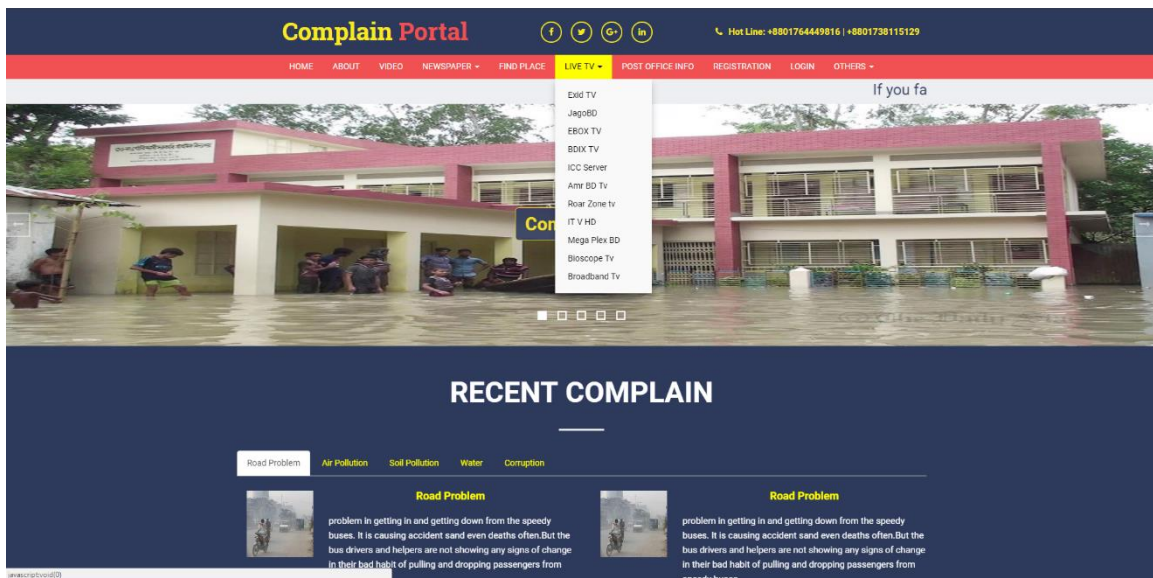
Figure 4.5: Live TV Menu

There is also a problem counter in our website. As we can see in figure 4.6, problem counter will count the number of problems solved, running problems, hold processing and remaining. Each time a problem or complain uploaded it will increase the number of remaining problems. When it is waiting to be solved, remaining will decrees and hold position will increase. When people are working on it, running problem will increase and hold position will decrease. When it is solved, solved problems number will increase.
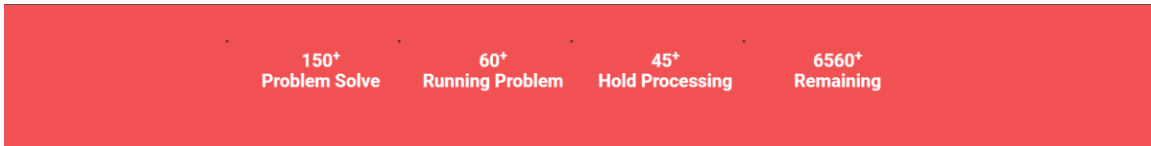
Figure 4.6 Problem Counter

In the login page from figure 4.7, a user must have a user name and a password to access to the dashboard, which is also known as admin panel. Without an access username and password no one is allowed to enter the dashboard. An admin will be able to control the website according to his level. Top admin will be responsible for all the control of the website. Secondary admins will be able to control only their own sector of the website.
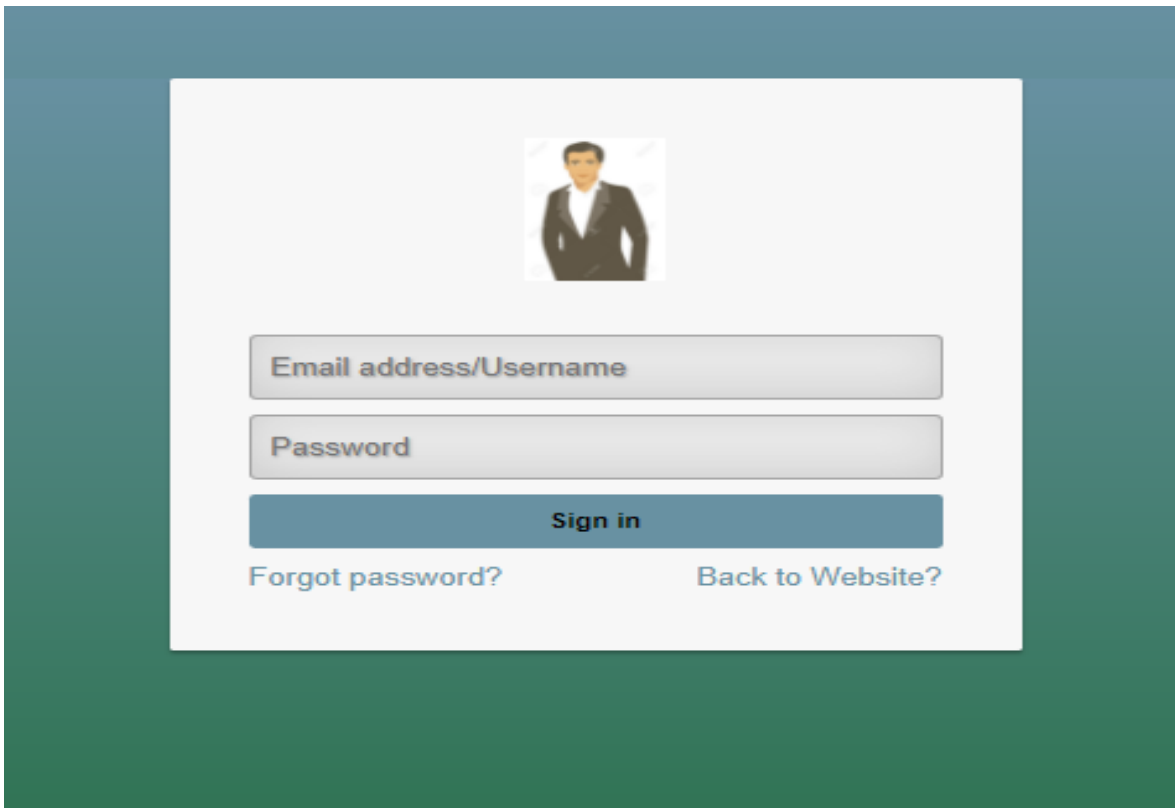
Figure 4.7: Login Page Interface

In the section Videos and Public Uploads there will be some related videos of the website like instructions about how to use the website and other necessary things and recent public uploaded videos from the section public upload as we can see in figure 4.8 given below.
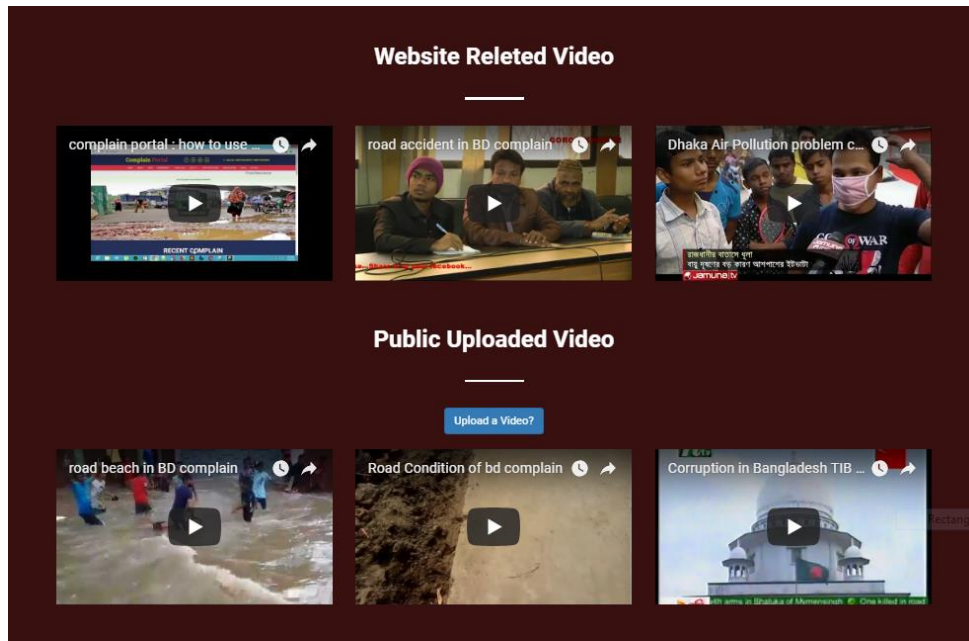
Figure 4.8: Videos and Public Upload files

In the about section there is a short description about the website and why and for whom it has been created. This section also refers that to whom this website is serving. According to the figure 4.9 it says that this website was created to serve the Bangladesh government and was created by the Daffodil International University students.

Figure 4.9: UI of About Section

In the figure 4.10 we can see that there is an option called upload video is visible that will be used by the general users to upload any relevant video and incident.
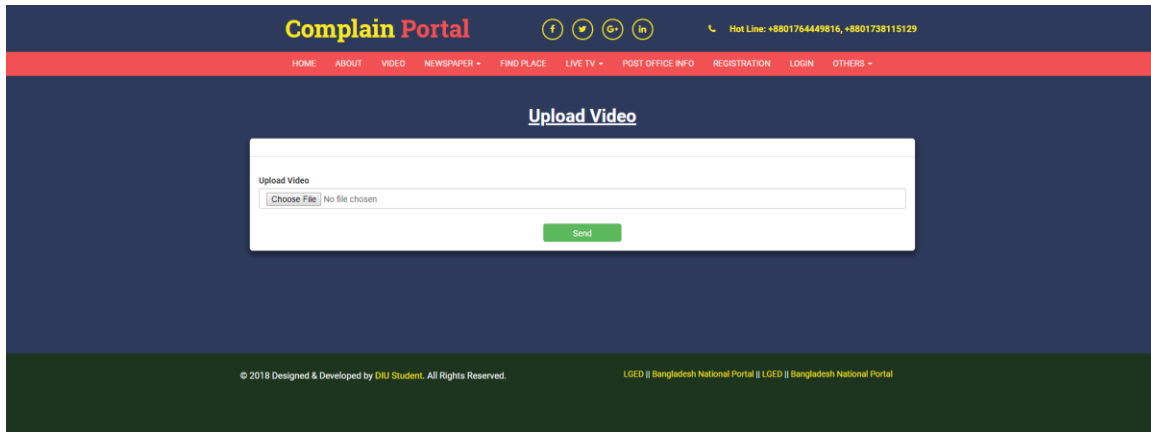
Figure 4.10: Video Upload Interface

There is a contact form at the end of the webpage. If anyone wants to contact with anyone or any admin of the website or the authority can use this form to do that.
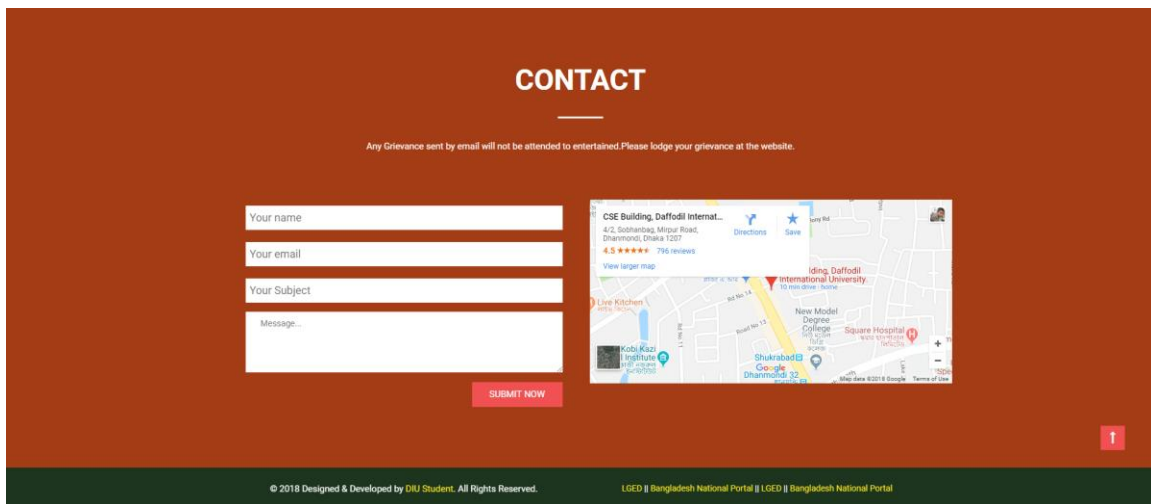
Figure 4.11: Contact Form UI

This form only need some simple information like name, email, subject or topic of the message and the body of the message. Submitting the message will make it saved to the website and admin will get a notification. If any user want to find any location to the map he will be able to use the map on the website.

4.2 Back-End Development

After logging in an admin will be able to see a page like figure 4.12. There is some options like authority, all complaint list, user management and rules and permissions etc.

each of those options have their separate features and tasks. By clicking back to the website button user will be able to come back to the main home page of the website.
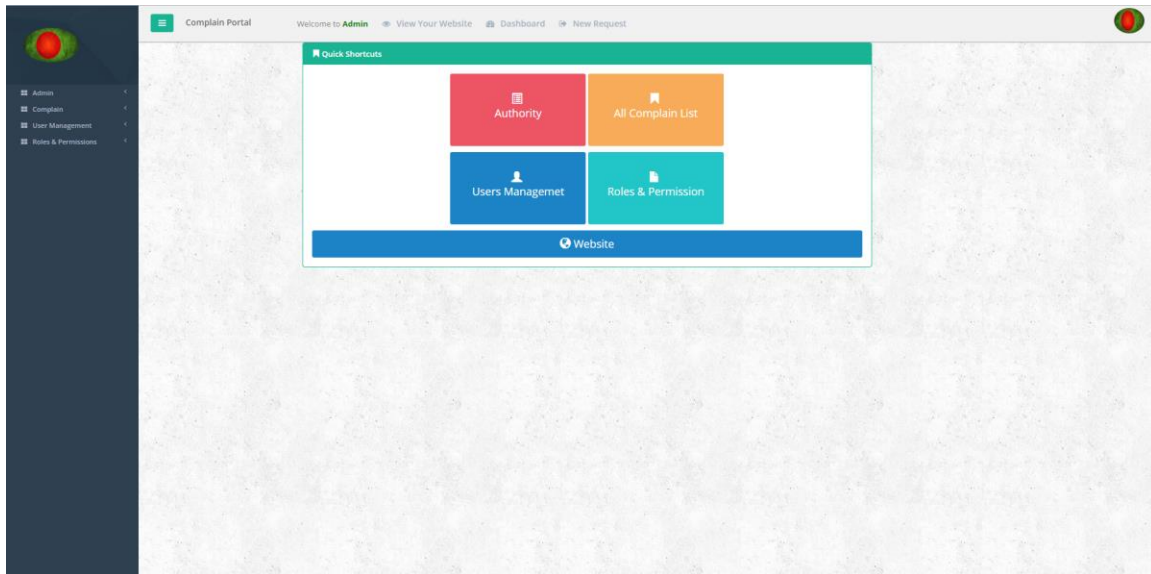
Figure 4.12: Dashboard Homepage

In the authority information section admin will be able to see add the authority related persons information and it is also possible to add authority information to the website. An authority can be active or inactive.
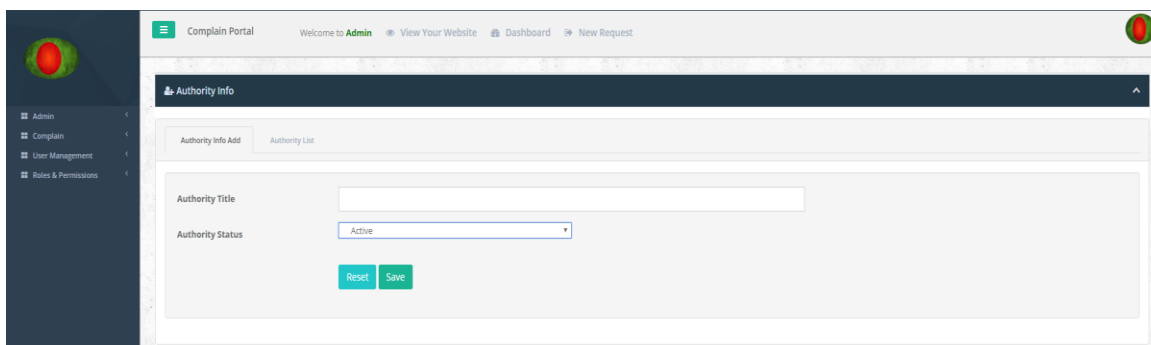
Figure 4.13 Authority Info

In the all user section all the users' information will be available including their name, designation, username, email, role, photo and status. Admin will be able to delete a user or edit user information.

Figure 4.14: All Users List of the Registered Users

In this section all the available messages regarding a complaint from the users will be visible to the admin. This complain message section includes complain topic, message, document, status etc.

Figure 4.15: Messages sent by the users

This section describes the roles of the admins of the website and what kind of admin they are. As we know that admin level differ their power and control to the website. So it is important to identify each one of them correctly.
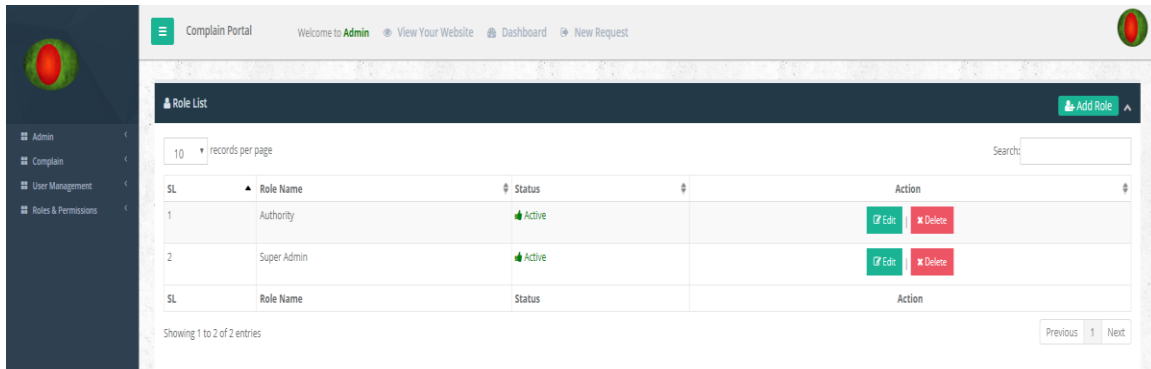
Figure 4.16: Role of the Admins

If super admin wants to add role to another lower level admin he can do it using this section. In here, admin need to select a role name, update the permission of the role and status of the role. Successful role update will increase or decrese the power of a role.
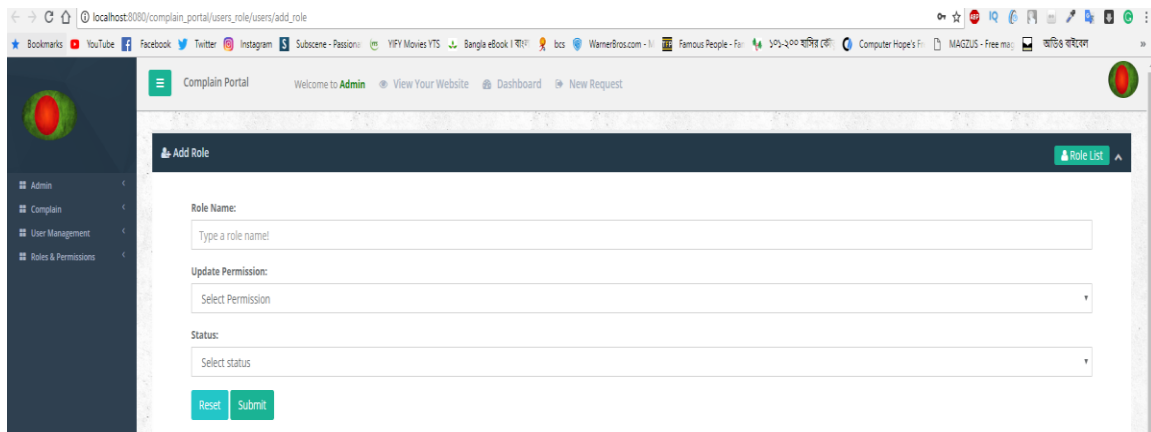
Figure 4.17: Option of Adding Role to Users

In this section the admin will be able to define permissions for a user admin. For a particular permission admin has to stay on his limit and he will be able to perform only some selected tasks. In this sector there is several options for a role like role selection, complain list selection, admin type selection, appearance, user management, CTL menu and roles & permissions, etc.
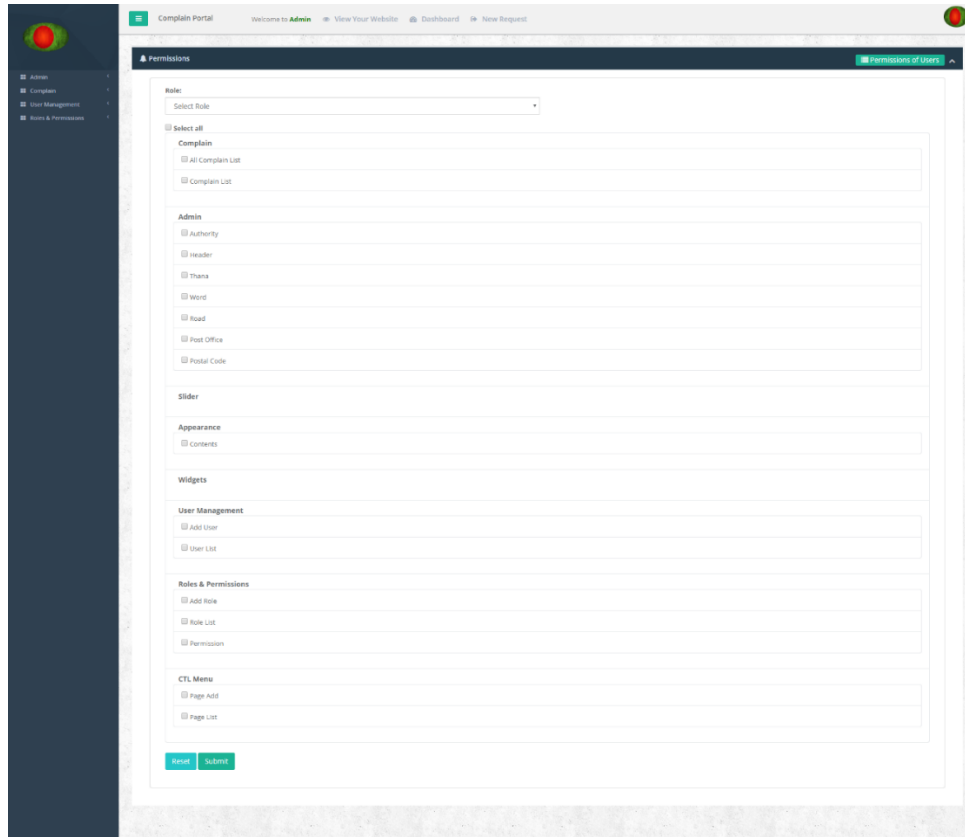
Figure 4.18: Permission selection

4.3 Interaction Design and UX

There are various dimensions of interaction designs. Which can be described as words, visual representation, physical objects or space, time and behavior. In our system we have worked hard to maintain the above characteristics.

The words we use in this system are meaningful to user. Who tried to use simple and easy words so that user can use the system easily? Moreover we tried to use most commonly used words. The words which are used by common people in day to day life. Hard or rarely used words make a system less user friendly. We tried our best to maintain this rule.

In visual representation part we tried to make the system user friendly. So that complaining will become easy to complainer. We used flat colors and commonly used

symbols and buttons. The form type we used are mostly commonly used. As a result user won't fumble to make a decision

The system is mainly built for PC user. There will be some work on Android platform so that android user can easily access this system. This type of Android platform will help us to popularize the system. A as more Android user we get we will be benefited from more complaint.

Last point is behavior. Our system is little bit slowly. We need to do more work on response time and loading time.

In UX design Part we ran some surveys online to understand who could be the possible user of the system. We take some interviews and make questionnaire to develop the UX. Lastly we tested the system. We ran different types of testing. We made usability testing, remote user testing to understand how the UX can work better. After going through several testing and modifying the system we have ended with the current system.

4.4 Implementation Requirements

As this project is a web based application, it needs different languages and platforms to build. Like all other web application HTML and CSS was used in this project. PHP was used as server side language to connect it with database and create different logical operations. For the database phpMyAdmin was used to store data for both admin panel and complain box. SQL injection and other basic security breach was prevented using php. As for test run it required a temporary server, so that localhost using xampp was used as the temporary server. We used bootstrap 4 to make the website responsive in different platforms and cross-browser compatibility. JavaScript was used for client side scripting language. JQuery was used to make the plugins work properly. MySQL was used to maintain relational database management system. We used JSON for serializing and transmitting structured data. We used AJAX to create the dynamicity of the web

pages. After all, we used CodeIgniter as our main base. CodeIgniter is strong, powerful framework. It helps us MVC format. MVC worked with model, view, and control format. MVC. CodeIgniter helps to manage bigger codes.

From the beginning of the life every day we are developing step by step. But with new technology and innovation it is speeding up every moment. At the very beginning of human life people lived in caves, had to move out for food. Later they invented fire, discovered alternative way of making food, created paths to travel. Moreover every day we are learning new things that is changing our life. But with this change some problems also came to our life. Our society decided to divide them into sectors so that it will be easy to solve those problems. But before solving those problems need to be found first.

4.5 System development

Here is the system architecture of our system. We tried our best to explain it.
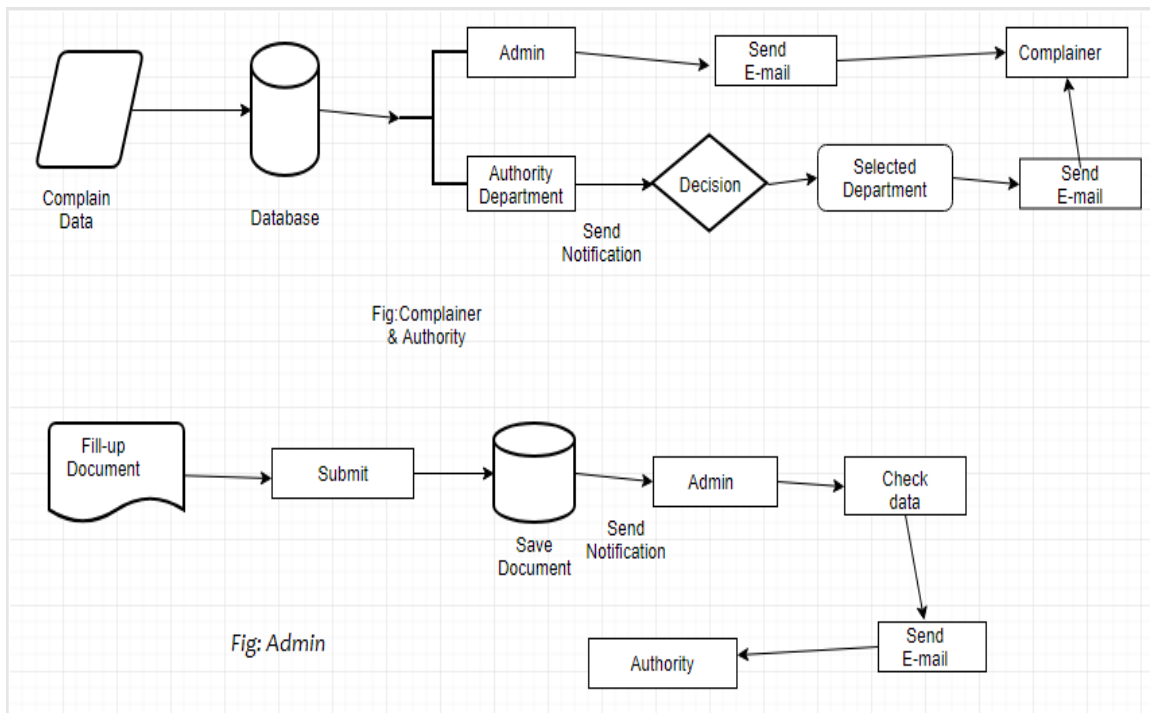
Figure 4.19: System architecture

To understand our project, firstly we need to understand the system architecture. We tried to explain the system architecture here.

In the above figure there are two parts. First one is named complainer and authority. Second one is named admin. In first picture we explained the architecture and work process between complainer and authority. At the very beginning the complaint data is going to be saved in database. Then the process got separated in two paths. First path is reaching admin. Admin got notified by a simple notification. Then the admin sends an email to complainer. Complainer received an email. The process has terminated there. In second path the data from database going through a decision making. The decision is about which department to reach complain. As there are several authorities and complainer had already selected the required department, the data will reach required admin. After reaching the authority the complainer will get an email from authority to. The process will again terminate to complainer.

From second figure we can understand the data processing. When someone will fill up the document, there will be multiple document what should processed. The data must be submitted properly. After processing the data will be saved to a database. The system will generate a notification. The notification will notify admin about the complaint. Admin will check the data after getting notification. Then complainer will get an email and authority will be notified.

Chapter 5
Implementation and Testing

5.1 Implementation of Database

In this section we will explain the database we used for this projects. The tables we used in database is going to be explained. The connection between database tables is explained. How and why tables were created and there uses will be very clear after this section

In our development process we take help of xampp as it helped us to create a local server for test and deployment purpose. We tested our web application and update it with the help of xampp.

We created a local server with the assistance of xampp. As we needed a mysql database and xampp helped us to do that. It provides GUI for mysql database. Our all project is result of assistance of xampp. As our site is a php based, so we must needed xampp.
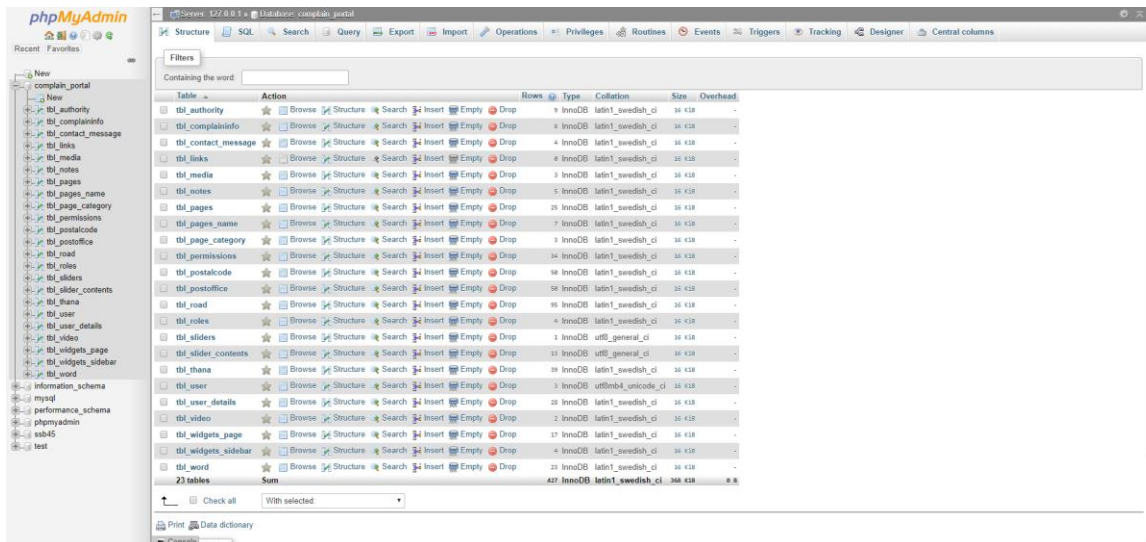
Figure 5.1: Table list of Database

Suppose at the very beginning we have create adatabse called complain_portal, Where all data we used in this project is dsaved . we can see differents tables . they are being used for different pupose , but every one of them is important.
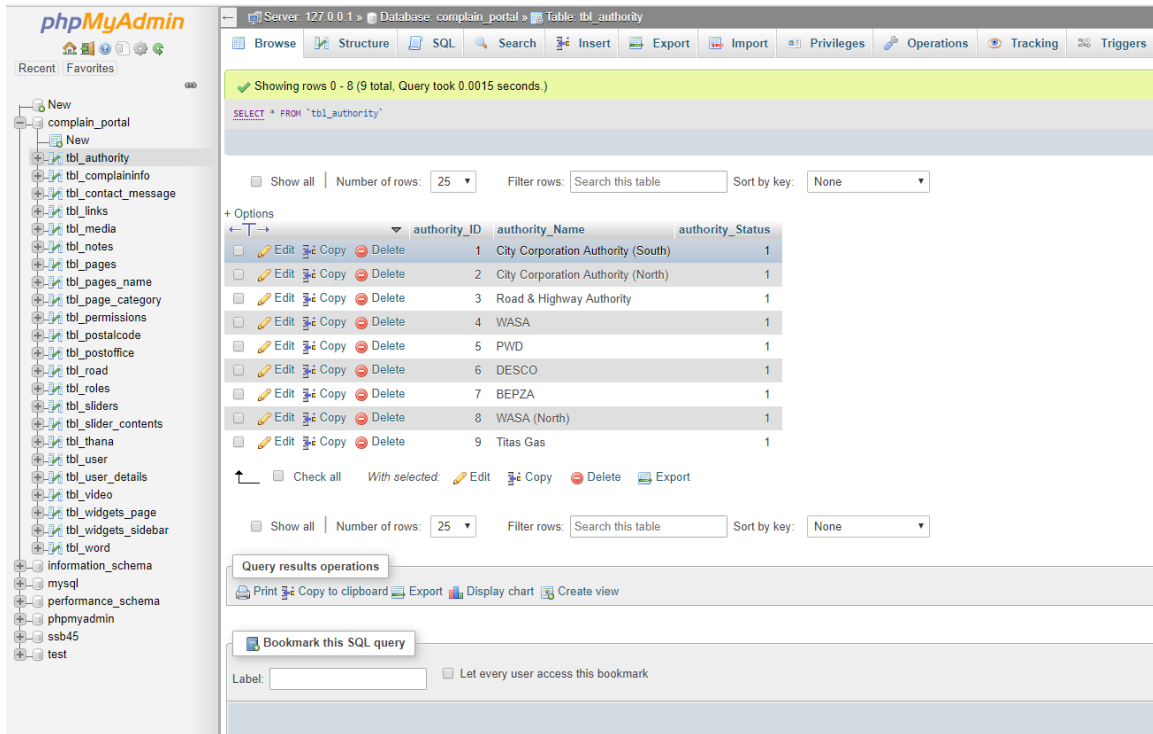
Figure 5.2: Authority Table in Database

Here we can see the table we have created for the authorities. All the authorities are appointed by admin. This table is a prototype, which shows how will be the data of authorities will be saved. We can see there are authority ID, authority name, authority status. As example we have given several names such as city Corporation authority south, city Corporation authority north , road and Highway authority, wasa authority etc. The name of the authorities will be saved . There will be authority ID to identify the authorities separately.
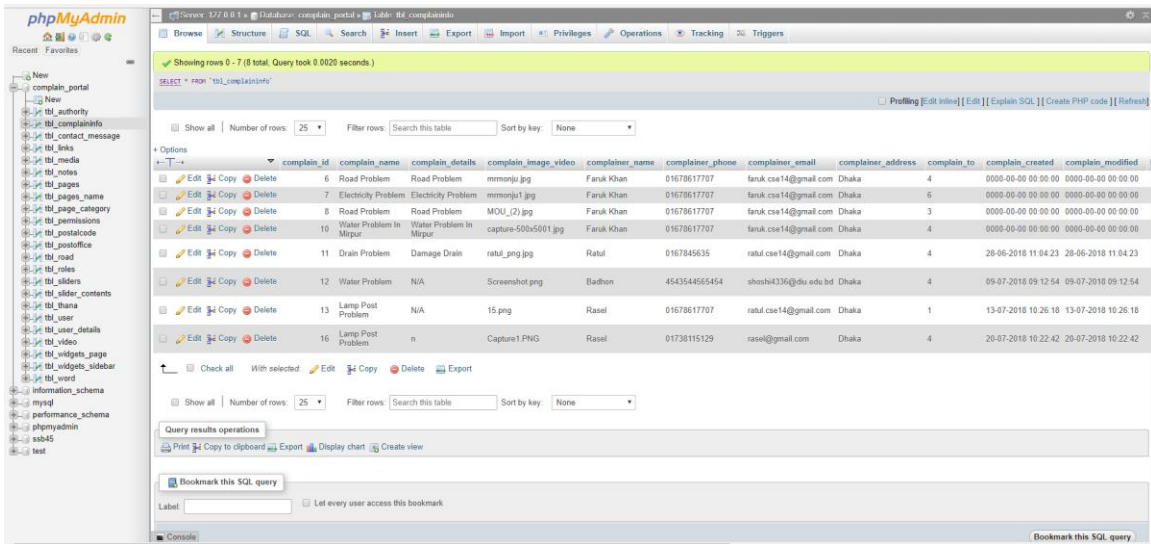
Figure 5.3: Complaint Info Table in Database

This table is called complain info. In this table the data of complaining info will be saved serial we can see the added rows called complainer ID, complainer name, complaint details, complain image video , complain earphone, complaint Email, complainer address, complain to, complan created, complainer national ID, complainer gender, date, complain Thana, complain word ,complaint road No, notification status .these are the all details about th authority . The row caled complaint to is mainly connected to authority table. This will help to identify which authority will be notified after the complaint. This will also help us to understand who is in the incharge of the department.
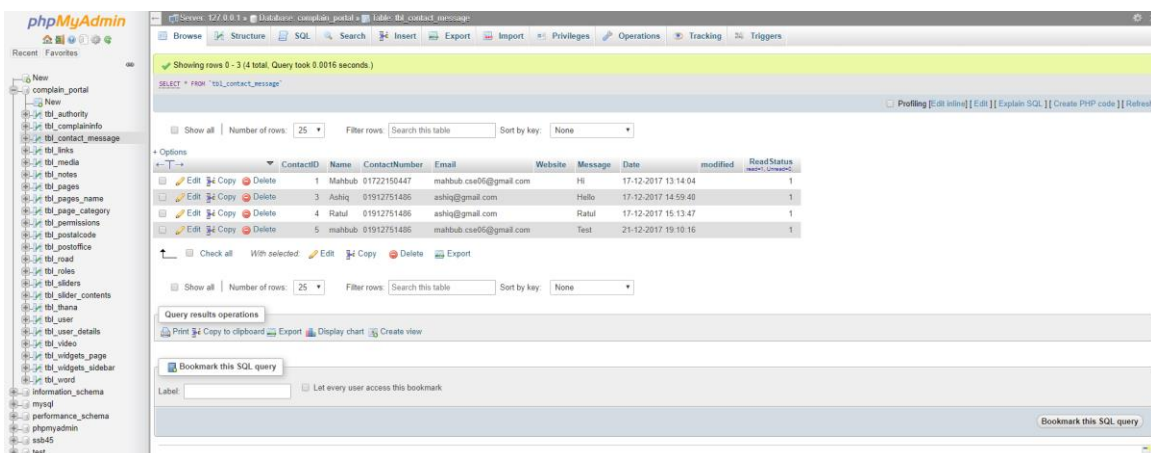
Figure 5.4: Contact Info Table in Database

This table is created to save the contact data , where we can see the contact details are saved. The data which are saved are name ,contact number, email.
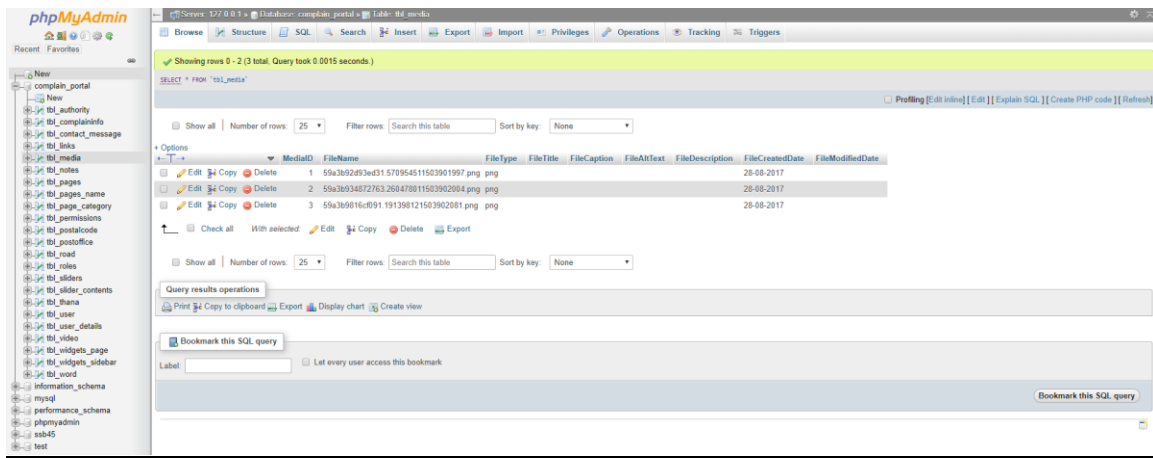
Figure 5.5: Media Table in Database

This table is created for saving the images. all the images uploaded by complainers will be saved in this table.
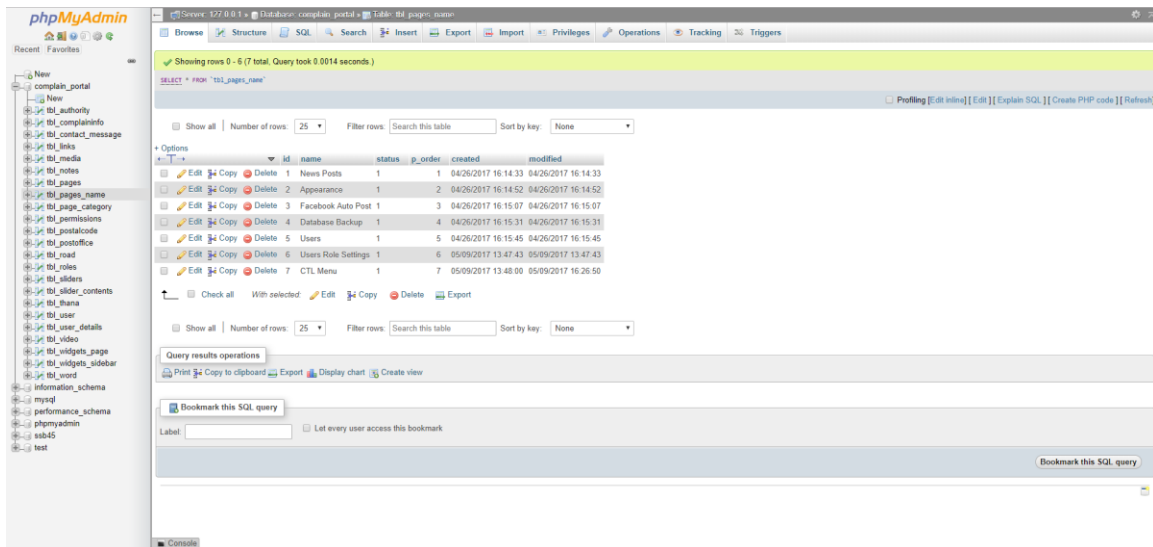
Figure 5.6: Pages Name Table in Database

The name of this table is pages_name, where we can see iD, status, page order. All the necessary pages and the datas will be saved in this table

Figure 5.7: Permission Table in Database

The name of the table is permissions. In this table all the permissions given by admin and authorities will be saved.

Figure 5.8: Post Code Table in Database

The name of the table is postal_codes. In this table all the all the postal codes required to complain will be saved. As a prototype we have only saved the postal codes of dhaka city. In further develpoment we will save all the postal codes all over the bangladesh. This step will help complainer from all over bangladesh to come forward and complaint about their problems

Figure 5.9: Post Office Table in Database

This table will be used for saving the data about all the roads. The address of the road and the location . There will be data about the road name, in the word the road is situated, road Thana ID and the status of the road. This table will help the admin to know about any Road and its condition. It will also provide information to authority off road and highway

Figure 5.10: User Table in Database

This table is one of the most important table of the database. In this table the data about all the users and complainers will be saved. We can say that this table is the heart of the database without this table the work of the system will be hampered. In this table we are

saving the details about the users. There will be images of the users , present address, permanent address, contact number, employee ID, joining date, date of birth, gender, marital status and lastly national ID number.

5.2 Implementation of Front-end Design

In this section we will discuss about the front end design. In which part we have used which type of code and implementation will be explained here .

```html
<div id="home" class="header">
    <div class="container">
        <div class="row">
            <div class="col-lg-5 col-md-5 col-sm-12 col-xs-12">
                <a href="#">
                    <div class="logo">
                        <!-- <img src="<?php //echo base_url() ;?>comp/img/logo.png" alt="logo"> -->
                        <h1>Complain<span> Portal</span></h1>
                    </div>
                </a>
            </div>
            <div class="col-lg-3 col-md-3">
                <div class="follow">
                    <ul>
                        <li><a href="#"><i class="fa fa-facebook"></i></a></li>
                        <li><a href="#"><i class="fa fa-twitter"></i></a></li>
                        <li><a href="#"><i class="fa fa-google-plus"></i></a></li>
                        <li><a href="#"><i class="fa fa-linkedin"></i></a></li>
                    </ul>
                </div>
            </div>
            <div class="col-lg-4 col-md-4">
                <div class="phone">
                    <p> <span> <i class="fa fa-phone"></i>Hot Line:</span> +8801764449816 | +8801738115129</p>
                </div>
            </div>
        </div>
    </div>
</div>
```

Figure 5.11: Example of Front-end Implementation

In this code we can see we have worked about the Header part. In Hyderabad we have the title , icons of social medias such as facebook ,Twitter, google Plus and LinkedIn. These are the links of complaint portals in various social media platform. Via those social media platform anyone also can submit your problem. In header part there are also hotline number through which anyone can call and know about more about the system and submit your problem.

Figure 5.12: Example of Front-end Implementation

This is a snap of navigation bar of the web portal. there are Different items in navigation bar . They are home , about, video, newspaper, find place, live TV, post office info, registration, login others. In the above code we have built this navigation bar.

Figure 5.13: Example of Front-end Implementation

This is snap of snap of the code of slider we used some pictures to make the slider. In slider there will be some pictures of previously uploaded complaint.

5.3 Implementation of Interactions

We used HTML, HTML5 to design the layout of the system. CSS and css3 helped us to customize the design. We used Bootstrap to make it responsive in any kind of platform and cross browser support. Between receiving the request and responding, the server usually queries the database and feeds it into a template. Once the page is loaded in the browser, HTML defines what things are, CSS how they look and JS any special interactions. Ajax was used to make the communication json also used to maintain the responses the system created. Ajax allowed ask to load data without refreshing the page the subsequent rendering will be done on client side browser.

5.3 Testing Implementation

We tried to implement testing with differrent tools. Without testing an application can't be launched

5.3 Test Reports and Results

Here is some example of test report.

Figure 5.14: Testing Report

Chapter 6
Conclusion and Future Scope

6.1 Discussion and Conclusion

The proposed system represents a web application which can be used as a platform to complain. User will upload photo of their Complan and the details about the problem they face the system can be used from pC and Android.

During the development of this project we have started the working principle of web application. specially we had to learn HTML5, css3 ,javaScript ,jQuery ,json,pHP ,mySQL. We have also studied a framework of PHP called codeigniter .

The proposed system is developed with the combination of above stated to which will lead the user to hassle free use of a complaint portal

6.2 Scope for further development

They are is a huge scope for further development. In running process the system is working slower than expected. Now we are using a model which can be accessed slowly. we will try to speed up the model.

There are not any pictures to sending SMS to the complainers mobile phone. We will use or develop a system to do that.

The data will get from the complainers can be researched.

References

[1] United States Environmental Protection Agency; (available at https://www.epa.gov/; last accessed on: 25th February 2018)

[2] Indiana Department of Environmental Management (available at https://www.in.gov/idem/5274.htm; (available at last accessed on: 20th February 2018.)

[3] LAPOR, the People's Online Aspirations and Complaints Service (available at https://www.lapor.go.id/ last accessed on: 2nd March 2018.)

[4] Grievance Redress System (available at http://www.grs.gov.bd/ last accessed on: 11th March 2018.)

[5] Centralized Public Grievance Redress and Monitoring System (available at https://pgportal.gov.in/ last accessed on: 15th march 2018.)

[6] San Antonio portal (available at https://www.sanantonio.gov/GetConnected/Services last accessed on: 20th march 2018.)

[7] Illinois Commerce Commission (available at https://www.icc.illinois.gov/complaints last accessed on: 20th march 2018.)

[8] Example of a related work (available at https://www.icc.illinois.gov/complaints/ last accessed on: 25th march 2018.)

[9] Texas Commission on Environmental Quality (available at https://www.tceq.texas.gov/permitting/ossf/10381.html last accessed on: 29th march 2018.)

[10] Indiana Office of Utility Consumer Counselor (available at https://www.in.gov/oucc/2452.htm last accessed on: 29th march 2018.)

[11] Bureau of Manpower Employment and Training portal https://ovijogbmet.org/ last accessed on: 29th March 2018

[12] Gold Coast complain portal (available at http://www.goldcoast.qld.gov.au/report-a-problem-24142.html, last accessed on: 1st April 2018.)

[13] Queensland Government reporting system (available at https://www.qld.gov.au/environment/pollution/reporting, last accessed on: 2nd April 2018.)

[14] Hookumi, Qatar e-government (available at http://portaladuan.sprm.gov.my, last accessed on: 11th April 2018.)

[15] Implementation, ABD EL-FATAH A. HEGAZY, MONA AHMED KADRY EL-SAYED (2011) 'A Model for Customer Complaint Management System using SOA'