An Undergraduate Internship Report on Website Application

Autumn 2020

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In partial fulfillment of the requirements for the degree of Bachelor of Science in Computer Science and Engineering.

INDEPENDENT UNIVERSITY BANGLADESH

January 24, 2021

Originality Statement

This is to certify that the report titled “Website Application” is completed by me, Dil Afrin Kranti (1620181), submitted in partial fulfillment of the requirement for the Degree of Computer Science and Engineering from Independent University, Bangladesh (IUB). It has been completed under the guidance of Md. Abu Sayed (Internal Supervisor). I also certify that all my work is original which I have learned during my Internship. All the sources of information used in this project and report has been duly acknowledged in it.

Name:..... Signature:.....

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Signature: .....

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Signature: .....

Name: .....

External Supervisor: .....

Signature: .....

Name: .....

Convener:.....

Letter of Transmittal

January 25, 2021
Md. Abu Sayeed
Lecturer
Department of Computer Science and Engineering
Independent University Bangladesh.

Subject: Internship Report submission Autumn, 2020.

Dear Sir,

It is a great pleasure and honor to submit my Internship report on Website Application under your guidance. I have tried to present my project work, my experiences and achievements in this report.

I have completed my Internship from Hoorain HTF Limited as an intern from the 22nd of November 2020 to date. During this whole time period, I have gathered real life working experience and knowledge in various aspects. This report includes all the project works, experiences and learning that I have achieved during this internship.

I would like to thank you for your immense support, guidance and kindness. I have tried to complete this with utmost honesty and sincerity. I hope and pray that this report fulfills all the requirements and is up to your expectations.

Sincerely,

Dil Afrin Kranti.

Acknowledgements

Firstly I would like to thank the Almighty for His blessings for keeping me healthy, safe and for making me able to complete my Internship especially in this situation.

Secondly, I am really grateful to my Advisor, Md. Abu Sayeed, Lecturer, Department of Computer Science and Engineering, for his guidance, immense help, encouragement, support and understanding throughout this internship period. Without all these, I would not be able to complete this report.

Then I would like to express my gratitude to Mr. Abdul Hakim, CMO, for giving me the opportunity to complete my internship under Hoorain HTF Limited and giving me his support in this internship program. The learning and experiences I have gathered here have groomed me a lot and this will surely help me in the next phase of life.

I would also like to express my gratitude to all my colleagues for helping me throughout and making the Internship process so much enjoyable. Without them, this journey would have not been easy.

Finally, I would like to thank my parents for their immense love, support and letting me to complete my internship during this pandemic. Without their blessings I could not have come this far.

Abstract

In this report, I have described the knowledge and experiences I have gathered and the work I have done throughout my internship Hoorain HTF Limited as an intern. I have worked on a Website Application where mostly my task was to develop the whole website.

This website was divided into three parts; User Panel, Admin Panel and the Engineer Panel. This report contains the User, the Engineer and the Admin functionalities. All the detailed information are mentioned in this report. It is an online IT ticket portal system where a company's employers can raise IT related complains in the website and the admin will assign those complains to different engineers to solve the issues. The requirement to use this website is to create a user account for employers, then they can log in and write about their IT related issues.

Admin will control everything and has an access to view all the user and engineer profiles. Admin also will decide which engineer will solve which IT issues. The overall complain histories along with user names will be kept as a record in admin panel. The Admin has the authority to remove former users or engineers who leaves the company.

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Chapter 1

Introduction

1.1 Background

On this 21st century, everything is getting digitalized. People more rely on technologies rather than keeping documents in hardcopies. In corporate sectors, nowadays most of the employers use PC or Laptop for working purpose. They keep most of the documents in PC, because it is easier to keep records there. Documents kept in papers have high chance of get lost easily, but documents kept in PC don't have that chance. For maintaining every PCs, laptops and other hardware in an office, there is an IT department. IT department manages all the issues related to computer and system operations.

Hoorain HTF Limited Ticket Portal System (HTPS) is a web application where all the employers working in different departments who use PC or laptops can raise their IT related issues they face while working and the IT engineers look forward to those issues and try to solve them. There are different offices under Jamuna Group in different floors. And each office has different sectors. There's combined one IT department under Jamuna group to manage the whole office. So it is difficult to communicate with the IT department where there arises an IT related issue. The employers either have to visit the department physically or have to call them over phone.

HTPS will be helpful both for the employers of the companies and the IT department. Here employers can sign up as users and raise their IT related complains easily. There is an admin who will observe and control everything. The admin can see complains and assign them to designate IT engineers. Then the engineers will look over the issues and solve them.

There are total three panels in this ticket portal system – user panel, admin panel and engineer panel. Users can raise an issue, admin will see the issue and assign it to an engineer. Then the assigned engineer will solve that issue. This ticket portal will help to keep all the IT related issue history of the company as well as will be easier to communicate with the IT department.

1.2 Company Profile

1.2.1 Overview of Hoorain HTF Limited

HOORAIN HTF LTD. has emerged under the dynamic entrepreneurship of Mr. Nurul Islam Babul – Honorable Chairman of JAMUNA Group and his highly qualified daughter Ms. Rozalin Islam – Honorable Managing Director with a mission to contribute for the esteemed and up growing Global Apparel Industry. It launched its maiden voyage in the year 2018 with the flag of a largest textile mill in the South East Asian region. It sailed along with the vision of a renaissance in this contemporary textile industry & added the group of ventures to strengthen its winning fleet consequently for a greater success of Bangladesh apparel industry.

HOORAIN HTF LTD. as the Flagship of the Group with an aim to run at the highest degree of Business acumen, corporate governance and commitment to the social and global facets from the deck of it to contribute at the highest rate to meet the global standards.

As Hoorain HTF LTD. Is a sister concern of Jamuna group, it's IT sector is looked over by Jamuna Group's IT department.

1.2.2 Projects

Here is a list of some of the corporate projects the company has done:

1. Shameem Cotton Mills – Software ERP program
2. Jamuna Spinning Mills and Factory – HRMS Web Portal
3. Shameem Knitting Mills and factory – Inventory Software Solution
4. Saad textiles and mills – Ticketing portal

1.2.3 Objectives

1. To create one stop IT complain portal for the whole organization
2. To keep records of all the IT related issues of the whole company
3. To keep indents of all the hardware bought in an online portal

1.2.4 Mission

1. To develop, disseminate and leverage the remarkable experience, expertise and knowledge of their people.
2. To be the leading software solution provider ensuring the benefit of customers, shareholders, and employees.

3. To develop a distinctive expertise in process development and project management.

1.2.5 Vision

To achieve the goal of a problem free IT helpdesk service management by implying digital concepts on the software to make it more user friendly and be distinctive.

1.3 Project Objectives

The objective of this project is to develop a web application for users and IT department so that this gives them a portal system to easily communicate, raise and solve IT related issues. My objective is to develop the whole ticket portal system.
Objectives of Hoorain Ticket Portal System:

1. Portal to allow employers to raise IT related complains.
2. To allow users see if their problems are solved or not.
3. To allow IT engineers to see IT issues through an online portal.
4. To keep records of all IT related issues of the whole organization.
5. To allow admin to control which engineer will solve which issue.

1.4 Scope of the Project

Here are the features available in this web application for users, admin and engineers in ticket portal system:

1. User and engineer sign up page
2. User, engineer and admin log in page
3. Submit a complain page for user
4. Show all complains to Admin
5. Manage profile (user)
6. Change password (user)
7. Manage Users (Admin)
8. Manage engineers (Admin)

1.5 Out of Scope of the Project

1. Manage User profile (Admin)
2. Manage Engineer profile (Admin)
3. See/view Complain (Admin)
4. Forwarding complain to specific engineer

Chapter 2
Literature Review

2.1 Introduction

An IT Ticket Portal System is a web application that enables organizations to resolve their internal IT support queries by managing and streamlining the process of issue resolution. They handle individual elements called tickets that provide a context of what issue the requester is facing, along with other data like category, priority, etc. Tickets act as a documentation of a particular problem, its current status, and other associated information. Raised by the end-users of an organization whenever they encounter an event that interrupts their workflow, these tickets are routed to the IT ticketing software where they are categorized, prioritized, and assigned to different agents according to the organizational norms. The agents then analyze these tickets and suggest appropriate fixes or workarounds and resolve the issue. As a central repository of all these tickets, an IT Ticketing Software helps in providing the context of the issue history and its resolution.

2.2 How the project is related to the undergraduate courses

1. **CSE-307 System Analysis and Design:** This course has helped to develop the overall structure of the project. All the required analysis that was necessary to be considered such as requirement analysis, flow diagrams, UMLs, Rich picture, Functional and Non-functional requirements, methodology, WBS, Gantt Chart etc. were taught in this course. Not only for the project but also the report, this course was of great help. This course has helped in planning the whole project from the beginning to the end.

2. CSE-303 Database Management: A huge part of the project is related to back-end. This course has given the overall knowledge with SQL. Starting from connecting to phpMyAdmin to writing queries, this course has given me the knowledge with the database which helped me throughout the project. This course made it easier for me to develop the project with all the important queries like joining two tables using the foreign key, providing the primary key to a table etc. was known to me.

3. Web Application and Internet: While working with the frontend design, this course was in help. From this course, I have learned basic HTML, CSS, PHP, JavaScript, etc. This course was a huge help throughout the project as I have also learned the use of colors and features so that the User Interface can be created attractively.

2.3 Ticket Portal System around the World

1. **Mojo IT Helpdesk:** Mojo IT Helpdesk integrates seamlessly with G Suite so you can build your IT help desk right on top of your Google domain. Once your help desk is up, users can submit service requests via their preferred channels, all of which are converted into tickets and managed in one central location.
2. **HubSpot:** HubSpot's service hub delivers a 1:1 support experience that delights your users while improving overall team productivity. This ensures that service information is readily available for every member of your IT team.
3. **Freshservice**: Freshservice is an ITSM service desk built to help support teams provide timely IT services. This includes incident management, SLA management, asset management, and self-service options. The Freshservice dashboard displays a comprehensive view of team performance and helps you pinpoint opportunities to improve your service.
4. **Zendesk**: Zendesk an IT service desk that reports incidents, events, problems, and service requests from multiple support channels. You can even expand Zendesk's functionality by integrating your IT help desk with apps and tools your team already uses.

Chapter 3
Project Management and Financing

3.1 Work Breakdown Structure (WBS)

A project work breakdown structure (WBS) is a deliverable or product-oriented grouping of project work elements shown in graphical display to organize and subdivide the total work scope of a project.
The WBS is a particularly important project tool. Considerable thought and planning should be given to its development and implementation so that subsequent changes are minimized. Major revisions to a WBS require both substantial effort and resources, due to its application to a wide array of project activities. Project WBS, which are driven by the scope of a project, should not be confused with other uses of WBS-like systems. MIL-HDBK-881 is the accepted standard on WBS.

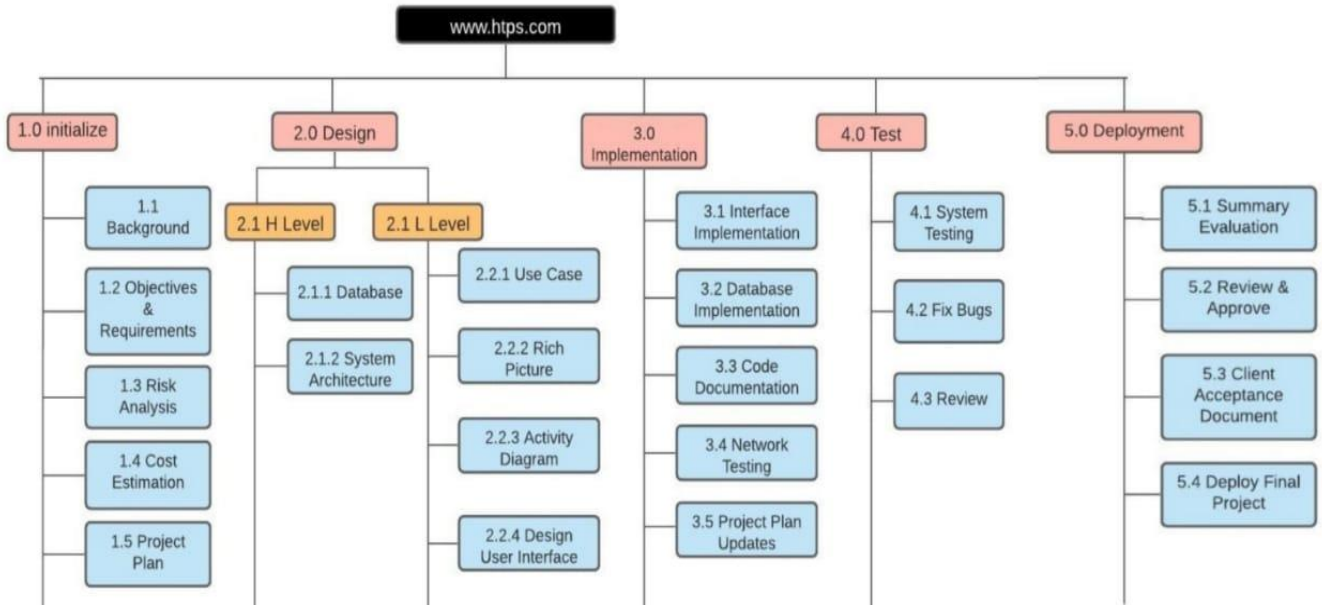


Figure: Work Breakdown Structure

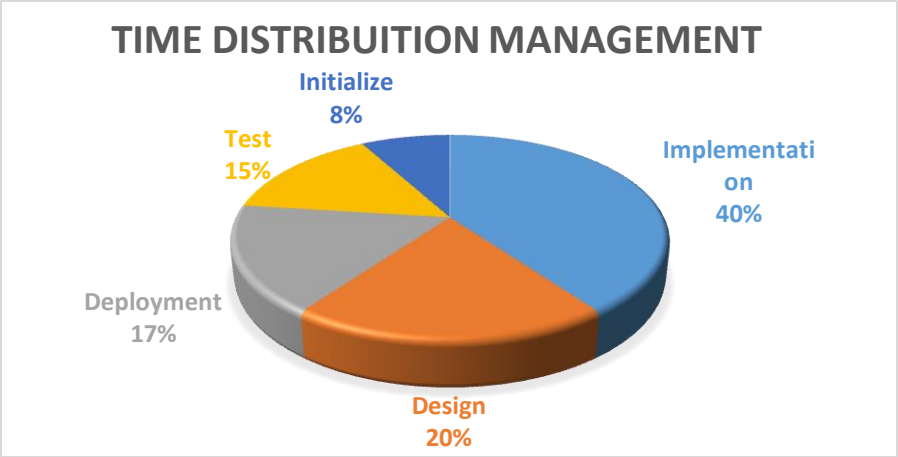
3.2 Activity Wise Time Allocation

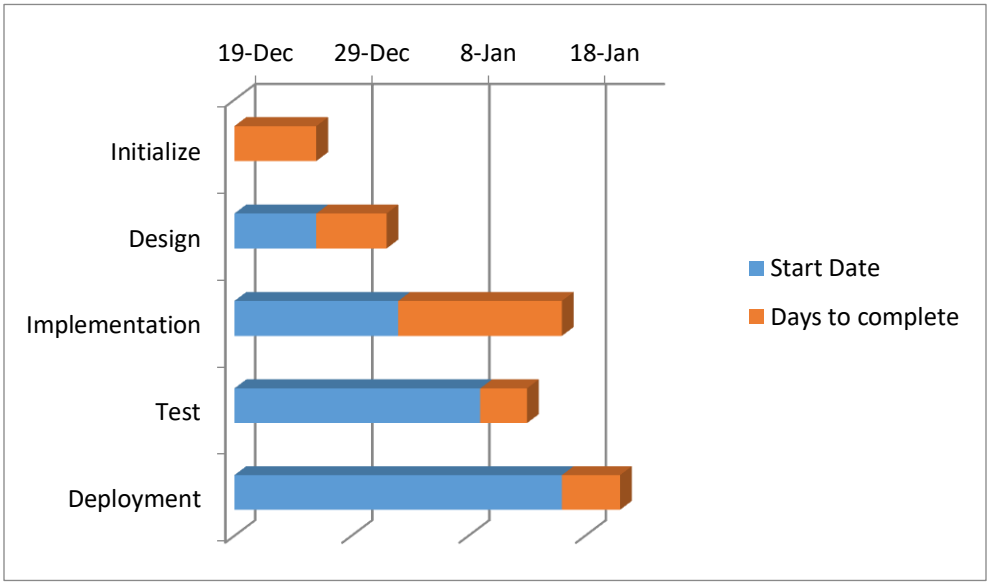
For each section that I have mentioned in my Work Breakdown Structure, time was allocated so that the project completes on time. This table below shows the time allocation of the work.

Task	Days	Work Percentage
Initialize	7	8%
Design	6	20%
Implementation	14	40%
Test	4	15%
Deployment	5	17%
Total	36	100%

3.3 Gantt Chart

A Gantt chart is a project management tool assisting in the planning and scheduling of projects of all sizes, although they are particularly useful for simplifying complex projects. Project management timelines and tasks are converted into a horizontal bar chart, showing start and end dates, as well as dependencies, scheduling and deadlines, including how much of the task is completed per stage and who is the task owner. This is useful to keep tasks on track when there is a large team and multiple stakeholders when the scope changes.





3.4 Estimated costing

The cost was calculated on the basis of the features the client demanded for the website. It depends on the size, requirements, functionalities and design of the website. This includes pre-designed

themes, logo design cost, the cost for home page sliders, search engine optimization, chat option, social media connection, SSL certificates and many other tools that were used to build this website. The cost of developer and resources used were also taken into note. The approximate cost estimated is Tk.1,67,500. If service support is required after 1 year of deployment, then an additional charge will be taken for hosting and domain.

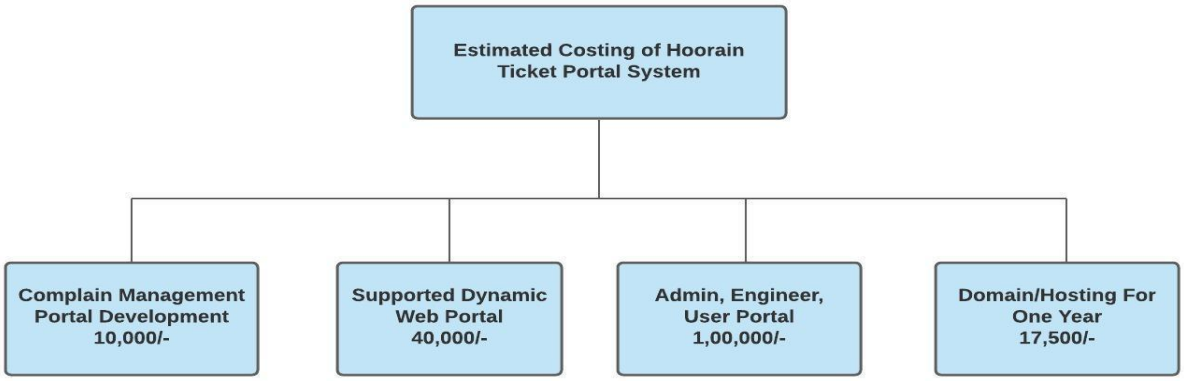


Figure: Estimated Costing

Chapter 4

Methodology

4.1 Design

Developers often think that only one of the seven stages of the system development life cycle applies to them. But, to work at their best, everyone in a software development team should have a good working knowledge of all stages of the SDLC.

Below, we discuss each stage and where it fits into the bigger picture.

1. Planning stage
2. Feasibility or Requirements analysis Stage
3. Design and Prototyping Stage
4. Software Development Stage
5. Software Testing Stage
6. Implementation and Integration
7. Operation and Maintenance

I have chosen Agile development Methodology for this project.
The Agile software development methodology is one of the simplest and effective processes to turn a vision for a business need into software solutions. Agile is a term used to describe software development approaches that employ continual planning, learning, improvement, team collaboration, evolutionary development, and early delivery. It encourages flexible responses to change.

The agile software development emphasizes on four core values.

1. Individual and team interactions over processes and tools
2. Working software over comprehensive documentation
3. Customer collaboration over contract negotiation
4. Responding to change over following a plan

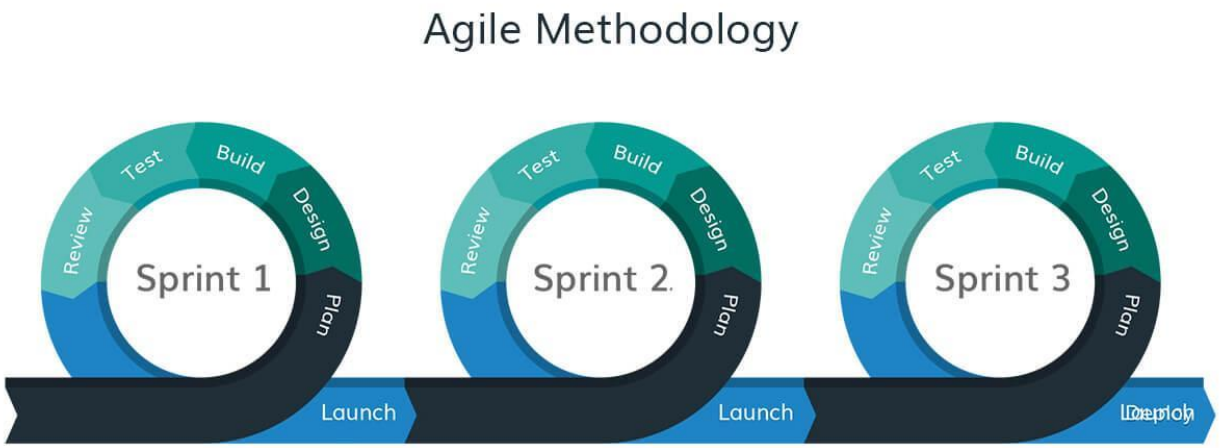


Figure 4.1: Agile Software Development Methodology Model

4.2 Reasons for choosing Agile methodology:

1. Improved Quality

One of the greatest benefits of an Agile framework is improved product quality. By breaking down the project into manageable units, It helped me to focus on high-quality development, testing, and collaboration. Also, by producing frequent builds and conducting testing and reviews during each iteration, quality is improved by finding and fixing defects quickly and identifying expectation mismatches early.

2. Focus on Business Value

Another one of the primary benefits of Agile is an increased focus on delivering strategic business value by involving business stakeholders in the development process. By doing so, I understood what's most important and can deliver the features that provide the most business value for my organization.

3. Focus on Users

Agile development uses user stories with business-focused acceptance criteria to define product features. By focusing features on the needs of real users, each feature incrementally delivers value, not just an IT component. This also provides the opportunity to beta test software after each Sprint, gaining valuable feedback early in the project and providing the ability to make changes as needed.

4. Transparency

Another benefit of Agile software development is that it provides a unique opportunity for my office employees (users) to be involved throughout the project. This can include prioritizing features, iteration planning and review sessions, or frequent software builds containing new features. However, this also requires users to understand that they are seeing a work in progress in exchange for this added benefit of transparency.

5. Early and Predictable Delivery

By using time-boxed, fixed schedule Sprints of 1-4 weeks, new features are delivered quickly and frequently, with a high level of predictability. This also provided the opportunity to beta test the software earlier than planned.

6. Allows for Change

Another key benefit of an Agile methodology is that,it allows for change. While I needed to stay focused on delivering an agreed-to subset of the product's features during each iteration, there was an opportunity to constantly refine and reprioritize the overall product backlog. New or changed backlog items could be planned for the next iteration, providing the opportunity to introduce changes within a few weeks.

Chapter 5

Body Of the project

5.1 Description of the work

This project is divided into three parts-Admin,Engineer,User. Each section has separate roles to perform. Basically the Admin portal controls the whole application's administrator privileges. There can be only one admin for this application that means only one specific admin id will be approved for administrative access. The main focus has been put into the User portal, where users will create their account and submit their complaints in the application. To open an user account there will be option for putting user's name, users id, email and password. Then he will be able to access his profile where he can raise a complain. Then comes the Engineer portal. To access the engineer portal, the engineer has to create his profile to access the complain management portal. Then the corresponding IT personnel will be assign to complete the or solve the task mention in the portal by the User. And every activity will be monitored by the Admin portal. Admin can view the complaints raised, complains solved , delete user/engineer. Below are the list of work for each portals:

For Admin:

1. Manage users
2. Manage Engineers
3. View/Show raised complains and solved complains
4. Change/forgot password

For Engineers:

1. View/Show Raised Complains
2. View Complains forwarded

For Users:

1. View/Show Profile
2. Submit New Complain
3. View/Show raised complains

5.2 System analysis

5.2.1 Six Elements Analysis

Table 5.1: Six Elements Analysis

Process	System Roles					
	Human	Non-computing hardware	Computing hardware	Software	Database	Communication
Sign up	User	N/A	Computer	Hoorain HTF LTD Ticket portal System(HTPS)	mysql	WAN
login	User	N/A	Computer	HTPS	mysql	WAN
Raise complain	User	N/A	Computer	HTPS	mysql	WAN
View Complain	User	N/A	Computer	HTPS	mysql	WAN
Engineer Signup	Engineer	N/A	Computer	HTPS	mysql	WAN
Engineer Login	Engineer	N/A	Computer	HTPS	mysql	WAN
View	Engineer	N/A	Computer	HTPS	mysql	WAN

Pending Complain						
Solve complain	Engineer	N/A	Computer	HTPS	mysql	WAN
Manage users	Admin	N/A	Computer	HTPS	mysql	WAN
Manage Engineers	Admin	N/A	Computer	HTPS	mysql	WAN
Add Engineers	Admin	N/A	Computer	HTPS	mysql	WAN
View Complain log	Admin	N/A	Computer	HTPS	mysql	WAN

5.2.2 Feasibility Study

Feasibility Study is used to determine the reason-ability of a project. It determines whether the project is legal, technically, economically feasible and importantly whether the project is worth investing in. It evaluates the potential of the success of the process. Five feasibility studies are considered for this project.[5]

1. **Technical Feasibility**: Hoorain HTF Limited is an established company. It is capable of meeting all the technical requirements and the team is capable of converting the idea of the project into reality. All the hardware, software and other technical requirements needed to complete this project are available making this technically feasible.

2. **Economic Feasibility**: This section covers the cost and benefit of this web application. For now this application is locally connected but it can be implemented globally if some of its portals are integrated and added more options which will make the web application smoother for the users. Options like IT asset

management will be added soon to the system.

3. **Legal Feasibility:** All the legal constraints have been considered before proceeding with this project which includes data protection acts, social media laws, or zoning laws so that it does not face any legal constraints in the future.

4. **Scheduling Feasibility:** Every project will only be successful if it is completed in the given time. In my case the project is completed within the given time and its already in demo use for our office employees. Soon it will be a mandatory system for all of our official works.

5.3 System Design

5.3.1 Rich Picture

The rich picture illustrates the main element and relationships that need to be considered. It helps to open discussion and go to a wide, shared comprehension of a situation. It identifies the richness and complexity of a situation.

Rich Picture of Admin:

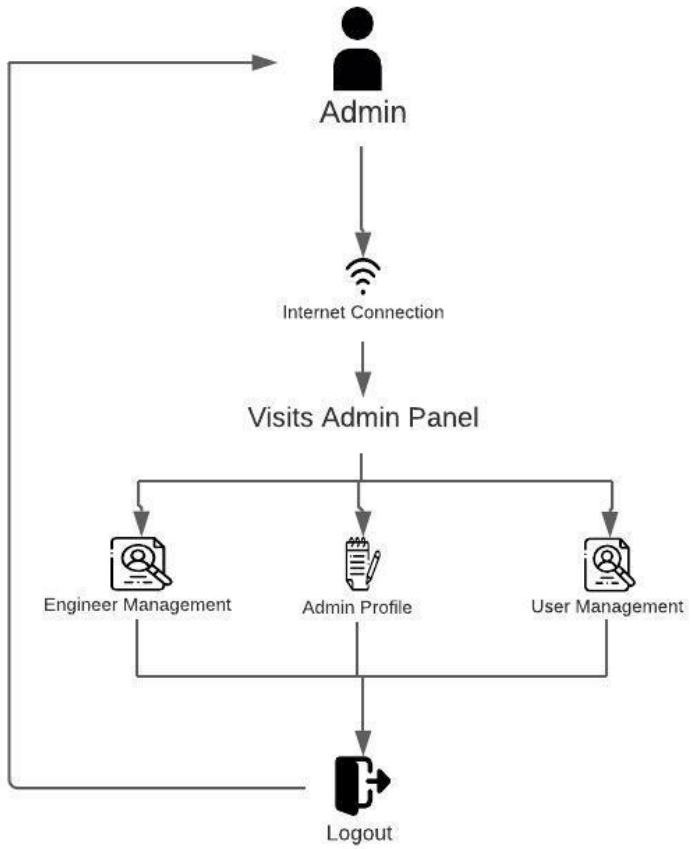


Figure 5.1: Rich Picture of Admin

Rich Picture of User:

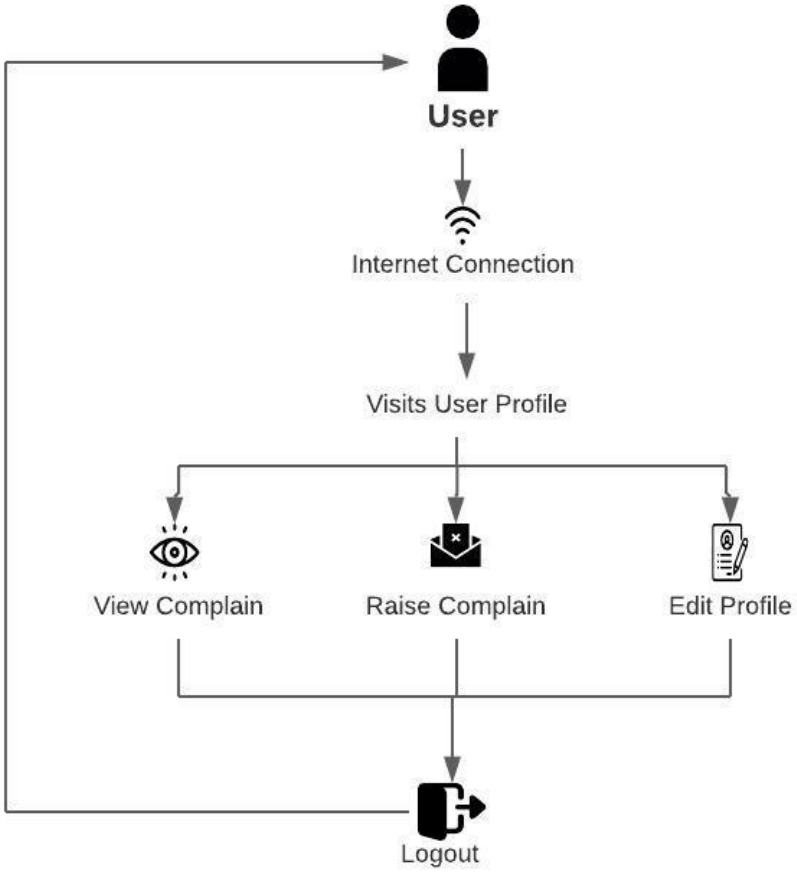


Figure 5.2: Rich Picture of User

Rich Picture of Engineer:

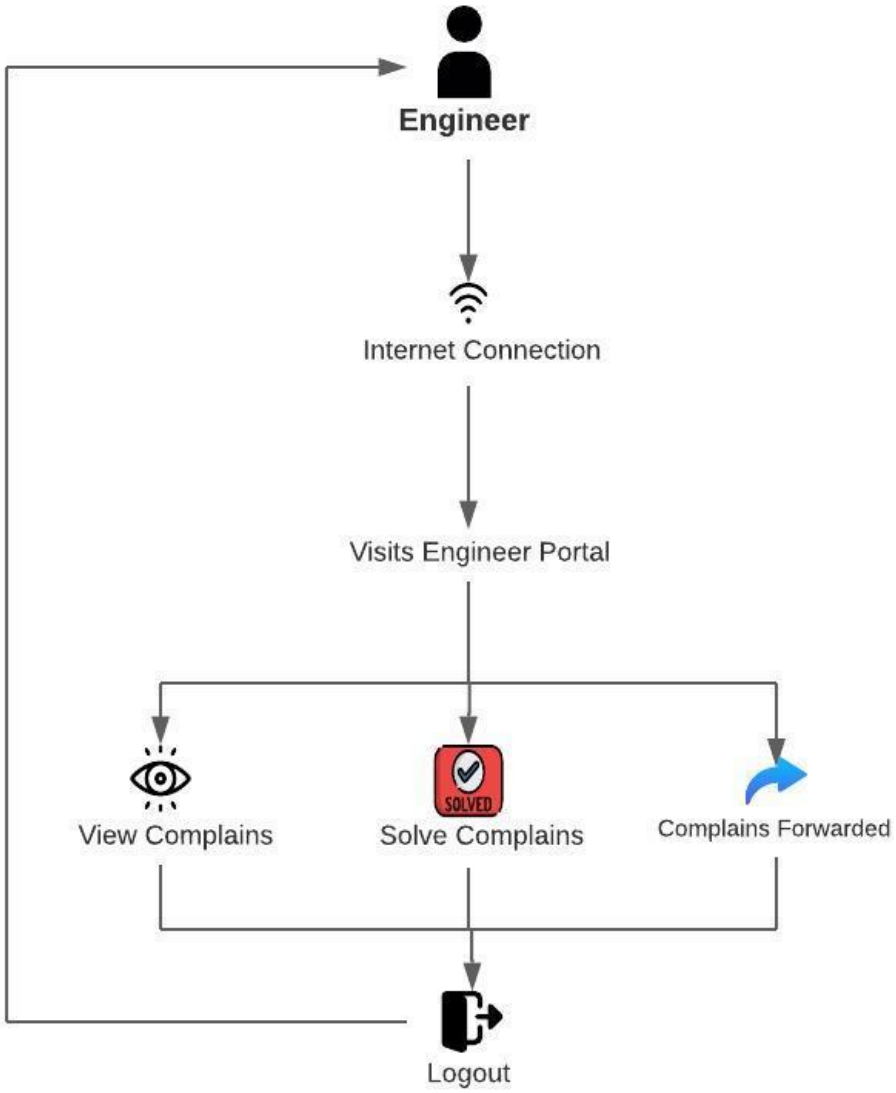


Figure 5.3: Rich Picture of Engineer

5.3.2 Activity Diagram
Activity Diagram of User

An activity diagram is a behavioral diagram i.e. it depicts the behavior of a system. An activity diagram portrays the control flow from a start point to a finish point showing the various decision paths that exist while the activity is being executed.

Activity Diagram of User

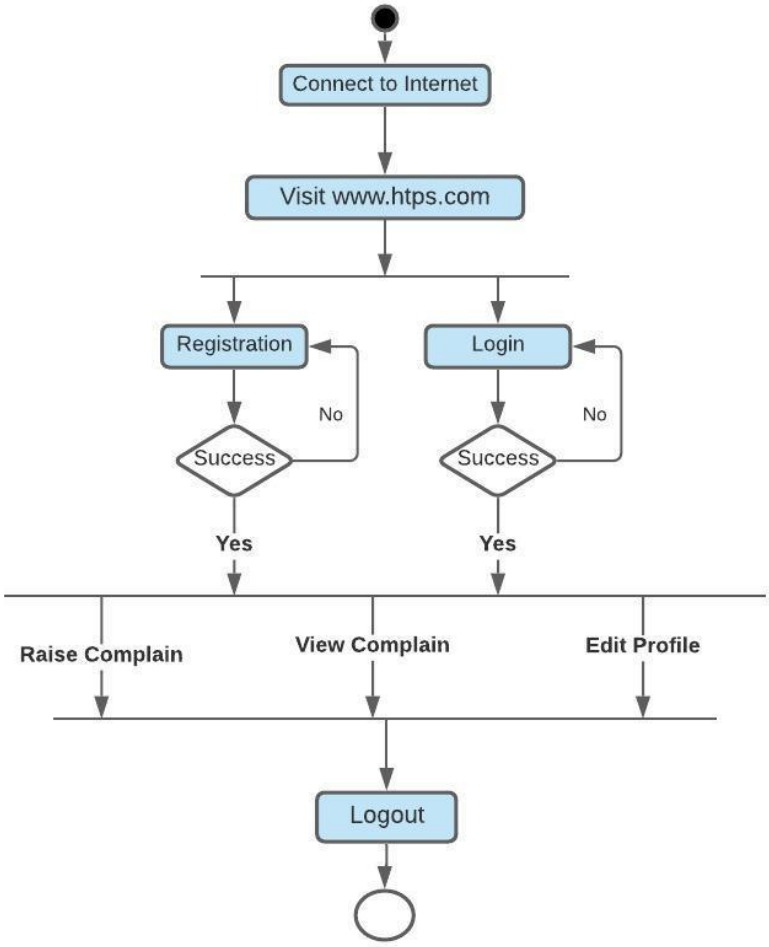


Figure 5.4: Activity Diagram of User

Activity

Diagram of Admin:

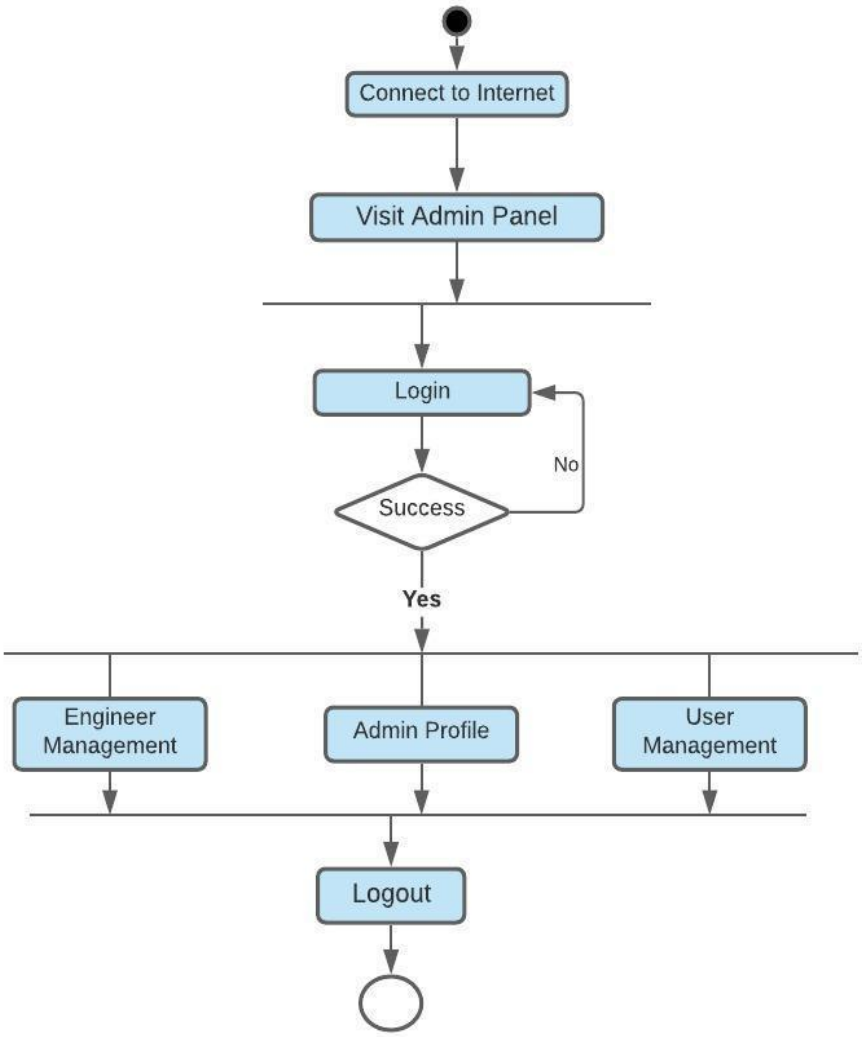


Figure 5.5: Activity Diagram of Admin

Activity Diagram of Engineer

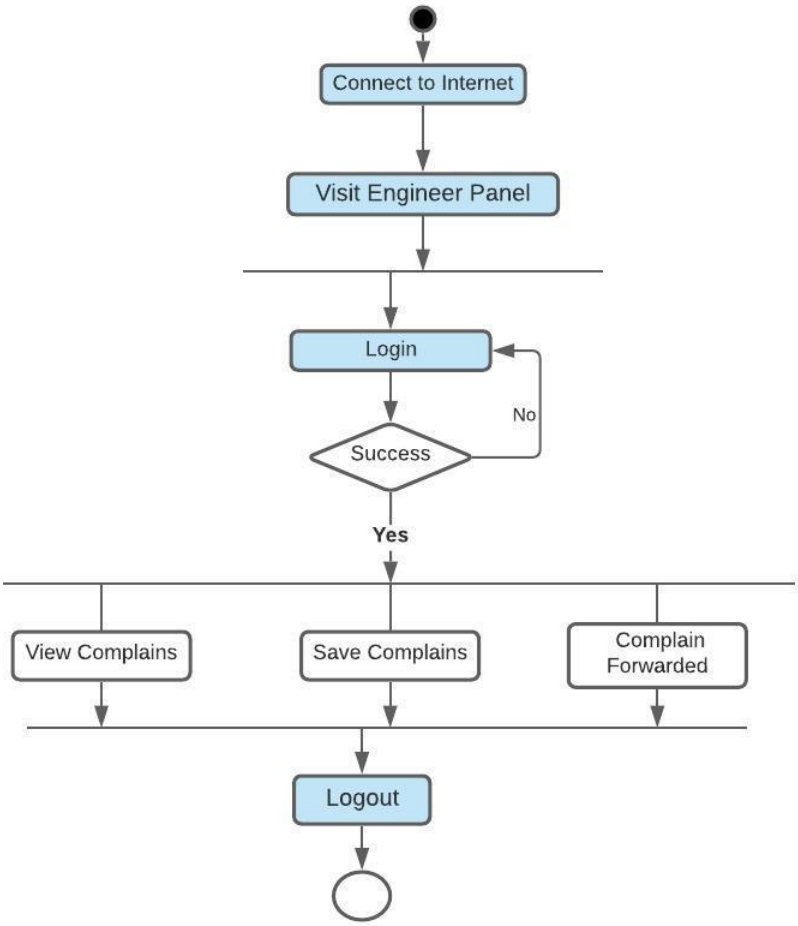


Figure 5.5: Activity Diagram of Admin

5.3.3 Use Case Diagram

The use case diagram represents the functional requirements of the system. It shows the actors, cases, communication links, system and relationship. This project has two actors which is the user and the Admin. This use case diagram shows the activity performed by the user and the admin and the common behavior from include use case and optional behavior from exclude use case.

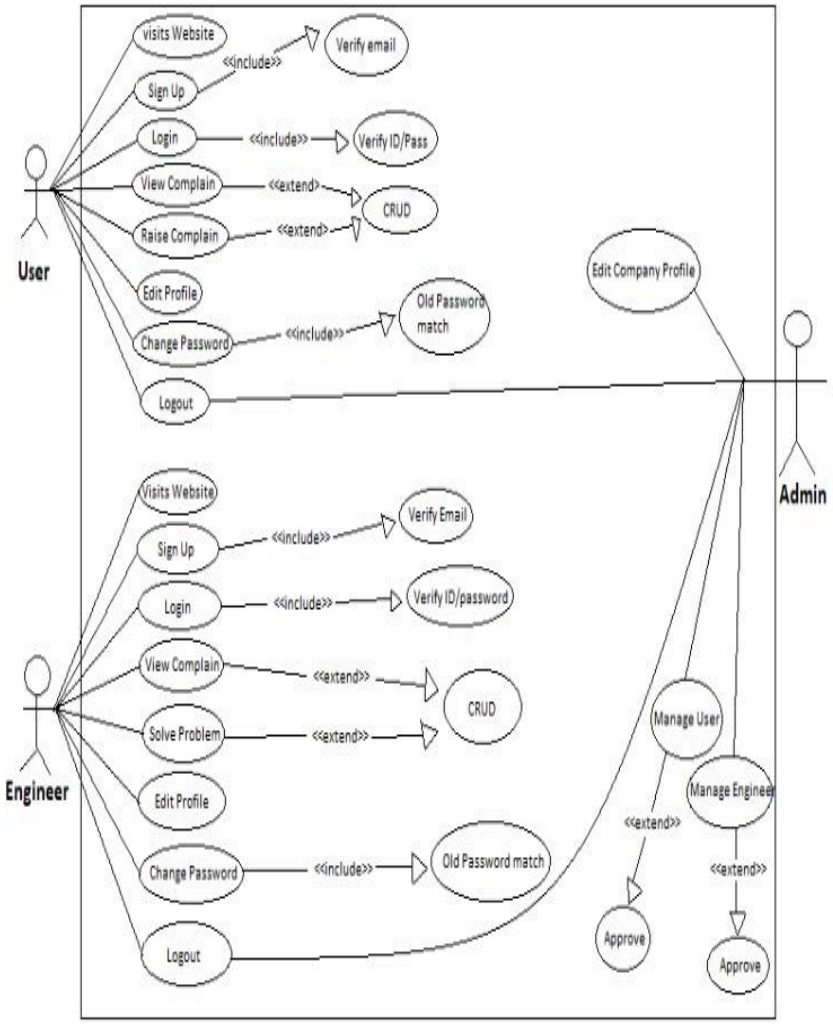


Figure 5.6: Use Case Diagram

5.3.4 Functional Requirements

Functional requirements define "what the system should do". It defines what the next step should be when certain conditions are fulfilled. It is directly related to what we expect the web application should do. The functional requirements of this website are given below.

Table 5.2: User Sign Up

Function Name: SignUp		
Input: Provide User information	Process:Visit Website	Output:User Successfully Registered
Pre-condition:Must be connected to the internet and have devices like computer or mobile. Unique Email		
Post-condition: User visits user Login Page.		
Alternative Options:N/A		

Table 5.3: Login for User

Function Name: Login		
Input: N/A	Process: User views and modifies his profile	Output: Successfully changed
Pre-condition: Must be connected to the internet and have devices like computer or mobile. Unique Email		
Post-condition: modifies the profile successfully.		
Alternative Options: N/A		

Table 5.4: CRUD operation on Raise Complain by User

Function Name: CRUD		
Input: N/A	Process: creates new complain in complain tab	Output: CRUD operation done successfully.
Pre-condition: Login		
Post-condition: User perform the required operation.		
Alternative Options: N/A		

Table 5.5: Password Change for User

Function Name: Change password		
Input: Old and New Password	Process: User enters the old and new password	Output: Successfully changed.
Pre-condition: Login and old password must match		
Post-condition: User changed his password		
Alternative Options: N/A		

Table 5.6: View and Modify User Profile

Function Name: Modify User Profile		
Input: N/A	Process: User views and modifies his profile	Output:Successfully changed.
Pre-condition:Login		
Post-condition: User modifies his profile successfully		
Alternative Options: N/A		

Table 5.7: Login for Admin

Function Name: Login		
Input: Admin Id and Password	Process: Process:Login to Admin Interface	Output: Admin successfully logs in.
Pre-condition:Must be connected to the internet and have devices like computer or mobile. Unique Email		
Post-condition: Admin enters the dashboard and can perform the activities..		
Alternative Options: New password can be requested using Forgot Password option		

Table 5.8: CRUD operation on Engineer management by Admin

Function Name: CRUD		
Input: N/A	Process: creates/delete engineers in engineer tab	Output: CRUD operation done successfully.
Pre-condition:Login		
Post-condition: Admin performs the required operation.		
Alternative Options: N/A		

Table 5.9: CRUD operation on User management by Admin

Function Name: CRUD		
Input: N/A	Process: creates/delete User in user tab	Output: CRUD operation done successfully.
Pre-condition:Login		
Post-condition: Admin performs the required operation.		
Alternative Options: N/A		

Table 5.10: View and Modify Admin Profile

Function Name: Modify Admin Profile		
Input: N/A	Process: Admin views and modifies his profile	Output:Successfully changed.
Pre-condition:Login		
Post-condition: Admin modifies his profile successfully		
Alternative Options: N/A		

Table 5.11: Login for Engineer

Function Name: Login		
Input: Engineer Id and Password	Process: Process:Login to Engineer Interface	Output: Engineer successfully logs in.
Pre-condition:Must be connected to the internet and have devices like computer or mobile. Unique Email		
Post-condition: Engineer enters the engineer panel and can perform the activities..		
Alternative Options: New password can be requested using Forgot Password option		

Table 5.12: CRUD operation on View Complain by Engineer

Function Name: CRUD		
Input: N/A	Process: Shows Complain log created by User	Output: CRUD operation done successfully.
Pre-condition:Login		
Post-condition: Engineer performs the required operation.		
Alternative Options: N/A		

Table 5.13: CRUD operation on Solve Complain by Engineer

Function Name: CRUD		
Input: N/A	Process: Complete Task/solves given complains from complain log	Output: CRUD operation done successfully.
Pre-condition:Login		
Post-condition: Engineer performs the required operation.		
Alternative Options: N/A		

Table 5.14: View and Modify Engineer Profile

Function Name: Modify Engineer Profile		
Input: N/A	Process: Engineer views and modifies his profile	Output:Successfully changed.
Pre-condition:Login		
Post-condition: Engineer modifies his profile successfully		
Alternative Options: N/A		

5.3.5 Non-functional Requirements

Non-functional requirements define "what a system should be". It describes the quality of the system to be implemented. it is not concerned with the functions of the website but requirements like performance, usability, reliability, response time, etc. The non-functional requirements of this website are:

1. Usability Requirements: To make this web application easily accessible it has been made very user friendly. The main focus is to write or raise user's complain on the complaint panel so that users can describe their issues easily for help. Users do not need any manual to use this website. Even the Admin panel has been created in an easy way so that the Admin can easily perform his activities.

2. Performance Requirements: We plan to provide the best service through this web app so that the users don't need to go to IT department physically to seek for help for their urgent issues related to computer use or any official technical problems. We will make sure that

the response time is as less as possible so that even the slowest page loading time is not more than 500milliseconds.

3. Security Requirements: Security is a big concern for any web application. Various data will be stored in the database such as User personal information, company profile, admin information, etc which need to be kept secured. This will be done by keeping an authorized person in charge of the database so that the data are not misused and backups will be kept so that data are not lost. As we are using phpMyAdmin, so it will be password protected. Remote root logins will not be allowed.

4. Availability Requirements: We will try to ensure that the web application is 99.99 percent of the times available so that a user can visit the website at any time they want.

5. Maintainability Requirement: The web application can be modified easily without making any changes to the existing system. If any error occurs, we plan to keep the Mean-Time to Repair less so that the maintainability of the system is high.

5.4 Product Features

5.4.1 Input And Output

Here I have included all the features a user will receive from this project.

Sign Up Page:

The user registers to create an account to post complains

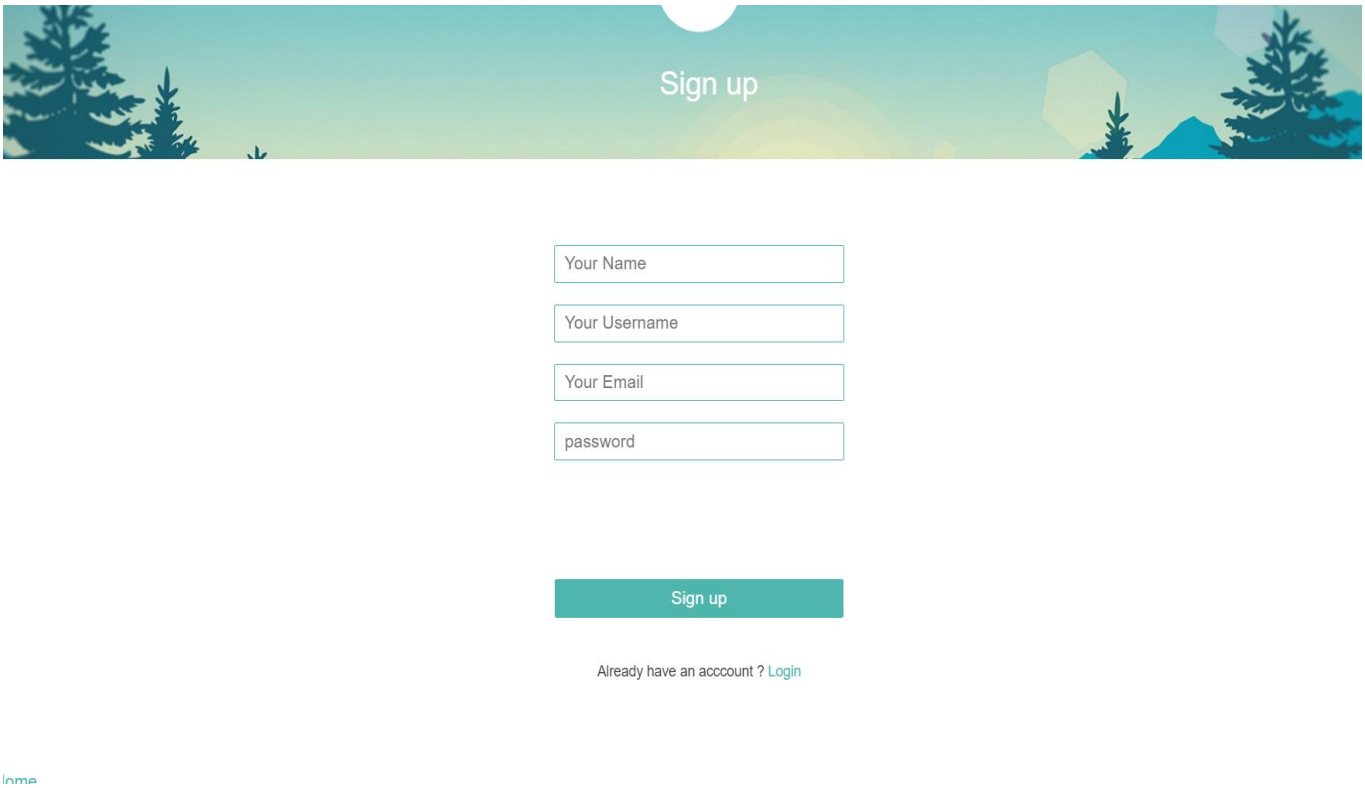


Figure 5.6: SignUp Page

Login Page:

The user logs in to their account.

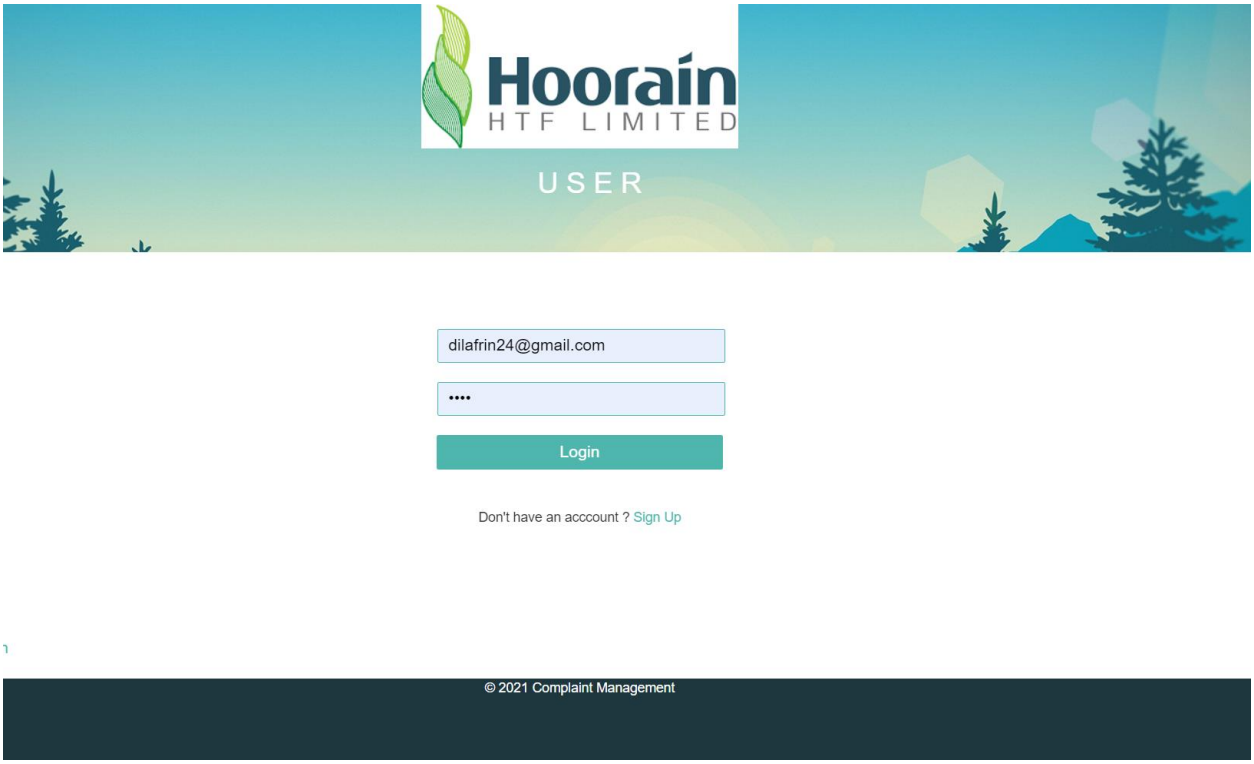


Figure 5.7: Login Page

Raise Complains:
The user inputs information about their issue.

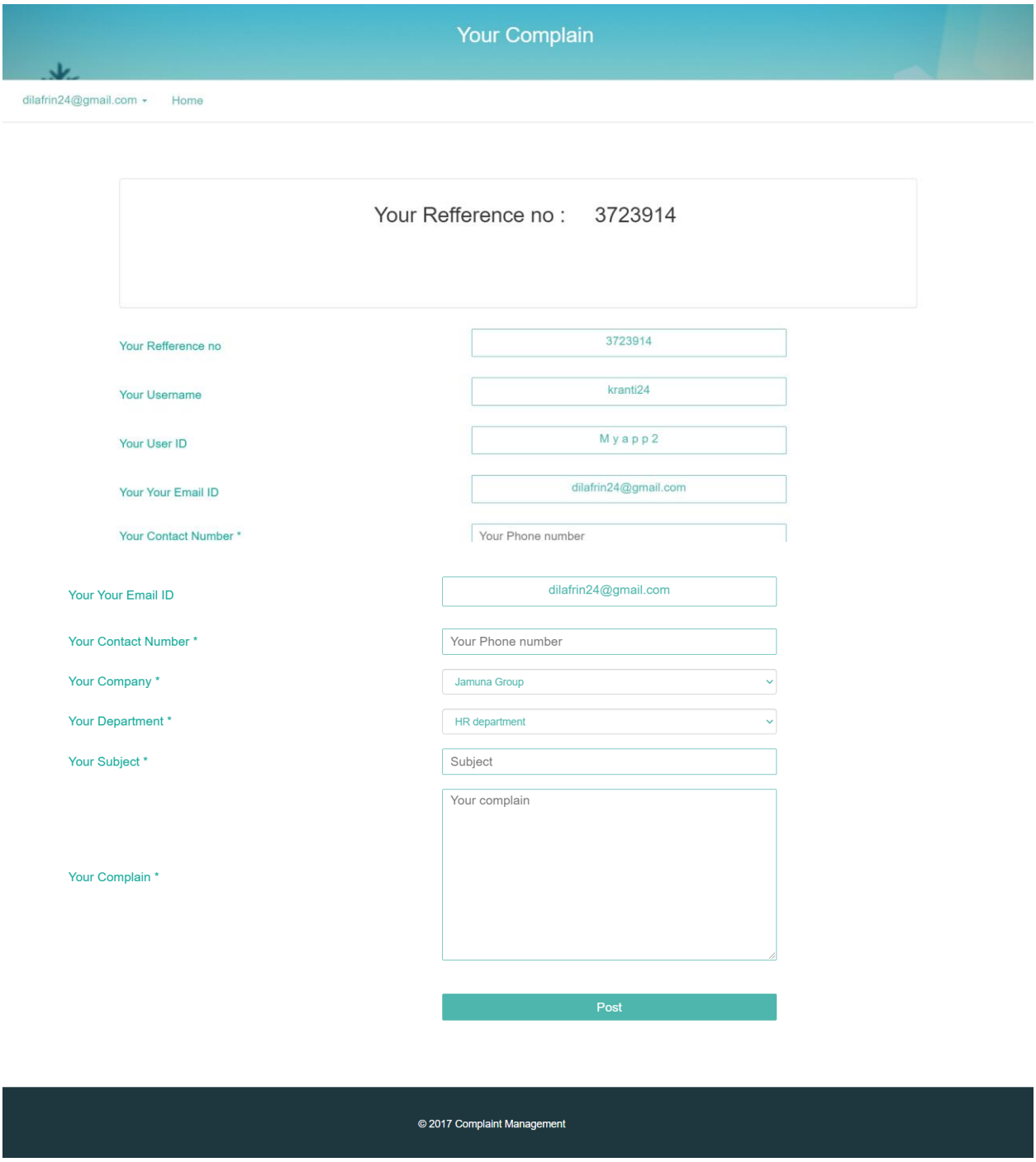


Figure 5.8: User Creates Complaint

View Complain:

User view the complain they have posted.

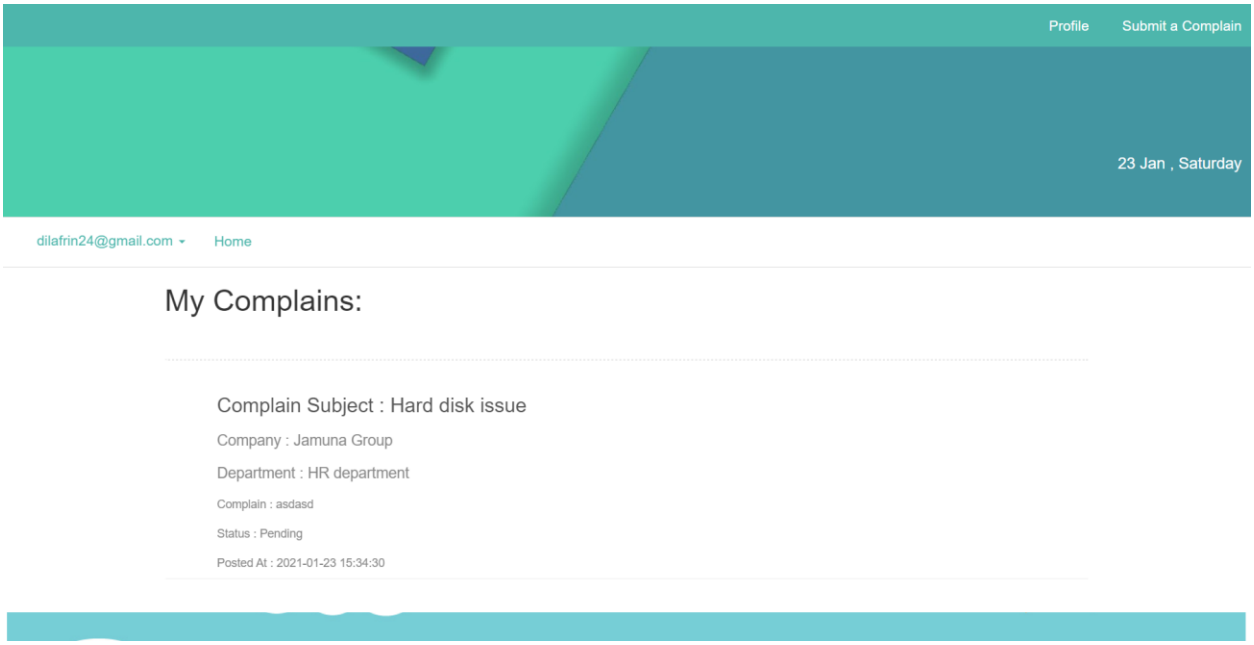


Figure 5.9: Output of posting a complain

Admin Login Page:

The Admin logs in to their account.

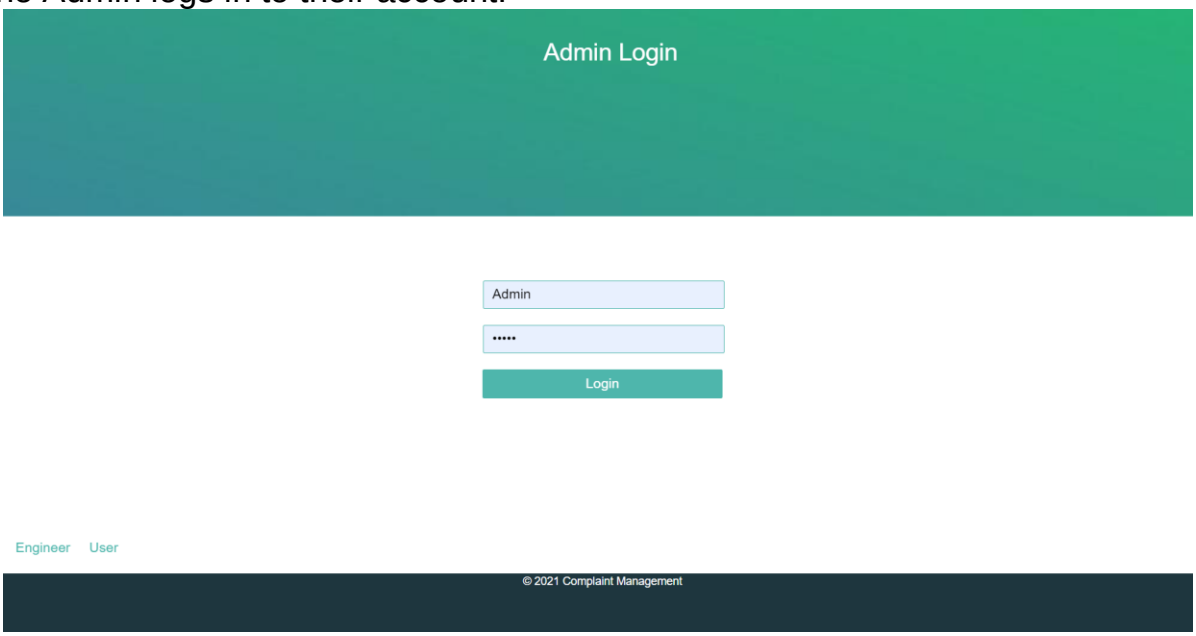


Figure 5.10: Admin Login Page

Admin Dashboard:

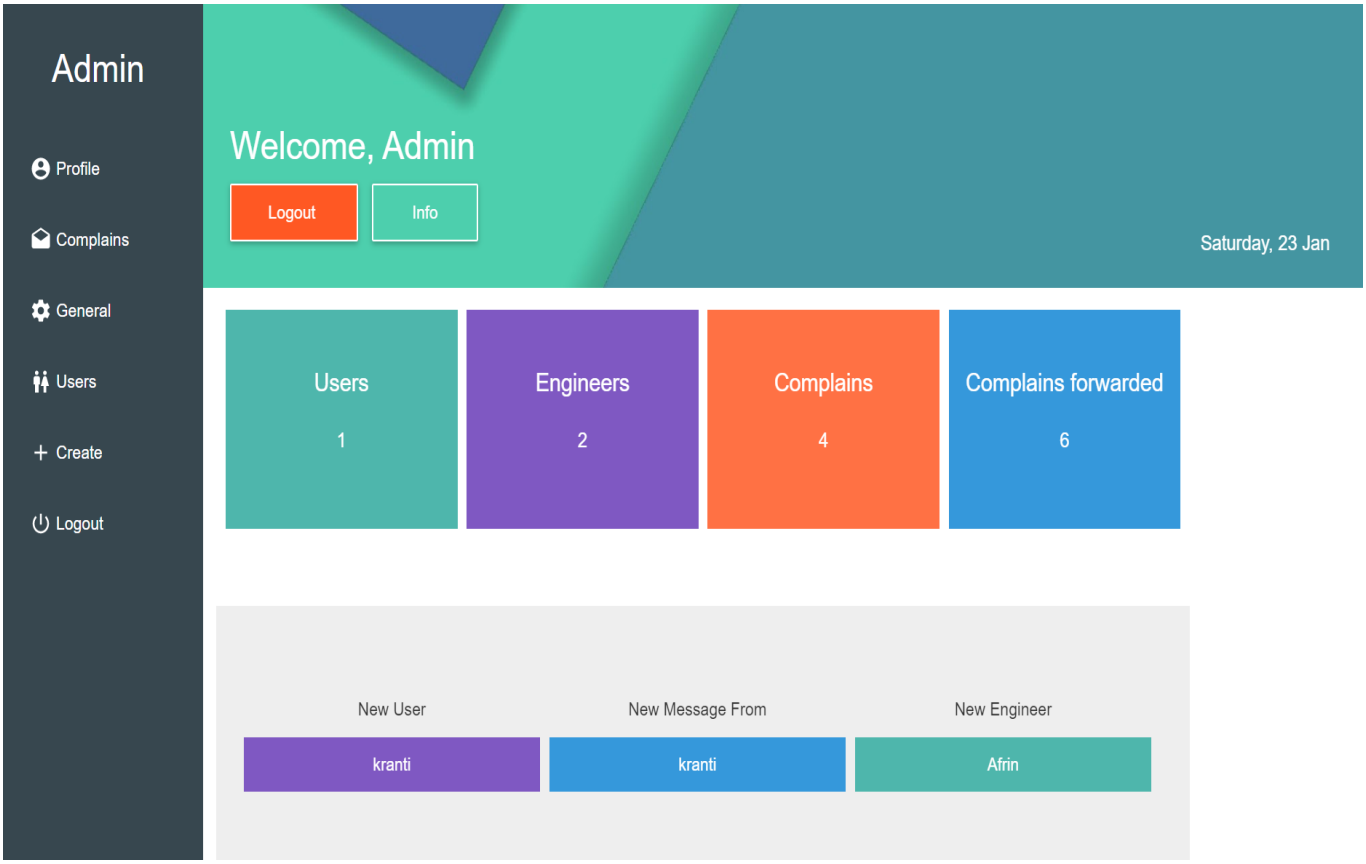


Figure 5.10: Admin Dashboard

Complain Dashboard:

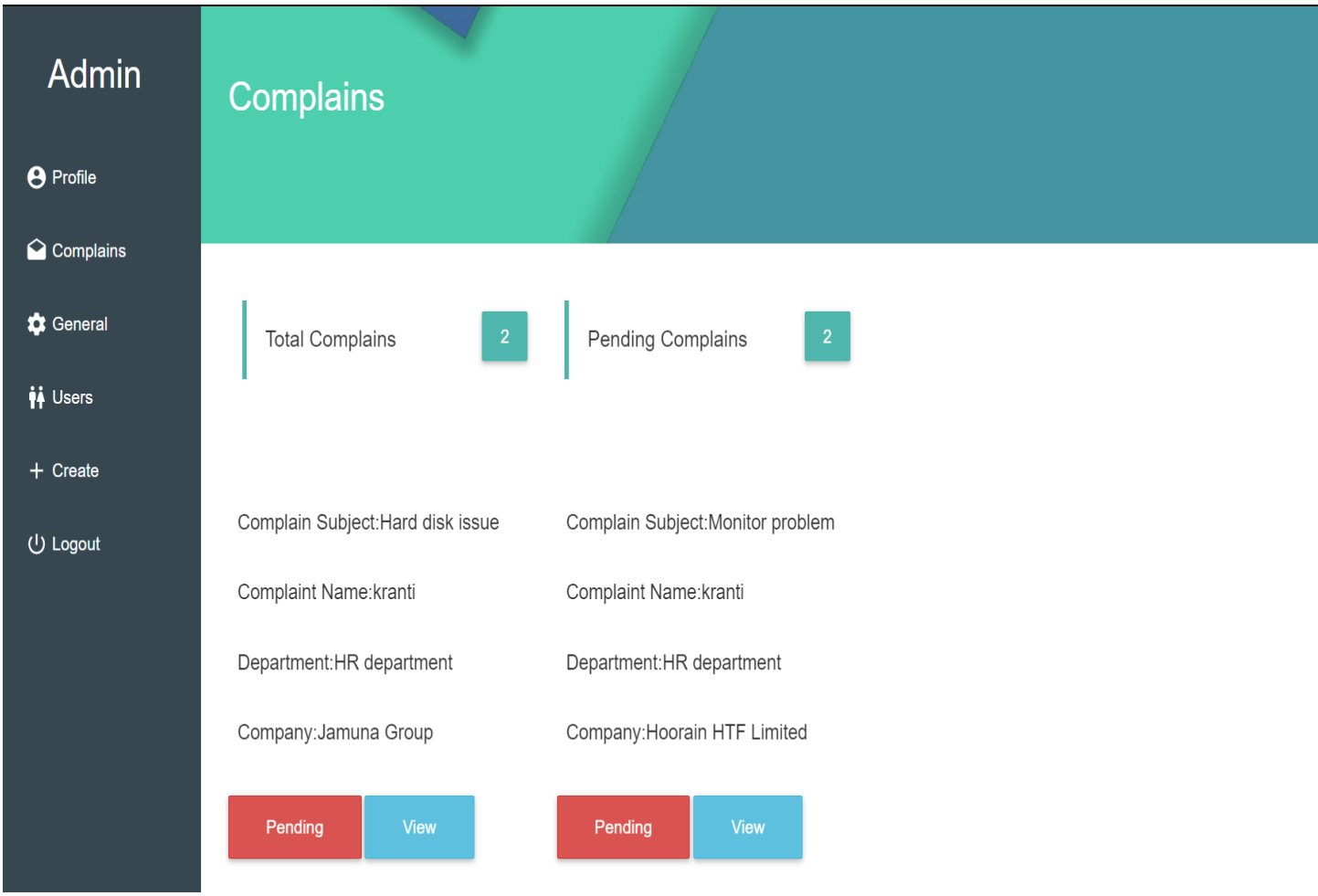


Figure 5.10: Complaints Dashboard

Forwarding Complaints:

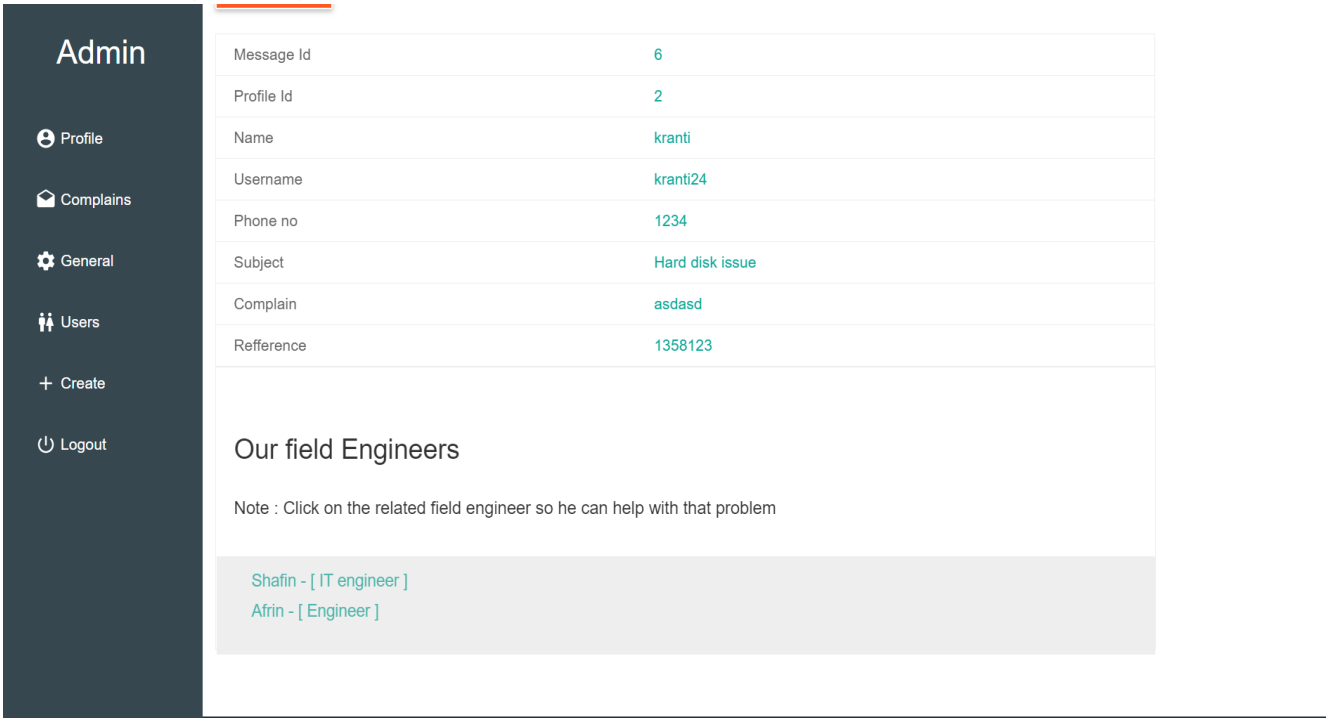


Figure 5.11: Forwarding Complaints

User/Engineer Management:

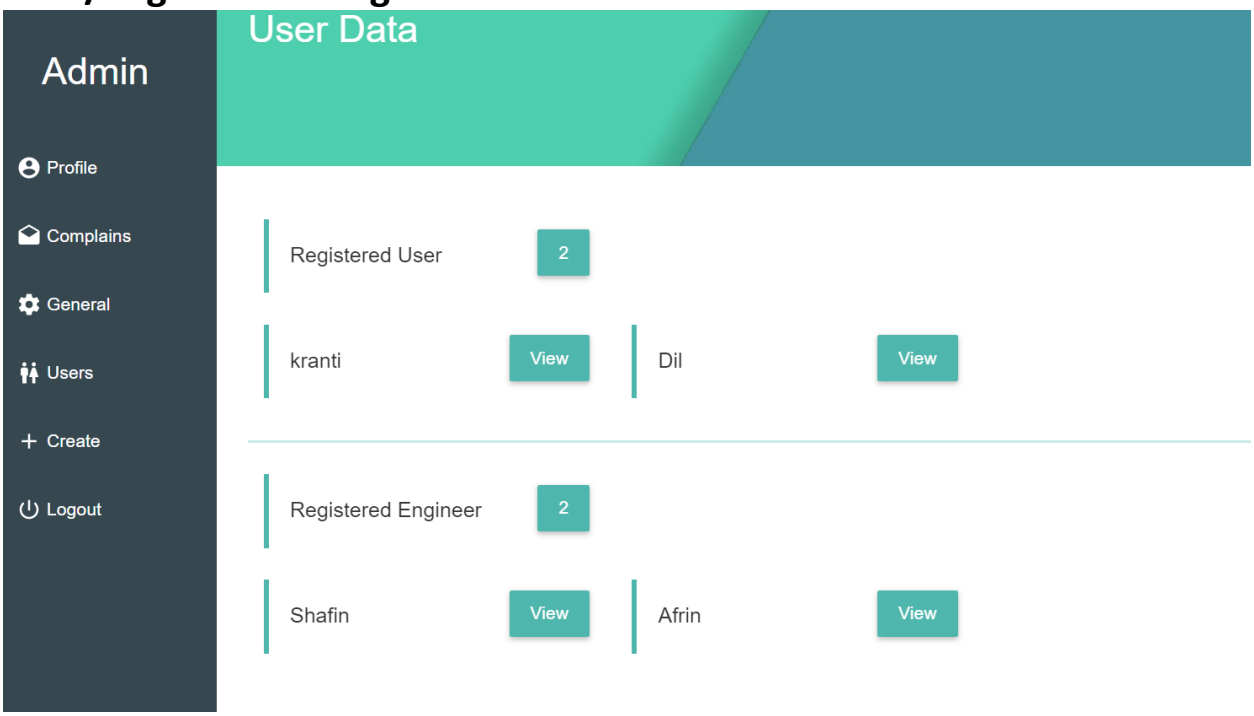


Figure 5.12: User and Engineer management Panel

Engineer ID creation:

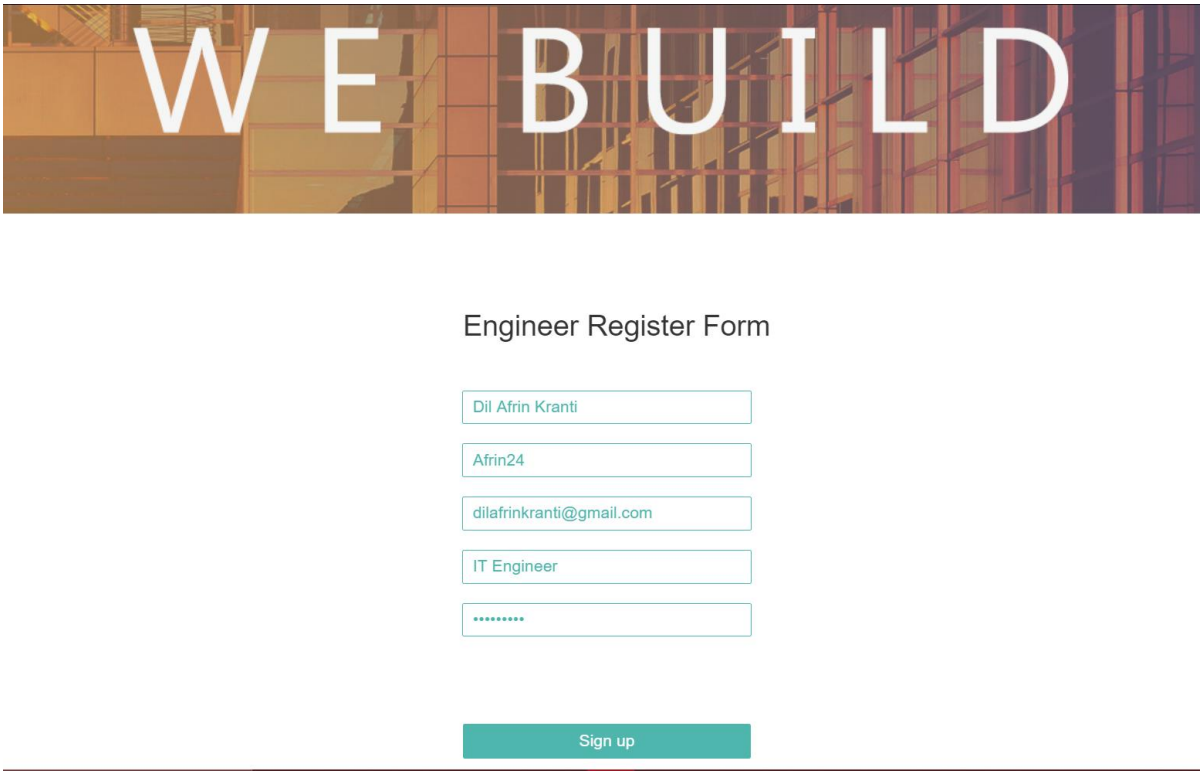


Figure 5.13: Engineer ID creation panel

Engineer Dashboard:

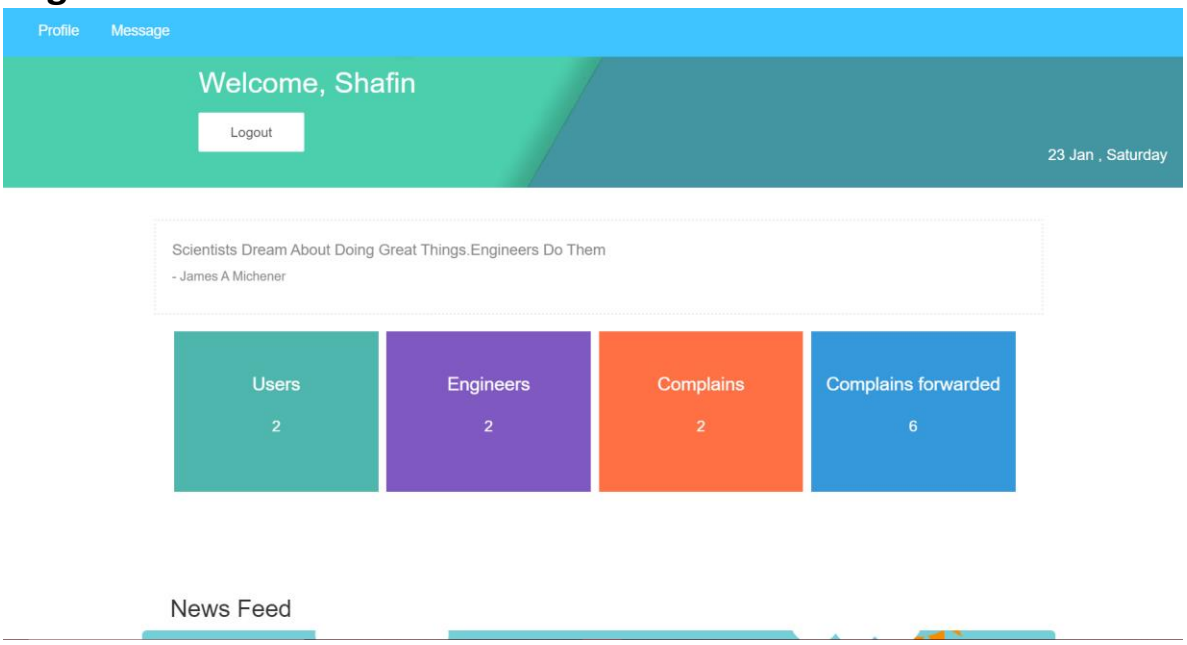


Figure 5.14: Engineer Dashboard

Engineer View Complain:

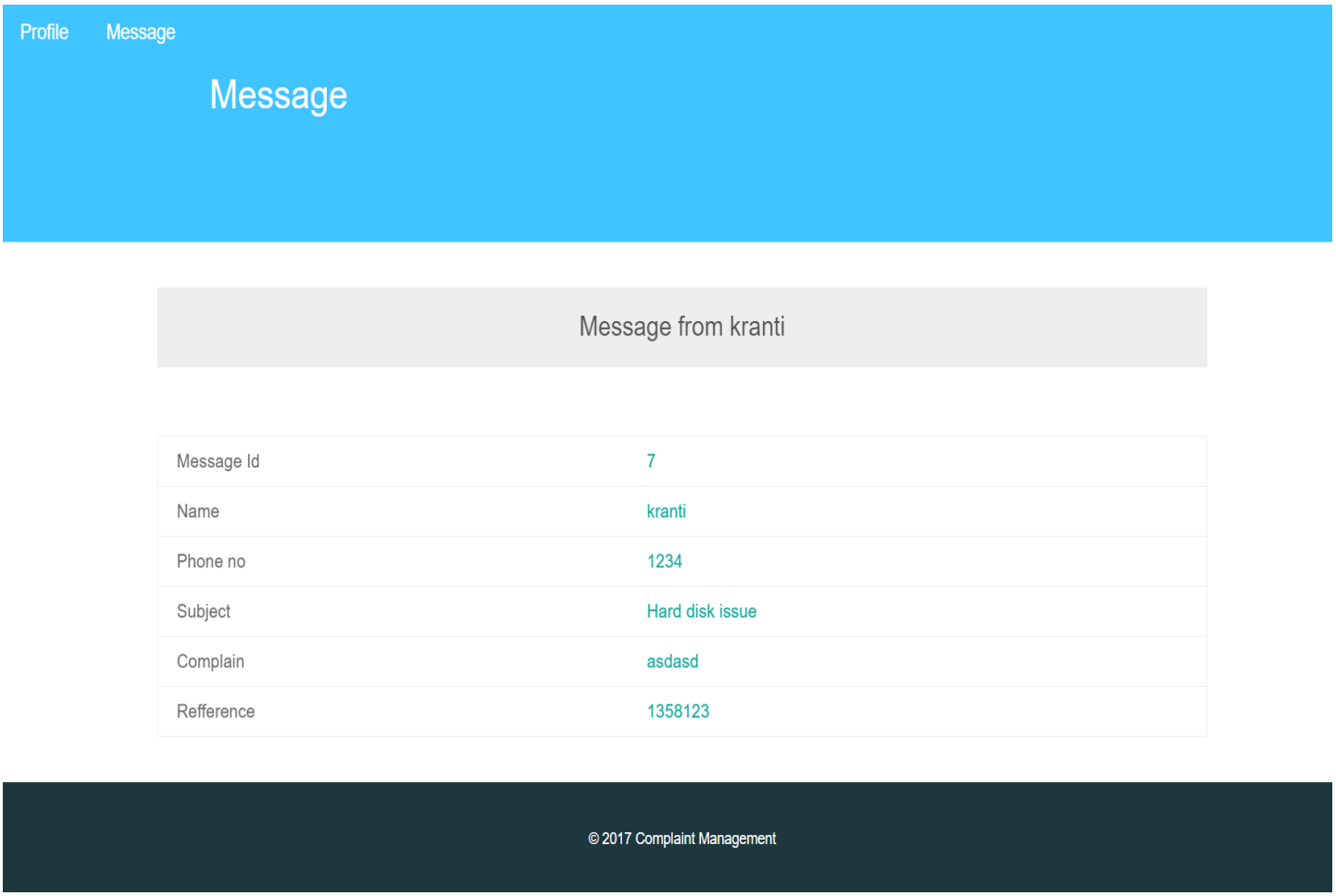


Figure 5.15: Engineer View Complain

5.4.2 Architecture

To develop this project, I have used PHP. It is based on the MVC pattern. The model contains a function which is used to insert, retrieve and update information from the database. The view contains the data that is presented to the user. The controller is used to connect model and view to process HTTP access and this generates a web page. Controller receives all the requests and passes it to the model and view. When a user visits the website it views information. When he performs an activity the request is received by the controller which then works as an intermediary between model and view.

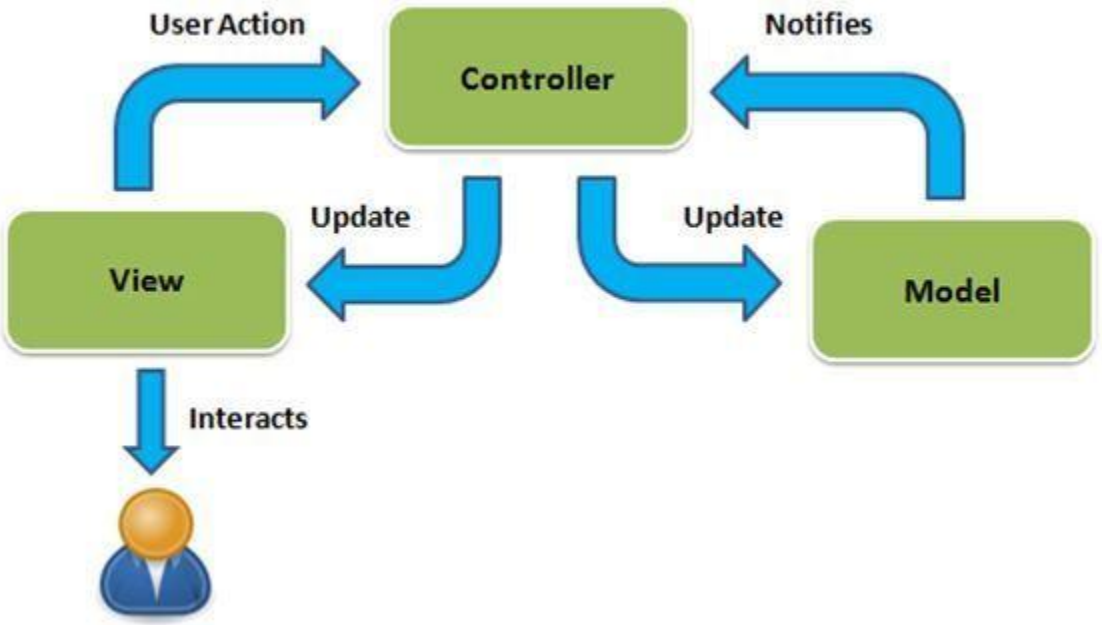


Figure 5.18: Architecture

5.5 Implementation

To develop this project the technical requirements in terms of software includes an operating system, server, browser, web design editor (Sublime Text), HTML5, CSS3,
JavaScript, JQuery, Ajax are used for frontend design, PHP is used for backend and MySQL is used for the database. We have used Xampp which is an open-source web server that helped in developing the website o_ine. The two important components of Xammp used was the Apache that was used to create the local server and MySQL for the database.

5.5.1 phpMyAdmin:

phpMyAdmin is a free tool that is used to control the administration of MySQLdatabase. It was used to perform operations like creating databases, tables, fields, relationships and execute all database management commands.

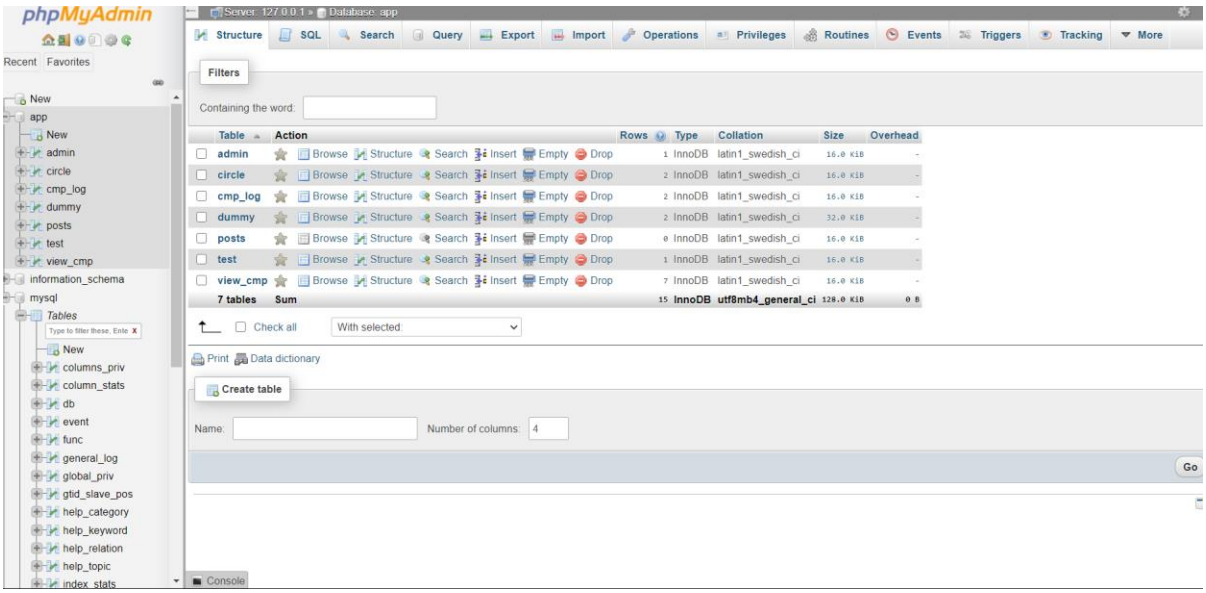


Figure 5.19: Database

Chapter 6

Results and Analysis

The table below shows the results of tasks that I have worked on. Each of the tasks is only provided if and only if it meets the requirements successfully. Initially some of this tasks showed bugs/errors but they were fixed after several tests. All these tasks are tested on local hosting. Some of these tasks have some shortcomings which are not implemented yet have been mentioned above. These will be worked later on. As these tasks do not show any bugs or errors, so the error rate has been stated as zero. Back End development is completed and changes are being made in Front End. Apart from me, my office employees (users) have also tested the webapp at demo testing round. After the project is completed and before going live, it will be tested again and changes will be made if required.

Table 6.1: Result Table for User

Task	Description	Conditions	Success Rate	Error Rate	Shortcomings	Working/Not Working
User Signup	User needs to successfully register in order to post/raise Complains	User needs to have a computer, laptop or smart phone connected to an internet. User needs to enter an unique email address in order to complete the registration.	100			Working
Raise Complains	User Can raise/post complains	User needs to login.	100			Working
View/Show Complains	User Can View/show complains	User needs to login.	100			Working
Update Profile	User can update/modify their profile	User needs to login.	100			Working

Table 6.2: Result Table for Engineer

Task	Description	Conditions	Success Rate	Error Rate	Shortcomings	Working/Not Working
Engineer Signup	Engineer needs to successfully register in order to view/show Complains	Engineer needs to have a computer, laptop or smart phone connected to an internet. Engineer needs to enter an unique email address in order to complete the registration.	100			Working
Solve Complains	Engineer Can solve/mark as done complains	Engineer needs to login.	100			Working
View/Show Complains	Engineers Can View/show complains	Engineer needs to login.	100			Working
Update Profile	Engineer can update/modify their profile	Engineer needs to login.	100			Working

Table 6.3: Result Table for Admin

Task	Description	Conditions	Success Rate	Error Rate	Shortcomings	Working/Not Working
Complain List	Admin can view/show complains listed till date	Admin needs to login with verified username and password	100			Working
Forward Complains	Admin can complains to specific engineer he wishes to	Admin needs to login with verified username and password.	100			Working
Statistical Information (Admin)	Admin can see the total number of users,egineers, complains posts till date.	Admin needs to login with verified username and password	100			Working
Manange users/engineers	Admin can add/del user and engineers	Admin needs to login with verified username and password	100			Working

Chapter 7
Project as Engineering Problem Analysis

7.1 Sustainability of the product

This website has been made very simple and small but yet very sustainable and optimizable.

1. Data Optimization to reduce data size: Data size and data input has been kept in check all the time so that data doesn't become a burden and cause problem in loading time and energy consumption. Moreover user can input maximum three issues at once to keep the data size in control and keep it flexible.

2. Delete unnecessary data: We plan to delete unnecessary data periodically once a year so that we can free up space of our database. These may include users who are inactive for more than a year, categories, unused themes, etc.

3. Site Navigation: We have kept the website as simple as possible so that users do not find it difficult to use the website. So they do not need to click around the website and easily find the required information.

7.2 Addressing Copyright issues

Copyright is one of those thorny issues that are always causing pain to creative types. After all, if you write something, make music, take a photograph, or in some other way create, in theory you should receive full credit (and payment). We have created a strong secure database for this copyright issue so that other systems don't get involved in our system and others don't get chance to steal our ideas and implementations in their projects. The company also plans to provide ethical guidelines to the users which will include copyright and credit, validation of post, spam content, deactivation of the user if required so that all the issues mentioned can be handled.

Chapter 8

Conclusion

8.1 Future Work

To develop this project further, Hoorain HTF LTD needs more skilled developers who can shape this project in a more attractive way. Developers who have a better idea in front-end design could be used to make the website more appealing. In my perspective, features like template options or different layouts options could have been provided to the users to make the site more useful. Different font sizes, styles, color and languages, such features work a great deal in attracting users.

8.2 Conclusion

Online Complaint Management System provides an online way of solving the problems faced by the public by saving time and eradicate corruption. The objective of the complaints management system is to make complaints easier to coordinate, monitor, track and resolve, and to provide company with an effective tool to identify and target problem areas, monitor complaints handling performance and make business improvements. Online Complaint Management is a management technique for assessing, analyzing and responding to customer complaints.

Complaints management software is used to record resolve and respond to customer complaints, requests as well as facilitate any other feedback. In this case my web app will help our company a lot in solving various issues in limited time. It is very user friendly and optimized.

This web application has been computed successfully and was also tested successfully by taking “test cases”. It is user friendly, and has required options, which can be utilized by the user to perform the desired operations.

It meets the information requirements specified to a great extent. The system has been designed keeping in view the present and future requirements in mind and made very flexible. The goals that are achieved by the software are Instant access, Improved productivity, Optimum utilization of resources , Efficient management of records. Simplification of the operations , Less processing time and getting required information , User friendly , Portable and flexible for further enhancement .

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