2022-09-14

Youth 360 Official Website

Afruz, Farhana

Independent University, Bangladesh

An Undergraduate Internship on Youth 360 Official Website

By

Farhana Afruz

Student ID: **1821821**

Summer, 2022

Supervisor:

Md. Abu Sayed

Lecturer

Department of Computer Science & Engineering

Independent University, Bangladesh

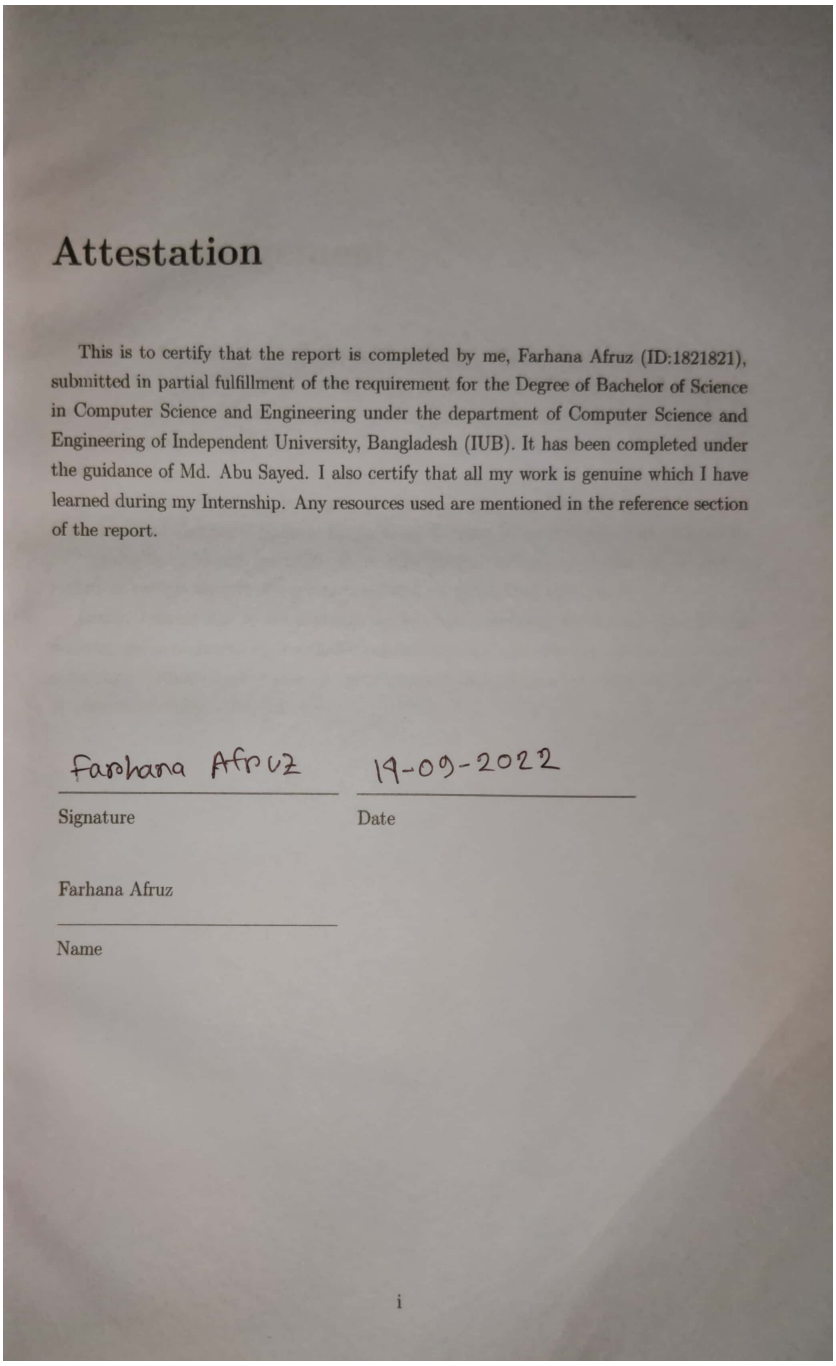
14 september, 2022

Dissertation submitted in partial fulfillment for the degree of Bachelor of Science in Computer Science

Department of Computer Science & Engineering

Independent University, Bangladesh

Attestation



Attestation

This is to certify that the report is completed by me, Farhana Afruz (ID:1821821), submitted in partial fulfillment of the requirement for the Degree of Bachelor of Science in Computer Science and Engineering under the department of Computer Science and Engineering of Independent University, Bangladesh (IUB). It has been completed under the guidance of Md. Abu Sayed. I also certify that all my work is genuine which I have learned during my Internship. Any resources used are mentioned in the reference section of the report.

Farhana Afruz — 19-09-2022

Signature — Date

Farhana Afruz

Name

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Figure 1: Attestation

Acknowledgement

First and foremost, I want to thank The Almighty Allah for giving me the stamina and capacity to work hard, for giving me the ability to write this report and for giving me the chance to be able to do my internship at Youth-360 organization. I also want to thank my parents for their unwavering love and support, which has helped me overcome obstacles and grow.

I would like to thank my honorable faculty and supervisor Md. Abu Sayed Lecturer, Department of Computer Science Engineering, Independent University, Bangladesh, for his invaluable guidance, patience, time, constructive criticism and thoughtful advice regarding various aspects of my internship and preparation of this report.

Lastly, I would like to acknowledge my external supervisor Md.Rafsan Jani for appointing me as an Intern for Youth-360 organization and included me to be a part of this company. Without his extreme energetic support and guidance, I could not finish the project successfully.

Letter of Transmittal

14 September,2022

Md. Abu Sayed

Lecturer,

Department of Computer Science and Engineering, Independent University, Bangladesh

Subject: **Submission of Internship Report for the completion of Graduation, Summer 2022**

With due honor and respect, I, Farhana Afruz, from Summer 2022, Section 1, would like to submit my Internship report. This report is written to kindly inform you that I have completed my internship program and its report. My internship was conducted from 10th June to 30th August 2022. I completed my internship at Youth-360 organization.

This report is based on my experience and the work I did during my internship. My internship's main objective was to gain experience in the company's various technology-related departments, including research and development, documentation, and software development. Understanding software development processes and practices was given priority over understanding the software that was being developed.

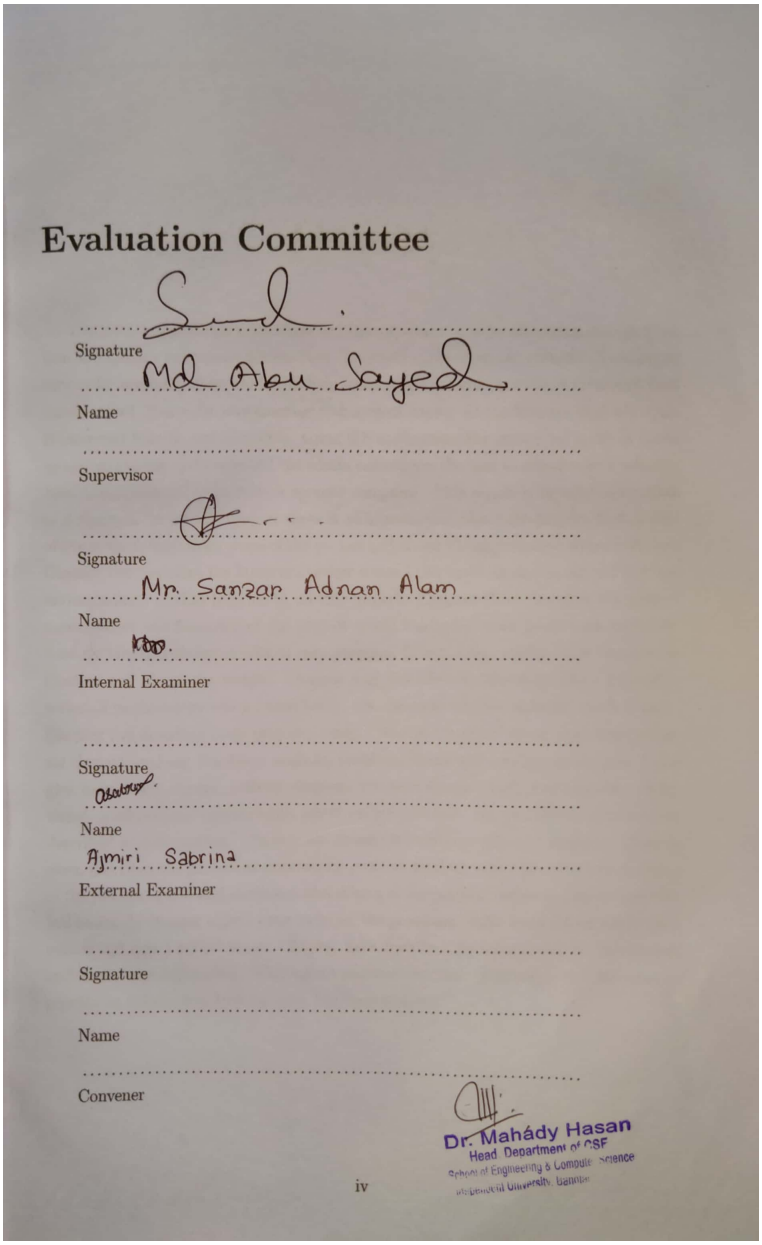
Over the period of my internship , I found out that I learned and applied a lot of new skills and technologies. This report includes a detailed review of the company as well as the functionalities of the department I worked in.

I hope the following report can achieve your approval and is up to the mark.

Sincerely,

Farhana Afruz
1821821

Evaluation Committee



Evaluation Committee

Signature

Md Abu Sayed

Name

Supervisor

Signature

Mr. Sanzar Adnan Alam

Name

Internal Examiner

Signature

Ajmiri Sabrina

Name

External Examiner

Signature

Name

Convener

Dr. Mahády Hasan
Head Department of CSE
School of Engineering & Computer Science
Independent University, Bangladesh

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Figure 2: Evaluation Committee Form

Abstract

Youth-360 organization is an NGO and the website is built for managing user information and sponsor companies information. This web application can connect to respective servers for accessing data which will help users to get information about users and their career record. Hence the implemented web system having all the features that will make it more user friendly and accessible. Using this application, the admin can verify or delete or update the role of the user and the admin can request the user to change user's information.Admin also can add a user or sponsor company . This report is broadly categorized in 9 chapters. In the first chapter there is an introduction about the project, background of the project, objectives, scope of the project and about the organization where I worked. Chapter two describes the literature review where I discussed similar works and how my undergraduate studies help me to do this project. Chapter three describes the project management and financing of the project where I describe work breakdown structure, time distribution shown in critical map diagram, Gantt chart, activity wise resource allocation and about the budget. Chapter four describes methodology where I describe waterfall methodology which I used here; I also describe why use waterfall methodology.. Chapter five describes body projects, where I describe in detail about work description, six element analysis, feasibility analysis, problem, effects and constraints analysis. I also give here a rich picture, activity diagram, use case diagram and class diagram. Functional, nonfunctional requirements, input, output and architecture of the project are also described in this section. Chapter six describes survey results and analysis. Chapter seven describes the project as engineering problem analysis which includes sustainability of the project, social and environmental effects of the project, addressing ethics and ethical issues. In chapter eight I have included the problems I have faced during the project period and how I solved those. Chapter nine describes the future work for this project and finally the conclusion. This report summarizes that experience, and attempts to provide an informative look on what has been achieved.

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Chapter 1

Introduction

1.1 Overview/Background of the Work

I am doing my internship as a full stack web developer at a NGO named Youth 360. As a web developer I have to develop their website. According to my research on the existing system, the current system has many issue.this is a manual system where they have to store all kinds of data by writing on papers or filling up forms, so there is a risk of losing the data. If anyone wants to know about the organizations,they have to visit their office to communicate with them and this is very time consuming.Though they have a facebook page but it is not reliable.Basically I wanna create an automated system. Where people can know about this organization by visiting their website,they can enroll them by entering their register page,there will be a contact page to contact with them,so i think it will be easier. This report highlights the study of the website of an NGO ,which will contain the information of their seminar,meetings and some other works for youth. Our system fulfills the required analysis of its processes, and proposes a new and better improved version of the system that reduces error, makes analysis of data and report generation easier by all vested quarters and produce/show valuable information needed for the higher authorities in making necessary steps to select better candidates for a particular position.

1.2 Objectives

The main purpose of our system is to make the system user-friendly and develop the system with an oriented look. The information and progress report of any seminar will be kept very confidentially. This system provides the ability to manage all the paperwork in one place and keep tracking the progress report. This system can reduce the work of the staff in arranging and analyzing the files. Actually, this website does many works like:

- Maintain all reports and data of this organization Organizations can track their seminar's date and can give update through this website
- Anyone can take appointment or can contact through this website
- All the basic information will be provided in this website,so anyone can gain knowledge about this organization by visiting their website.

1.3 Scopes

The primary goal of our project is to develop a system that covers all the possible aspects of an NGO.I am trying to implement a system that can track all the information of the organizations. Also keep tracking the appointment procedure and so on. So, there are some modules. Such as

- Admin module: In this module admin can verify user's request and update user role.Admin can add user or sponsor company.Admin can request user to update their profile.Admin also see the message from contact us page
- Users module: In this module, users can register to the system and get their user id and password. Then users can take online appointments. They can keep tracking their appointment dates and times. They also can send their message.
- Appointment module: In this module, office staff can handle the daily appointment for the consultancy for a particular time and can keep track of their seminar.
- Dashboard module: Here we may see the homepage of the system. The staff lists,seminar lists, any notice regarding the management or something else will be shown here.

Chapter 2

Literature Review

2.1 Relationship with Undergraduate Studies

List of courses that helped in the development process: Independent University, Bangladesh offers a plenty of courses that helped me in the development process of my project. The courses are as follows, in no particular order: -

i. CSE 203, Data Structures: This is the course that helped me with the ideas of several data structures and their applications.

ii. CSE 213, Object Oriented Programming: This course taught me how to write modular programs which made codes less repetitive and more reusable. It helped me to design "Website of Youth 360 organization" project code in a modular format easily.
iii. CSE 303, Database Management: This was the first course which taught me how to design and plan a project properly. This course covered popular planning and strategy practices such as System Development Life Cycle, Rich Picture, Requirement Analysis, Entity Relationship Diagram, Business Process Model and Notation Diagram and many more things.
iv. CSE 307, System Analysis and Design: This is the course that gave an overview of different System Development Life Cycles and how to adopt each one of them to implement the project. In this course we were taught to analyze and design systems. This course provides an overview of the Used Case Diagram, Used Case Scenario,activity diagram,sequence diagram, as well as how to apply them to a project. The things we learn for this course:

- Systems, Roles, and Development Methodologies.
- Requirement discovery
- System analysis
- System analyst

- Stakeholder analysis
- Feasibility analysis
- Object-oriented analysis
- Using uml diagram

v. CSE 309, Web Application and Internet: This is the course where the development of web applications was taught such as HTML, CSS, JavaScript, Bootstrap,Php and MySQL. The tools and technologies learned from this course rapidly contributed to the development of my project as it is a web application built with web technologies and it has a back-end server which had to be deployed to the cloud server as well.

I am working on a web-development related project during my internship. So it will be very helpful for my project which I learned from my undergraduate course.

2.2 Related works

Here is some related website description and link:

- World Youth Forum is a platform built by promising youth. It sends a message of peace, prosperity, harmony, and progress to the entire world. It engages youth from around the globe in an enriching set-up, allowing them to exchange views and recommend initiatives to decision-makers and influential figures. The forum is a chance for you to engage with top policymakers, network with promising youth from the region and the world that are determined to make our world a better place for everyone. https://wyfegypt.com/
- A world where every young person receives a well-rounded education gaining the resilience to overcome the challenges they face, the skills to succeed and the opportunity to contribute to their society.https://www.worldyo.org/
- There are so many hurdles for early stage entrepreneurs. Startup Chattogram is a platform where the early stage entrepreneurs can learn about different things which they need in their journey. We generally have domain specific Events and Workshops every month. This is also a platform to meet like-minded people. This is ideal for students and new entrepreneurs who are ready to start their entrepreneurial journey. Startup Chattogram focuses and trains on strong skills like communication, collaboration, and leadership which are significant for building up a business. https://startupchattogram.org/about-us/

Chapter 3

Project Management & Financing

3.1 Work Breakdown Structure

A work breakdown structure (WBS) is a visual, hierarchical and deliverable-oriented deconstruction of a project. It is a helpful diagram for project managers because it allows them to break down their project scope and visualize all the tasks required to complete their projects. All the steps of project work are outlined in the work breakdown structure chart, which makes it an essential project planning tool. The final project deliverable, as well as the tasks and work packages associated with it rest on top of the WBS diagram, and the WBS levels below subdivide the project scope to indicate the tasks, deliverables and work packages that are needed to complete the project from start to finish.

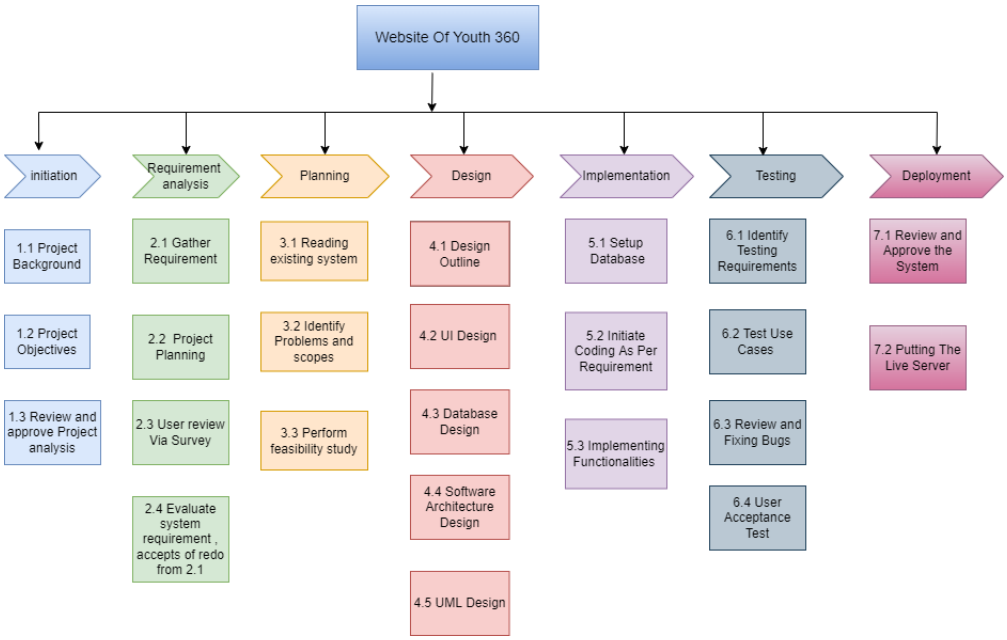

Figure 3.1: WBS of Youth 360's Website

3.2 Process/Activity wise Time Distribution

For Each Section we have described in the WBS Diagram for ERP we made a time allocation as following:

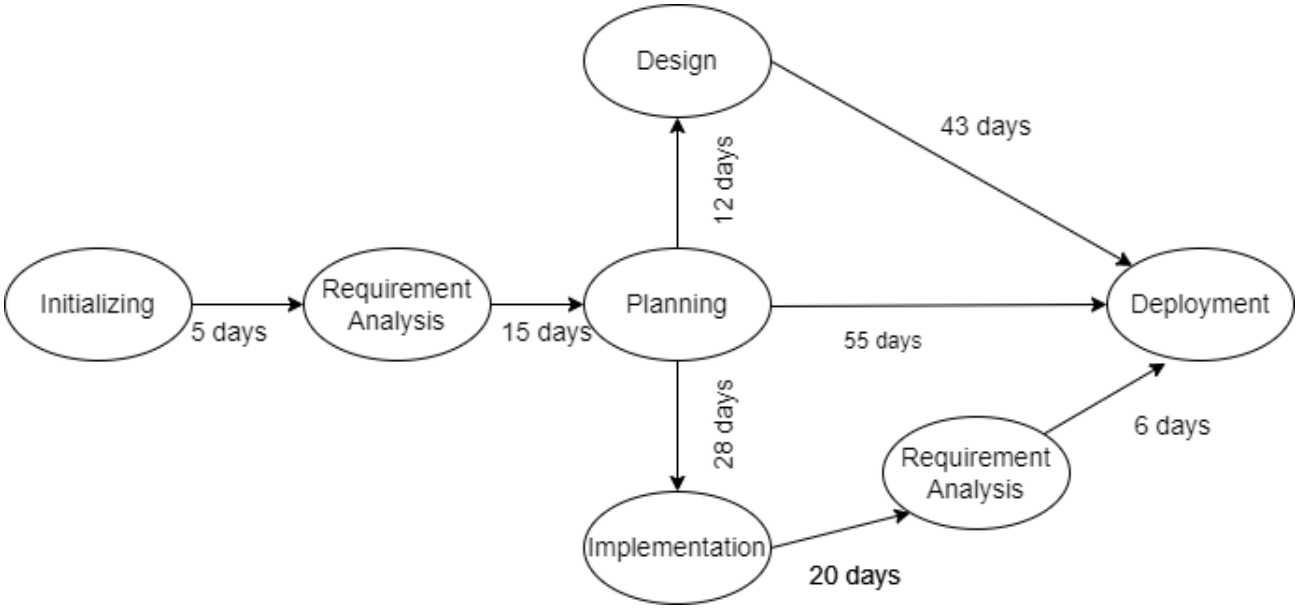

Figure 3.2: Activity Wise Time Distribution

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.As it's in a bar chart format it is possible to check on progress with a quick glance. You can easily see:

- a visual display of the whole project,
- timelines and deadlines of all tasks,
- relationships and dependencies between the various activities
- project phases

Project management solutions that integrate Gantt charts give managers visibility into team workloads, as well as current and future availability, which allows for more accurate scheduling. Gantt charts have been around for nearly a century, having been invented by Henry Gantt, an American mechanical engineer, around 1910.

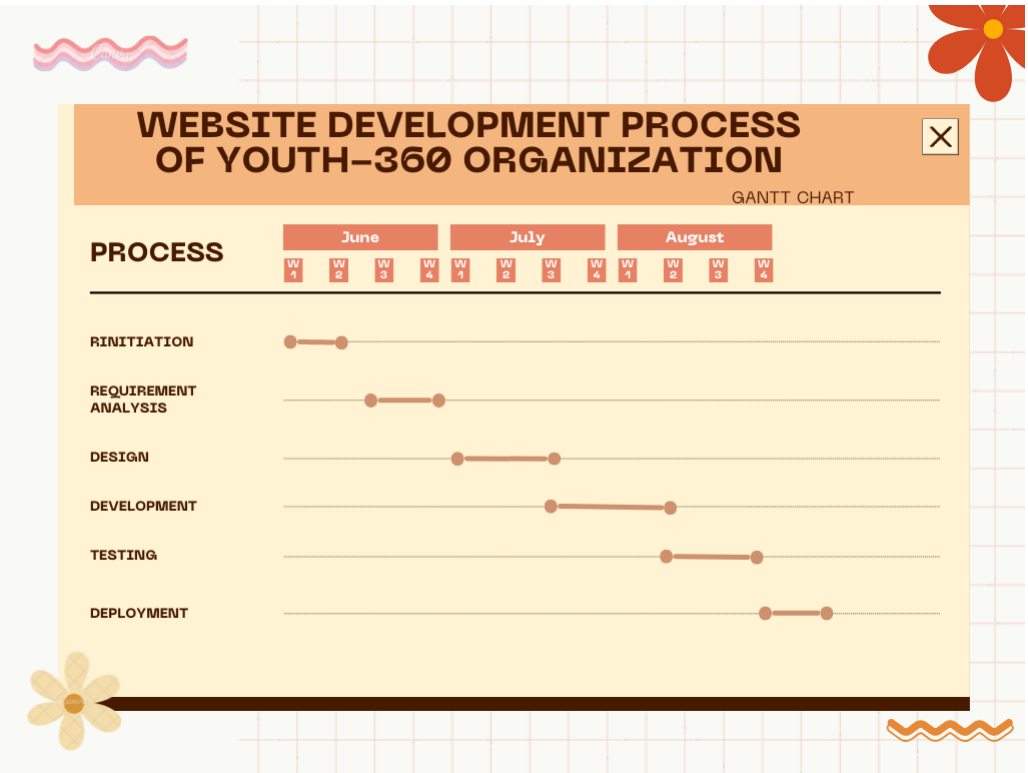

Figure 3.3: Gantt chart

3.4 Process/Activity wise Resource Allocation

Resource allocation is the process of assigning assets in a manner that supports a team's achievements. For this project, I need a total (may be) 60 days for completing the whole system. So, the developers have assigned many small tasks during this time to complete the system. We need to focus on our deadline for the particular task. Following are the details of every task of the project:

- Project Initiation: The CEO of our company discusses the planning of the project in front of us. During this project initiation, the CEO and the developers identified the stakeholders of the project. The developers collected and gathered the requirements. In the meantime, we had to calculate the risk analysis, cost analysis and fix the schedule of the project. It took a total 12days and about 14

- Project Planning: In project planning, 18 days are needed to plan the project goals, scops and create the work breakdown.

- Design: This is the phase where I design the features, users and functionality of the system to a few mainstream diagrams so that they show us the bigger picture of the whole scenario.

- Implementation: This is where the development started according to the requirements.

- Project Testing: Testing started as soon as the features were added to the system.Developers were testing the system continuously so that they could fix all the bugs in the system and would be able to finalize the system with adding all of the features. It took 12 days.

3.5 Estimated Costing

The cost was calculated on the basis of the features the client demanded for the system. We calculated the cost analysis twice. In project initiation and project planning, we calculated the cost analysis for this project. And we fixed a budget. In the following table, the estimated costing is given:

Work Distribution	Costing(BDT)
Development cost	10000
Server Cost (Yearly)	5000
Maintenance (Monthly)	7000
Internet bills(Monthly)	1000
Total	23,000

Table 3.1: Estimated Cost

Chapter 4

Methodology

It is essential to establish a framework for the development of the project. As this project involves the construction of web applications, it is necessary to have a working knowledge of the World Wide Web[12], which significantly impacts the business community. Additionally, as the business environment evolves, the need for system development methodologies have shifted. The developer needs to be aware of these expectations to utilize the most appropriate methods, design approaches, and tools throughout the development process. Web applications are sometimes confused with websites, even though their nature is fundamentally different. A website is a collection of globally accessible, interconnected web pages that share a common domain name. On the other hand, a web application is a program or piece of software that can be accessed through a web browser. This project aims to develop a web application that will help and simplify the parcel delivery process for both users and workers. The interactive web applications will be built with web technologies such as HTML, CSS, and JS. They will be accessed through a web browser such as Google Chrome[13], Mozilla Firefox[14], or another program of a similar nature.
As we know there are few methodologies that the developers choose according to the project needs are shown in the following

- Waterfall
- Prototyping
- Iterative and Incremental Development
- Spiral Development
- Rapid Application Development
- Extreme Programming

4.1 Waterfall The most conventional software development methodology is the waterfall. Because of its plan-driven approach, the waterfall has been one of the most preferred methodologies for web development projects for several decades. The procedure is divided into various stages that are organized in sequential order.

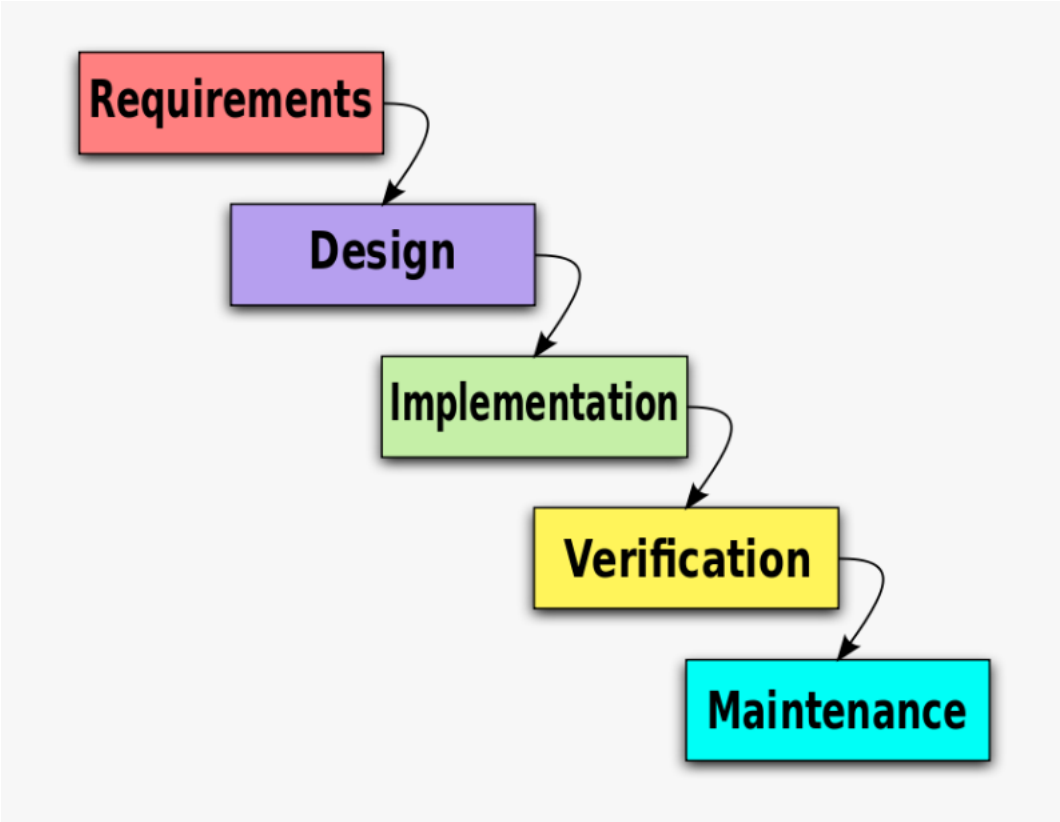

Figure 4.1: Waterfall Methodology Diagram

The waterfall technique will be used in this project to ensure that the project's specified timeline is maintained progressively throughout. Before beginning the implementation process, it is necessary to assess and design the entire project. Each sector will be considered throughout the analysis phase, and the clients will approve the design. The project will next progress to the implementation phase, which is the most significant component of the whole project, and then it will be ready for testing. Testing[15] allows for the identification and correction of current bugs[16] and modifying any additional requirements from the clients. After the entire process is completed, the project will then be ready for deployment and proper management.

4.2 Why Waterfall Methodology for this project?

As discussed before, we are developing this project as an web-based application, so to develop this project, the methodology that we will use in this project is the System Structured Analysis and Design Methodology. The System Structured Analysis is classified as a Waterfall Development. With Waterfall Development, both analyst and users proceed sequentially from one phase to the next and each phase can be mapped out and

evaluated (Hevner, 2004) [3]. Also, we know that waterfall methodology is applicable when Requirements are stable and not changed frequently and there is no requirement which is not understood or not very clear. Moreover our resources were well trained and are available. Since the phases are rigid and precise, one phase is done one at a time, it is easy to maintain.

4.3 Waterfall Implementation

From the requirement analysis, we started the project working initially. Then we designed the User Interface for the application and as well as the database. Then the main development part began with coding and simultaneously testing as required.

Chapter 5

Body of the Project

5.1 Work Description

As an intern at Youth-360 organization during this time, the entire development effort was on my shoulders. Meaning I had to handle both the front and the back end part. The front end was built with HTML5, CSS3, BOOTSTRAP 4. I had given less effort into it as there was a lack of manpower. PHP was used in the back end. The database functions using MySQL.

5.2 Requirement Analysis

Through this requirements analysis, also known as requirements engineering, users' expectations for a new or well publicized product are ascertained. The needs of the clients and their current operational system must be considered in order to identify and outline the requirements of the proposed system. As a result, interviews and verbal surveys of the prior system were conducted.

- It is expected that the admin will update all the information about the organization and users will be notified about it.
- Admin can add or delete users and sponsor company .
- Admin and user will be able to communicate with each other.
- Users can update his/her own information.

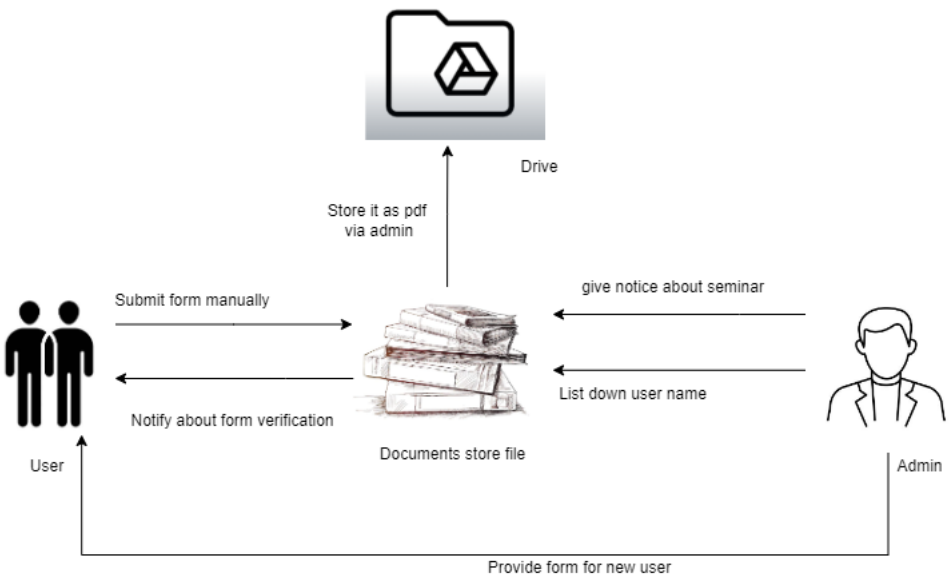

Figure 5.1: Rich Picture of Existing System

5.2.1 Problem Statement

There are some problems in the current system.They are given below:

- The total system is manual so there will always be a possibility for data lost.
- They store information by writing or filling up forms and the verification process also takes many times.
- Communication is a big issue and time consuming.

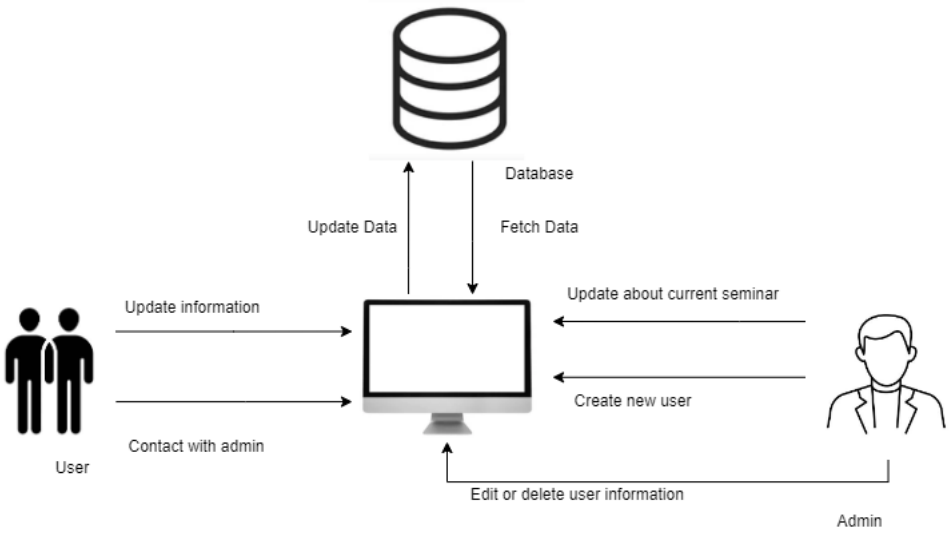

Figure 5.2: Rich Picture of Proposed System

5.2.2 Overall Description

This project is for an NGO named Youth-360.It is a startup company. This NGO is working with many other organizations. They provide their service by doing seminars, mental health counseling etc.In their current system they are doing all of their work manually.But the proposed system will save their time. So It will show the components of the system, the services they provide and the way they communicate to bring about the system functionality.

5.2.3 Functional Requirements

Youth-360 will have primarily three user types - User, Manager and Admin.The system functions for each user are given below:

User:

- Sign up by filling the registration form.
- Can Add/ Delete/ Edit his.her information.

Manager:

- Request the user to update information if needed.
- Use the user information in the future for seminars.

Admin:

- Can Add/ Delete/ Edit registration form.
- View all user lists.
- Can add user.
- Can add sponsor company.
- Approve/ Disapprove pending registration request.
- Use the user information in the future for seminars
- Can update rule.
- Can give update about Next seminar or current program.

User Characteristics Users, managers and admin can use this website.So all of the users are needed to have a basic knowledge about computers and internet browsing. Operating Environment:

Hardware interfaces:

	Configuration
Server Sql	SQLServerManager13.msc
Computer	Windows 10
CPU	
Hard drive	
Data Center	

Figure 5.3: Hardware interface

Software Interfaces
Dependencies

- Bootstrap
- Html
- Css
- Javascript
- Php

Environment

- Visual Studio Code
- Sublime Text
- Xampp
- Notepad++

Database Type

- SQL Database

5.2.4 Non-Functional Requirement

- Performance: The system will be fast, efficient and will respond to certain users' action under certain workload.
- Scalability: The system will meet the performance requirements under the highest workload.
- Portability: Our system will support all operating systems Windows, Linux, Mac OS, Android, iOS and HarmonyOS. Users can access the system from any web browser.

- Compatibility: We will also design applications for mobile users. Application must support on android devices running on OS version ¿ 5.0 and iPhone devices running on OS version ¿ 7.0.
- Reliability: The system will run without a failure for a given period of time under predefined conditions.
- Availability: The system must be accessible for a user at any given point in time.
- Maintainability: The system must define the time required for a solution or its component to be fixed, changed to increase performance or other qualities, or adapted to a changing environment.
- Useability: Users should be able to complete the main functions once they see the interface. The user interface must be user-friendly and exhibit conceptual integrity.
- Security: The system must assure that all data inside the system or its part will be protected against malware attacks or unauthorized access.
- Localization: The system or its element must fall well in line with the context of the local market-to-be. The context includes local languages, laws, currencies, cultures, spellings, and other aspects.

5.3 System Analysis

5.3.1 Six Element Analysis

Process	System Rules					
	Human	Non-computing Hardware	Computing Hardware	Software	Database	Communication and Network
SignUp	User can use this signup interface	N/A	Desktop or laptop,mouse,keyboard	Web browser	Mysql	Internet
Login page	User,employee,admin can use this page	N/A	Desktop or laptop,mouse,keyboard	Web browser	Mysql	Internet
Add user	Admin	N/A	Desktop or laptop,mouse,keyboard	Web browser	Mysql	Internet
Contact us page	Users will use it to send text. And admin can see it	N/A	Desktop or laptop,mouse,keyboard	Web browser	Mysql	Internet

Figure 5.4: Six Element Analysis

5.3.2 Feasibility Analysis

Performing a feasibility study is extremely important in order to determine whether or not the proposed project's concept is viable. It is necessary to conduct an initial investigation into the project in order to determine whether or not the designed system will be beneficial to the organization. It is possible to save months or years of effort, thousands or millions of dollars, and a great deal of professional embarrassment if an incorrectly designed system is identified early in the definition phase. The advantages of the project are discussed in detail in this project. The current system is being examined in order to determine the advantages and disadvantages of the web development project. The disadvantages of the existing systems are discussed, as well as how they can be addressed by

the new system that is currently being developed. It is extremely important to comprehend how the new system works, as opposed to the existing one. After determining which option appears to be more advantageous, the organization can proceed to the next step. There are three types of feasibility analyses: technical feasibility, operational feasibility, and economic feasibility.

Technical feasibility: Both the hardware and software requirements are referred to as "technical feasibility." To carry out this technical feasibility, we must first assess whether the required technology and suggested equipment are capable of storing the project's data. This technical feasibility analysis analyzes whether the necessary resources for project development are accessible.

Operational feasibility: Our system will support each system requirement done by the stakeholders and they do not need to modify their business processes to take advantage of our system. Most portions of our system are offered as an alternative to help their processes complete faster in terms of unwanted situations that delay their current procedure.

Economic feasibility: Our system will support each system requirement done by the stakeholders and they do not need to modify their business processes to take advantage of our system. So in this sector our system will be economically feasible.

5.3.3 Problem Solution Analysis

When embarking on a new project, it is common to run into difficulties, which allows individuals to learn from experience.Understanding and defining the problem that needs to be solved is the process by which problem analysis is carried out. Problem solving is the process of identifying solutions that are appropriate for the needs and constraints of the problem. During the course of this project, we encountered a number of difficulties, all of which were successfully resolved after numerous attempts.

5.3.4 Effect and Constraints Analysis

A constraint describes when an application feature or application content should be used. Constraints can restrict access based on users and user roles, the characteristics of the device on which the mobile application is targeted to run, and the hardware available on the device. And constraint is basically a restriction on the degree of freedom that a company can have in providing the solution. Mainly the constraints are effectively global requirements, such as limited development resources or a decision by senior management that restricts the way the development team develops a system. Constraints can be economic, political, technical, or environmental and pertain to project resources, schedule, target environment, or to the system itself. Some of the constraints and its effects that occurred during our project are described below:

Constraints 1: Manpower

- I am a solo intern so I have to manage all the work of this project.So designing and implementation is a big challenge for me.Current system is totally manual and it is a startup organization so they do not have any proper plan or design for this new system.So I have to do research and make a design for this website.

Constraints 2: Time and Budget

- Budget and time is also an issue. As I mentioned above, it is a startup organization so their budget is low . and they have a seminar next month ,before this seminar they want to publish their website.So i want to try to do too much but because of the shortage of time i am not able to do it properly.

5.4 System Design

It is the most creative and challenging phase of a project's development process to be involved in the process of system design. The design phase of the development phase of any engineered product or system is the very first step in the process of creating the product or system. The overall efficiency of a system is greatly influenced by the effectiveness of its design. System design is a method for approaching the development of a new system in an organized and systematic manner. It is also known as system engineering. When creating a physical specification for something, system designers must translate an abstract logical representation of what needs to be done into a physical specification. A physical representation of reality is created as the specification is transformed into a physical representation of reality.

5.4.1 UML Diagrams

A UML diagram is a diagram based on the UML (Unified Modeling Language) that is used to graphically describe a system, including its major actors, roles, actions, artifacts, or classes, in order to better understand, edit, manage, or document system information. UML diagrams can be used to envision a project before it begins or to document a project once it is completed. UML diagrams, on the other hand, have the broad purpose of allowing teams to visualize how a project is or will operate, and they may be used for any sector. Object-oriented design and analysis are linked to UML. UML creates diagrams by combining parts and forming relationships between them. Like structural diagrams and behavior diagrams.

Module 1: Registration and Login.
Actors : Admin, User.

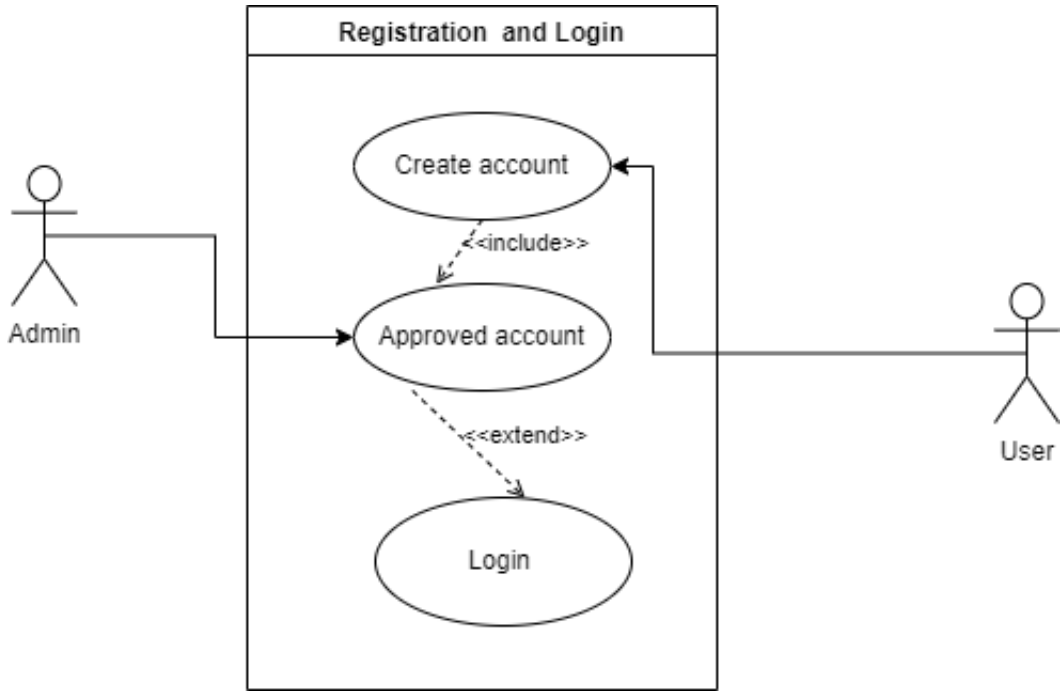

Figure 5.5: Registration and Login.

Module 2: Add sponsor company
Actors : Admin

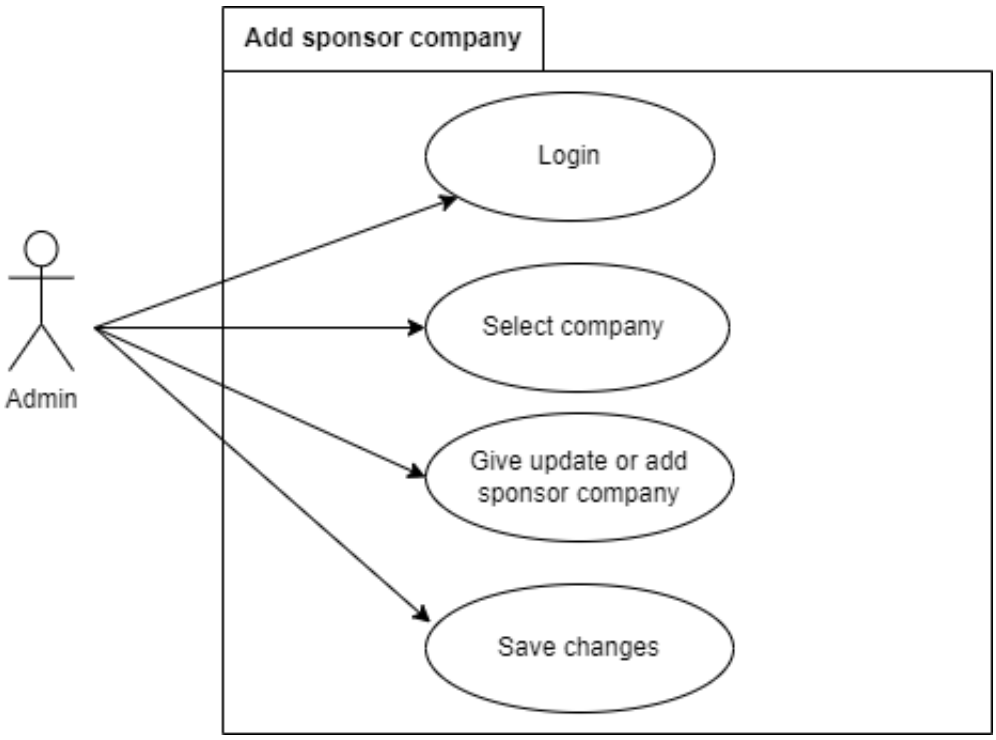

Figure 5.6: Add sponsor company

Module 3: Can add/delete/edit user information
Actors : Admin

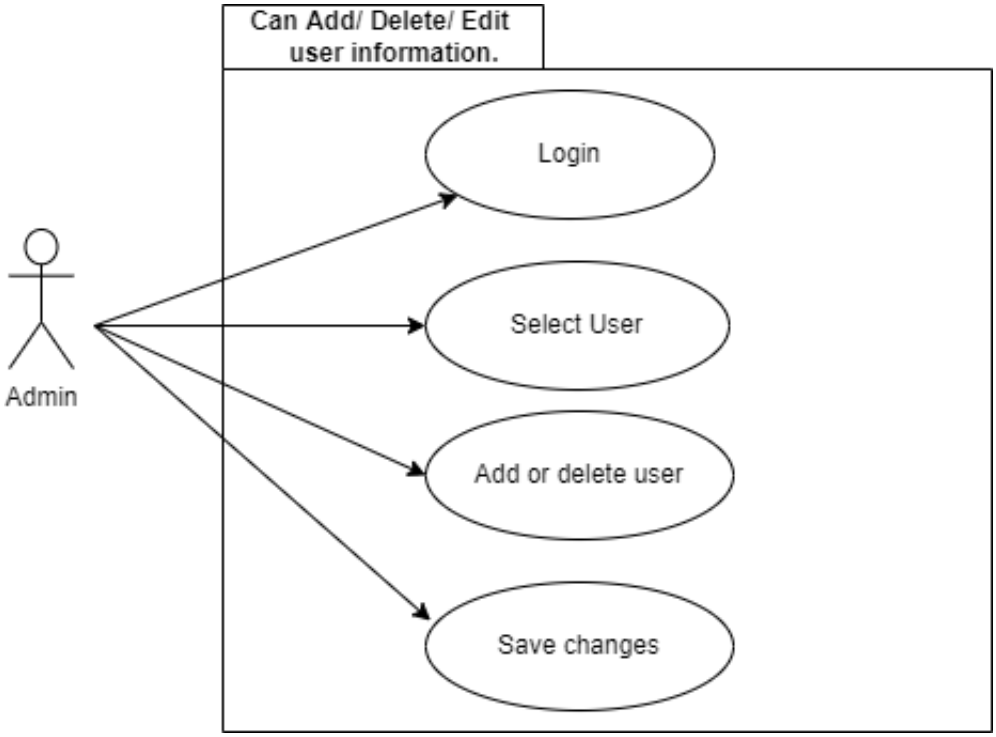

Figure 5.7: Can add/delete/edit user information

Module 4: Can edit their information
Actors: User.

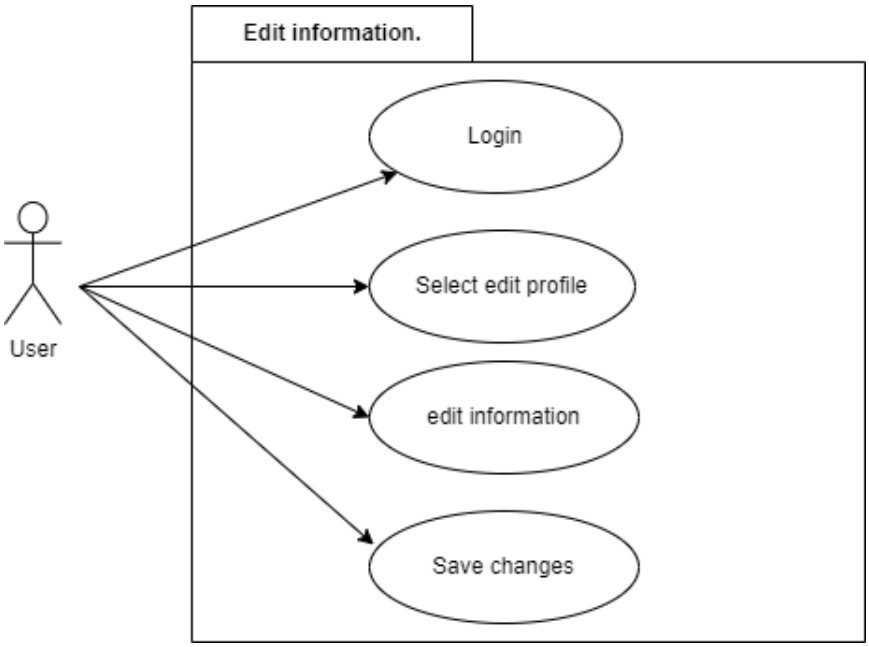

Figure 5.8: Can edit their information

Module 5: Can send text

Actors: Admin, User.

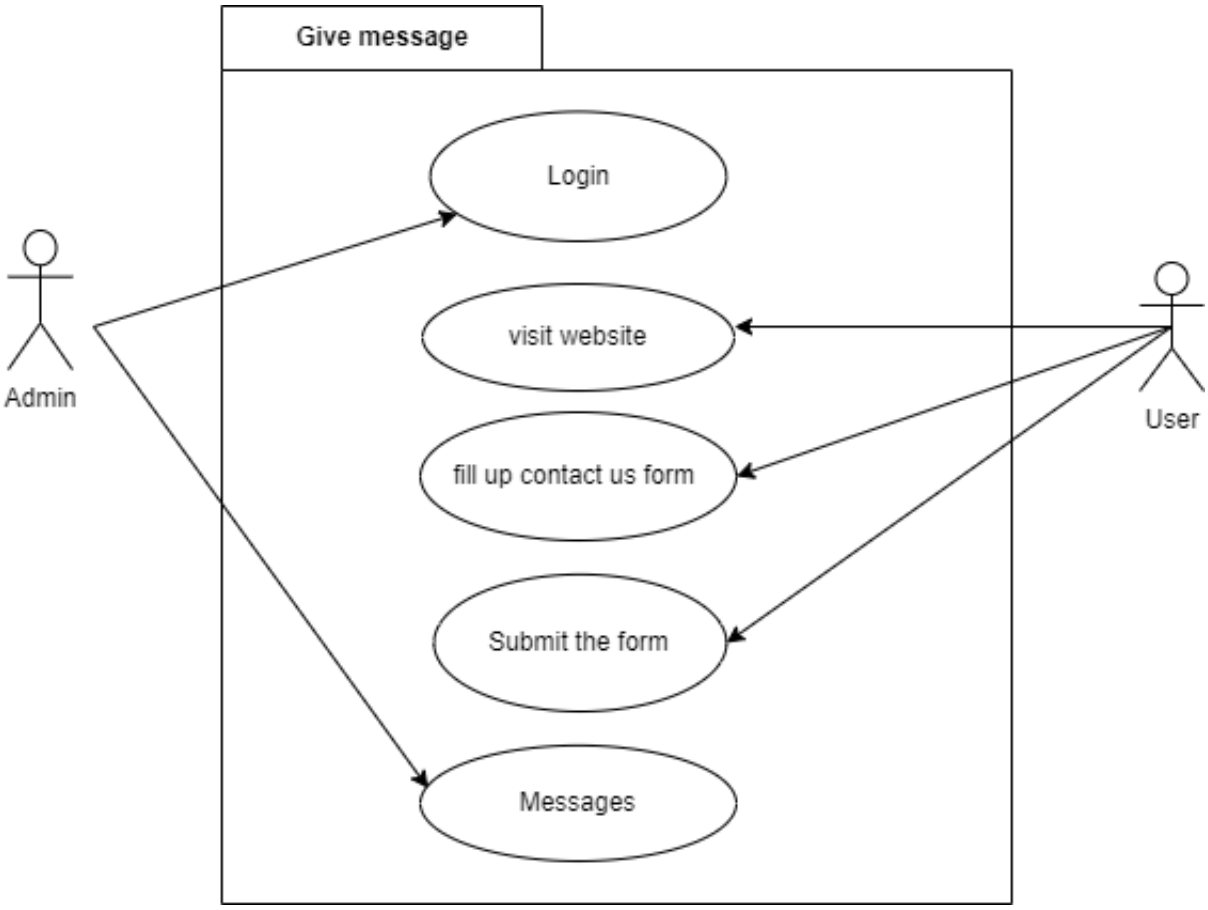

Figure 5.9: Can send text

Module 6: Admin Request edit information feature
Actors: Admin, User.

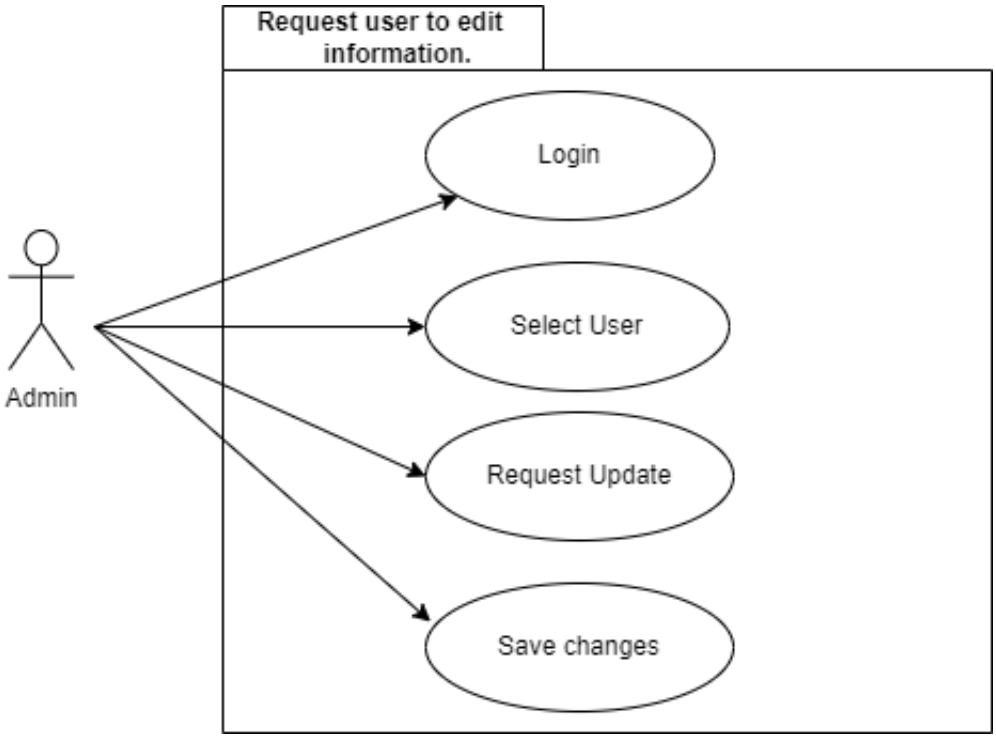

Figure 5.10: Admin Request edit information feature

From these pictures we can see that ,These diagrams give an overview of all of the actors, the functions each actor needs to perform, and how the functions interact within a system. The goal is to visualize the functions of each actor involved and how all of the actors and functions are related to each other. Usually, actors are connected to their functions with arrows, and related functions are connected to each other with different arrows.

5.4.2 Activity Diagram

Activity diagrams are some of the most useful diagrams, especially for business processes. These diagrams show the workflow of a project or operational process, and they can show the relationship between different activities. The flow between activities can be both parallel and sequential. The diagram will usually display the materials used, objects produced by activities, and the relationship between each. Initial State or Start Point

- A small filled circle followed by an arrow represents the initial action state or the start point for any activity diagram. For an activity diagram using swimlanes, make sure the start point is placed in the top left corner of the first column.

Activity or Action State

- An action state represents the non-interruptible action of objects. You can draw an action state in SmartDraw using a rectangle with rounded corners.

Action Flow

- Action flows, also called edges and paths, illustrate the transitions from one action state to another. They are usually drawn with an arrowed line.

Object Flow

- Object flow refers to the creation and modification of objects by activities. An object flow arrow from an action to an object means that the action creates or influences the object. An object flow arrow from an object to an action indicates that the action state uses the object.

Synchronization

- A fork node is used to split a single incoming flow into multiple concurrent flows. It is represented as a straight, slightly thicker line in an activity diagram. A join node joins multiple concurrent flows back into a single outgoing flow. A fork and join mode used together are often referred to as synchronization.

The activity diagrams of Youth-360 are given below:

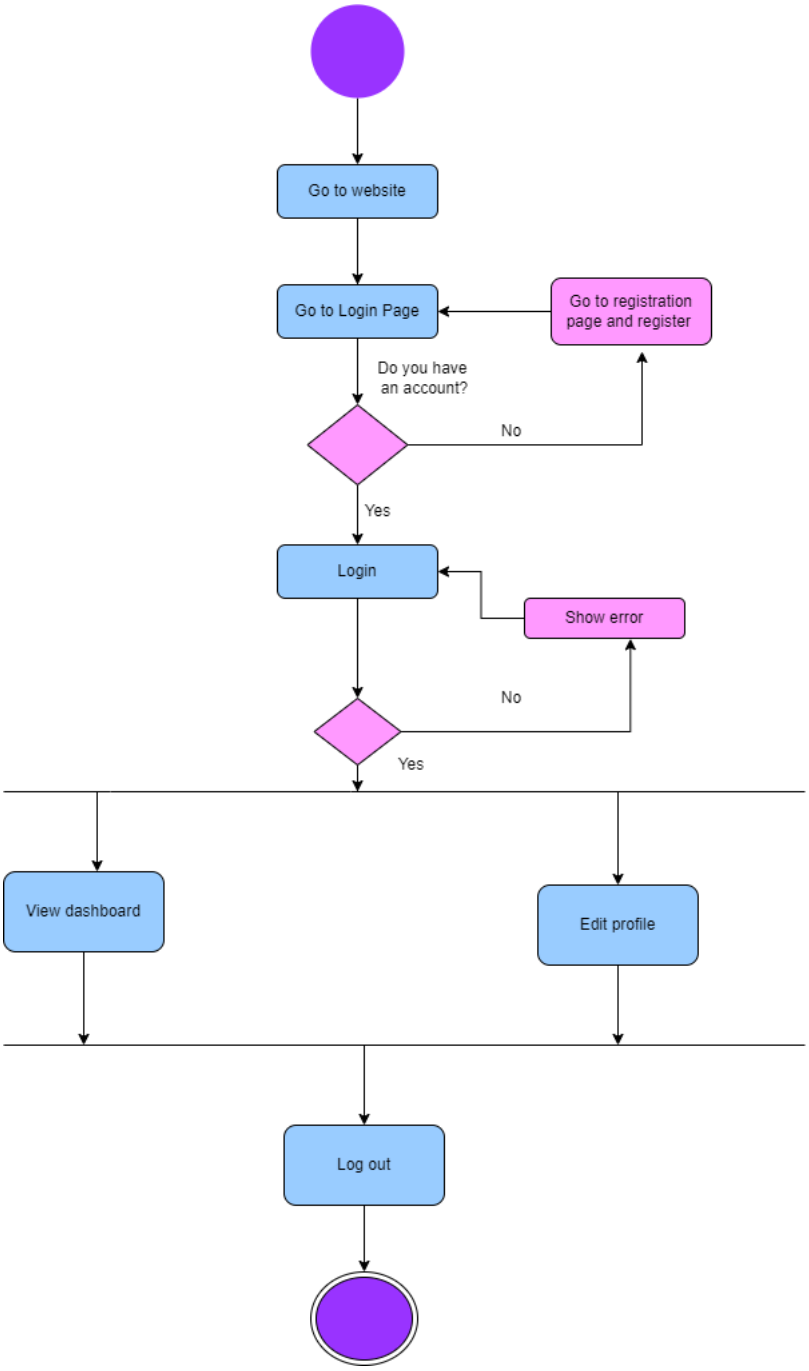

Figure 5.11: Activity Diagram of User

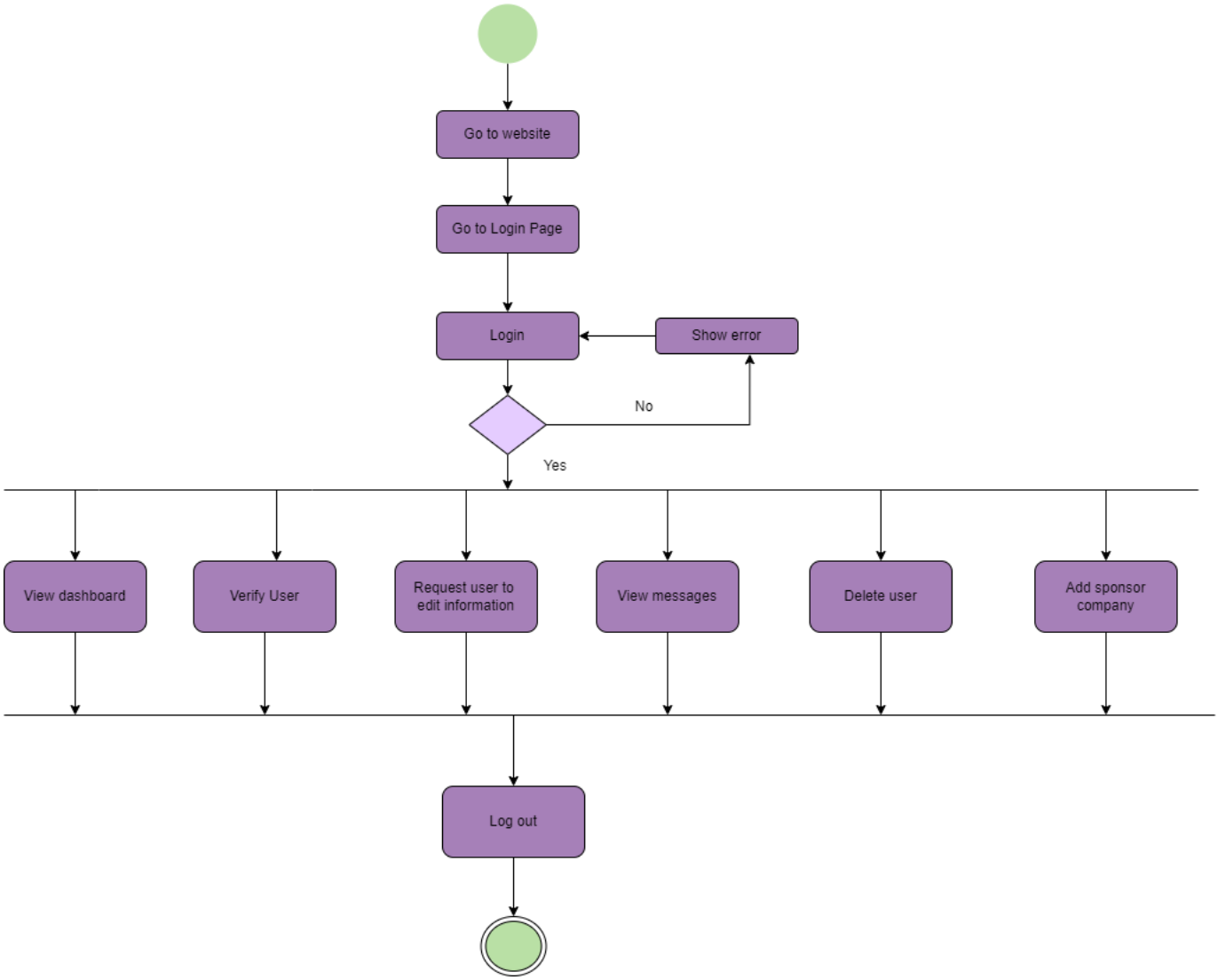

Figure 5.12: Activity Diagram of Admin

5.4.3 Architecture

Any structure's backbone is defined by its architecture. It's drawn to indicate how a construction will hold up. A website architecture specifies the framework of a website, including how it will function, how data will be transported, and where it will be kept. In this I am trying to visualize the scenario of our project:

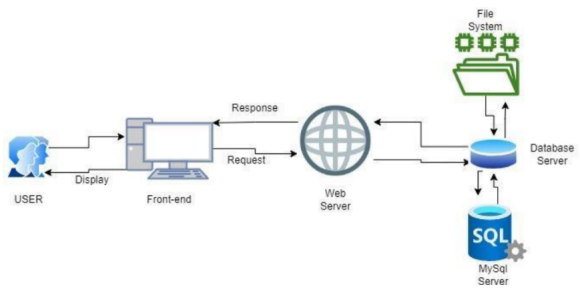

Figure 5.13: Website architecture for Youth-360

5.5 Implementation

The basic skeleton was made using HTML, with basic beautification done with CSS. The database was made using MySQL and all connected with PHP. It was implemented with a local host, launched using XAMPP, as it works on a local server.Here is some screenshot :

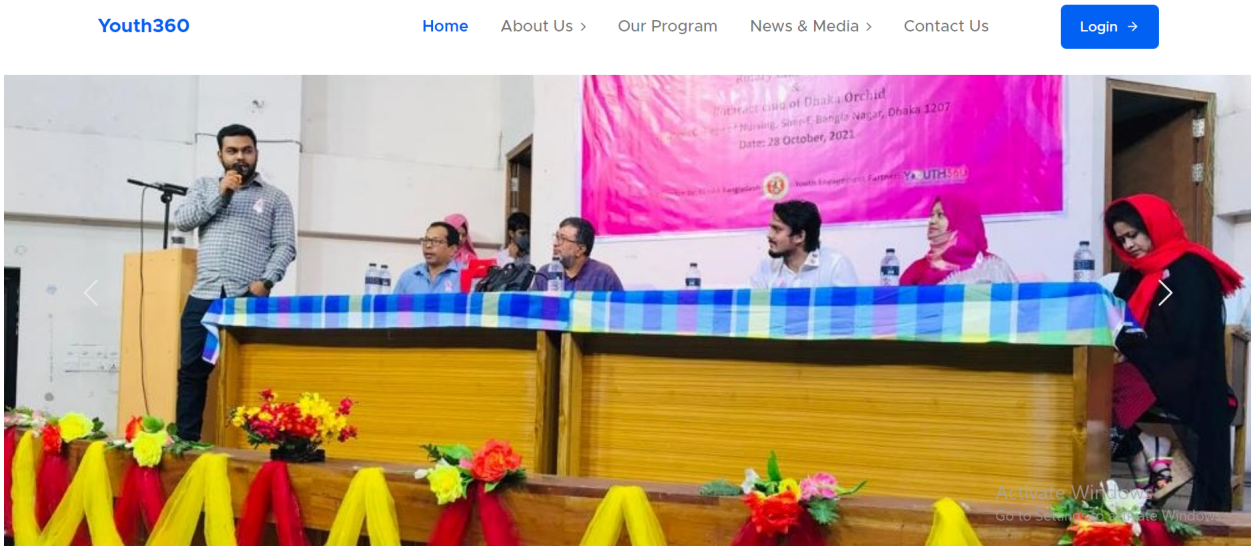

Figure 5.14: Home page first portion

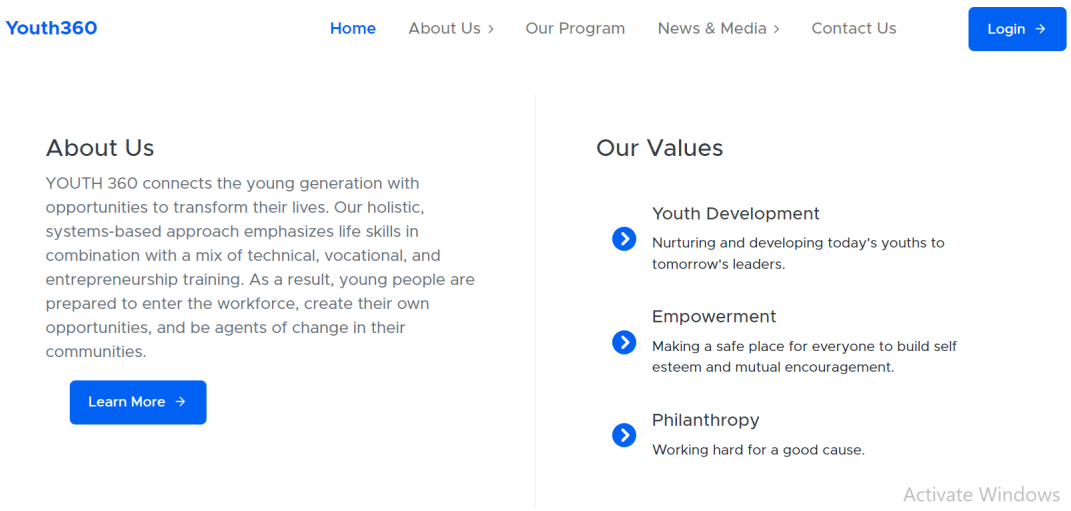

Figure 5.15: Home page second portion

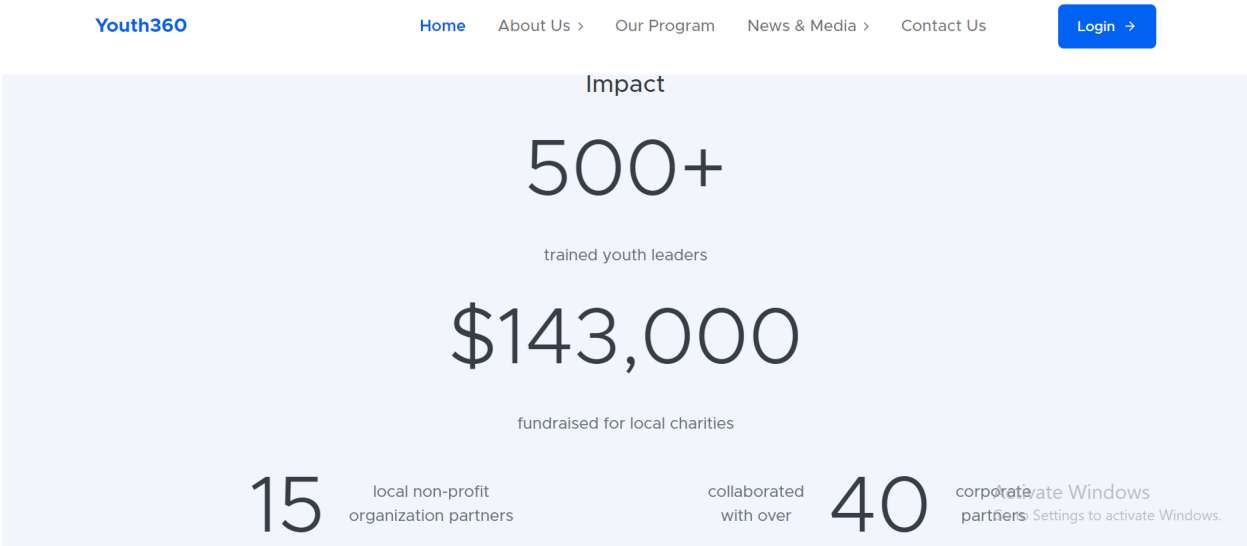

Figure 5.16: Home page third portion

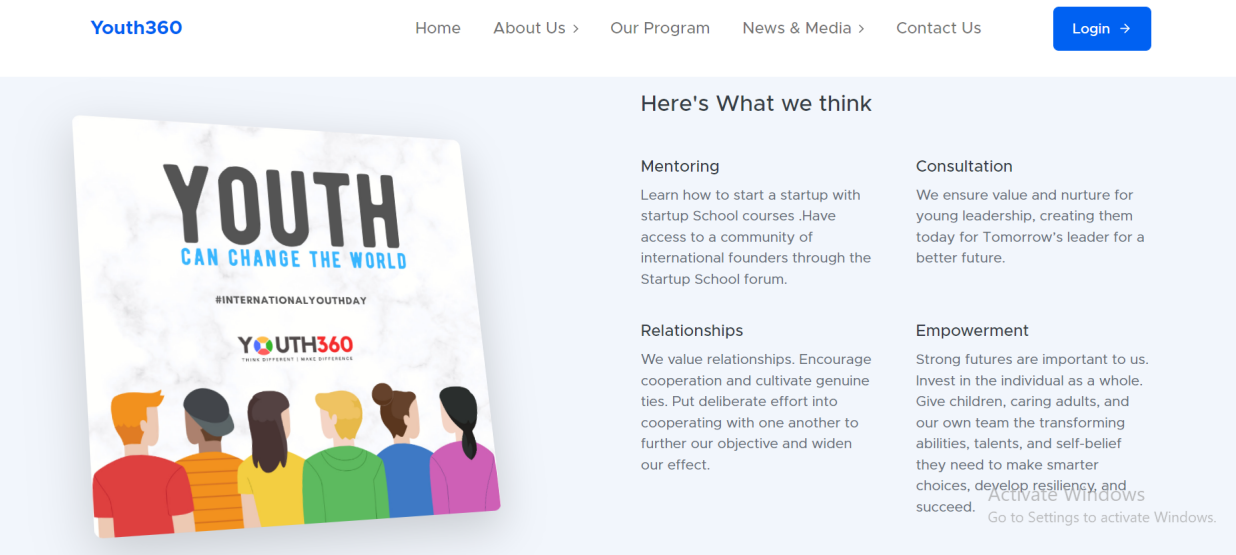

Figure 5.17: About us - Mission and Vision page

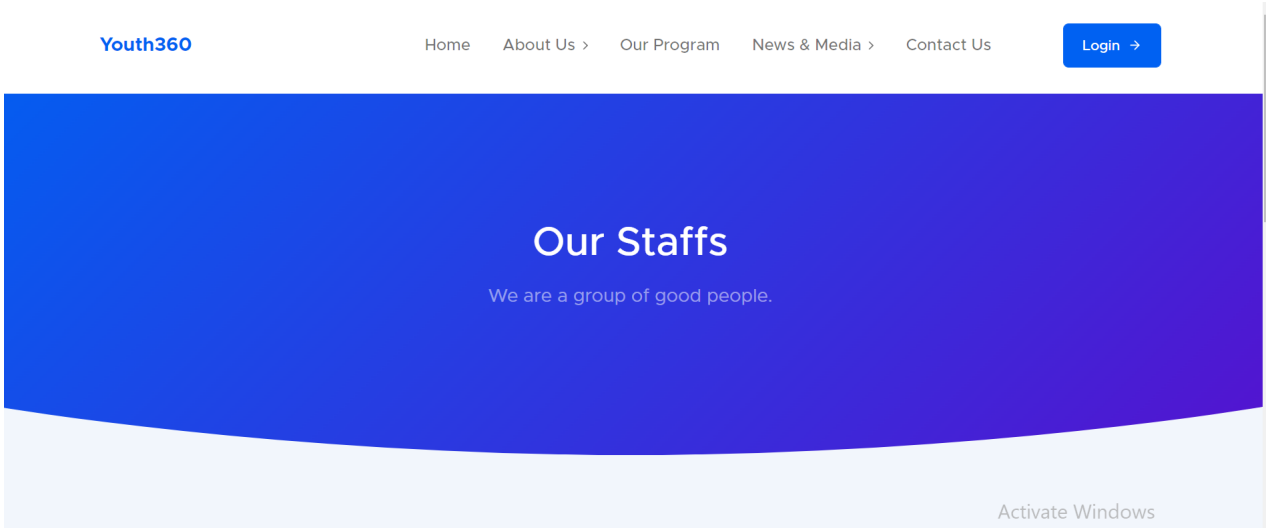

Figure 5.18: Our staff page

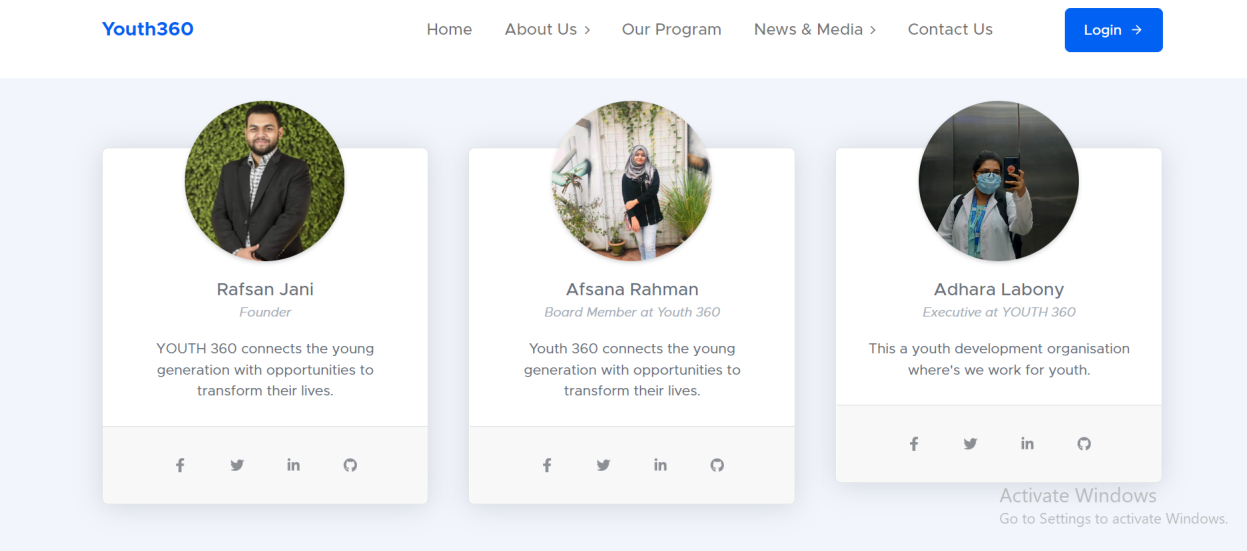

Figure 5.19: Our staff

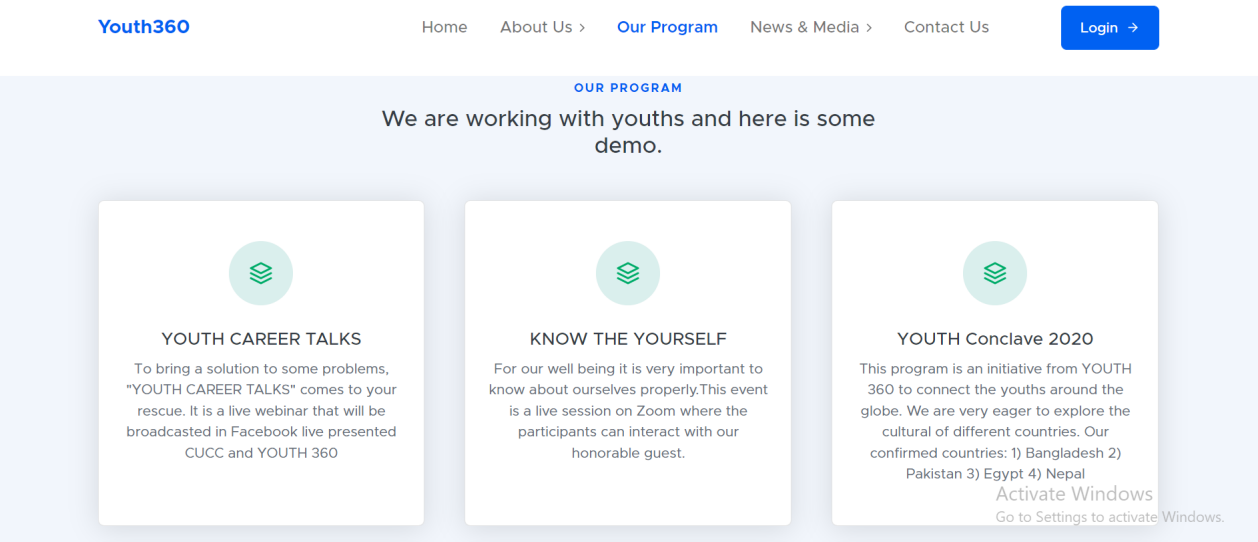

Figure 5.20: Our Program page

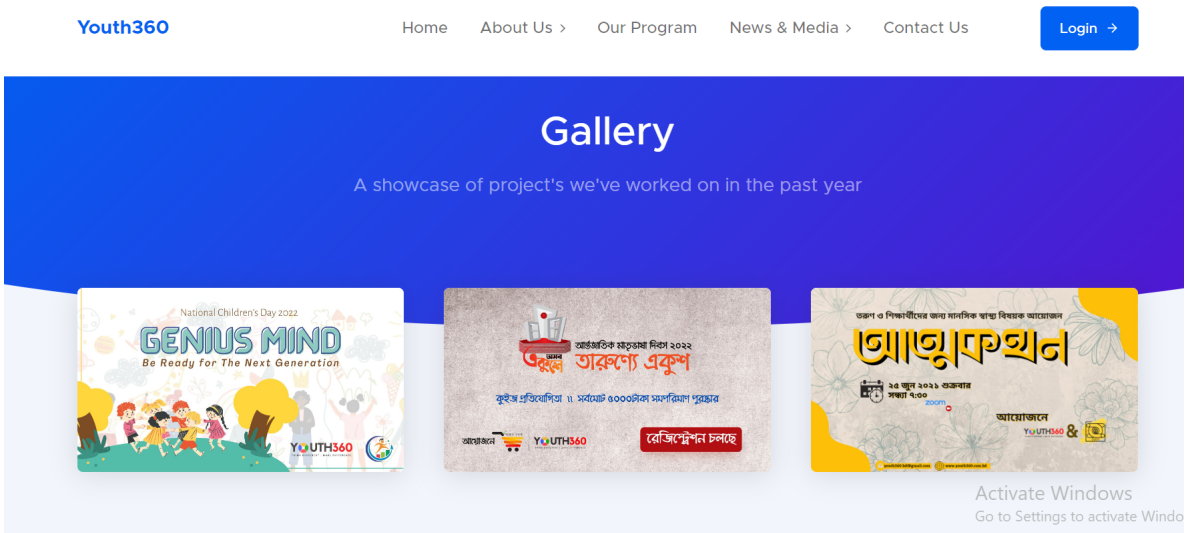

Figure 5.21: News Media drop down and Gallery Page

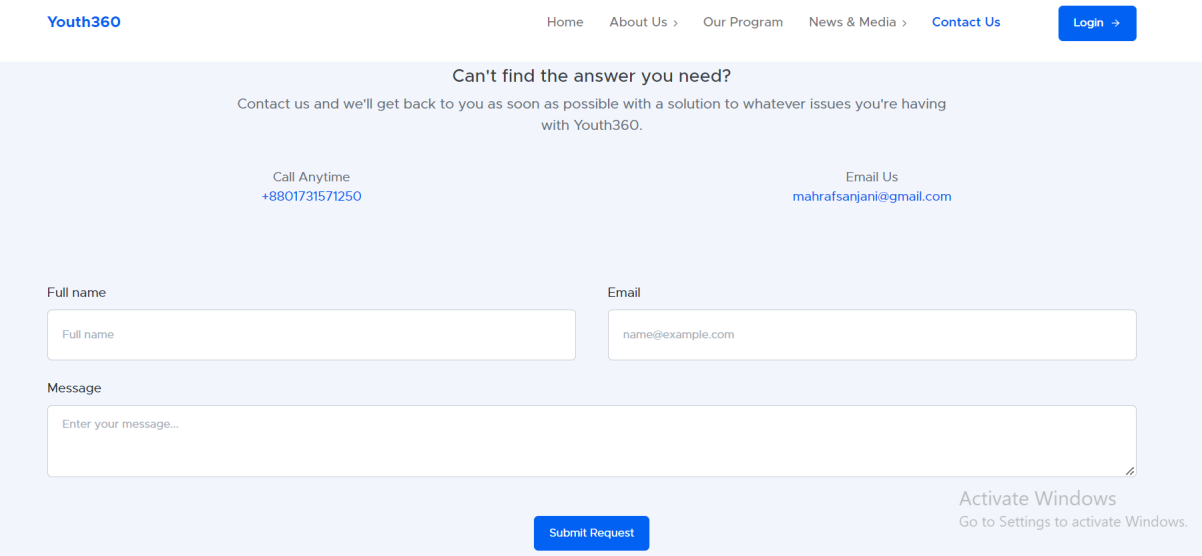

Figure 5.22: Contact us page

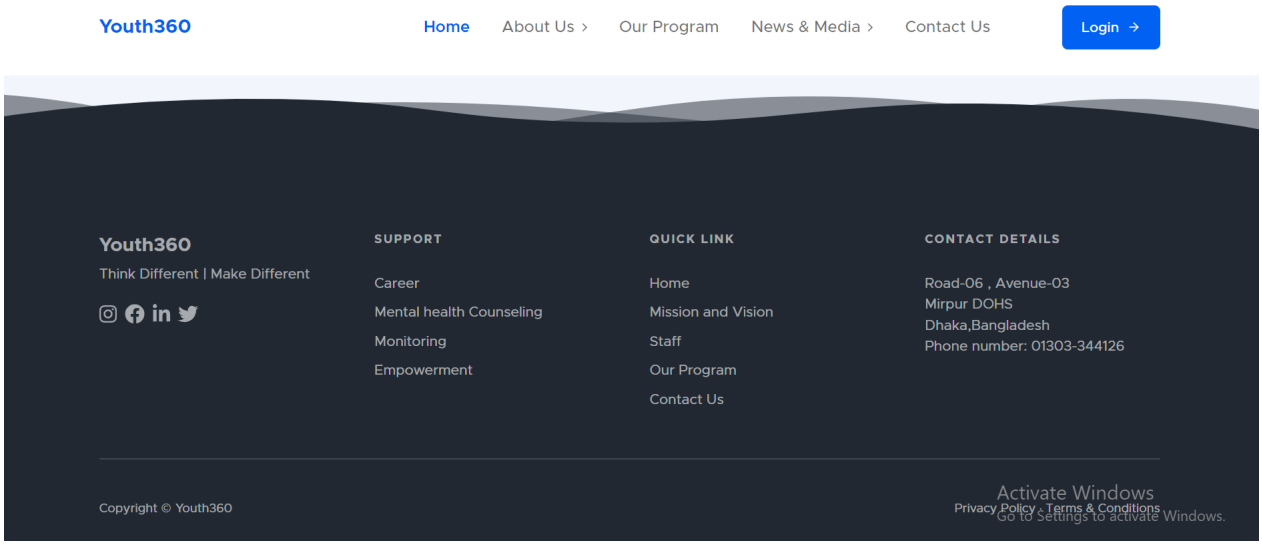

Figure 5.23: Footer

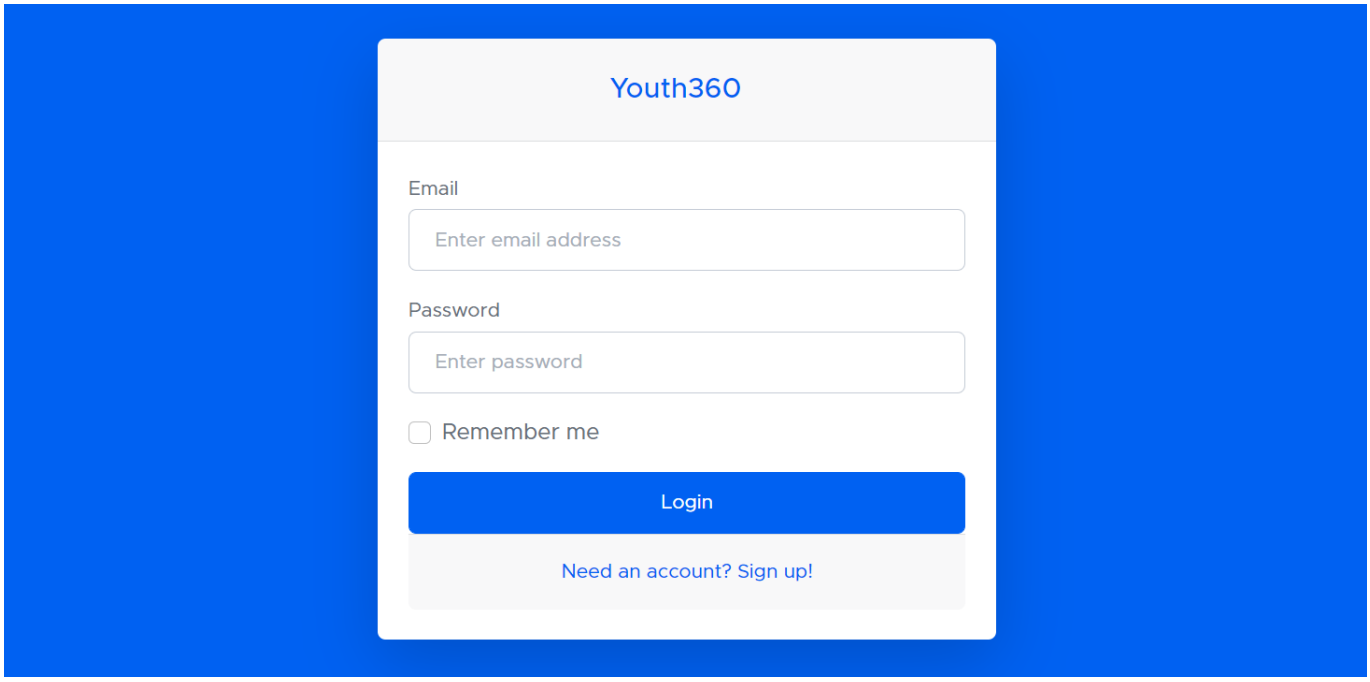

Figure 5.24: Login Page

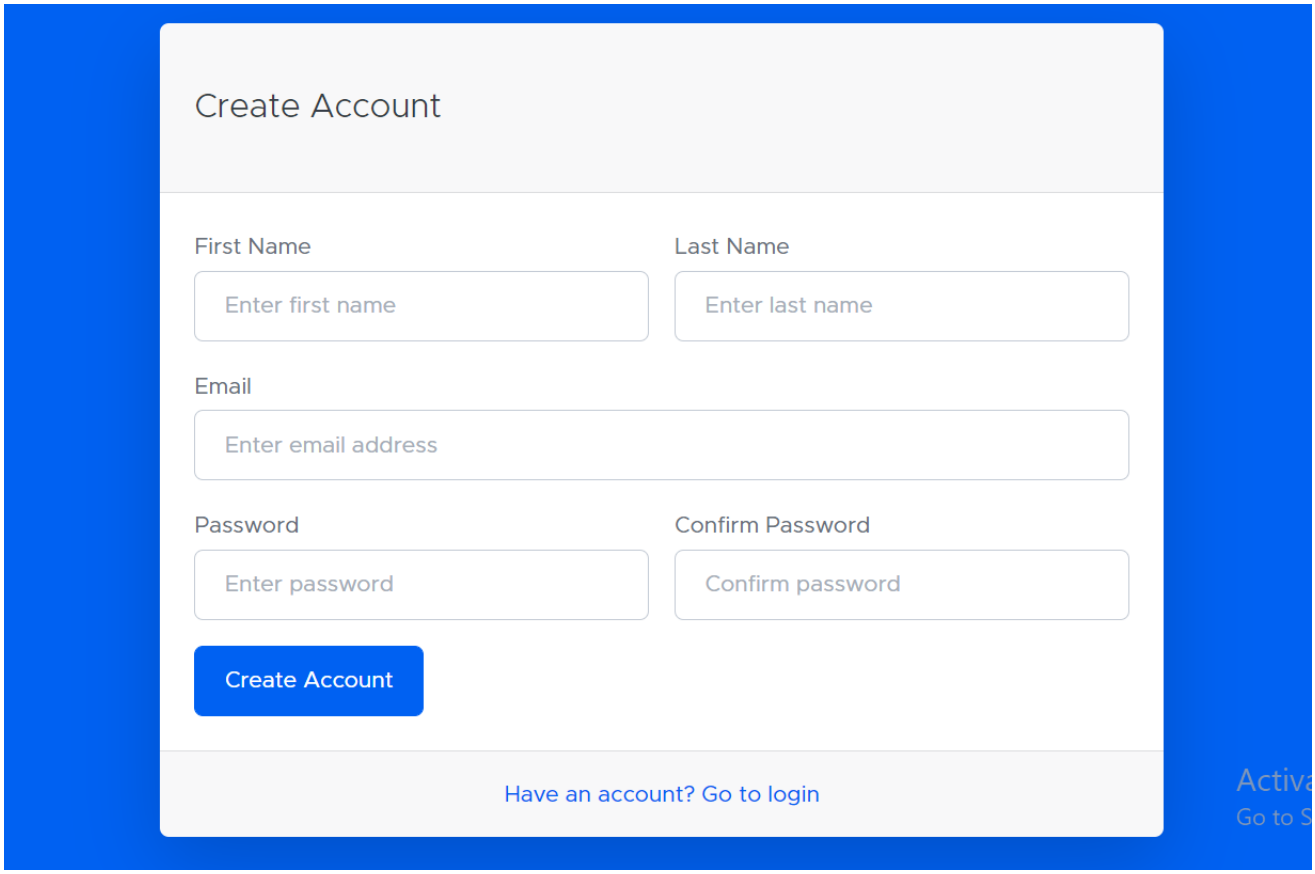

Figure 5.25: Sign Up Page

5.6 Testing

Software testing is a technique to assess a software application's functioning with the goal of determining whether the generated software satisfies the given criteria or not. In order to develop a high-quality product, it is also important to detect flaws and make sure the product is free of them. This includes the many methods necessary to determine whether the system is functional. Various standards were used when the software was tested. The computer was provided with the evaluated test data. Bugs discovered during testing were fixed, and the system underwent additional testing.It takes skill to assess a software application's functioning with the goal of determining if the generated software satisfies the requirements or not, as well as to uncover any flaws and ensure that the product is defect-free in order to produce a high-quality result.

5.6.1 Testing Strategy

A system may be tested in a variety of ways to see if it operates as intended. Therefore, it is crucial to consider the test's design when determining if the system is functioning

as intended and to identify any faults promptly so that the system may be improved as necessary. As a result, we had to develop the tests below. -

- The initial and modified requirements were prepared, comprehended, and worked in accordance with.
- Technical reviews were conducted to assess the standard and makeup of the test plan and test cases. web application's user groups and their functionality are identified.

5.6.2 Testing Synopsis

The functionalities of the application system that we discussed earlier needs to be tested to verify they work properly.

- Registration
- Login
- Users Edit their profile
- Admin add users and sponsor company
- Admin viewing data on dashboard
- Admin managing users
- Admin verify and update role of the users

5.6.3 Input

The processes and the fields necessary for each process's inputs are shown in the following table.

5.6.4 Output

The table below lists the results of the procedure.

Process	Fields Type
Sign up	First name- Varchar Last Name- Varchar Email- Varchar Password- Varchar
Login	Email- Varchar Password- Varchar
Edit profile	First name- Varchar Last Name- Varchar Contact- Varchar Email- Varchar Password- Varchar
Add user	First name- Varchar Last Name- Varchar Email- Varchar Password- Varchar User type- Varchar
Add Company	Company title- Varchar Company Location- Text

Table 5.1: Input table with their fields Process Field

Process	Fields Type
Sign up	On success: Registration Successful! Wait for approval On failure: Failed to register. Try Again.
Login	On success: redirect to user dashboard On Failure – Loading the page
Edit profile	On success: Update Profile successfully
Add user	On success: Successfully performed action.

Table 5.2: Output table with process

5.6.5 Designing Test Cases

Sr No	Test case	Purpose	Pre-conditions	Test Step	Expected Result	Actual Results	Status	Remark
1	Sign up	Check if a user can successfully register	User need to have stable internet connection and must enter correct information	must enter correct information and enter sign up button	On success:Registration Successfull Wait for approval On failure: Failed to register. Try Again.	Registration Successfull Wait for approval	Pass	None
2	Login	Check if a user can successfully	User need to have stable internet connection and must enter correct information	must enter correct information and enter login button	On success: redirect to user dashboard On Failure – Loading the page	redirect to user dashboard	Pass	None
3	Editing user profile	Check if a admin or user can successfully edit user profile	User need to have stable internet connection and must enter correct information	must enter correct information and enter submit button	On success: Update Profile successfully	Update Profile successfully	Pass	None
4	Admin verify, update user role	Check if an admin can successfully verify, update user role	User need to have stable internet connection and must enter correct information	must enter correct information and enter submit button	On success: Successfully performed action.	Update Profile successfully	Pass	None
5	Admin add user, sponsor company	Check if an admin can successfully add user, sponsor company	User need to have stable internet connection and must enter correct information	must enter correct information and enter submit button	On success: Successfully performed action.	Update Profile successfully	Pass	None
6	Log out	Admin add user, sponsor company	User need to have stable internet connection and must enter correct information	must enter correct information and enter submit button	Successfully user log out his/her account	log out his/her account	Pass	None

Figure 5.26: Designing Test Cases

5.6.6 Screen View of the Youth-360 System

This part contains screenshots of the admin and user dashboard ,so it can be seen about how the actual application looks like.

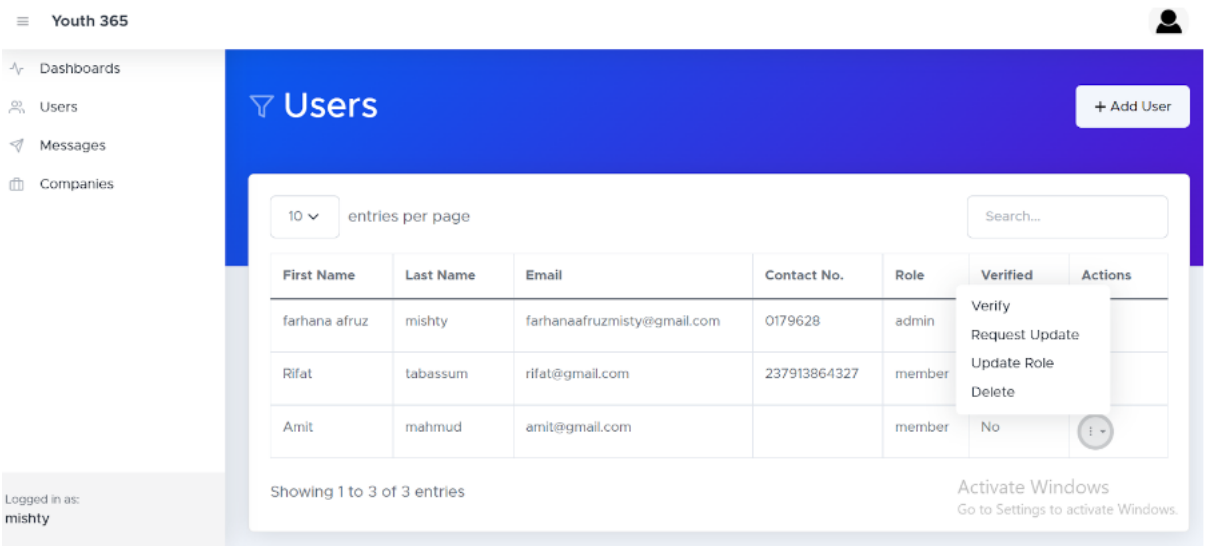

Figure 5.27: Admin Dashboard

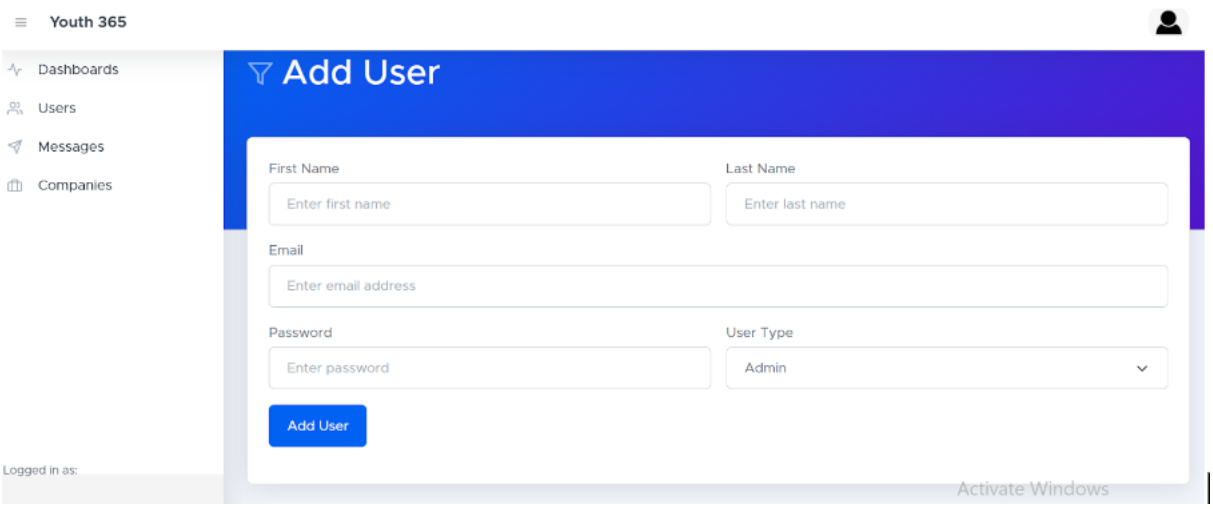

Figure 5.28: Admin Dashboard add user page

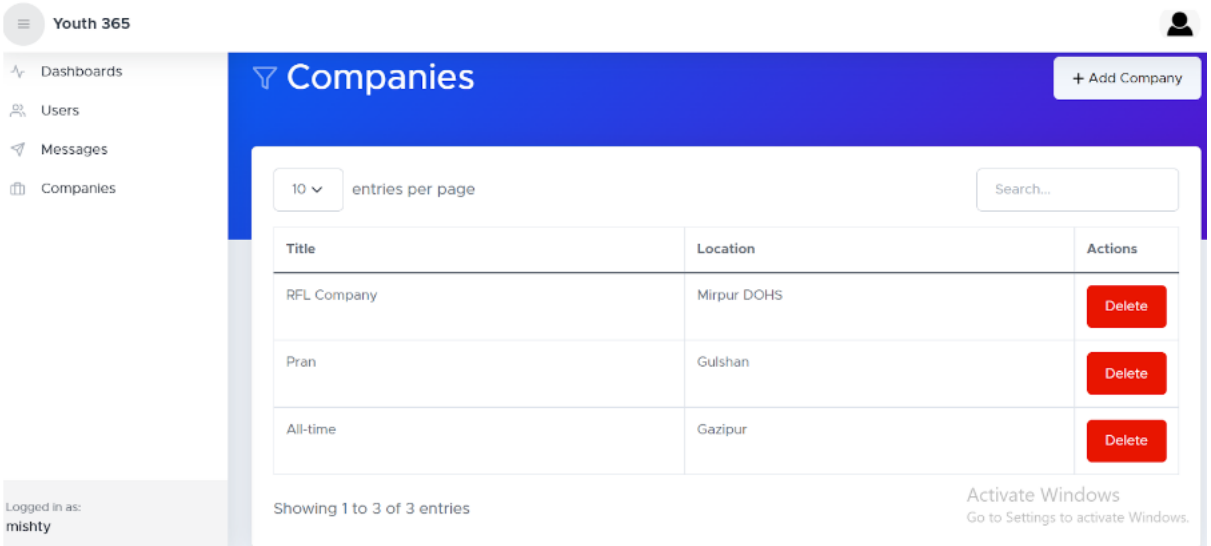

Figure 5.29: Admin Dashboard company page

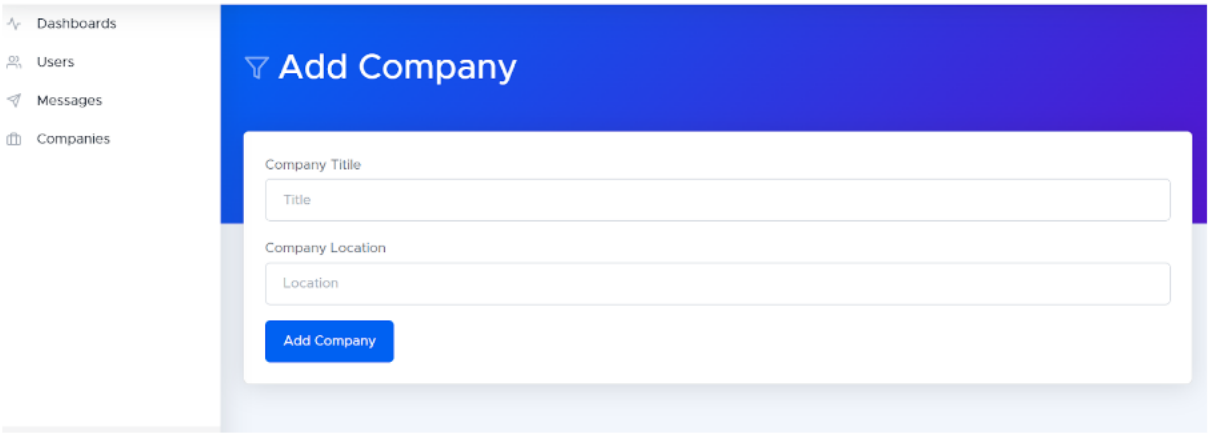

Figure 5.30: Admin Dashboard add company page

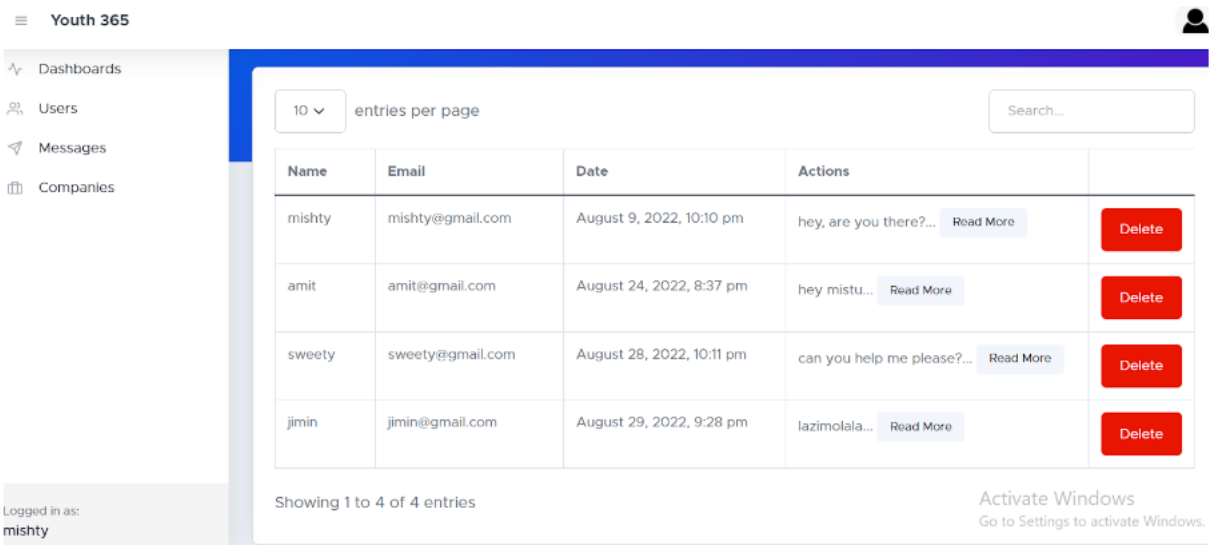

Figure 5.31: Admin Dashboard messages page

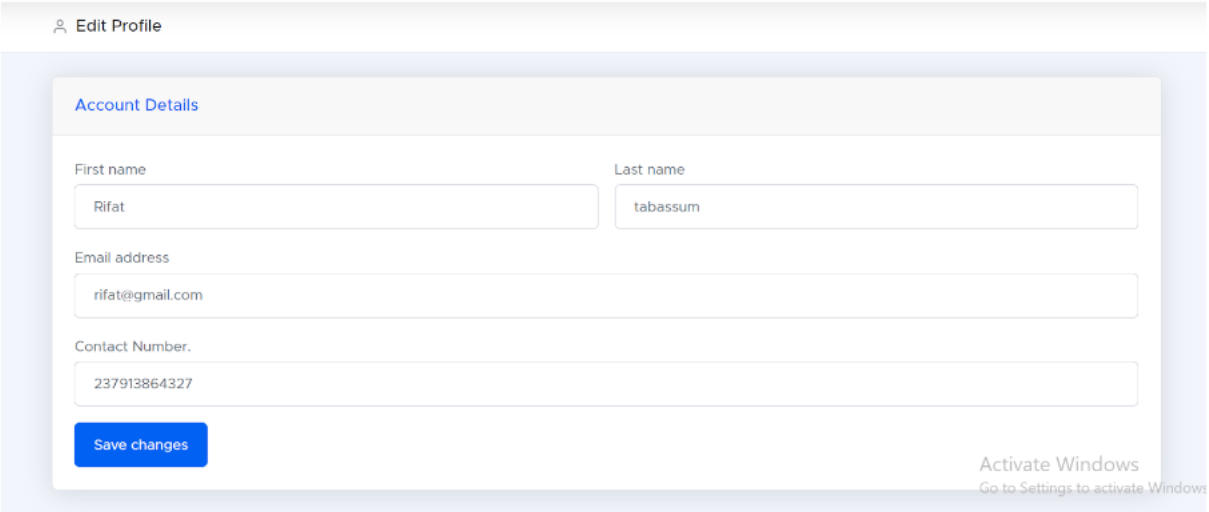

Figure 5.32: Admin Dashboard user profile

Chapter 6

Results & Analysis

6.1 Overview

At the beginning of this project I had some meetings with the founder of the organization.They gave some ideas and told about their requirements.Then I gathered knowledge about NGO related websites .As a solo intern so it was a little bit difficult to build it properly. But thankfully I am able to make this website successfully.

6.2 Results from surveys and interviews

From the meeting that I had with our founder, it was made clear about how the system is going to be designed. And the functionalities of the system were being identified very clearly.My website is not complete. I have some things to do.I send some pictures to the founder of this organization and he is satisfied with this website.

6.3 Testing Result

Our web application has not yet been fully completed. The criteria are being updated with numerous new functionality. Therefore, a lot more test cases might be added later. A demo version would be made available upon the conclusion of all test cases and debugging. Most of the test cases in the table above passed. To make the system more user-friendly after it is finished, we will provide an instruction manual.

Chapter 7

Project as Engineering Problem Analysis

7.1 Sustainability of the Project/Work

"Sustainability" is a term that refers to a product's ability to be maintained and upgraded. When the outputs of a project may be used indefinitely beyond its completion, it is termed "sustainable". In today's world, every application must be maintained and regularly updated for the benefit of its users. Each software application must be maintained to ensure that it is bug-free and that user interaction is as seamless as possible. Youth-360 will create an IT team and the IT team will maintain and update the web application once a year and make the necessary changes when required.

7.2 Social and Environmental Effects and Analysis

My project's main goal is to automate manual tasks and existing structures in order to boost the program's overall efficiency. The incorporation of the newly offered features has the potential to improve the overall system's capability. The goal of the project is to improve the system as much as possible while maintaining a reasonable level of efficiency. The processes of this project will be error-free and easy to use for the user. So the users will not face any kind of trouble. Considering the matter of the environment, the automation of our system has no harm. All the processes are made online so the users do not need any kind of paperwork which causes pollution. So, the environment will remain neat and clean.Employees can work from home and remain connected to the system. In terms of the environment.I believe that by making this project, I have helped to reduce the strain on the environment, or at least help nudge society in that general direction.

7.3 Addressing Ethics and Ethical Issues

The misuse of the system or leak of any data or personal information of a user may cause collateral damage to someone personal. Therefore, we have used minimum security from hacking the data. In the upcoming future more layers of encryption technology will be developed to ensure anti hacking and no leakage of any information throughout the system.The world is being digitized with so much data collection, hacking, cyber-crime, etc. It is necessary to protect the website against attackers. When developing and establishing a website, there are several unsaid conventions and ethics requirements that must be observed. Youth-360 ensured that there were no violations of behavior and that all points were treated seriously. Some of them are:

- Data Storage: The database stores the data securely, rather than on premises. The data is securely stored in the phpMyAdmin database that is only accessible to administrators and developers.
- Data Security: There is a minimal chance of data compromise or loss because all data is stored in the phpMyAdmin database, which is accessible only to administrators. Administrators are allowed to manage other users' accounts, gaining access to the server, and deleting user data. Employees can only update or add data through the website.

Chapter 8

Lesson Learned

8.1 Problems Faced During this Period

People need to work diligently in order to become successful. In real life there is nothing that comes out successfully without any problems. During the time of my project period, I have also faced several problems while developing it.The communication gap with my coworker was one of the major challenges I had during the internship.Still I haven't got all of the pictures and contents for the website . I also face some other problems,those are:

- Learning a new language: Learning a new language brings new challenges. In my case, adapting to new syntax and keywords was quite tricky for me as I was accustomed to other programming languages.
- Debugging errors: Along with the first point, another significant challenge for me was figuring out how to detect and debug errors in code written in a new language. Oftentimes, it took me a great deal of trial and error before I could find the solution I needed.
- Getting used to a new environment: Beginning work in a new place can often be fairly difficult. At first, it was difficult for me to acclimate to a new atmosphere with unfamiliar work environments and team members .
- Requirements were changed during the project. It was the worst experience. Because I was totally new with this system. But my team leader gave me time and advised me to handle those requirements.
- In the very beginning, I was afraid to ask questions. But I overcame it very fast.
- My other coworkers weren't at all helpful. It required me to speak with the supervisor about any needs or issues. And I was required to complete all of their tasks, including sourcing articles, gathering links, and gathering photographs.

8.2 Solution of those Problems

This internship trained me how to be professional and helped me overcome some of my weaknesses. I have gained new knowledge and abilities, as well as met some exceptionally talented people. In light of the aforementioned challenges, in my opinion,the best way to overcome the discomfort associated with learning a new language is to devote additional time to it and concentrate on it until we feel comfortable with it. Debugging errors is another challenge that can be overcome by continuing to attempt to resolve them without being discouraged. I allotted additional time for learning and acclimating to the new language and kept debugging the errors without becoming demotivated. One of the best ways to get motivated and adjust to the new work environment is through communication. I worked with everyone who was willing to help me. This provided me with an outside perspective and a greater knowledge of the company's and team's requirements.

Chapter 9

Future Work & Conclusion

9.1 Future Works

In the future, more additional functionalities will be implemented in the system according to the need. New technologies will be introduced later. This is the first version of the system. Many new modern features will be embedded into the system.Such as:

- Add pictures and proper contents
- Add new user such as manager,counselor
- Add new module for booking appointment
- Add rating system for mental health counseling service
- Improve the interface more attractive to the user
- Add a chat box that will help any verified user to help instantly from the admin
- Add a Video Consultancy option In future, we can also add many modules to increase our facility.

9.2 Conclusion

The internship has been a very faithful and worthy experience for me. During this internship, I learned a lot of things. I did not have any knowledge about industrial activities. But I know how to cope with any environment because I gained practical knowledge and experience. It will help me in the future. Intern means to learn a lot of things from the organization where they will appoint for Internship. Yes, I learned a lot of things, such as how to gather requirements, team management, tools that we used and finally techniques for developing a project and so on. I am very glad to work as a team member with a Software Developer team. In the end, I would like to thank both

my internal and external supervisors whose guidance and motivations have pushed me to do the project successfully.

[1]Davis, M. E., // Phillips, J. A. (2007). Learning PHP // MySQL: Step-by-Step Guide to Creating Database-Driven Web Sites. //" O'Reilly Media, Inc.//".

[2] W. B. Structure, "2021." https://www.workbreakdownstructure.com. Retrieved: 15 March 2022.

[3] S. T. Help, "2021." https://www.softwaretestinghelp.com/what-is-sdlc-waterfall-model. Retrieved: 28 March 2022.

[4]https://www.smartdraw.com/activity-diagram/

[5]https://www.w3schools.com/

Chapter 10

Consent Form

10.1 Consent Form

An Undergraduate Internship Youth-360 Organization

By

Farhana Afruz

Student ID: **1821821**

Summer, 2022

Consent Form

The student modified the internship final report as per the recommendations made by his/her academic supervisor and/or panel members during final viva, and the department can use this version for archiving.

Asayed

(Signature of the Supervisor)

Md. Abu Sayed, Lecturer

Department of Computer Science & Engineering

Independent University, Bangladesh

Figure 10.1: Consent Form