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An Undergraduate Internship/Project on Website for The Office of Industry Academia Relations SETS,IUB

Farabi, Farihan

Independent University, Bangladesh

An Undergraduate Internship/Project on Website for The Office of Industry Academia Relations SETS,IUB

By

Farihan Farabi

Student ID: **1820807**

Autumn, 2022

Supervisor:

Yusuf Mahbubul Islam

Professor

Department of Computer Science & Engineering

Independent University, Bangladesh

January 29, 2023

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

Department of Computer Science & Engineering

Independent University, Bangladesh

Attestation

This is to certify that the report titled Website for The Office of Industry Academia Relations SETS, IUB is completed by me, Farihan Farabi (1820807) submitted in partial fulfilment of the requirement for the Degree of Computer Science and Engineering from Independent University, Bangladesh (IUB). It has been completed under the guidance of Prof. Yusuf Mahbubul Islam. 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.

31.01.23

Signature Date

Farihan Farabi

Name

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Acknowledgement

First and above all, I praise Almighty Allah (SWT), for providing me this opportunity and granting me the capability of accomplishing my internship report timely. I would like to express my gratitude to the Faculty of Computer Science and Engineering department to keep my internship credit in the curriculum of the graduation program and give me a scope of tasting the flavor of industry-oriented tasks and the field of work with my interest.I would like to thank specially and heartily to my supervisor, Prof. Yusuf Mahbubul Islam, Department of Computer Science and Engineering, Independent University, Bangladesh, who encouraged and directed me with his continuous guidance, invaluable instructions, stimulating suggestions and thoughtful advice during pursuing this internship and preparation of this report.

I am also thankful to my technical supervisor Dr. Omar Faruk from the core of my heart for his kind support, guidance, constructive, supervision, instructions, and advice as well as for motivating me to do the internship smoothly at Office of Industrial Relations, SETS.

Moreover, I must mention the wonderful working environment and group commitment of this organization that has enabled me to deal with a lot of things. Last but not the least, I would like to thank my parents and other family members for their eternal support given to me.

Letter of Transmittal

January 21,2023
Yusuf Mahbubul Islam
Professor,
Department of Computer Science and Engineering,Independent University, Bangladesh
Subject: **Submission of Internship Report for the completion of Graduation**
Dear Sir,
I am hereby submitting my Internship Report, which is a part of the Bachelor Program in Computer Science and Engineering curriculum.It is a great achievement to work under your active supervision. This report is based on, "Internship at Office of Industrial Relations, IUB".I have got the opportunity to work at Office of Industrial Relations, IUB for three months, under the supervision of Dr.Omar Faruk.
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,

_____

Farihan Farabi
1820807

Evaluation Committee

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Signature

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Name Subrata Kumar Dey

.....

Panel Member-1

.....

Signature

Sabrina Alam .....

Name

Sabrina Alam .....

Panel Member-2

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Signature

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Name YUSUF MAHBUBUL ISLAM

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Supervisor

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Signature

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Name

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Head, Department of Computer Science & Engineering

Abstract

Internship is defined as obtaining practical experience from various organizations, which helps in the formation of a connection between theoretical and practical knowledge. It is very important because it is the first time for a student to acquire a keen practical knowledge from the different organizations. This document contains the Project Management, architectural design, user interface design, testing, and future work of the Office of Industrial Relations SETS, IUB. This System provides an opportunity for the students to visit the website and get knowledge about OIR. Not only that they get to know about the upcoming projects which will be arranged in the future and join the program. Even they get to know about the projects going in our university.

Keywords— OIR, Project Management

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Chapter 1

Introduction

1.1 Overview/Background of the Work

The project of creating a website was a new thing for me to start because I am doing it as an internship. Creating a website for my company was a whole new challenge for me to deal with. I had to learn from them, and I had to face the strange challenge of implementing them correctly. We had to learn HTML, CSS, Java-script, PHP, MYSQL from scratch. And we had faced arising challenges to implement them properly. The markup language which is HTML set the basics and the CSS was used for the styling. As for the database, the choice was MYSQL, this tool was handy and efficient. The back end is the most important aspect of any application. So, it needs a lot of care when coding it. There are numerous frameworks available for creating a back end that receives requests and responds appropriately.

1.2 Objectives

Here We have proposed a solution for this. We are creating a website where students can easily visit, get to know about OIR and look for the companies and opportunities for them according to their educational background.

1.3 Scopes

The scope of the project is a necessity to ensure the accomplishment of a project. As we are making a new system. New means there is no existing system like our proposed system. We are looking forward to:

- 1.Create a website where people can visit and see what activities they are doing
- 2. Look at the reports on the programs
- 3. Go through events coming in future
- 4. See latest news and there will be a photo gallery

- 5.Give feedback
- 6.Admin Login panel with a dashboard

Chapter 2

Literature Review

2.1 Relationship with Undergraduate Studies

Knowledge and skills gained from undergraduate courses have helped in the development of "OIR Website" project. It would have been more difficult if these courses were not covered before working on this project. Some of the courses are:

1.CSE 203 Data Structure: This course was about teaching how to handle and manipulate complex arrays, objects, classes, array of objects, objects of array, nested arrays, nested objects, etc. As "OIR Website" involves many complex data structures, the skills gained from this course made handling them much easier.

2.CSE 213 Object-Oriented Programming: Object-oriented programming is based on the concept of objects. In object-oriented programming data structures, or objects are defined, each with its own properties or attributes. Each object can also contain its own procedures or methods. Software is designed by using objects that interact with one another. OOP can also be used in manufacturing and design applications, as it allows people to reduce the effort involved. For instance, it can be used while designing blueprints and flowcharts. It helped to write the real time system design that are used to develop the" OIR Website"

3.CSE 303 Database Management: A database management system (DBMS) is a software package designed to de ne, manipulate, retrieve, and manage data in a database. A DBMS generally manipulates the data itself, the data format, field names, record structure and le structure. It also defines rules to validate and manipulate this data. Database management systems are set up on specific data handling concepts, as the practice of administering a database evolves. The earliest databases only handled individual single pieces of specially formatted data. Today's more evolved systems can handle different kinds of less formatted data and tie them together in more elaborate ways. This was the first course that taught me how to design and plan a project. In the database management course, I have got the basic knowledge of popular planning and strategy practices such as System development life cycle, Six Element Analysis, Rich Picture, Requirement Analysis, Entity Relationship Diagram, and Business Process Model, and many more. These techniques helped in the development planning and strategy of" OIR Website" and they helped in writing this report.

4.CSE 309: Web Applications and Internet: This course serves as a comprehensive overview of web technologies and their usage. Essential topics such as OSI and TCP/IP architecture, Internet Routing, IP addressing, and Domain Name System were covered. Discussions on popular browsers, HTML and Cascading Style Sheet, HTTP, HTTPS, FTP, Client, and Server- side scripts, Scripting (JavaScript, AJAX, XML) with jQuery libraries, Web Servers (IIS, Apache) helped me with my project. I learn to design dynamic websites using Django with SQL server and with MySQL.

5.CSE 307: System Analysis and Design: Systems development is a systematic process which includes phases such as planning, analysis, design, deployment, and maintenance. Here, in this tutorial, we will primarily focus on System Analysis and System Design. This course examines the tools and techniques used for the design and analysis of information systems. Topics covered include Systems and models; Project management; Tools for determining system requirements; data flow diagrams; decision table and decision trees; Systems analysis: systems development life cycle models. Object oriented analysis: use-case modeling, Unified Modeling Language. Feasibility analysis, structured analysis; systems prototyping; system design and implementation: application architecture, user interface design. Front-end and back-end design; database design; software management and hardware selection. Case studies of Information Systems. These techniques helped in the development planning and strategy of" OIR Website" and, they helped in writing this report also.

2.2 Related works

While doing additional study on the subject, I discovered that they were using an e-business method to advertise their services on their website, which prompted me to conduct more research on similar papers, and the following are some of my findings:

- Advertising's influence on small companies has been shown to be a critical tool for growing brand sales. Abiodun (2011) cites product sales and advertising as being inextricably linked [1]. Marketing has an impact on customer behavior and motivates them to buy certain items. Researchers observed that purchasers' thoughts were influenced by repetition in commercials, helping them to recall the product and purchase it again and again [2].

- Mike Thelwell's in his paper, discusses the important aspects that make a website more appealing to consumers [3]. Site visibility in search engines, ease of use, design quality, and ease of site maintenance and upgrading are all characteristics that must be considered when evaluating the quality of a web site at any of the aforementioned levels. The ease of use, or usability, of a website, as with any piece of software, is critical: how easy is it for a user to use the website for the purpose that the owner intends? Accessibility, navigation, readability, and download speed are the four primary categories. They also discuss how surveys may aid the website in gaining more favorable feedback. There is no way the site can dissatisfy a customer if all the above are in perfect locations.

Chapter 3

Project Management & Financing

3.1 Work Breakdown Structure

A Work Breakdown Structure (WBS) is a hierarchical outline of the tasks required to complete a project.[1] WBS is a tool used in project management that helps is breaking down a complex project into smaller manageable and achievable activities or processes. E-appointment system have processes/Activities like Concept, Design, Development, Maintaining and Closing. Those process are further broken into smaller tasks and sub tasks. Detailed sitemap, Project Timeline, Risk Analysis Cost Estimation are the sub task of Requirement Analysis. Design Process have two sub-task Development Oriented Model and System Design. In development-oriented model we break down our task on class diagram, use case diagram and UML design. For the system design we have task like rick picture, flow chart, and system architecture. Frontend and backend are the two process of development the project. User Acceptance four tasks System Testing, Bug Reports, Bug Fixes, and client feedback. Review Deployment Deliverable, Documentation Formalities, Finalize Changes and Deploy Final Product tasks are under Deployment Process which is the activity of Closing. The goal of this WBS is to make a large project manageable. We have followed this top-down approach as WBS.

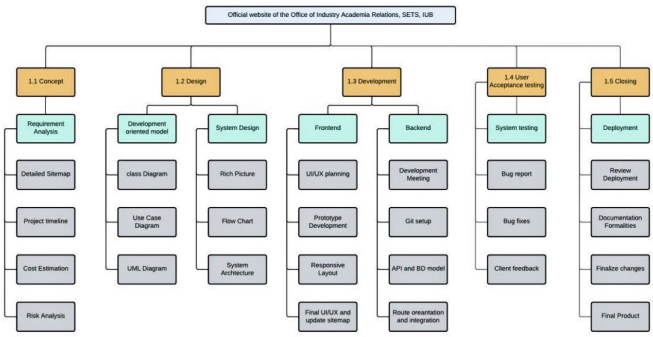

Figure 3.1: WBS of OIR website.

3.2 Process/Activity wise Time Distribution

Process/Activity wise time distribution is widely used by project managers and practitioners as the probabilistic form of the Critical Path Method (CPM). The critical path method is a technique that allows one to identify tasks that are necessary for project completion. The major problem faced by the project manager and the developers in correctly designing an application is time management. A critical path in project management is the longest sequence of activities that must be finished on time for the entire project to be complete. Any delays in critical tasks will delay the rest of the project. Critical Path Method provides significant role in project management. CPM calculates the longest path of planned activities to logical end points or to the end of the project, and the earliest and latest that each activity can start and finish without making the project longer. This process determines which activities are critical.

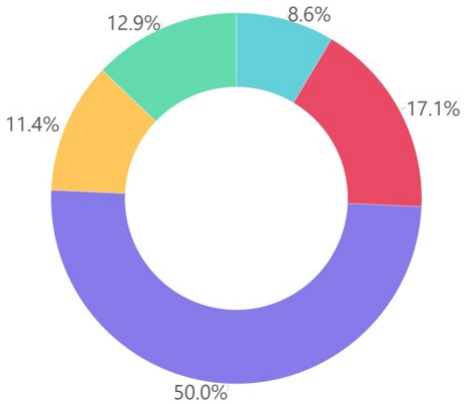

Figure 3.2: Activity Wise Time Distribution

In this chart above process/Activity percentage wise time distribution are shown.

1.Requirement Analysis: Gathering requirements is a crucial task before the onset of any project. If the requirements are not properly gathered and analyzed, it can lead to project failure. Similarly, for our project. We dedicated 8.6 % of the entire work to Requirement Analysis.

2.Design Layout: The need for a good Design Layout is key. The main user of will be all types of users. Therefore, the design of this system should be intuitive so that the user can easily understand what each component of the system is doing. We allocated 17 percent of the entire workload for this. Requirements Analysis 8.6 % Design layout 17.1 % Development 50 % User Acceptance Testing 11.4 %.

3.Deployment: At the very end we have Deployment.After checking everything, the system is hosted on the client's domain and handed over to them.Some training is also given to 12.9 % was allocated to this phase.

4.User Acceptance Testing: After everything is developed, some revisions must be done to the system to check for any underlying bugs before it is handed over to the client.Some

documentation also needed to be done.About 11percent of the workload was allocated to this phase.

5.Development: The most crucial part of any system is the development. If it is not developed properly, it will be received poorly by its users.From designing a good and responsive system to making it fast, reliable and bugs fixed is very important.For this phase, we allocated 50percent of the entire workload.

3.3 Gantt Chart

A Gantt chart, commonly used in project management, is one of the most popular and useful ways of showing activities (tasks or events) displayed against time. On the left of the chart is a list of the activities and along the top is a suitable time scale. Each activity is represented by a bar; the position and length of the bar reflects the start date, duration, and end date of the activity. With the help of Gantt Chart, we can keep track of the progress of the project.

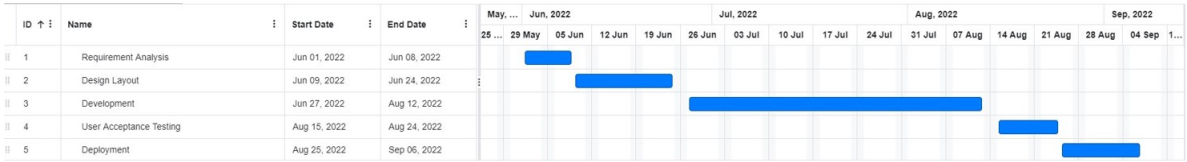

Figure 3.3: Gantt chart

3.4 Process/Activity wise Resource Allocation

Resource allocation is the process of assigning assets in a manner that supports team's goals. Having the right resource at the right time is critical to project success. The table shows the staffs who are assigned for this project.

Serial No.	Position	Input(months)
1	Research Coordinator	3
2	Intern	3
3	Intern	3

Figure 3.4: Activity wise Resource Allocation table

3.5 Estimated Costing

The estimated costing of "OIR WEBSITE" is associated with multiple of services. The development of the project before handover to the office the estimated costing is around Three Hundred Thousand Approximate. An approximate of cost of the system is given below. It can be expanded on the changes in the software and keeps up fetched.

Serial No.	Position	Staff Month Rate	Input (months)	Sub Cost (BDT)
1	Research Coordinator	40000	3	120,000
2	Interns	30000 (15*2)	3	90,000
	Sub-Total			2,10,000
	Reimbursable Expenses			30,000
	Total without VAT			2,40,000
	VAT 4.5%			10,800
	Total with VAT			2,50,800

Figure 3.5: Estimated Costing

Chapter 4

Methodology

We have worked in an agile environment. To choose the agile framework to adopt, we apply the Extreme Programming (XP) technique. It helps teams produce high-quality software quickly while also adjusting to changing demands. Extreme Programming is built on five ideas, and we choose to use it for those reasons, as well as other advantages:

1.We needed to make sure that the crew and management were on the same page. Nothing was to be misconstrued or misrepresented in any way. XP stresses the need for effective team communication, which may be accomplished through team meetings and debates.

2.Things must be kept as simple as possible. Therefore, we were able to make quick modifications. We were also able to keep our meetings short, concise, and to-the- point because of it. The system's designs should also be basic, neat, and comprehensive, suggesting that just the bare minimum should be accomplished and that it should be clean and simple to maintain, support, and alter.

3.Feedback was heavily appreciated during the development process. The relevance of client feedback was crucial. Prototypes provided fantastic feedback, allowing us to improve us work. Feedback on completed efforts and activities helps the team find areas for growth while also bolstering the simple ideas.

4.Everyone in the firm held each other with high respect. Every decision and suggestion were given the utmost consideration and, if required, constructive criticism. Team members must respect one another to communicate with one another, express and accept criticism, and collaborate on basic thoughts and solutions.

Figure 4.1: Agile Methodology

5.We were constantly told that we should be brave. To think outside the box and try out new implementation methods to improve the speed and efficiency of activities.

6.Because of the usage of XP, we were able to accomplish our Assignment quickly while still satisfying the demands of the user at each level.

7.We had a better grasp on the project because of the regular meet.

Chapter 5

Body of the Project

5.1 Work Description

Website helps to establish your image by letting the audience know who you are and what you represent. We know all websites has description and all information about that specific company or organization or office. So, in this website we have created we tried to put all the information regarding our office which will help people know about the office. People will get know what is happening under the office which events are organized and what are the possible outcomes as well. Even they get to see the reports on each programs organized as well. This website consists of different modules. These are:

- **Home page:** At the very first stage the homepage is shown to the people where they get see the short information about the office. They get to see the glimpse of other pages and events and few gallery pictures as well. Here they get to select what they want to see further in details.
- **About us:** Here all the information regarding the office is placed in detail. Even the missions and goals of the office are also described here. So that people can understand about the office in details.
- **Events:** All the events organized by the office shall be described. People get to see the events in detail as well get the event reports there. Not only that they get to see the output of the events as well.
- **Gallery:** People get to see all pictures of the officials and guests whenever an event is organized, and they get to know the officials and the persons who were present in the event.
- **Contact us:** People visiting the website will get the contact details in this section. They get to connect through mail or phone number as mentioned in the contact section. Not only that they get to visit the office in person using the location provided as google map.
- **Login:** Here the admin and put the mail and required password and can log in to make any sort of changes.

- **Change Password:** Here the admin needs to put the previous password and needs input the new password to change the password.
- **Manage Event:** In this section the admin can add different upcoming events, can edit previously updated events, even can delete any event information if required.
- **Manage Member:** Here the members information is updated. If required any new member can be added or removed from previously added member.
- **Edit OIR website information:** Any information related to OIR can be updated or edited here.
- **Add images to gallery:** To add image to the gallery the admins need to be here after login.

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.

  The system will have the following non-functional system requirements:

- The system will be very secure as only authorized users is allowed access to the system.
- The system will be fast providing users with utmost performance.
- The system will be intuitive so that users can easily navigate through the system.
- The system will be responsive and follow the mobile first approach.
- The system will be very reliable with almost zero downtime unless maintenance take place.

  It is a process of planning a new business system or replacing an existing system by defining its components or modules to satisfy the specific requirements. Before planning, you need to understand the old system thoroughly and determine how computers can best be used to operate efficiently.

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 5.1: Six Element Analysis

5.3.2 Feasibility Analysis

Before the onset of the development of the website of Office of Industry Academia Relations, SETS, IUB a very important preliminary study was done to find out a key outcome, that is, is this project feasible? By conducting a feasibility analysis, it allowed us to create a comprehensive report on what are the strengths, weaknesses, opportunities, and threats for this project.

- **Technical feasibility:** Technically, this project is safe and sound. It does not require any fancy hardware or anything. The system is developed with state-of-the art web technologies, and because of that, it checks all the system requirements.
- **Legal feasibility:** This system complies with all the laws of cyber-security.

- **Operational feasibility:** A website serves as a great way of branding. In 2023 where people are very much relaying on internet, it is a compulsory need for an office to have their own online identity and there is not any better way of doing so except through a good website. Visitors will be able to know about the office, the activities they are doing and can find a way to communicate with them. This site will help people as well as the office to let others know about them.

- **Economic feasibility:** This system does not excessive moderation. Also, as this project was developed using open-source technology no additional funding was needed for development.

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

Our Approach is to Build a website where all the information related to office will be available. Not only that after the publish of the website all the information can be monitored and updated whenever required. When the website will be published information related to future events can be released earlier for the people so that they can be informed and keep updates regularly.

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 Rich Picture

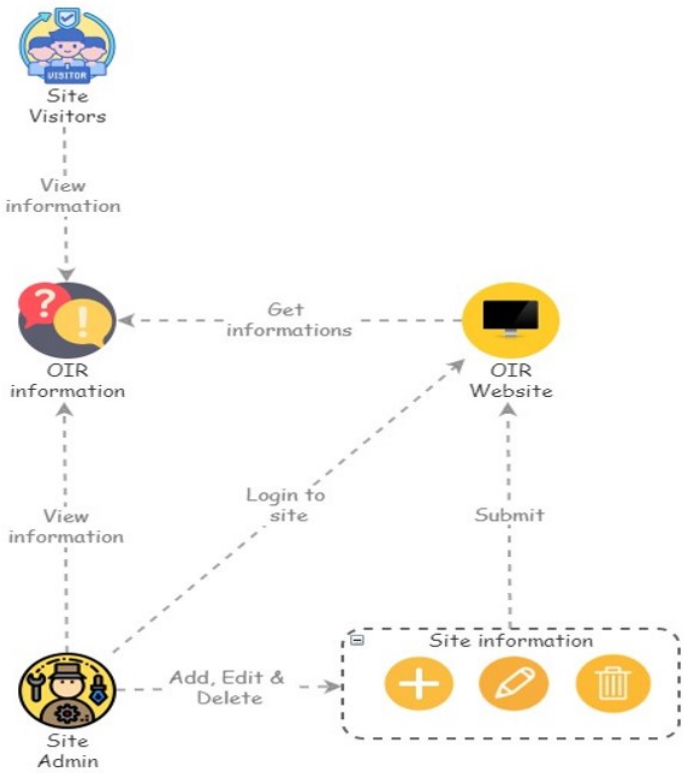

Figure 5.2: Rich Picture of Existing System

5.4.2 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.

Use Case Diagrams:: A use case diagram is a way to summarize details of a system and the users within that system.

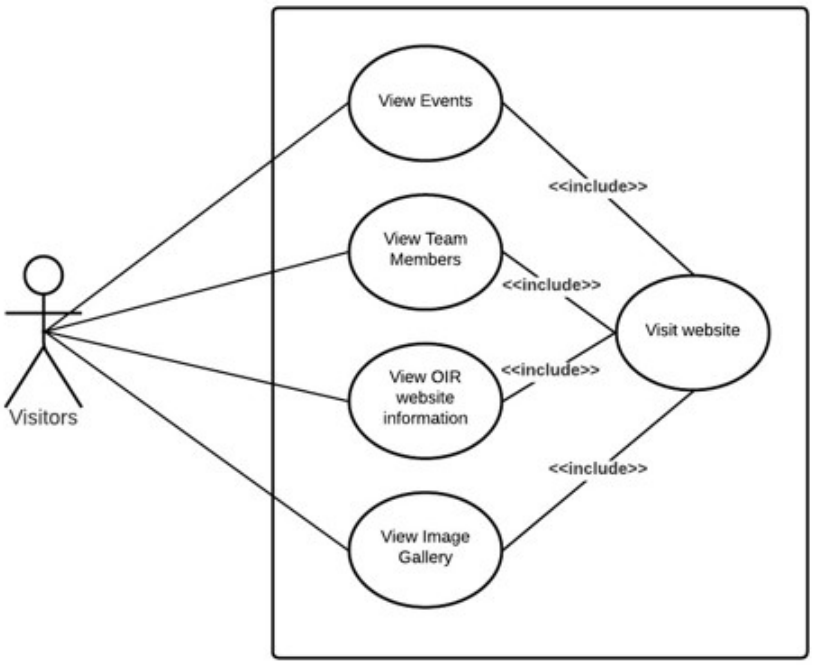

Figure 5.3: Use case diagram of site visitors

Activity Diagram: Activity diagram is another important diagram in UML to describe the dynamic aspects of the system. Activity diagram is basically a flowchart to represent the flow from one activity to another activity. The activity can be described as an operation of the system. The control ow is drawn from one operation to another. This ow can be sequential, branched, or concurrent. Activity diagrams deal with all type of ow control by using different elements such as fork, join, etc.

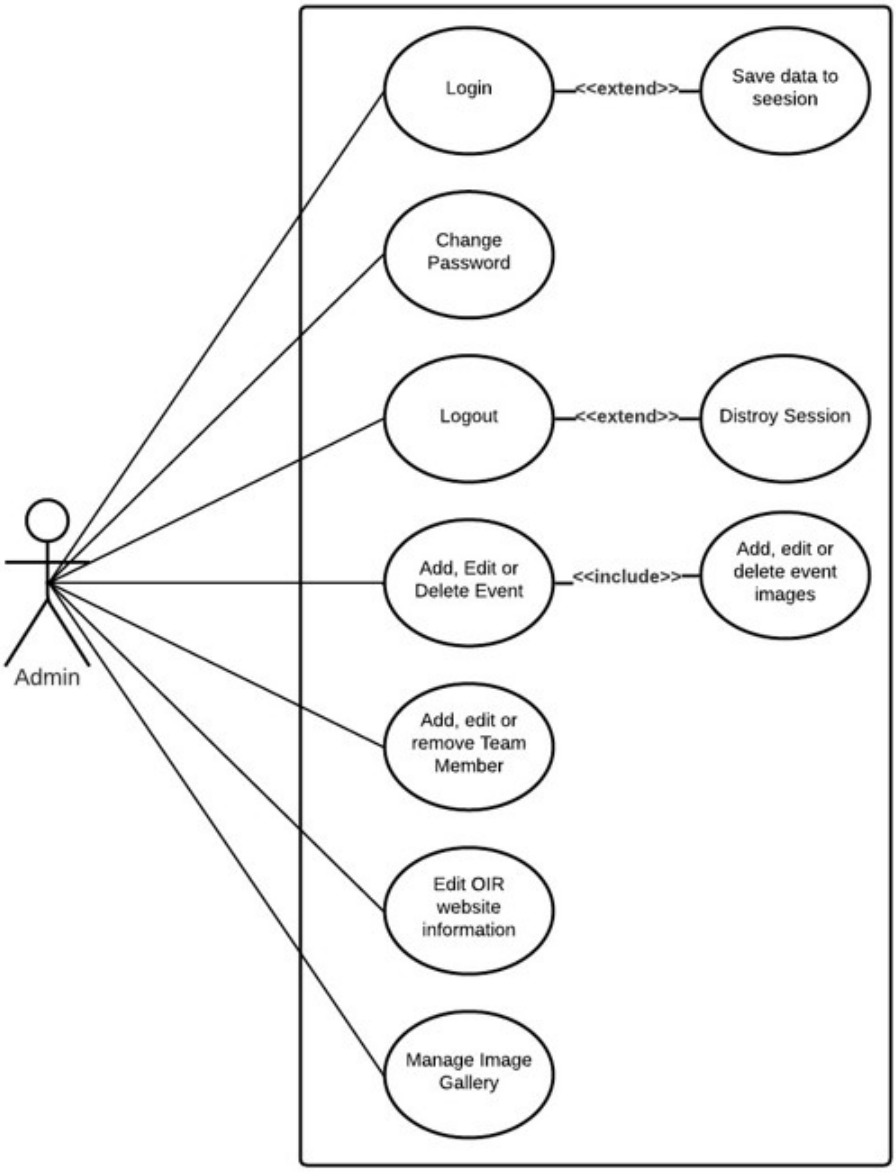

Figure 5.4: Use case diagram of site admin

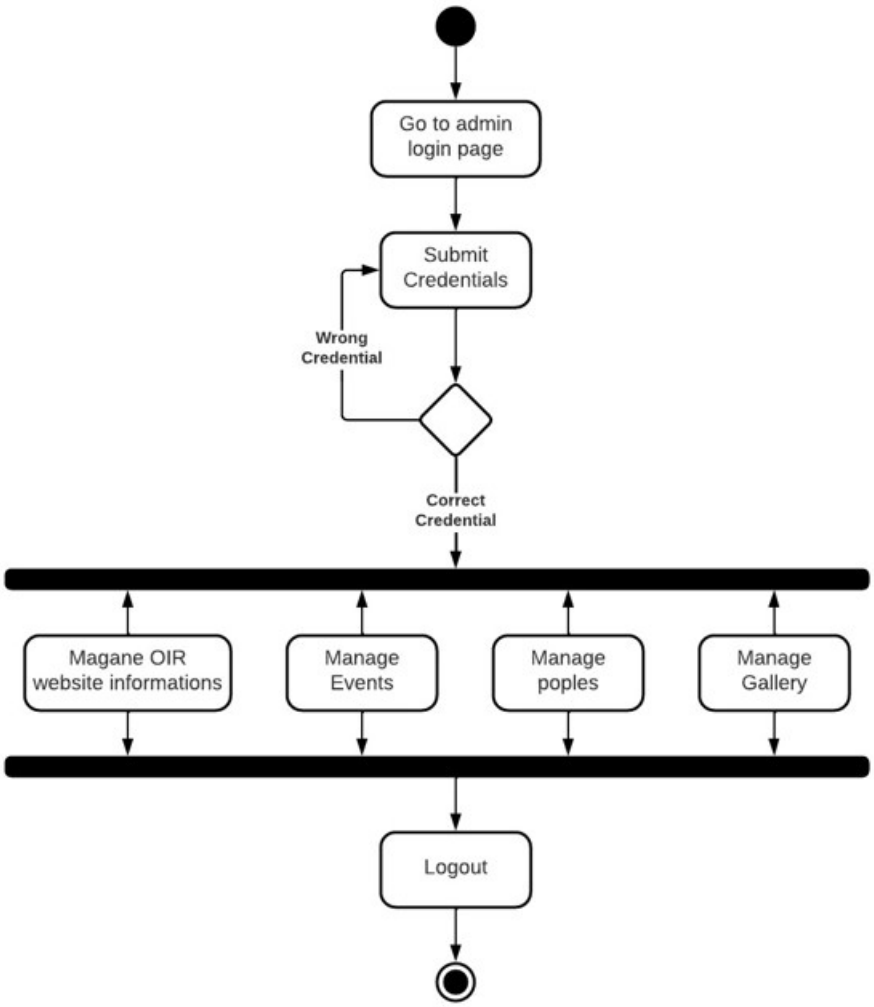

Figure 5.5: Activity diagram of site admin

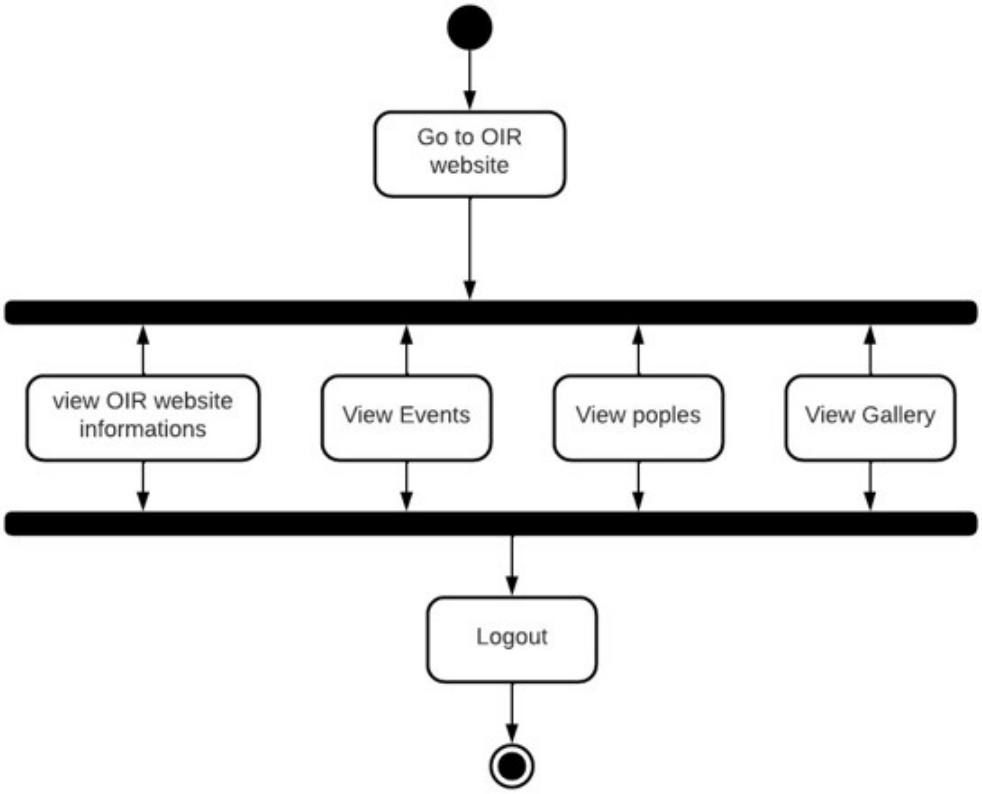

Figure 5.6: Activity diagram of site visitors

Class Diagram: The class diagram depicts a static view of an application. It represents the types of objects residing in the system and the relationships between them.

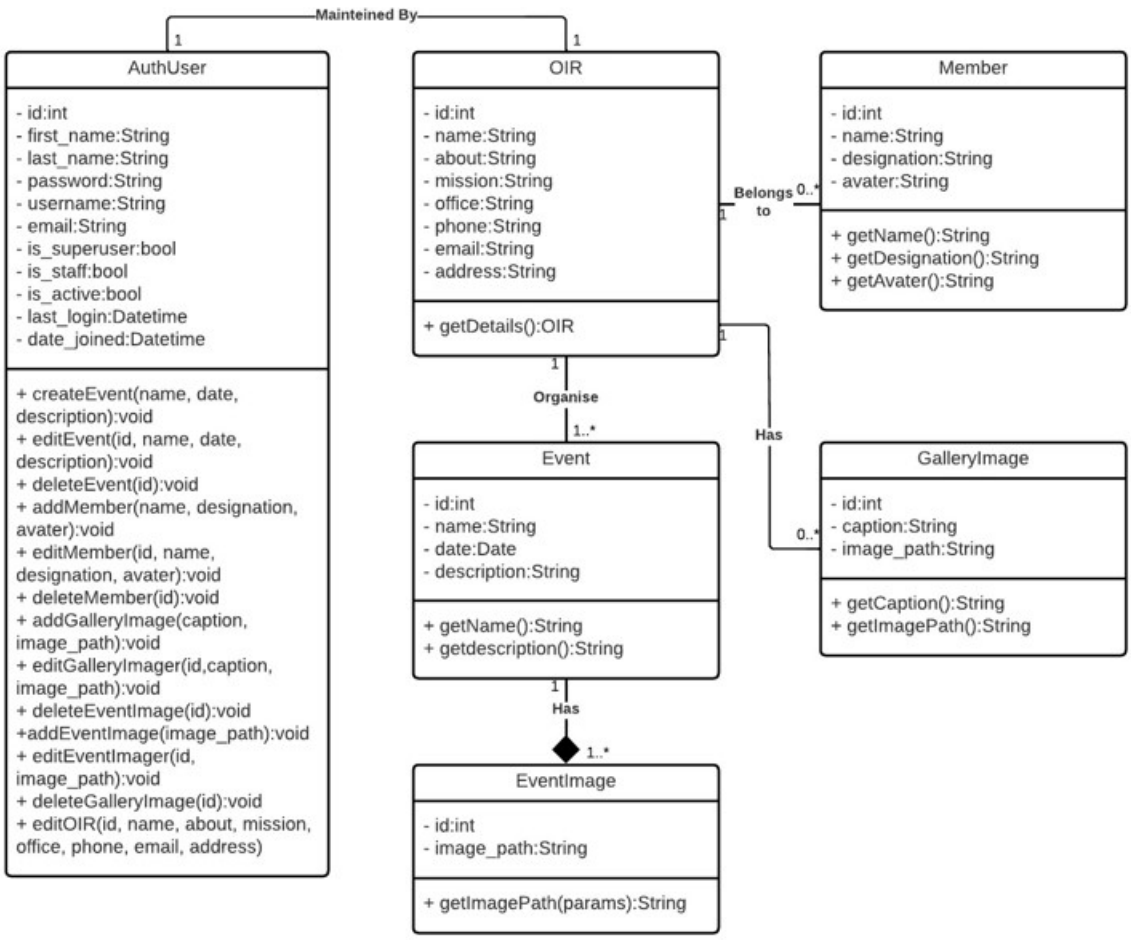

Figure 5.7: Class diagram

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 5.8: Home page first portion

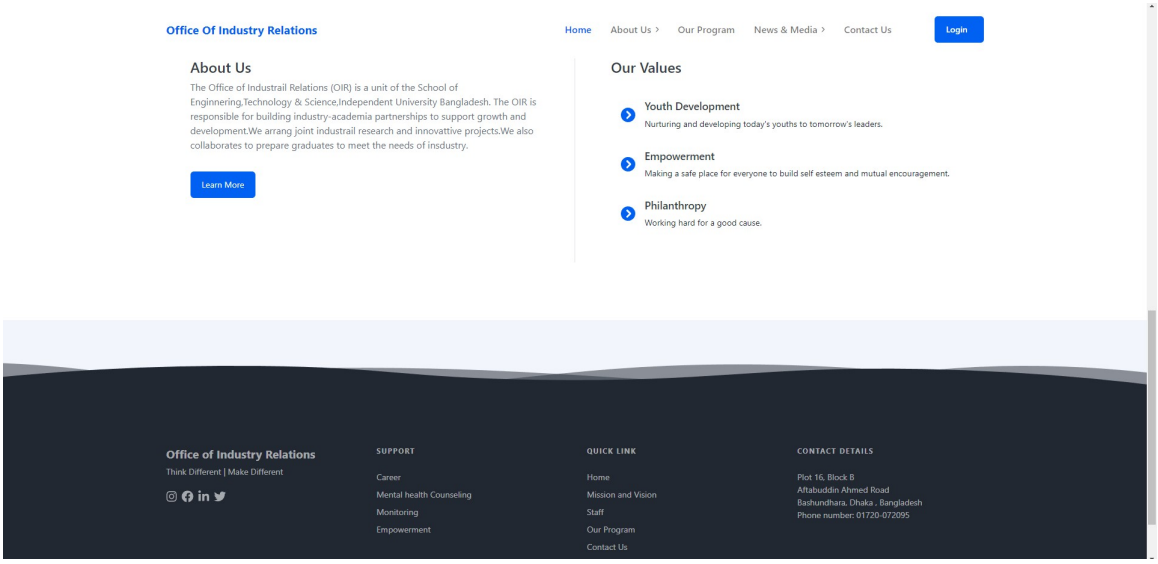

Figure 5.9: Home page second portion

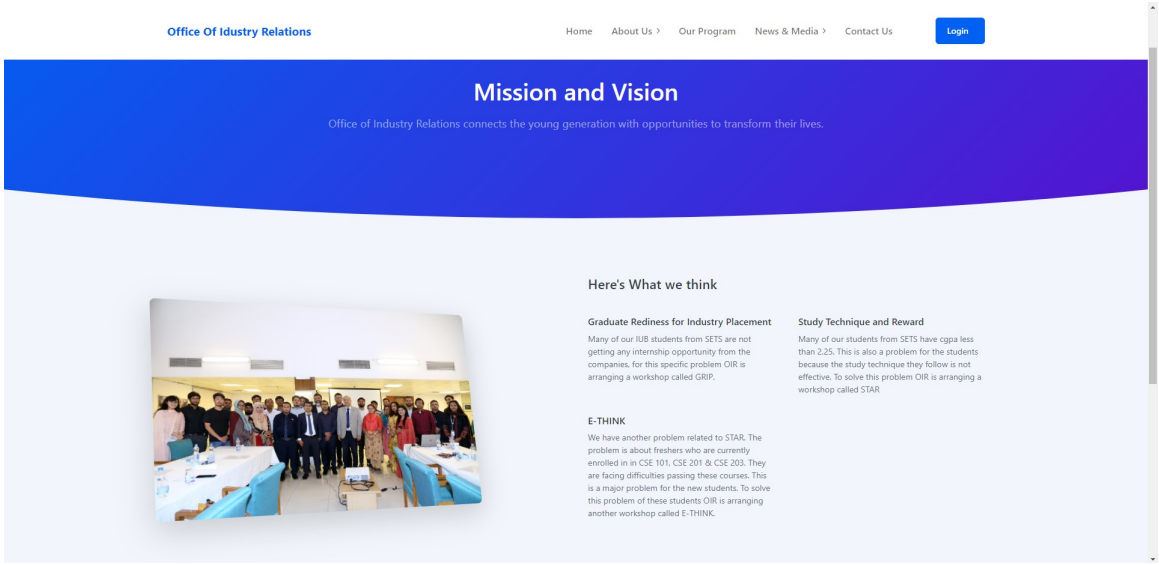

Figure 5.10: About us - Mission and Vision page

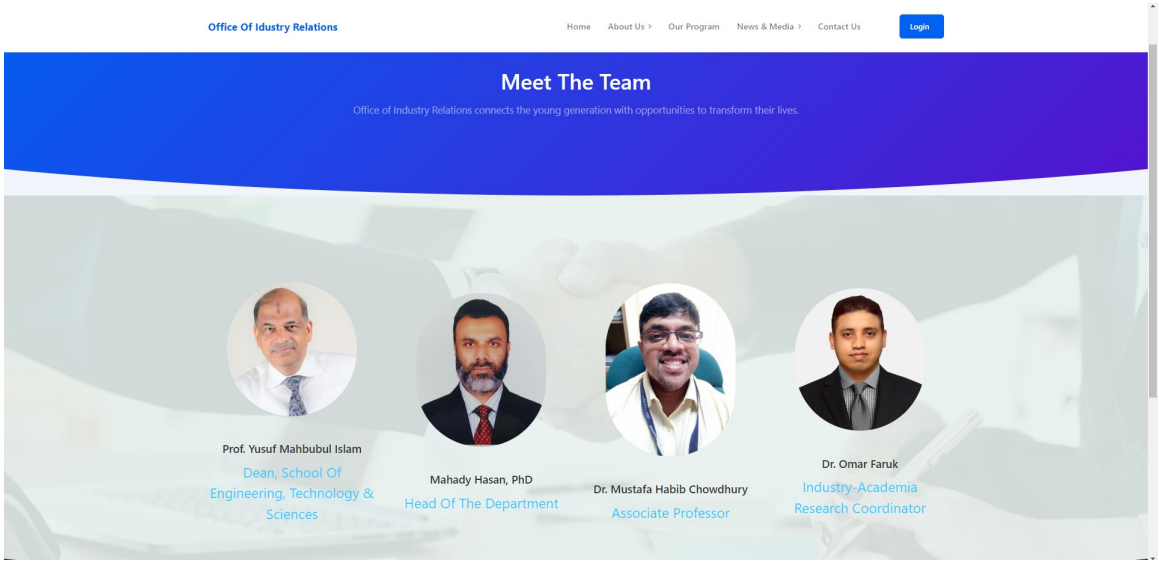

Figure 5.11: Meet the team page

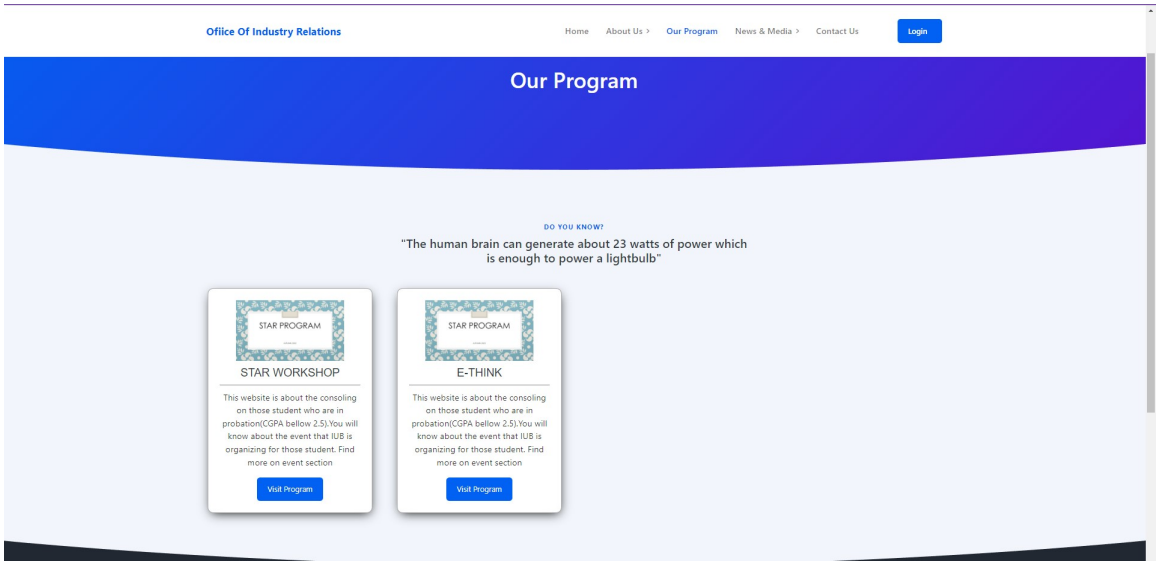

Figure 5.12: Our Program page

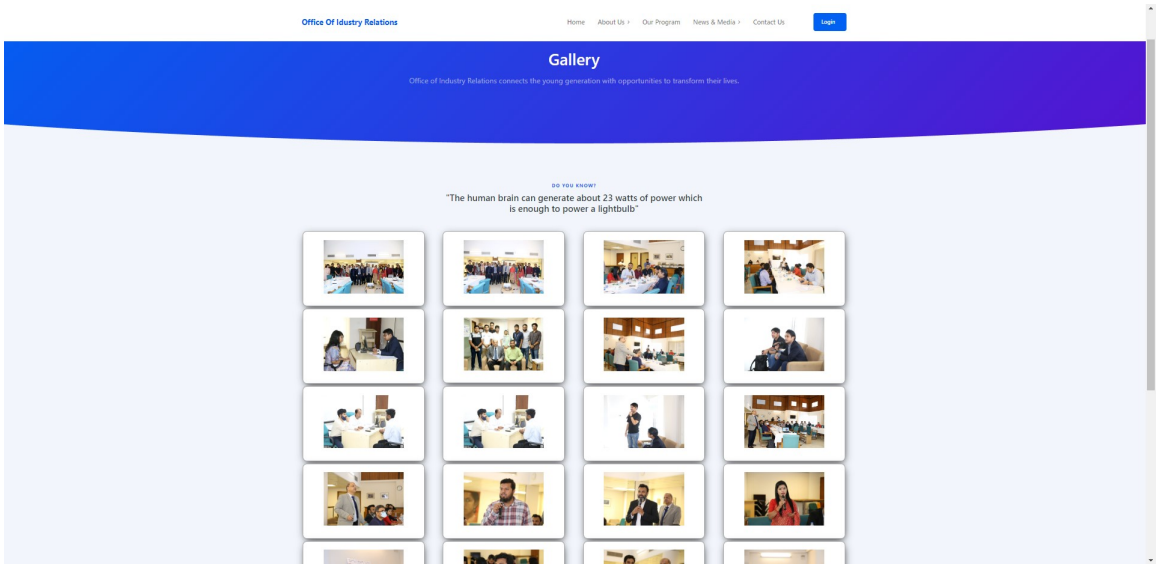

Figure 5.13: News Media drop down and Gallery Page

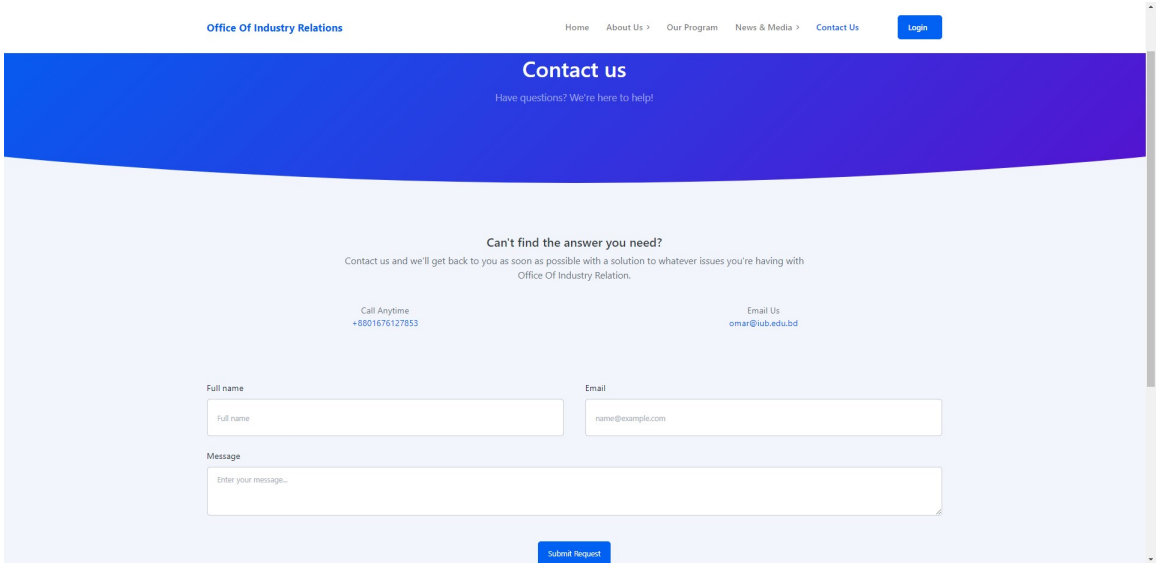

Figure 5.14: Contact us page

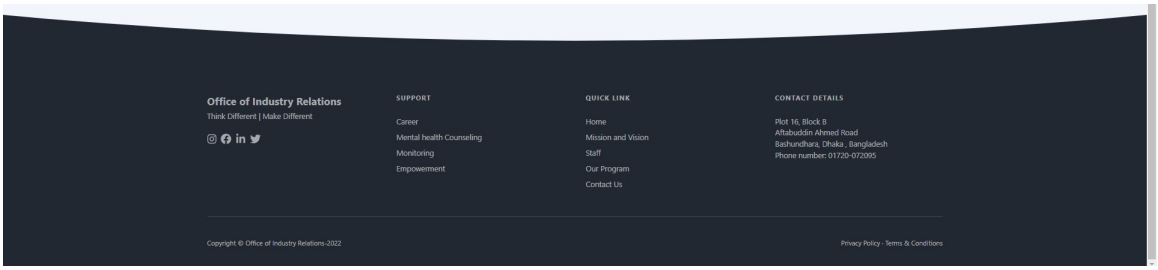

Figure 5.15: Footer

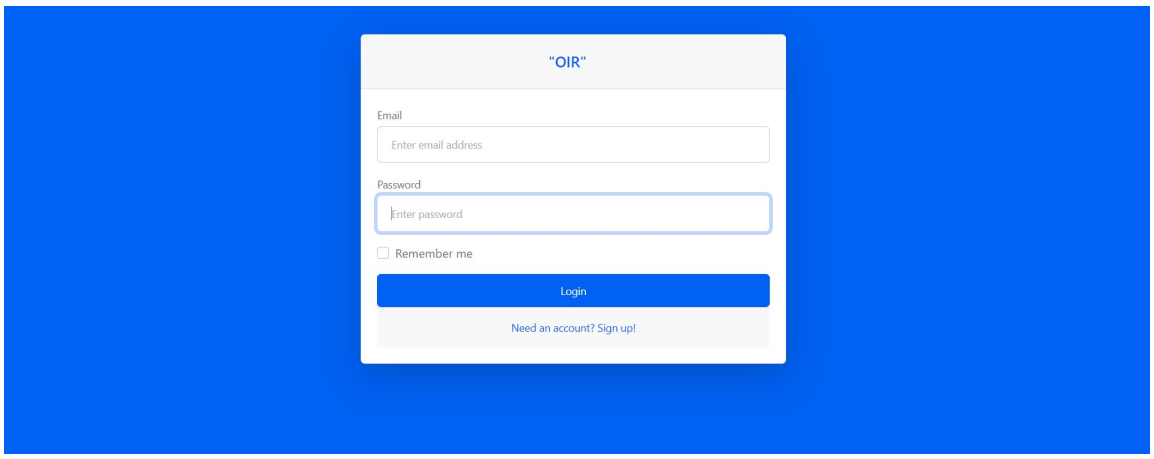

Figure 5.16: Login Page

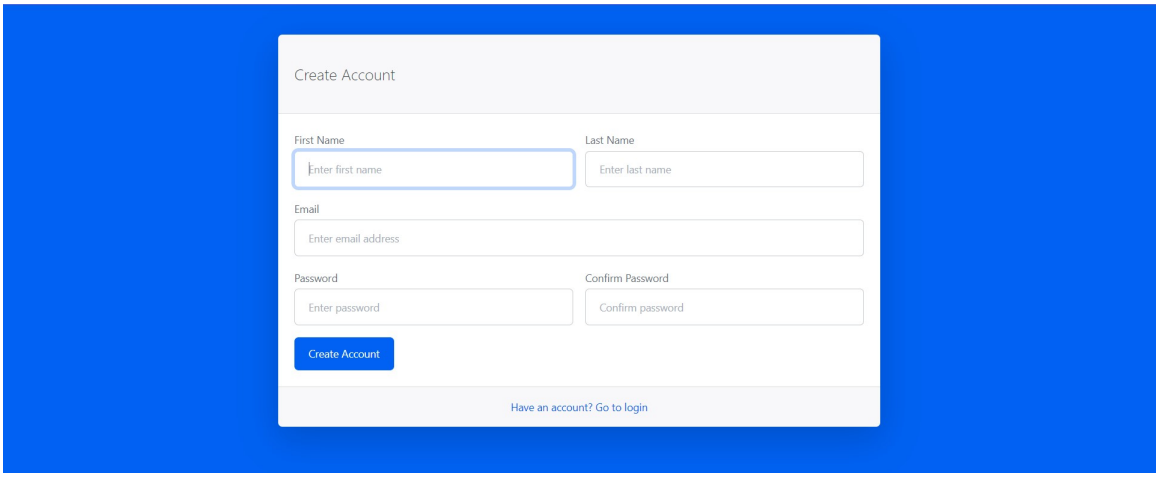

Figure 5.17: Sign Up Page

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 Input

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

5.6.3 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 photos and news	ID- Varchar Description- 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

5.6.4 Screen View of the System

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

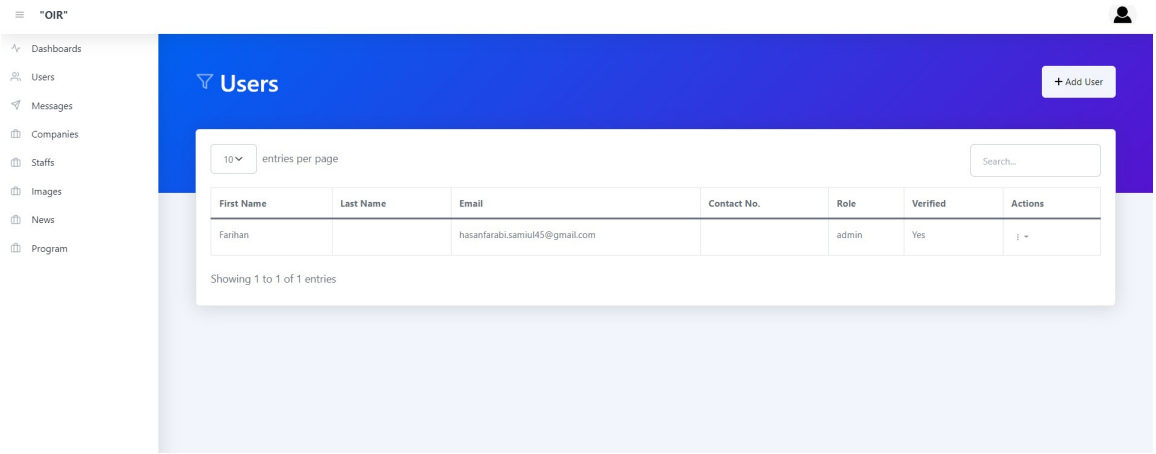

Figure 5.18: Admin Dashboard

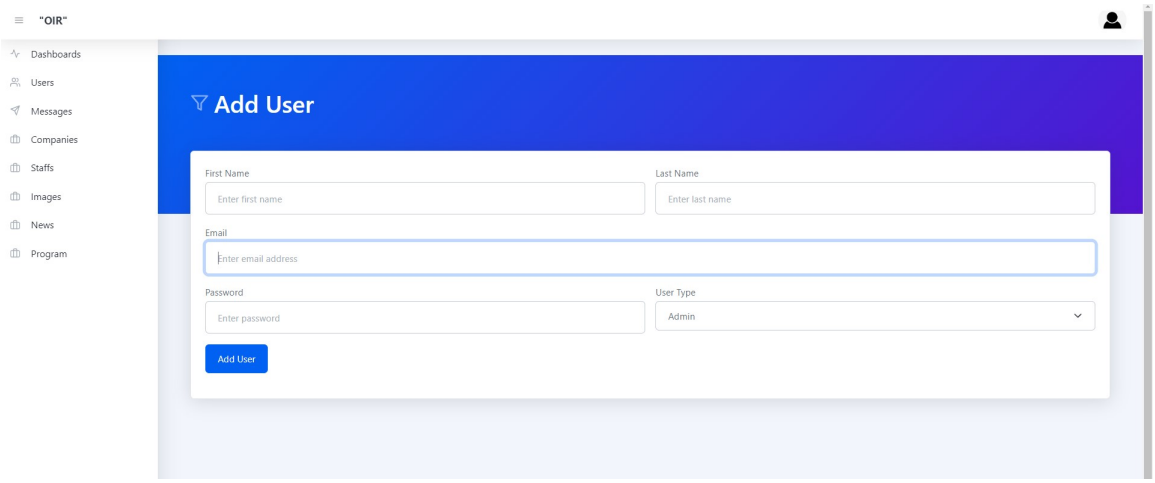

Figure 5.19: Admin Dashboard add user page

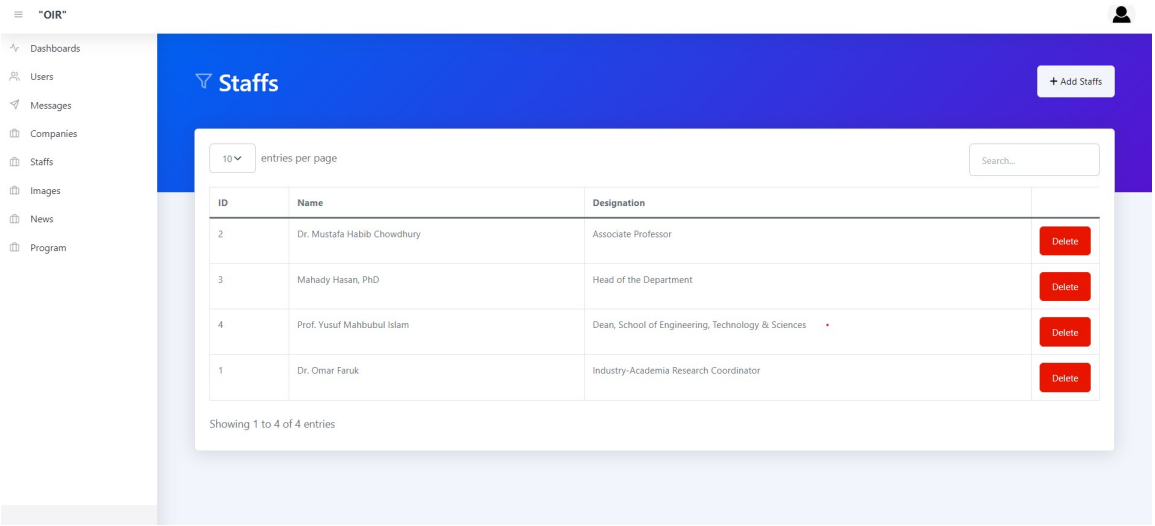

Figure 5.20: Admin Dashboard team Page

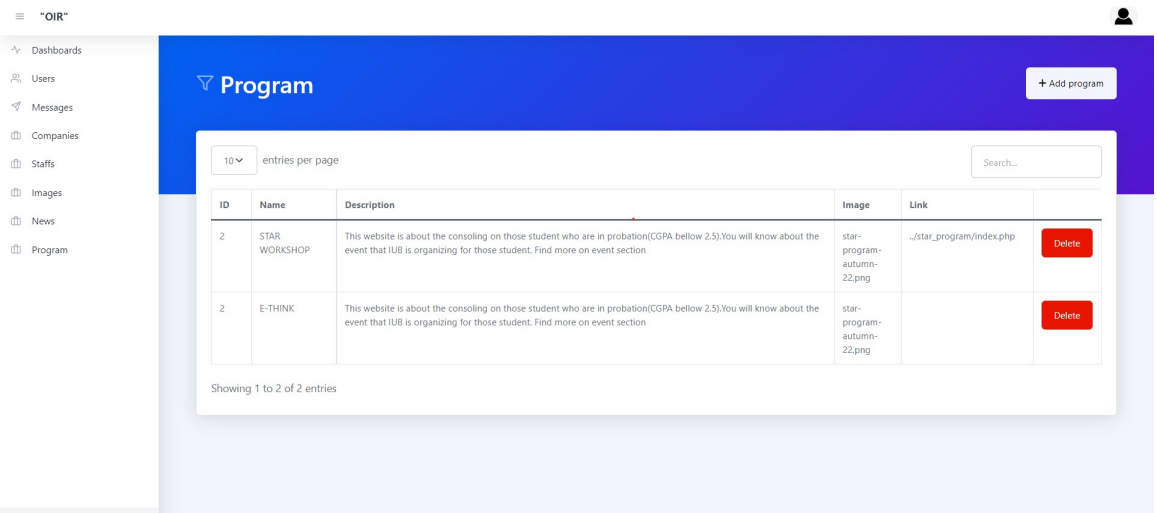

Figure 5.21: Admin Dashboard Program Page

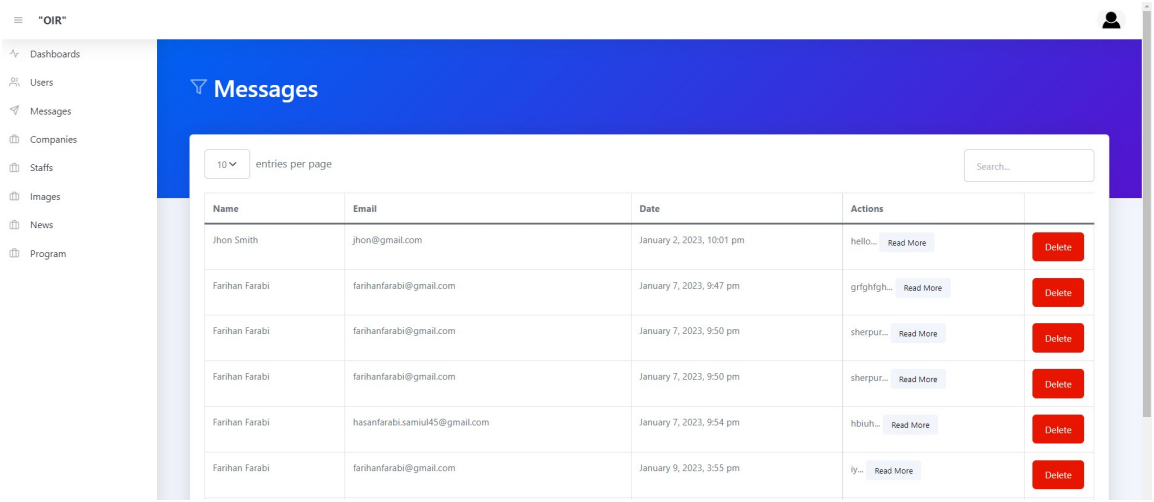

Figure 5.22: Admin Dashboard messages page

Chapter 6

Results & Analysis

6.1 Overview

While testing the program, there were several issues. This was a minor issue that we were able to resolve. After the resolving of these issues, test cases were documented. Testing methodologies have been used to justify all test cases. We did our testing on a local server. We'll test everything on the hosting again after it goes online. As a result, various modifications may occur at that time. There are few integration's possible. But it will be added in the future. So, all the tastings are not done. But up to the current feature available, all the testing is done, and it is running fine. But live testing with users is not done.

6.2 Results from surveys and interviews

From the meeting that I had with our supervisor, 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 our supervisor of this organization and he is satisfied with this website.

6.3 Testing Result

Software testing determines the security, accuracy, and quality of new software.Authorization refers to the process of verifying that computer software is tailored to the needs of clients. The main goal of software testing is to find bugs in the program. The figure 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.

Test Case ID	Test Scenario	Test Steps	Prerequisites	Test Data	Expected/ Intended Results	Actual Results	Test Status
#tst1	Admin Login	Enter Valid Email and password in input field and press login button	Already have an account	Email and Password	Redirect to Admin Dashboard	The admin was able to successfully log in to the system and access all the administrative functions.	It was successful
#tst2	Change Password	Enter old password and new password in input field press change password button.	Already have an account	Old Password and New Password	Change password In the database.	The user was able to successfully log in with the new password.	It was successful
#tst3	Update website Information	Provide information's that need to be update.	Information needed to be present.	All the information that needed to be update.	Update will be reflected on the website.	After updating the website information, the changes were successfully reflected on the website.	It was successful

Figure 6.1: Software Testing

#tst4	Add new team member	Fill up the input fields with the member information	Must be logged in as admin and username and email must be unique.	All requirement information	User will be added to database and Update will be reflected on the website.	The admin was successfully added new team member and the changes were successfully reflected on the website	It was successful
#tst5	Add new event	Fill up the input fields with the event information.	Must be logged in as admin.	All requirement information	Event will be added to database and Update will be reflected on the website.	A new event was added to the database and the newly added event was visible on the website.	It was successful
#tst6	Add new image to gallery	Fill up the input fields caption and image.	Must be logged in as admin.	Caption and Image	Image will be added to database and Update will be reflected on the website.	A new image was imported from the file to the database and the image was visible on the website	It was successful
#tst7	Add News	Fill up the input fields with description.	Must be logged in as admin.	All requirement information	News will be added to the database and update will be reflected on the website	A new news was added with caption along with description and the news was published to the website.	It was successful

Figure 6.2: Software Testing

#tst8	Remove a team member	Select the user and from dropdown action select delete	Must be logged in as admin.	Member id	Member Will be deleted from the database and update will be reflected.	An added team member was removed for testing from database and the member was removed successfully.	It was successful
#tst9	Remove an event	Select the event and from dropdown action select delete.	Must be logged in as admin.	Event id	Event Will be deleted from the database and update will be reflected on the website.	An event was deleted from the database for testing and the event was removed successfully.	It was successful
#tst10	Remove an image from gallery	Select the image and from dropdown action select delete	Must be logged in as admin.	Image id	Image Will be deleted from the database and update will be reflected on the website.	An image from the gallery section was removed for testing and the image was removed from the gallery.	It was successful

Figure 6.3: Software Testing

Chapter 7

Project as Engineering Problem Analysis

7.1 Sustainability of the Project/Work

Product durability refers to its ability to maintain and update. In the modern world, every published application needs to be maintained and constantly updated for its user base.A product can be sustainable in three main categories:

• **Community Sustainability:** After the development and official release of "OIR Website" it is believed that it will have a strong user base. With a growing user base, it will also grow a community and hence it can be said that it is Sustainable in terms of Community.

• **Financial Sustainability:** This refers to how the system's running cost will be maintained after it has been released. The system will be free to use for everybody. It will show all the past and upcoming events that will take place. The majority cost of maintenance of the "OIR Website" will be consisting of domain hosting and database storage cost.

• **Organizational Sustainability:** When the website is released or published, how the organization continues to operate is basically related to organizational sustainability. Basically, there is a team which maintains the website when it is published for the organization. Here the organization can add new features, update the project information as well as can create or expand new members to maintain the website.

"OIR Website" has many more features planned to be worked on and released. Since the website has further plans, the project will be maintained and updated after its release as well as release premium services to it. In conclusion, it can be said that the project is organizationally sustainable.

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.Anyone can easily 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. OIR 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

During my internship program, I have faced lots of challenges while working on this Project. Some of these are listed below:

- **Adapting to New Technologies:** Since it was the first time, I have ever worked on a website in an office environment where I had to learn and adapt to the company's new technology. Although it was possible to acquire skill sets, they were difficult to apply in real-life situations.
- **Keeping up to Speed:** Learning new technologies and using them was initially a slow process for me since it was the first time, I used them in an office environment. So, the weekly deadline was quite difficult to meet, and it slowed down the overall pace of development of the application.
- **Identifying and Fixing Bugs:** There were often bugs that were very hard to find and even after finding them it became a big problem to fix. Some bugs that were so hard to deal with that it would take a whole week to fix them.

8.2 Solution of those Problems

Solution for those problems are listed below:

- **Adapting to New Technologies:** Adopting new technology was a difficult situation for me in the beginning. But after a few days, I got used to the whole process with the help of my supervisor and the web developer team.
- **Keeping up to Speed:** Initially, it was a slow process for me because it was the first time and I have never used it in an office environment. After a few days, it became easier to maintain work pressure and speed.

- **Identifying and Fixing Bugs:** We have a project board linked to a file share in Google Drive where we keep updating a list of bugs/features, we're working on. This makes it easier for me and the web developer team to understand the code base status and fix bugs.

Chapter 9

Future Work & Conclusion

9.1 Future Works

The OIR Website is still under development. Some features still need to be polished before they can be developed. "OIR Website" is the first version of the system. It has many sides for improvement. Some of them are:

- More Information will be updated
- Add some Internship Knowledge Information
- Add Query System for New visitors to website
- Improve the existing system

9.2 Conclusion

The Office of Industry Academia Relations , IUB internship/project on website development was an excellent learning experience. Through this project, I was able to gain valuable insights into web design and development, as well as understand the importance of creating a user-friendly website. I also learned more about the strategies and processes involved in creating a website that is both aesthetically pleasing and functional. Overall, this project has provided me with valuable experience and knowledge that I can take forward into my future web design and development projects. It also provided me with an opportunity to engage with a diverse set of stakeholders, including industry leaders and academics. This experience has been invaluable in helping me to develop a better understanding of web development and the process of building a successful website. I am excited to use the knowledge and skills I have gained through this project to continue to support the Office of Industry Academia Relations , IUB in its mission to create a more collaborative and successful environment for industry and academia.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.

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An Undergraduate Internship/Project on Website for The Office of Industry Academia Relations SETS, IUB

By

Farihan Farabi

Student ID: **1820707**

Autumn, 2022

Consent from Supervisor

The student modified the internship final report as per the recommendations made by his/her academic supervisor and/or panel members during and/or before final viva, and the department can use this version for archiving as well as the OBE course material for CSE499.

(Signature of the Supervisor)

Yusuf Mahbubul Islam
Department of Computer Science & Engineering
Independent University, Bangladesh

Figure 9.1: Consent form