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An Undergraduate Internship/Project on Member Management System for House of Youth Dialogue (HYD) to facilitate them with organizing information about their members, connect the community online and make it feasible to send updates about events.

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Independent University, Bangladesh

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An Undergraduate Internship/Project on Member Management System for House of Youth Dialogue (HYD) to facilitate them with organizing information about their members, connect the community online and make it feasible to send updates about events.

by

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Summer, 2023

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October 05, 2023

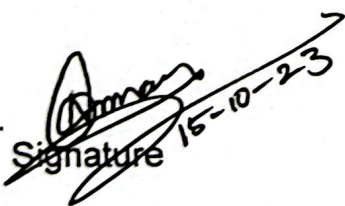
Dissertation submitted in partial fulfillment for the degree of
Bachelor of Science in Computer Science

Department of Computer Science & Engineering

Independent University, Bangladesh

Attestation

This is to certify that the report titled "HYD Membership Management System" was partially conducted by me, Abdullah Al Noman (ID - 1630081) submitted in partial fulfillment of the requirement for the Degree of Computer Science from Independent University, Bangladesh (IUB). It has been completed under the guidance of Md. Shakhawat Hossain PhD (Internal Supervisor) and Md. Shahadat Sarker (External Supervisor). I also certify that all my work is original and has not been submitted earlier to this university or any other institution. All the sources of information used in this Project Report have been duly acknowledged in it.

Signature 15-10-23

Date

Abdullah Al Noman

Name

Acknowledgement

To commence, I want to express my gratitude to the Almighty, Allah (SWT), for bestowing His blessings and letting me to complete my internship report in a timely manner.

I would like to express my appreciation to the faculties of the department of Computer Science and Engineering for including the internship credit to the graduation requirements, which provided me with a valuable opportunity to gain insights into professionalism, punctuality, and the intricacies of the professional world. My deepest appreciation goes to my supervisor, Dr. Md. Shakhawat Hossain sir. He kindly accepted the responsibility and assisted me with my attempts to secure the internship and write the report.

I also want to thank my supervisor at the organization, Mr. Md. Shahadat Sarker, who serves as the Tech Lead for Business Solutions (Java), and I extend my heartfelt thanks to my colleagues for their invaluable assistance, guidance, supervision, instructions, and encouragement during the smooth execution of my internship at Pridesys IT.

I consider myself fortunate to have received continuous support and guidance from the Business Solutions (Java) team, led by Mr. Md. Shahadat Sarker. Through regular reporting and their professional guidance, my internship experience was enriched.

Moreover, I'd like to extend my thanks to every member of the development team for their continuous guidance and support, in order to recognize the time and effort given in creating this report and the project. I would like to highlight the friendly and exceptional work environment and the collective dedication of this organization, which have equipped me to handle a diverse set of responsibilities.

Last but certainly not least, my heartfelt thanks go out to my parents and a select group of friends for their enduring inspiration and unwavering support throughout my journey.

Letter of Transmittal

Md. Shakhawat Hossain, PhD Assistant Professor Department of Computer Science and Engineering School of Engineering, Technology & Sciences Independent University, Bangladesh

Subject: Internship Report Submission for Graduation Requirements

Dear Sir,

As a vital part of Bachelor program of computer Science and Engineering, I hereby submitting my internship report. Working under your direction was a great privilege and a great experience. This report revolves around the HYD Membership Management System at Pridesys IT, where they granted me three months duration of working opportunity, guided by Md. Shahadat Sarker, who serves as the Tech Lead for Business Solutions (Java) at Pridesys IT.

This internship experience has afforded me the chance to merge theoretical knowledge with practical applications. It has also allowed me to establish connections within a corporate setting. I have strived to ensure that this report is as comprehensive as possible, drawing from the insights gained during my internship. I followed the instructions carefully and offered thorough information when it was required. I am confident that this report sufficiently satisfies the goals of my internship program.

I would be very thankful if you would accept my report and provide your precious comments. It will give me great satisfaction if you find this report educational and helpful in developing a thorough understanding of the topic.

Yours sincerely,

Abdullah Al Noman

ID- 1630081

Department of Computer Science and Engineering Independent University, Bangladesh

Evaluation Committee

Supervision Panel

 15/10/23

Academic Supervisor

 15/10/23

Industry Supervisor

Panel Members

Asif 15/10/23

Panel Member 1

 15.10.2023

Panel Member 2

Office Use



Program Coordinator



Head of the Department

Abstract

This report documents the procedure of making, developing and testing a system to be used in a website for HYD as a membership management system. HYD is a charity platform for various types of students to give better opportunities and growth. This management system will allow members to make a profile of their own and keep in touch with a lot of events regarding their education and more about scholarships etc. Different types of members will be able to register for events and make payments online within it. The system has been made using HTML, CSS, JavaScript and bootstrap. Laravel framework with PHP language was used. Ajax for API calling, and MySQL is for database.

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CHAPTER 1

Introduction

1.1 Overview/Background of the Work

In the modern world today, website is becoming a necessity for any kind of company. Nowadays people spend more time on the internet for any kind of information or knowledge. If a charity-based community like HYD who intends to participate in Model United Nation (MUN), have an efficient management system in their website then people will start to acknowledge the organization more. A good-looking clean website also increases the Brand value of the company. The project that I am working on is a membership management system for a charity-based organization. It is important for this organization to create a good website which can enhance brand value and provide a clear idea about their work. The website will provide all the necessary information about the organization to its users in the About Us and Contact Us section which will cover their Mission and Visions. The Membership management system will help to gather all the members under a roof where they will be able to contact each other and get notified about the events that are/will be conducted by the organization and get registered for them. Payments have been made easier for the members through this system.

1.2 Objectives

The major goal of this system is to connect the members of the community and save their important information and manage them in different categories. This will help this charity-based community to work smoothly with the events and other initiatives in prior. Moreover, it will get easier for all members to get in touch with everyone anytime, anywhere. Members will be able to make their membership payments yearly or monthly through this system from anywhere in the world.

1.3 Scopes

During the development of this System some of the features that will be available for the users are given below:

- Login
- Update Personal Info
- Update Educational Info
- Update Training Info
- Update Professional Info
- Check Payment History
- Preview Profile

CHAPTER 2

Literature Review

2.1 Relationship with Undergraduate Studies

- **OOP (CSE213):** This module represents a significant advance into classes and their related programming objects. Through this course I learnt the concept of treating data as an object and modular code structure which made code shorter but more efficient. The concept of using functions and class was very helpful and was widely used in my project.
- **Database Management (CSE303):** This course taught me the first basics of developing a web page and how to work with its database. This course gave me an in-depth knowledge of Rich Picture, ERD relations, Normalization and SQL writing process which is required to connect and interact with the database of a website.
- **System Analysis and Design (CSE307):** This course provided a basic knowledge of understanding the customer's needs and how to deal with a customer. It also taught me about the Software Development Life Cycle, which assisted me in planning all the project's processes and phases. It aided me in determining my objectives and difficulties. Through the seven steps of SDLC analysis, we created a strategy that simplified my job while working on the project.
- **Web Application and Internet (CSE309):** This course taught me all this that is required to make a complete functioning website. I learned different languages like HTML, CSS, Bootstrap and many small tricks and shortcuts which helped me to work in this project more efficiently.

2.2 Related works

In the last decade website development for successful companies has been a new trend. Having a presence in the Internet world through a good functioning website has become a necessity for successful old and new startup companies. House of Youth Dialogue has a website but not a proper online management system for the members, therefore they wanted to migrate all the manual processes to online based for the member management. Their educational, professional, personal information will be collected online and kept in the database for future purposes. Registration will be much more feasible for every member as well as the organization. Members will be notified through event notification about any events that the organization will be conducting. Mainly the migration of manual processes online was the goal to make it easier for organization as well as the members to conduct the purposes.

The organization I am doing my internship in is known for many of their collaboration with many renowned companies. Let me mention some of their highlighted projects of a reputable company.

- Development of Dynamic Website of Case Management System for Bangladesh Press Council.
- Ananta Group (Ongoing).
- Design & Development of Dealer Management System Software for Teletalk.
- Panorama Apparels LTD (ongoing).

CHAPTER 3

Project Management & Financing

3.1 Work Breakdown Structure

A project task breakdown that is structured and focused on particular deliverables is known as a work breakdown structure (WBS). The project team needs to break the work into manageable parts, in order to accomplish project objectives and generate the required results. The project's complete scope can be organized and outlined with the use of this tool.

It organizes and establishes the project's overall scope. At each level of the Work Breakdown Structure (WBS), you will find more in-depth explanation of the tasks required to finalize the project. For our WBS A top-down approach and a phase-based WBS were used. Let me give a short description of how the stages are implemented:

Requirement Analysis: We sit with the client and understand and gather their requirements and demands. Then we make a work schedule and make a rough cost estimation for the project. If the client agrees with the cost estimation, then we move to the designing part.

Design Layout: Rich picture diagram, Activity diagram, ERD and UML diagrams are made based on the clients agreed requirement and we take the conformation again with the client to see if all of their requirements are fulfilled.

Development: We first do the front-end design and then connect the front-end design with the back end. There are additional phases after that including several quality assurance meetings. In this phase we make the website responsive and interactive. Then we enter some trial data to check the performance along with many other quality control checks and bug fixing.

User Acceptance Testing: In this process the website is made online for trial run. In this trial run the site is tested and many small problems are fixed and the overall website performance is improved. There are several of these UAT runs required to optimize the website for the users.

Deployment: The website is fully deployed live for the client but the membership management system needs more correction. Work is still on progress and upgraded deployments will go on till the system gets fully functional.

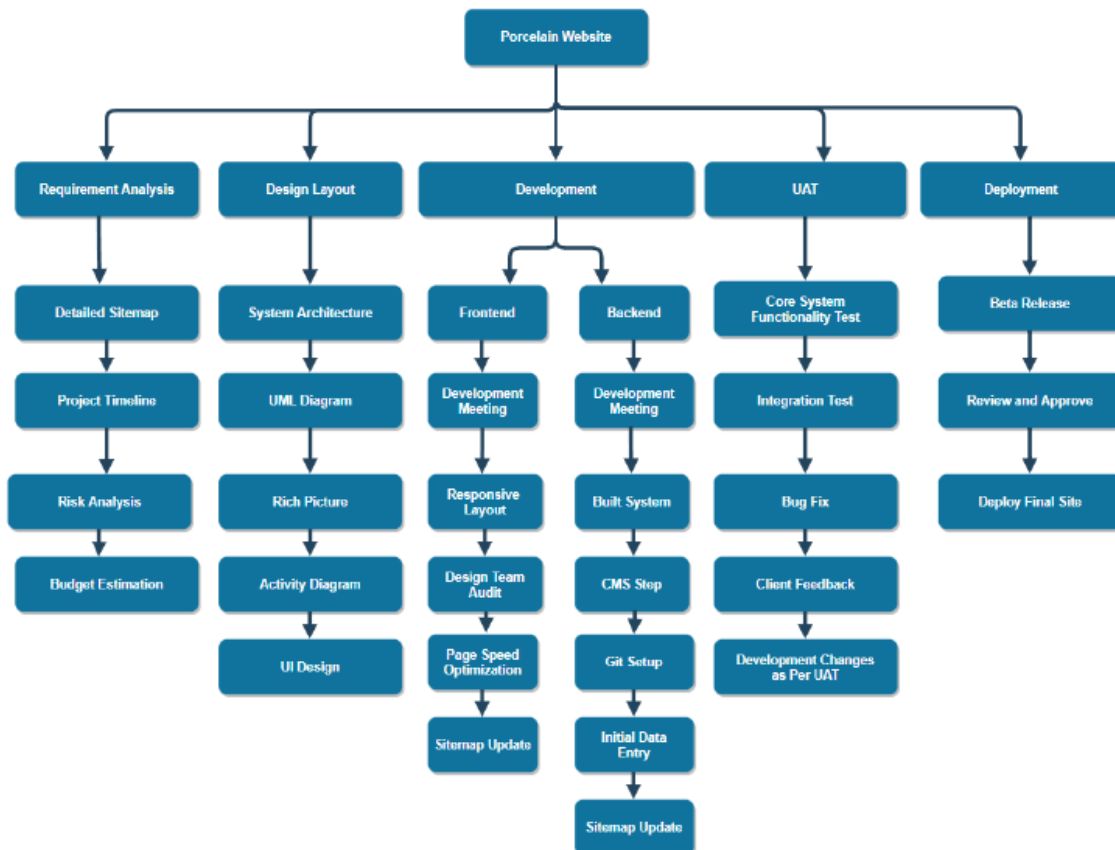


Figure : Work Breakdown Structure (WBS)

3.2 Process/Activity wise Time Distribution

The time needed to make a website mainly depends on the complexity of the website. The more complex a website is the longer it takes to develop the project. For this project we have set the time to 90 working days to complete the project.

The overall task is divided into five main functions, each of which is responsible for the entire work. The five core functions are:

Requirement Analysis: First, we have a meeting with the client to understand their requirements including functional, design and security. As our client is a charity organization so we had to take dates for meetings and going to their office and took time to understand

their manual procedure with the members. We processed a structure and called them in our office for their overview and feedback. This process approximately takes 15 days.

Design Layout: The UI/UX design is done in Adobe XD using the information gathered, and a high fidelity or mocked is created to distinguish the client how the site will seem. This is one of many versions that alter in response to the client feedback. It will require almost about 15 business days.

Development: In the development section the front-end is done first. After the front-end basic structure is made, the backend development begins. The design and development process are collaborated to meet the clients' demands. This process is the longest among all stages of development and it takes around 35 days.

User Acceptance Testing (UAT): The project is presented to the client in a meeting towards the completion of the development phase. The client is shown and guided through each and every step of the project's procedure. The clients are then asked for specific feedback and the project is updated in response to their feedback. Quality assurance is also done during this period, which is very crucial. This takes around 15 working days.

Deployment: Once the client gave their approval, we will be able to host the project on the client's domain and hosting platform. In nearly all projects, each client is obligated to utilize the provided Content Management System(CMS) and undergo a one-week training session on its operation, which typically spans around 15 business days.

3.3 Gantt Chart

A Gantt chart is a visual representation that shows the time distribution of tasks over the duration of a project. It takes the form of a bar chart. By providing a visual picture of the expected work for multiple days, it functions as an important tool for project planning. Project managers and team members can view important dates like project start and end dates and significant milestones with this single bar chart. The project's timetable is represented by the horizontal axis, while the vertical axis of the chart denotes the tasks that should be completed. Just like any other project, to help us plan and organize all of the project's activities in detail, we built a Gantt Chart. In three months or 90 working days, the project is supposed to be finished.

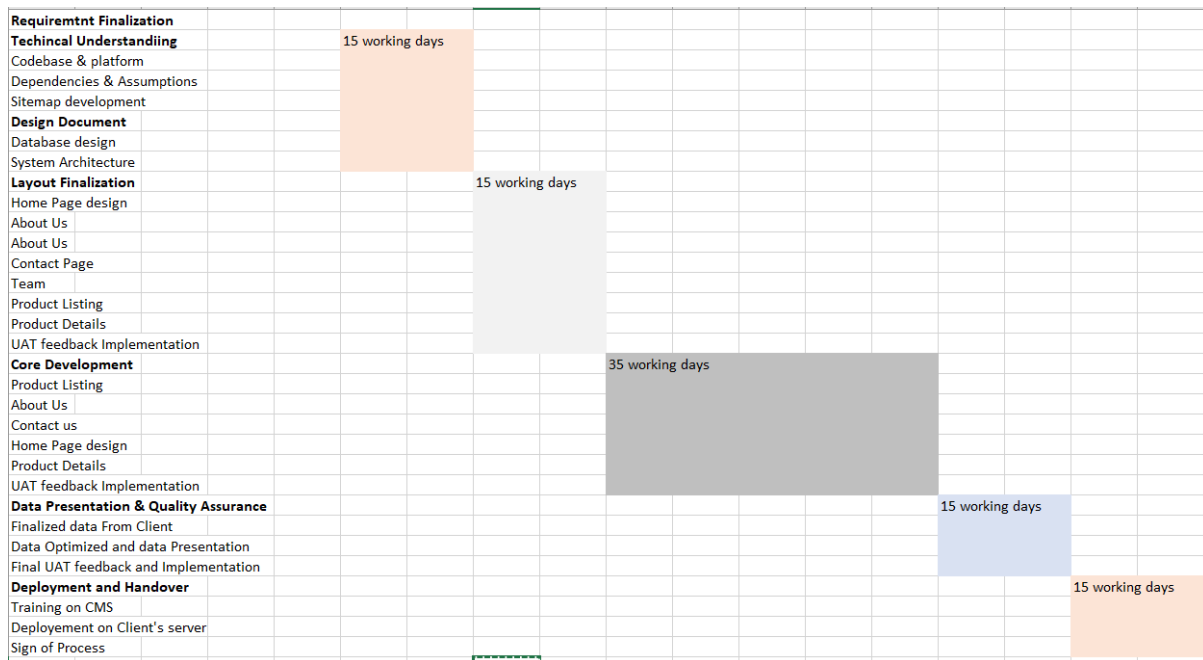


Figure 2: Gantt Chart

3.4 Process/Activity wise Resource Allocation

Right now three people are working as a team to complete it and in a time binding of 90 working days or three months approximately.

- Project Management: 1 Project manager
- Design, Development and client handling: 2 employees

3.5 Estimated Costing

The cost of a web application depends on various factors. These factors encompass common elements like the application's modules, website design, and any extra features requested by the client. Additionally, the project's scope is unique each time it's undertaken. To facilitate a clearer understanding, I have provided a table below, outlining our projected prices for design services, which include themes, logos, and icons, along with first estimate including prices for domain and hosting in addition to the price of the custom home page, social network integration, SSL Certificates, SEO and other plugins at 130,000 BDT for this particular project. However, it's important to note that client feedback during the development phase or after the project's launch may lead to additional feature requests, subsequently increasing the total cost.

Work Distribution		Cost(BDT)
User Expewrience & Interface Design		25000
Web Module & Functionality Development		75000
Web Hosting Maintenance Service		30000
Total		130,000

Figure 3: Estimated Costing

CHAPTER 4

Methodology

A planned Process introduced as the Software Development Life Cycle (SDLC) is used to ensure the effective completion of every project. It is a comprehensive process for developing, maintain, upgrading, replacing or otherwise changing specific software. The development process as a whole as well as the software quality can be improved by this life cycle.

Several SDLC models are available in the field for software development,

Such as:

- Waterfall Model
- Iterative Model
- Spiral Model
- Agile Model
- Big Bang Model

For this particular project, the Agile model was selected as the SDLC methodology. The Agile approach involves breaking a project into multiple phases, making it one of the most prevalent and widely utilized SDLC methodologies in the tech industry, as reported in the annual State of Agile report. It centers on constant collaboration with clients and ongoing enhancements at each stage. As work commences, the team follows a recurring process of planning, execution, and assessment. Uninterrupted collaboration is of utmost importance, both among team members and with clients. This model is particularly well-suited for situations where unexpected changes arise, whether from the client's end or internally, thus minimizing risks when implementing new functionalities in the system. Agile methodologies have superseded the traditional waterfall model by offering flexibility, speed, efficiency, responsiveness, consistency, and an openness to changes.

Following the completion of the project, live server testing was conducted for the website. Subsequently, the website underwent a review process by the company's supervisor and clients. Upon receiving final approval from them, the project proceeded to its next phase.

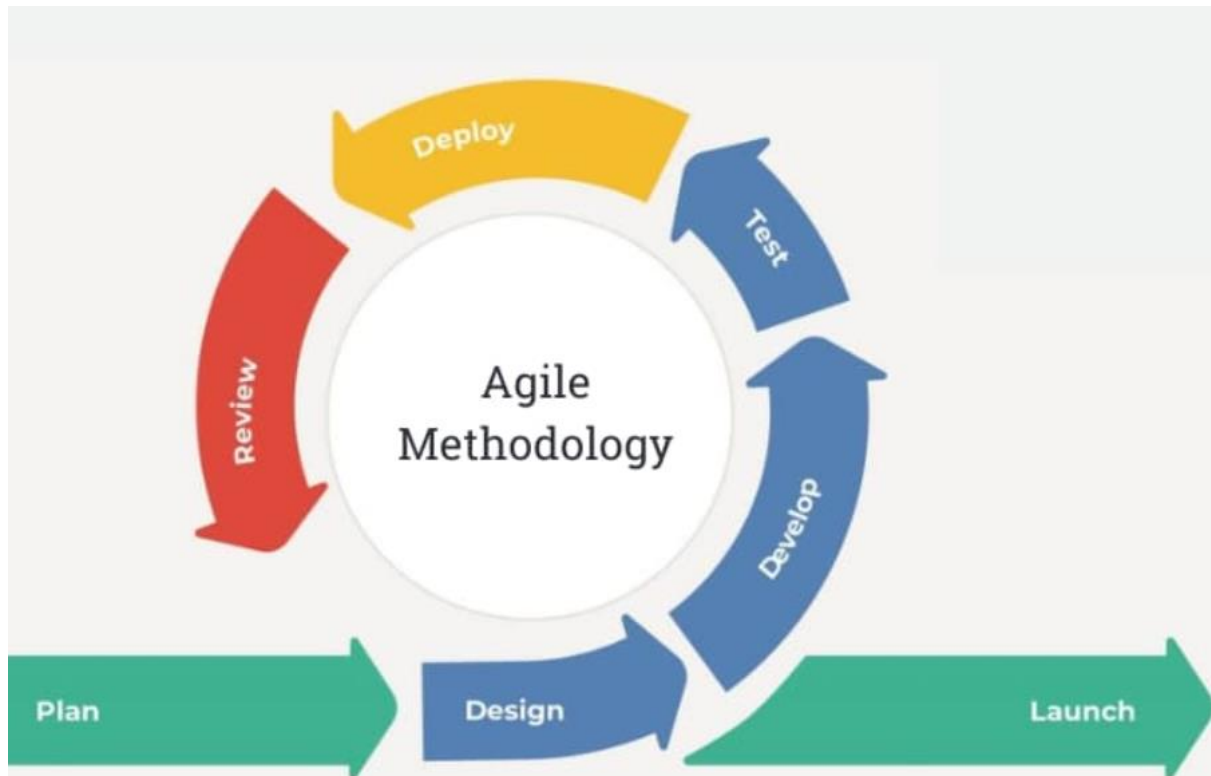


Figure 4: Agile Model

CHAPTER 5

Body of the Project

5.1 Work Description

The purpose of this project was to create a management system for members of a charity youth organization. The system will allow a member to log in to the membership dashboard and update their own profile with some specific information. They will be able to view new events and register for them. There are 4 different categories for membership depending on payment. Members will be able to update their educational information, personal information, professional information. As a member they will be offered training programs and alike events(paid/nonpaid). Members will be able to visit the gallery and the old site from the member dashboard. Members will also get the App from the dashboard onwards after this feature is made functional.

My job in this project was to build a web application focusing on the frontend developing, system designing and building some parts in the backend part. The first few weeks went past by to understand and adapt to the new environment. The website is built with HTML, CSS, Bootstrap, and JavaScript in frontend. Laravel framework with PHP Language in backend along with AJAX for API calling and MySQL for database.

5.2 Requirement Analysis

Requirement analysis is the process of setting the user's expectations when developing or making changes to a new website. It is sometimes informally denoted as requirements gathering or requirements capture. Requirement analysis encompasses the activities involved in ascertaining the prerequisites and conditions for a fresh or modified product or project. This process considers the potentially conflicting needs of various stakeholders and involves the tasks of analyzing, documenting, validating, and overseeing software or system requirements. In our project, we opted to employ the questionnaire and interview method to conduct the requirement analysis.

Rich Picture

A rough mental model can be developed by using rich picture, using diagrams we can explore, define and express the situation. Any approach may be used to build a rich image, and it can be applied in any scenario, regardless of its complicity. We created a rich picture to create a model to map the significant journey of different kinds of users.

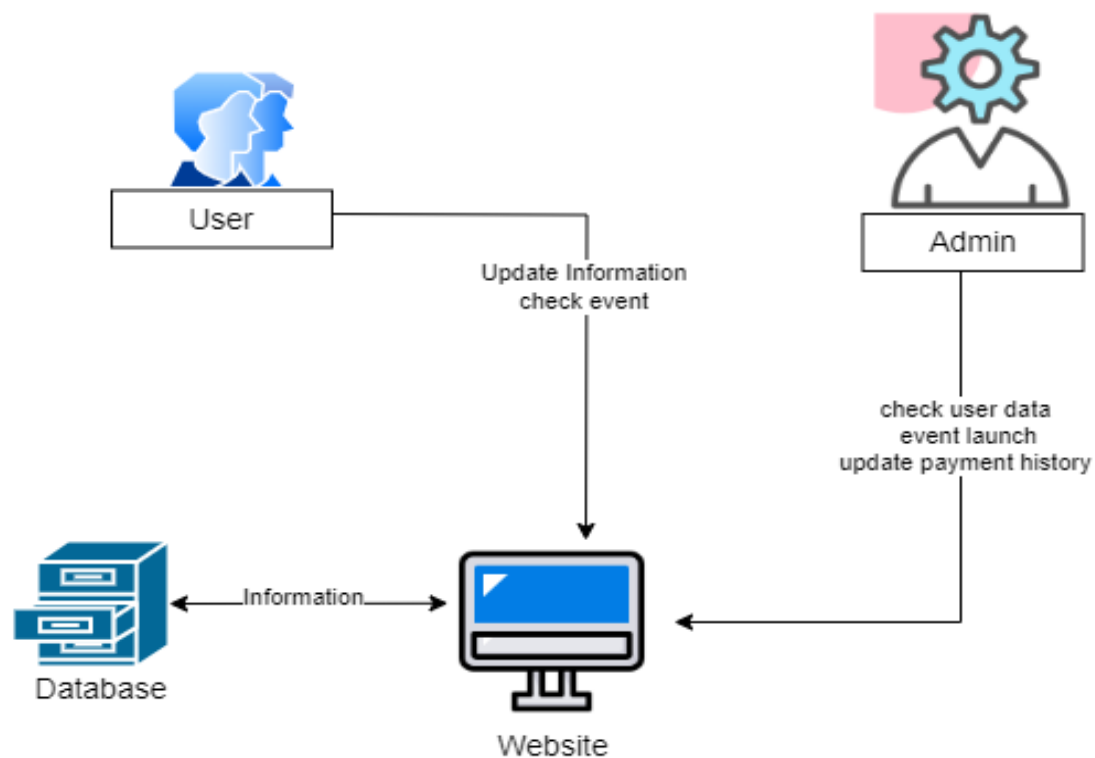


Figure 5: Rich Picture

Functional Requirements and Non-Functional Requirements

Functional Requirements

Function:	Finding Desired Property	
Input:	Process:	Output:
User enters Username & Password	Visits the website	Can view the dashboard and options for user
Pre-conditions:	Must provide valid email and password	
Post-conditions:	User views the options and can update them	

Table: Functional Requirement for user

Function:	Contact with the company	
Input:	Process:	Output:
User updates their Profile	Visit Update Personal Information	Form is submitted
Pre-conditions:	Must provide valid email	
Post-conditions:	User can preview the updated profile	

Table: Functional Requirement to Update Profile

Non-Functional Requirements

Performance:

Performance defines how fast or slow the system will respond. In our project, we gave our focus on the loading time and also handling the traffic of the website at a time. Through following best practices in using good code and content optimization. Also configuring the server so that we can make sure a smooth experience for the visitors ensuring better loading time and traffic handling of the system.

Portability and Compatibility:

We developed an exceptionally user-friendly system design that is responsive, catering to a broad spectrum of devices, ranging from mobile phones to desktop computers and even large television screens. We took great care to guarantee that the website is adaptable to various screen resolutions.

Additionally, we conducted thorough testing to ensure cross-platform compatibility, ensuring that the website operates seamlessly on widely used web browsers and adheres to the minimum system requirements, thereby eliminating any potential issues.

Security:

The system is secured at both client end and server end. SSL certification, form validation through CORS – cross origin resource sharing is ensured to protect from unauthorized access and malware attacks. Also, we use some security plugins inside the website to secure it more.

Availability Requirements:

It's very important to keep running the system 24/7 for our client. So, we need to ensure and support our system and server running properly without any issues.

Maintainability Requirements:

The maintenance of the website has been made very straightforward so that client can easily work and any changes can be easily done through the admin panel with our custom CMS. In case of any issues occurred, it can be easily fixed by updating from our part to resolve the issue.

Usability:

The whole system is designed in mind of accessing this website and browse through it and find necessary information and straightforward to everything that our client's targeted people need. User interface and user experience design has been done with time so that we can ensure a user-friendly and easy to access design. The admin panel is also designed so the admin can easily maintain the website.

Efficiency:

The system must prove its effectiveness by choosing the shortest route to complete a task. Even if there is only few seconds differences in time between the duplicate paths that leads to the same outcome, they should be chosen with the shortest.

Few Non-Functional Features:

Some of the features which are still to worked on and make functional on members portal are About us, Use App, Publications, Committees, News & Events, Contacts etc. These features are awaiting for testing and then deployment. After that these features will also be functional.

5.3 System Analysis

The process of monitoring systems for diagnostic or development reasons is known as systems analysis. The main purpose of system analysis is to understand how the system works in its most distilled component form and then to solve any problems that exists and make the system more effective and efficiently to produce the desired outcome.

5.3.1 Six Element Analysis

	Human	Non Computing Hardware	Computing Hardware	Software	Database	Network
Update personal info	USER	Null	PC/ Mobile	Web Browser	MySQL	LAN/WAN
Update educational info	USER	Null	PC/ Mobile	Web Browser	MySQL	LAN/WAN
Update training info	USER	Null	PC/ Mobile	Web Browser	MySQL	LAN/WAN
Launch Event	ADMIN	Null	PC/ Mobile	Web Browser	MySQL	LAN/WAN
Preview Profile	USER	Null	PC/ Mobile	Web Browser	MySQL	LAN/WAN
Payment History	USER	Null	PC/ Mobile	Web Browser	MySQL	LAN/WAN

Six Element Analysis Table

5.3.2 Feasibility Analysis

Feasibility Analysis is the study to understand the desirability and practicality of this project. The purpose of the feasibility analysis is to provide information to the company on whether or not they should pursue the course of action. Before diving into a project, most companies naturally want to get a predictive sense of how much successful it is likely to be, considering both the time and money that they will need to invest. It's essential for businesses to fully understand, even before start to think about it, how much it will cost to push their product forward and if the website can help them earn back the expenses.

Five feasibility studies are conducted for the project, which are discussed below:

1. **Technical Feasibility:** Pridesys is a very well-established organization that has worked with some of the industry's biggest names. They have the required talents to bring the project's vision to reality. Technically speaking, this project is feasible because it has access to all required hardware, software and other prerequisites.
2. **Economic Feasibility:** This is like conducting a cost-benefit analysis for the project in question to determine if it is viable. It involves evaluating the project's potential in an objective and rational form, identifying it's pros and cons, opportunities an risks, the necessary resources, and the likelihood of it's success. This assessment helps in making concerned decisions about whether to move forward with the project or not.

3. **Legal Feasibility:** Before beginning this project, all legal constraints, such as data protection legislation, social media rules, and government restrictions, were assessed to guarantee that it does not meet any legal constraints in the future.
4. **Operational Feasibility:** Nowadays more and more people are connected to the digital world in almost every aspect of their life. And since the Covid-19 pandemic people are even more reliable on online platforms to do their work. Because of this website, visitors and overseas clients may now quickly and easily find all of the information they need to make decisions accordingly.
5. **Schedule Feasibility:** Scheduling feasibility is done by organization to estimate how much time the project will take to complete. This assessment is absolutely crucial for the success of the project. In terms of scheduling feasibility, we are considering a timeline of 90 business days, allowing for more flexibility. We are confident that we can finish this project by the timeline as long as we continue to meet our goals and establish them properly.

5.3.3 Problem Solution Analysis

In the starting of my internship, it was a little hard to get adapted to the new environment and work life. As this project was my first real client-based project, I was a little bit confused and overwhelmed by the whole thing. It took some time for me to adapt to the working environment. Before this project, I only did a web project for my course using basic knowledge and a bit of self-taught process. For this project I had to relearn to code HTML, CSS and Bootstrap alongside learning JS and whole new Laravel, PHP. I had very little experience on PHP and Nothing about Laravel framework. I am still learning new things from my seniors in the job. One of the main problems was making the website all platforms responsive. I am still learning to deal with problems as I am still learning many things, so it might take some time to perfect my capabilities. It takes self-learning with the help of online sources, although my seniors are helpful, but they don't have the time to teach me all the problems that I face. And I think it is a well equipment to learn self-learn because that makes you independent from others.

5.3.4 Effect and Constraints Analysis

Before building any project, it is important to understand and keep in mind some constraints. Some of those constraints are for example, budget, deadline, unique design and features etc. for this project the main constraints were budget, deadline and design. As I'm new to this corporate world, it takes more time for me to figure out problems and their solutions. For me it's a trial-and-error process. That's why deadlines are an important constraint to keep in the back of the mind while doing the project. Budget is also important to keep in mind as we can't use exceedingly more resources for this project as the budget is limited.

For any website development we always have to keep in mind the end users. Each client is unique in their own way. Before we begin designing, we must do research and have knowledge of our target audience. Our design should be a wonderful experience for the

customer, not for us. For this we always have to make our customers happy, and hence meet their demands, we have to change the design many times.

5.4 System Design

5.4.1 UML Diagrams

The Unified Modeling Language (UML) is a general-purpose, developmental modeling language used in software engineering that is designed to give a standardized way to represent a system's architecture.

Use case diagram: A use case diagram is like a tool that helps to simplify the information about the system and the people who will engage with it. It is typically portrayed as a visual illustration of the connections between different components within a system. These diagrams outline the activities within a system and their sequence, without delving into the details of how these actions are executed. The diagram below illustrates the usage scenarios involving a user and an administrator.

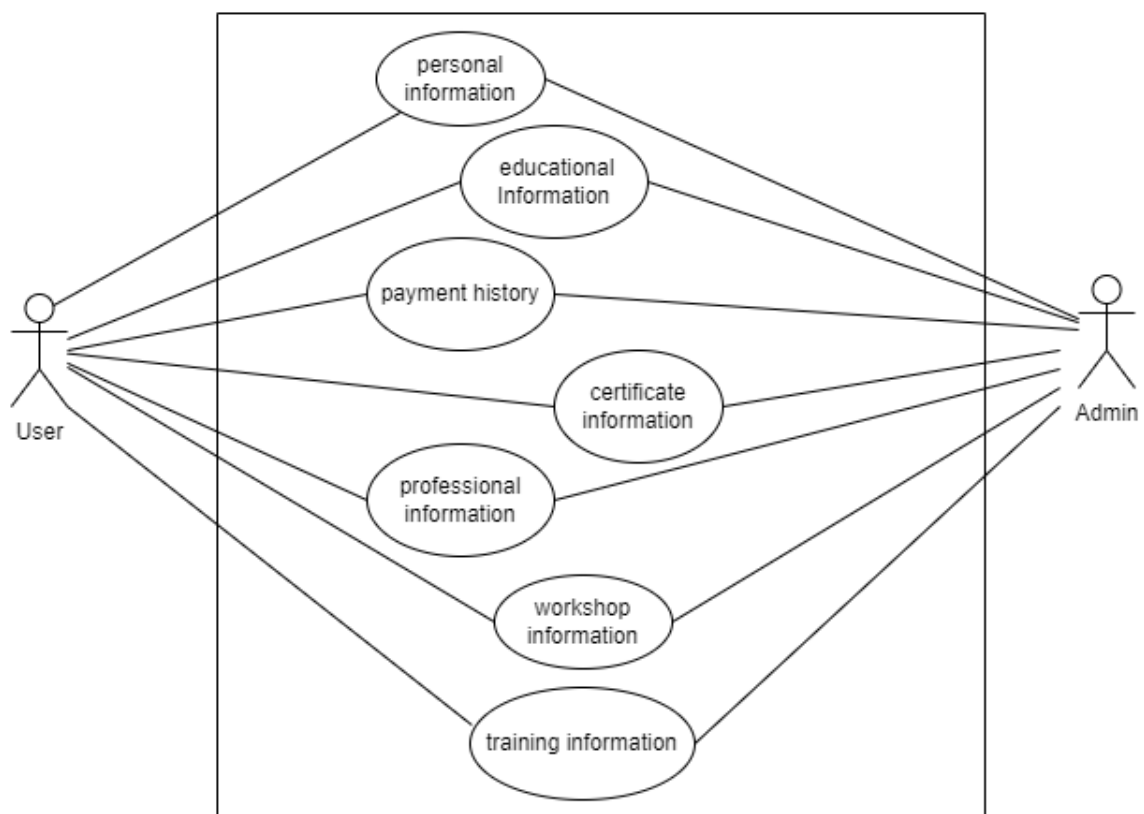
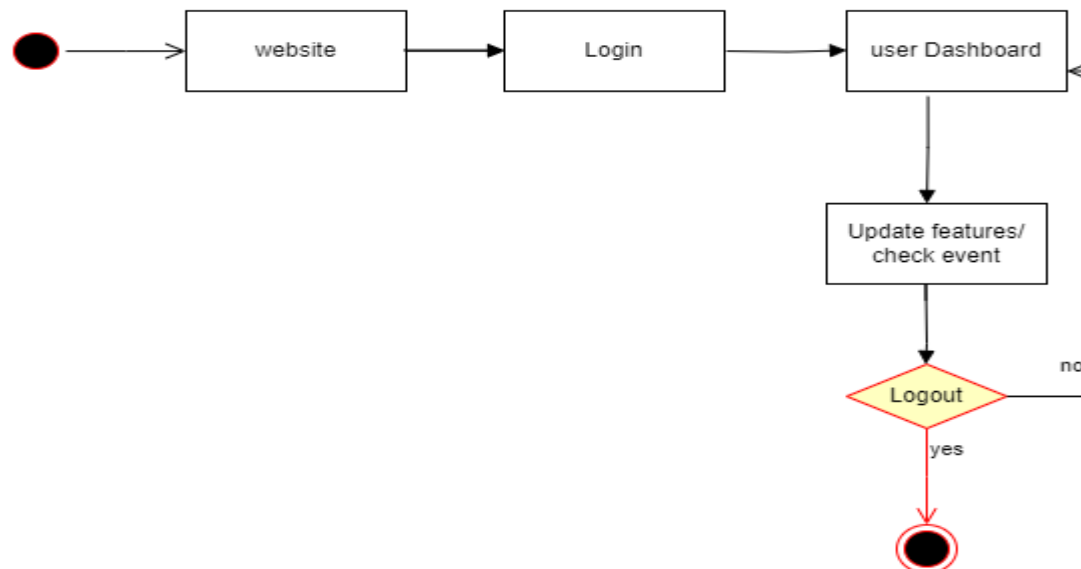


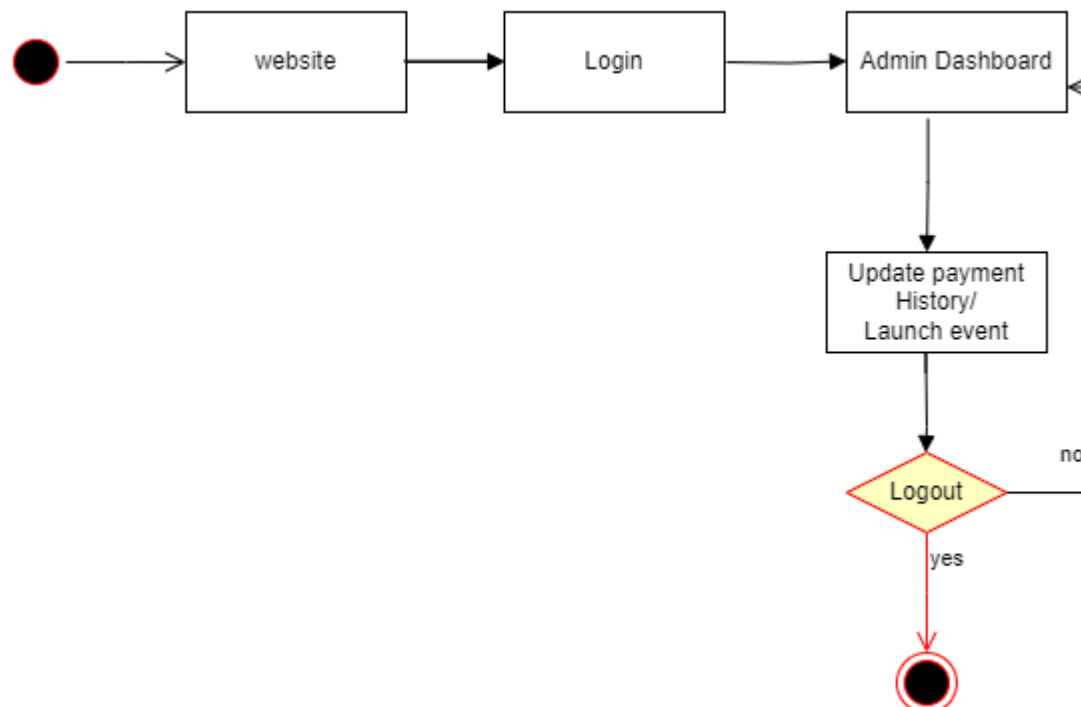
Figure: Use Case Diagram

Activity Diagram: Another important diagram is UML that helps describe how a system works in real-time is the activity diagram. This diagram resembles a flowchart, illustrating how different actions in the system are connected. Each action can be seen as a specific task, and the line between them shows how these tasks are carried out one after another, in branches or even simultaneously.

Activity diagram for User: This diagram illustrates the journey of the users. We have designed the following activities:



Activity Diagram for Admin: The activity diagram for the admin. This diagram illustrates the journey of the admin where he is in control of the admin panel.



5.4.2 Architecture

Website architecture involves the strategic blueprinting and structuring of a website's technical, functional, and visual elements prior to its creation, development, and launch. It serves as a

foundational framework for website designers and developers, enabling them to create and build websites effectively. A meticulously planned web application architecture can adapt to varying demands and swiftly address new service needs, ultimately delivering a seamless and efficient user experience. The diagram below illustrates the project's architectural framework, showcasing the user's interactions with the website and how the website leverages these interactions to fulfill the user's requirements.

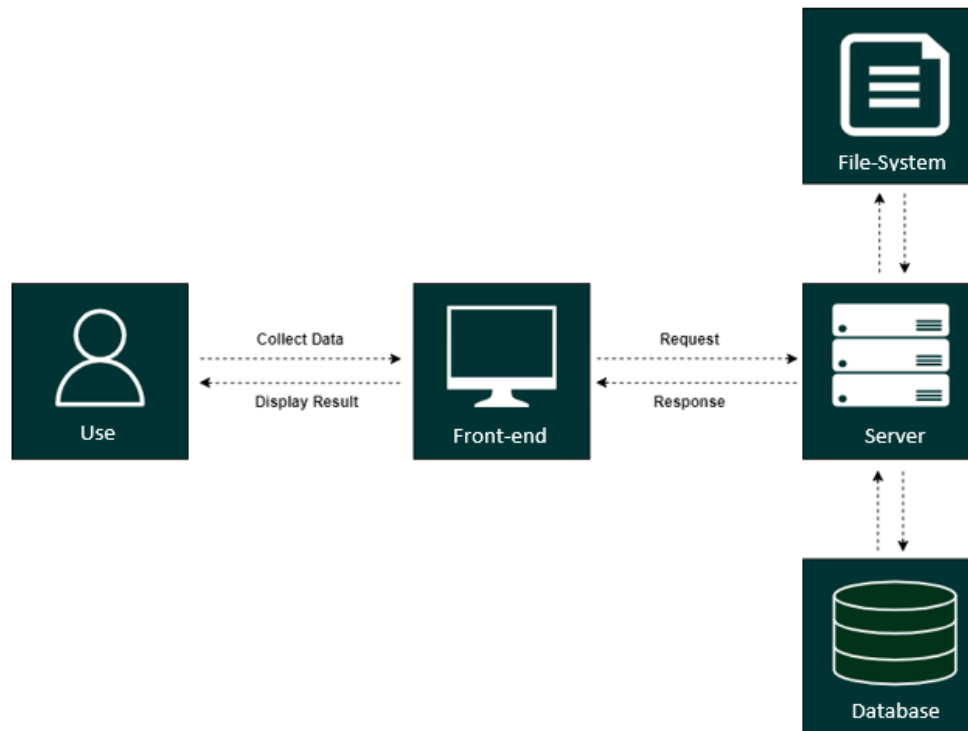


Figure: Website Architecture

5.5 Implementation

We used a few languages, frameworks and scripts to make the website.

- HTML: - HTML is a hypertext markup language that is specifically used to design the main skeleton of the website.
- CSS: - This is the language we Implement to design the appearance of an HTML document. It defines the outlook and presentation of HTML elemnts.

- Bootstrap: - It is a CSS framework used to develop responsive websites. We used Bootstrap to make the website responsive and mobile friendly. We also used media queries for specific devices to present our website best in all sizes of devices.
- JavaScript: - It is a programming interpreter. We used JavaScript on our website, effects and reducing loading time.
- Laravel: - Laravel is a PHP language-based framework. We used it for backend.
- MySQL: - MySQL is a relational database management system. We managed our Database and backend through SQL queries.

5.6 Testing

In our testing we run the website through various processes to find out if there is any problem or bugs in the website, and then we try to fix those problems. If your website isn't thoroughly tested, it can lead to issues that gradually make users unhappy. New visitors may have a negative first experience and might never come back, which can result in negative reviews from customers. Testing is essential to enhance your site's performance, security, and stability, and it allows for improvements to ensure your website's success.

CHAPTER 6

Results & Analysis

Developing this project is very important because of all the reasons mentioned in the earlier portions of this report. This project is still in development, firstly because of the sheer size of the project and secondly the importance of the functionalities of this project. If it is not developed correctly, it will be problematic. The project started with the requirements gathering process, which was straightforward, as we had an idea beforehand what we would have to build. We had to think as a member of this community and develop the scopes. Our Team leader along with other three of us tried to sort out the scopes and the UI designer built us a demo, we were able to pinpoint what functionalities we would need to implement. The scope of improvement this project possesses is immense. The process of payment and the members info lists will be easily fetchable and safe as well as its online now. With the functionalities of the system, data backup will be done frequently, and data recovery will be carried out quickly if something unexpected happens. Finding appropriate members for such events will be easier now. There will be verification and there will also be direct communication. As for the testing and deployment, several functionalities will not be available instantly in the beta phase. We will first have to test the system using several users and then we must make sure we are able to build a stable build of all the functionalities. The overall development and deployment process of this project will be longer than usual due to some internal issues.

Test Case:

To assure the fulfillment of a certain requirement, a test case is a statement that provides a set of test data, requirements, possible outcomes and post conditions for a particular test model. After receiving a set of input values, the program processes them and eventually reaches to a conclusion, at which point it exits the system. This is commonly referred to as the post-condition of execution. We executed a test case to check the quality and operation of the website.

Issue Tracking And Report System:

The complete version of the website will be uploaded to Pridesys's test server and the URL will be shared with the development team and a quality assurance tester. During the development phase, the QA tester will begin testing alongside the members of the development team. All modules and capabilities will be tested thoroughly. When a problem

is detected, it will be documented on a shared Google sheet with a thorough explanation of the issue. The developer will resolve the issues and mark them in the spreadsheet as resolved. Issues are noticed and resolved once again before sharing the project's test server URL with the customer for testing. Client feedback will be gathered, and any issues that arise will be addressed before the project's final release.

The following functionalities have been tested for this particular website:

- Update Personal Information
- Logout
- View Profile
- Check Payment History

CHAPTER 7

Project as Engineering Problem Analysis

7.1 Sustainability of the Project/Work

Creating software that is environmentally friendly and built to last long has emerged as a prominent challenge in the realm of web applications. In software development, sustainability means creating programs and applications that serve today's needs while also taking care of the essential systems and environment. This way, we don't put the ability of future generations at risk to fulfill their own requirements. To maintain the sustainability of software, updates and alterations to the system and user interface must occur periodically while keeping the core functionality intact. This is necessary because prolonged use of the same software may inhibit progress in line with modern developments.

To promote sustainability, the following actions are undertaken:

- Conducting interviews with various stakeholders to gain a comprehensive understanding and facilitate the creation of user-friendly software products.
- Examining one or more comparable projects and engaging in discussions with the CEO.

- The evaluation and feedback received from stakeholders serve as valuable input for enhancing the system and software to ensure sustainability, a process accomplished through collaborative case studies.

7.2 Social and Environmental Effects and Analysis

To assess the set of criteria and the effectiveness of the method, we conducted testing procedures on software products in various categories, including content processing, web browsers, content management systems, and databases. Comparative evaluations of software products within each category, as well as those with similar functionalities, revealed significant disparities in terms of hardware resource utilization and energy consumption.

For instance, in the context of content processing, when the same hardware was used to execute a standard usage scenario, the energy consumption of a particular program was approximately four times higher, and processor utilization exceeded four times that of a comparable program. To ensure that the application operates efficiently, we ensure it can function with minimal system configurations, which are incorporated into our non-functional properties.

7.3 Addressing Ethics and Ethical Issues

In this era of technology trying to be someone becomes very easy, without knowing some- one can try to impersonate you and use your credential to do illegal or commit any crime. It became vital to keep user data secure otherwise someone can easily attack the system and take user information.

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:

- **Adjusting to Corporate Culture:** The culture in any corporate office environment is never fixed. There is no one simple set of rules there. It is very complex and takes time to learn and adapt toward the cumulative behavior of the employees. As I have never been in such an environment before, it was difficult for me to adjust to the learning and working phase of the company. The learning phase in my internship was not entirely about Software Engineering but also about self-educating myself in dealing with different types of people from different departments with different seniority levels.
- **Learning a new Framework:** The biggest challenge by far was learning a new framework, namely Laravel. Laravel is a PHP-based framework for backend development. It is a very popular choice among software engineers, but it is not beginner friendly. Learning the file structure and patterns to develop the software is very troublesome. The package management is also not strong enough. Another big problem is that there are some components in the framework that are not well designed. Dependency injection becomes pointlessly complex, so we have to learn a lot before starting to create applications. The development compared to the other frameworks is also quite slower compared to other frameworks. When updating the version, it shows many problems, so users have to take precautions while updating the versions.
- **Keeping up to Speed:** At first, it was a bit of a challenge for me to learn new technologies and apply them because it was my first experience using this framework and working in a corporate environment. Hence, it was quite difficult to meet weekly deadlines, and this slowed down the overall pace at which the application was developing.

8.2 Solution of those Problems

I tried in every possible way to keep up with the pace and not stop learning. Though the environment and technologies were new to me, I still tried to ensure my best in terms of performance:

- **Adjusting to Corporate Culture:** The senior developer helped me greatly to integrate me into their developer group. They helped me give the confidence I needed to open up and contribute more to the project as well as ask for help in topics I had no knowledge of before. They taught me many tips and tricks in building a successful backend application. Teammates helped me understand different policies and even in work they helped me to learn.
- **Learning a new Framework:** Though Laravel is not beginner friendly, and I faced many problems in the development process, my team leader inspired and helped me in all ways to learn the process. As I don't have any idea about any other language or framework yet, I won't go for such comments in this report at the moment.
- **Keeping up to Speed:** Getting started was a bit sluggish for me since it was my first time using this language and framework, I had never experienced using it in a corporate environment. After some days, It became easier to maintaining work load and speed and my colleagues helped me to go on with my task very smoothly.

CHAPTER 9

Future Work and Conclusion

9.1 Future Works

The project is still under development and there is scope for more features to be added. The end goal is to make the website user friendly.

In the future the product will be launched as a mobile application for android & iOS. For registering an account, an email notification will be sent. A few more features are to be modified for the ease of the community members and is under process.

For some internal issues multiple features are not functional yet and will be worked on with an improvised version.

9.2 Conclusion

This was a very successful internship for me. I've acquired new knowledge, know-how and met so many new people. I got to work and have professional practice in my field. An internship is a great opportunity to achieve this experience. During the internship period I gained valuable insights into my strengths and weaknesses. This experience guided me in understanding the specific skills and knowledge I need to know for future improvement. I learned HTML/CSS in a further depth in real time working field. JavaScript, Bootstrap was slightly new to me, and I had difficulties understanding and implementing them and still learning to get a grasp on these. Laravel framework and PHP language were totally new things for me to get a grasp on within this little time during my internship. Though I am still going through it and trying to get better on gathering more knowledge on them, but now I understand how a website could be made. As has, I have worked with creative and skilled developer team. Now I know how to work with the team in a software company and how to communicate in conjunction with other staff members in the project. Still more to learn about programing and increasing real time work experience in this field and make myself productive.

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An Undergraduate Internship/Project on Member Management System for House of Youth Dialogue (HYD) to facilitate them with organizing information about their members, connect the community online and make it feasible to send updates about events.

By

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Summer 18, 2023

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.

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