

CI PLATFORM

A PROJECT REPORT

Submitted by

BANSARI THAKKER

200170116506

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**VISHWAKARMA GOVERNMENT ENGINEERING COLLEGE,
CHANDKHEDA, AHMEDABD**

CERTIFICATE

This is to certify that the project report submitted along with the project entitled CI Platform has been carried out by Bansari Bhupendra Kumar Thakker under my guidance in partial fulfilment for the degree of Bachelor of Engineering in Information Technology, 8th Semester of Gujarat Technological University, Ahmedabad during the academic year 2022-23.

Prof. Om P. Mehta

Internal Guide

Prof. Vibha D. Patel

Head of the Department



Outsourcing • Custom Software Development • Web Application & eBusiness Solution

HR/TS/0423
Date: 18th April 2023

TO WHOM SO EVER IT MAY CONCERN

This is to certify that Bansari Bhupendrakumar Thakker was selected from Vishwakarma Government Engineering College, Chandkheda in Campus for internship in accordance with the college's policy.

Details of the project is as under

Project technology: .NET Core MVC

Project name - CI Platform

Start Date: 23-Jan-23

End Date: 25-Apr-23

For TatvaSoft

Authorized Signatory



**VISHWAKARMA GOVERNMENT ENGINEERING COLLEGE,
CHANDKHEDA, AHMEDABD**

DECLARATION

I hereby declare that the Internship/ Project report submitted along with the Internship/ Project entitled CI Platform submitted in fulfilment for the degree of Bachelor of Engineering in Information Technology to Gujarat Technological University, Ahmedabad, is a bonafide record of original project work carried out by me/ us at TatvaSoft under the supervision of Mrs. Sweety Patel and that no part of this report has been copied from any student's reports or taken from any other source, without providing due reference.

Name of the Student

Bansari Thakker

Sign of Student

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A blend of gratitude, pleasure and great satisfaction is what I feel to convey my indebtedness to all those who have directly and indirectly contributed to the successful completion of this project.

Thanking You,

Bansari Thakker

ABSTRACT

CI (Community Investment) Platform is a .NET MVC based platform that connects volunteers with community development projects that require their time, skills, and expertise. These projects may include initiatives related to education, health, environmental sustainability, poverty alleviation, or other areas of social impact.

This platform provides a way for volunteers to browse through different projects and select the ones they want to participate in. Volunteers can contribute their time and expertise to the project, working alongside other volunteers and community members to achieve the project's goals.

Community Investment Platform for volunteering can be a powerful tool for promoting community development and social impact. They can help to engage volunteers and provide opportunities for them to make a positive impact in their communities. By bringing together volunteers and community development projects, these platforms can help to build stronger communities and promote sustainable development.

This platform aims to bridge the gap between people in need and those willing to help. This is user-friendly, responsive and accessible on various devices, making it easy for anyone to create or support campaigns. In addition, this platform encourages community engagement by allowing users to interact with each other through likes and comments.

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Abbreviations

MVC	Model View Controller
.NET	Network Enabled Technologies
ASP	Active Server Pages
CRUD	Create Read Update Delete
IT	Information Technology
QA	Quality Assurance
UI	User Interface
UX	User Experience
CMMI	Capability Maturity Model Integration
SQL	Structured Query Language
SSMS	SQL Server Management Studio
SRS	Software Requirement Specifications
IDE	Integrated Development Environment

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Chapter – 1: Introduction

1.0 Overview of Company

1.1 History



Fig. 1.1 TatvaSoft Logo

TatvaSoft is a leading software development company with over 21 years of experience. They offer a wide range of software development technologies, including .NET, Java, Angular, React, SharePoint, PHP, and more. As a Microsoft Solutions Partner company, TatvaSoft is dedicated to providing advanced IT outsourcing services to businesses of all sizes and from all the countries.

With a CMMI level 3 certification, TatvaSoft is a well-respected software and mobile app development company. They strive to be the best in the industry, with a focus on custom software development services. Their extensive experience and proficiency in this area, combined with the latest technology standards, have empowered many businesses. Their development experts specialize in Agile software development methodologies, customer-centric engagement models, strict quality measures, in-depth technical and domain expertise, and an understanding of different software development frameworks, programming languages, and platforms, which allows them to deliver top-quality web software solutions.

TatvaSoft is a Consummate Custom Software Development company delivering splendid business IT Solutions and related services to customers across the globe. Our development services are led by our dedicated and passionate team to provide best industry practices combined with technology expertise and business domain knowledge to

drive digital transformation. Our proficiency in understanding business challenges and professional competence allows us to create a better experience for our customers.

1.2 DIFFERENT SERVICES

- Custom software development
- Web Development
- Mobile Application Development
- E – Commerce Development
- Software Product Development
- Software Testing & QA
- UI / UX Design

1.3 ORGANIZATION CHART

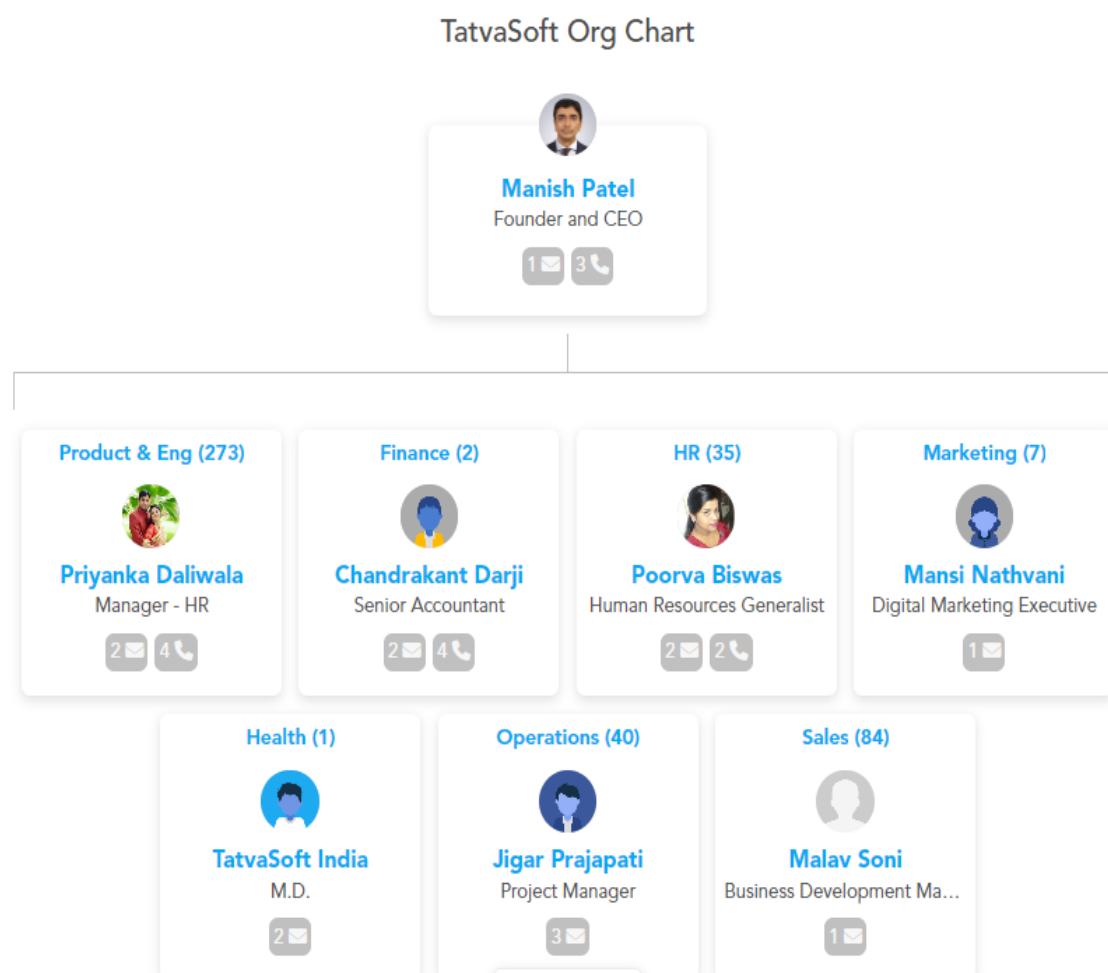


Figure 1.2 TatvaSoft Organization Chart

CHAPTER – 2: OVERVIEW OF DEPARTMENT

2.1 DETAILS ABOUT THE WORK BEING CARRIED OUT IN EACH DEPARTMENT

- The software development team creates tailored software solutions using various programming languages.
- The quality assurance team tests the software to ensure high standards, while providing feedback on usability.
- The project management team oversees the entire software development process, ensuring timely and budget-compliant delivery.
- Finally, the business development team builds relationships with potential clients and creates proposals that meet their needs, while working with the software development team to ensure the feasibility of the proposed solutions.

2.2 LIST THE TECHNICAL SPECIFICATIONS OF MAJOR EQUIPMENT USED IN EACH DEPARTMENT.

- **Backend department:** Java, Node Js, PHP, ROR, .Net
- **Frontend department:** Angular, React, Vue.js
- **Database department:** Microsoft SQL Server, PostgreSQL, Elasticsearch, MySQL, mongo DB, Cassandra, Oracle
- **Clouds & DevOps department:** AWS, Google Cloud, Docker, Jenkins, Kubernetes, Azure
- **Mobile department:** IOS, Android, React Native, Flutter, Xamarin.

2.3 PREPARE SCHEMATIC LAYOUT WHICH SHOWS THE SEQUENCE OF OPERATION FOR MANUFACTURING OF END PRODUCT.

The production process is executed through a structured approach, comprising six steps:

- Planning - outlining the project requirements and objectives.

- Analysis - assessing and understanding the necessary resources and actions to fulfil the objectives.
- Design - creating a comprehensive plan to fulfil the requirements and objectives.
- Implementation - executing the plan and developing the final product or service.
- Testing and Integration - ensuring the product or service meets the requirements and objectives and integrating it with other systems if required.
- Maintenance - regularly monitoring and updating the product or service to ensure it remains functional and relevant over time.

2.4 EXPLAIN IN DETAILS ABOUT EACH STAGE OF PRODUCTION.

- The initial phase of the software development process involves gathering and analysing all project requirements. Once the requirements are understood, a Software Requirement Specification (SRS) document is created and reviewed by the client to ensure complete understanding.
- Using the SRS document as input, the software architecture is designed and public pages like homepage, FAQ, contact us, about us, login, and signup are created using HTML, CSS, and JavaScript.
- The actual coding process starts and all the software components are implemented using languages such as PHP, jQuery and following the MVC structure.
- After coding, the software goes through a thorough testing phase to ensure it meets customer standards, and any issues found are fixed.
- Once testing is complete, the software is deployed either in production or undergoes User Acceptance Testing (UAT) depending on client expectations.
- Finally, after deployment, the developers ensure the product is maintained, fixing any issues and making enhancements as required.

CHAPTER-3: INTRODUCTION TO INTERNSHIP

3.1 INTERNSHIP SUMMARY

I was associated with **TatvaSoft** Company for internship as Intern Software Developer. During this internship, I was assigned a Project a Project named as Community Investment Platform for learning Purpose. The CI (Community Investment) Platform is an employee volunteer program that supports a company's larger Corporate Social Responsibility (CSR) or community engagement program. The purpose of the platform is to provide an avenue for employees to engage with the community and contribute to social impact initiatives.

3.2 PURPOSE

Purpose of this Internship was to get knowledge of Industry and real-time, practical working. Furthermore, to get hands-on various tech-stack which are being used in industry and are essential for data analysis. Main purpose was to get experience of industry and professional life to explore career and figure out I have selected right career path for me or not.

Another purpose of an internship was also to make useful connections. The person or people who guide me during my internship may become mentors, who can provide helpful information and who can help guide you during my career. I can use them as references for future jobs, because they have seen me in action and they know my competencies.

In addition of these through an internship, I can increase my knowledge and skills. Doing that gives me greater confidence and a sense of accomplishment that future employers will be excited to see. While completing internship, I can also increase my communication, organizational and teamwork skills, all of which will come in handy in future positions.

3.3 OBJECTIVE

Identify the specific skills, knowledge, and experiences that the intern aimed to learn during the internship. This could include learning new software or technology, gaining exposure to a specific industry, or developing skills in a particular area such as project management or public speaking. And another main objective is that you can get the job experience.

One of the main objectives of an internship is to expose me to a particular job and a profession or industry in this case Software Engineer. While I might have an idea about what a job is like, I won't know until I actually perform it if it's what I thought it was or there is more, if I have the training and skills to do it and if it's something I like or not.

3.4 SCOPE

The CI Platform covers a range of social impact initiatives, including community service, volunteerism, charitable donations, and social advocacy. The platform is designed to be flexible and customizable to meet the unique needs and priorities of each company and its employees.

➤ Some basic features of the Projects

- Easy and fast Credentials Operations
- Insured best missions
- Easy to apply Procedure
- Secure Online Method
- Friendly appropriate behaviour
- Transparent and Secure application

➤ Some main objectives of the Project

- Enhance the company's reputation and image through its commitment to social responsibility

- Improve employee engagement, job satisfaction, and retention
- Contribute to social impact initiatives that align with the company's values and mission
- Foster a culture of social responsibility and philanthropy within the company.

3.5 TECHNOLOGY AND LITERATURE REVIEW

3.5.1 Technologies:

- **Frontend Technologies:**

- **HTML**
- **CSS**
- **JAVASCRIPT**
- **BOOTSTRAP**

- **Backend Technologies:**

- **.NET**
- **SQL-SERVER**

- **HTML:**

HTML is an initialize of Hyper Text Markup Language for web pages. It provides a means to describe the structure of text-based information in document by denoting text as headings, paragraphs, lists and so on and to supplement that text with interactive forms, embedded images and other objects.

- **CSS:**

Cascading Style Sheets is a style sheet language used for describing the presentation of a document written in a markup language such as HTML or XML. CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript.

- **JAVASCRIPT:**

JavaScript supports the development of both client and server components of applications. On the client side, it can be used to write programs that are executed by a web browser within the context of the web page. On the server side, it can be used to write 299326 Introduction to Project 17 web server programs that can be process information submitted by a web browser and then update the web browser display accordingly.

- **.NET:**

The ASP.NET MVC framework is a lightweight, highly testable presentation framework that (as with Web Forms-based applications) is integrated with existing ASP.NET features, such as master pages and membership-based authentication. The MVC framework is defined in the System.MVC is a standard design pattern that many developers are familiar with. Some types of Web applications will benefit from the MVC framework. Others will continue to use the traditional ASP.NET application pattern that is based on Web Forms and post backs. Other types of Web applications will combine the two approaches; neither approach excludes the other.

- **SQL-SERVER:**

SQL (Structured Query Language) is a special-purpose programming language designed for managing data held in a relational database management system (RDBMS). Originally based upon relational algebra and tuple relational calculus, SQL consists of a data definition language and a data manipulation language. The scope of SQL includes data insert, query, update and delete, schema creation and modification, and data access control. Although SQL is often described as, and to a great extent is, a declarative language, it also includes procedural elements.

- Data Definition: Defining tables and structure in the database.
- Data manipulation: Used to manipulate the data within those schema objects.

3.6 PROJECT PLANNING

3.6.1 Project Development Approach and Justification

3.6.1.1 Project Development Approach

I have used the Iterative Waterfall Model for Project Development, because it requires a lot of evaluation and testing phases, for making the system work in an efficient way. After every refining process, modifications are reflected to nullify the limitations and inaccuracy of the application, and the modules are tested individually and integrated. These are repeated a couple of times before a final application is produced.

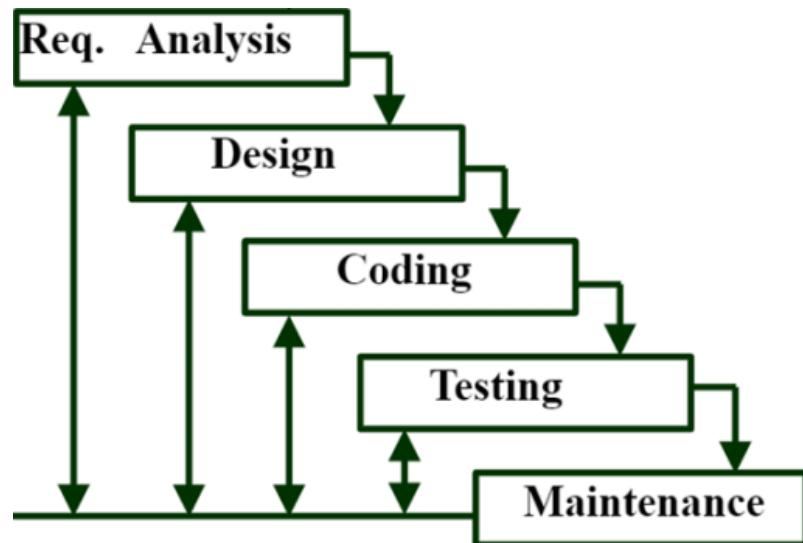


Fig 2.1 Waterfall Model

Phases of Iterative Waterfall Model

1. Requirement Analysis
2. Software Design
3. Coding
4. Testing
5. Software Maintenance

Advantages of Iterative Waterfall Model

- The Iterative waterfall model is very easy to understand and use.
- Every phase contains a feedback path to its previous phase.
- This is a simple way to make changes or any modifications at any phase.
- By using this model, developers can complete projects earlier.
- Customer involvement is not required during software development.

Disadvantages of Iterative Waterfall Model

- There is no feedback path for the feasibility study phase.
- This model is not suitable if requirements are not clear.
- It can be costlier.
- There is no process for risk handling.

- Customers can view the final project, no prototype for taking customer review. This model does not work well for short projects.
- If modifications are required repeatedly then it can be more complex projects.

3.6.1.2 Project Development Justification

When I started the project we lacked the knowledge regarding the technology I have used. It is the base of the whole project. So first I learnt as much as possible regarding the same and soon as I gained the confidence I started with some basic features to implement. I faced many difficulties from starting but as I moved further and having some little knowledge gained I was able to solve the problems. I needed some help from coordinator sometimes but soon I developed the logic and was able to tackle it. I then moved to implement advanced features but I was not able to figure out that what particular approach I should take to implement some features. In the process I researched many new features provided by the framework and I started implementing them. Also in some cases I found more than one method and I was able to judge which method is more feasible and efficient to use. But the time required for all this was longer than I thought.

3.6.2 Roles and Responsibilities

DEV

My role is as Full stack Software Developer in a company and responsibilities include:

- Analysis Determine the Business logic and define the different action methods in controllers
- Coding (UI/UX): To Design the Web-Pages in .NET MVC VIEW and Make them Responsive.
- Database : Create the Database
- Testing: Make sure that the project is working properly by testing all its properties
- Documentation

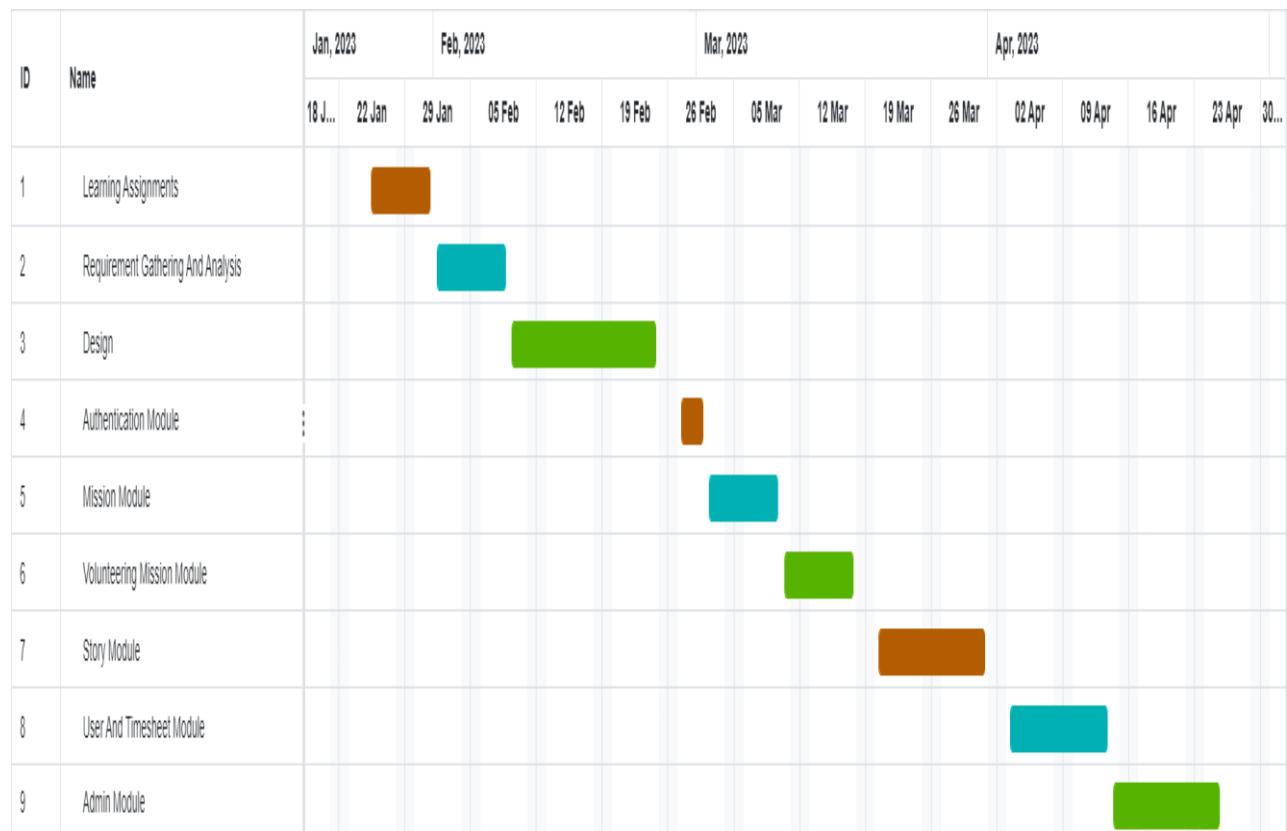
3.6.3 Group Dependence

CI (Community Investment) platform was a solo project so there is no discussion in group. But I generally discuss which approach is the best for feature with my coordinator and seniors or my colleagues.

3.7 PROJECT SCHEDULING

In managing any project, the whole plan of the project is made before its actual implementation. The plan of the project helps the team to work as per the schedule and helps to successfully complete the project. To plan a project the main requirements that are calculated are cost, duration, effort, scheduling, manpower, resource allocation, risk management etc. The plan of our project is as follows:

Fig 3.1 Gantt Chart



CHAPTER - 4: SYSTEM ANALYSIS

4.1. Study of Current System

- The market is currently saturated with various systems, and one such system is CSRConnect.
- This platform offers a fully hosted and managed solution that engages employees in volunteering, giving, and sustainability initiatives.
- Additionally, CSRConnect assists grants administrators in managing corporate and foundation philanthropic programs.

4.2. Problem and Weakness of Current System

- The system appears simple; it involves too many steps, which can be cumbersome.
- Moreover, the image display quality is inconsistent, with images appearing distorted when opened.
- Additionally, the organization is required to purchase the entire platform, even if they only require a single feature, which can be costly and unnecessary.

4.3. Requirements of New System

- System should be easy to use and easy to understand, System should be as simple as possible.
- It should provide best UI experience to user and it should be responsive enough that platform can look better even in Mobile screen.
- Different features should be independent from each other so that if user doesn't want any feature they don't have to buy whole platform.

4.4. System Feasibility

4.4.1 Does the system contribute to the overall objectives of the organization?

Our project is designed to be implemented at the organizational level, and having well-defined objectives can help employees remain focused and promote cohesion in the workplace. These objectives should align with the company's vision and values. In this article, we will explore the importance of organizational objectives, how to structure them effectively, the goals they should strive to achieve, and the elements of good objectives. Organizational objectives are crucial because they provide every member of the organization, from stakeholders to entry-level employees, with a clear understanding of the company's mission

4.4.2 Can the system be implemented using the current technology and within the given cost and schedule constraints.

The project was implemented using the current versions of the technologies that were utilized, without any additional financial investment. Our goal was to ensure that all user requirements were met in order to provide the highest level of comfort possible, while also achieving long-term objectives through the implementation of unique features. Through the process of gathering requirements, we were able to establish a comprehensive understanding of the system's functions and features, allowing us to effectively execute our plan.

4.5. Activity of New System

4.5.1 Use Case

- In software and systems engineering, a use case is a list of steps, typically defining interactions between actor and a system, to achieve a goal.
- The actor can be a human, an external system, or time.
- In systems engineering, use cases are used at a higher level than within software engineering, often representing missions or stakeholder goals.
- The detailed requirements may then be captured in Systems Modelling Language or as contractual statements.
- As an important requirement technique, use cases have been widely used in modern software engineering over the last two decades.
- Use case driven development is a key characteristic of process models and frameworks.
- With its iterative and evolutionary nature, use case is also a good fit for agile development.

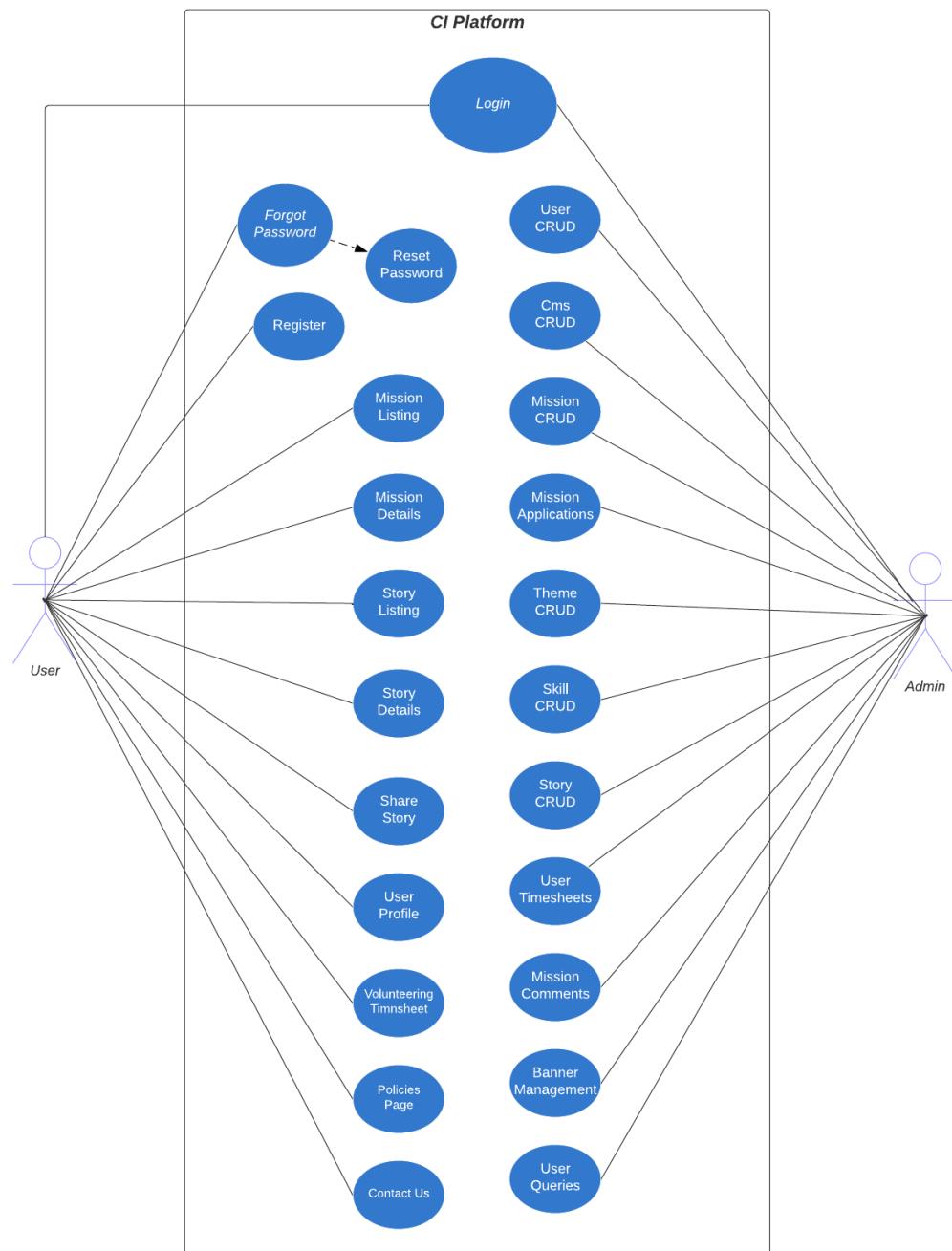


Fig 4.5.1.1 Use Case Diagram

4.5.2 Activity Diagram

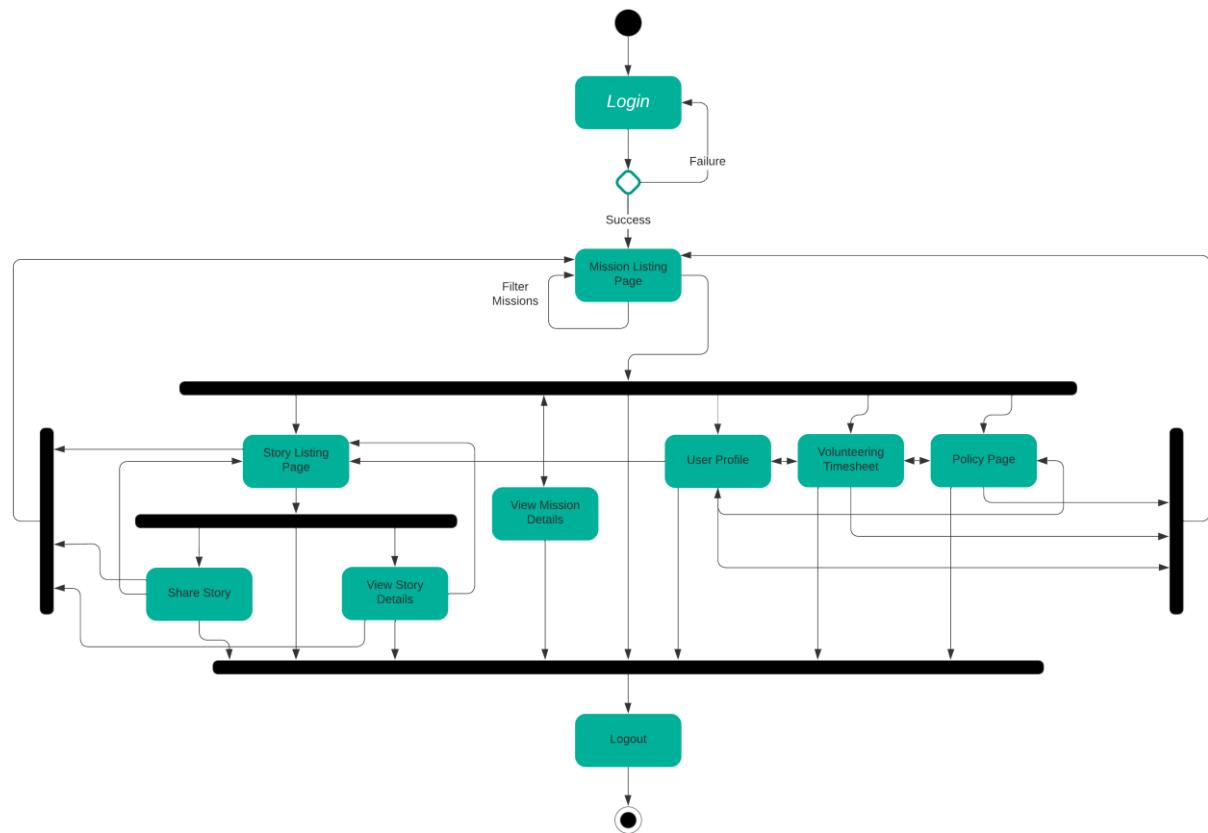


Fig 4.5.2.1 Activity Diagram for User

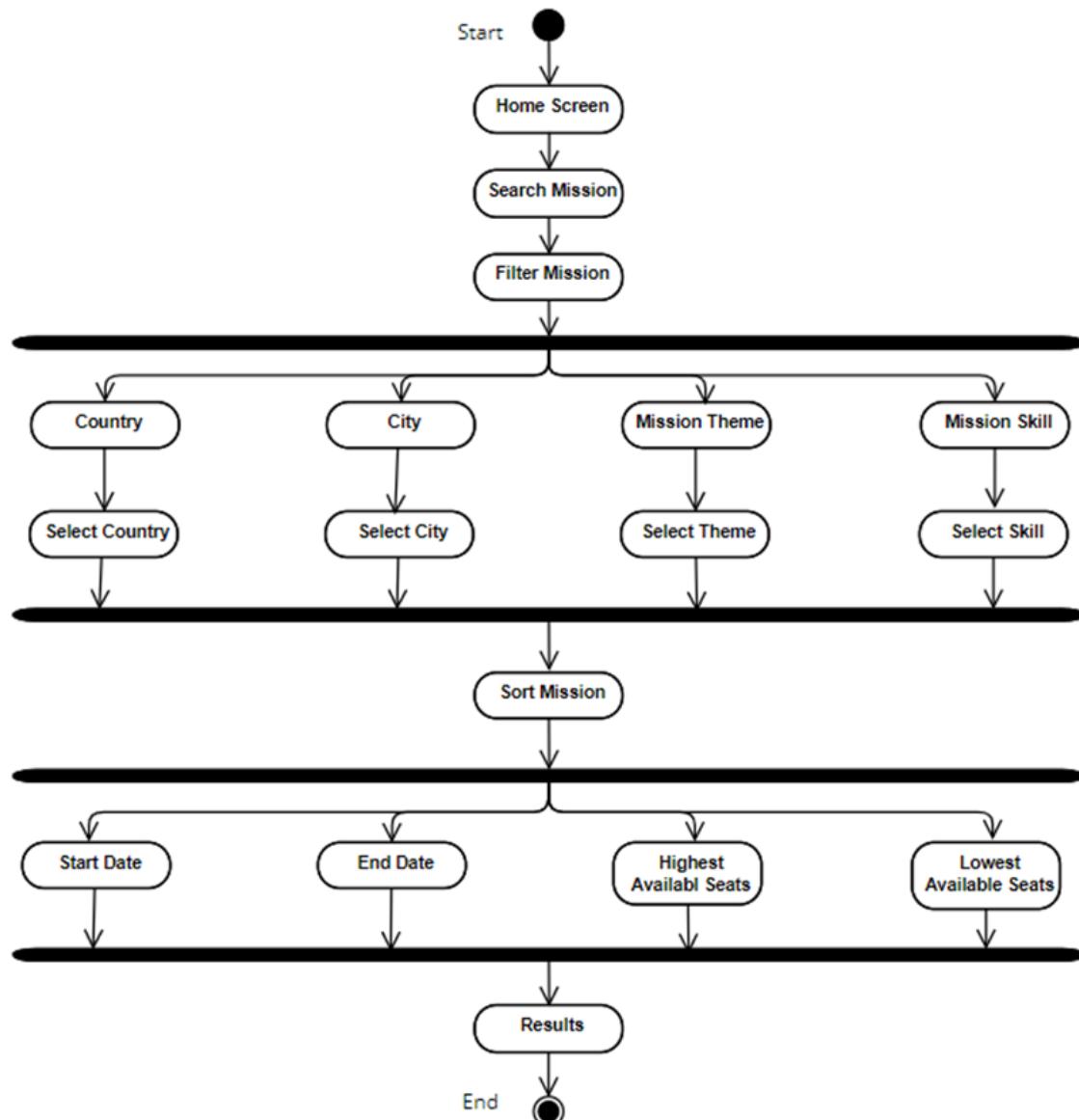


Fig 4.5.2.2 Activity Diagram for Missions

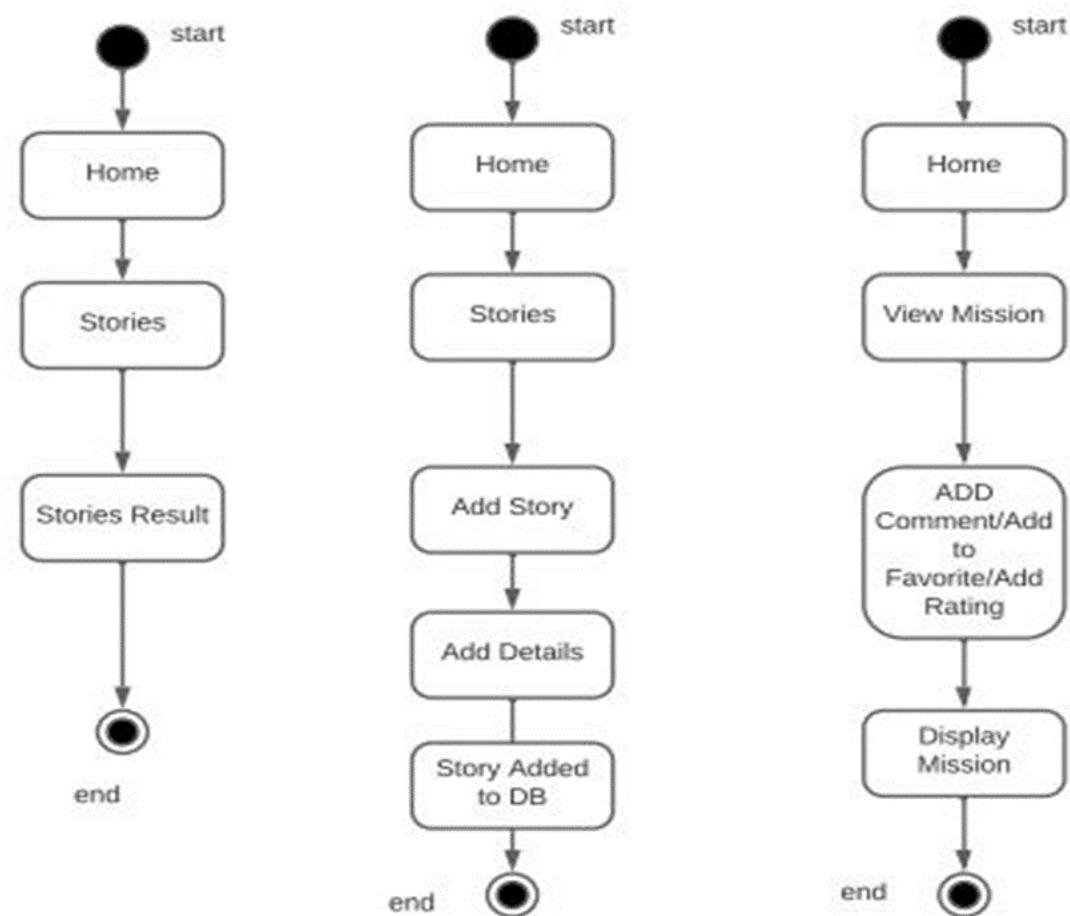


Fig 4.5.2.3 Activity Diagram for Stories and Mission Details

4.5.3 Class Diagram

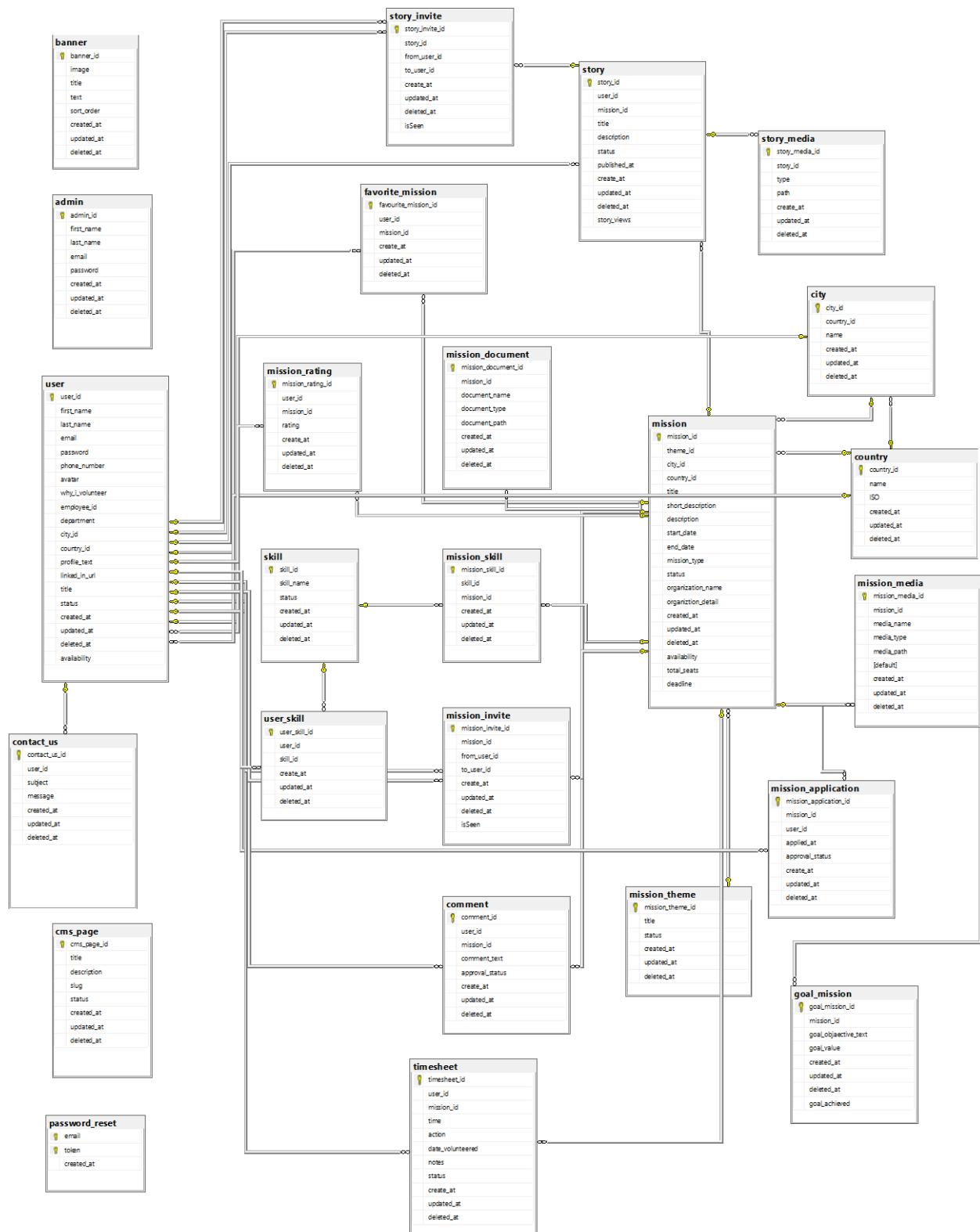


Fig 4.5.3.1 Class Diagram

4.5.4 Sequence Diagram

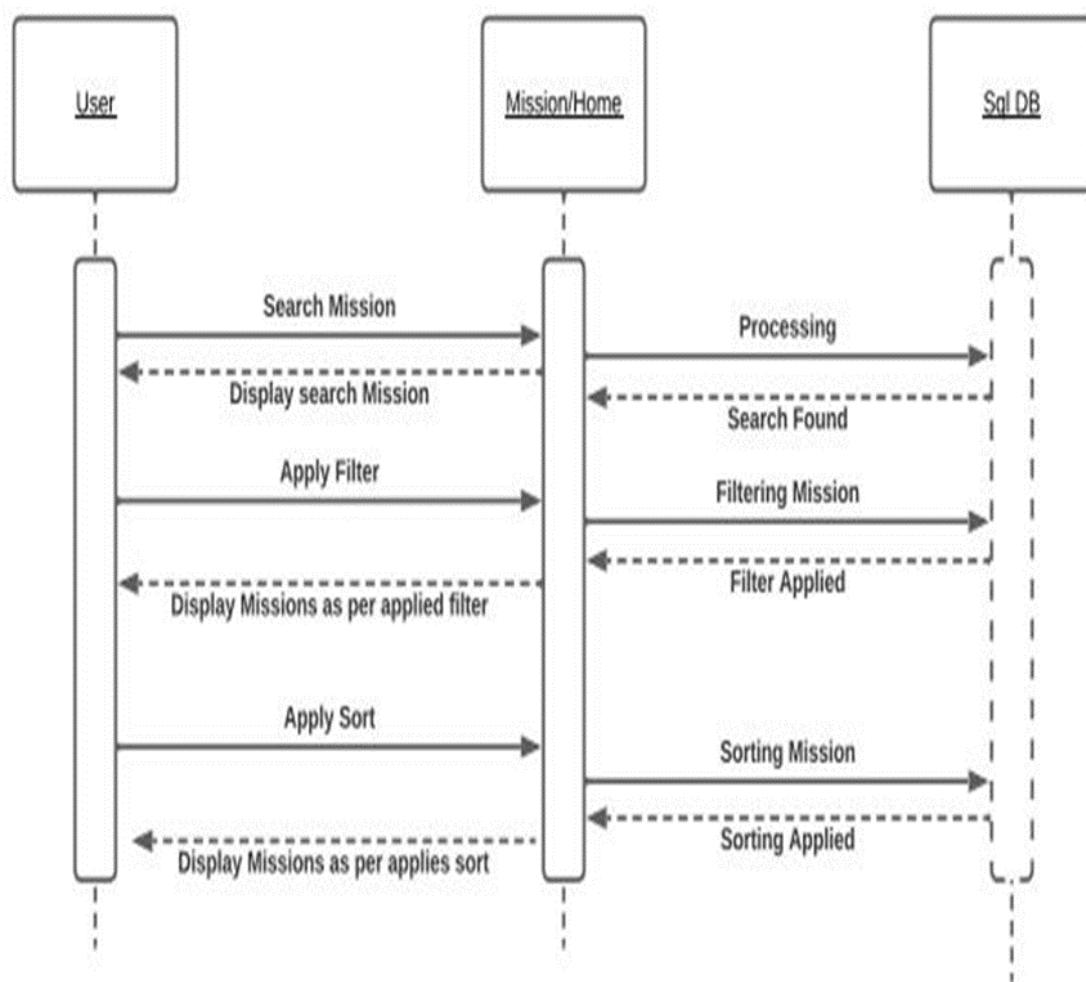


Fig 4.5.4.1 Sequence Diagram 1

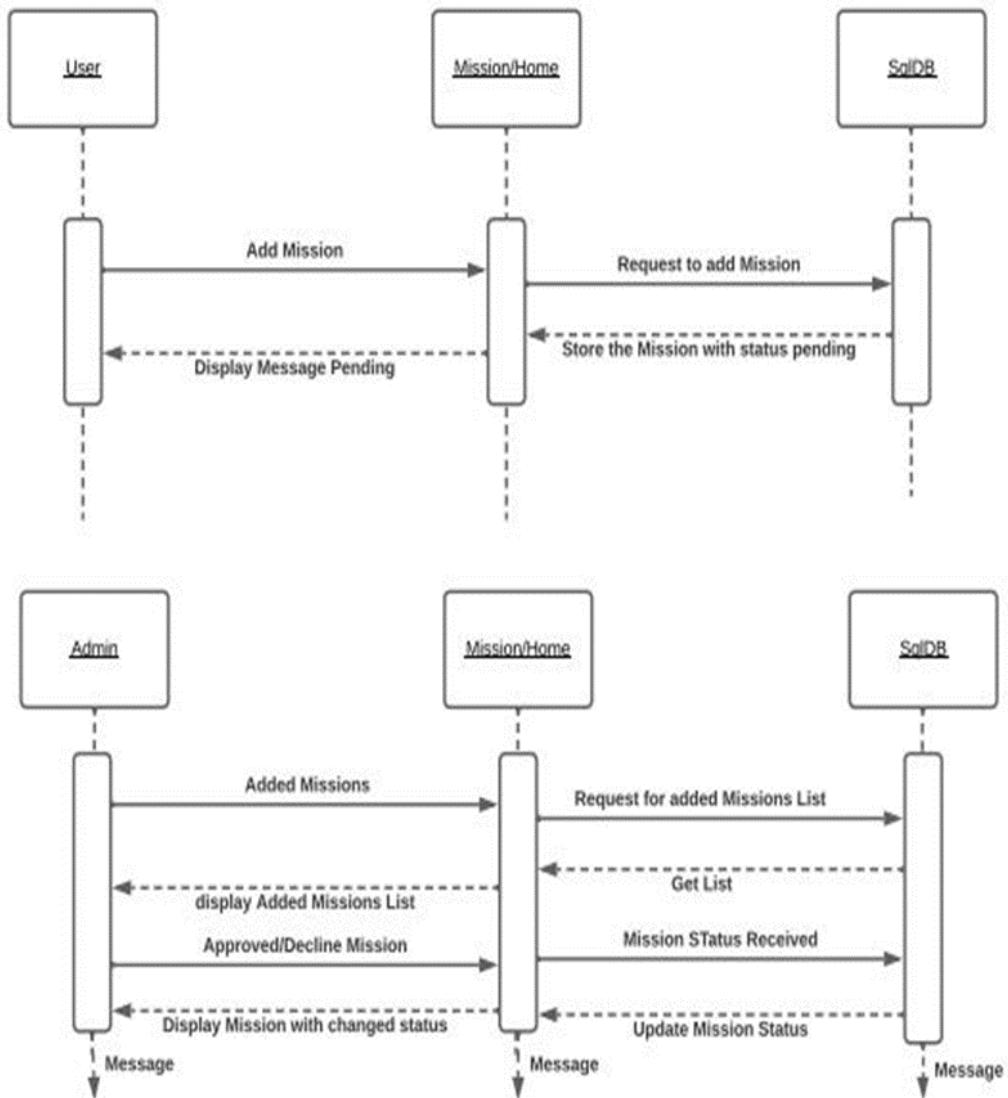


Fig 4.5.4.2 Sequence Diagram 2

4.5.5 DFD Diagram

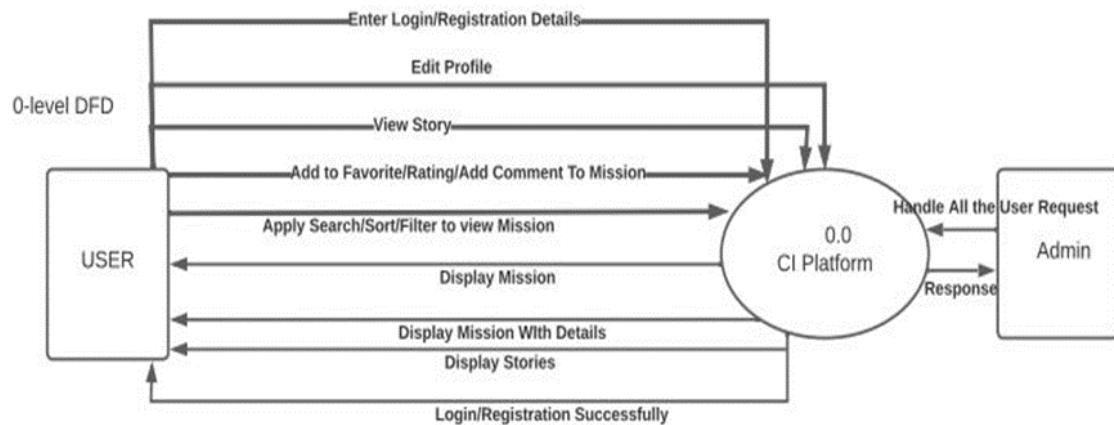


Fig 4.5.5.1 Level 0 DFD Diagram

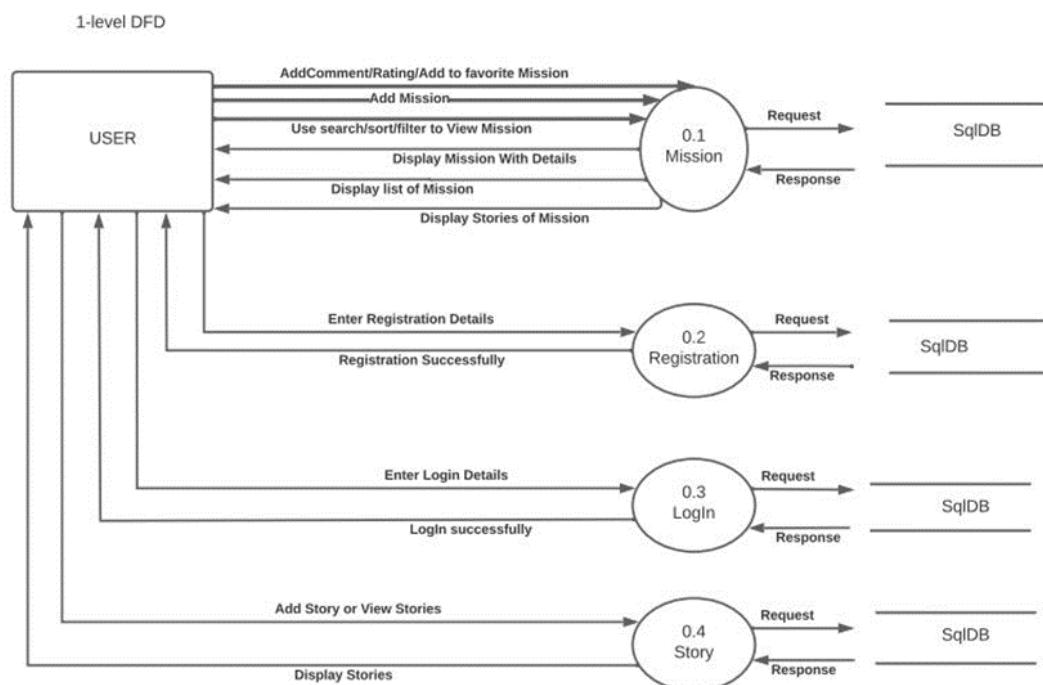


Fig 4.5.5.2 Level 1 DFD Diagram

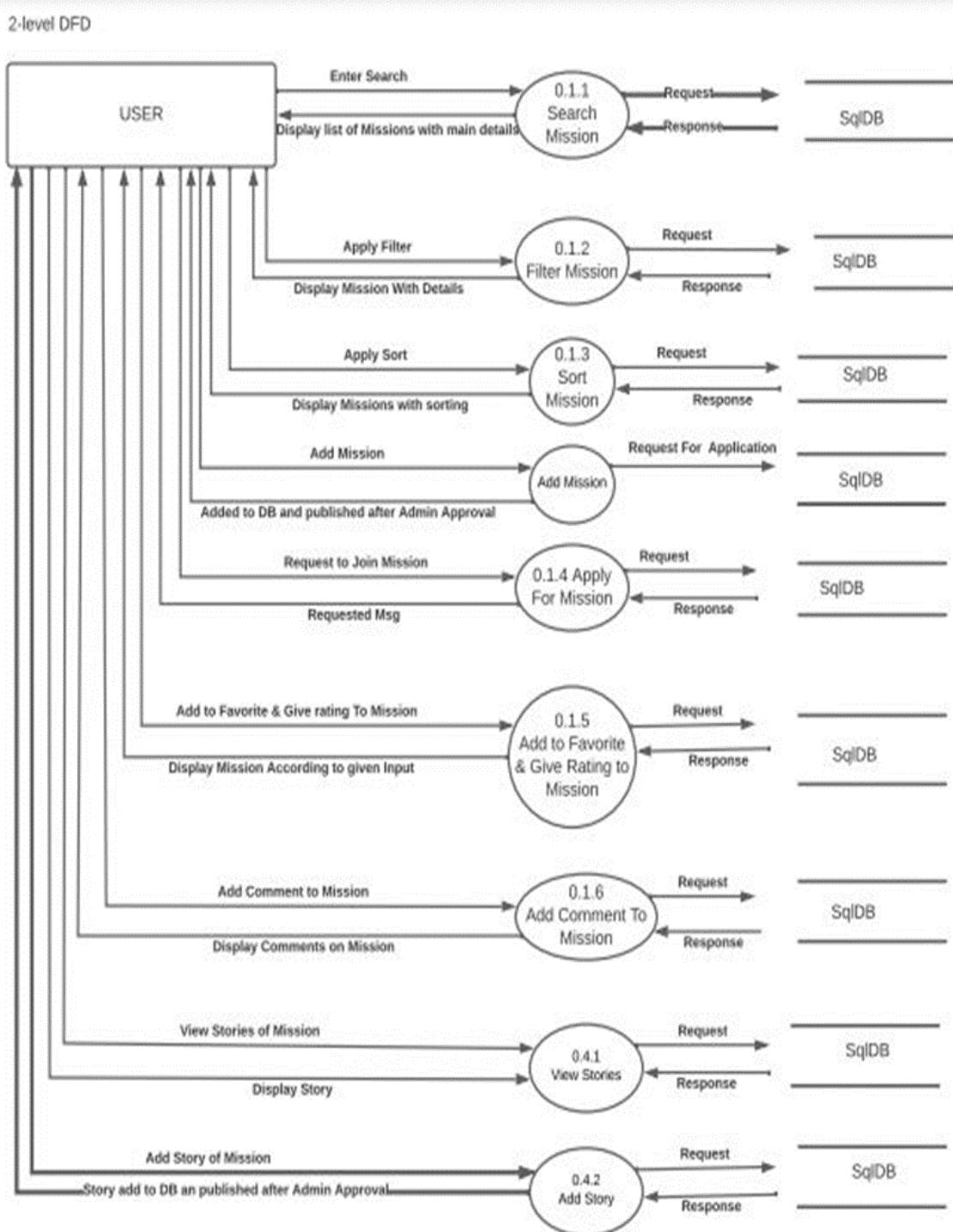


Fig 4.5.5.3 Level 2 DFD Diagram

4.6. Features of New System

A Community Investment (CI) platform, also known as a Corporate Social Investment (CSI) or Community Social Investment platform, is a program built to support a company's larger corporate social responsibility (CSR) or community engagement program. CI platforms are becoming increasingly popular among companies looking to give back to the communities in which they operate.

These programs offer employees the opportunity to get involved in their local community by volunteering their time and skills to support a range of community projects and causes. CI platforms can take many different forms, depending on the needs and goals of the company. Some platforms are designed to support specific causes, such as environmental sustainability, education, or social justice, while others may be more broadly focused on community development and well-being.

CI platforms can help companies to demonstrate their commitment to social responsibility, engage their employees in meaningful community projects, and build a positive brand reputation. Whether through volunteer programs, charitable donations, or other forms of community investment, CI platforms can help companies to make a real difference in the communities where they operate.

4.7. Modules and Their Description of System

In today's world, consumers are increasingly looking to do business with companies that prioritize social responsibility and community engagement. In fact, studies have shown that almost 91% of the global population wants to see businesses do more than just earn huge profits. This expectation has led many companies to step up their efforts in one specific area i.e., community investment.

By investing in community engagement and social responsibility, companies can build stronger relationships with their customers, suppliers, and other stakeholders. They can also differentiate themselves from competitors by demonstrating a commitment to making a positive impact beyond just their bottom line.

One effective way for companies to invest in their communities is through the use of a community investment platform, also known as a corporate volunteer program or employee volunteer program. These platforms provide a structured way for companies to engage employees in meaningful community projects and causes, while also supporting their broader corporate social responsibility goals.

Through a community investment platform, companies can offer employees a range of opportunities to get involved, from volunteering at local non-profit organizations to supporting community events and initiatives. These platforms can also help companies to track and measure the impact of their community investments, ensuring that their efforts are making a tangible difference in the communities where they operate.

Overall, community investment is becoming an increasingly important aspect of corporate social responsibility, as companies strive to meet the expectations of consumers who want to see businesses do more than just earn profits. By investing in community engagement and social responsibility, companies can build stronger relationships with stakeholders, differentiate themselves from competitors, and make a positive difference in the world around them.

This web platform will allow the company to “plan and manage effort that seeks to motivate and enable employees to effectively serve community needs through the leadership of the employer.”

4.8. Selection of Hardware and Software Characteristics

➤ Hardware Requirements

- ❖ *Processor:* 1.8 GHz or faster processor. Dual-core or better recommended.
- ❖ *Memory (RAM):* 8GB or more recommended.
- ❖ *Hard Disk Space:* 5 GB or more of available space.
- ❖ *Graphics card:* Direct X10 compatible graphics card with a WDDM 1.2 driver or higher.

➤ Software Requirements

- ❖ *Operating System:* Windows 10 version 1903 or higher. Windows Server 2016 or higher.
- ❖ .NET 6 SDK.
- ❖ Visual Studio 2022.
- ❖ SQL Server Management Studio.
- ❖ SQL Server 2019 Developer Edition

Chapter 5: SYSTEM APPLICATION DESIGN

5.1 System Design

5.1.1. System Design and Methodology

System design is the process of defining the architecture, components, modules, interfaces, and data for a system to satisfy specified requirements. It is a multi-disciplinary approach that requires knowledge in a variety of areas including computer science, software engineering, hardware engineering, and project management.

The methodology used for system design depends on the specific needs and requirements of the project. However, a common approach is to follow a set of steps that include requirements gathering, analysis and specification, architecture design, detailed design, implementation, testing, deployment, and maintenance.

Overall, system design and methodology is a complex and iterative process that requires careful planning and attention to detail. It involves a variety of skills and disciplines, and requires collaboration and communication between different stakeholders and team members.

5.1.2 Database Design

Table 5.1 Banner Table

Field	Type	Size	Null	Default	Key
<i>banner_id</i>	<i>Bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>Primary Key</i>
image	Varchar	512	No	None	
Text	Text				
sort_order	Int	11		0	
created_at	timestamp	-	No	CURRENT_TIMESTAMP	-
updated_at	timestamp	-	Yes	Null	-
deleted_at	timestamp	-	Yes	Null	-

Table 5.2 City Table

Field	Type	Size	Null	Default	Key
<i>city_id</i>	<i>Bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>Primary Key</i>

country_id	Bigint	20	No	None	FK (country.country_id)
Name	Varchar	255	No	None	
created_at	Timestamp	-	No	CURRENT_TIMESTAMP	-
updated_at	timestamp	-	Yes	Null	-
deleted_at	timestamp	-	Yes	Null	-

Table 5.3 Country Table

Field	Type	Size	Null	Default	Key
country_id	Bigint	20	No	None	Primary Key
Name	Varchar	255	No	None	
ISO	Varchar	16	Yes	None	
created_at	Timestamp	-	No	CURRENT_TIMESTAMP	-
updated_at	Timestamp	-	Yes	Null	-
deleted_at	Timestamp	-	Yes	Null	-

Table 5.4 Comment Table

Field	Type	Size	Null	Default	Key
comment_id	Bigint	20	No	None	Primary Key
user_id	Bigint	20	No	None	FK (user.user_id)
mission_id	Bigint	20	No	None	FK (mission.mission_id)
approval_status	Varchar	PENDING, PUBLISHED, DECLINED	No	PENDING	
created_at	Timestamp	-	No	CURRENT_TIMESTAMP	-
updated_at	Timestamp	-	Yes	Null	-

deleted_at	Timestamp	-	Yes	Null	-
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Table 5.5 Contact Us Table

Field	Type	Size	Null	Default	Key
<i>Contact_us_id</i>	<i>Bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>Primary Key</i>
<i>user_id</i>	<i>Bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>FK(user.user_id)</i>
Subject	Varchar	255	No	None	-
Message	Text	-	No	None	-
created_at	Timestamp	-	No	CURRENT_TIMESTAMP	-

Table 5.6 CMS Page Table

Field	Type	Size	Null	Default	Key
<i>cms_page_id</i>	<i>Bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>Primary Key</i>
Title	Varchar	255			
description	Text				
Slug	Varchar	255	No	None	-
Status	Enum	0,1		1	
created_at	Timestamp	-	No	CURRENT_TIMESTAMP	-
updated_at	Timestamp	-	Yes	Null	-
deleted_at	Timestamp	-	Yes	Null	-

Table 5.7 Favourite Mission Table

Field	Type	Size	Null	Default	Key
<i>favourite_mission_id</i>	<i>Bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>Primary Key</i>
<i>user_id</i>	<i>Bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>FK (user.user_id)</i>
<i>mission_id</i>	<i>Bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>FK (mission.mission_id)</i>
created_at	timestamp	-	No	CURRENT_TIMESTAMP	-
updated_at	timestamp	-	Yes	Null	-
deleted_at	timestamp	-	Yes	Null	-

Table 5.8 Goal Mission Table

Field	Type	Size	Null	Default	Key
<i>goal_mission_id</i>	<i>Bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>Primary Key</i>
<i>mission_id</i>	<i>Bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>FK (mission.mission_id)</i>
goal_objective_text	Varchar	255	Yes	Null	
goal_value	Int	11	No	None	
created_at	timestamp	-	No	CURRENT_TIMESTAMP	-
updated_at	timestamp	-	Yes	Null	-
deleted_at	timestamp	-	Yes	Null	-

Table 5.9 Mission Application Table

Field	Type	Size	Null	Default	Key
<i>mission_application_id</i>	<i>bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>Primary Key</i>
<i>mission_id</i>	<i>bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>FK (mission.mission_id)</i>
<i>user_id</i>	<i>bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>FK (user.user_id)</i>
applied_at	datetime		No		
approval_status	Enum	PENDING, DECLINE, APPROVE	No	PENDING	
created_at	timestamp	-	No	CURRENT_TIMESTAMP	-
updated_at	timestamp	-	Yes	Null	-
deleted_at	timestamp	-	Yes	Null	-

Table 5.10 Mission Table

Field	Type	Size	Null	Attribute	Key
<i>mission_id</i>	<i>bigint</i>	<i>20</i>	<i>No</i>	<i>UNSIGNED</i>	<i>Primary Key</i>
<i>theme_id</i>	<i>bigint</i>	<i>20</i>	<i>No</i>	<i>UNSIGNED</i>	<i>FK (mission_theme.mission_theme_id)</i>
<i>city_id</i>	<i>bigint</i>	<i>20</i>	<i>No</i>	<i>UNSIGNED</i>	<i>FK (city.city_id)</i>
<i>country_id</i>	<i>bigint</i>	<i>20</i>	<i>No</i>	<i>UNSIGNED</i>	<i>FK (country.country_id)</i>
Title	varchar	128	No		
short_description	text				
description	text				
start_date	datetime		yes		

end_date	datetime		yes		
mission_type	enum	TIME, GOAL	No		
Status	enum	0,1			
organization_name	varchar	255	yes		
organization_detail	text		Yes		
availability	enum	daily, weekly, week- end, monthly	Yes		
Total_seats	Int	-	Yes		
deadline	timestamp	-	Yes		
created_at	timestamp	-	No	-	-
updated_at	timestamp	-	Yes	-	-
deleted_at	timestamp	-	Yes	-	-

Table 5.11 Mission Document Table

Field	Type	Size	Null	Default	Key
mission_document_id	Bigint	20	No	None	Primary Key
mission_id	Bigint	20	No	None	FK (mission .mission_id)
document_name	Varchar	255			
document_type	Varchar	255			
document_path	Varchar	255	Yes	None	
created_at	Timestamp	-	No	CURRENT_ TIMESTAMP	-
updated_at	Timestamp	-	Yes	Null	-
deleted_at	Timestamp	-	Yes	Null	-

Table 5.12 Mission Invite Table

Field	Type	Size	Null	Default	Key
<i>mission_invite_id</i>	<i>Bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>Primary Key</i>
<i>mission_id</i>	<i>Bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>FK (mission.mission_id)</i>
<i>from_user_id</i>	<i>Bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>FK (user.user_id)</i>
<i>to_user_id</i>	<i>Bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>FK (user.user_id)</i>
<i>created_at</i>	Timestamp	-	No	CURRENT_TIMESTAMP	-
<i>updated_at</i>	Timestamp	-	Yes	Null	-
<i>deleted_at</i>	Timestamp	-	Yes	Null	-

Table 5.13 Mission Media Table

Field	Type	Size	Null	Default	Key
<i>mission_media_id</i>	<i>Bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>Primary Key</i>
<i>mission_id</i>	<i>Bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>FK (mission.mission_id)</i>
<i>media_name</i>	Varchar	64			
<i>media_type</i>	Varchar	4			
<i>media_path</i>	Varchar	255	Yes	None	
<i>default</i>	Enum	[0,1]		0	
<i>created_at</i>	Timestamp	-	No	CURRENT_TIMESTAMP	-
<i>updated_at</i>	Timestamp	-	Yes	Null	-
<i>deleted_at</i>	Timestamp	-	Yes	Null	-

Table 5.14 Mission Rating Table

Field	Type	Size	Null	Default	Key
<i>mission_rating_id</i>	<i>bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>Primary Key</i>
<i>user_id</i>	<i>bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>FK (user.user_id)</i>
<i>mission_id</i>	<i>bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>FK (mission.mission_id)</i>
Rating	byte	1,2,3,4,5	No	None	
created_at	Timestamp	-	No	CURRENT_TIMESTAMP	-
updated_at	timestamp	-	Yes	Null	-
deleted_at	timestamp	-	Yes	Null	-

Table 5.15 Mission Skill Table

Field	Type	Size	Null	Default	Key
<i>mission_skill_id</i>	<i>Bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>Primary Key</i>
<i>skill_id</i>	<i>bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>FK (skill.skill_id)</i>
<i>mission_id</i>	<i>bigint</i>	<i>20</i>	<i>Yes</i>	<i>Null</i>	<i>FK (mission.mission_id)</i>
created_at	timestamp	-	No	CURRENT_TIMESTAMP	-
updated_at	timestamp	-	Yes	Null	-

Table 5.16 Mission Theme Table

Field	Type	Size	Null	Default	Key
<i>mission_theme_id</i>	<i>Bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>Primary Key</i>
Title	Varchar	255			

Status	Tinyint	1	No	1	
created_at	timestamp	-	No	CURRENT_TIMESTAMP	-
updated_at	timestamp	-	Yes	Null	-
deleted_at	timestamp	-	Yes	Null	-

Table 5.17 Password Reset Table

Field	Type	Size	Null	Default	Key
<i>Id</i>	<i>Bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>Primary Key</i>
Email	Varchar	191	No	None	-
Expiration_time	Timestamp	-	No	None	-
Is_used	Byte	-	No	0	-
Token	Varchar	191	No	None	-
created_at	Timestamp	-	No	CURRENT_TIMESTAMP	-

Table 5.18 Skill Table

Field	Type	Size	Null	Default	Key
<i>skill_id</i>	<i>Int</i>	<i>11</i>	<i>No</i>	<i>None</i>	<i>Primary Key</i>
skill_name	varchar	64			
status	tinyint	1	No	1	
created_at	timestamp	-	No	CURRENT_TIMESTAMP	-
updated_at	timestamp	-	Yes	Null	-
deleted_at	timestamp	-	Yes	Null	-

Table 5.19 Story Table

Field	Type	Size	Null	Default	Key
<i>story_id</i>	<i>Bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>Primary Key</i>

<i>user_id</i>	<i>Bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>FK (user.user_id)</i>
<i>mission_id</i>	<i>Bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>FK (mission.mission_id)</i>
Title	Varchar	255	yes	Null	
description	Text		Yes	Null	
status	Enum	DRAFT, PUBLISH, DECLINE, PENDING	No	DRAFT	
User_visits	Int	-	No	0	
published_at	Timestamp	-	Yes	Null	-
created_at	timestamp	-	No	CURRENT_TIMESTAMP	-
updated_at	timestamp	-	Yes	Null	-
deleted_at	timestamp	-	Yes	Null	-

Table 5.20 Story Invite Table

Field	Type	Size	Null	Default	Key
<i>story_invite_id</i>	<i>bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>Primary Key</i>
<i>story_id</i>	<i>bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	-
<i>from_user_id</i>	<i>bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	-
<i>to_user_id</i>	<i>bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	-
created_at	timestamp	-	No	CURRENT_TIMESTAMP	-
updated_at	timestamp	-	Yes	Null	-
deleted_at	timestamp	-	Yes	Null	-

Table 5.21 Story Media Table

Field	Type	Size	Null	Default	Key
<i>story_media_id</i>	<i>bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>Primary Key</i>
<i>story_id</i>	<i>bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>FK (story.story_id)</i>
Type	varchar	8	No	None	
Path	Text		No	None	
created_at	timestamp	-	No	CURRENT_TIMESTAMP	-
updated_at	timestamp	-	Yes	Null	-
deleted_at	timestamp	-	Yes	Null	-

Table 5.22 Timesheet Table

Field	Type	Size	Null	Default	Key
<i>timesheet_id</i>	<i>bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>Primary Key</i>
<i>user_id</i>	<i>bigint</i>	<i>20</i>	<i>Yes</i>	<i>Null</i>	<i>FK (user.user_id)</i>
<i>mission_id</i>	<i>bigint</i>	<i>20</i>	<i>Yes</i>	<i>Null</i>	<i>FK (mission.mission_id)</i>
Time	Time		Yes	None	
action	Int	11	Yes	None	
date_volunteered	datetime		No	None	
Notes	Text		Yes	None	
status	enum	APPROVED, DECLINED, PENDING	No	PENDING	-
created_at	timestamp	-	No	CURRENT_TIMESTAMP	-
updated_at	timestamp	-	Yes	Null	-
deleted_at	timestamp	-	Yes	Null	-

Table 5.23 User Skills Table

Field	Type	Size	Null	Default	Key
<i>user_skill_id</i>	<i>Bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>Primary Key</i>
<i>user_id</i>	<i>Bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>FK (user.user_id)</i>
<i>skill_id</i>	<i>Bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>FK (skill.skill_id)</i>
created_at	timestamp	-	No	CURRENT_TIMESTAMP	-
updated_at	timestamp	-	Yes	Null	-
deleted_at	timestamp	-	Yes	Null	-

Table 5.24 User Table

Field	Type	Size	Null	Default	Key
<i>user_id</i>	<i>Bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>Primary Key</i>
first_name	Varchar	16	Yes	Null	
last_name	Varchar	16	Yes	Null	
Email	Varchar	128	No	None	
password	Varchar	255	No	None	
phone_number	Int	11	No	None	
avatar	Varchar	2048	Yes	Null	
why_i_volunteer	Text		Yes	Null	
employee_id	Varchar	16	Yes	Null	
department	Varchar	16	Yes	Null	
manager	Varchar	255	Yes	None	
availability	Enum	daily, weekly, week- end, monthly	Yes		
<i>city_id</i>	<i>Bigint</i>	<i>20</i>	<i>No</i>	<i>None</i>	<i>FK (city.city_id)</i>

<i>country_id</i>	Bigint	20	No	None	<i>FK (country</i> .country_id)
profile_text	Text		Yes	Null	
linked_in_url	Varchar	255	Yes	Null	
Title	Varchar	255	Yes	Null	
Status	Enum	0,1	No	1	
Role	Enum	User, admin	No	-	
created_at	Timestamp	-	No	CURRENT_ TIMESTAMP	-
updated_at	Timestamp	-	Yes	Null	-
deleted_at	Timestamp	-	Yes	Null	-

5.3: Input/ Output and Interface Design

5.3.1 Samples of Forms, Reports and Interface

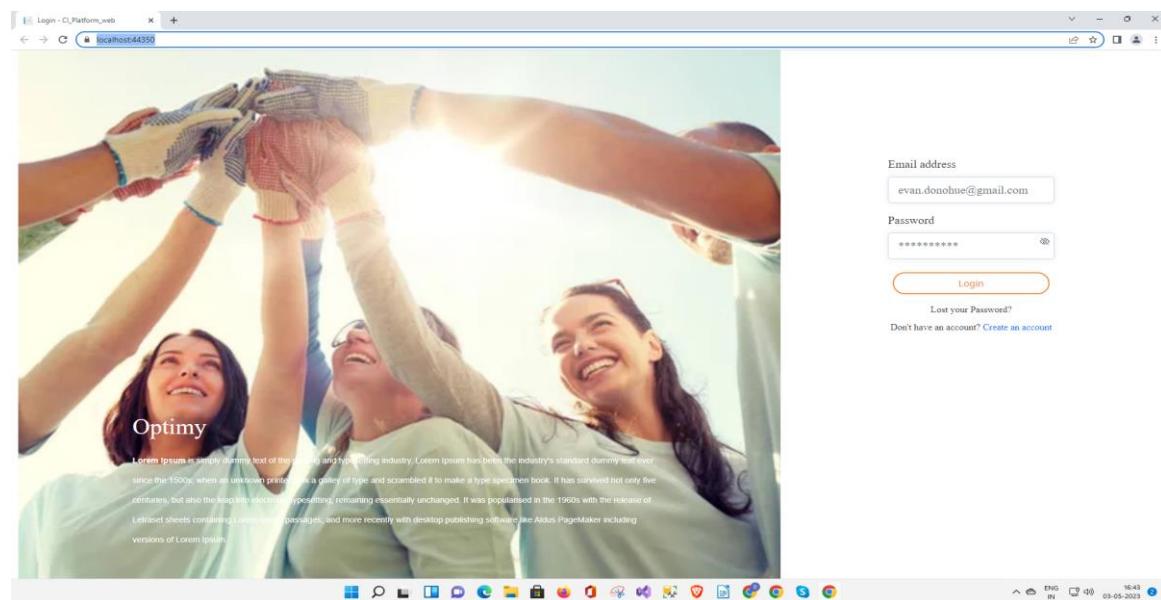


Fig 5.1 Login Page

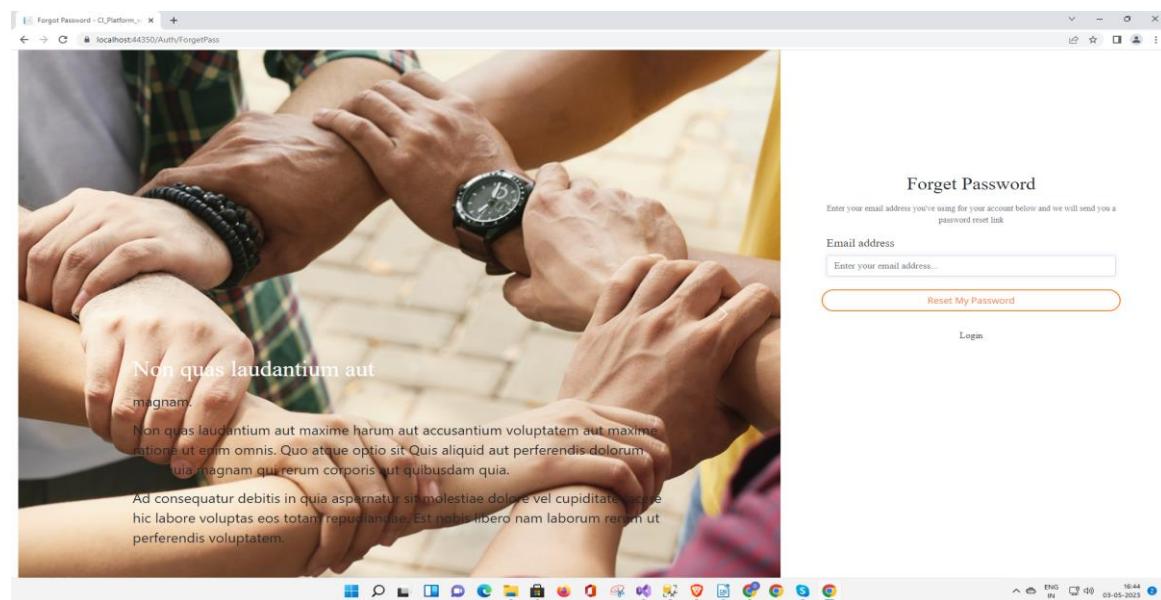


Fig 5.2 Forgot Password Page

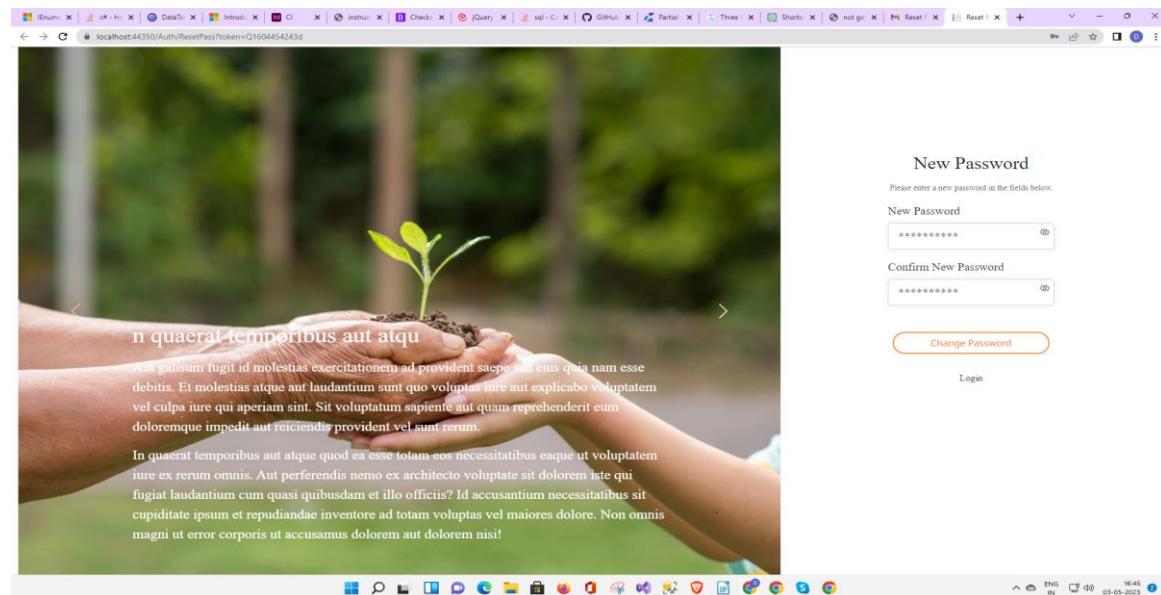


Fig 5.3 Change Password Page

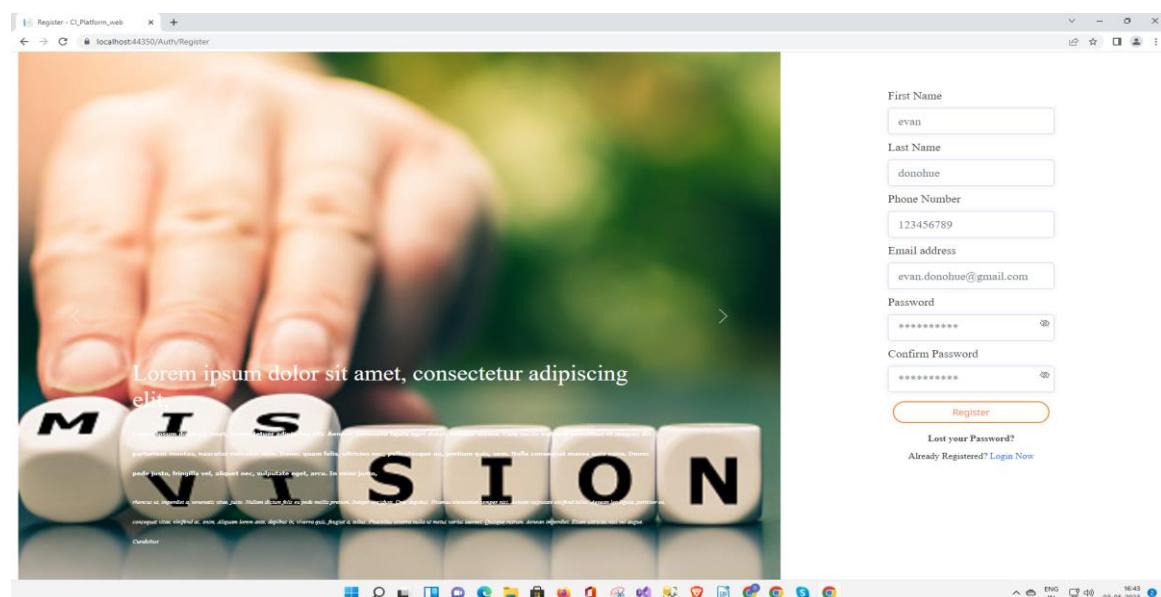


Fig 5.4 Registration Page

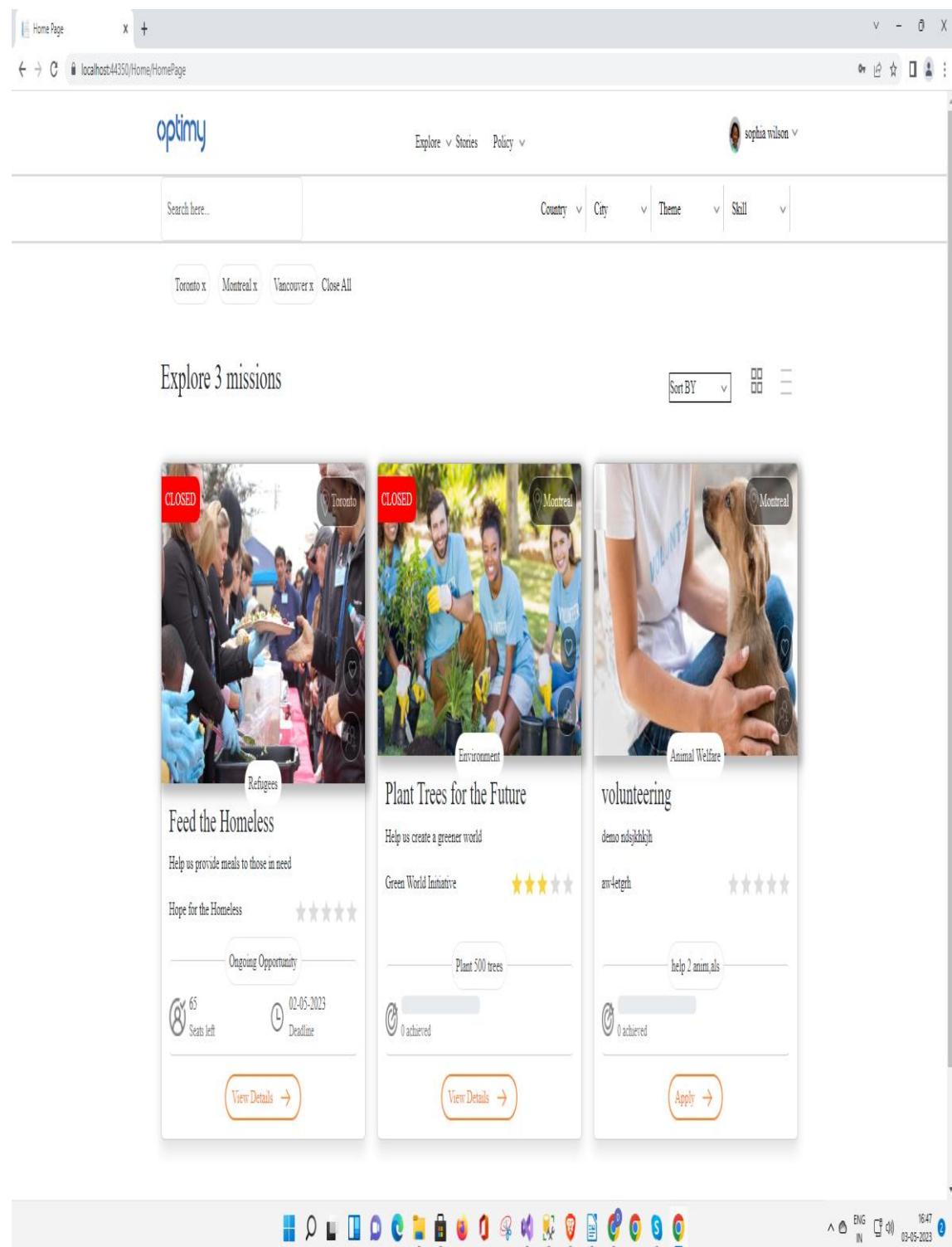


Fig 5.5 Platform Landing Page



Explore ▾ Stories Policy ▾



Building Homes for the Homeless

Volunteers will build homes for the homeless

Help in building 3 house

4 achieved

Added To Favourites

Recommended To a Co-Worker



City
Manchester

Theme
Refugees

Date
Ongoing Opportunity

Organisation
Habitat for Humanity

Already Applied

Mission Organization Comments

Fig 5.6 Mission Page

The screenshot shows a web application window titled "Share your Story". At the top, there are three input fields: "Select Mission" (dropdown menu showing "Teaching English in Rural Schools"), "My Story Title" (text input field), and "Date" (date input field). Below these is a rich text editor titled "My Story" with a toolbar containing "File", "Edit", "View", "Insert", "Format", and "Tools" buttons, along with bold (B), italic (I), and other styling icons. The main content area of the editor is empty. To the right of the editor, it says "POWERED BY TINY". Below the editor is a "Enter Video URL" field with placeholder text "Enter your url (Only Youtube URLs are allowed)". Further down is a section for "Upload your Photos" with a note "(Only jpg, png, jpeg file formats are allowed)" and a "Drag and Drop Pictures and Video here" area. Three small thumbnail images are visible below this section. At the bottom of the page is a Windows taskbar with various pinned icons, and the system tray shows the date as "03-05-2023" and time as "16:53".

Fig 5.7 Add Story Page

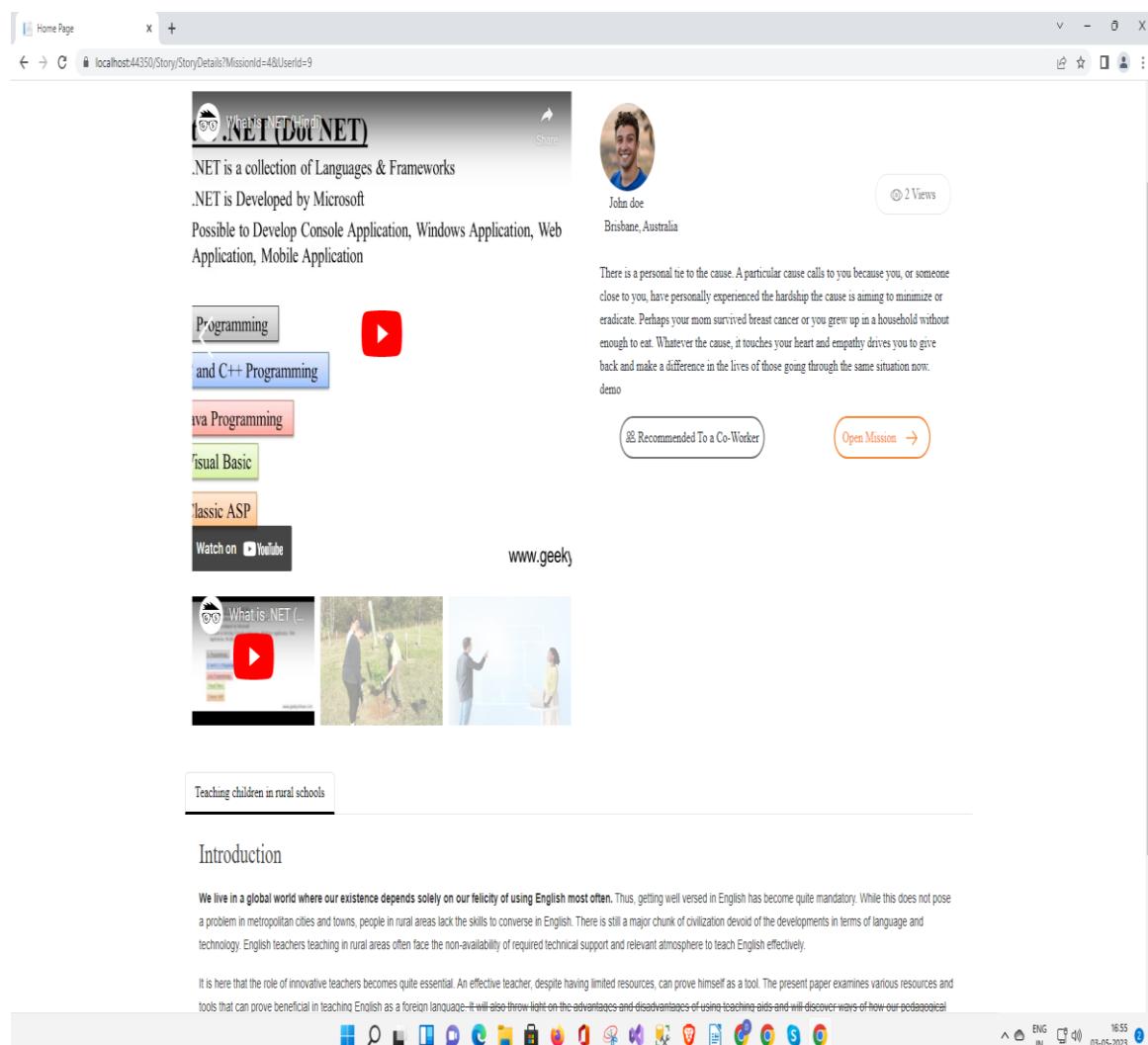


Fig 5.8 Story Page

The screenshot shows a web browser window titled "Volunteering Timesheet" from the "localhost:44350/VolunteeringTimesheet/VolunteeringTimesheet" URL. The page is part of the "optmy" platform, as indicated by the logo in the top left. The top navigation bar includes links for "Home Page", "Explore", "Stories", "Policy", and a user profile for "John doe".

The main content area displays two tables: "Volunteering Hours" and "Volunteering Goal".

Volunteering Hours:

Mission	Date	Hours	Minutes	Action
Teaching English in Rural Schools	01-05-2023	02	10	View
Teaching English in Rural Schools	15-05-2023	02	40	View
Teaching English in Rural Schools	29-04-2023	02	10	View

Volunteering Goal:

Mission	Date	Action	Action
Building Homes for the Homeless	05-04-2023	1	View
Building Homes for the Homeless	09-04-2023	3	View
Environmental Cleanup Drive	11-07-2023	5	View

At the bottom of the page, there are links for "Privacy Policy" and "Contact Us", and a standard Windows taskbar with various pinned icons.

Fig 5.9 Volunteering Timesheet Page

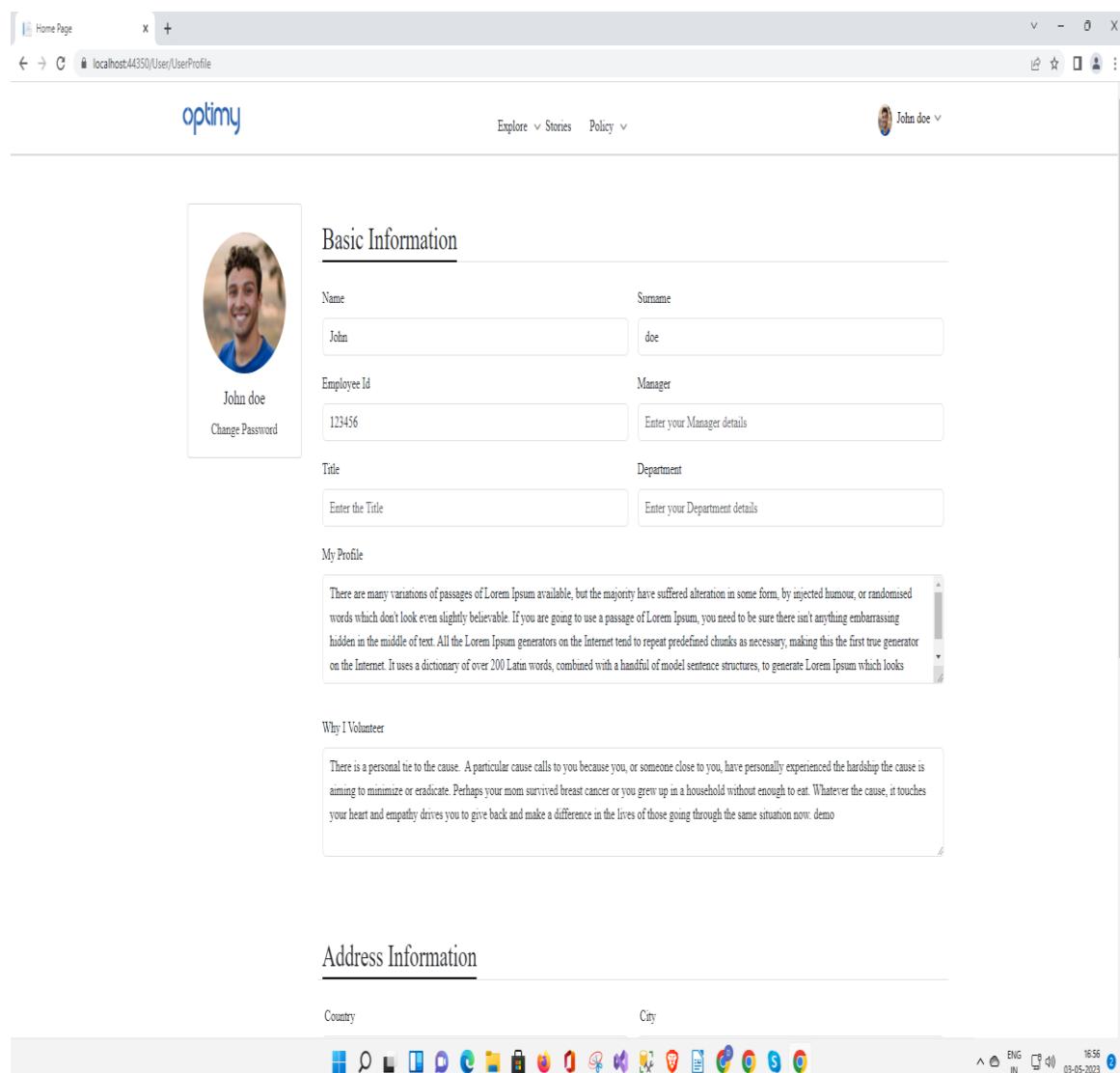


Fig 5.10 User Profile Page



Fig 5.11 Policy Page

The screenshot shows a web-based administration interface for managing users. The left sidebar has an orange theme with icons for User, CMS Page, Mission, and other administrative functions. The main content area is titled "User" and displays a table of user data. The table columns are: First Name, Last Name, Email, Employee Id, Department, Status, and Action. The data in the table is as follows:

First Name	Last Name	Email	Employee Id	Department	Status	Action
bansari	thakker	bansari.thakker10@gmail.com	3		Active	
Evan	Dorsey	evanhue@gmail.com	334535		Active	
hemal	patel	hemal04121@gmail.com	5		Active	
Jack	samson	jacksamson@yahoo.com	4		Active	
John	doe	john.doe@gmail.com	123456		Active	
priya	doughlas	phoe@gmail.com	1234567	Sales	Active	
Ryan	Watson	ryan.watson@gmail.com	98		Active	
sophia	wilson	sophia.wilson@gmail.com	34		Active	
sophia	dor	ab@gmail.com	3345309		Active	
vicky	patil	vicky.patil@tatvasoft.com			Active	

Pagination controls at the bottom right indicate pages 1, 2, and 3.

Fig 5.12 Admin side User Page

The screenshot shows a web-based administration interface for managing CMS pages. The left sidebar has an orange theme with icons for User, CMS Page, Mission, and other administrative functions. The main content area is titled "CMS Page" and displays a table of page data. The table columns are: Title, Status, and Action. The data in the table is as follows:

Title	Status	Action
Cookies Preferences	Active	
How does we use cookies?	Active	
How to manage your cookie?	Active	
Introduction	Active	

Pagination controls at the bottom right indicate pages 1, 2, and 3.

Fig 5.13 Admin side CMS Page

The screenshot shows the 'Mission' section of the Admin Panel. The left sidebar has a navigation menu with 'Mission' selected. The main area displays a table of missions:

Mission Title	Mission Type	Start Date	End Date	Action
Animal Welfare and Rescue	Time	01-05-2023 00:00:00	30-08-2023 00:00:00	
Assist with Disaster Relief Efforts	Time	04-05-2023 00:00:00	25-06-2023 00:00:00	
Building Homes for the Homeless	Goal	01-04-2023 00:00:00	30-06-2023 00:00:00	
Clean Rivers	Goal	13-04-2023 00:00:00	21-05-2023 00:00:00	
Community Clean-Up Day	Time	11-04-2023 09:00:00	22-06-2023 09:00:00	
create the opportunities for businesses	Goal	15-05-2023 00:00:00	30-06-2023 00:00:00	
Environmental Cleanup Drive	Goal	01-07-2023 00:00:00	31-07-2023 00:00:00	
Feed the Homeless	Time	03-05-2023 00:00:00	31-05-2023 00:00:00	
Plant Trees for the Future	Goal	22-01-2023 09:00:00	22-02-2023 09:00:00	
Teaching Computer Skills to Senior Citizens	Time	01-06-2023 00:00:00	31-08-2023 00:00:00	

Fig 5.14 Admin side Mission Page

The screenshot shows the 'Mission Application' section of the Admin Panel. The left sidebar has a navigation menu with 'Mission Applications' selected. The main area displays a table of mission applications:

Mission Title	Mission Id	User Id	User Name	Applied Date	Action
Animal Welfare and Rescue	6	18	viren shah	16-04-2023 18:12:50	
Animal Welfare and Rescue	6	7	Evan Dorfey	19-04-2023 18:16:29	
Assist with Disaster Relief Efforts	16	12	Willy Jonas	30-03-2023 17:54:21	
Building Homes for the Homeless	5	9	John doe	05-04-2023 13:28:02	
Building Homes for the Homeless	5	11	sophia wilson	27-04-2023 11:47:46	
Building Homes for the Homeless	5	7	Evan Dorfey	28-04-2023 20:20:26	
Clean Rivers	32	7	Evan Dorfey	26-04-2023 11:27:10	
Clean Rivers	32	65	vicky patil	02-05-2023 14:50:55	
Community Clean-Up Day	9	11	sophia wilson	30-03-2023 17:53:06	
create the opportunities for businesses	48	12	Willy Jonas	01-05-2023 12:52:48	

Fig 5.15 Admin side Mission Application Page

The screenshot shows the Admin side Story Page. The left sidebar has an orange navigation bar with various options like User, CMS Page, Mission, etc. The main area shows a table of stories:

Story Title	User Name	Mission Title	Action
animal welfare	Evan Dorfey	Animal Welfare and Rescue	View Green Checkmark Red Circle Trash
Engagement strategies for leveling up	sophia wilson	Teaching English in Rural Schools	View Green Checkmark Red Circle Trash
helping micro business	Willy Jonas	create the opportunities for businesses	View Green Checkmark Red Circle Trash
Overheard in product	Evan Dorfey	Teaching English in Rural Schools	View Green Checkmark Red Circle Trash
Quantitative information like the reports	Willy Jonas	Assist with Disaster Relief Efforts	View Green Checkmark Red Circle Trash
Teaching children in rural schools	John doe	Teaching English in Rural Schools	View Green Checkmark Red Circle Trash
Top 10 user and customer strategies	sophia wilson	Community Clean-Up Day	View Green Checkmark Red Circle Trash
Top 10 user and customer strategies	Jack samson	Teaching English in Rural Schools	View Green Checkmark Red Circle Trash

At the bottom right, there are navigation buttons: <<, <, 1, >, >>. The status bar at the bottom shows: ENG IN 03-05-2023 17:00.

Fig 5.16 Admin side Story Page

The screenshot shows the Admin side Timesheet Page. The left sidebar has an orange navigation bar with various options like User, CMS Page, Mission, etc. The main area shows a table of timesheets:

User Name	Mission Title	Goal Action	Time Spent	Date Volunteered	Action
Evan Dorfey	Clean Rivers	6		13-04-2023 00:00:00	Green Checkmark Red Circle
John doe	Building Homes for the Homeless	1		05-04-2023 00:00:00	Green Checkmark Red Circle
John doe	Environmental Cleanup Drive	5		11-07-2023 00:00:00	Green Checkmark Red Circle
John doe	Teaching English in Rural Schools		02:40:00	15-05-2023 00:00:00	Green Checkmark Red Circle
John doe	Building Homes for the Homeless	3		09-04-2023 00:00:00	Green Checkmark Red Circle
John doe	Teaching English in Rural Schools		02:10:00	29-04-2023 00:00:00	Green Checkmark Red Circle
John doe	Teaching English in Rural Schools		02:10:00	01-05-2023 00:00:00	Green Checkmark Red Circle
sophia wilson	Community Clean-Up Day		01:30:00	16-05-2023 00:00:00	Green Checkmark Red Circle
sophia wilson	Community Clean-Up Day		02:10:00	28-04-2023 00:00:00	Green Checkmark Red Circle

At the bottom right, there are navigation buttons: <<, <, 1, >, >>. The status bar at the bottom shows: ENG IN 03-05-2023 18:06.

Fig 5.17 Admin side Timesheet Page

CHAPTER 6: IMPLEMENTATION PLANNING

6.1 IMPLEMENTATION ENVIRONMENT

The application is a single user system with GUI. For the implementation of the project, we will need following as basic platforms and tools:

- SQL Server Management Studio- This Software used for relating and work with different SQL Servers
- Visual Studio- This IDE used for back-end related work.
- Visual Studio Code- This IDE used for front-end related work.

I am using technologies like html, CSS, JavaScript and JavaScript Library, .NET core, SQL server.

6.2 PROGRAMS AND MODULES SPECIFICATION

The web application is mainly divided into three parts:

- **Mission:**
 - All Missions (closed/applied/requested)
 - Search/Filter/Sort Mission, Add to favourite, Ratings, Comments,
 - Mission Application, Volunteers, Recommend to co-worker.
- **Story:**
 - All stories of mission,
 - Add story of mission which volunteer takes part
- **Admin:**
 - Handle user requests
 - Manage CMS pages
 - CRUD of user, Missions

6.2.1 SECURITY FEATURES

Hashing is a highly effective security measure for password storage in databases. It encrypts plain text passwords into unique hashed values, making it practically impossible to reverse engineer without a decryption key. This ensures that even if an unauthorized party gains access to the database, they will not be able to read the passwords in plain text format. Using hashing provides an additional layer of protection for sensitive data; ensuring user passwords remain secure and confidential, even in the event of a security breach.

6.2.2 CODING STANDARDS

To make the system coding easy, easy to remember and to reduce the chances of errors, some techniques are used at the time of coding of the application which are called coding standard. The coding standard which we adopted during the coding is explained as follows:

- The correct indentation and spacing should be used for each nested block.
- The code should include clear and concise comments to enhance its readability and comprehension.
- Adding comments that explain the purpose and functionality of statements can improve the clarity and comprehensibility of code.
- Better to avoid use of digits in variable names.
- Function names should follow camel case convention, beginning with a lowercase letter.
- Function names should be descriptive and provide a clear and concise indication of their purpose and functionality.

CHAPTER - 7: TESTING

7.1 TESTING PLAN/ STRATERGY

7.1.1 TESTING PLAN

The testing technique that is going to be used in the project is White box testing. In White box testing the Tester has knowledge about the internal structure of the code or the program of the software.

White Box Testing:

It is a software testing process in which the internal structure, design and coding of the software is tested to ensure the flow of input-output and improve design, usability and security.

Out of the 2 methods for testing, black box testing and white box testing, I would be using the white box testing as I am well aware of the internal functionalities of the application unlike in the black box testing.

7.1.2 TESTING STRATEGY

The development process repeats this testing subprocess a number of times for the following phases.

Unit Testing:

It ensures that all code meets quality standards before it's deployed. Also, it detects software bugs earlier.

Integration Testing:

It tests whether the various programs that make up a system, interface with each other as desired, fit together and whether the interfaces between the programs are correct.

7.2 TEST RESULTS AND ANALYSIS

7.2.1 Test Cases

No.	Action	Test Case Summary	Prerequisite	Expected Result	Actual Result	Status
1	Login	Log in using email and password	The user must have a valid email address and password	The user should be able to log in successfully with the provided email and password.	The user can log in successfully with the provided email and password.	PASS
2	Register	Register with First Name, Last Name, Email, Password, Confirm Password, and Phone Number	The user should be on the registration page.	The user should be registered successfully without any errors.	The user is registered successfully without any error.	PASS
3	Forgot Password	Reset Password - Send Email with Reset Password Link to User with Token and Verify Token Match	The user should have a registered email address in the application.	<ul style="list-style-type: none"> An email with a reset password link should be sent to the user's email address. The reset password link should contain a token. The token in the reset password link should match the token with the database. The password should be reset successfully and the user should be able to log in with the new password. 	<ul style="list-style-type: none"> An email with a reset password link is sent to the user's email address. The reset password link contains a token. The token in the reset password link matches the token with the database. The password is reset successfully and the user can log in with the new password. 	PASS
4	Check User Type on Login	Check User Type on Login	The user must have a valid email address and password	If the user is an admin, they should be logged into the admin dashboard. If the user is normal, they should be logged into the Mission Landing Page.	If the user is an admin, they are logged into the admin dashboard. If the user is normal, they are logged into the Mission Landing Page.	PASS
5	Filter Missions	Filter missions by country, city, theme, and skill-wise	Logged into the mission management system with appropriate access levels	Only missions related to the selected country, city, theme, and skill should be displayed	Missions related to the selected country, city, theme, and skill are displayed	PASS

Table 7.1 Testcase Table 1

No.	Action	Test Case Summary	Prerequisite	Expected Result	Actual Result	Status
6	Mission Status based on End Date	Check mission status based on the end date	Logged into the mission management system with appropriate access levels, Missions with different statuses (pending, ongoing, closed), and end dates	<ul style="list-style-type: none"> Missions with end dates in the future should be marked as "Pending" Missions with end dates in the past and no completion status should be marked as "Ongoing" Missions with end dates in the past and completion status should be marked as "Closed" 	<ul style="list-style-type: none"> Missions with end dates in the future are marked as "Pending" Missions with end dates in the past and no completion status are marked as "Ongoing" Missions with end dates in the past and completion status are marked as "Closed" 	PASS
7	Check the status of the "Apply" button	Check the status of the "Apply" button based on the user's application status	Logged into the mission management system with appropriate access levels, Missions with different application statuses (already applied, pending, apply)	<ul style="list-style-type: none"> If the user has already applied for the mission, the "Apply" button should be disabled and labeled as "Already Applied" If the user has a pending application for the mission, the "Apply" button should be disabled and labeled as "Pending" If the user has not applied for the mission, the "Apply" button should be enabled and labeled as "Apply" 	<ul style="list-style-type: none"> If the user has already applied for the mission, the "Apply" button is disabled and labeled as "Already Applied" If the user has a pending application for the mission, the "Apply" button is disabled and labeled as "Pending" If the user has not applied for the mission, the "Apply" button is enabled and labeled as "Apply" 	PASS
8	Check user actions without login	Check user actions (recommend mission, like a mission, apply for the mission, go to story) without login	Logged out of the mission management system Test	<ul style="list-style-type: none"> The "Recommend Mission" button should be disabled, as the user is not logged in The "Like" button should be disabled, as the user is not logged in The "Apply" button should be disabled, as the user is not logged in Clicking on the "Go to Story" button should redirect to the login page, as the user is not logged in 	<ul style="list-style-type: none"> The "Recommend Mission" button is disabled, as the user is not logged in The "Like" button is disabled, as the user is not logged in The "Apply" button is disabled, as the user is not logged in Clicking on the "Go to Story" button redirects to the login page, as the user is not logged in 	PASS
9	Check user actions with login	Check user actions (recommend mission, like a mission, apply for the mission, go to story) with login	Logged into the mission management system with appropriate access levels	<ul style="list-style-type: none"> the "Recommend Mission" button should be enabled, as the user is logged in The "Like" button should be enabled, as the user is logged in The "Apply" button should be enabled, as the user is logged in Clicking on the "Go to Story" button should redirect to the mission story page 	<ul style="list-style-type: none"> The "Recommend Mission" button is enabled, as the user is logged in The "Like" button is enabled, as the user is logged in The "Apply" button is enabled, as the user is logged in Clicking on the "Go to Story" button redirects to the mission story page 	PASS
10	Check rating and comments functionality	Check rating and comments functionality	Logged into the mission management system with appropriate access levels, mission details page loaded	<ul style="list-style-type: none"> The submitted rating and comment should be displayed correctly on the mission details page The submitted rating and comment should be saved and persisted in the system 	<ul style="list-style-type: none"> The submitted rating and comment are displayed correctly on the mission details page The submitted rating and comments are saved and persisted in the system 	PASS

Table 7.2 Testcase Table 2

No.	Action	Test Case Summary	Prerequisite	Expected Result	Actual Result	Status
11	Check story creation	Check story creation with title, short description, description, and media	Logged into the mission management system with appropriate access levels, stories creation page loaded	<ul style="list-style-type: none"> The story should be successfully created with the provided title, short description, description, and media The created story should be visible in the stories list or gallery 	<ul style="list-style-type: none"> The story is successfully created with the provided title, short description, description, and media The created story is visible in the stories list or gallery 	PASS
12	Check draft story creation	Check draft story creation when clicking on the "Save" button	Logged into the mission management system with appropriate access levels, stories creation page loaded	<ul style="list-style-type: none"> The story should be successfully saved as a draft with the provided title, short description, description, and media The saved draft should be visible in the stories list or gallery with a draft status 	<ul style="list-style-type: none"> The story is successfully saved as a draft with the provided title, short description, description, and media The saved draft is visible in the stories list or gallery with a draft status 	PASS
13	Verify that draft stories are at the story listing	Verify that draft stories are not displayed in the story listing	Logged into the mission management system with appropriate access levels, stories listing page loaded	No draft stories should be displayed in the stories listing	No draft stories are displayed in the stories listing	PASS
14	Verify Mission type at filling timesheet	Verify that only time-type missions are displayed in the time type selection for filling the volunteering timesheet of applied missions	Logged into the mission management system with appropriate access levels, applied missions with time-type selected	<ul style="list-style-type: none"> Only time-type missions should be displayed in the time-type selection options No other mission type (e.g., goal type) should be displayed in the time type selection The timesheet should be successfully submitted or saved for the selected time-type mission 	<ul style="list-style-type: none"> Only time-type missions are displayed in the time-type selection options No other mission type (e.g., goal type) is displayed in the time type selection The timesheet is successfully submitted or saved for the selected time-type mission 	PASS
15	Verify Mission type at filling timesheet	Verify that only goal-type missions are displayed in the time type selection for filling the volunteering timesheet of applied missions	Logged into the mission management system with appropriate access levels, applied missions with goal-type selected	<ul style="list-style-type: none"> Only goal-type missions should be displayed in the goal-type selection options No other mission type (e.g., time type) should be displayed in the goal type selection The timesheet should be goal types submitted or saved for the selected goal-type mission 	<ul style="list-style-type: none"> Only goal-type missions are displayed in the goal-type selection options No other mission type (e.g., time type) is displayed in the goal type selection The timesheet is goal types submitted or saved for the selected goal-type mission 	PASS

Table 7.3 Testcase Table 3

No.	Action	Test Case Summary	Prerequisite	Expected Result	Actual Result	Status
16	Change Profile	Verify that a user can change his/her profile details including name, surname, password, profile photo, and about user information	Logged into the mission management system with appropriate access levels, user profile page loaded	<ul style="list-style-type: none"> The user's name and surname should be updated with the new values The user's password should be successfully changed to the new password The new profile photo should be uploaded and displayed for user The user's information should be updated with the new value The profile changes should be successfully saved and reflected on the profile page after refreshing 	<ul style="list-style-type: none"> The user's name and surname are updated with the new values The user's password is successfully changed to the new password The new profile photo is uploaded and displayed for user The user's information is updated with the new value The profile changes are successfully saved and reflected on the profile page after refreshing 	PASS
17	Mission CRUD	Add, Edit, and Delete Mission as Admin	The user must be logged in as an admin and have access to the Mission section	<ul style="list-style-type: none"> The mission should be added successfully with the provided details. The mission details should be updated successfully with the new details. The mission should be deleted successfully without any error. 	<ul style="list-style-type: none"> The mission is added successfully with the provided details. The mission details are updated successfully with the new details. The mission is deleted successfully without any error. 	PASS
18	Mission Theme CRUD	Add, Edit, Activate, and Deactivate Mission Theme	The user must be logged in as an admin and have access to the Mission Theme section.	<ul style="list-style-type: none"> The theme should be added successfully with the provided details. The theme details should be updated successfully with the new details. The theme should be activated and deactivated successfully without any error. The theme should be deleted successfully without any errors. 	<ul style="list-style-type: none"> The theme is added successfully with the provided details. The theme details are updated successfully with the new details. The theme is activated and deactivated successfully without any error. The theme is deleted successfully without any error. 	PASS
19	Mission Skills CRUD	Add, Edit, Activate, and Deactivate Mission Skill	The user must be logged in as an admin and have access to the Mission Skills section.	<ul style="list-style-type: none"> The skill should be added successfully with the provided details. The skill details should be updated successfully with the new details. The skill should be activated and deactivated successfully without any error. The skill should be deleted successfully without any error. 	<ul style="list-style-type: none"> The skill is added successfully with the provided details. The skill details are updated successfully with the new details. The skill is activated and deactivated successfully without any error. The skill is deleted successfully without any error. 	PASS
20	Active and Deactivate a User as Admin	Activate and Deactivate Normal User as Admin	The user must be logged in as an admin and have access to the User section.	<ul style="list-style-type: none"> The user should be activated successfully without any error. The activated user should be deactivated successfully without any error. 	<ul style="list-style-type: none"> The user is activated successfully without any error. The activated user is deactivated successfully without any error. 	PASS

Table 7.4 Testcase Table 4

No.	Action	Test Case Summary	Prerequisite	Expected Result	Actual Result	Status
21	CMS Page (Privacy Policy) CRUD	Add, Edit, Activate, and Deactivate Privacy Policy	The user must be logged in as an admin and have access to the CMS Page section.	<ul style="list-style-type: none"> The policy should be added successfully with the provided details. The policy details should be updated successfully with the new details. The policy should be activated and deactivated successfully without any error. The policy should be deleted successfully without any errors. 	<ul style="list-style-type: none"> The policy is added successfully with the provided details. The policy details are updated successfully with the new details. The policy is activated and deactivated successfully without any error. The policy is deleted successfully without any error. 	PASS
22	Mission Application Approve or Decline	Approve or Decline Mission Application	The user must be logged in as an admin and have access to the Mission Application section.	<ul style="list-style-type: none"> The mission application should be approved successfully without any errors. The mission application should be declined successfully without any error. 	<ul style="list-style-type: none"> The mission application is approved successfully without any errors. The mission application is declined successfully without any error. 	PASS
23	User's Story Approve Decline	Approve or Decline User's Story	The user must be logged in as an admin and have access to the User's Story section.	<ul style="list-style-type: none"> The user's story should be approved successfully without any errors. The user's story should be declined successfully without any error. 	<ul style="list-style-type: none"> The user's story is approved successfully without any errors. The user's story is declined successfully without any error. 	PASS
24	Banner Management CRUD	Add, Edit, and Delete Banner	The user must be logged in as an admin and have access to the Banner Management section.	<ul style="list-style-type: none"> The banner should be added successfully with the provided details. The banner details should be updated successfully with the new details. The banner should be deleted successfully without any errors. 	<ul style="list-style-type: none"> The banner is added successfully with the provided details. The banner details are updated successfully with the new details. The banner is deleted successfully without any error. 	PASS

Table 7.5 Testcase Table 5

CHAPTER - 8: CONCLUSION AND DISCUSSION

CONCLUSION

In general, a well-designed and effectively implemented CI Platform using .NET and SQL can help companies to meet their social responsibility goals, increase employee engagement and satisfaction, and build positive relationships with the broader community. By addressing the limitations of the current system and incorporating future enhancements, the platform can continue to evolve and improve over time, ultimately resulting in greater social impact and value for both the company and the community.

8.1 SELF-ANALYSIS OF PROJECT VIABILITIES

According to me , this project is absolutely a good start for gaining hands-on experience on projects. It is useful if it is managed according to the goal for which it is made. It also saved 3-4 hours of my time daily.

8.2 PROBLEMS ENCOUNTERED AND POSSIBLE SOLUTIONS

There are so many problems encountered during this project.

- Problem to working alone on a project, so I have to handle both the frontend and backend. Also I am not familiar with .Net earlier btw through training and learning from seniors i overcame this problem.
- Need to change some functionality fully which leads me to do the whole work again.
- Some problems are solved easily with some changes.

8.3 DATES OF CONTINUOUS EVALUATION

CE-I on 4th March, 2023

CE-II on 15th April, 2023

CE-III on 5th May, 2023

8.4 SUMMARY OF PROJECT WORK

Completing this project is an incredible achievement for me. Prior knowledge of software engineering is very helpful in overcoming various hurdles. I have done work with pre-planned scheduling related to time constraints and weekly progress in project development. I have done work with pre-planned scheduling related to time constraints and weekly progress in project development.

8.5 LIMITATION AND FUTURE ENHANCEMENT

8.5.1 LIMITATION

- Resource constraints: Implementing and managing a CI Platform can be costly and time-consuming, requiring significant resources in terms of funding, staffing, and technology. The company may face budget constraints, difficulty in recruiting and retaining staff, and challenges in maintaining and upgrading the technology platform.
- Limited community engagement: The program may struggle to engage with the broader community and build long-term relationships with community organizations, which can limit the program's impact and effectiveness.

8.5.2 FUTURE ENHANCEMENTS

- Gamification and social media integration: The platform could incorporate elements of gamification and social media integration to make participation more engaging and rewarding for employees. For example, employees could earn points or badges for their participation, and the platform could enable employees to share their experiences on social media.
- Mobile and remote access: The platform could be accessible via mobile devices and remote workstations, enabling employees to participate in social impact initiatives from anywhere, at any time.

CHAPTER - 9: REFERENCES

9.1 REFERENCES

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- Other
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