A
Project Report
On
"CI(Community Investment) Platform"

(CE451 - Software Project Major)

Prepared by
Shyam Mukeshkumar Kanjiya (19CE052)

Under the Supervision of
Prof. Aayushi Chaudhari

Submitted to

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in U & P U. Patel Department of Computer Engineering (CE)
for B.Tech Semester 8

Submitted at

CHARUSAT
CHAROTAR UNIVERSITY OF SCIENCE AND TECHNOLOGY

Accredited with Grade A+ by NAAC

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Chandubhai S Patel Institute of Technology

U & P U. PATEL DEPARTMENT OF COMPUTER ENGINEERING
Chandubhai S. Patel Institute of Technology (CSPIT)
Faculty of Technology & Engineering (FTE), CHARUSAT
At: Changa, Dist: Anand, Pin: 388421.
April, 2023

DECLARATION BY THE CANDIDATE

I hereby declare that the project report entitled "**CI(Community Investment) Platform**" submitted by me to Chandubhai S. Patel Institute of Technology, Changa in partial fulfilment of the requirements for the award of the degree of **B.Tech Computer Engineering**, from U & P U. Patel Department of Computer Engineering, CSPIT, FTE, is a record of bonafide CE447 Software Project Major (project work) carried out by me under the guidance of **Prof. Aayushi Chaudhari**. I further declare that the work carried out and documented in this project report has not been submitted anywhere else either in part or in full and it is the original work, for the award of any other degree or diploma in this institute or any other institute or university.

(Shyam Kanjiya – 19CE052)

This is to certify that the above statement made by the candidate is correct to the best of my knowledge.

Prof. Aayushi Chaudhari
(Assistant Professor)
U & P U. Patel Department of Computer Engineering,
Chandubhai S Patel Institute of Technology (CSPIT)
Faculty of Technology (FTE)
Charotar University of Science and Technology (CHARUSAT) - Changa.

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This is to certify that Shyam Mukeshkumar Kanjiya was selected from Chandubhai S. Patel Institute of Technology (CHARUSAT UNIVERSITY) 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(Community Investment) Platform

Start Date: 23-Jan-23

End Date: 25-Apr-23

For TatvaSoft

Authorized Signatory

Ground Floor, Tatva House, Behind Rajpath Club Road,Opp-Golf Academy, Bodakdev, Ahmedabad-380054, Gujarat, India. Website: www.tatvasoft.com, E-mail: Info@tatvasoft.com; Phone: +91 9601421472.

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CERTIFICATE

This is to certify that the report entitled "**CI(Community Investment) Platform**" is a bonafied work carried out by **Shyam Kanjiya (19CE052)** under the guidance and supervision of **Prof. Aayushi Chaudhari** & **Ms. Sweety Patel** for the subject **Software Project Major (CE451)** of 8th Semester of Bachelor of Technology in **Computer Engineering** at Chandubhai S. Patel Institute of Technology (CSPIT), Faculty of Technology & Engineering (FTE) – CHARUSAT, Gujarat.

To the best of my knowledge and belief, this work embodies the work of candidate himself, has duly been completed, and fulfills the requirement of the ordinance relating to the B.Tech. Degree of the University and is up to the standard in respect of content, presentation and language for being referred by the examiner(s).

Under the supervision of,

Prof. Aayushi Chaudhari
(Assistant Professor)
U & P U. Patel Dept. of Computer Engineering
CSPIT, FTE, CHARUSAT, Changa, Gujarat

Ms. Sweety Patel
Learning and Development Executive
Human Resource
Tatvasoft

Dr. Ritesh Patel
Head - U & P U. Patel Department of Computer Engineering,
CSPIT, FTE, CHARUSAT, Changa, Gujarat.

Chandubhai S. Patel Institute of Technology (CSPIT)

Faculty of Technology & Engineering (FTE), CHARUSAT

At: Changa, Ta. Petlad, Dist. Anand, Pin: 388421. Gujarat.

ABSTRACT

The Community Investment (CI) Platform is an innovative employee volunteer program that aims to support a company's Corporate Social Responsibility (CSR) or community engagement initiatives. The CI Platform provides a customizable and flexible platform for employees to engage in a range of social impact activities, including volunteerism, charitable donations, social advocacy, and community service. The platform's primary objectives are to build a positive brand reputation for the company and increase employee engagement and satisfaction by providing opportunities for employees to give back to the community.The CI Platform provides a customizable and flexible platform for employees to engage in a range of social impact activities, including volunteerism, charitable donations, social advocacy, and community service. The platform's primary objectives are to build a positive brand reputation for the company and increase employee engagement and satisfaction by providing opportunities for employees to give back to the community.

ACKNOWLEDGMENT

It is indeed a great pleasure to express our thanks and gratitude to all those who helped us during the project. This project has given us a great opportunity to learn, implement and interact with various aspects of the Software Development Life Cycle. We would like to acknowledge all the people who have helped us at one stage or another by providing the much-needed support, encouragement and casework to complete our project throughout the whole internship period.

I express a deep sense of gratitude towards our external project guide **Sweety S. Patel** and internal project guide **Prof. Aayushi Chaudhari** towards their innovative ideas and earnest effort to make our project a success. It is their sincerity that prompted us throughout the project to do hard work using the industry adopted technologies. Our commitment to the application is the sole result of patience, hard work and dedication being inspired by them. They all together provided us a favorable environment. Without them, we would not have achieved our goal. A blend of gratitude, pleasure and great satisfaction is what we feel to convey our indebtedness to all those who all have directly or indirectly contributed towards completion of the project.

With Sincere Regards,

Shyam Kanjiya

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CHAPTER 1: INTRODUCTION

1.1 PROJECT SUMMARY

Title : Community Investment Platform

Overview :

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.

1.2 PURPOSE

The purpose of the CI Platform is twofold.

First, it aims to build a positive brand reputation for the company by demonstrating its commitment to social responsibility and community development.

Second, it aims to increase employee engagement and satisfaction by providing opportunities for employees to give back to the community.

1.3 OBJECTIVE

- Enhance the company's reputation and image through its commitment to social responsibility
- Improve employee engagement, job satisfaction, and retention
- Build stronger relationships with the community and other stakeholders
- 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.

1.4 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.

1.5 TECHNOLOGY REVIEW

Platform: SQL Server 2022

It maintains the database tables and related stored procedures.

Language: SQL

Platform: .NET Core MVC

.Net Core Provides LINQ to easily access the data/ sql queries/Stored Procedures from SQL database.

Language: C# / HTML / CSS / JavaScript

Other tools: VS Code, Visual Studio, SQL server Management Studio

CHAPTER 2: PROJECT MANAGEMENT

2.1 PROJECT PLANNING

2.1.1 Project Development Approach and Justification

I will use 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.

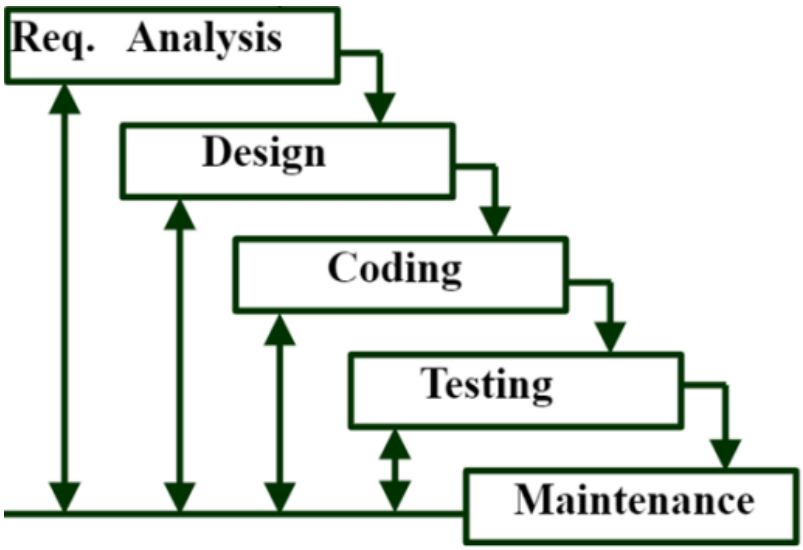

Fig 2.1 Waterfall Model

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.

2.1.2 Project Development Approach and Justification

When I started the project I 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 were 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.

2.1.3 Roles and Responsibilities

Shyam

- Analysis
- Coding (UI/UX)
- Database
- Testing
- Documentation

2.1.4 Group Discussion

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.

2.2 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:

Table 2.1 Project Schedule

Task Start	Time End	Time	Duration
Requirement And Analysis	06-02-2023	08-02-2023	3 days
Design	09-02-2023	28-02-2023	19 days
Development	01-03-2023	05-04-2023	35 days
Testing	06-04-2023	11-04-2023	6 days

CHAPTER 3: SYSTEM REQUIREMENT STUDY

3.1 USER CHARACTERISTICS

The primary users of the platform are likely to be employees of the company who are interested in participating in community service, volunteerism, and other social impact initiatives. User characteristics may include their level of education, job function, work experience, interests, and availability for volunteer work.

3.2 HARDWARE AND SOFTWARE REQUIREMENT

Software requirements

- SQL Server
- .NET CORE
- IIS Express
- Visual Studio
- SQL Server Management Studio

Hardware requirements

- Windows
- Core i3 CPU
- 4gb RAM
- 20 GB storage space

3.3 CONSTRAINT

Hardware Limitations

There is only one limitation of this application, that is it will work only on a web-based system.

Interface to other applications

There are no other systems that use this application as an interface.

Reliability Requirements

The application must adhere to the reliability requirements as needed and should run smoothly. It must show real time data.

Criticality of the Application

The application does not respond if there is any server unavailability.

3.4 ASSUMPTIONS AND DEPENDENCIES

- Users have sufficient privileges to access the internet.
- All Servers are running smoothly.
- User has basic knowledge about Community Activities.
- Memory 1-2GB Ram (dependent on model size)
- Resolution at least 720p @ 60Hz display (Full HD or higher recommended)
- Display between 4.7 and 6 inches

CHAPTER 4: SYSTEM ANALYSIS

4.1 STUDY OF THE CURRENT SYSTEM

Workplace giving:

Current system enables employees to make donations to non-profit organizations through a payroll deduction program, which can be customized to align with the company's values and CSR goals.

Volunteerism:

The platform provides opportunities for employees to engage in volunteer activities, such as donating their time to a local charity or participating in a company-sponsored volunteering event.

Corporate matching:

Current system enables companies to match employee donations to non-profits, thereby increasing the impact of their employees' contributions.

Reporting and analytics:

The platform provides real-time reporting and analytics that allow companies to track employee participation and the impact of their CSR programs.

4.2 PROBLEMS & WEAKNESSES OF CURRENT SYSTEM

The following Problems exist in current system,

- Lack of employee participation: Despite the best intentions, some employees may not be interested in participating in the program or may not have the time or resources to contribute.
- Inconsistent program implementation: If the program is not implemented consistently across different departments or regions, it can lead to confusion, uneven participation, and difficulties in tracking the impact of the program.
- Lack of sustained engagement: A one-time volunteer event or charitable donation may generate positive publicity, but sustained engagement is needed

to make a significant impact in the community and to create long-term benefits for the company and its employees

4.3 REQUIREMENTS OF NEW SYSTEM

4.3.1 Functional Requirement

User:

- View Mission Details
- Search/Filter/Sort Missions
- Apply For Mission
- Add Story/Post Comment on Mission
- Add to favorite/ Give Ratings to Mission
- Recommended to Co Worker

1. **Mission:**

   (Missions refers to the activities that includes Goals which are completed by the employees and help the community with various ways, also build the positive brand reputation or increase the employee engagement in the community.)

   - Get All Mission
     Input Time Period
     Output : Total Missions count , display all closed/requested/applies missions with main details.

   - Search Mission
     Input : Search
     Output : Display missions which contain searchquery.

- Filter Mission
  Input : Select filter
  Output : Display result according to filter.

- Sort Mission
  Input : Select sort option
  Output : Display missions with sorting.

- Mission Application
  Input : Mission & User Id
  Output : Store the application data in db.

- Add Mission
  Input : UserId , Mission Data
  Output : Store the mission in DB.

- Add Comment
  Input : UserId, MissionId and Comment
  Output : Add comment to that mission.

- Add/remove to favorite
  Input : Click on like button /MissionId
  Output : Display mission

- Give Ratings
  Input : MissionId/UserId/Ratings
  Output : Display user rating to the mission

- Recommend to Co-Worker
  Input : List of user with email id
  Output : Send mail with link to selected list

2. **Story:**

- View Stories

  Input : Time period

  Output : Display list of stories.

- Add Story

  Input : UserId, MissionId. Story data

  Output : Store the story in db.

4.3.2 Non-Functional Requirement

Security:

Security is the primary requirement of any system. This platform must maintain/process data in a secure way so unauthorized entities do not have illegal access to it.

Performance:

To ensure optimal performance, performance requirements specify how well a system should perform certain functions under specific conditions, such as response speed, throughput, execution time, and storage capacity. Performance requirements are a critical component in the design and testing of a product, as they are key indicators of its overall quality. This platform should be designed in such a way that its performance is smooth for users.

Scalability:

The ability to handle increasing and decreasing workloads is a key property of a system known as scalability. Scalability is a non-functional requirement that both complements and competes with other non-functional requirements like availability, reliability, and performance. It is crucial to design a system that can handle increased workloads while maintaining high performance, reliability, and availability to ensure its overall effectiveness. This platform must be

designed in such way that it is able to scale well with increasing/decreasing accesses, users etc.

Availability:

System must be available to authorized users when it is required. This platform must be designed in such a way that it is always available to authorized users and should handle abnormal scenarios well by displaying proper messages to users. In any abnormal situations, the user's data should not be lost.

4.4 FEASIBILITY STUDY

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

- Yes, the system contributes to the overall objectives of the organization such as: getting access to volunteer info, getting request for mission and story, etc.
- It also enhances the volunteers to make a better use of the website application with the help of filttering or searching appropriate missions, etc.

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

- Yes, the system can be implemented using the current technology and within the given cost and schedule constraints.

4.4.3 Can the system be integrated with other system which are already in place?

- Yes, the system can be implemented using the current technology and within the given cost and schedule constraints.

4.5 ACTIVITY / PROCESS IN THE NEW SYSTEM

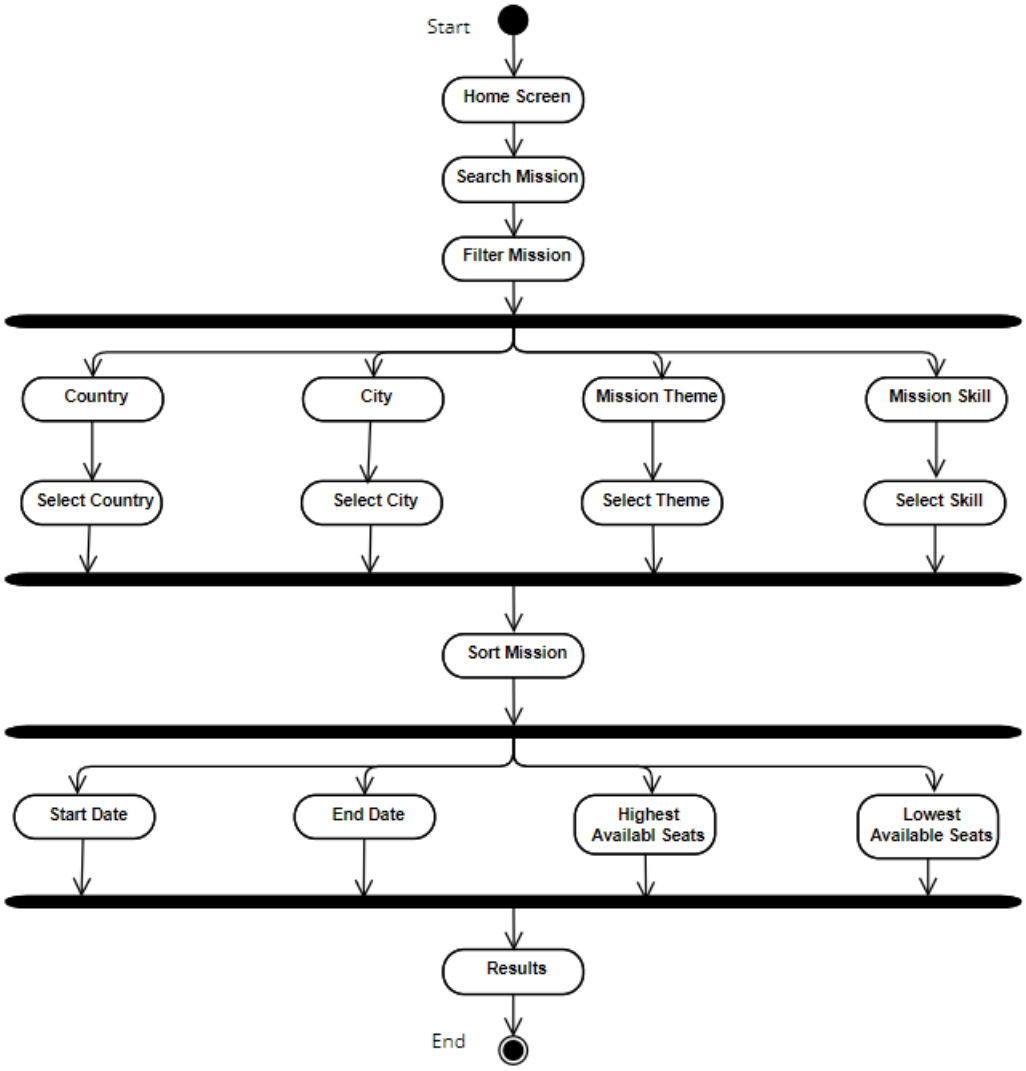

Fig 4.1 Activity Diagram for Missions

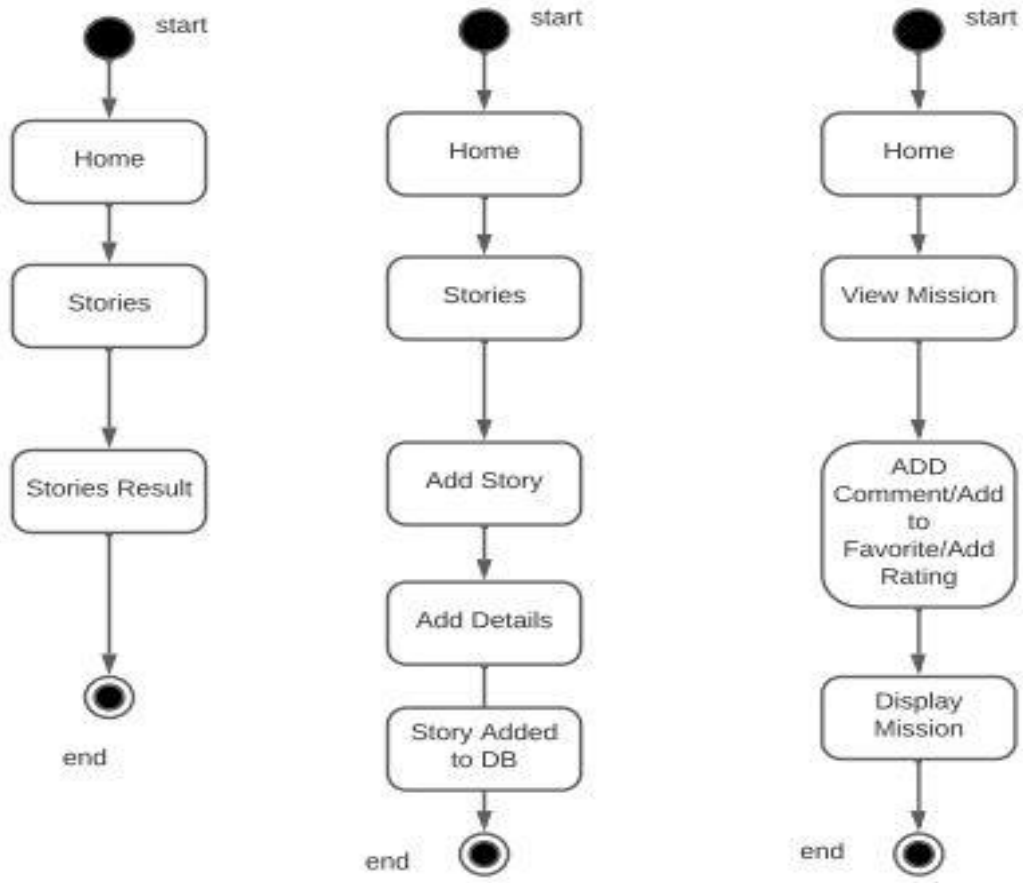

Fig 4.2 Activity Diagram for Stories

4.6 FEATURES OF NEW SYSTEM

Social Mission Participation:

With this feature employees can engage in Social Initiatives solo or with their colleagues and Contribute in it to make a better impact.

Social Media Integration:

There are Options of Story Sharing in this system that allows user to share thier story of mission participation and Activities done by them in the Mission as well as they can share the images and videos of their activities.

4.7 USECASE DIAGRAM

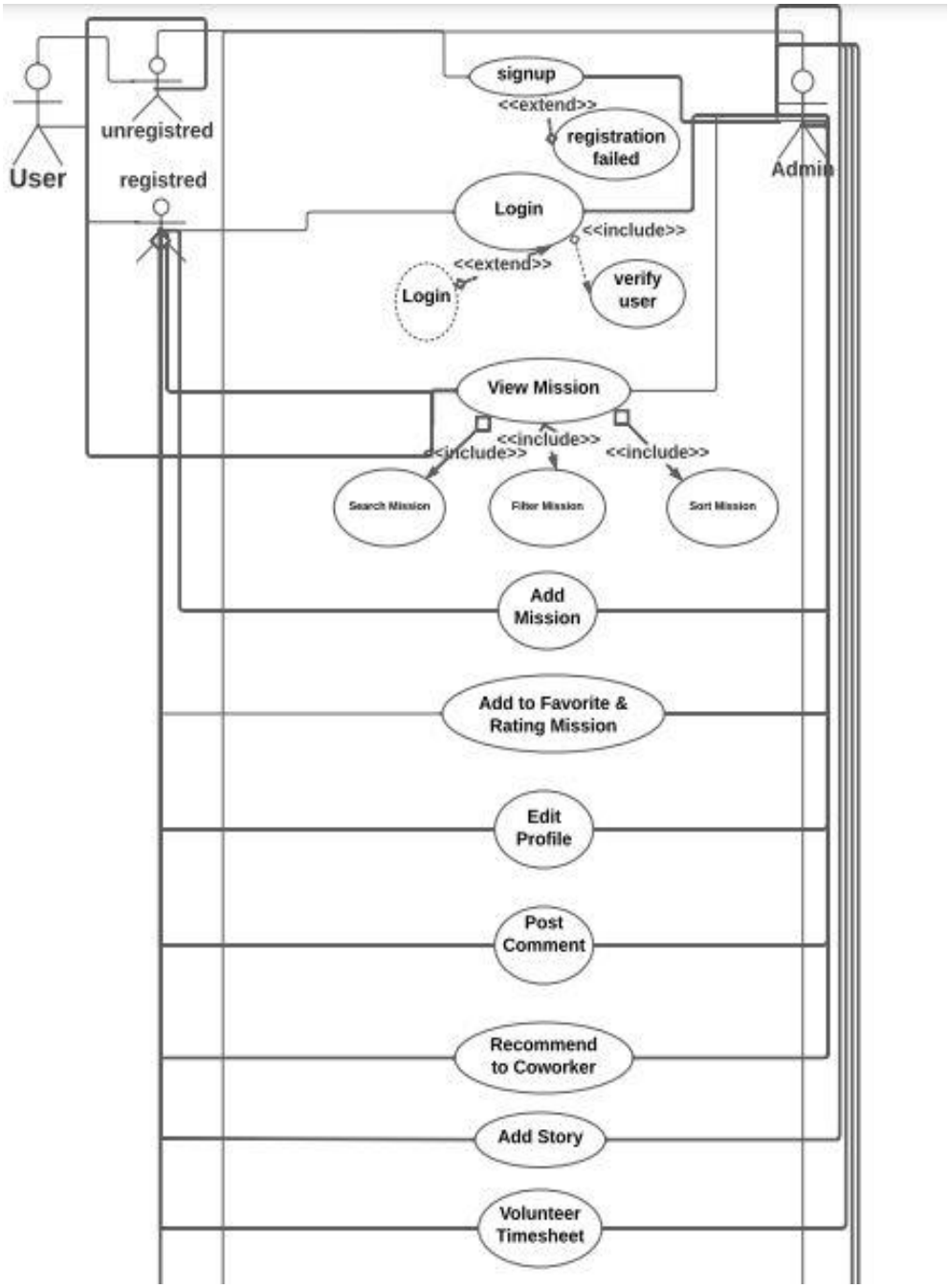

Fig 4.3 Use case Diagram

4.8 CLASS DIAGRAM

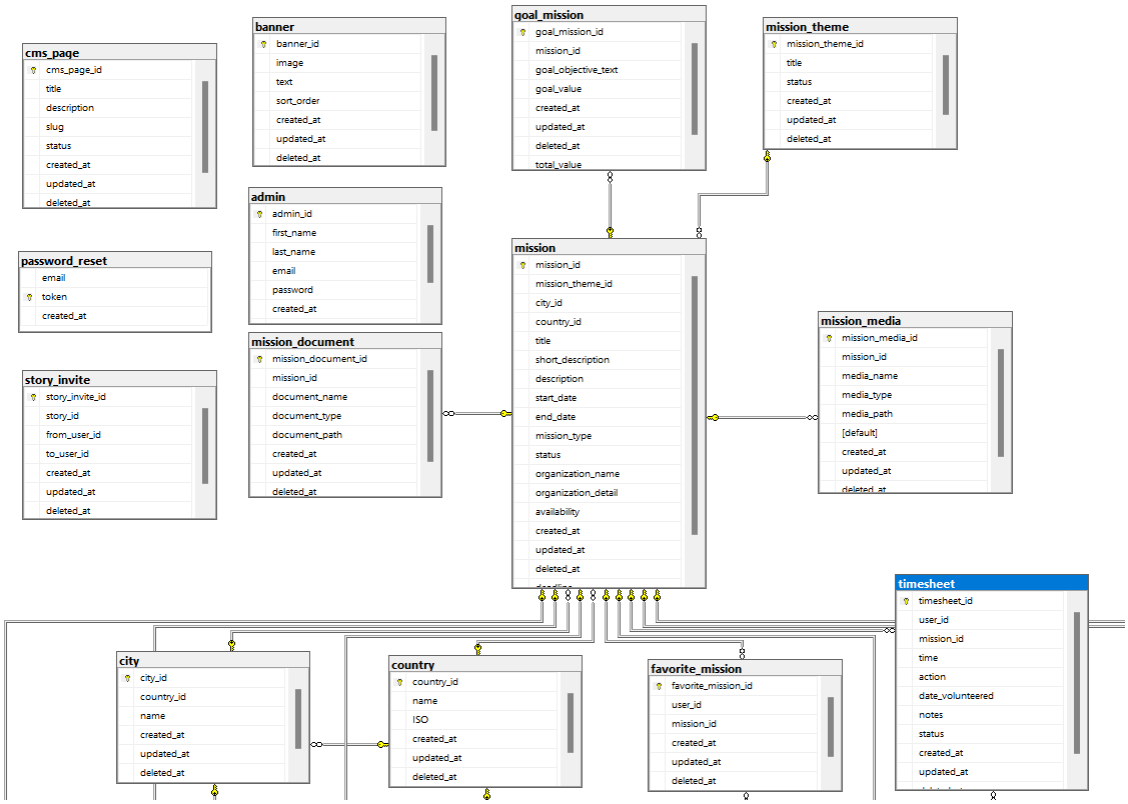

Fig 4.4 Class Diagram (Continue)

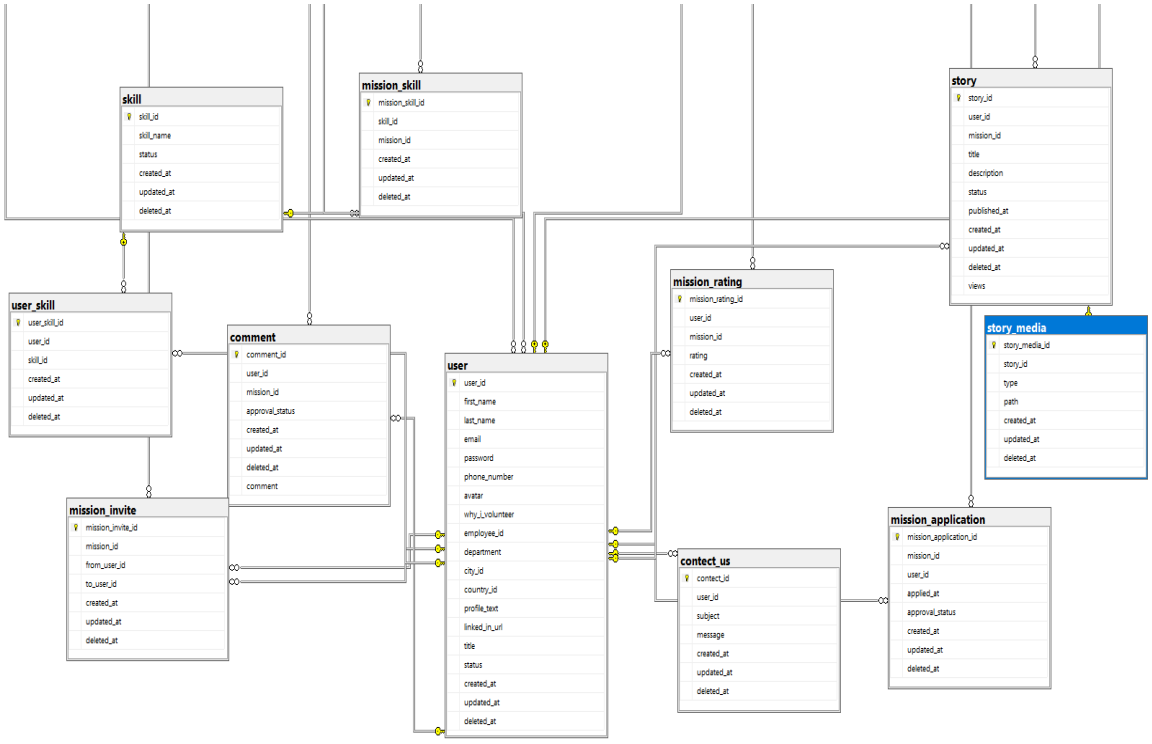

Fig 4.5 Class Diagram

4.9 SEQUENCE DIAGRAM

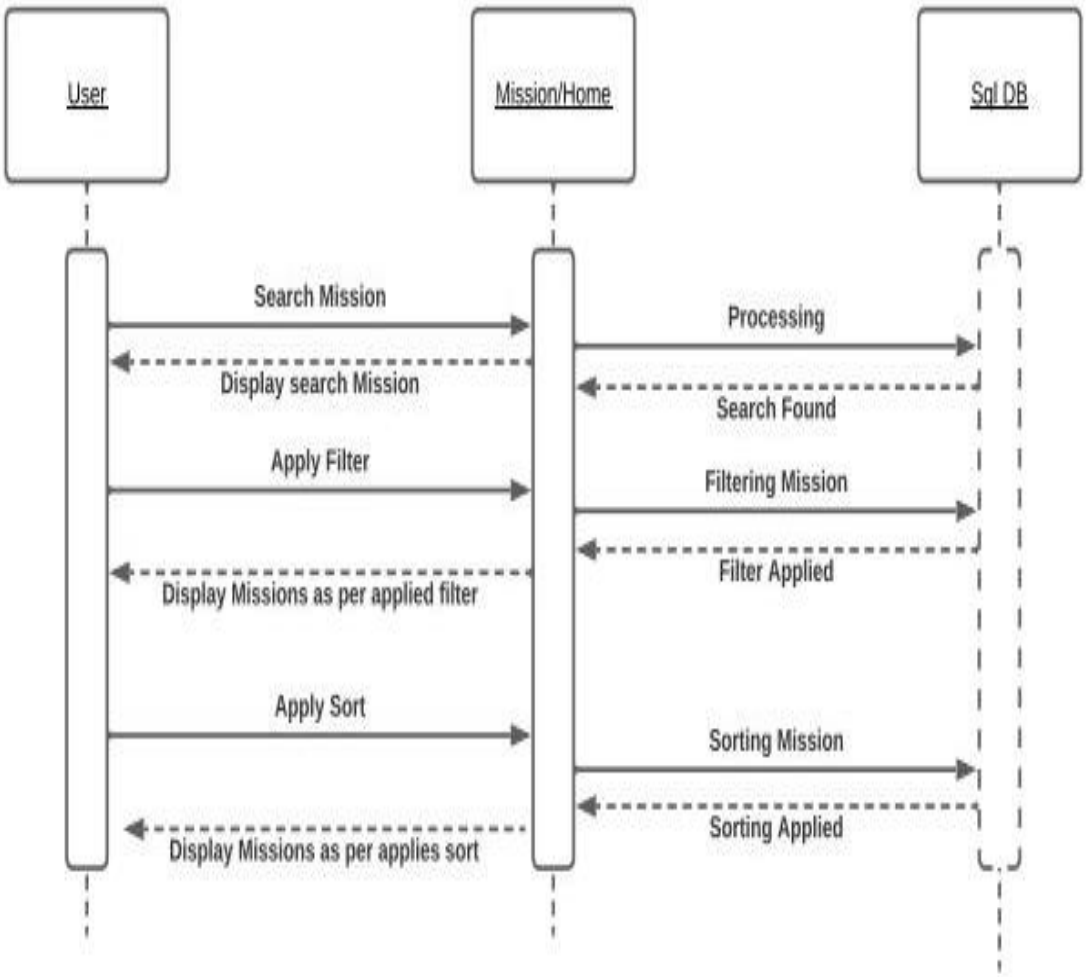

Fig 4.6 Sequence Diagram 1

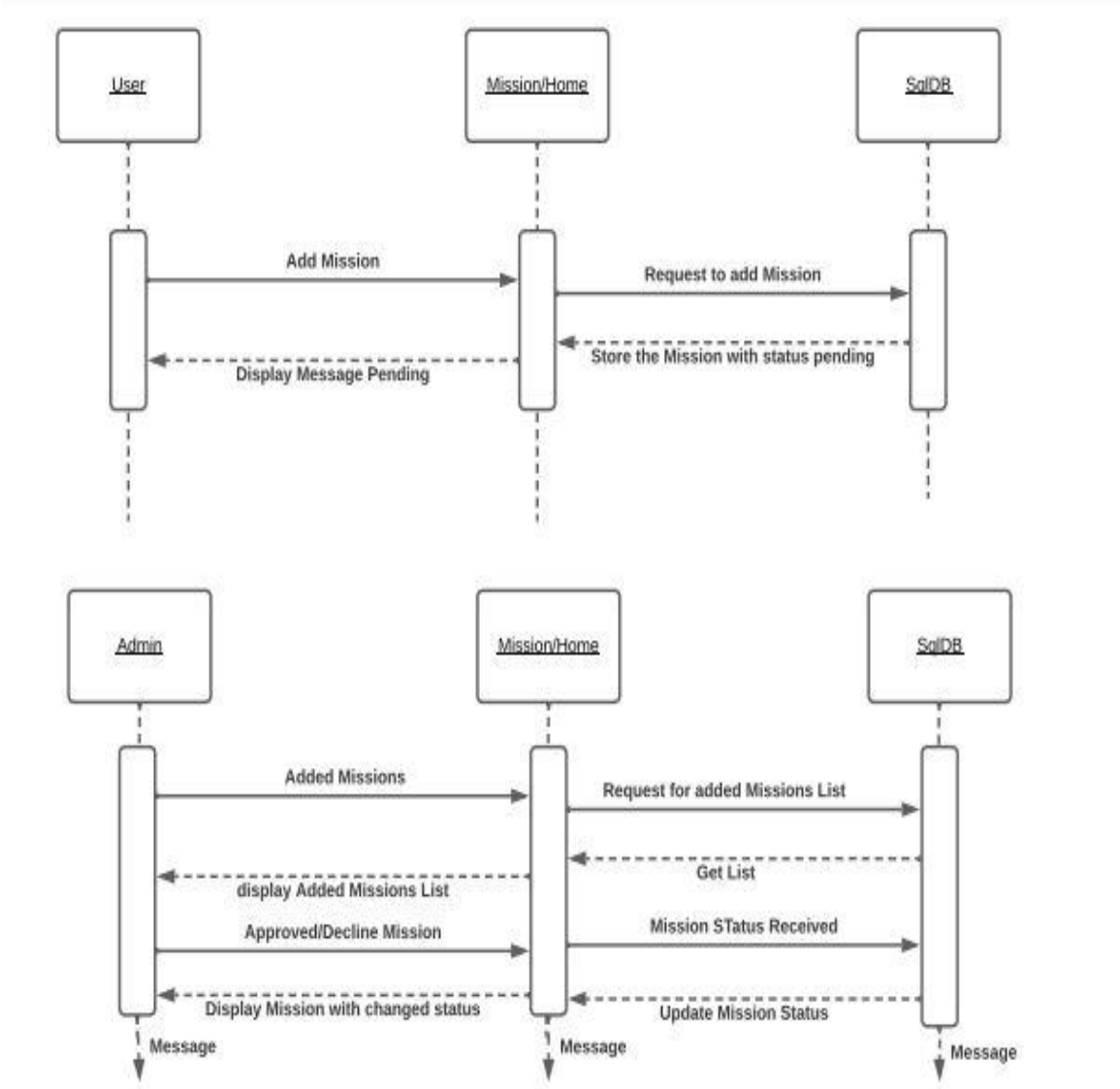

Fig 4.7 Sequence Diagram 2

4.10 DFD DIAGRAM

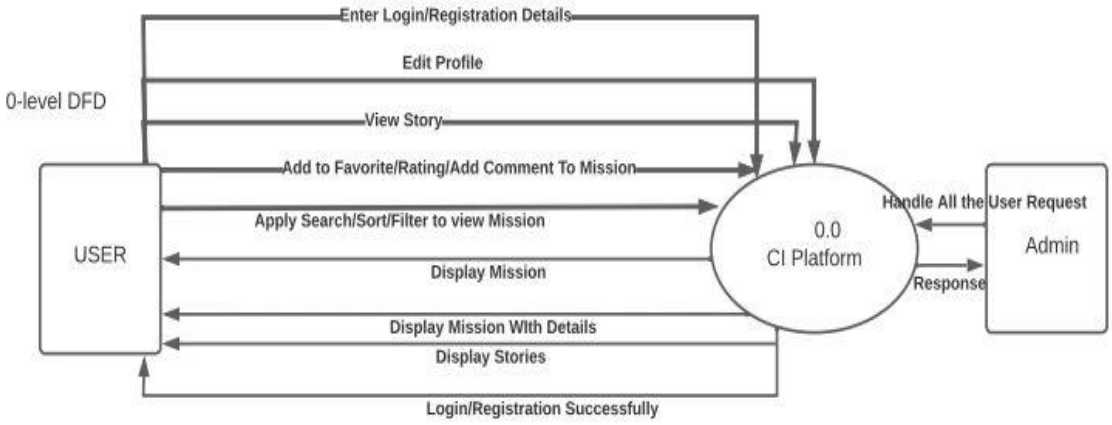

Fig 4.8 Level 0 DFD Diagram

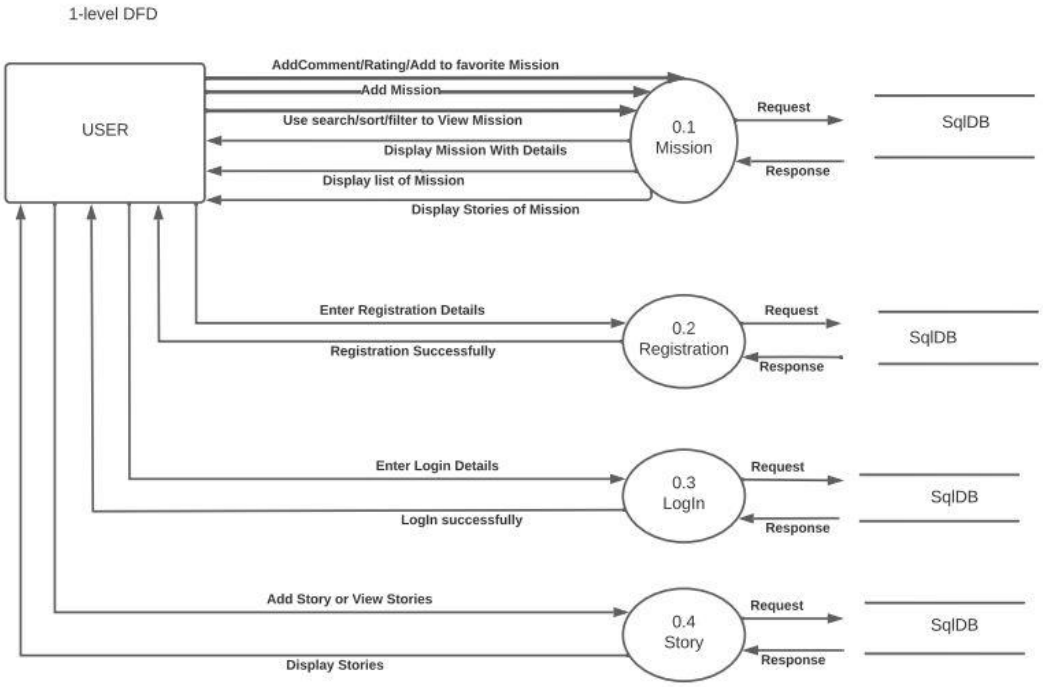

Fig 4.9 Level 1 DFD Diagram

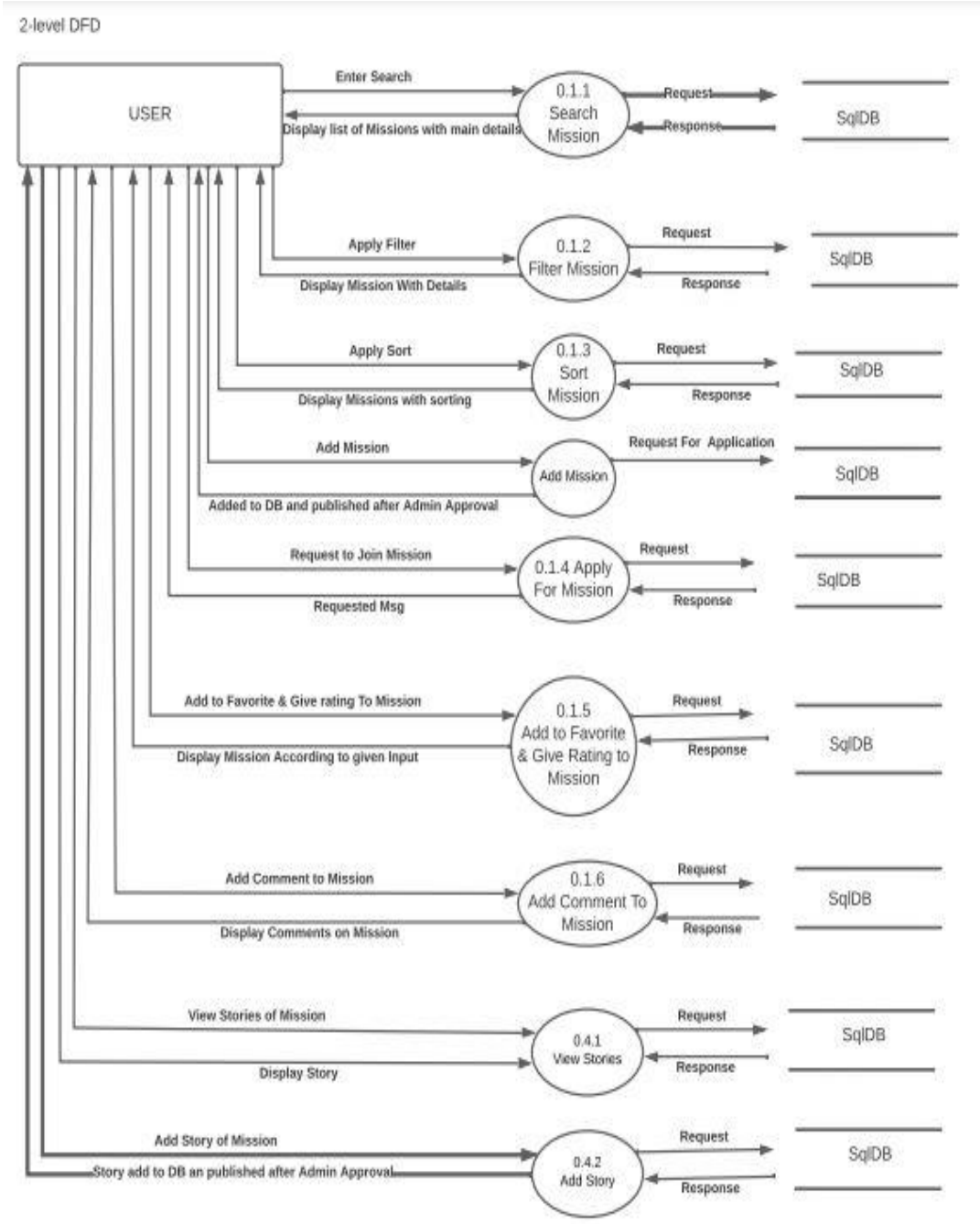

Fig 4.10 Level 2 DFD Diagram

CHAPTER 5: SYSTEM DESIGN

5.1 SYSTEM APPLICATION DESIGN

5.1.1 Database Design

Table 5.1 Admin Table

Field	Type	Size	Null	Default	Key
admin_id	***bigint***	***20***	***No***	***None***	***Primary Key***
first_name	varchar	16	Yes	Null	
last_name	varchar	16	Yes	Null	
email	varchar	128	No	None	
password	varchar	255	No	None	
created_at	timestamp	-	No	CURRENT_TIMESTAMP	-
updated_at	timestamp	-	Yes	Null	-
deleted_at	timestamp	-	Yes	Null	-

Table 5.2 Banner Table

Field	Type	Size	Null	Default	Key
banner_id	***bigint***	***20***	***No***	***None***	***Primary Key***
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 5.3 City Table

Field	Type	Size	Null	Default	Key
city_id	***bigint***	***20***	***No***	***None***	***Primary Key***
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 5.4 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 5.5 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	enum	PENDING, PUBLISHED	No	PENDING	
created_at	timestamp	-	No	CURRENT_ TIMESTAMP	-
updated_at	timestamp	-	Yes	Null	-
deleted_at	timestamp	-	Yes	Null	-

Table 5.6 CMS Page Table

Field	Type	Size	Null	Default	Key
cms_page_id	***bigint***	***20***	***No***	***None***	***Primary Key***
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 Favorite Mission Table

Field	Type	Size	Null	Default	Key
favourite_mission_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)***
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
goal_mission_id	***bigint***	***20***	***No***	***None***	***Primary Key***
mission_id	***bigint***	***20***	***No***	***None***	***FK (mission .mission_id)***
goal_objective_text	varchar	255	Yes	Null	
goal_value	int	11	No	None	
created_at	timestamp	-	No	CURRENT_T IMESTAMP	-
updated_at	timestamp	-	Yes	Null	-
deleted_at	timestamp	-	Yes	Null	-

Table 5.9 Mission Application Table

Field	Type	Size	Null	Default	Key
mission_application_id	***bigint***	***20***	***No***	***None***	***Primary Key***
mission_id	***bigint***	***20***	***No***	***None***	***FK (mission. mission_id)***
user_id	***bigint***	***20***	***No***	***None***	***FK (user.user_id)***
applied_at	datetime		No		
approval_status	Enum	PENDING,	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
mission_id	***bigint***	***20***	***No***	***UNSIGNED***	***Primary Key***
theme_id	***bigint***	***20***	***No***	***UNSIGNED***	***FK (mission_theme. mission_theme_id)***
city_id	***bigint***	***20***	***No***	***UNSIGNED***	***FK (city.city_id)***
country_id	***bigint***	***20***	***No***	***UNSIGNED***	***FK (country.country_id)***
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		
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
mission_invite_id	***bigint***	***20***	***No***	***None***	***Primary Key***
mission_id	***bigint***	***20***	***No***	***None***	***FK (mission. mission_id)***
from_user_id	***bigint***	***20***	***No***	***None***	***FK (user.user_id)***
to_user_id	***bigint***	***20***	***No***	***None***	***FK (user.user_id)***
created_at	timestamp	-	No	CURRENT_ TIMESTAMP	-
updated_at	timestamp	-	Yes	Null	-
deleted_at	timestamp	-	Yes	Null	-

Table 5.13 Mission Media Table

Field	Type	Size	Null	Default	Key
mission_media_id	***bigint***	***20***	***No***	***None***	***Primary Key***
mission_id	***bigint***	***20***	***No***	***None***	***FK (mission. mission_id)***
media_name	varchar	64			
media_type	varchar	4			
media_path	varchar	255	Yes	None	
default	enum	[0,1]		0	
created_at	timestamp	-	No	CURRENT_ TIMESTAMP	-
updated_at	timestamp	-	Yes	Null	-
deleted_at	timestamp	-	Yes	Null	-

Table 5.14 Mission Rating Table

Field	Type	Size	Null	Default	Key
mission_rating_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)***
rating	enum	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
mission_skill_id	***bigint***	***20***	***No***	***None***	***Primary Key***
skill_id	***bigint***	***20***	***No***	***None***	***FK (skill.skill_id)***
mission_id	***bigint***	***20***	***Yes***	***Null***	***FK (mission .mission_id)***
created_at	timestamp	-	No	CURRENT_ TIMESTAMP	-
updated_at	timestamp	-	Yes	Null	-
deleted_at	timestamp	-	Yes	Null	-

Table 5.16 Mission Theme Table

Field	Type	Size	Null	Default	Key
mission_theme_id	***bigint***	***20***	***No***	***None***	***Primary Key***
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
email	varchar	191	No	None	-
token	varchar	191	No	None	-
created_at	timestamp	-	No	CURRENT_TIMESTAMP	-

Table 5.18 Skill Table

Field	Type	Size	Null	Default	Key
skill_id	***int***	***11***	***No***	***None***	***Primary Key***
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
story_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)***
Title	varchar	255	yes	Null	
description	text		Yes	Null	
status	enum	DRAFT	No	DRAFT	
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
story_invite_id	***bigint***	***20***	***No***	***None***	***Primary Key***
story_id	***bigint***	***20***	***No***	***None***	***-***
from_user_id	***bigint***	***20***	***No***	***None***	***-***
to_user_id	***bigint***	***20***	***No***	***None***	***-***
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
story_media_id	***bigint***	***20***	***No***	***None***	***Primary Key***
story_id	***bigint***	***20***	***No***	***None***	***FK (story.story_id)***
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
timesheet_id	***bigint***	***20***	***No***	***None***	***Primary Key***
user_id	***bigint***	***20***	***Yes***	***Null***	***FK (user.user_id)***
mission_id	***bigint***	***20***	***Yes***	***Null***	***FK (mission .mission_id)***
Time	time		Yes	None	
action	int	11	Yes	None	
date_volunteered	datetime		No	None	
notes	text		Yes	None	
status	enum	APPROVED,	No	PENDING	-
created_at	timestamp	-	No	CURRENT_ TIMESTAMP	-
updated_at	timestamp	-	Yes	Null	-
deleted_at	timestamp	-	Yes	Null	-

Table 5.23 User Table

Field	Type	Size	Null	Default	Key
user_id	***bigint***	***20***	***No***	***None***	***Primary Key***
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	
city_id	***bigint***	***20***	***No***	***None***	***FK (city.city_id)***
country_id	***bigint***	***20***	***No***	***None***	***FK (country .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	
created_at	timestamp	-	No	CURRENT_ TIMESTAMP	-
updated_at	timestamp	-	Yes	Null	-
deleted_at	timestamp	-	Yes	Null	-

Table 5.24 User Skill Table

Field	Type	Size	Null	Default	Key
user_skill_id	***bigint***	***20***	***No***	***None***	***Primary Key***
user_id	***bigint***	***20***	***No***	***None***	***FK (user.user_id)***
skill_id	***bigint***	***20***	***No***	***None***	***FK (skill.skill_id)***
created_at	timestamp	-	No	CURRENT_TIMESTAMP	-
updated_at	timestamp	-	Yes	Null	-
deleted_at	timestamp	-	Yes	Null	-

5.2 INPUT / OUTPUT AND INTERFACE DESIGN

5.2.1 Samples of Forms, Reports and Interface

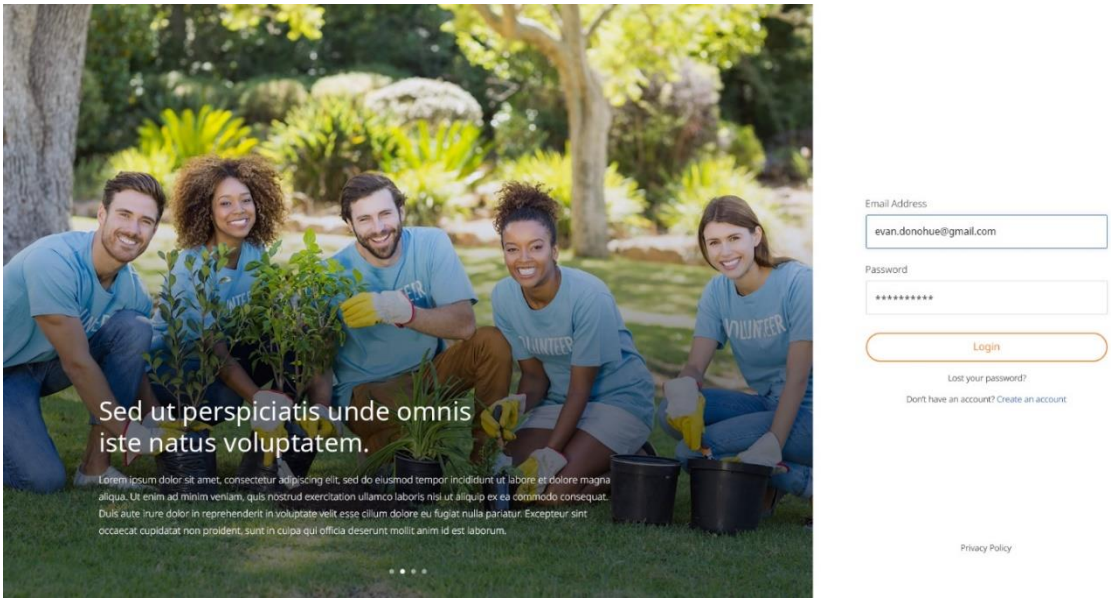

Fig 5.1 Login Page

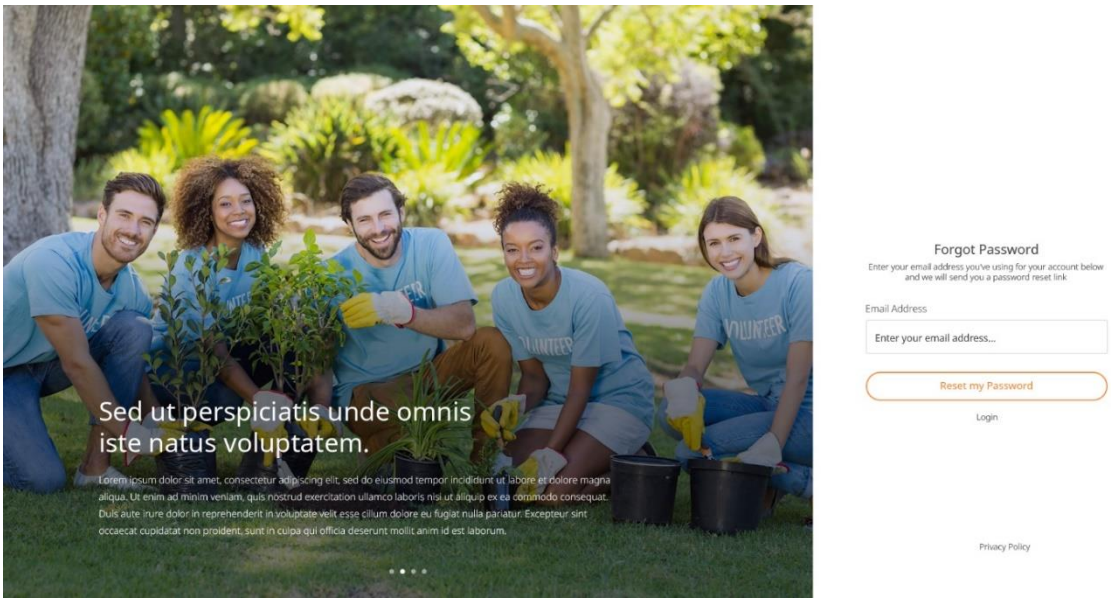

Fig 5.2 Forgot Password Page

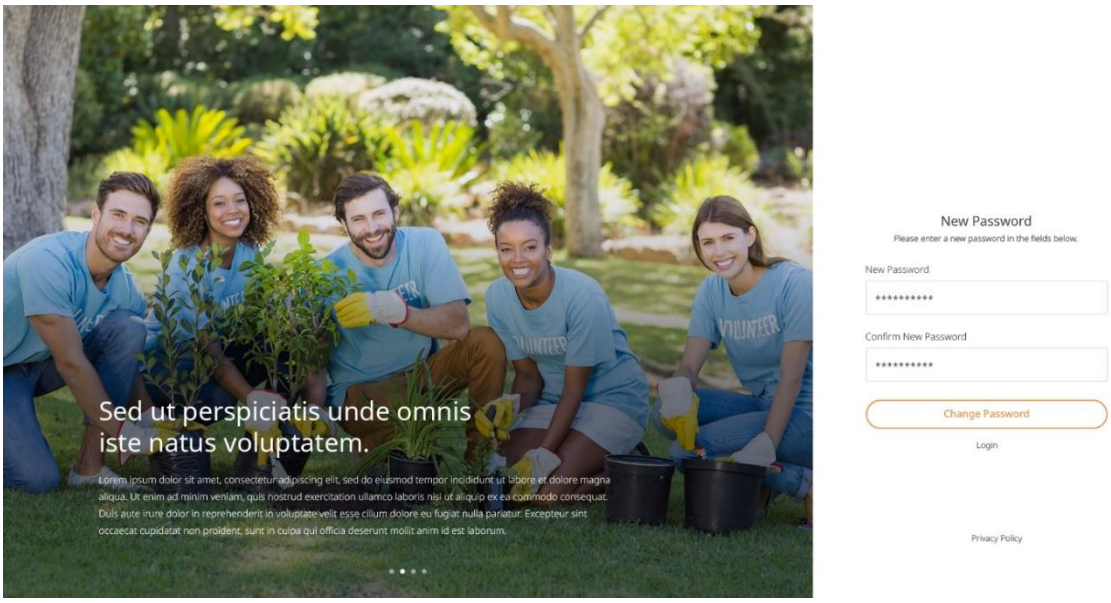

Fig 5.3 Change Password Page

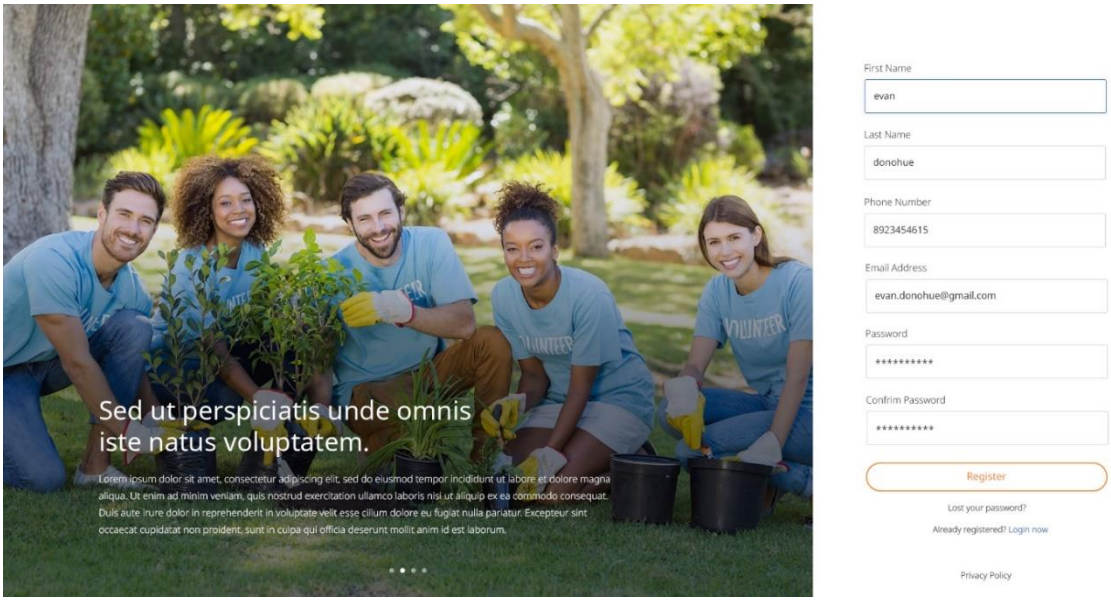

Fig 5.4 Registration Page

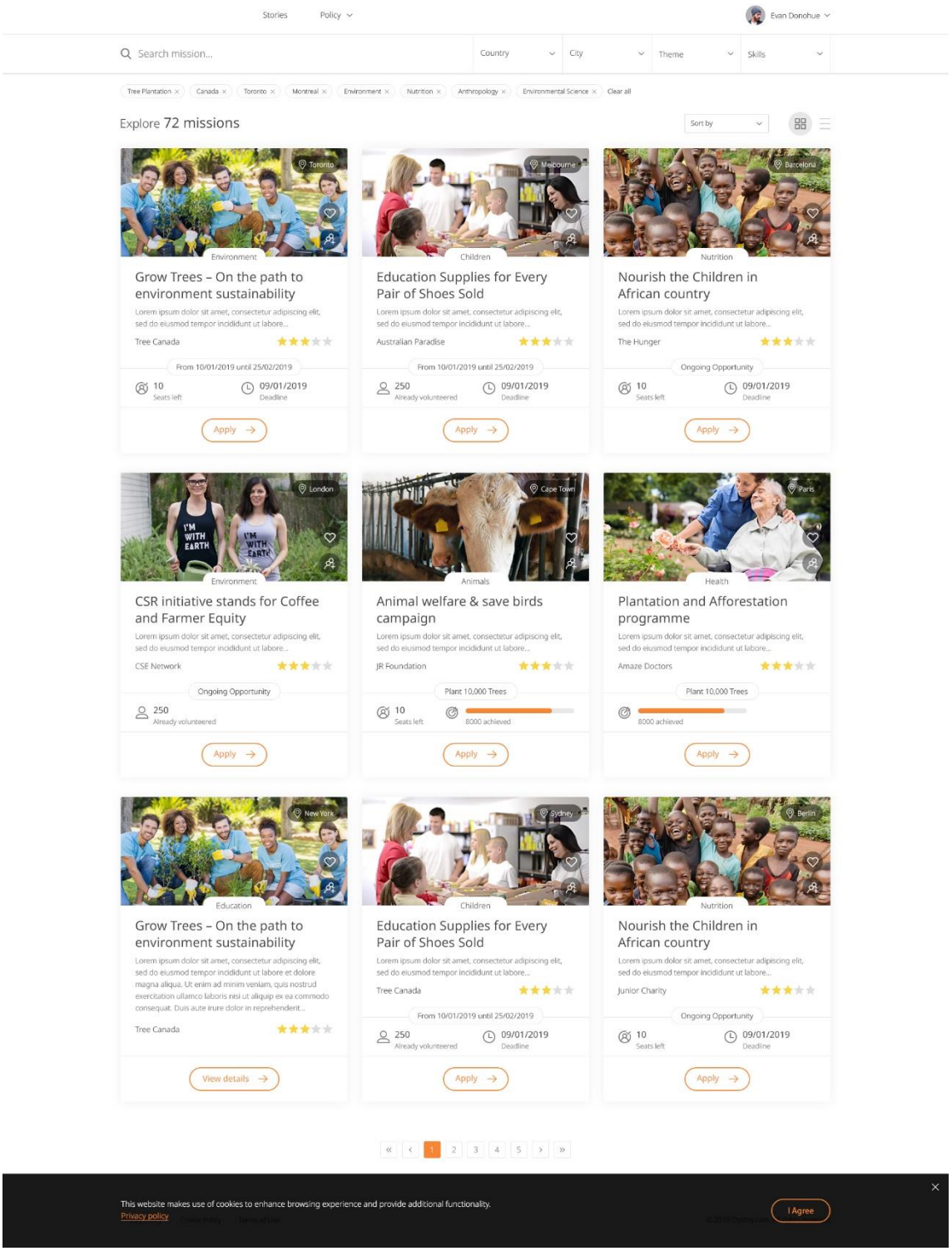

Fig 5.5 Platform Landing Page

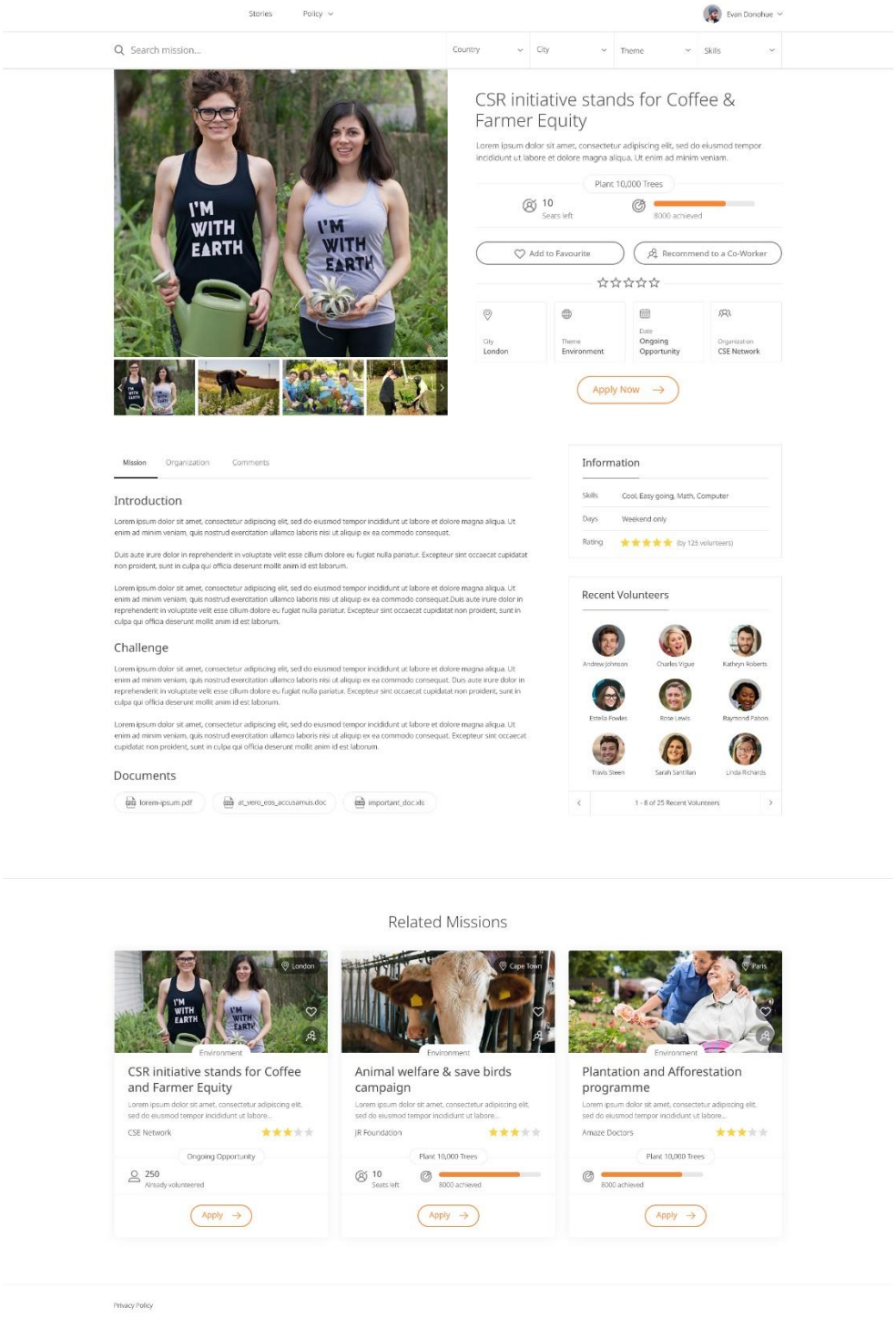

Fig 5.6 Mission Page

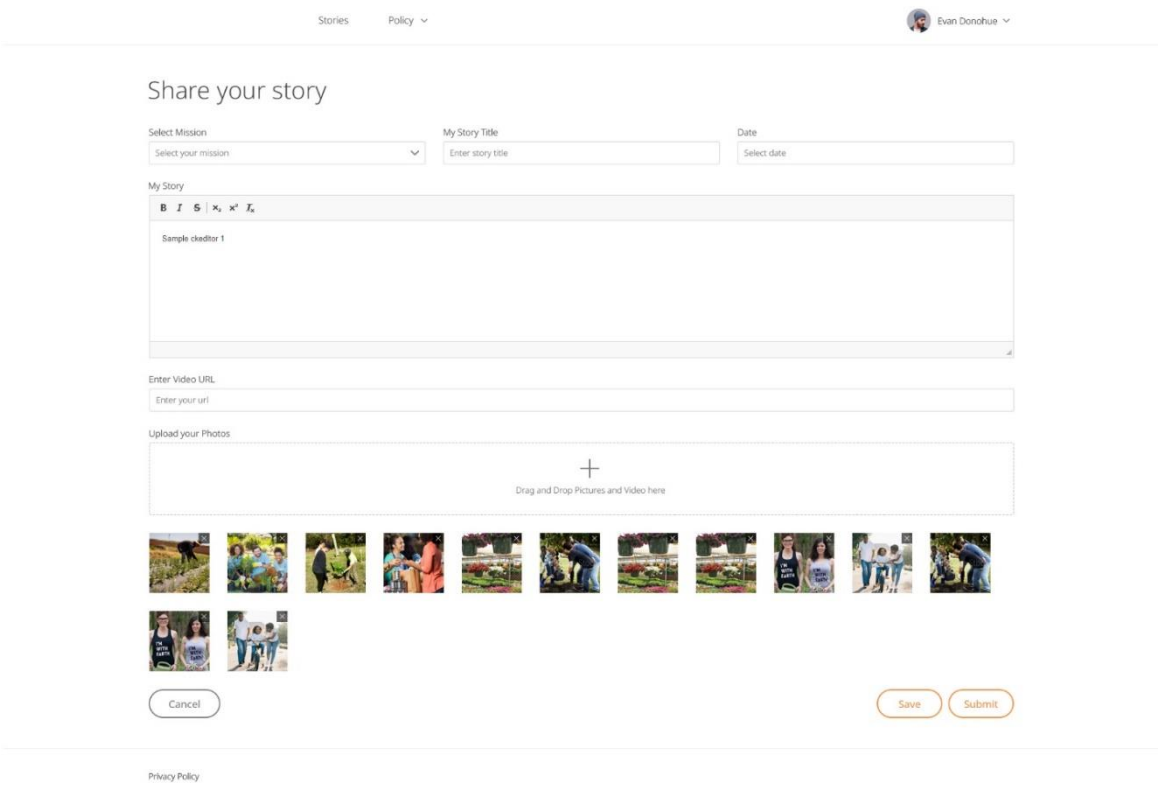

Fig 5.7 Add Story Page

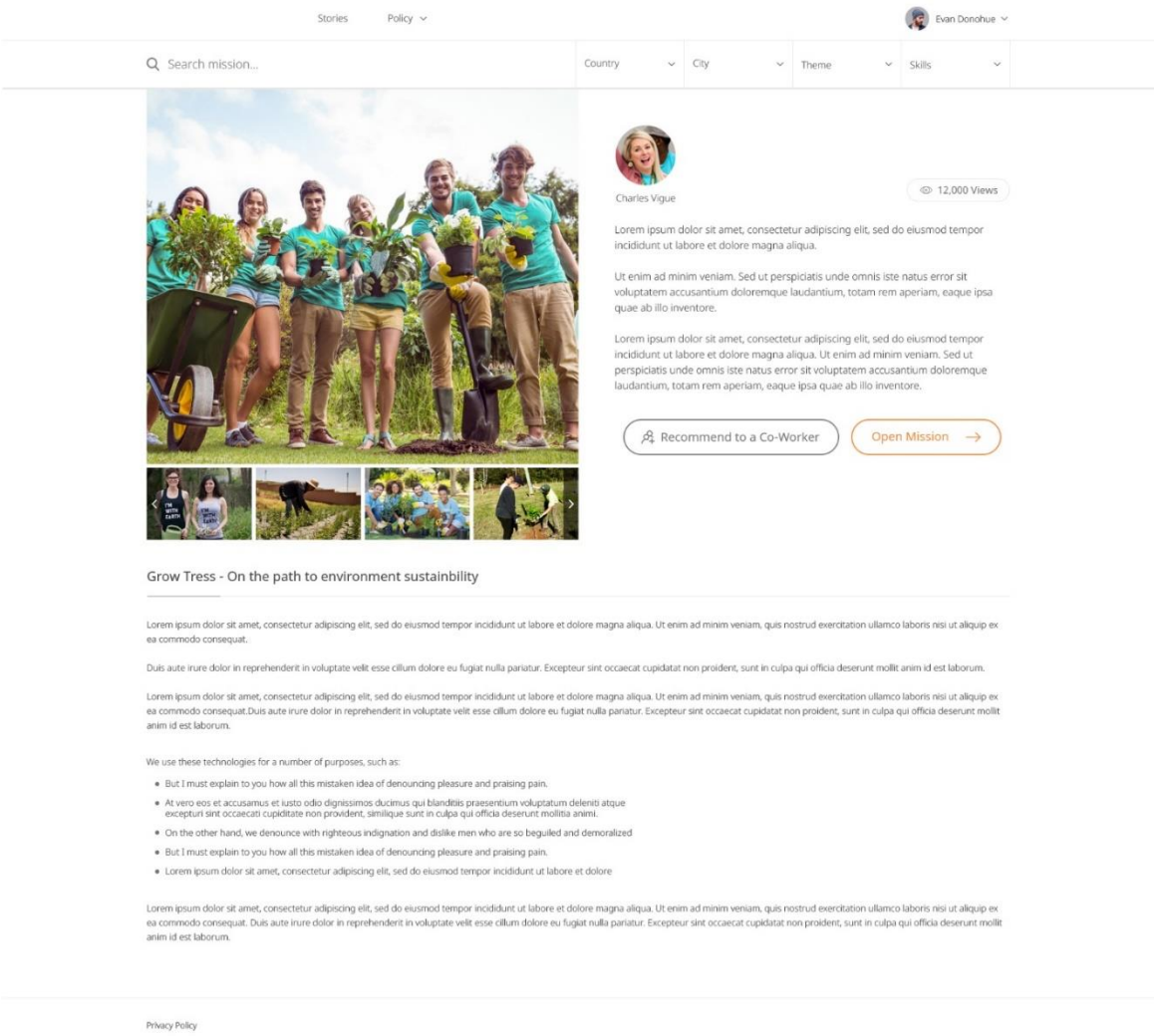

Fig 5.8 Story Page

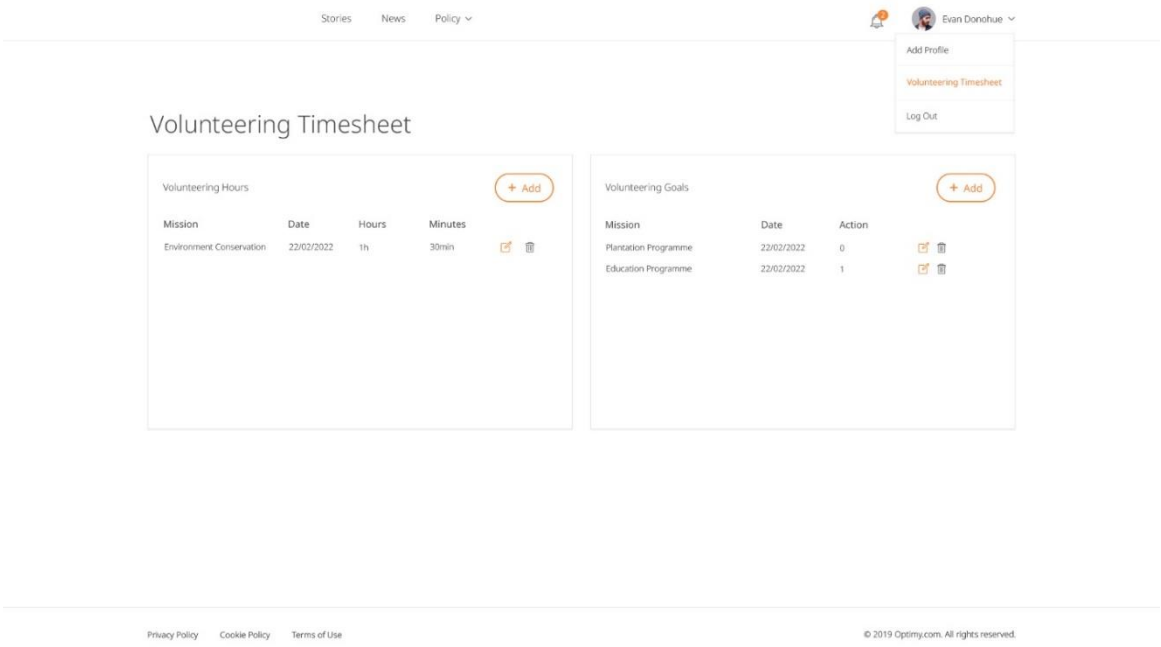

Fig 5.9 Volunteering Timesheet Page

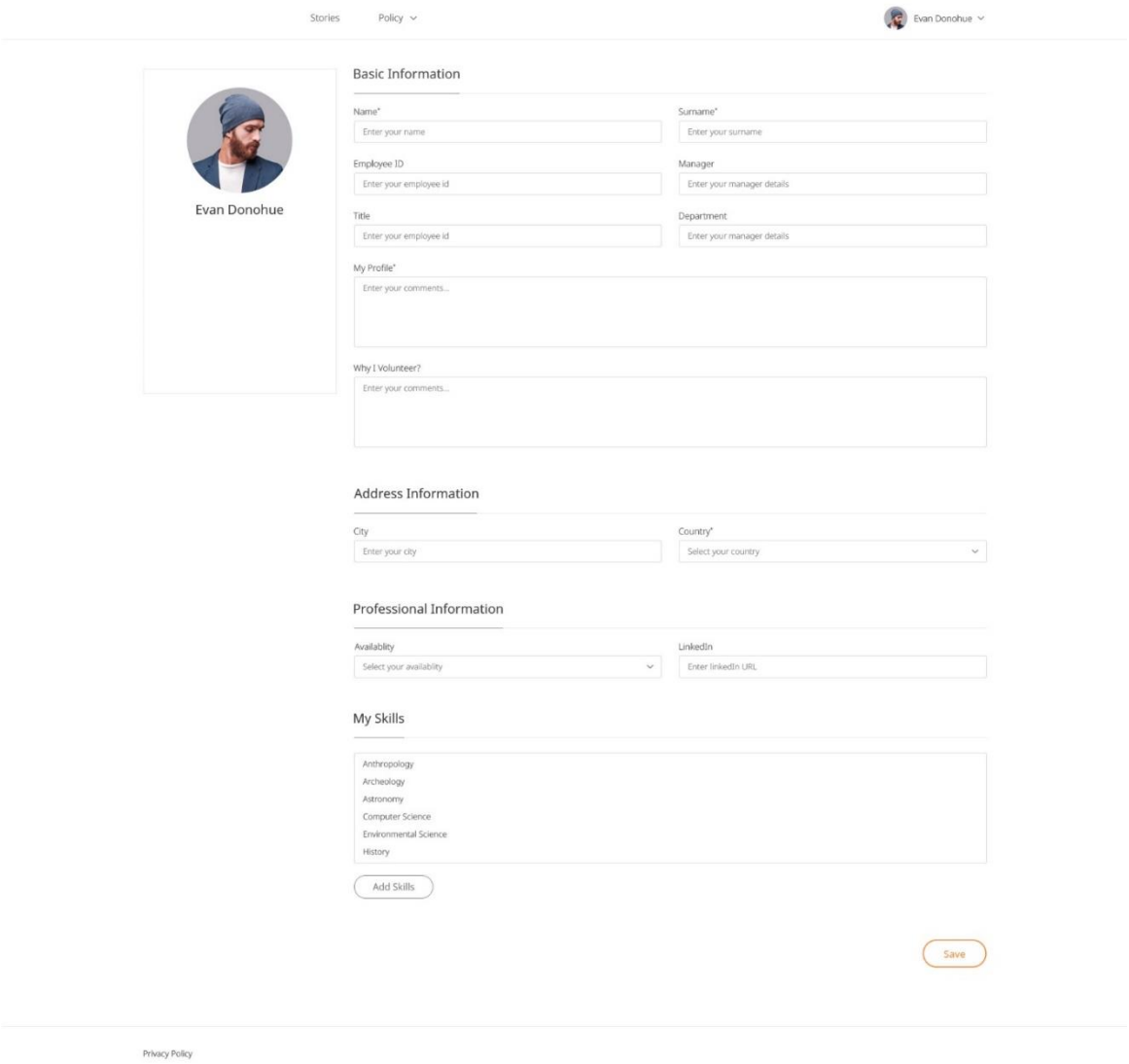

Fig 5.10 Profile Page

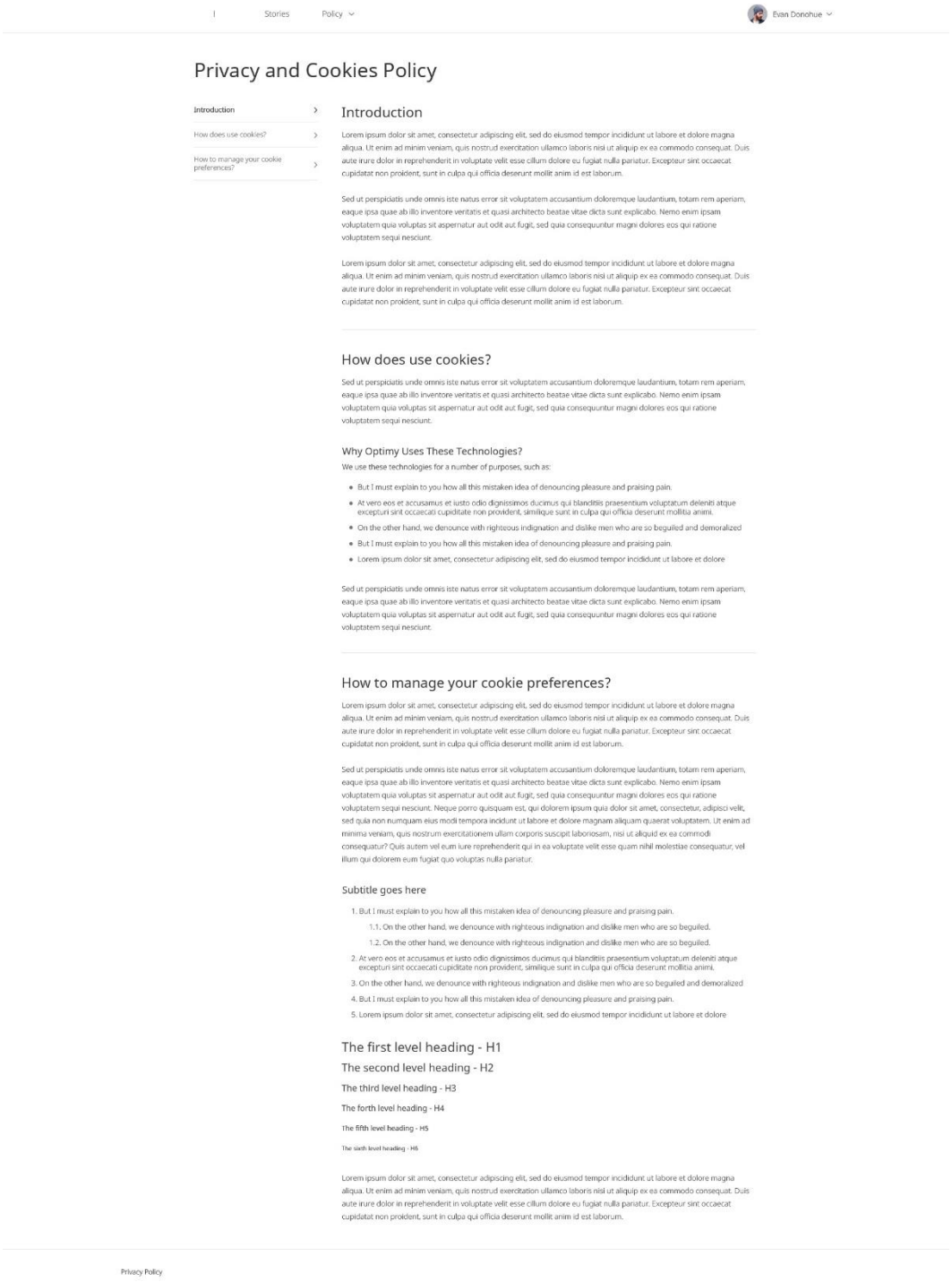

Fig 5.11 Policy Page

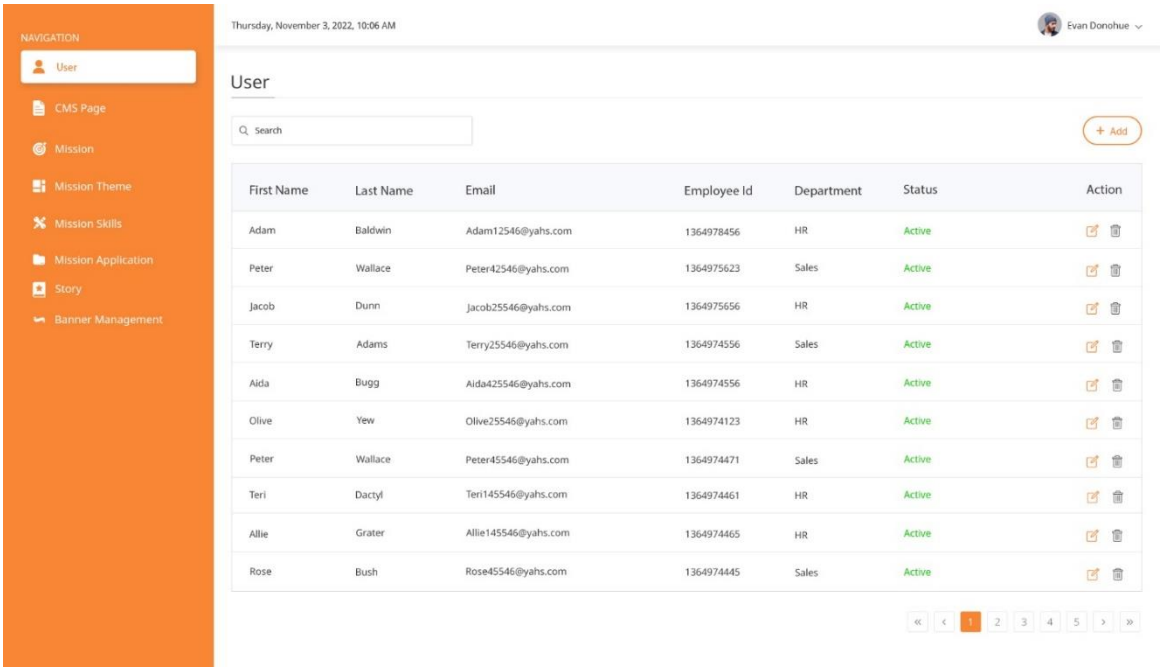

Fig 5.12 Admin side User Page

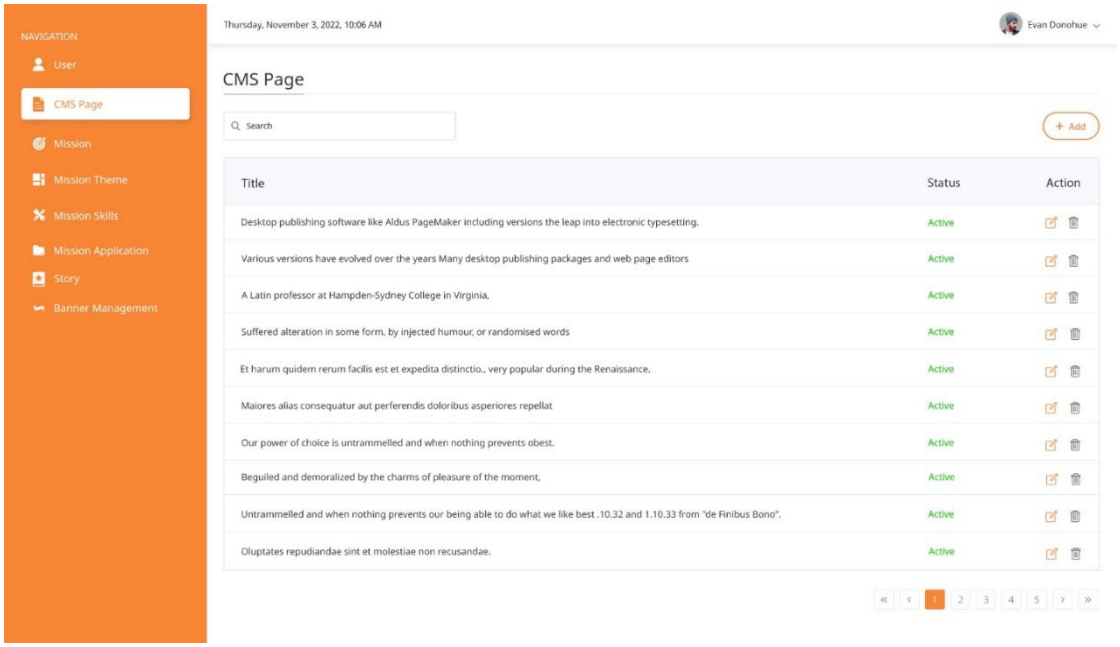

Fig 5.13 Admin side CMS Page

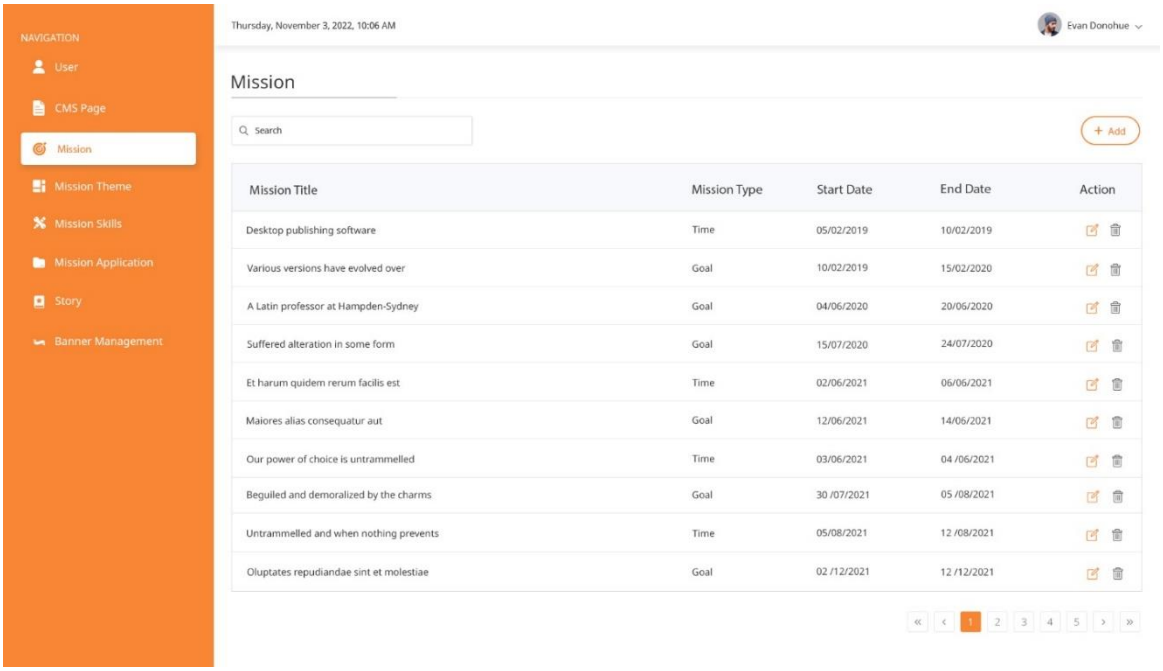

Fig 5.14 Admin side Mission Page

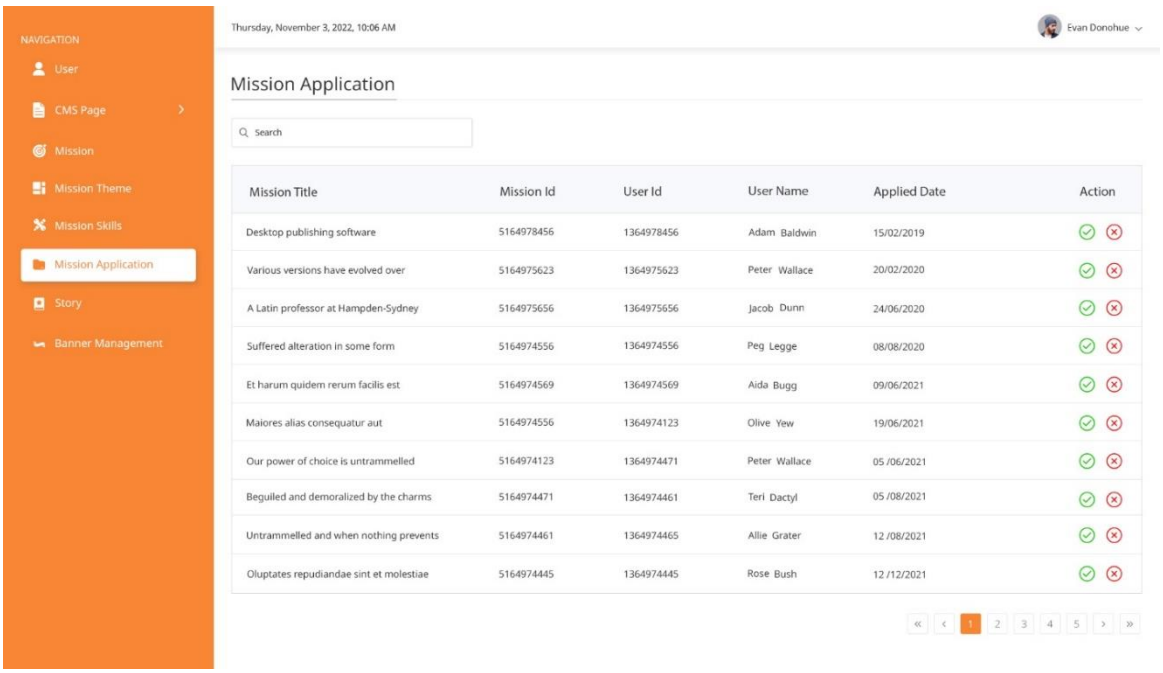

Fig 5.15 Admin side Mission Application Page

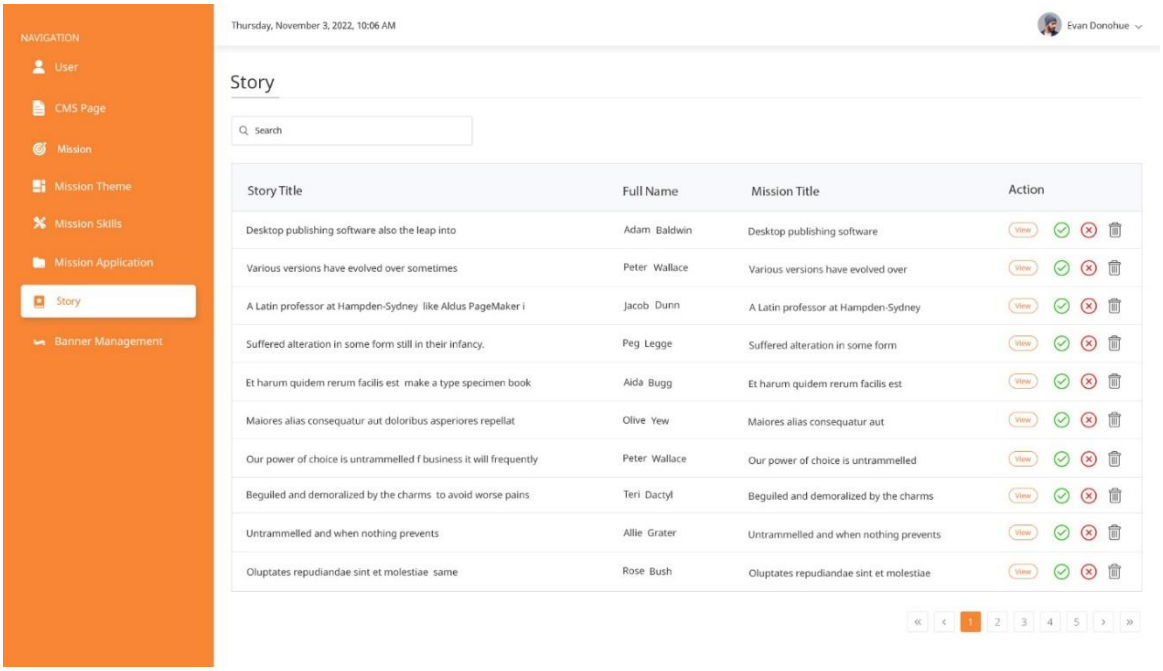

Fig 5.16 Admin side Story Page

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 tech. like html, CSS, JavaScript and JavaScript Library, .NET core, SQL server.

6.2 PROGRAMS AND MODULES SPECIFICATION

Our application mainly divides into three parts:

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

6.3 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.

6.4 COADING STANDARDS

To make the system coding easy, easy to remember and reducing the chances of errors some techniques are used at the time of coding of the application which is 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

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, we would be using the white box testing as we are well aware of the internal functionalities of our application unlike in the black box testing.

7.2 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.

7.3 TESTING SUITES DESIGN

7.3.1 Test Cases

Table 7.1 Testcase Table 1

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.	• 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.	• 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 7.2 Testcase Table 2

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	• 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"	• 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)	• 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"	• 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	• 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	• 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	• 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	• 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	• 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	• The submitted rating and comment are displayed correctly on the mission details on page • The submitted rating and comments are saved and persisted in the system	PASS

Table 7.3 Testcase Table 3

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	• 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	• 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	• 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	• 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	• 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	• 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	• 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	• 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 7.4 Testcase Table 4

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	• 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	• 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	• 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.	• 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.	• 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.	• 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.	• 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.	• 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.	• The user should be activated successfully without any error. • The activated user should be deactivated successfully without any error.	• The user is activated successfully without any error. • The activated user is deactivated successfully without any error.	PASS

Table 7.5 Testcase Table 5

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.	• 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.	• 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.	• The mission application should be approved successfully without any errors. • The mission application should be declined successfully without any error.	• 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.	• The user's story should be approved successfully without any errors. • The user's story should be declined successfully without any error.	• 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.	• 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.	• 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

CHAPTER 8: CONCLUSION AND DISCUSSION

8.1 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.

8.2 DISCUSSION

8.2.1 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.

8.2.2 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.

8.2.3 Summary of Project Work

Completing this project an incredible achievement. 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.

CHAPTER 9: LIMITATION AND FUTURE ENHANCEMENT

9.1 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.

9.2 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 10: REFERANCES

10.1 REFERANCES

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