American International University-Bangladesh (AIUB)
Department of Computer Science
Faculty of Science & Technology (FST)

Neighborhood Engagement Network

A Software Engineering Project Submitted
By

Semester: Fall_24-25		**Section: B**	**Group Number: 01**	
SN	Student Name	Student ID	Contribution (CO3+CO4+CO5)	Individual Marks
01	Nasir Sarkar	22-48370-3	20%	
02	Md. Naimur Rahman	22-48391-3	20%	
03	Md. Abu Sufian Showrov	22-48735-3	20%	
04	Sudipto Hore Tamal	22-46921-1	20%	
05	Sudipta Shikha Ausmita	22-46275-1	20%	

The project will be evaluated for the following Course Outcomes

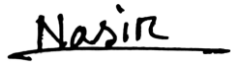
CO3: *Select* appropriate software engineering models, project management roles, and their associated skills for the complex software engineering project and evaluate the sustainability of developed software, taking into consideration the societal and environmental aspects	Total Marks	
Appropriate Process Model Selection and Argumentation with Evidence	[5 Marks]	
Evidence of Argumentation Regarding Process Model Selection	[5Marks]	
Analysis of the impact of societal, health, safety, legal, and cultural issues	[5Marks]	
Submission, Defense, Completeness, Spelling, grammar, and Organization of the Project report	[5Marks]	
CO4: *Develop* a project management plan to manage software engineering projects following the principles of engineering management and economic decision process	Total Marks	
Develop the project plan, its components of the proposed software products	[5Marks]	
Identify all the activities/tasks related to project management and categorize them within the WBS structure. Perform detailed effort estimation correspond with the WBS and schedule the activities with resources	[5Marks]	
Identify all the potential risks in your project and prioritize them to overcome these risk factors.	[5Marks]	

CO5: Perform as an effective team member or leader in diverse team settings and solve multi-disciplinary problems in the computer science and engineering domain	Total Marks	
Taking project responsibility: perform assigned tasks on time independently	[5Marks]	
Contribution to project group meetings, sharing fruitful ideas	[5Marks]	
Positive attitude towards group work, collaboration, compromise, helping others to understand their project work responsibility	[5Marks]	
Showing respect and value towards other team member's opinion	[5Marks]	

Description of Student's Contribution in the Project work

Student Name: Nasir sarkar
Student ID: 22-48370-3
Contribution in Percentage (%): 20%
Contribution in the Project:

- Functional Requirements: View community board, Share skills with community, Plan and manage events.
- Nonfunctional Requirements: Scalability, Security, Privacy.
- Diagram: Class diagram.
- Webpage design: Login, Registration, Forget password, Reset password, Find and join volunteer.
- Test Automation: Registration, Forget password, Reset password, Add event, List of events, Update directory contact, Find and join volunteer, Find volunteers' details.
- WBS: System engineering, Installation.
- Timeline Chart-1: COCOMO, Pre-Game, Post-Game
- Timeline Chart-2: System engineering, Installation.
- Eva Evolution: BAC, BCWS, BCWP, ACWP, SPI, SV
- Risk Analysis: Point-1



Signature of the Student

Student Name: Md. Naimur Rahman
Student ID: 22-48391-3
Contribution in Percentage (%): 20%
Contribution in the Project:

- Functional Requirements: Send and receive private messages, Post and respond to help requests, Find and join volunteer.
- Nonfunctional Requirements: Usability, Reliability, Performance.
- Diagram: Sequence Diagram.
- Webpage Design: Share resources, Access emergency contacts, Receive security alerts.
- Test Automation: Share resources, Browse item, List an item, View my listings, Access emergency contacts, Receive security alerts.
- WBS: Software (Software design, Software built, unit testing)
- Timeline Chart-1: Spring-1 (Game-Phase)
- Timeline Chart-2: Software (Software design, Software built, unit testing)
- Eva Evolution: CPI, CV, % schedule for completion, % complete
- Risk Analysis: Point-2

Signature of the Student

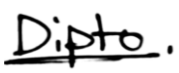
Student Name: Md. Abu Sufian Showrov
Student ID: 22-48735-3
Contribution in Percentage (%): 20%
Contribution in the Project:

- Functional Requirements: Create lost and found items, Create and vote in polls, Share Resources.
- Nonfunctional Requirements: Maintainability, Compatibility, User feedback requirements.
- Diagram: Activity diagram.
- Test Automation: Login, Report 'lost and found' items, Item list, Search item, Announcement, Create poll, Vote polls, Results, Create and vote in polls.
- WBS: Support services.
- Timeline Chart-1: Spring-4 (Game-Phase)
- Timeline Chart-2: Support services.
- Risk Analysis: Point-6

Signature of the Student

Student Name: Sudipto Hore Tamal
Student ID: 22-46921-1
Contribution in Percentage (%): 20%
Contribution in the Project:

- Functional Requirements: Login, Registration, Forget password
- Nonfunctional Requirements: Accessibility
- Diagram: Use case diagram
- Webpage Design: Browse local history, Send and receive private messages, Post and respond to help requests.
- Test Automation: Browse local directory, Send and receive private messages, Post and respond to help requests.
- WBS: Deliverable management, System test
- Timeline Chart-1: Spring-3 (Game-Phase)
- Timeline chart-2: Deliverable management, System test
- Risk Analysis: Point-4-5



_____
Signature of the Student

Student Name: Sudipta Shikha Ausmita
Student ID: 22-46275-1
Contribution in Percentage (%): 20%
Contribution in the Project:

- Functional Requirements: Access emergency contact, Receive security alerts, Browse local directory.
- Webpage Design: View community board, Share skills with community, Plan and manage events, Report 'lost and found' items, Create and vote in polls.
- Test Automation: View community Board, share skills with Community, Add skills, List of skills, Offer skills, Plan and manage events.
- WBS: Project management.
- Timeline Chart-1: Spring-2 (Game-Phase)
- Timeline Chart-2: Project management.
- Risk Analysis: Point-3-4

_____
Signature of the Student

1. PROJECT PROPOSAL

1.1 Background to the Problem

In today's busy world, people often lose connections with their neighbors. Despite living close to each other, many don't know who to turn to for help or support, especially in emergencies. Most communities lack a simple way to share resources, organize events, or communicate local news, leading to less safe, supportive, and connected neighborhoods. While many social networking apps exist, none focus on fostering real-life neighborhood engagement. Strong neighborhood connections can improve safety, reduce isolation, and create more secure and supportive communities.

1.2 Solution to the Problem

Objective:

Our project, the "Neighborhood Engagement Network", aims to create an app where neighbors can connect, share resources, and organize events. This app will help neighbors build trust, improve neighborhood security, and promote collaboration.

Proposed Solutions:

The app will provide tools to make communication and cooperation easy for neighbors. These solutions are particularly effective because they focus on practical ways people can help each other in real life. Since the app includes common features, people use daily messaging, event planning, resource sharing it should be easy to adopt. This approach is feasible for building strong community bonds without much extra effort from users.

Basic Functionalities:

The app will use current technology to provide a user-friendly, highly effective platform that neighbors of all ages can use. Key features will include:

- Community Board: For sharing announcements.
- Skill Sharing: For offering help (like tutoring or repairs).
- Event Planner: For neighborhood gatherings.
- Lost and Found: For reporting and finding lost items.
- Polls: For group decisions.
- Shared Resources: For lending/borrowing items.
- Emergency Contacts: For crisis support.
- Security Alerts: For neighborhood safety updates.
- Local Directory: For nearby businesses and services.
- Private Messaging: For one-on-one chats.
- Help Requests: For notifying neighbors of urgent needs.
- Volunteer Board: For organizing community projects.

Target Group of Users:

The primary users are local residents. They will benefit from stronger social ties, easy access to help and resources, and a sense of security. Whether it's finding a lost pet, sharing tools, or organizing a clean-up day, this app will make it easier for everyone to participate.

Scientific Contribution:

This project will contribute to social and safety studies by offering data on how digital tools can improve real-world interactions in communities. By tracking usage and engagement, we can gain insights into how technology promotes neighborhood cooperation and safety.

Literature Review:

Studies show that social isolation is a growing problem, and local engagement is one way to reduce it. However, few studies focus on how technology can connect neighbors. Existing neighborhood apps have limited features, and our solution extends these by offering a full range of community-building tools in one place, which is unique.

Existing Solutions:

There are a few apps available, but they often focus on either event planning or simple announcements, without providing a full range of tools to connect neighbors meaningfully. Our app goes further by integrating social, security, and resource-sharing features, making it more beneficial for users who want a complete neighborhood experience.

2. SOFTWARE DEVELOPMENT LIFE CYCLE

2.1 Process Model

Process Model Selection:

After analyzing the project's requirements and the size of the development team, the Scrum framework under the Agile methodology was selected as the process model for this project. Scrum provides lightweight management practices, focusing on iterative and incremental development with minimal overhead. This makes it an ideal choice for the Neighborhood Engagement Network project, where adaptability and regular feedback are critical.

Supporting Rationale:

Scrum's iterative nature allows for continuous assessment and adjustment, ensuring predictability and risk mitigation. By delivering working software increments at the end of each sprint, Scrum facilitates effective stakeholder feedback, keeping the application relevant and user-centric throughout development.

Scrum was chosen for its adaptability, iterative approach, and focus on delivering working software in short cycles. Models like the V-Model and Unified Process were unsuitable due to their rigidity in handling evolving requirements. The Spiral Model, while strong in risk management, was too complex and resource-intensive. Kanban and Lean Development lack time-boxed iterations and structured feedback loops. Extreme Programming (XP) and Prototyping, though useful, either demand higher technical expertise or fail to offer a complete framework. Scrum's balance of collaboration, flexibility, and structured delivery ensures efficient progress and alignment with stakeholder needs.

Key Scrum Characteristics for This Project:

- **Transparency:** Every team member and stakeholder have visibility into all aspects of the project.
- **Inspection:** Frequent evaluations of work products to detect deviations.
- **Adaptation:** Adjustments are made promptly based on findings from inspections.

The project timeline will consist of consecutive sprints of fixed durations, typically one to two weeks. Each sprint will deliver an increment of working software aligned with the sprint goal.

2.2 Project Roles and Responsibilities

Product Owner:
The Product Owner defines and manages the product backlog, ensuring it aligns with stakeholder needs. They set sprint goals and priorities, ensuring clarity and actionable tasks for the team.

Scrum Master:
The Scrum Master ensures adherence to Scrum practices and facilitates key events. They support the team by removing obstacles and fostering a collaborative, productive environment.

Scrum Development Team:
The Development Team is responsible for delivering working software increments. They collaborate closely, handling coding, testing, and integration within each sprint's goals.

Customer:
The Customer provides feedback on product backlog items and ensures that the final product meets their needs. They work with the Product Owner to align the project with their expectations.

Management:
Management oversees final decision-making, sets goals, and ensures resources align with project requirements. They support the Scrum team by removing organizational impediments.

Functional Requirements

01. Login:

1.1 The app shall allow users to log in with a username and password.
1.2 The app shall validate login credentials against records in the database.
1.3 If the login is successful, the app shall redirect the user to the home page.
1.4 If the login fails due to incorrect credentials, the app shall display an error message.
1.5 The app shall allow up to 3 login attempts; after exceeding this limit, it shall temporarily lock the account for 1 hour.

- Priority Level: High
- Precondition: User must be registered in the system.
- Cross-references: Registration (2.1, 2.2), Forgot Password (3.1).

02. Registration:

2.1 The app shall allow new users to register by providing their name, email, username, password, and phone number.
2.2 The app shall validate that the username and email are unique before completing registration.
2.3 The app shall require the password to meet specific security requirements (e.g., minimum 8 characters, include numbers and special characters).
2.4 The app shall send a confirmation email to the user upon successful registration.

- Priority Level: High
- Precondition: User is not already registered.
- Cross-references: Login (1.1, 1.2), Forgot Password (3.1).

03. Forgot Password:

3.1 The app shall allow users to reset their password if they have forgotten it.
3.2 The app shall require the user to enter their registered email to initiate the password reset process.
3.3 The app shall send a verification code or link to the user's registered email to confirm identity.
3.4 The app shall allow users to set a new password after successful verification, ensuring it meets security requirements.
3.5 The app shall confirm the password change with a success message once the new password is set.

- Priority Level: Medium
- Precondition: User must have a registered email in the system.
- Cross-references: Login (1.1, 1.2), Registration (2.1, 2.2).

04. View Community Board:

4.1 The app shall allow users to post announcements on the community board.
4.2 The app shall allow users to view, like, or comment on posts by other users.
4.3 The app shall allow users to report inappropriate content to administrators for review.

- Priority Level: High
- Precondition: User must be logged in.
- Cross-references: Private Messaging (12.1, 12.2).

05. Share Skills with Community:

5.1 The app shall allow users to list available skills they can offer (e.g., tutoring, repairs).
5.2 The app shall provide a searchable list of skills shared by other users.
5.3 The app shall allow users to contact individuals offering skills via private messaging.

- Priority Level: Medium
- Precondition: User must be logged in.

06. Plan and Manage Events:

6.1 The app shall allow users to create events with details (date, time, location, description).
6.2 The app shall allow users to RSVP to events created by others.
6.3 The app shall notify users of upcoming events to which they've RSVP'd.

- Priority Level: Medium
- Precondition: User must be logged in.
- Cross-references: Community Board (4.1).

07. Report Lost and Found Items:

7.1 The app shall allow users to post lost and found items, including a description and photo.
7.2 The app shall allow users to search for items by keywords.
7.3 The app shall notify the user when a new post matches their search criteria.

- Priority Level: High
- Precondition: User must be logged in.

08. Create and Vote in Polls:

8.1 The app shall allow users to create polls with multiple choice options.
8.2 The app shall allow users to vote on polls and view poll results after voting.
8.3 The app shall restrict users to one vote per poll.

- Priority Level: Medium
- Precondition: User must be logged in.

09. Share Resources:

9.1 The app shall allow users to list items they are willing to lend or borrow.
9.2 The app shall allow users to search for items based on availability and type.
9.3 The app shall allow users to request an item and negotiate terms through private messaging.

- Priority Level: High
- Precondition: User must be logged in.

10. Access Emergency Contacts:

10.1 The app shall provide a list of community-specific emergency contacts.
10.2 The app shall allow users to call emergency contacts directly from the app.
10.3 The app shall update emergency contacts as provided by community authorities.

- Priority Level: High
- Precondition: None.

11. Receive Security Alerts:
11.1 The app shall allow administrators to post security alerts to the community.
11.2 The app shall notify all users of new security alerts.
11.3 The app shall archive old alerts for future reference.

- Priority Level: High
- Precondition: User must be logged in.

12. Browse Local Directory:
12.1 The app shall display a list of nearby businesses and services.
12.2 The app shall allow users to search for businesses by category (e.g., restaurants, repair shops).
12.3 The app shall allow businesses to update their contact information.

- Priority Level: Medium
- Precondition: User must be logged in.

13. Send and Receive Private Messages:
13.1 The app shall allow users to send private messages to one another.
13.2 The app shall provide real-time notifications for new messages.
13.3 The app shall allow users to block or report other users as necessary.

- Priority Level: High
- Precondition: User must be logged in.
- Cross-references: Help Requests (14.1, 14.2).

14. Post and Respond to Help Requests:
14.1 The app shall allow users to post help requests visible to the community.
14.2 The app shall notify users when a new help request is posted.
14.3 The app shall allow users to respond to help requests via private messaging.

- Priority Level: Medium
- Precondition: User must be logged in.

15. Find and Join Volunteer:
15.1 The app shall allow users to post volunteer opportunities.
15.2 The app shall allow users to join volunteer efforts and receive updates.
15.3 The app allows the poster to track volunteers and communicate with them.

- Priority Level: Medium
- Precondition: User must be logged in.

Nonfunctional Requirements

1. Usability:

1.1 The app shall have an intuitive and user-friendly interface, accessible to users of all ages and technological proficiency levels.
1.2 The app shall provide clear navigation with easy access to key features, especially for seniors and less tech-savvy users.
1.3 The app shall use simple language, provide tooltips, and offer visual guides to assist users in understanding the app's functionality.

2. Reliability:

2.1 The app shall be available 99.9% of the time, ensuring minimal downtime.
2.2 The app shall handle errors gracefully, displaying clear error messages and offering support or help options.
2.3 The app shall regularly back up data to prevent data loss and allow for quick recovery in case of failures.

3. Performance:

3.1 The app shall load within 2 seconds under normal network conditions.
3.2 The app shall handle up to 10,000 concurrent users without performance degradation.
3.3 The app shall process and display updates (e.g., new messages, posts, alerts) within 1 second.

4. Scalability:

4.1 The app shall be able to scale horizontally to accommodate increasing numbers of users in growing communities.
4.2 The app shall support expansion to accommodate additional features or modules in the future.

5. Security:

5.1 The app shall use SSL encryption for all data transmissions to protect user information.
5.2 The app shall store passwords securely using hashing and salting techniques.
5.3 The app shall restrict access to certain features and data to authorized users only, based on defined roles (e.g., admin, community member).
5.4 The app shall implement CAPTCHA or similar security measures to prevent unauthorized access through automated bots.

6. Privacy:

6.1 The app shall ensure that user data is protected in compliance with relevant data protection laws (e.g., GDPR).
6.2 The app shall allow users to control their privacy settings, including the option to hide personal information.
6.3 The app shall limit the retention of user data, deleting it upon user request or account deactivation.

7. Maintainability:

7.1 The app shall be designed with modularity in mind to facilitate updates, bug fixes, and new feature integrations.
7.2 The app codebase shall follow industry-standard coding practices to ensure it is readable, understandable, and easy to modify.
7.3 The app shall be accompanied by comprehensive documentation, including a user manual, admin guide, and technical documentation for developers.

8. Compatibility:

8.1 The app shall be compatible with major mobile operating systems, specifically iOS and Android.
8.2 The app shall be optimized for a variety of screen sizes, including smartphones and tablets.
8.3 The app shall be accessible on popular web browsers if a web version is implemented, supporting Chrome, Firefox, Safari, and Edge.

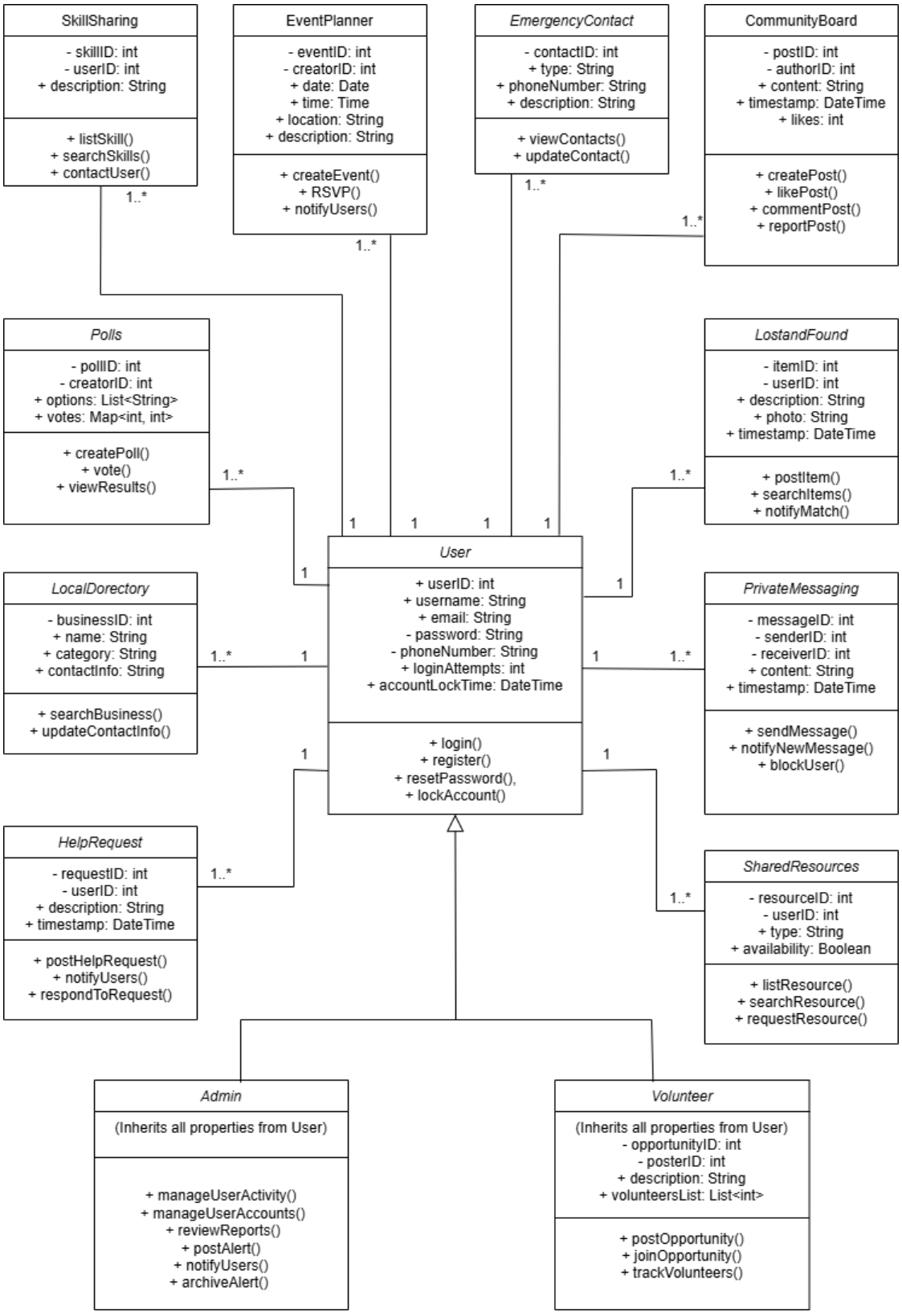
9. Accessibility:

9.1 The app shall comply with Web Content Accessibility Guidelines (WCAG) to be usable by people with disabilities.
9.2 The app shall include features such as screen reader compatibility, high contrast modes, and text resizing options.
9.3 The app shall support voice control or command functionality to enhance accessibility.

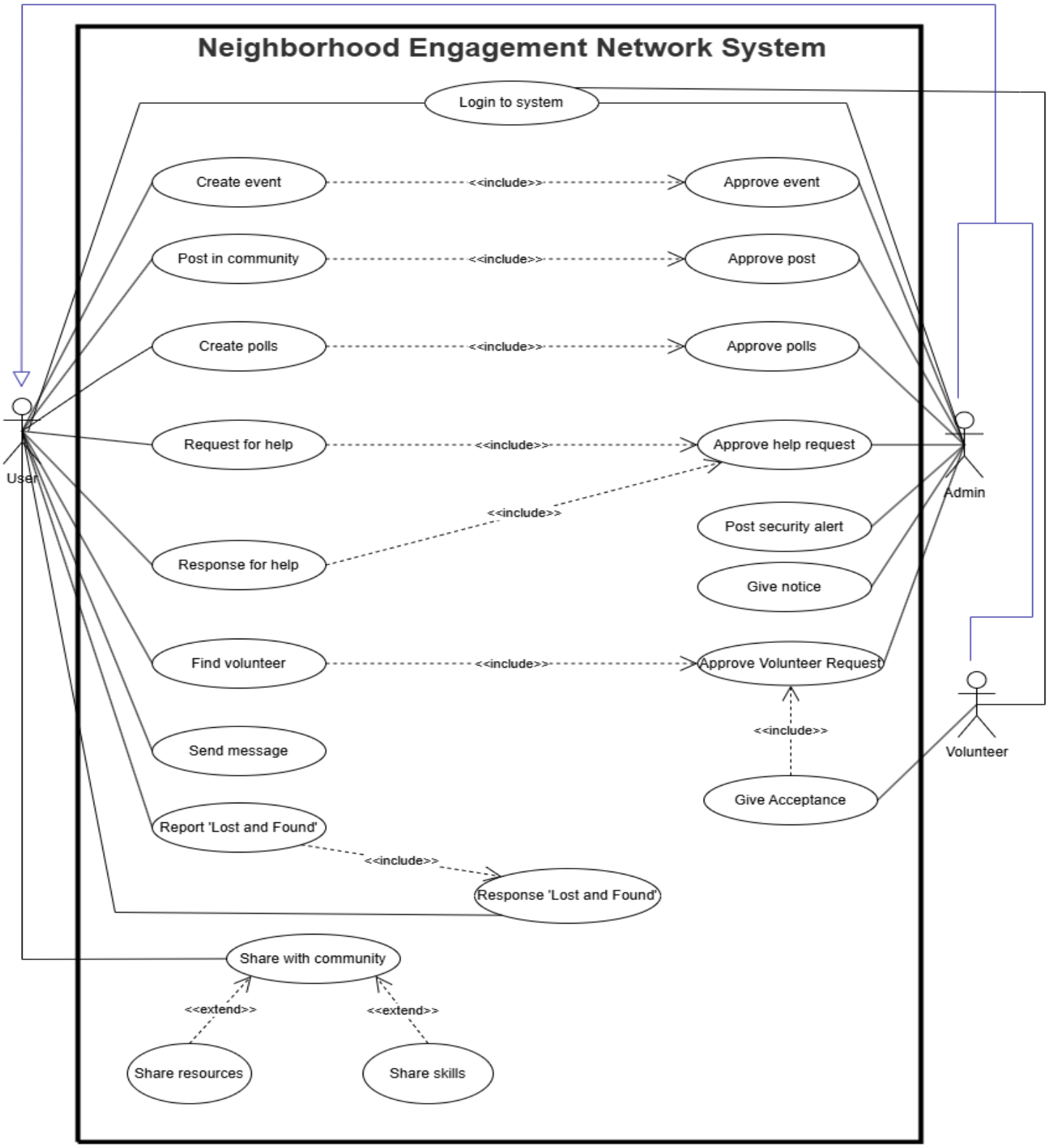
10. User Feedback Requirements:

10.1 The app shall include a feedback feature for users to report issues or suggest improvements.
10.2 The feedback system shall automatically categorize and prioritize reported issues for the development team.

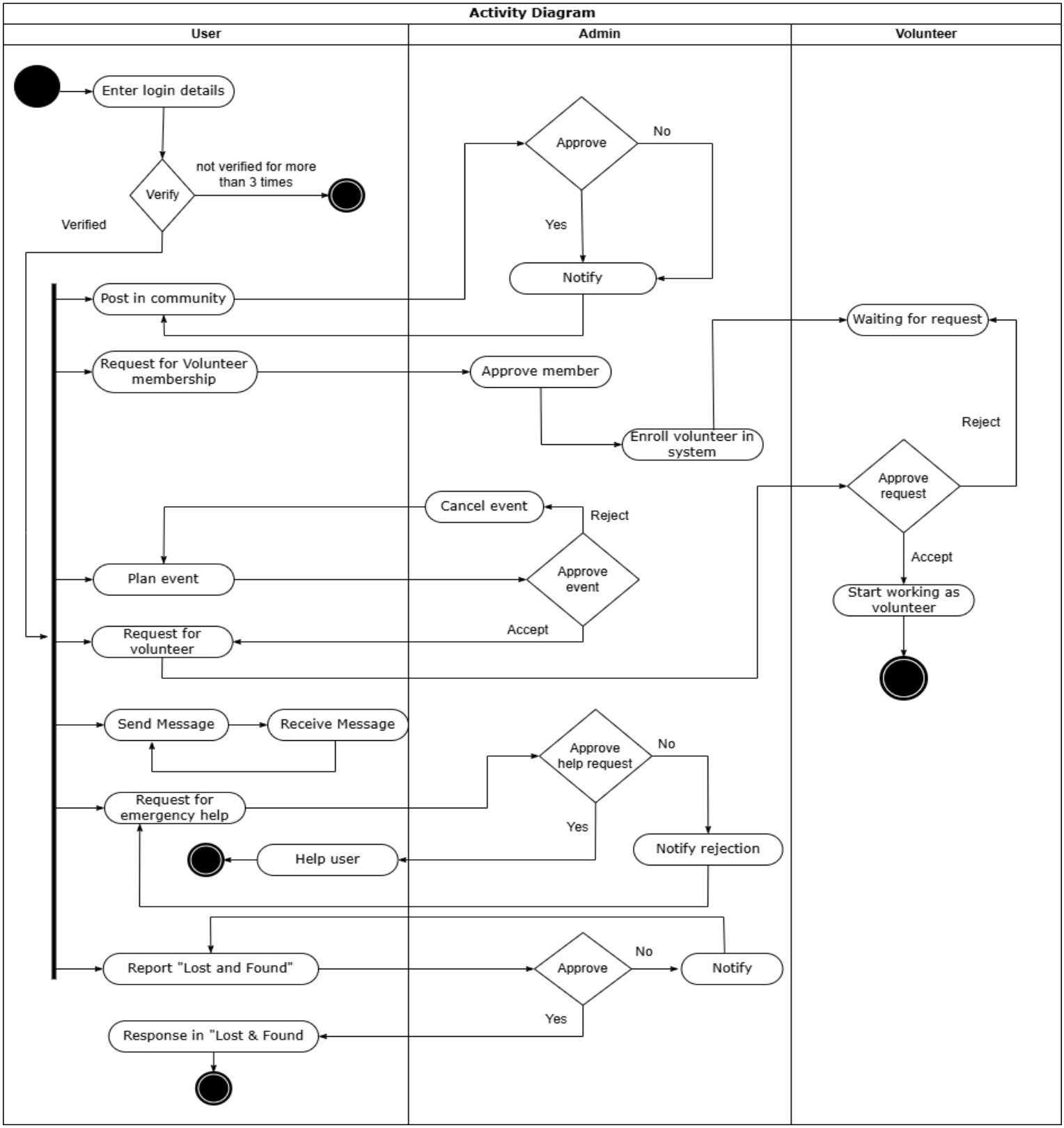
Class Diagram



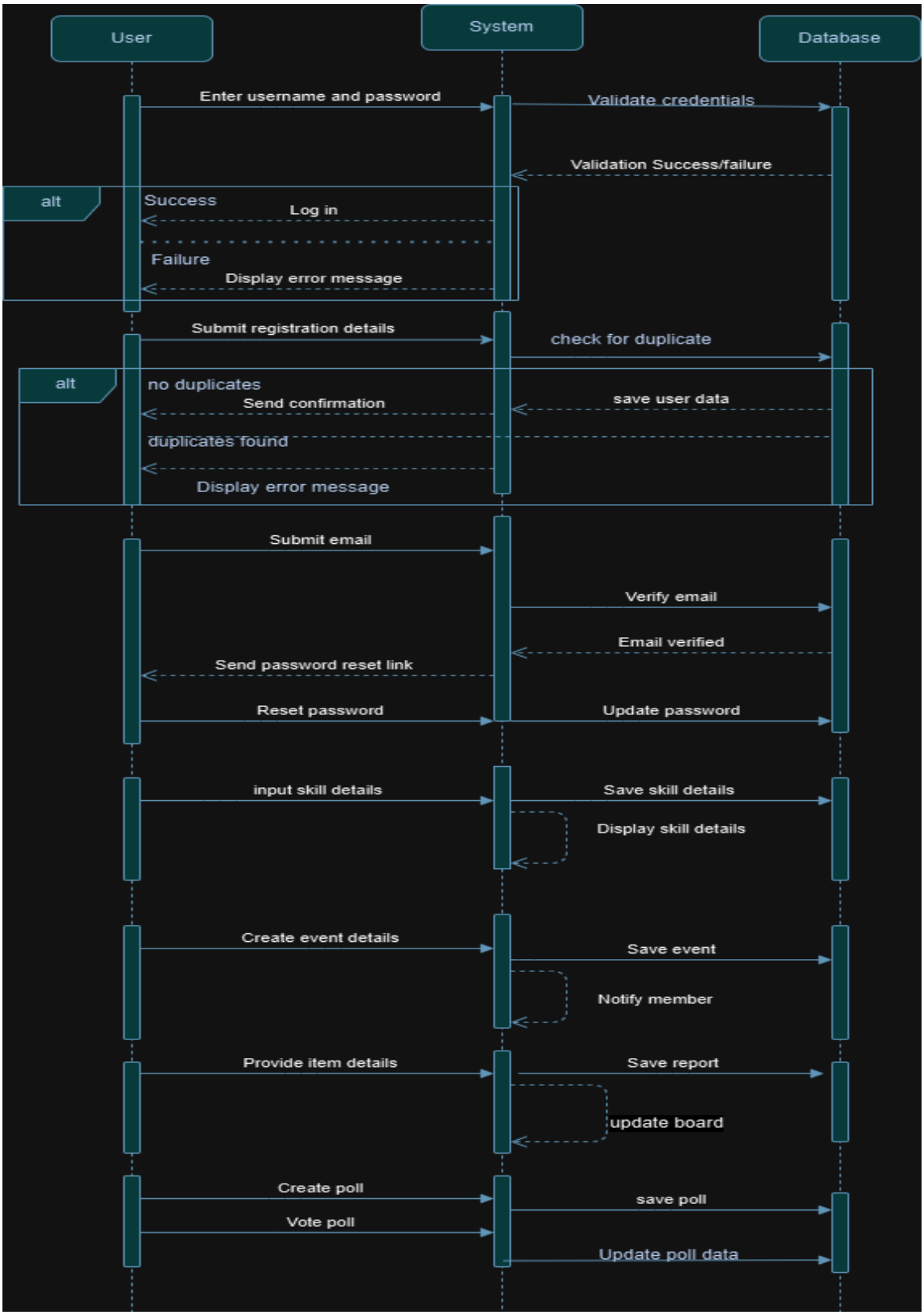
Use Case Diagram

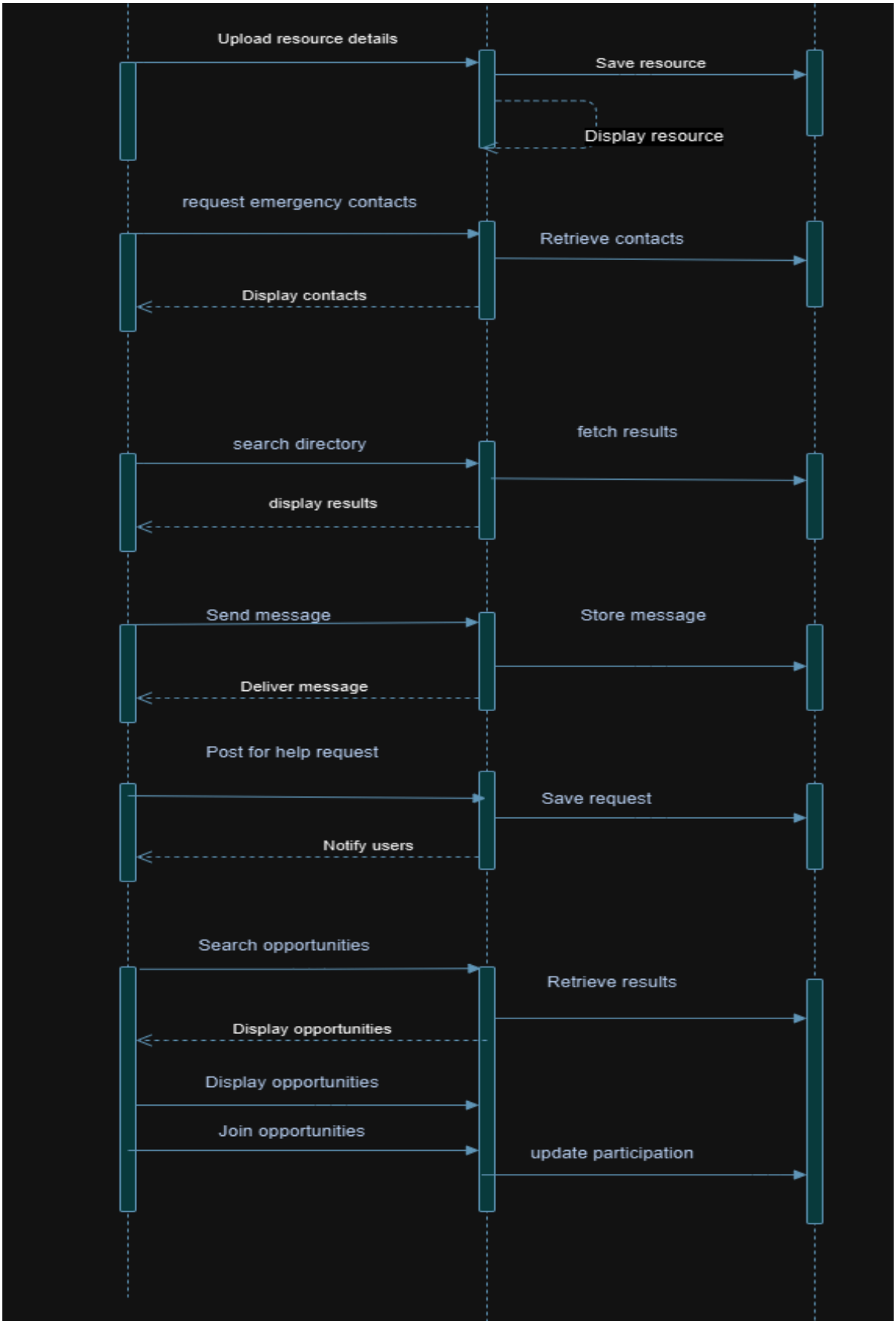


Activity Diagram



Sequence Diagram




Upload resource details
Save resource
Display resource
request emergency contacts
Retrieve contacts
Display contacts
search directory
fetch results
display results
Send message
Store message
Deliver message
Post for help request
Save request
Notify users
Search opportunities
Retrieve results
Display opportunities
Display opportunities
Join opportunities
update participation

Webpage Design

Neighborhood Engagement Network

LOGIN

EXIT

Username:

Password:

Login

Don’t have an account? Signup

Forgot Password? Click here

Neighborhood Engagement Network

Complete Your Registration Here

Username:

Phone:

Email:

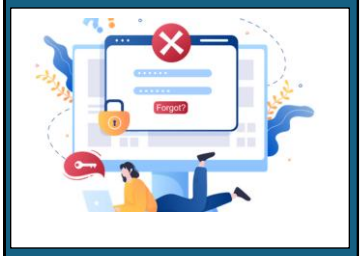
Death of Birth:

Password:

Confirm Password:

Submit Clear Back

Neighborhood Engagement Network



Forgot Password

Email:

Captcha:

Write the text above:

Request for OTP | Back

Neighborhood Engagement Network

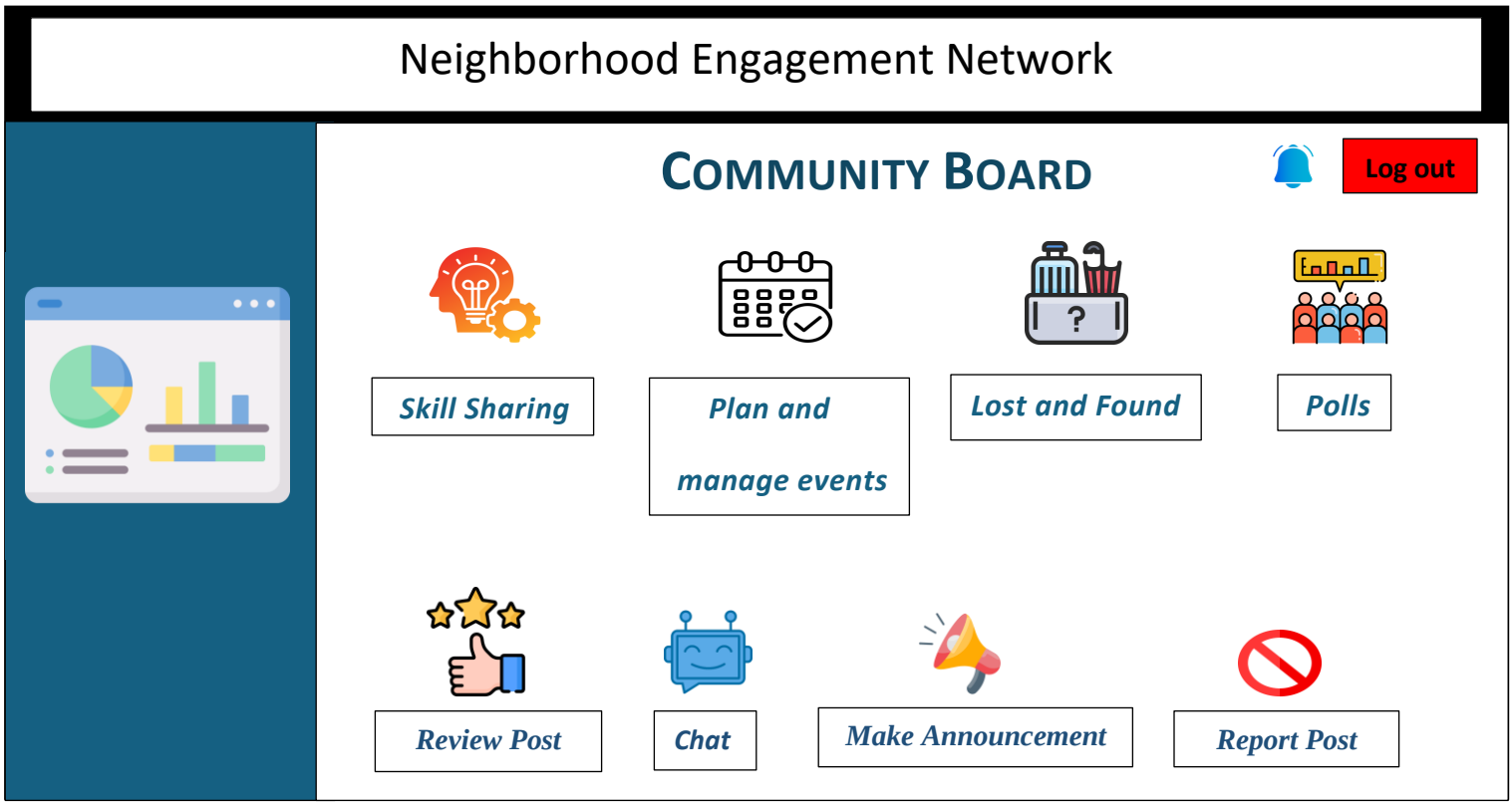
Reset Password

OTP:

New Password:

Confirm Password:

Confirm | Back


Neighborhood Engagement Network
COMMUNITY BOARD
Log out
Skill Sharing
Plan and manage events
Lost and Found
Polls
Review Post
Chat
Make Announcement
Report Post

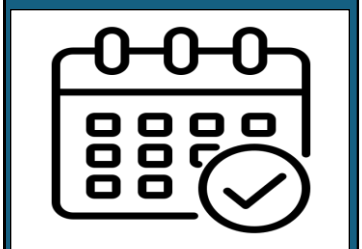
Neighborhood Engagement Network

Skill Sharing

- *Add Skill*
- *List Of Skill*
- *Offer Skill*

Back

Neighborhood Engagement Network



Plan and manage events

- *Add Event*
- *List of Event*
- *Event Details*

Back

Neighborhood Engagement Network

Lost And Found

- *Item List*
- *Search Item*
- *Announcement*

Back

Neighborhood Engagement Network

Polls

- *Create Poll*
- *Vote Polls*
- *Results*

Back

Neighborhood Engagement Network

Share Resources

Browse Item

List an Item

View My Listings

Back

Neighborhood Engagement Network

Emergency Contacts:

Back

Neighborhood Engagement Network

Security Alert

Unusual Activity Detected

This is to notify all members of the society that suspicious activity has been detected in the vicinity of **Block C, Parking Area** at approximately **7:30 PM** today.

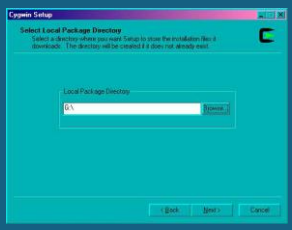
For your safety:

- Avoid the area until further notice.
- Ensure your doors and windows are locked.
- Report any unusual behavior or incidents to the security office immediately.

Contact Security Hotline: +880-XXXX-XXXX

Back

Neighborhood Engagement Network



Browse Local Directory:

Nearby Business Listings:

search

Business Category:

search

Business Contact Information:

UPDATE cancel

Next Back

Location status Off/on ON

Profile Page-

https://hianime.to/watch/naruto-shippuden-355?ep

Ratings & Review-

Push Notification for Business Update:

Yes No

Neighborhood Engagement Network

Chats-

Send and Receive Messages

search or start new chats

@Nasir Sarkar active 2min ago

Messages Screen

Start typing…

Send

Neighborhood Engagement Network

post and response

Post And Respond to Help

Avoid using unsupported personal opinions, generalizations, or language that others might find offensive.

For your Request-

- Help Request Feed - Main Screen
  - Request Details
- Notification Pop-Up/Alert
- Private Messaging - Chat Screen
  - Message History
  - Send Message Box

Contact Helpline: +880-XXXX-XXXX

Next

Back

Neighborhood Engagement Network

Find and Join Volunteer

Find volunteer for your events…

Find volunteer

See volunteer list

Back

Your availability status ON

You are Request to join events as volunteer:

Requests

1.

Cooking Competition

We need volunteer for a neighborhood cooking competition on 15th December

Accept Reject

More...

Test Plan

In our project, Neighborhood Engagement Network, we will implement four key types of testing to ensure the system's functionality and quality: Unit Testing, Integration Testing, System Testing, and Acceptance Testing. Each testing phase will be conducted at specific stages of the SCRUM development process to maintain alignment with agile methodologies.

- **Unit Testing:** Conducted by developers during the sprint cycles, this phase will focus on validating the functionality of individual components or modules to ensure they meet the specified requirements.

- **Integration Testing:** Following unit testing, this stage will verify the interaction between modules. Developers and testers will collaborate to confirm that integrated components work seamlessly and as expected.

- **System Testing:** Performed by the Quality Assurance (QA) team after integration, this phase will assess the complete system's performance, behavior, and reliability under various conditions to ensure it meets the defined technical requirements.

- **Acceptance Testing:** After system testing, end-users or customers will evaluate the system to confirm that it fulfills the project's business goals and functional expectations. This step ensures the system aligns with stakeholder requirements before final deployment.

By conducting these tests at their respective stages, we aim to deliver a high-quality Neighborhood Engagement Network system that promotes trust, collaboration, and satisfaction among users.

Test Automation

Project Name: Neighbor Engagement Network			Test Designed by: Md. Abu Sufian Showrov	
Test Case ID: FR-1			Test Designed date: 27-12-24	
Test Priority (Low, Medium, High): High			Test Executed by:	
Module Name: Login Session			Test Execution date:	
Test Title: Verify login with valid username and password.				
Description: Test website login page				
Precondition (If any): User must have valid username and password				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the Website 2. Enter Username 3. Enter Password 4. Click Submit	Username: Sufian Password: Sufian*#123	User should login into the application		
Post Condition: User is validated with database and successfully login an account. The account session details are logged in the database.				

Project Name: Neighbor Engagement Network	Test Designed by: Nasir Sarkar
Test Case ID: FR_2	Test Designed date: 27-12-24
Test Priority (Low, Medium, High): High	Test Executed by:
Module Name: Registration session	Test Execution date:

Test Title: Verify registration with new username and phone, email, dob, password, confirm password.

Description: Test website registration page

Precondition (If any): User must be a new user.

Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the website 2. Click **Signup** 3. Enter username 4. Enter phone 5. Enter email 6. Enter dob 7. Enter password 8. Enter confirm password 9. Click submit	Username: nasir12 Phone: 019XXX Email: nasir@gmail.com Dob: 31th Dec, 2002 Password: abc123 Confirm Password: abc123	User should resister into the application		

Post Condition: User is registered with database and successfully created an account. The account's details are in the database.

Project Name: Neighbor Engagement Network			Test Designed by: Nasir Sarkar	
Test Case ID: FR_3			Test Designed date: 27-12-24	
Test Priority (Low, Medium, High): High			Test Executed by:	
Module Name: Forget password session			Test Execution date:	
Test Title: verify OTP using valid email.				
Description: Test website forget password page				
Precondition (If any): User must have valid email.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the website 2. Click **Forget password** 3. Enter email 4. Enter captcha 5. Click 'Request for OTP'	Email: nasir@gmail.com Captcha: Td4eva	User should get OTP through the Email.		
Post Condition: User successfully gets an OTP.				

Project Name: Neighbor Engagement Network			Test Designed by: Nasir Sarkar	
Test Case ID: FR_3.1			Test Designed date: 27-12-24	
Test Priority (Low, Medium, High): High			Test Executed by:	
Module Name: Reset password session			Test Execution date:	
Test Title: Verify reset password with a new password, confirm password.				
Description: Test website login page				
Precondition (If any): User must have a valid OTP				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to **Reset password** 2. Enter new password 3. Enter confirm password 4. Click confirm	New Password: aBc#123 Confirm Password: aBc#123	User should create new password into the application		
Post Condition: User is registered with database and successfully created new password. Account's new details are in the database.				

Project Name: Neighborhood Engagement Network			Test Designed by: Ausmita, Sudipta Shikha	
Test Case ID: 4			Test Designed date: 27-12-24	
Test Priority (Low, Medium, High): Medium			Test Executed by:	
Module Name: Community Board			Test Execution date:	
Test Title: View Community Board				
Description: Test website Community Board				
Precondition (If any): The user should have an active internet connection to access the dashboard.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the community Board 2. Click Skill Sharing 3. Click Plan and manage events 4. Click lost and found		Users can view community posts, updates, or announcements.		
Post Condition: The dashboard displays personalized content and functionalities based on the user's role or preferences.				

Project Name: Neighborhood Engagement Network			Test Designed by: Ausmita, Sudipta Shikha	
Test Case ID: 5			Test Designed date: 27-12-24	
Test Priority (Low, Medium, High): Medium			Test Executed by:	
Module Name: Skill Sharing			Test Execution date:	
Test Title: Share Skills with Community.				
Description: Test Website Skill Sharing				
Precondition (If any): A solid foundation of the skill being shared is essential.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the skill sharing 2. Click Add Skill 3. Click list of skill 4. Click on offer skill	Data of skills list	Users can add and view skills list.		
Post Condition: There should be clarity on how the skill can be applied in practical scenarios.				

Project Name: Neighborhood Engagement Network			Test Designed by: Ausmita, Sudipta Shikha	
Test Case ID: 5.1			Test Designed date: 27-12-24	
Test Priority (Low, Medium, High): Medium			Test Executed by:	
Module Name: Add Skills			Test Execution date:	
Test Title: Add Skills				
Description: Test Website Add Skills				
Precondition (If any): User must be a registered member of the Neighborhood Engagement Network				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Click Add Skills 2. Search Skills 3. Click Add	Data of skills list	Users can add and view skills list.		
Post Condition: Skill Successfully Added				

Project Name: Neighborhood Engagement Network			Test Designed by: Ausmita, Sudipta Shikha	
Test Case ID: 5.2			Test Designed date: 27-12-24	
Test Priority (Low, Medium, High): Medium			Test Executed by:	
Module Name: List of Skills			Test Execution date:	
Test Title: List of Skills				
Description: Test Website list of Skills				
Precondition (If any):				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Click List of Skills 2. Select Skills 3. Click Continue	Data of skills list	Users can add and view skills list.		
Post Condition: Members will be able to update or add their skills dynamically				

Project Name: Neighborhood Engagement Network			Test Designed by: Ausmita, Sudipta Shikha	
Test Case ID: 5.3			Test Designed date: 27-12-24	
Test Priority (Low, Medium, High): Medium			Test Executed by:	
Module Name: Offer Skills			Test Execution date:	
Test Title: Offer Skills				
Description: Test Website Offer Skills				
Precondition (If any):				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Click Offer Skills 2. Select Skills	Data of skills list	Users can add and view skills list.		
Post Condition:				

Project Name: Neighborhood Engagement Network			Test Designed by: Ausmita, Sudipta Shikha	
Test Case ID: 6			Test Designed date: 27-12-24	
Test Priority (Low, Medium, High): Medium			Test Executed by:	
Module Name: Plan and manage event			Test Execution date:	
Test Title: Event Planning and Management Evaluation				
Description: Test Website planning and management system.				
Precondition (If any): Define the event's purpose clearly. What do you want to achieve with the event? The objectives could be educational, celebratory, fundraising, or networking.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the Plan and manage event 2. Click Add Event 3. Click list of Event 4. Click on Event details	Data of Event List	Users can add and view Event details		
Post Condition: All logistical elements (venue, catering, transportation, etc.) are successfully arranged, and the necessary resources are in place.				

Project Name: Neighbor Engagement Network			Test Designed by: Nasir Sarkar	
Test Case ID: FR_6.1			Test Designed date: 27-12-24	
Test Priority (Low, Medium, High): High			Test Executed by:	
Module Name: Add event session			Test Execution date:	
Test Title: Verify 'add event' system adding a new event.				
Description: Test website 'add event' page				
Precondition (If any): User must login				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to **Add event** 2. Input event name 3. Input event date 4. Send volunteer request. 5. Click add.	Event name: victory day Event date: 16-12-24 Send volunteer request to: nasir8	User should add events.		
Post Condition: User adds event successfully.				

Project Name: Neighbor Engagement Network			Test Designed by: Nasir Sarkar	
Test Case ID: FR_6.2			Test Designed date: 27-12-24	
Test Priority (Low, Medium, High): High			Test Executed by:	
Module Name: List of events session			Test Execution date:	
Test Title: Check list of events.				
Description: Test website 'list of events' page				
Precondition (If any): User must login				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to **List of events** 2. Filter by time 3. Click done.	Filter by time: within 1month.	User should see the list of events.		
Post Condition: User sees 'list of events' successfully.				

Project Name: Neighbor Engagement Network			Test Designed by: MD. ABU SUFIAN SHOWROV	
Test Case ID: FR-7			Test Designed date: 27-12-24	
Test Priority (Low, Medium, High): High			Test Executed by:	
Module Name: ‘Lost and Found’ session			Test Execution date:	
Test Title: Check options of ‘Lost & Found’				
Description: Test ‘Lost and Found’ items				
Precondition (If any): User must be login.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the website 2. Enter Lost and Found 3. Click Item List 4. Click Search List 5. Click Announcement	Data of lost and found.	User should enter in the clicked page.		
Post Condition: User entered in the clicked page successfully.				

Project Name: Neighbor Engagement Network			Test Designed by: MD. ABU SUFIAN SHOWROV	
Test Case ID: FR-7.1			Test Designed date: 27-12-24	
Test Priority (Low, Medium, High): High			Test Executed by:	
Module Name: Item List session			Test Execution date:	
Test Title: Check visibility of items in ‘Item List’ page				
Description: Test ‘Item List’ page				
Precondition (If any): User must be login.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1.Go to the website 2.Enter Lost and Found 3.Click Item List	Filter by: Date Category: Wallet	User should see the list of items.		
Post Condition: User saw the list of items successfully.				

Project Name: Neighbor Engagement Network			Test Designed by: MD. ABU SUFIAN SHOWROV	
Test Case ID: FR-7.2			Test Designed date: 27-12-24	
Test Priority (Low, Medium, High): High			Test Executed by:	
Module Name: Search Item session			Test Execution date:	
Test Title: Check search option of 'Search Item' page				
Description: Test search option of Search Item page.				
Precondition (If any): User must be login.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1.Go to the website 2.Enter Lost and Found 3.Click Search List	Date: 21-01-2025 Item: iPhone 15 Category: Phone	User should see the searched item.		
Post Condition: User saw the searched item successfully.				

Project Name: Neighbor Engagement Network			Test Designed by: MD. ABU SUFIAN SHOWROV	
Test Case ID: FR-7.3			Test Designed date: 27-12-24	
Test Priority (Low, Medium, High): High			Test Executed by:	
Module Name: Announcement session			Test Execution date:	
Test Title: Verify announcements visibility of 'Announcements' page				
Description: Test Announcement page				
Precondition (If any): User must be login.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1.Go to the website 2.Enter Lost and Found 3.Click Announcement	Date: 21-01-2025 Category: Event	User should see the list announcement.		
Post Condition: User should saw the list announcement successfully.				

Project Name: Neighbor Engagement Network			Test Designed by: MD. ABU SUFIAN SHOWROV	
Test Case ID: FR-8			Test Designed date: 27-12-24	
Test Priority (Low, Medium, High): High			Test Executed by:	
Module Name: Polls session			Test Execution date:	
Test Title: Check options of page Polls page				
Description: Test Polls page				
Precondition (If any): User must be login.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1.Go to the website 2.Enter Polls 3.Click Create Poll 4.Click Vote Polls 5.Click Results	Data of Polls	User should enter in the clicked page.		
Post Condition: User entered in the clicked page successfully.				

Project Name: Neighbor Engagement Network			Test Designed by: MD. ABU SUFIAN SHOWROV	
Test Case ID: FR-8.1			Test Designed date: 27-12-24	
Test Priority (Low, Medium, High): High			Test Executed by:	
Module Name: Create Poll session			Test Execution date:	
Test Title: Check Creating Polls				
Description: Test ‘Create Polls’ page.				
Precondition (If any): User must be login.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1.Go to the website 2.Enter Polls 3.Click Create Poll	Question: Do you want dustbins in our area? Option1: Yes Option2: NO	User should create a poll.		
Post Condition: User created a poll successfully.				

Project Name: Neighbor Engagement Network			Test Designed by: MD. ABU SUFIAN SHOWROV	
Test Case ID: FR-8.2			Test Designed date: 27-12-24	
Test Priority (Low, Medium, High): High			Test Executed by:	
Module Name: Vote Polls session			Test Execution date:	
Test Title: Verify Vote in Vote Polls				
Description: Test 'Vote Polls' page				
Precondition (If any): User must be login.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1.Go to the website 2.Enter Polls 3.Vote Polls	Poll: Do you want dustbins in our area? Vote: Yes	User should vote in the polls		
Post Condition: User voted in polls successfully.				

Project Name: Neighbor Engagement Network			Test Designed by: MD. ABU SUFIAN SHOWROV	
Test Case ID: FR-8.3			Test Designed date: 27-12-24	
Test Priority (Low, Medium, High): High			Test Executed by:	
Module Name: Results session			Test Execution date:	
Test Title: Verify of getting results in 'Result				
Description: Verify 'Result' page.				
Precondition (If any): User must be login.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1.Go to the website 2.Enter Polls 3.Click Results	Data of poll results	User should see the result.		
Post Condition: User saw the results successfully.				

Project Name: Neighborhood Engagement Network			Test Designed by: MD.NAIMUR RAHMAN	
Test Case ID: FR_9.1			Test Designed date:11/12/2024	
Test Priority (Low, Medium, High): Medium			Test Executed by:	
Module Name: Share Resources			Test Execution date:	
Test Title: Verify resource sharing functionalities on Add Item				
Description: Test the browsing functionality to ensure users can search and view shared resources effectively.				
Precondition (If any): User must have valid username and password				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1.Navigate to the "Share Resources" section. 2.Click on the "Add Item" button. 3.Fill in the required fields (e.g., Item Name, Description, Quantity). 4.Click "Save.	Item Name: "Books"	Item is successfully added to the user's list.		
Postcondition: The user successfully interacts with the "Share Resources" module. Added items are saved, browse functionality works as intended, and user listings are accurately displayed.				

Project Name: Neighborhood Engagement Network			Test Designed by: MD.NAIMUR RAHMAN	
Test Case ID: FR_9.2			Test Designed date: 11/12/2024	
Test Priority (Low, Medium, High): Medium			Test Executed by:	
Module Name: Share Resources			Test Execution date:	
Test Title: Verify resource sharing functionalities on Browse item				
Description: Test the browsing functionality to ensure users can search and view shared resources effectively.				
Precondition (If any): User must have valid username and password				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Navigate to the "Share Resources" section. 2. Go to the "Browse Items" page. 3. Enter search criteria (e.g., "Books") in the search bar. 4. Click the "Search" button. 5. View the list of matching results.	Search Query: "Books"	Matching items are displayed in the results. A message like "No items found" is displayed.		
	Search Query: "Unavailable Item"			
Postcondition: The user successfully interacts with the "Share Resources" module. Added items are saved, browse functionality works as intended, and user listings are accurately displayed.				

.

Project Name: Neighborhood Engagement Network			Test Designed by: MD.NAIMUR RAHMAN	
Test Case ID: FR_9.3			Test Designed date: 11/12/2024	
Test Priority (Low, Medium, High): Medium			Test Executed by:	
Module Name: Share Resources			Test Execution date:	
Test Title: Verify resource sharing functionalities on My Listings				
Description: Test the browsing functionality to ensure users can search and view shared resources effectively.				
Precondition (If any): User must have valid username and password				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Navigate to the "Share Resources" section. 2. Navigate to the "My Listings" page. 3. Verify the list of items added by the user. 4. Click on a listed item to view its details.	Item: "Books "	User's added items are displayed		
Postcondition: The user successfully interacts with the "Share Resources" module. Added items are saved, browse functionality works as intended, and user listings are accurately displayed.				

.

Project Name: Neighborhood Engagement Network			Test Designed by: MD.NAIMUR RAHMAN	
Test Case ID: FR_10			Test Designed date: 11/12/2024	
Test Priority (Low, Medium, High): High			Test Executed by:	
Module Name: Access Emergency Contacts			Test Execution date:	
Test Title: Verify Emergency Contact Functionality				
Description: Test the functionality for users to access emergency contact details for police, ambulance, fire service, and technicians.				
Precondition (If any): User must have valid username and password				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Navigate to the Emergency Contacts section of the application. 2. Verify the presence of the following categories: • Police • Ambulance • Fire Service • Technician 3. Click on each category to view the respective contact details. 4. Test calling or connecting to the displayed emergency contact numbers.	Select **Police**	Police emergency contact details are displayed correctly.		
	Select **Ambulance**	Ambulance contact details are displayed correctly.		
	Select **Fire Service**	Fire service contact details are displayed correctly.		
	Select **Technician**	Technician contact details are displayed correctly.		
Postcondition: User successfully accessed and displayed all emergency contacts.				

Project Name: Neighborhood Engagement Network	Test Designed by: MD.NAIMUR RAHMAN
Test Case ID: FR_11	Test Designed date: 11/12/2024
Test Priority (Low, Medium, High): High	Test Executed by:
Module Name: Security Alert Notification System	Test Execution date:
Test Title: Verify Security Alert Notification System	
Description: Test the functionality of displaying security alerts to notify society members about unusual activities.	
Precondition (If any): • A security event must be logged in the system. • Alert details (e.g., location, time, instructions) must be available.	

Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1.Trigger a security alert from the admin panel or backend system. 2.Open the application or website as a user. 3.Verify that the **Security Alert** notification is displayed prominently. 4.Ensure the notification includes the following details: I. Title (e.g., "Unusual Activity Detected") II. Location (e.g., "Block C, Parking Area") III. Time of the event (e.g., "7:30 PM") IV. Safety instructions (e.g., avoid the area, lock doors). V. Contact details (e.g., Security Hotline).	Trigger Alert: "Block C Parking Area"	Security Alert is displayed with correct details.		
	Trigger Alert: "Main Gate, Block A	Security Alert is updated and shown correctly.		

Postcondition:
The user is successfully notified of security concerns. Relevant details are logged, and users can take necessary actions for their safety.

Project Name: Neighborhood Engagement Network	Test Designed by: Sudipto Hore Tamal
Test Case ID: FR_12	Test Designed date:11.12.24
Test Priority (Low, Medium, High): Medium	Test Executed by:
Module Name: File Management	Test Execution date:
Test Title: Verify browsing local directory functionality	
Description: Test the functionality of browsing the local directory in the application.	
Precondition (If any): User must have access to the application with necessary file permissions.	

Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Open the application 2. Navigate to the file manager or directory browsing section 3. Click on the "Browse Local Directory" button 4. Select a directory from the local filesystem 5. Verify that the selected directory is displayed within the application	No test data required (this test case focuses on directory browsing functionality)	• The file manager should allow browsing the local directory and display the selected directory. • No errors or crashes should occur while navigating through local directories.		

- Post Condition: User has successfully browsed a local directory within the application without any errors.

Project Name: Neighbor Engagement Network			Test Designed by: Nasir Sarkar	
Test Case ID: FR_12.1			Test Designed date: 27-12-24	
Test Priority (Low, Medium, High): Medium			Test Executed by:	
Module Name: Update directory contact session			Test Execution date:	
Test Title: verify updating contact with valid contact information.				
Description: Test website update local directory page				
Precondition (If any): User must login				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to **Update directory contact** 2. Input previous phone/email 3. Input new phone/email 4. Click add	Previous phone/email: nasir123@gmail.com New phone/email: nasir-sarkar@gmail.com	User should update new contact information.		
Post Condition: User updates new contact successfully.				

Project Name: Neighborhood Engagement Network	Test Designed by: Sudipto Hore Tamal
Test Case ID: FR_13	Test Designed date:11.12.24
Test Priority (Low, Medium, High): High	Test Executed by:
Module Name: Messaging	Test Execution date:
Test Title: Verify sending and receiving messages functionality	
Description: Test the ability to send and receive messages in the application.	
Precondition (If any): User must be logged into the application with an active account and internet connection.	

Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Open the messaging application. 2. Navigate to the "Compose Message" section. 3. Enter a valid recipient username or phone number. 4. Type a message in the text field. 5. Click on the "Send" button. 6. Wait for the message to be delivered. 7. Verify that the sent message appears in the sent items or conversation history. 8. Ensure the recipient receives the message (if applicable, check recipient's view). 9. Verify that the recipient can reply to the message.	• **Recipient Username**: testuser123 • **Message Content**: "Hello, this is a test message."	• The message is sent successfully and appears in the sent items/conversation history. • The recipient receives the message and can reply to it. • No errors occur during sending or receiving.		

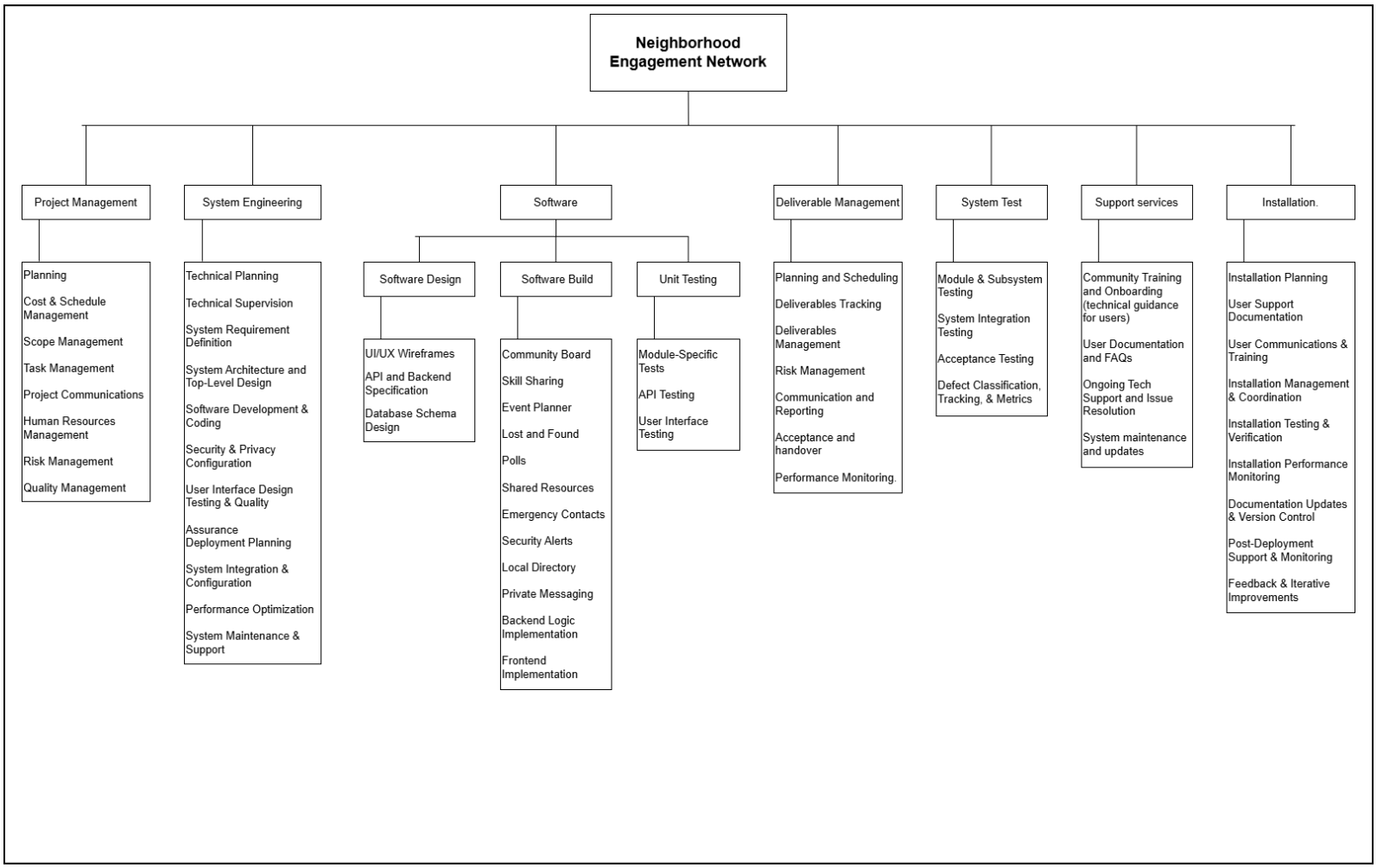
- Post Condition:
  1.Both sender and recipient have successfully sent and received messages.
  2. Message history is updated correctly for both parties.

Project Name: Neighborhood Engagement Network			Test Designed by: Sudipto Hore Tamal	
Test Case ID: FR_14			Test Designed date:11.12.24	
Test Priority (Low, Medium, High): Medium			Test Executed by:	
Module Name: Post and respond			Test Execution date:	
Test Title: Verify Post and respond to help functionality				
Description: Test the ability to post and respond to help in the application.				
Precondition (If any): User must be logged into the application with an active account and internet connection.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1.Check Internet Connection 2. Verify Account Login 3. Check Recipient Details 4. **Ensure Message Sent Successfully** **5.** Refresh or Restart the App 6. Ensure Recipient's Reply Capability	1.Recipient Username/Phone 2. Message Content 3. Sender Username 4. Sender Device 5. Recipient Device 6. Network Type 7. Message Delivery Status 8. Sender Location 9. Recipient Location	1. testuser123 2. "Hello, this is a test message." 3. testuser456 4. Samsung Galaxy S21 5. iPhone 13 6.wi-fi 7. Delivered 8.kalobari ,ctg 9.Dhaka,old town		
• Post Condition: 1.Both sender and recipient have successfully sent and received messages or post and respond part. 2.Post and respond history is updated correctly for both parties.				

Project Name: Neighbor Engagement Network			Test Designed by: Nasir Sarkar	
Test Case ID: FR_15			Test Designed date: 27-12-24	
Test Priority (Low, Medium, High): High			Test Executed by:	
Module Name: Find and join volunteer session			Test Execution date:	
Test Title: verify find and join volunteer with valid volunteer.				
Description: Test website find and join volunteer page				
Precondition (If any): User must login				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to **Find and join volunteer** 2. Click find volunteers' details 3. Click volunteer list 4. Click availability status. 5. Click volunteer request.	Active status: on Active status: off Request: Accepted Request: Rejected	User should go to find volunteer, change availability status and access volunteer request into the application		
Post Condition: User finds volunteer, change availability status and access volunteer request successfully.				

Project Name: Neighbor Engagement Network			Test Designed by: Nasir Sarkar	
Test Case ID: FR_15.1			Test Designed date: 27-12-24	
Test Priority (Low, Medium, High): Low			Test Executed by:	
Module Name: Find volunteers' details session			Test Execution date:	
Test Title: verify find volunteer with valid volunteer username.				
Description: Test website find volunteer page				
Precondition (If any): User must login				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
5. Go to **Find volunteers' details** 6. Input username 7. Click find	Username: nasir8	User should find the details of the searched volunteer.		
Post Condition: User finds volunteers' details successfully.				

WBS


Neighborhood Engagement Network
Project Management
Planning
Cost & Schedule Management
Scope Management
Task Management
Project Communications
Human Resources Management
Risk Management
Quality Management
System Engineering
Technical Planning
Technical Supervision
System Requirement Definition
System Architecture and Top-Level Design
Software Development & Coding
Security & Privacy Configuration
User Interface Design Testing & Quality
Assurance Deployment Planning
System Integration & Configuration
Performance Optimization
System Maintenance & Support
Software
Software Design
UI/UX Wireframes
API and Backend Specification
Database Schema Design
Software Build
Community Board
Skill Sharing
Event Planner
Lost and Found
Polls
Shared Resources
Emergency Contacts
Security Alerts
Local Directory
Private Messaging
Backend Logic Implementation
Frontend Implementation
Unit Testing
Module-Specific Tests
API Testing
User Interface Testing
Deliverable Management
Planning and Scheduling
Deliverables Tracking
Deliverables Management
Risk Management
Communication and Reporting
Acceptance and handover
Performance Monitoring.
System Test
Module & Subsystem Testing
System Integration Testing
Acceptance Testing
Defect Classification, Tracking, & Metrics
Support services
Community Training and Onboarding (technical guidance for users)
User Documentation and FAQs
Ongoing Tech Support and Issue Resolution
System maintenance and updates
Installation.
Installation Planning
User Support Documentation
User Communications & Training
Installation Management & Coordination
Installation Testing & Verification
Installation Performance Monitoring
Documentation Updates & Version Control
Post-Deployment Support & Monitoring
Feedback & Iterative Improvements

COCOMO

PM = 2.4*(4500/1000) ^1.05

= 11.6435

DM = 2.50*11.6435^0.38

= 6.3540

ST = 11.6435/6.3540

= 1.8325

≈ 2

Timeline Chart-1

	Pre-Game				Game-Phase																Post-Game					
					Spring-1				Spring-2				Spring-3				Spring-4									
Task: Person	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
A: David																										
B: Watson																										
C: David																										
D: Watson																										
E: David																										
F: Watson																										
G: David																										
H: Watson																										
I: David																										
J: Watson																										
K: David																										
L: Watson																										

Here,

A: Planning

B: Specification

C: High Level Architecture Design

D: Analysis

E: Design

F: Coding

G: Functional Testing

H: Product backlog Update

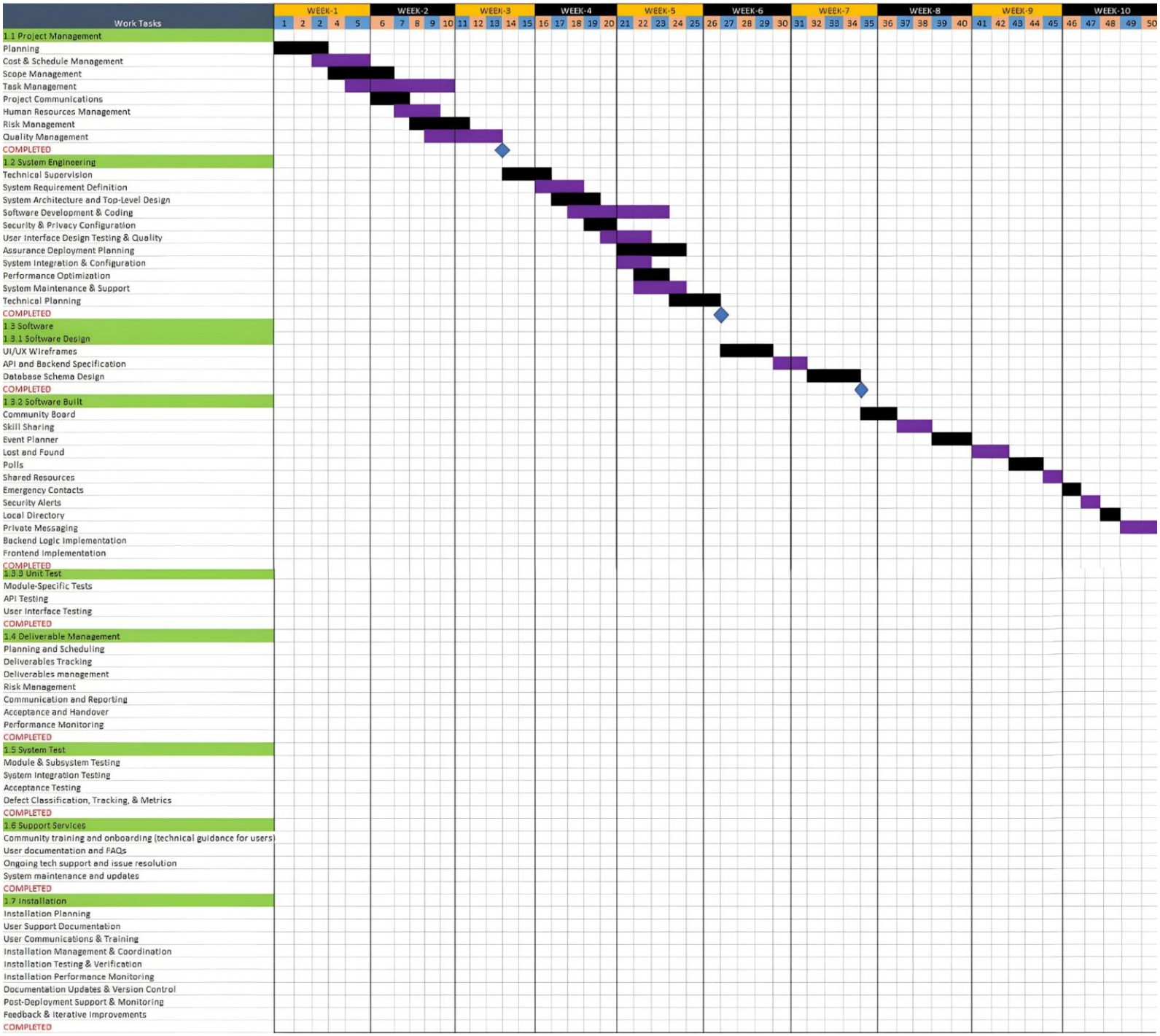
I: Integration

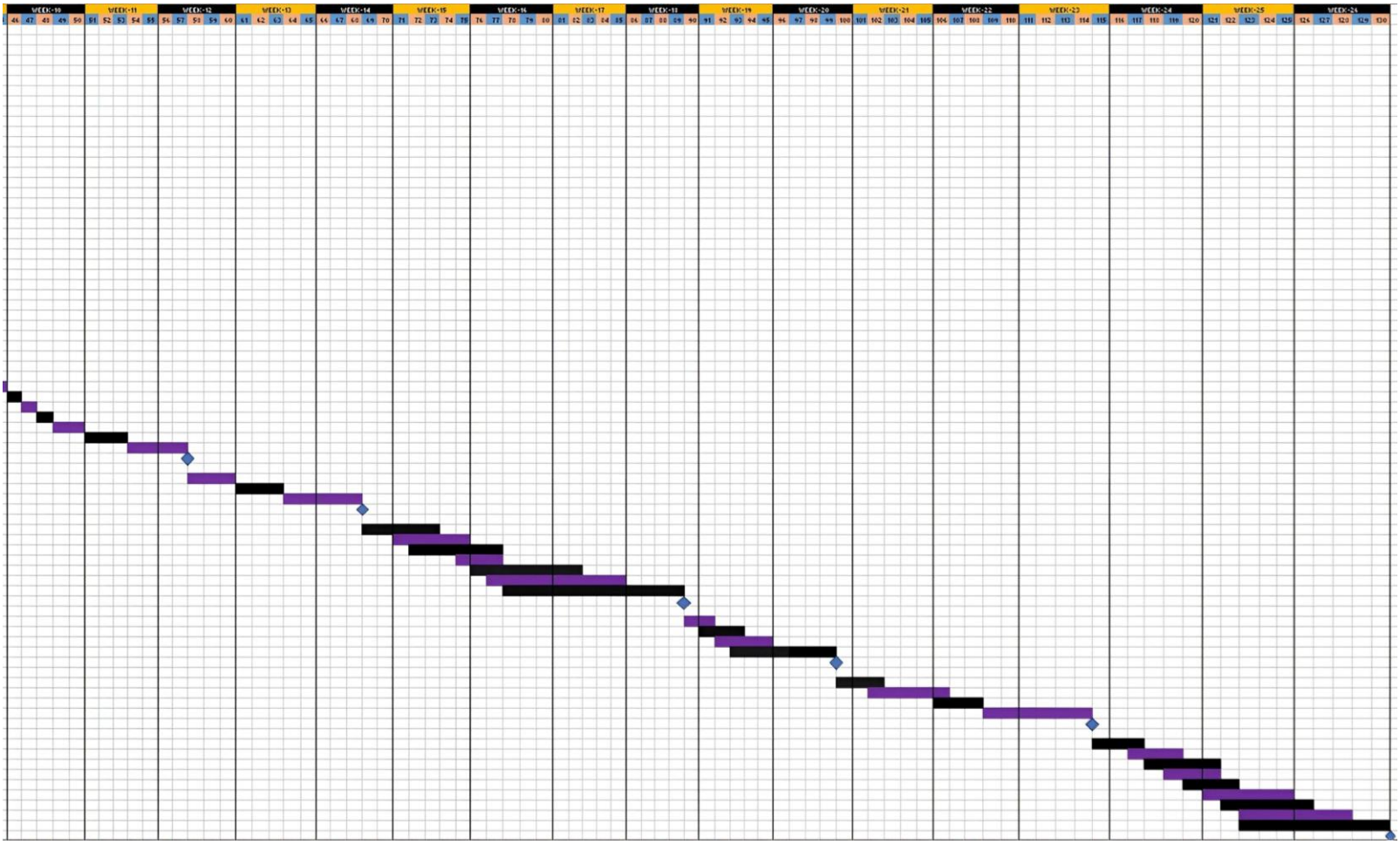
J: System Testing

K: Documentation

L: Release

Timeline Chart-2




WEEK-10
WEEK-11
WEEK-12
WEEK-13
WEEK-14
WEEK-15
WEEK-16
WEEK-17
WEEK-18
WEEK-19
WEEK-20
WEEK-21
WEEK-22
WEEK-23
WEEK-24
WEEK-25
WEEK-26

Eva Evolution

Tasks	Planned Efforts	Actual efforts
1	3.0	2.0
2	3.0	4.0
3	3.0	3.0
4	6.0	5.0
5	2.0	3.0
6	3.0	4.0
7	4.0	3.0
8	5.0	6.0
9	3.0	-
10	3.0	-

Here,

Total Tasks = 61
BAC = 11.6435*22 =256.157
BCWS = 35
BCWP = 29
ACWP = 30

SPI = BCWP/ BCWS = 29/35 = 0.8286
SV = BCWP - BCWS = 29 – 35 = - 6 Person-day

CPI = BCWP/ ACWP = 29/30 = 0.967
CV = BCWP – ACWP = 29 – 30 = -1 Person-day

% schedule for completion = BCWS/ BAC = 35/256.157 = 13.663%
[% of work scheduled to be done at this time]

% complete = BCWP/ BAC = 29/256.157 = 11.321%
[% of work completed at this time]

Building Risk Table – 2

Risk	Category	Probability	Impact	RMMM
Increased development time due to large feature set	Product Size (PS)	60%	8	
Market resistance to app adoption	Business Impact (BU)	30%	7	
Communication gaps between users and developers	Customer Characteristics (CU)	40%	8	
Poor adherence to defined software processes	Process Definition (PR)	50%	6	
Lack of reliable development tools	Development Environment (DE)	20%	7	
Complexity of integrating multiple technologies	Technology to be Built (TE)	30%	8	
Limited experience among team members	Staff Size and Experience (ST)	40%	8	

Risks and Risk Reduction Techniques

Risks	Risk Reduction Techniques
Increased development time due to large feature set	Break the project into smaller modules; prioritize features using an MVP approach; use iterative development.
Market resistance to app adoption	Conduct market research; implement a marketing strategy; engage local communities early to build interest.
Communication gaps between users and developers	Regularly interact with stakeholders; provide clear documentation and visuals; involve a community liaison.
Poor adherence to defined software processes	Use the SCRUM framework with proper training, a dedicated SCRUM Master, and regular sprint reviews and retrospectives.
Lack of reliable development tools	Use established and stable tools; allocate a budget for premium tools; ensure resource availability.
Complexity of integrating multiple technologies	Select widely-used and documented technologies; prototype integrations early; ensure team expertise in chosen tech.
Limited experience among team members	Organize training sessions; hire experienced consultants; assign tasks based on team member strengths.

The End