Helping Unity

Project Proposal Report

Software Design in Group

EEY4189

Group Name: Helping Unity (Bridging the Gap)

MAY 12, 2024

Introduction

The web application aims to bridge the gap between donors and those who in need. Donations can include used items, money, services, blood, or even human organs. The platform provides a trustworthy environment where donors can securely contribute, and knowing their donations will not reach to wrong hands.

For those who in need, the platform provides a reliable source to meet their urgent requirements. While they may depend on others' help, they still wish to maintain their dignity and live like everyone else. The platform ensures this by keeping their personal information confidential, sharing it only with the necessary parties.

Motivation

There are many motivations derived us to implement this platform. There are plenty of donors who are generous to donate their wealth for advancement of the society, but the lack of reliable platform to identify real needs and genuine needy people holds them back doing their charity work. Our platform will encourage them to do their charity work without any hesitation, because the platform will provide security, curating and fame if donor desire. Furthermore, there are plenty of needy people who are reluctant to ask from others, even though they are in a desperate situation. This platform will provide them with peace of mind. On the other hand, the platform will track potential beggars who is always trying to gain benefits from others without doing hard work and discourage them from asking again and again. The platform itself discourage donors to giving out to them by lowering their rating.

Problem Statement and Project Objectives

Problem Statement

In today's society, there is a significant gap between potential donors and individuals in need. Many generous donors are willing to contribute money, used items, services, blood, or human organs for charitable causes, but they often lack reliable, trustworthy platforms to ensure their donations reach the right hands. On the other hand, needy individuals, despite their desperate situations, often feel reluctant to seek help due to concerns about privacy and pride. They require a platform where their personal information is protected, and their dignity is maintained. Additionally, there is a need to identify and discourage individuals who exploit charitable systems for personal gain without genuine need, ensuring resources are directed to those truly in need.

1. **Secure Donation Environment:**
    - **Explanation:** Make sure the platform checks both donors and recipients to stop misuse or fraud. This way, donors can give with confidence, knowing their donations go to the right people.

2. **Privacy Protection:**
    - **Explanation:** Respect recipients' privacy by limiting who can see their personal information. Only people who are allowed should have access to keep their dignity intact.

3. **Trust Building:**
    - **Explanation:** Build trust by being clear about how donations are used. Give regular updates and be accountable to boost donor confidence.

4. **Abuse Prevention:**
    - **Explanation:** Find and stop people who try to misuse the system. This makes sure donations go to those who really need help.

5. **Diverse Donation Options:**
    - **Explanation:** Provide different ways to donate, so donors can choose what they like best and recipients get what they need.

Introduction to similar type of Systems

1. Crowdfunding Platforms:

- Websites like Kickstarter, GoFundMe, and Indiegogo allow individuals to raise funds for various causes, projects, or personal needs.
- Donors contribute money, and recipients share their stories to attract support.
- These platforms often provide transparency by showing progress, updates, and how funds are used.

2. Food Banks and Distribution Networks:

- Organizations like food banks collect surplus food from donors (individuals, businesses, or farms) and distribute it to those in need.
- They ensure efficient allocation of resources, preventing waste and addressing hunger.

3. Blood Donation Systems:

- Blood banks and donation centers collect blood from voluntary donors.
- The blood is then distributed to hospitals for medical treatments.
- These systems prioritize safety, traceability, and equitable distribution.

4. Organ Transplant Networks:

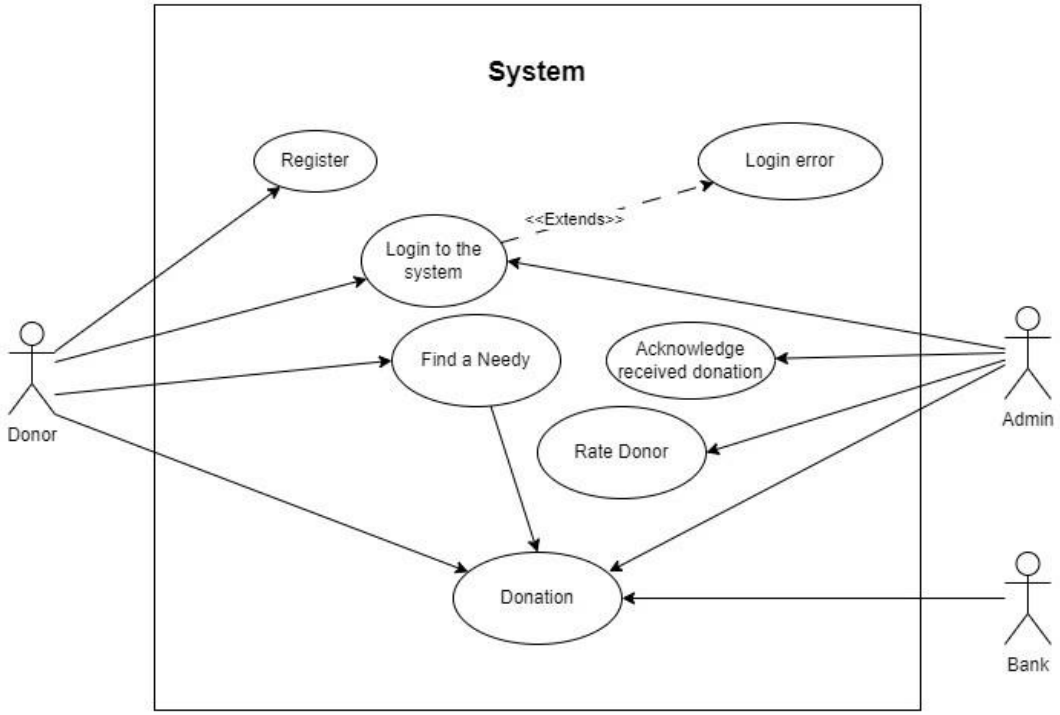
- Networks connect organ donors (living or deceased) with recipients in need of transplants.
- Rigorous protocols ensure fairness, confidentiality, and timely allocation.

5. Community-Based Mutual Aid Networks:

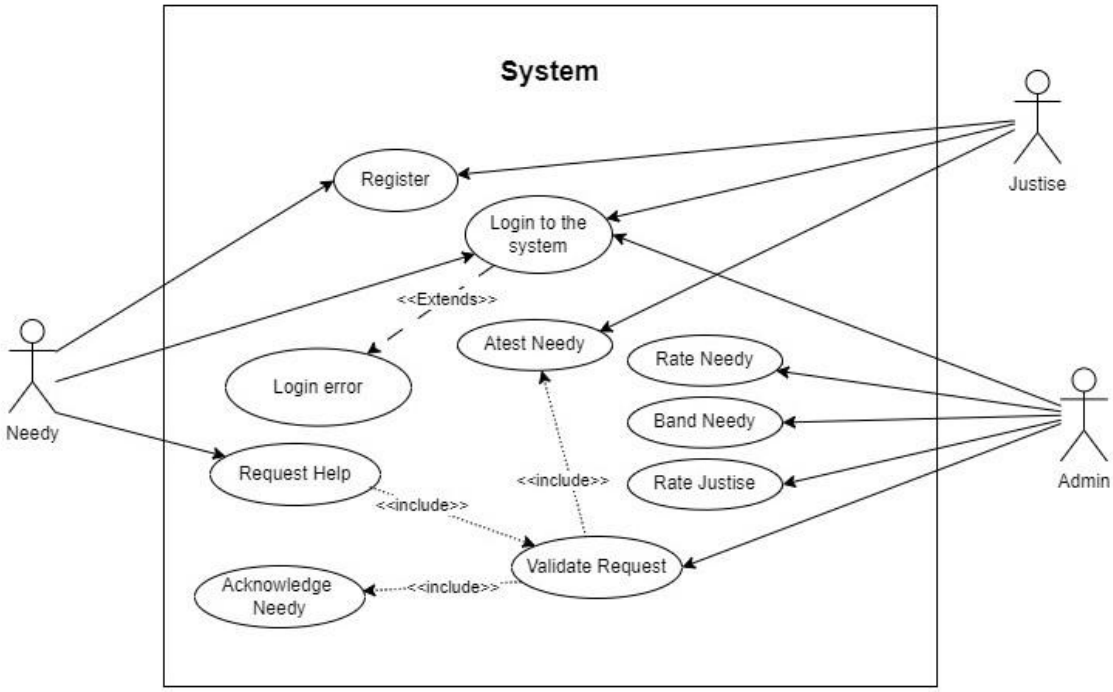
- Grassroots initiatives where community members support each other.
- Examples include neighborhood groups, mutual aid societies, and local charity drives.

Use Case Diagrams

Use Case of Donating Through the Platform



Use Case of Requesting Needs from the Platform



UI Design Tool

- Figma

IDE

- VS Code / IntelliJ IDE

Version Controller

- Git Hub

Project Management Tool

- **Trello:** Known for its Kanban-style boards, Trello is great for visual task management and team coordination.

Backend Technologies

- JAVA - Spring Boot
- Restful API
- JSON

Frontend Technologies

1) **HTML (HyperText Markup Language):**
    - HTML forms the foundation of frontend development, creating the structure of web pages.
    - While not the most dynamic, it allows adding basic elements like forms, buttons, and containers.

2) **CSS (Cascading Style Sheets):**
    - CSS handles visual editing, styling web elements, and ensuring consistent design across pages.
    - It controls layout, fonts, colors, and responsiveness.
    - Tailwind.

3) **JavaScript:**
   - JavaScript enables interactivity and dynamic behavior on web pages.
   - It's essential for creating animations, handling user input, and making websites responsive.

4) **Frameworks and Libraries:**
   - **Bootstrap** provides responsive design components and pre-styled UI elements.
   - **ReactJS** are popular frontend frameworks for building dynamic web applications.

5) **Package Managers and Tools:**
   - **NPM** (Node Package Manager) manages JavaScript packages and dependencies.

Project Timeline

1. **Requirements Gathering (3 weeks):**
   - Define detailed requirements for the platform.
   - Gather input from stakeholders, including donors and potential recipients.
2. **Backend Development (2 Month):**
   - Set up the Spring Boot project.
   - Implement user authentication, donation tracking, and privacy features.
   - Integrate with a database (e.g., MySQL, PostgreSQL).
3. **Frontend Development (1/2 Month):**
   - Choose Vue.js or React for the frontend.
   - Design user-friendly interfaces for donors and recipients.
   - Implement donation forms, profiles, and search functionality.
4. **Testing and Quality Assurance (10 days):**
   - Conduct unit tests, integration tests, and user acceptance testing.
   - Ensure security, privacy, and performance.
5. **Ongoing Maintenance and Updates:**
   - Regularly update the platform based on user feedback and emerging needs.

Conclusion

Creating a secure and reliable platform for donors and recipients is a noble endeavor. By leveraging Java and Spring Boot for the backend, you'll have a robust foundation. For the frontend, consider Vue.js or React to ensure an accessible and user-friendly experience. Remember to involve stakeholders throughout the process and iterate based on real-world usage.

Approved
21/06/2024