CS130: Project Part A

Impactify
by SCRUM6

GiHub Repository: https://github.com/BrianTaylor9/CS130_Project

Team Members:

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Motivation/Concept

Introduction
In today's fast paced and digitally connected world, there is an ever-increasing need to streamline communication between nonprofits and volunteers/philanthropists. Our society is full of eager individuals who want to contribute to a lot of causes. Currently, nonprofits and volunteers face barriers in finding the right opportunities. The project proposes a portal designed to bridge this gap.

Idea
The core idea of this proposed project is to create a web application that will act as a centralized platform to facilitate seamless interaction between non-profit organizations and volunteers. Using this portal, the non-profits can register themselves on the platform, share information about particular events and specify their particular needs. Concurrently, the platform will also help individuals to donate to specific non-profits and perform volunteer work.

Key Features
- **Non-profit Organization Registration:** The organizations will have the ability to register themselves using a form. They will also be required to upload a few documents to verify that they are non-profits.
- **Event Posting:** The organizations will have access to the event posting page where they can post information about upcoming events along with the requirements.
- **Donation:** Since nonprofits solely rely on donations to keep up with their costs, we will have a page where they can post fundraisers where individuals can make donations.
- **User Registration:** Individuals can register as users and/or volunteers. This will give them access to specific pages on our website. They can sign up for various events organized by nonprofits.
- **Leadership Board:** The portal will feature leadership boards to incentivize people for volunteering for nonprofits. This gamification will help with user engagement and participation on our platform.

Epics

Description	Link
Volunteers want to be able to browse and easily discover non-profit organizations that they share values with, and participate in events and contribute towards causes.	https://github.com/BrianTaylor9/CS130_Project/issues/1
Non-profit organizations want to be able to easily recruit volunteers for their causes and campaigns, as well as communicate with their members about things like events and logistics.	https://github.com/BrianTaylor9/CS130_Project/issues/2
Users want to be able to send feedback to improve the quality of our platform.	https://github.com/BrianTaylor9/CS130_Project/issues/3

Technology Stacks

Programming Languages
- Front-end
  - JavaScript with React.js for dynamic UI
  - CSS/Bootstrap for styling
- Back-end
  - Possibility of using Node.js for server-side operations

Data handling
- JSON
  - Used for data flow between front-end and back-end
  - Used to structure data for API responses
  - Used to configure and store dummy data

Database Management
- MongoDB/NoSQL Database can be used for scaling

Libraries and External APIs
- Use of external APIs to get data related to nonprofits
- Possibility of using Axios for HTTP requests

Deployment
- Docker can be used to containerize the application

Version Control and Repository management
- Use of git for version control with GitHub to host the project repository
- Branch management for efficient team collaboration

Feasibility

We have outlined the entire plan for our course project in the table below. We propose using paired working to ensure that at any given time 2 members are working on an entity and the absence or unavailability of any member may not hamper the project's progress. Roles are assigned as per every group member's technological suite. We will organize short Scrum meetings (sprints) twice a week to discuss the interim goals of every team and assign members to tasks that are lagging behind the proposed deadlines. Week 6 is also designated as a checkpoint to estimate the overall progress and update our strategy based on the progress.

Week	Functionality intended to add
1	○ Group Formation ○ Project Formulation
2	○ UI/UX design ○ Activity Diagram ○ Data Flow diagrams ○ EER diagrams ○ Initializing the project boilerplate
3	○ Setting up Database ○ Integration with the application ○ User Sign Up/Register page ○ User Authentication ○ Events Page ○ Logistics Page
4	○ Landing Page ○ Campaigns Page ○ Integration with payment gateways
5	○ Testing of all 4 pages and APIs ○ Contact us page ○ Integration with Google Maps
6	○ Meeting backlog targets ○ Integration with 3rd party mailing services ○ Implement a User Profile page
7	○ Leadership boards and point schemes ○ Integration with Chatbot API
8	○ Final Testing of the project ○ Preparing SRS report ○ Fixing bugs ○ Deployment

Capability

Frontend Development

The frontend development will be primarily handled by Meith, Arjun, and Lucian, who both have significant experience in this area. Arjun has worked with React and JavaScript in both internships and full-time roles, and is familiar with building user-facing features with these technologies. He has also worked extensively with HTML and CSS. Similarly, Lucian has experience with React, JavaScript, HTML, and CSS, and he has built multiple websites using these technologies. Finally, Meith has also used React, HTML, and CSS to build full-scale web apps in internships and personal projects, meaning that these three group members are very comfortable with frontend development. Together, Arjun, Lucian, and Meith's familiarity with the project's frontend tech stack will allow them to build a functional and stylish user-interface for our app.

Backend Development

The backend development will be primarily done by Meith, Om, Siddhant, and Brian. Om and Meith have used Node.js and MongoDB in personal projects, so he is familiar with the backend and database portions of the project's tech stack. In addition, both of them have built full stack applications making it easier for us to ensure all components of the application work together. Brian also has experience using Node.js in personal projects, and he has experience using JSON to store data and transfer data via APIs in previous internships. Siddhant has experience in working with data including JSON. He has taken classes related to data management. Om, Meith, Siddhant, and Brian's combined knowledge of the tech stack and development experience will carry over to this project and help them build a complete and reliable backend.

API Integration

This web application will leverage several public APIs, specifically a chatbot API and the Google Maps API, and Meith and Arjun will be responsible for integrating them. Arjun has experience integrating different APIs such as FAST API from his time as a full-time software engineer, and he is comfortable in learning new APIs to leverage in the project. Meith has also integrated public APIs from Google, PayPal, OAuth, and more in personal projects, so he and Arjun have the experience necessary to successfully integrate the APIs needed for this application