

# Assignment 1 - Group 20

## Initial Thoughts

We decided on designing a web application to have the most availability and compatibility for users. As the application consists of, at its core, event management and coordination, our users would be broken down into volunteers and administrators. Volunteers would use the application to register and add data such as their preferences, availability, skills, and location, while administrators would be using the app to create and manage events as well as select volunteers to assign to those events. As these two groups of users require different functions, two views/sets of permissions should be built into the app. As for prioritization, we believe the first five needs, consisting of login, user registration, user profile management, event management, and volunteer matching are some of the highest priority features as they are less quality of life features and more the core features of the application as they allow for user separation, data management, event management, and the actual volunteer-event matching itself. We intend to use [React.js](#), [Node.js](#), [Express.js](#), and MongoDB for our tech stack, with JWT and Nodemailer for authentication/authorization and email verification. We aim to code the majority of our app in Javascript since our team has widely varying experience in different programming languages.

## Development Methodology

For development methodology we went with Agile because it is flexible and a good fit for project management and collaboration. Agile makes it easy to adjust to new ideas or problems that may arise as the project is developed. With Agile, we can focus on adding functionality to the web app based on priority/necessity through each sprint. This allows for easy tracking of functionality implementation. Further, the pacing of assignment due dates lends itself to an approach that performs well within the two week sprint spacings.

## High-Level Design / Architecture

A web application provides multi-platform support unlike mobile apps; this allows us, the developers, to reach more users with our finished product. Our web app will follow the traditional 3-tier architecture. Client side will consist of a React App, where they can interact with user elements to display, edit, create, and delete requested data. The backend server will run [Node.js](#) with [Express.js](#) to facilitate routing and communication with the front-end. Additionally, we plan to use JSON Web Token (JWT) for user authentication/authorization during user sign-in and using Nodemailer for email verification during user registration. Further, our backend server will utilize Mongoose to model data as objects when connecting to our MongoDB database. We will use Render or Vercel to host the back-end and Atlas for hosting the database. Lastly, we will use Tailwind.css to further speed up front-end design production with time constraints and varying team member experience in mind.

## Group Contributions

Group Member Name	What is your contribution?	Discussion Notes
Spencer	Led discussion on architecture & tech stack, created UML diagram, discussed question answers collaboratively with group, led tech stack research. Assisted team with setup for later assignments.	Assessed best tech stack for team based on timing of deadlines, team experience, and project requirements, refined team understanding of web app development, outlining future tasks, drafted UML diagram
Sofia	Discussed back-end tech stack with Spencer, worked on some of the architecture answers, assisted with tech stack research.	Shared a few ideas to support group's decision, offered input when reviewing decisions made by teammates.
Jennifer	Discussed website design, set up Github repo, assisted with resource search, consolidated most of question 2's final answer.	Set up GitHub repo and Figma page for drafting website's page organization and layouts.
Rainer	Discussed website design, discussed development methodology with Spencer, consolidated question 1's final revision and revised others, assisted with resource search, set up draft document for assignment 1, tracked meeting minutes, tracked group questions regarding assignments and unknowns.	Set up initial team group chat, base assignment 1 doc for separating and answering questions, set up meeting minutes for tracking discussions and decisions, devised and brought group questions to TA and noted them down for group discussion. Drafted some initial answers for initial thoughts, development methodology.