# System Design

The backend is going to be developed using Node.js and Express.js, using these two technologies we will create the users and post which will be displayed on the website. We will then send all the newly created objects to Mongo DB which will house all of our content. We will then develop and design the frontend using JavaScript, HTML, CSS, and React.

## System Architecture Milestone #2: System Architecture

The System Architecture is going to follow the design and data flow of a typical MERN stack, which is basically an application which uses the technologies MongoDB, Express.js, React, and Node.js. We will develop the backend which will then send data to a database and then we will use that database to display the information on screen and style the page.

### Component Design

Diagram

Description automatically generated

The user I/O will consist of creating a new account, following other users, and creating new posts. Using that user I/O the system will create new user objects, adjust pre-existing objects, and create new post objects using the user and post models which dictate what a user and post should consist of, we will also authenticate the user to make sure everybody is using their own account. These new objects will then be sent to a database to be stored. This database will house all of the system data for this project.

### Data Flow

Diagram

Description automatically generated

The user and post models will relay data to the user creation, user authentication, and post creation methods. This data will consist of what each respective object should look like and consist of, for example the user model will let the user creation method know that a user should have a username, email, and password. Then after the new objects are created the system will send the data of these objects to the external database which will house all our data. Then from the database, the system will use this data to display and style unique pages depending on the specific user that is currently logged in and their interactions with other users.

## Project Plan

### System Architecture Design and Development Milestone #1: Project Proposal & Milestone 2: Architecture

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Activity** | **Pre #** | **Estimated**  **Effort** | **Actual**  **Effort** | **Estimated**  **Start Date** | **Estimated**  **Finish Date** | **Actual**  **Start Date** | **Actual**  **Finish Date** |
| 1 | Design the System Architecture | 0 | 5 | 3 | 2/8/2022 | 2/10/2022 | 2/11/2022 | 2/12/2022 |
| 2 | Capture the Component Diagram in Enterprise Architect | 1 | 10 | 6 | 2/10/2022 | 2/18/2022 | 2/13/2022 | 2/18/2022 |
| 3 | Fill out the project milestone template to finalize submission | 2 | 2 | 2 | 2/18/2022 | 2/20/2022 | 2/18/2022 | 2/21/2022 |

### System Implementation Milestone #2: Architecture & Milestone #3: System Implementation

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Activity** | **Pre #** | **Estimated**  **Effort** | **Actual**  **Effort** | **Estimated**  **Start Date** | **Estimated**  **Finish Date** | **Actual**  **Start Date** | **Actual**  **Finish Date** |
| 1 | Delegate tasks between the group | 0 | 1 |  | 2/23/2022 | 2/23/2022 |  |  |
| 2 | Work on developing the backend of the project | 1 | 15 |  | 2/24/2022 | 3/2/2022 |  |  |
| 3 | Work on developing the frontend of the project | 2 | 15 |  | 3/3/2022 | 3/10/2022 |  |  |
| 4 | Work on fleshing out all the core features | 3 | 10 |  | 3/11/2022 | 3/18/2022 |  |  |
| 5 | Work on the viable features of the project | 4 | 10 |  | 3/19/2022 | 3/25/2022 |  |  |
| 6 | Work on the stretch features of the project | 5 | 15 |  | 3/26/2022 | 4/3/2022 |  |  |
| 7 | Fill out the project milestone template to finalize submission | 6 | 3 |  | 4/4/2022 | 4/7/2022 |  |  |