

## **EE/CprE/SE 491 WEEKLY REPORT 1**

**Start Date – End Date: Beginning of semester - 9/23/2025**

**Group number: sdmay26-16**

**Project title: AI Home Design Moodboard**

**Client &/Advisor: Md Maruf Ahamed**

### **Team Members & Roles:**

- **Prakeerth Regunath: Frontend**
- **Onur Onal: Project Lead & Backend**
- **Kemal Yavuz: Fullstack**
- **Erroll Barker: Frontend**
- **Bae Meh: Backend**
- **Om Sanghvi: Backend**

### **Weekly Summary**

- ***The overall objective of this week was to brainstorm and begin designing the concept of what our AI Home Design Moodboard app would look like. In our first team meeting, our team agreed to go with a website app development, with the database being stored with MySQL, and using React + Vita + TypeScript for the frontend, and Node.js for the backend, with Python being used for our ML microservice. Our main task this week was to create a Figma FigJam board in which we could design the overall look for the website, as well as the concept of the functionality behind it.***

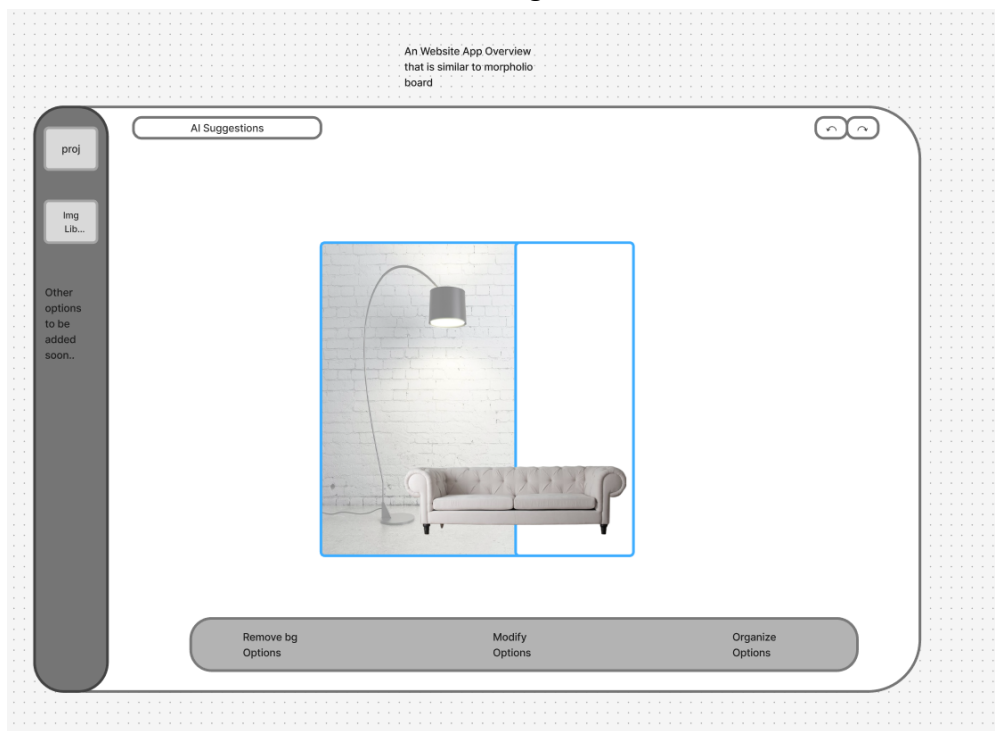
### **Past Week Accomplishments**

- **Prakeerth Regunath:** Helped set up a Figma FigJam and design a rough draft of a basic overview UI for the AI Moodboard website application.
- **Onur Onal:** Created 7-page documentation about the project, detailing both technical and non-technical scope and objectives. Coordinated team meeting with project advisor. Looked into tradeoffs between relational vs non-relational databases for the project.
- **Om Sanghvi:** Researched integration methods for connecting the Python ML microservice with the Node.js backend, explored MySQL schema design for storing user design preferences, and compared authentication strategies such as session-based vs JWT for secure login.
- **Erroll Barker:** Since I was assigned to the front-end, I began by creating sketches of how the interface should look, including the login page, the main application page, and other key screens base on our Figma figboard.  
To build my understanding of the tools we'll be using, I also set up a local work environment with React, Vite, and TypeScript to experiment with.

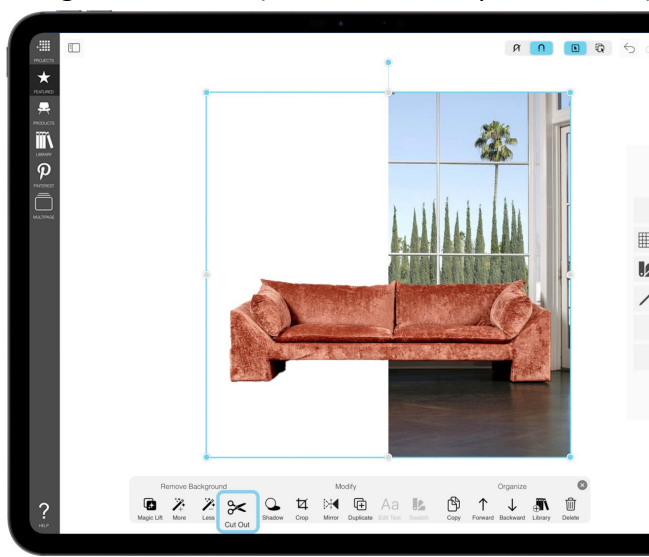
- **Kemal Yavuz:** Watched tutorials and walkthroughs on React, Vite, and TypeScript to build familiarity with the framework and development workflow. Looked into options for drag-and-drop libraries such as react-dnd and dnd-kit, noting trade-offs for implementing the moodboard interface. Also reviewed resources on frontend–backend integration patterns to prepare for upcoming development tasks.
- **Bae Meh:** Participated in our group discussion and contributed ideas to the overall project design. I also did some initial research on backend approaches.

## Rough Sketches/Drafts

- Rough Draft of the Overview UI, created with Figma Board



- Reference Image of the Draft (Taken from Morpholio Board)



### Pending issues

- **Om Sanghvi:** Flagged a concern about the complexity of connecting the Python ML microservice with Node.js. Further research is needed to decide whether to use REST API, WebSockets, or a message queue for stable communication.

## Individual Contributions Table

<u>NAME</u>	<u>Individual Contributions</u> <i>(Quick list of contributions. This should be short.)</i>	<u>Hours this week</u>	<u>HOURS cumulative</u>
Prakeerth Regunath	Created a Design Draft through Figma. Designed a simple overview UI draft of the application.	6	6
Om Sanghvi	Researched backend integration methods, database schema options, and authentication strategies for user login.	6	6
Erroll Barker	Designing UX/UI (on paper) & creating the React + Vita	6	6
Onur Onal	Wrote project specification doc. Coordinated team meeting with project advisor.	6	6
Kemal Yavuz	Researched React, Vite, and TypeScript through tutorials to build familiarity with the framework. Looked into drag-and-drop libraries (react-dnd, dnd-kit) and reviewed frontend-backend integration patterns for upcoming tasks.	6	6
Bae Meh	Initial research on backend approaches	6	6

## Plans for the upcoming week

- **Prakeerth Regunath:** Begin work on setting up and designing the frontend Login/Signup page for the web application.
- **Onur Onal:** Collaborate in designing frontend user interfaces in Figma. Create initial backend project and install dependencies, hook up the SQL database.
- **Om Sanghvi:** Begin setting up the backend structure, connect the MySQL database with Node.js, and start working on linking the Python ML microservice so that all services can begin communicating together.
- **Erroll Barker:** Planning on creating the first interface (pushing to GitLab) as well as getting our server up and running so we can host. Also, will try to get around to editing our senior design website to keep everything up to date.
- **Bae Meh:** Continue researching backend structures and begin outlining the NodeJS server setup, including initial api routes and database connection setup with MySQL
- **Kemal Yavuz:** Continue researching React + Vite workflow and drag-and-drop libraries, and begin drafting a prototype for the moodboard interface to test image placement and scaling.

## Summary of Weekly Advisor Meeting

In the meeting, the team was introduced to the advisor, Professor MD Maruf Ahamed, for the project, and initial plans for the upcoming week were discussed. The project documentation was presented and explained from general to specific. Times for future meetings were also coordinated.