DOUGLAS COLLEGE

CSIS 4495 – 002

(Applied Research Project)

Title: **EcoTots**

(MERN Stack Website for the Exchange of Gently Used kid's Clothing)

Progress Report 1

Submitted To:

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Submitted By:

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Work log Table

Date	Number of Hours	Description of work done
January 13	2.5	Researching real-world problems
January 14	1.5	Identifying potential solutions
January 15	1	Explore the pros and cons of different technologies for the project
January 16	1.5	Look deeper into common challenges faced by consumers
January 17	1.5	Study various tech business models (SaaS, subscription-based, etc.)
January 18	1.5	Learning new frameworks, such as Next.js, or tools like Docker, Kubernetes, etc., based on the project's needs
January 19	2.5	Focus on designing products that solve real user problems and learn about UX/UI design principles
January 20	1	Explored the concept of State in React more deeply.
January 21	1	Went deeper into lifecycle methods with useEffect in functional components.
January 22	1.5	Studied the Context API to manage global state in React
January 23	1	Set up a pipeline for automatic testing and deployment using GitHub Actions.
January 24	0.5	Discussed the chosen problem with the professor and team member to gain overall consent
January 25	1	Discussion with team member about setting up and initializing the app
January 26	0.5	Discussed the basic UI structure of the app with my team member.
January 27	1	Worked on User stories such as User Registration, Browsing and Searching for Items, etc.

January 28	2.5	Initial setup of the GitHub Repository (https://github.com/lovishdhanda/W25_4495_S2_LovishD) and app, including connecting to MongoDB, tailwind CSS, express and node for the backend.
January 29	1.5	Studied Redux Toolkit and explored Firebase authentication and storage features
January 30	3.5	Created the User model (user.model.js) and implemented API routes, a middleware and function to handle possible error and Sign up page UI.
January 31	4	Create Sign In API Route, getting familiar with firebase authentication and debugged and improved error handling across the Sign in page.
February 1	0.5	Discussion with team member of adding Ratings and Reviews for Sellers
February 2	1.5	Explored deeply into authentication tokens, session persistence, and secure sign-out.
February 3	0.5	Understanding Response Time in Network (via Browser Console & DevTools).
February 4	1	Discussion on adding some chatting options between the buyer and seller and use of AI in it.
February 5	4.5	Implemented profile picture upload functionality, created and fixed bugs in the user update API route, added user deletion functionality, and integrated sign-out functionality. Additionally, developed the listing API route.
February 6	3	Completed the UI for the create listing page and finished implementing the functionality to upload listing images. Added delete functionality to the uploaded photos.
February 7	2.5	Test image uploads with different network speeds, implement lazy loading for images in the listings to improve page load times.
February 8	1.5	Working on Progress Report 1, gathering all the previous knowledge and interviewing some parents and taking surveys.

Description of Work done:

Last week, I worked on setting up the initial app structure by connecting it to MongoDB and integrating React. I successfully completed the login and signup functionality using Firebase authentication, ensuring smooth authentication. Additionally, I built the "Sell Now" page listing feature and implemented the upload image functionality using Firebase Storage with proper error handling.

I encountered issues while making APIs, especially related to request handling and data validation. To address this, I created middleware and functions to manage possible errors efficiently. Furthermore, I set up the User model (user.model.js), installed React and Tailwind CSS, and created the first UI template. Other key tasks included implementing profile picture upload, user update functionality, user deletion, and sign out features.

This week, I will be focusing on developing the listing functionality for the marketplace. The goal is to enable sellers to easily post their listings, which will then be displayed on the main home page for potential buyers to view. I will work on creating a seamless process for sellers to upload detailed product information, including images, descriptions, and pricing. Additionally, I will ensure that buyers can effortlessly browse through these listings, filter based on preferences and view key details about each item. This feature will be a critical component in creating an interactive, user-friendly marketplace where both sellers and buyers can engage effectively.

Repo Check-in Summary

The files/folders I have checked into the repository are as follows:

On the **backend**, I have implemented the necessary controllers and routes for user and listing management, including authentication and user CRUD operations. Specifically, I've developed:

- **Controllers**: auth.controller.js, listing.controller.js, user.controller.js for handling business logic.
- **Models**: listing.model.js and user.model.js to define MongoDB schemas for listings and users.
- **Routes**: auth.route.js, listing.route.js, user.route.js to handle API routes for user authentication, listings, and user management.

- **Middleware**: Error handling middleware to capture and manage API errors.

On the **frontend**, I've made significant progress in creating the user interface and implementing core features:

- **Pages**: Developed the main pages like **About.jsx**, **CreateListing.jsx**, **Home.jsx**, **Profile.jsx**, **SignIn.jsx**, and **SignUp.jsx** for seamless user navigation and interaction.
- **Components**: Created reusable components like **Header.jsx**, **OAuth.jsx**, **PrivateRoute.jsx**, and **ImageUploader.jsx** for handling authentication and image uploads.
- **Redux Integration**: Implemented the user slice (userSlice.js) to manage global state and connected it to the store (store.js).
- **Firebase**: Integrated **Firebase** for authentication and added the necessary config (firebase.js).
- **Styling**: Updated styling with index.css and enhanced UI performance and usability.

These updates ensure a well-rounded backend setup with a functional, responsive frontend for a dynamic marketplace where users can register, sign in, and create listings. This marks a significant step toward making the platform interactive and user-friendly.