# **EcoThread Exchange Project :**

**Technologies and Libraries:**

**Frontend & Backend**

* React: A JavaScript library for building user interfaces, allowing for the creation of reusable UI components.
* Vite: A build tool that provides a fast development environment and optimized production builds for modern web applications.
* React Router: A library for routing in React applications, enabling navigation between different components and views.
* Axios: A promise-based HTTP client for making requests to the backend API
* Node.js: A JavaScript runtime built on Chrome's V8 engine, allowing for server-side scripting.
* Express: A web application framework for Node.js, providing a robust set of features for web and mobile applications.
* MongoDB: A NoSQL database used for storing application data, allowing for flexible data structures.
* Mongoose: An ODM (Object Data Modeling) library for MongoDB and Node.js, providing a schema-based solution to model application data.
* JWT (JSON Web Tokens): Used for secure authentication and authorization, allowing users to log in and maintain sessions.
* Nodemailer: A module for Node.js to send emails, used for functionalities like email verification and password resets.
* Bcrypt: A library for hashing passwords, ensuring secure storage of user credentials.

**User Features**

* User Registration: Users can sign up by providing their details, which are validated and stored in the database.
* Email Verification: After registration, users receive an email with a verification link. The link contains a token that, when clicked, verifies the user's email address.
* User Login: Users can log in using their email and password. Upon successful login, a JWT is generated for session management.
* Password Reset: Users can request a password reset link via email. The link allows them to set a new password.
* Profile Management: Users can view and edit their profile information, including their email and password.
* Item Listings: Users can create, view, edit, and delete their item listings. They can also view public listings created by other users.
* Trade Proposals: Users can propose trades for items, which are sent to the respective item owners.

**Admin Features**

* Admin Dashboard: Admins have access to a dashboard where they can view all users and items in the system.
* User Management: Admins can block or unblock users, preventing or allowing them access to the platform.
* Item Management: Admins can view all items listed on the platform, including the ability to delete items if necessary.
* Proposal Management: Admins can view all trade proposals made by users, ensuring that the trading process is monitored.
* User Details Page: Admins can view detailed information about users, including their activity and status (blocked or verified).