MIDDLE EAST TECHNICAL UNIVERSITY
NORTHERN CYPRUS CAMPUS

Computer Engineering Program

CNG 495 – Cloud Computing

Term Project Proposal

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Project Name: Second Hand METU

Topic: Second-Hand Web Application for METU Students

Explanation of the project

The web application for METU students aims to set up a dynamic and sustainable marketplace where users can share and discover second-hand items. Users will register and log in securely, with their identities verified, to ensure the authenticity of the listings. The platform will designate users to post, manage, and update detailed advertisements for their second-hand items, allowing for easy editing, updating, and removal of listings. Users can post an item to sell by providing the item name, price, category, condition (which could range from descriptions like "lightly used" to "brand new"), and price. Providing detailed information about the item's condition is crucial. It will help buyers understand its state and boost clearness and trust. Advanced search options based on item name and price will improve the user experience for buyers. For instance, users can effortlessly find specific items by entering the item name into the search bar, and the platform will display all relevant adverts associated with that item, simplifying the search experience for the user. Additionally, users can pick a price range and search for an item within that price range. The web app will also show user profiles, individual listings, and a review system, encouraging trust-building among buyers and sellers. It should be noted that a payment system will not be implemented. The buyers will get the communication information from the sellers' profile. Once an item is sold, the seller should manually mark that item as sold out. A user support system through FAQs and email will address questions and issues to facilitate user engagement. The technology stack will contain Django for backend development, integrating with AWS for cloud services and elastic search for efficient search functionality. HTML, CSS, and JavaScript will ensure an intuitive and visually appealing front end, contributing to a user-friendly and sustainable second-hand marketplace. To sum up, the web application will have a positive impact in facilitating METU community members to buy and sell second-hand items effortlessly. In doing so, it will actively promote an eco-friendly lifestyle and enable responsible consumption among its users.

SaaS (Software as a Service)

The web application itself, which allows users to post and search for second-hand items, can be delivered as a SaaS. METU students access the application through a web browser without needing to install any software locally. The application handles all the functionality, and users interact with it through a user-friendly interface.

Data Types

Binary Data:

- Item images uploaded by users.
- Binary data for user profile pictures.

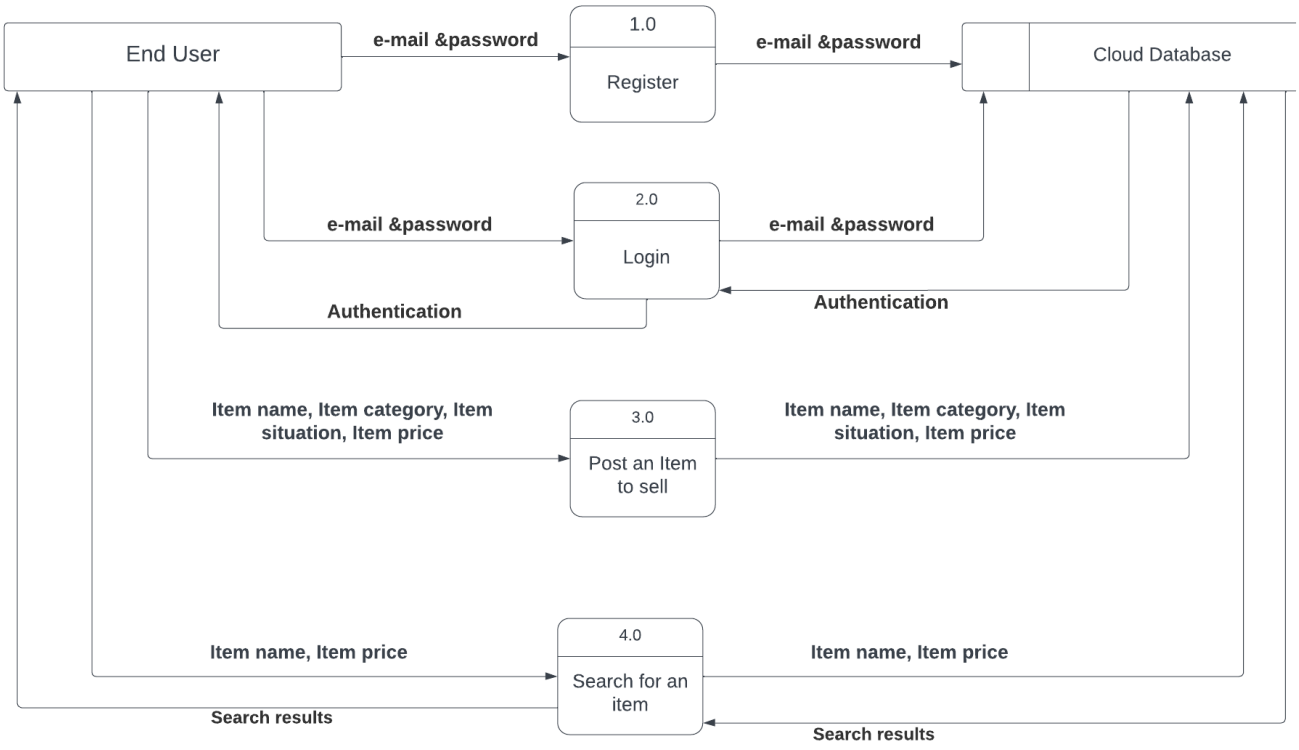
Text Data:

- Item descriptions and details.
- User reviews and comments.
- User profile information.

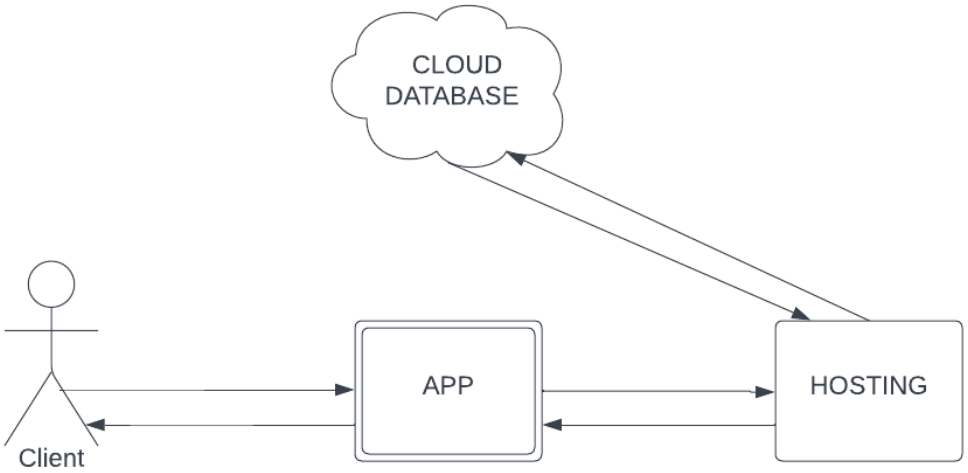
Numerical Data:

- Price of the items.

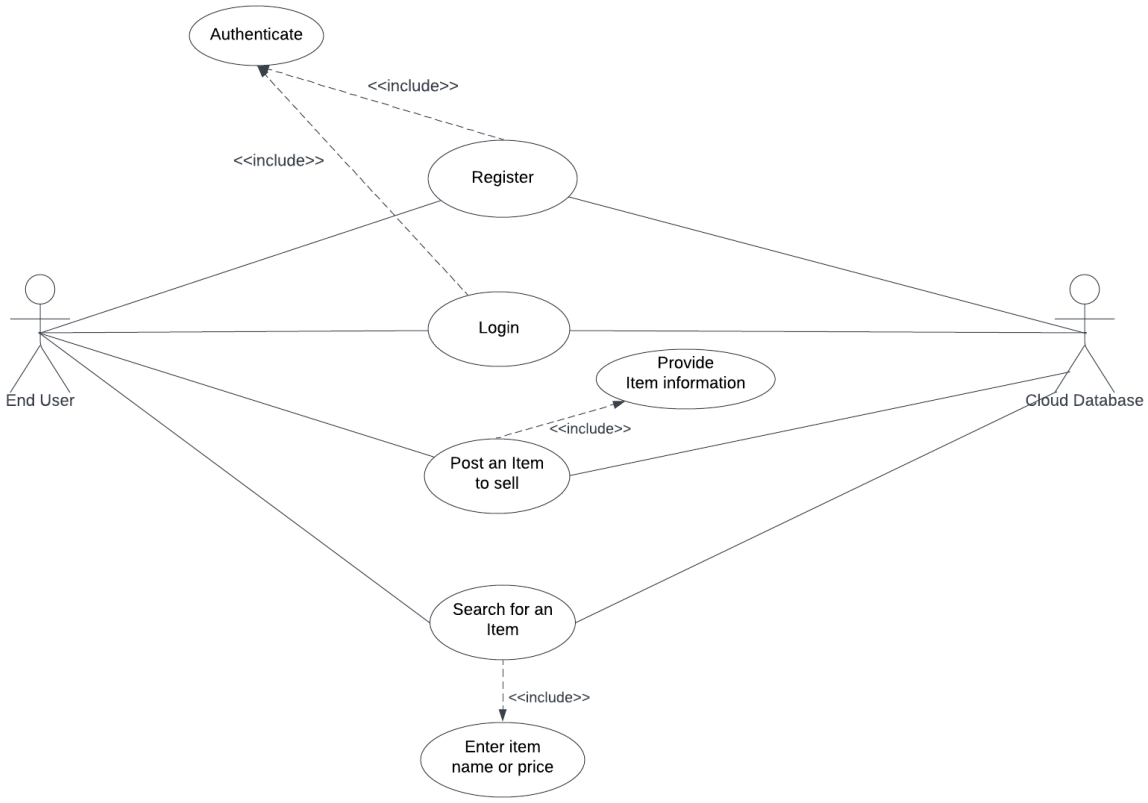
Data Flow Diagram:



Computation Diagram:



Client- Service Interaction Diagram:



Expected contribution for each project group member:

All team members will contribute to both backend and frontend development tasks. Pair programming and collaborative coding sessions will be held to ensure shared understanding and equal participation. It is planned to work on the project together by arranging regular face-to-face meetings as a team. We believe coding together is more efficient. If we divide the project into backend and frontend, the workload will not be equal, and integration will be more difficult. Instead of dealing with such issues, we prefer to brainstorm and code together. However, if a team member completes a distinct part individually in the next phases of the project, it will be mentioned clearly.