1. Activity Diagrams

1.1 Activity Diagram for Donations

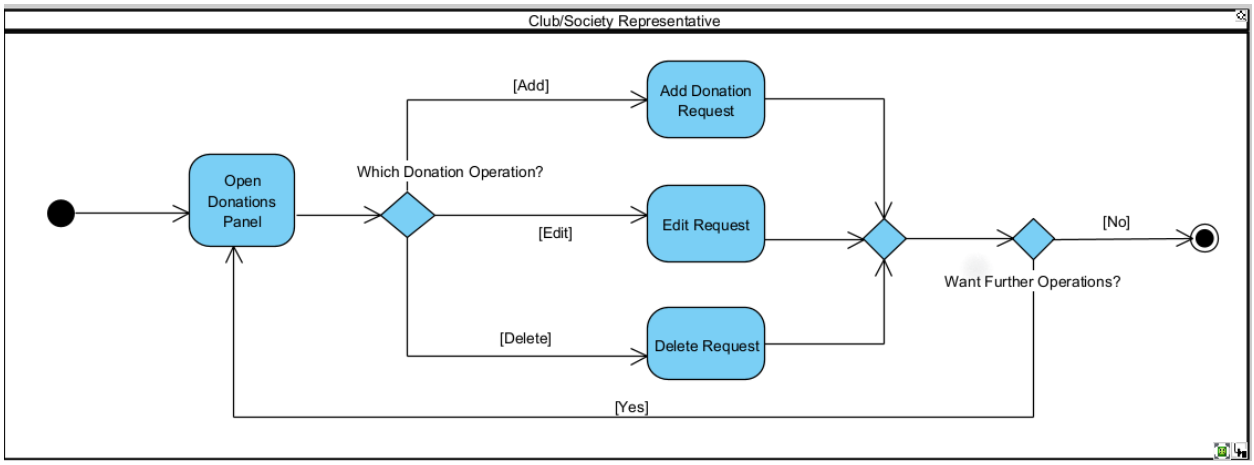

Figure 1.1: UML Activity Diagram for Donations

The Club/Society Representative plays a pivotal role in managing donation requests. Their responsibilities encompass the ability to not only create new donation requests but also to edit existing ones, allowing for updates and improvements as needed. Moreover, they have the authority to delete donation requests that are no longer relevant or require modification.

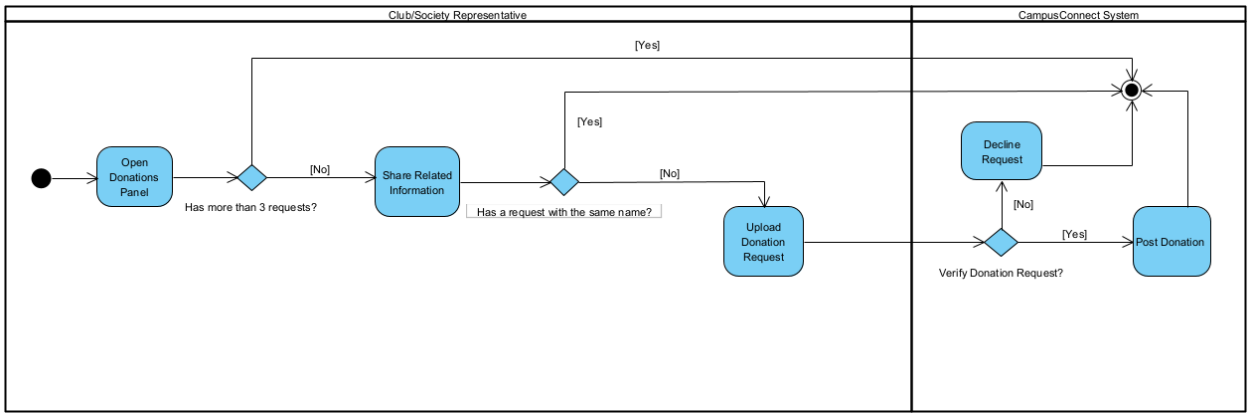

Figure 1.2: UML Activity Diagram for Donations

A Society/Club Representative wishes to post a donation request and begins by accessing the donations panel. If the number of existing requests is less than three, the representative proceeds to share information related to the new donation request. It's important to ensure that the new request does not share a name with any of the club's existing donations. After providing

all the necessary information, the representative uploads the request. The system then verifies this submission. Once verified and approved, the request becomes visible on the donation page.

1.2 Activity Diagram for Renting and Borrowing

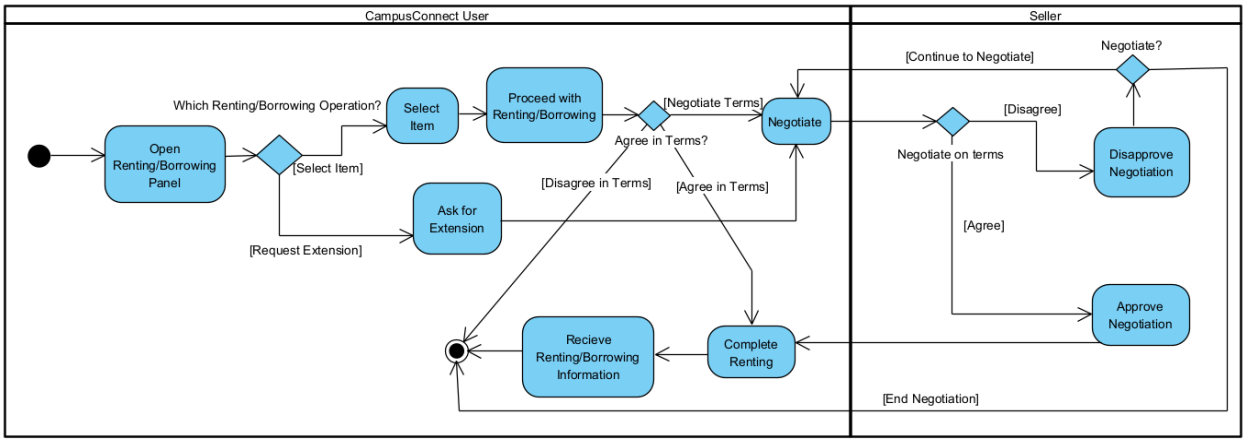

Figure 2: UML Activity Diagram for Renting and Borrowing

A CampusConnect user can choose to either request an extension for the item they've rented/borrowed or select a new item to rent/borrow. To rent/borrow a new item, they can agree to the terms provided by the seller to complete the process by receiving the necessary information or initiate negotiations if they disagree with the terms. To ask for an extension, they can propose new terms, and if the seller disagrees with the extension terms, they can initiate negotiations.

1.3 Activity Diagram for Second-Hand Sales

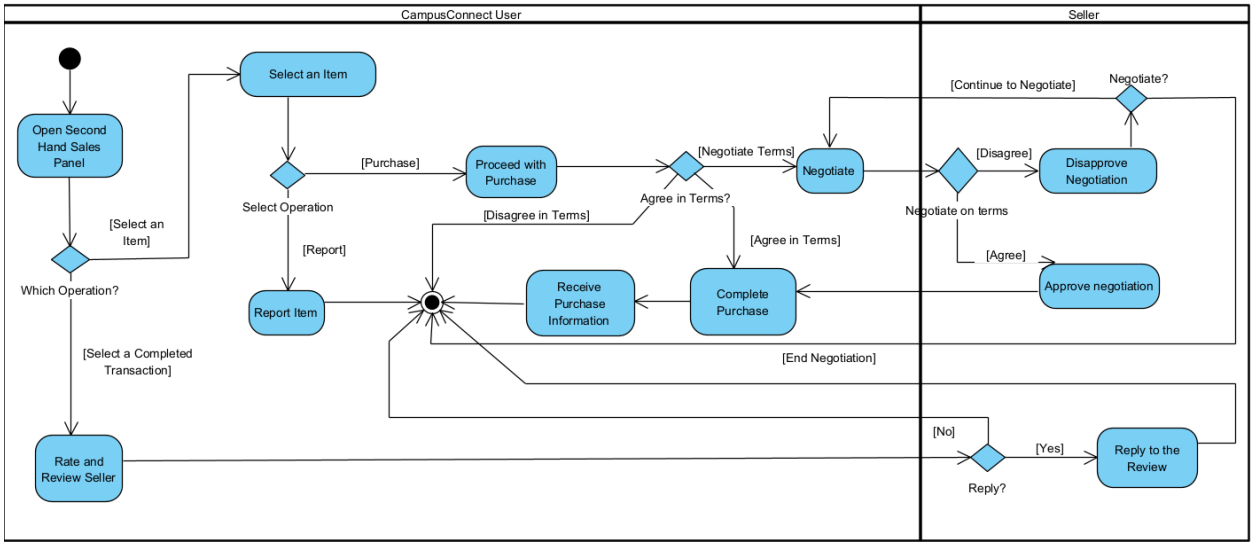

Figure 3.1: UML Activity Diagram for Second-Hand Sales

CampusConnect users have two primary options: selecting an item or a completed transaction. In the case of completed transactions, users can rate the seller using a scale and provide a written review. Sellers, in turn, have the option to respond to these reviews. When choosing an item, users can decide to either report it or proceed with the purchase. In the purchase process, users have the choice to agree to the seller's terms, thereby gaining access to the necessary transaction details for a seamless experience. Conversely, they can opt to disagree with the terms or engage in negotiation with the seller, fostering open communication to reach a mutually acceptable agreement.

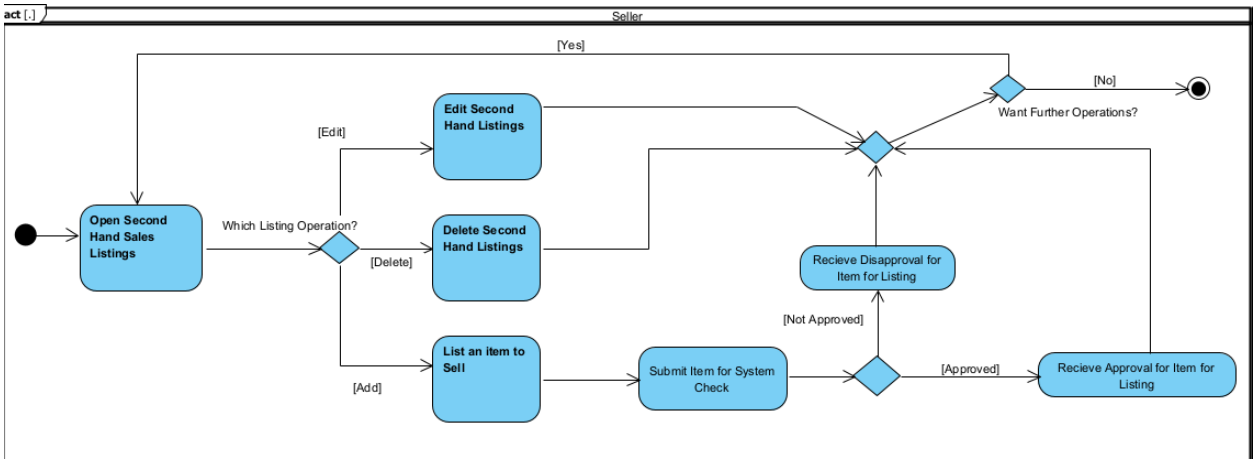

Figure 3.2: UML Activity Diagram for Second-Hand Sales

CampusConnect Users can actively manage their listings, which includes the capacity to edit and update existing listings to reflect changes or enhancements. Furthermore, they possess the authority to remove listings that are no longer applicable or necessitate removal from the platform. Additionally, CampusConnect Users have the power to create entirely new listings to showcase items they wish to sell. Upon the submission of a request to list a new item, the CampusConnect User can anticipate a prompt response from the system, as they will receive either approval, signifying that their item can be listed, or disapproval, indicating that their submission does not meet the system's listing criteria.

1.4 Activity Diagram for Lost & Found

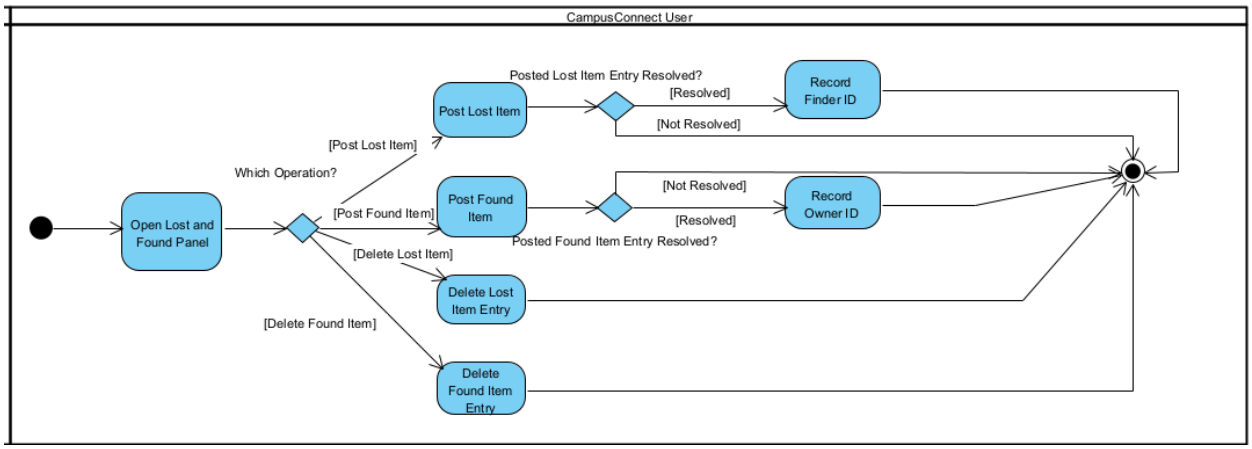

Figure 4: UML Activity Diagram for Lost & Found

In CampusConnect, users can perform several key actions related to lost and found items. They can post a lost item entry to report items they have misplaced, as well as post a found item entry to report items they have discovered. Additionally, users can delete any previously posted lost item entries or found item entries if they are no longer relevant. Importantly, if a posted lost or found item entry is resolved, users are required to record the identification of the founder (for lost items) or the owner (for found items).

2. State Machine Diagrams

2.1 State Machine Diagram for Second-Hand Sales

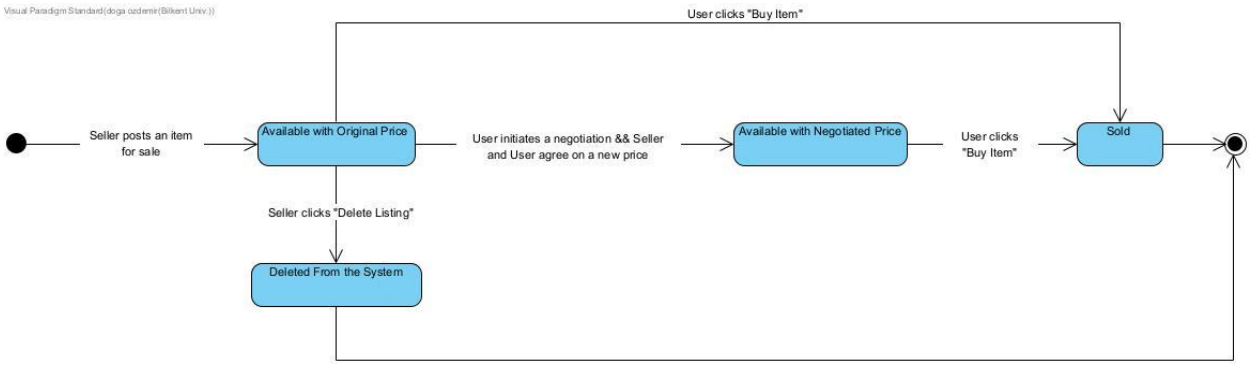

Figure 5: UML State Machine Diagram for Second-Hand Sales

This state machine diagram shows the state of an item that has been put up for sale second-hand. Seller lists the item providing the necessary details and the item becomes available with its original price marked by the seller. If the Seller decides to remove the listing, they click

the “Delete Listing” button and the listing is removed from the system. If a CampusConnect User is interested in buying the item, they can click on “Buy Item” and with the payment information they have provided in their account, the item is sold to the User. If the User and Seller start a negotiation on the price and decide on a new price, the User can purchase the item with this new updated price.

2.2 State Machine Diagram for Resolving Lost/Found Situations

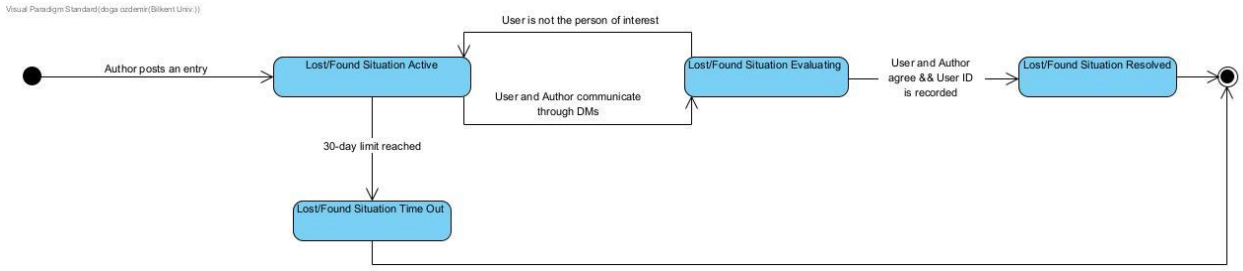

Figure 6: UML State Machine Diagram for Resolving Lost/Found Situations

This state machine diagram shows the state of a lost/found item entry. The author posts an entry about a lost item or an item they have found and the situation becomes active. If 30 days have passed after the initial entry post, the situation has timed out and it is removed from the system. When a CampusConnect User messages the author about the entry, the evaluation process of the entry begins. If the User and Author come to terms, the Author saves the ID of the User to the system, and the situation is resolved. If not, the entry becomes active again until the time-out limit.

2.3 State Machine Diagram for Renting and Borrowing

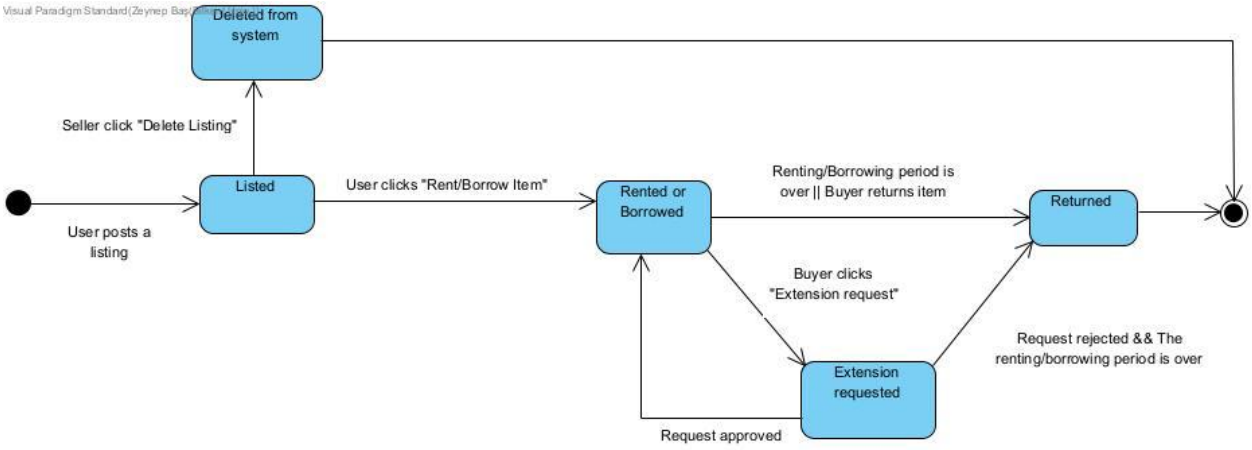

Figure 7: UML State Machine Diagram for Renting and Borrowing

This state machine diagram describes the behavior of an item listed for renting or borrowing. These two processes are presented together since they include similar states. The item is initially listed by the user. It can be deleted by the seller or another user can rent or borrow it. When it is rented or borrowed the user can make an extension request. If the request is approved it returns to the rented or borrowed state with the period reset to the extension period. If the request is rejected and the period is over, or the buyer is done with the item, it is returned. The item being returned or deleted from the system ends the renting and borrowing process.

3. Sequence Diagrams

3.1 Sequence Diagram for Purchasing Second-Hand Items

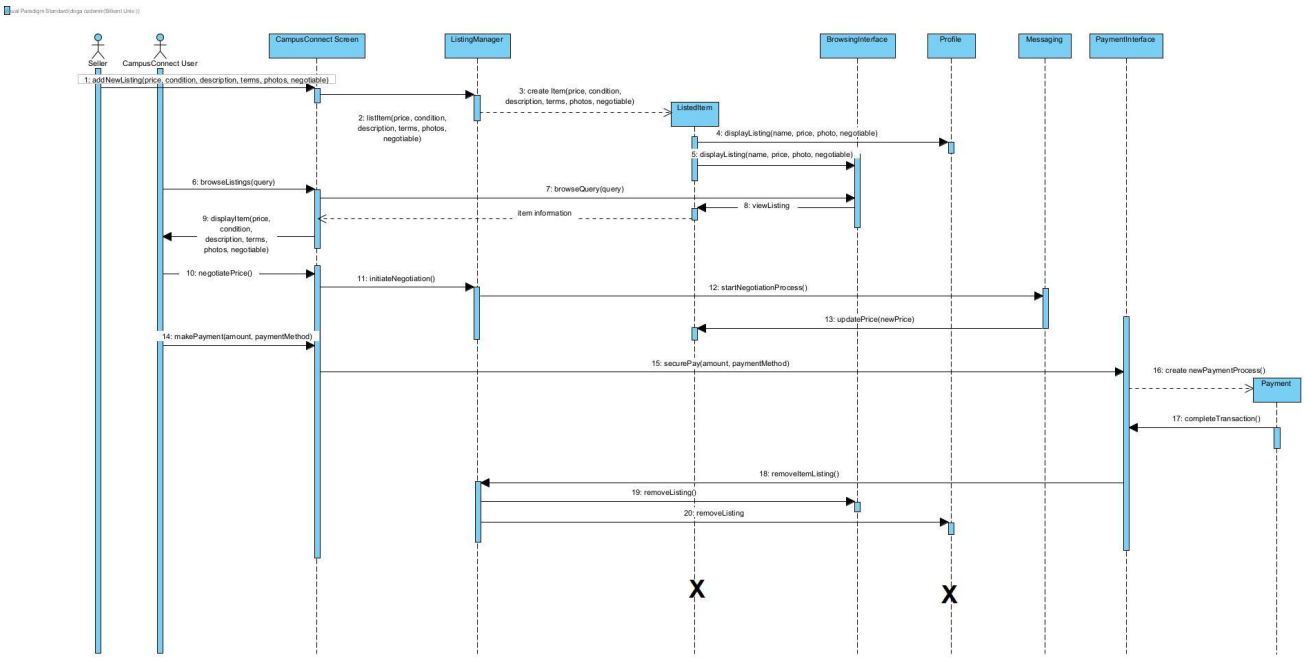

Figure 8: Sequence Diagram for Purchasing Second-Hand Items

CampusConnect Users can find a listed item by either filtering or browsing an item. If the item of interest is negotiable, they can negotiate the price by messaging the seller. If there is an agreed price, the price of the item is updated. When the user buys the item, the listing is deleted from the system.

3.2 Sequence Diagram for Successful Lost/Found Situation

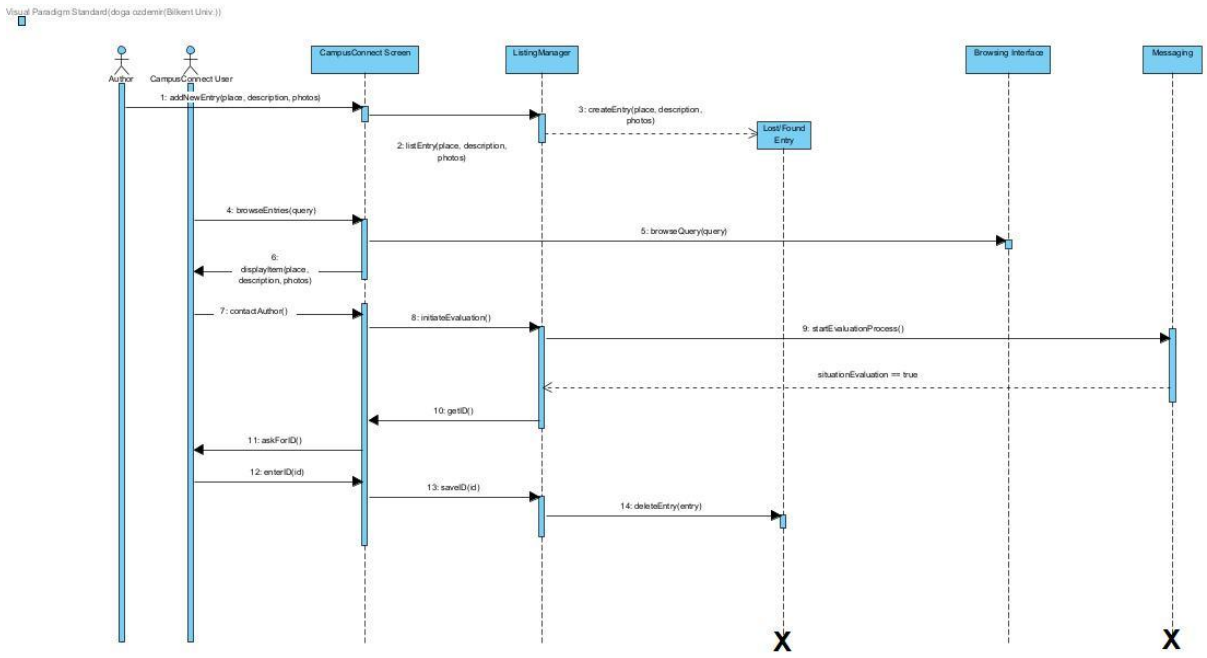

Figure 9: Sequence Diagram for Successful Lost/Found Situation

CampusConnect Users can interact with a lost/found item listing by messaging the author. If they resolve the issue, the ID of the CampusConnect User is saved to the system and the entry is removed.

3.3 Sequence Diagram for Renting and Borrowing

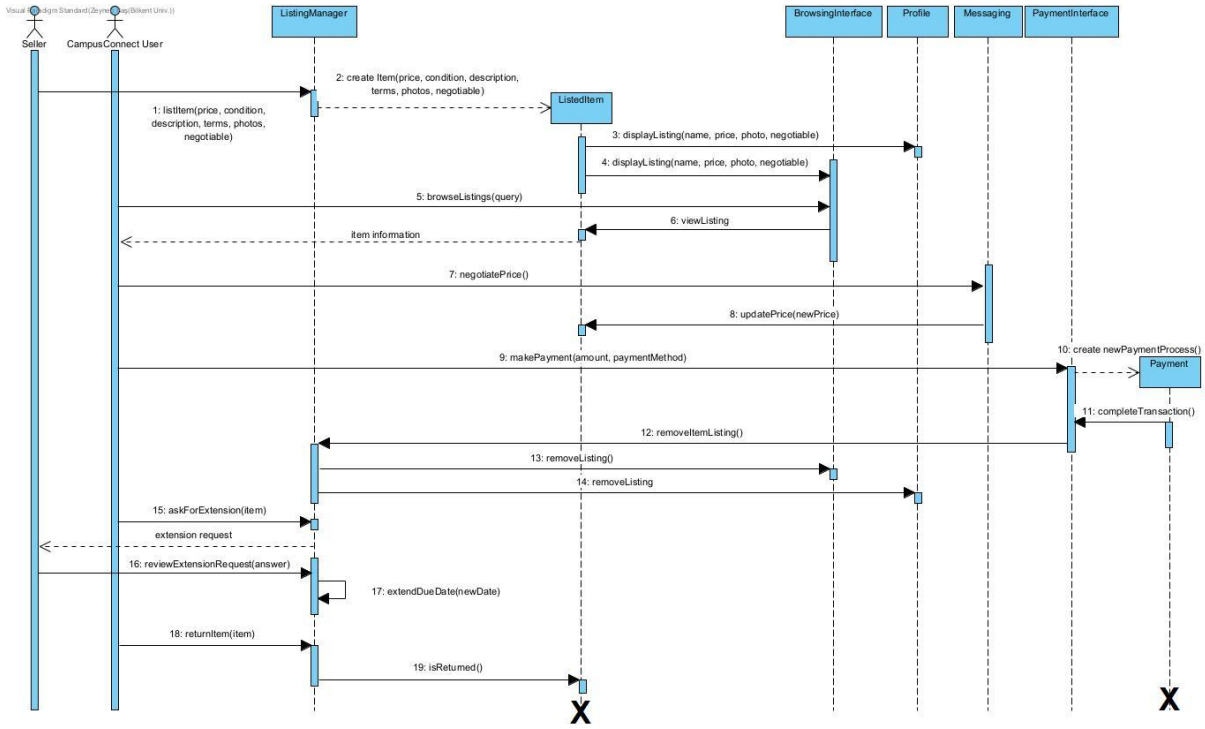

Figure 10: Sequence Diagram for Renting and Borrowing

This sequence diagram is based on the scenario where the seller lists an item for renting and marks it as “Negotiable”. Then the CampusConnect user rents it, asks for an extension, and later returns the item. This diagram also provides insight into a borrowing operation since the only difference is that borrowing does not involve setting or negotiating the price. Seller creates a listing for an item that becomes visible on browsing or their profile. CampusConnect user browses renting/borrowing listings and selects the item. They can negotiate the price of an item by messaging the seller since the item is listed as negotiable, and rent the item by initiating the payment process. They ask for an extension of the renting period which the seller accepts. The user receives the notification that their request is accepted. Finally, the CampusConnect user returns the item.

4. Object and Class Model

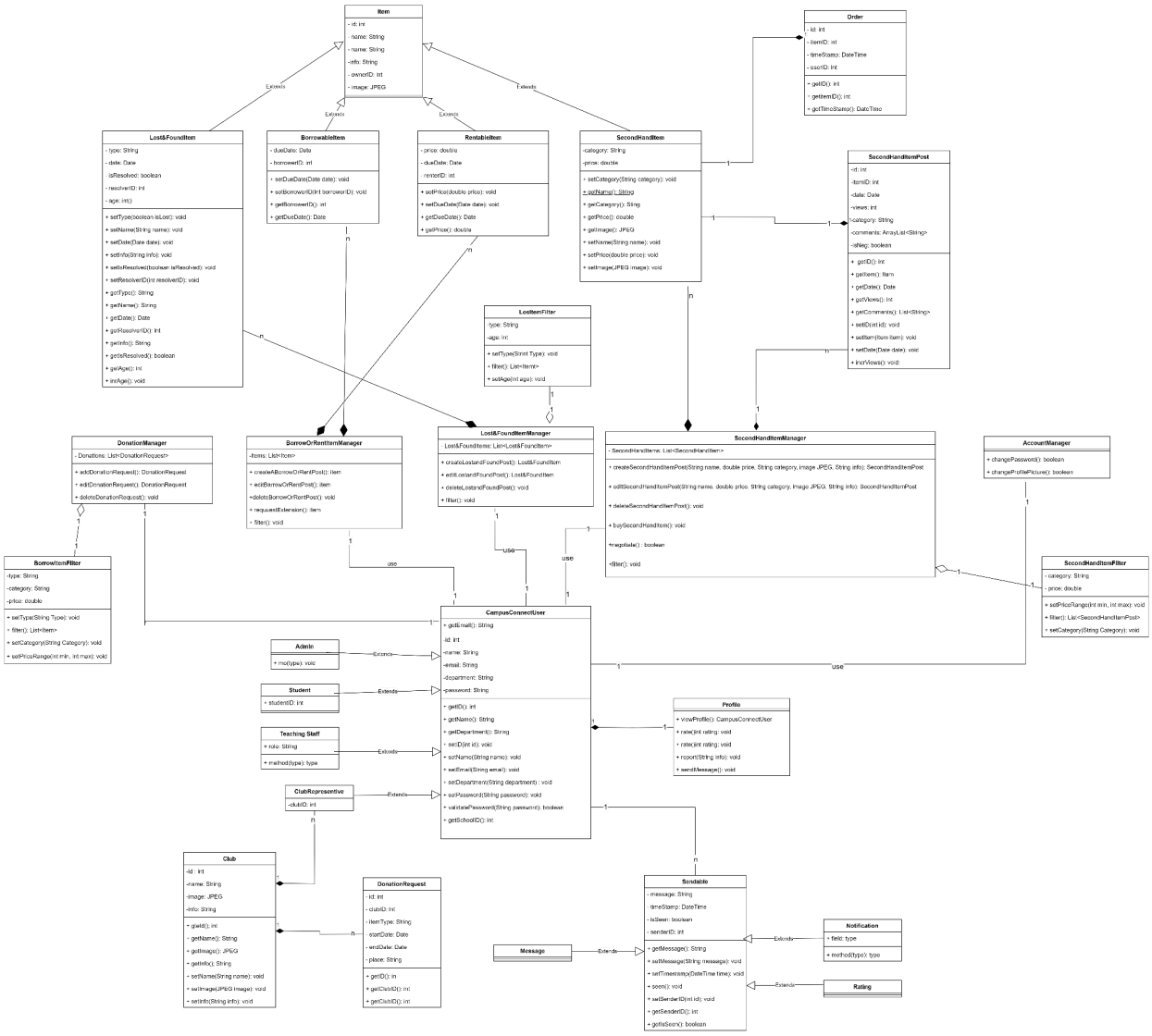

Figure 11: UML Class Diagram of CampusConnect

5. User Interface

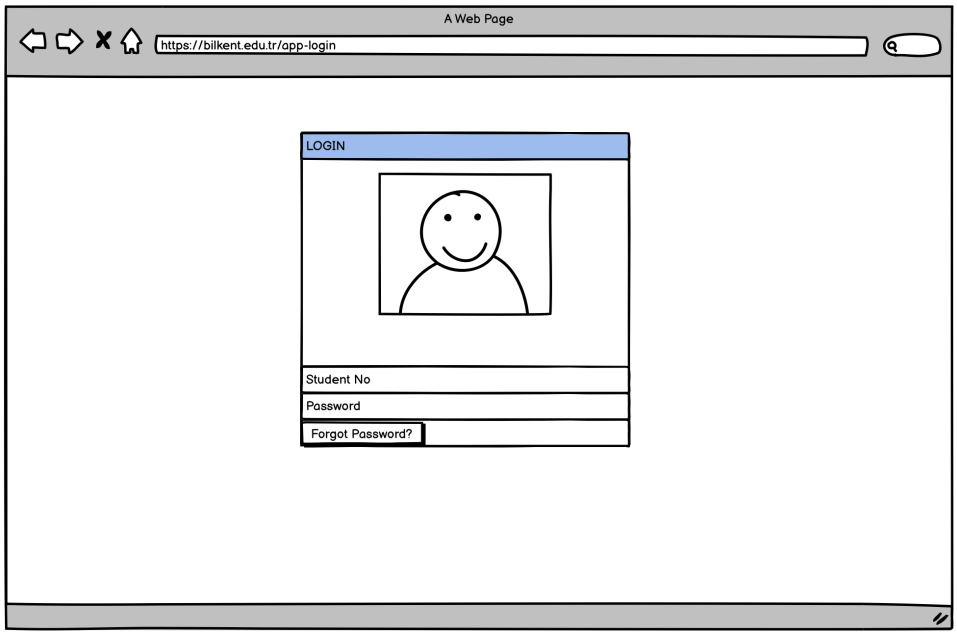

Figure 12: Login Page

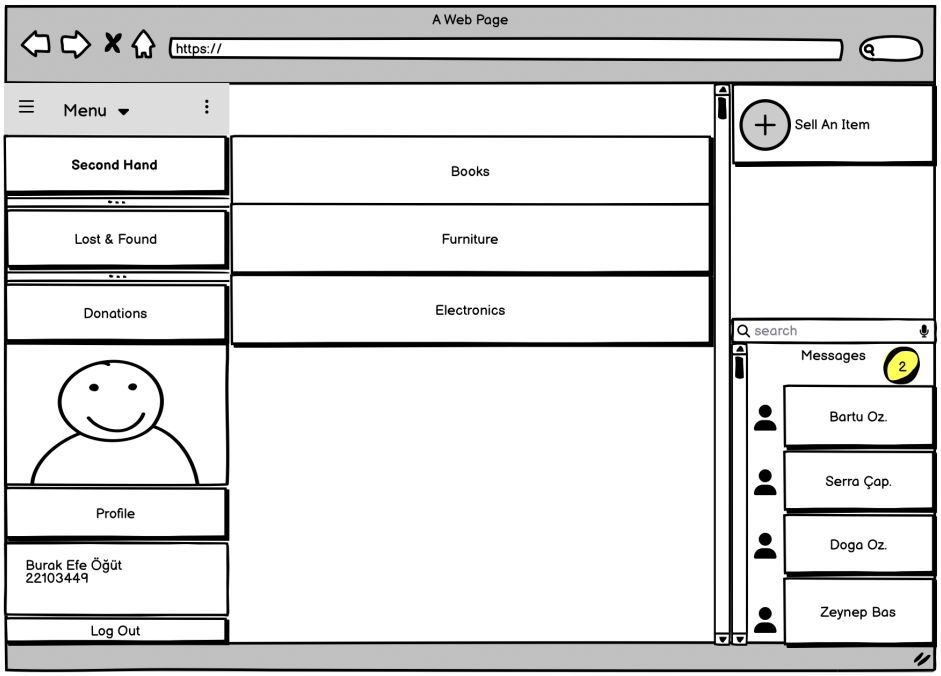

Figure 13: Category Selection of Second-Hand Items

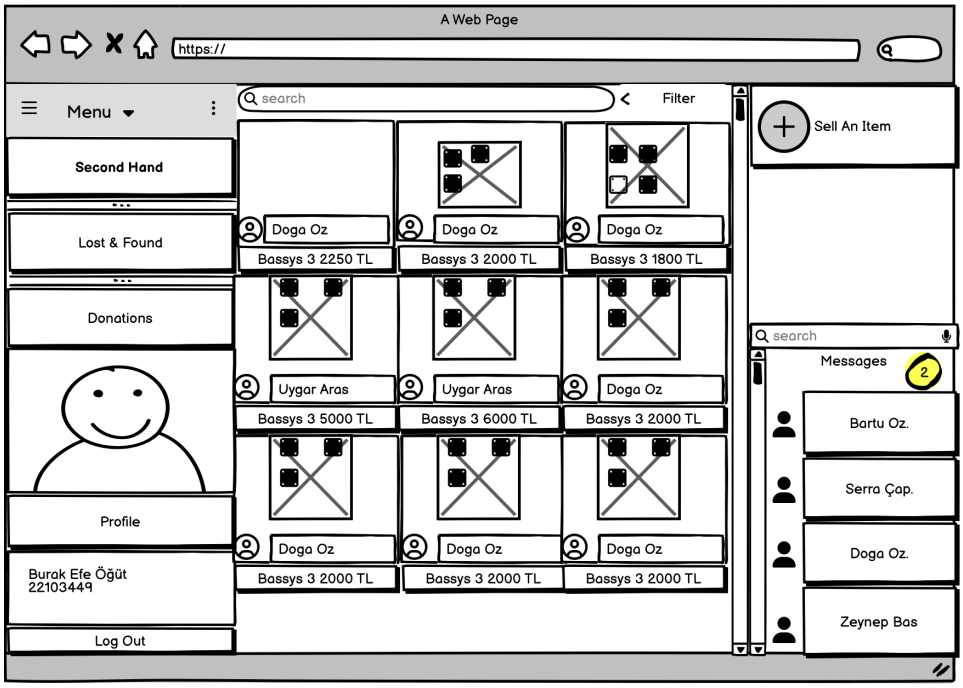

Figure 14: Second-Hand Item Listing

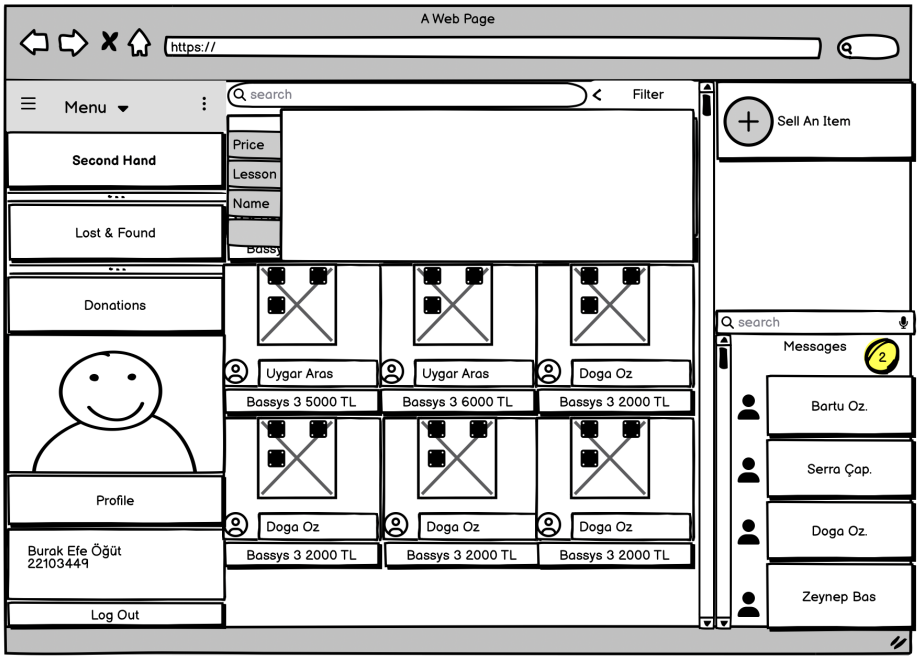

Figure 15: Second-Hand Item Filtering

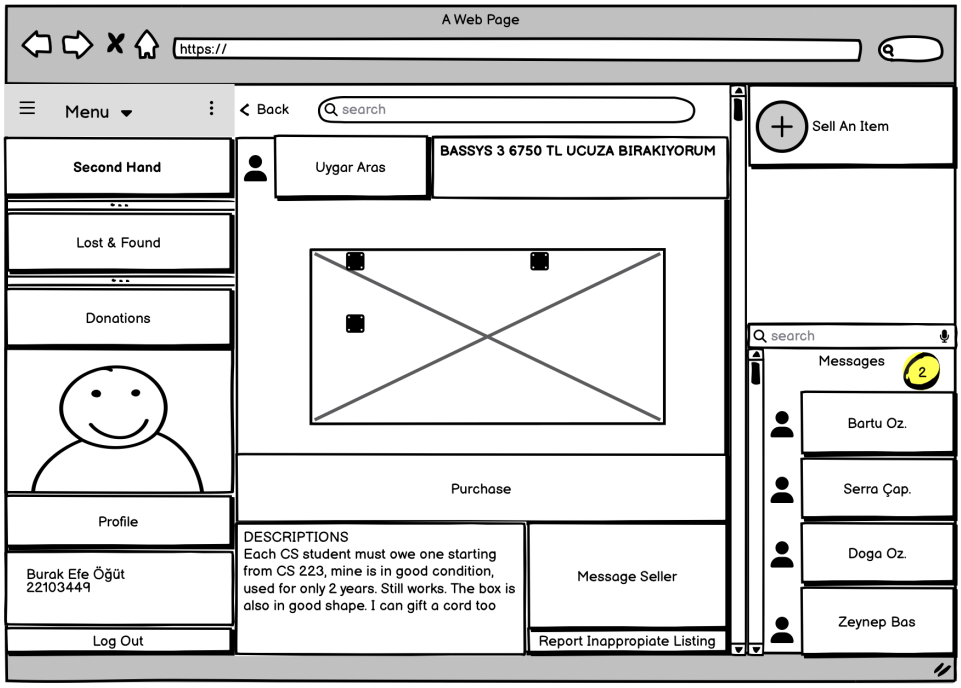

Figure 16: Viewing a Second-Hand Item Entry

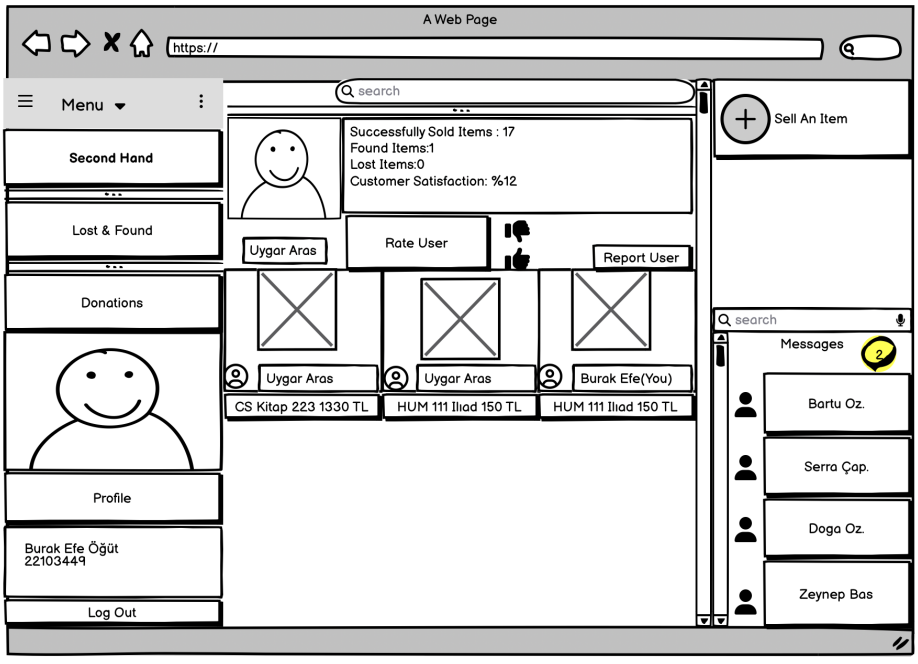

Figure 17: Reporting A User

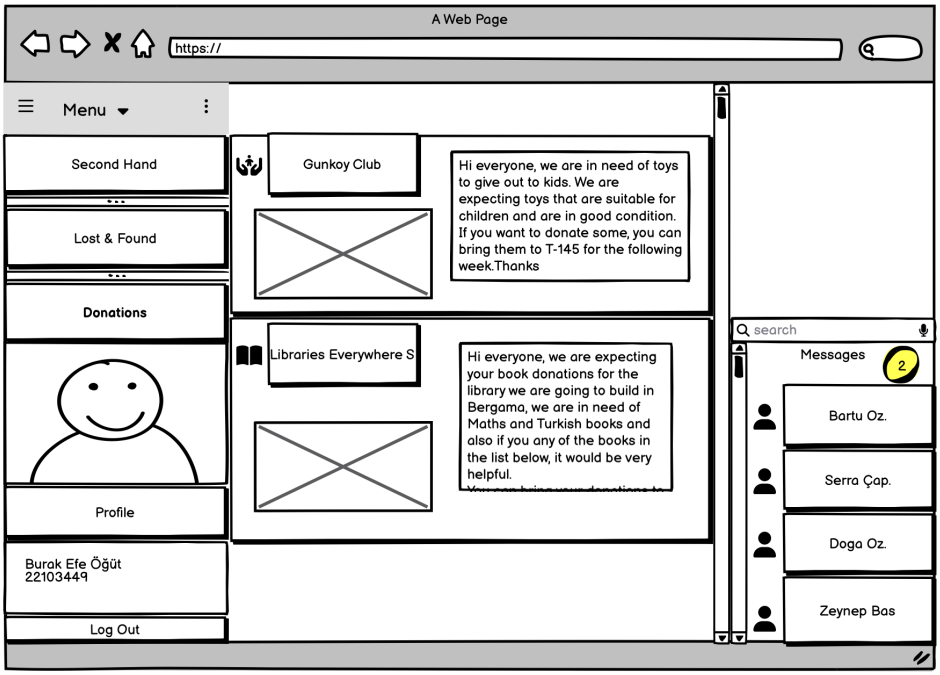

Figure 18: Donations Page

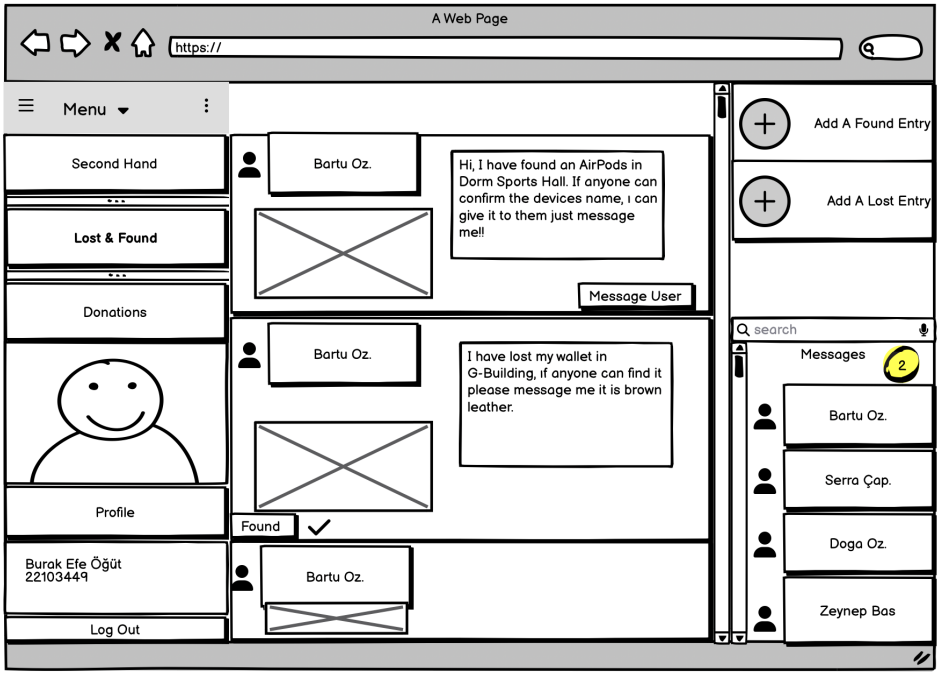

Figure 19: Lost & Found Page

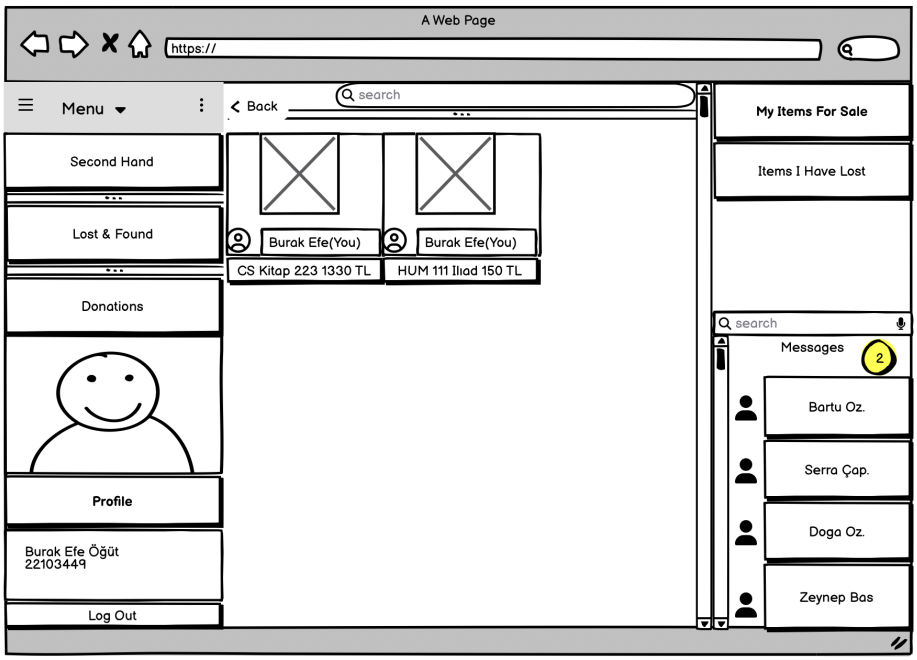

Figure 20: My Profile Page

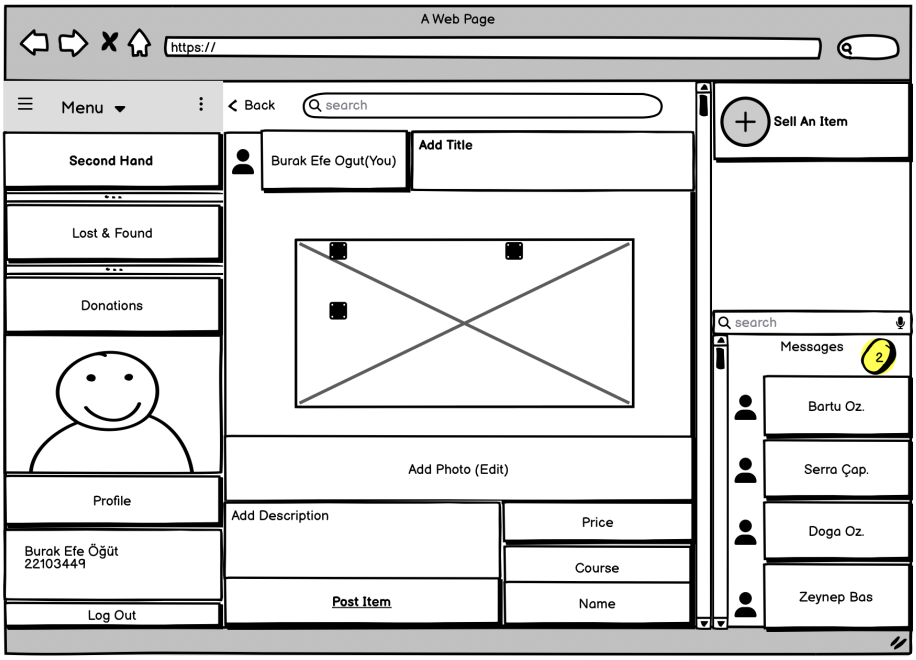

Figure 21: Listing an Item for Sale