

1. Title Page:

2. Introduction:

3. Overall Description:

a. Product Perspective:

b. Product Features:

This application is designed to help users sell and buy idle second-hand items, thereby saving a lot of money. Users can purchase physical goods or services (such as delivery services) on this application. In terms of searching for goods, buyers can search for goods according to keywords, commodity conditions and commodity category. When the buyer wants to buy goods, he can negotiate with the seller through the message system and choose the trading place after the two sides decide to trade. In order to ensure the security of the transaction, a confirmation button is added. When both sides complete the transaction, they need to press the confirmation button to determine the success of the transaction. If any one side does not press the confirmation button, the system will determine the failure of the transaction. After the transaction, the seller and buyer can evaluate the transaction as well as their trader. A powerful map positioning support is also in the application, so that users can easily and quickly find the information of goods sold nearby and determine the location of transactions by using it. In addition, the wish list function allows the buyer to record the items he wants to buy, and the system will notify the user when such goods are sold.

c. Operating Environment:

d. Assumption and Dependencies:

4. System Features:

a. Functional Requirements:

i. Must Have:

- **Account creation:** The system will allow the students to create an account using their student IDs.
- **Login:** Allow registered users to login.
- **Login Authentication:** The system should authenticate users during login.
- **Market for buyers:** Shows all currently listed items and prices; can click for more product information.

- **Search function:** Allows users to easily filter through all the available items with certain keywords.
- **Item offer creation and edit:** Item offers might should include pictures in which case the picture should be shown along with the actual offer. Furthermore, the offer should include the item name, selling price range, category and optionally any further description the seller would like to convey to potential buyers. Furthermore, the seller should have the option to edit any of the details in his/her item offer at any point he/she wishes to.
- **Confirm button:** Add a confirm button for both buyers and sellers to complete the transaction. Both sides have to click the button to finalize the transaction.
- **Service section (*)**

ii. Should Haves:

- **Message system function:** Users can get more information, bargain or arrange meetups through the built-in messaging system.
- **Settings page:** Creation of a settings page where users can update their account information and apply for deletion of their accounts if they so wish.

iii. Could Haves:

- **Categoric sorting:** Seller will state what category the item falls under. Buyers may search items in the category with their preferred price range, item condition and borrowing length.
- **Shopping basket:** Users should be able to see the items in their lists while they are shopping as well as click on a seller to view the items currently being sold by him/her.
- **Feedback function:** Both sides give reviews and star ratings according to their trading experience.
- **Sharing function:**Commodity information can be shared through links to users' friends (through other social software).
- **Reminders:** Notifications and reminders for users of incomplete transactions or approaching borrowing deadlines.

iv. Won't Haves

- **Home page:** Creation of a homepage which serves as a main hub for all app activity. It should include links to all other aspects of the app as well as show the information most relevant to the logged in user such as settings, discounts, suggestions, wishlist, and shopping basket.
- **User page:** Creation of a user page where a user's information, reviews and items on sale can be viewed by other users and prospective buyers/sellers. The user should be able to customize the information that appears on this page.
- **Wish List function:** Users can add a list of goods they wish to purchase and the price they are willing to pay. The app notifies users if such items become available.
- **Suggestion menu:** Suggest hot categories and items, as well as categories and items similar to previous user purchases.
- **Borrowing and returning system:** Allows users to temporarily lend items for free or for a small price. The buyer will return the item after the allocated time.

- **Map function:** Allows users to pick a meetup location around KAIST; may have designated locations for security and safety.
- **Discount feature:** A feature where sellers can offer to place their items on discount for a specified duration, in which case a notification is sent to all buyers with this offer in their wish lists informing them of the discount. Furthermore, discounts could be promoted on the main homepage for all to see.
- **Purchase history:** Track and show a history of users' purchases. This should only be available to the system and the user and no one else.

b. Use Case Diagram and Descriptions:

c. Domain Model:

d. Sequence Diagrams:

5. Preliminary User Manual:

6. Acceptance Criteria:

7. Non-Functional Requirements (Quality Attribute):

8. Acknowledgement: