



Team 10

(local)

Xinhuan Qiu (xqiu1@mail.sfsu.edu)

Mario Marcos

Pohung Wang

Jianhong Kuang

Zachary Martin

Toluwanimi Oyewumi

Rong Tian Huang

Milestone 2

October 9, 2018

Date Submitted

October 18, 2018

Date Revised

October 26, 2018

1. Data Definition

Unregistered User: The user has not registered. Unregistered user can only browse on UniTrade.

Register User: The user is registered to UniTrade. Registered user has all the unregistered user's privileges and in addition can post items, upload images, send and receive messages to/from other users in UniTrade.

Administrator: The user can review and manage items on UniTrade. In addition to registered user's privileges, an administrator can approve or delete items.

Login : Registered user can login with registered username and password.

Logout: Logged in registered users can logout from account.

Register: Unregistered users have to register in order to buy or sell. Unregistered users need to fill the register form with valid email, username (6 to 18 characters), password (6 to 18 characters). Users will not be prompted to register until they intend to post their items for sale or intend to contact sellers to buy.

Item: The items that users post for sale. Registered Users need to fill in title, price, description (optional), categories and upload images.

Title: The name of the item (max 100 characters).

Description: The description of the item.

Price: The price of the item that the seller asks for selling.

Image: The images of the item. The sellers are allowed to upload up to 5 images per item. Each image shall be in JPG format and have a maximum size of 3 MB.

Seller: The registered user who is selling the item.

Category: Each item belongs to a category. Users can browse items by category or search for items by keyword within each category.

Date: The date on which the item is approved and posted on website.

Statuses: The statuses of the items that registered users can see in their User Dashboard, which are Pending or Approved. Pending statuses for the items which are submitted by users but haven't approved by administrator. Approved status for the items which submitted by users, approved by administrator, and posted on the website.

Contact Seller (button): A button feature in item page which allows the buyer to send a message to the item seller.

Category: Items are categorized in different groups. Book, Electronics, Arts, Household, or Miscellaneous etc..

Book: Category for all paper materials, such as, textbooks, magazines, novels, etc..

Household: Category for household goods or furnitures, such as, bed, dishes, chairs, lamp, desk, etc.

Arts: Category for art materials or art works, such as, drawing board, guitar, paint brush, painting, photography collection, etc.

Electronics: Category for seller to sell electronic items.

Miscellaneous: Category for non-major items, such as, food, advertisement, lost and found message, rental info, wanted items ask from buyers, etc.

User Dashboard: Registered users can view and manage their profile, items and messages on their dashboards.

Profile Panel: A dashboard panel that contains a user's profile and allow the user to review or edit personal information.

Pending Tab: A dashboard tab that contains a list of the user's submitted items that are in the pending status, i.e. the items have not been approved by the administrator.

Approved Tab: A dashboard tab that contains a list of the user's submitted items that are in the approved status, i.e. the items have already been approved by the administrator and are visible to the other users on the website.

Message Tab: A dashboard tab that contains a list of messages the user has sent or received.

Admin Dashboard: Administrators can view and manage (approve or delete) all the items that have been created on the website, view and send messages on the admin dashboard, and delete users from the website system.

Message: Registered users can send messages to each other regarding to a specific item.

Recipient: The registered user who receives the message.

Sender: The registered user who sends the message.

Item: The item that the message is related to.

Content: The message contents.

Timestamp: The time when the message is sent.

Reply (button): A button feature that allows the recipient to reply a message to sender.

2. Functional Requirements

Priority 1:

Unregistered Users:

- 1.2. Unregistered users shall be able to browse by category.
- 1.3. Unregistered users shall be able to use text search.
- 1.4. Unregistered users shall be able to sort by posted date and price.
- 1.6. Unregistered users shall be prompted to register or sign in upon confirming to post or buy an item.
- 1.7. Unregistered users shall be able to register.
 - 1.7.1. Registration shall require at least a username, password, and email.
- 1.8. Unregistered users shall be required to accept terms and conditions upon registering.
 - 1.8.1. Terms and conditions shall be at first marked as unchecked.
 - 1.8.2. Unregistered users shall be required to accept this in order to create an account.
- 1.11. Unregistered users shall be able to see the number of items displayed out of all items or the items returned from their search.

Registered Users:

- 2.1. Registered users shall have all of the functions of unregistered users.
- 2.2. Registered users shall be able to login.
 - 2.2.1. Login shall require an valid username and password.
- 2.3. Registered users shall be able to access the User Dashboard.
 - 2.3.1. Users shall be required to be logged in to access this dashboard.
- 2.4. User Dashboard shall show all of the items an user has created.
 - 2.4.1. Items displayed shall be sorted by the most recent posted date.
- 2.5. User Dashboard shall display the title, status (pending or approved), and link of each item.
- 2.6. User Dashboard shall contain all messages sent or received.
 - 2.6.1. Messages shall be separated by a sent and received section.
 - 2.6.2. Messages sent or received shall be sorted by most recent timestamp.
- 2.7. Registered users shall be able to create an item that is for sale.
- 2.8. Registered users shall be prompted to confirm to post their item.
 - 2.8.1. Items shall not be visible on the site until approval.
 - 2.8.2. Items shall be of pending status after confirming to post.
- 2.9. Registered users shall be able to choose their item category, add title, description, images, pricing for their items.
 - 2.9.1. Item category shall be chosen by a drop-down menu.
 - 2.9.2. Description shall be optional.
 - 2.9.3. At least one image shall be required.
 - 2.9.3. Images shall be of jpg format and have a maximum size of 3 MB.
 - 2.9.4. One of the images shall be used as the thumbnail.
- 2.10. Registered users shall be able to delete their own items.

- 2.11.1. Registered users shall be able to delete their items using the dashboard.
- 2.11.1. Users shall be prompted to confirm when deleting item.
- 2.11. Registered users shall be able to contact sellers.
- 2.13. Registered users shall be able to host an sale event.

Administrators:

- 3.1. Admins shall have all the functions of registered and unregistered users.
- 3.2. Admins shall be able to access the Admin Dashboard when logged in.
- 3.3. Admin Dashboard shall contain all messages sent to the site email.
 - 3.3.1. Messages received shall be sorted by unread and past date.
- 3.4. Admin Dashboards shall contain items waiting for approval.
- 3.5. Admins shall be able to approve and disapprove items.
 - 3.5.1. Disapproved items shall be removed from the site.
- 3.6. Admins shall be able to remove a registered user from the site.

Priority 2:

Unregistered Users:

- 1.9. Unregistered users shall be able to filter their search.
- 1.10. Unregistered users shall be able to search within category.

Registered Users:

- 2.12. Registered users shall be able to edit their own items.
 - 2.10.1. Registered users shall be able to edit their items using the dashboard.
- 2.14. Registered users shall be able to delete messages.
 - 2.14.1. Users shall delete messages using the dashboard.
- 2.15. Registered users shall be able to retrieve a forgotten password.
 - 2.15.1. Retrieving shall go through a identification process.

Priority 3:

Unregistered Users:

- 1.5. Unregistered users shall be able to see similar items related to their search.
 - 1.5.1. Similar items shall be displayed from the same category.

Registered Users:

- 1.12. Registered users shall be able to chat with buyers/sellers
- 1.13. Registered users shall be able to have real time live chat with admin.
 - 1.13.1. Live chat shall become available when an admin is online.
- 1.14. Registered users shall be able to see their recently viewed items.
- 1.15. User Dashboard shall contain most recent viewed items.
- 1.15. Registered users shall be make their item as sold.
- 1.16. Registered users shall be able to see recommendation items.

1.16.1. Recommended items shall be based on the user's recently searched or viewed items.

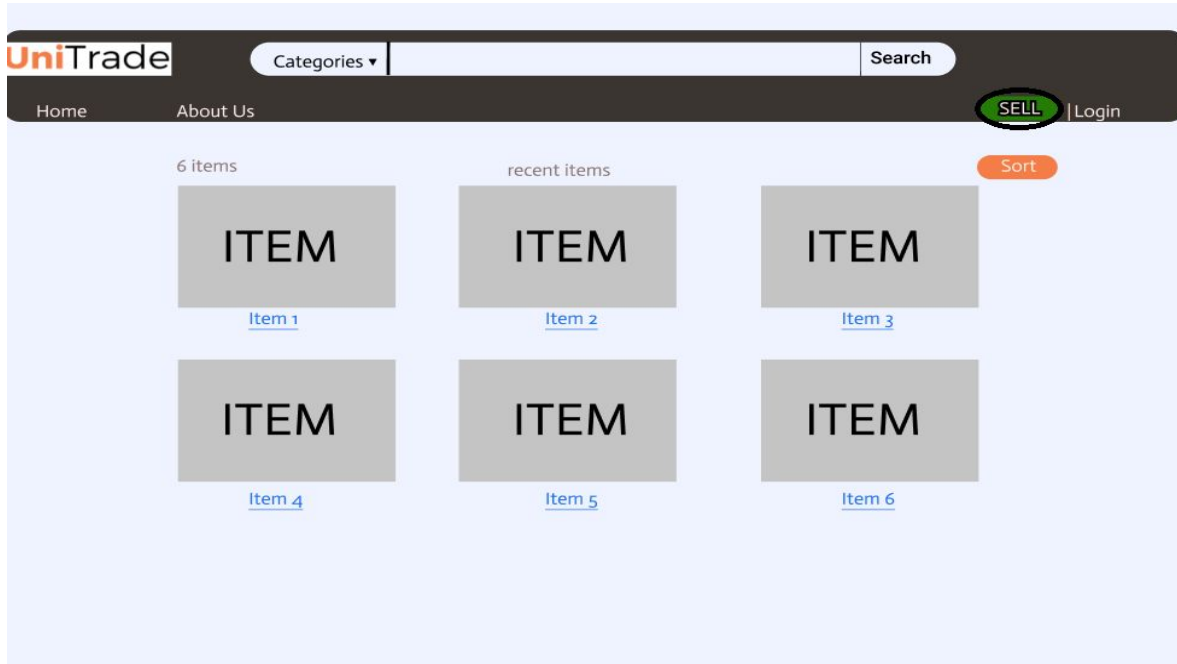
Administrators:

- 3.7. Admins shall be able to receive real time chat from users.
- 3.8. Admins shall be able to reply to the chat sent by the user.

3. UI Mockups and Storyboards

Use Case 1: Unregistered user interested in selling an item.

1. The unregistered user first visits the homepage and clicks on the green button to sell.

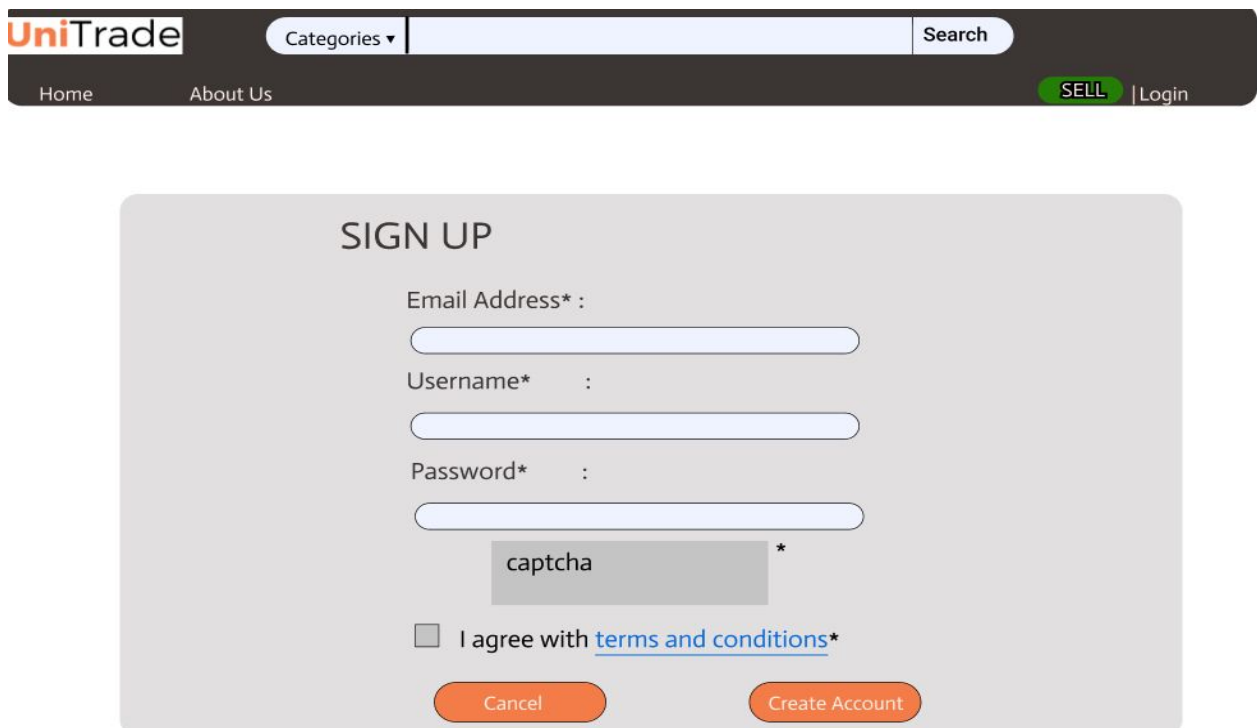


2. Then the unregistered user is redirected to a new page containing a form required to be filled with description of the item.

The screenshot shows the 'POST ITEM TO SELL' form. The form is titled 'POST ITEM TO SELL' and contains the following fields and elements:

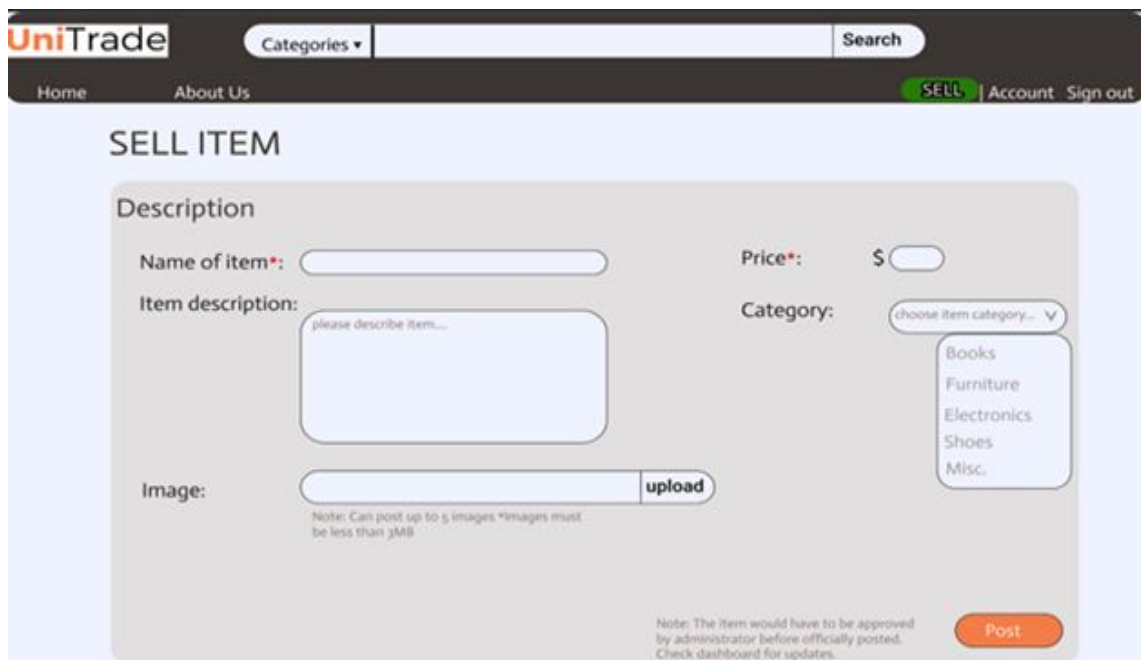
- Description:** A large text area for the item description.
- Name of item*:** A text input field.
- Price*:** A text input field with a dollar sign prefix.
- Item description:** A text input field with placeholder text 'please describe item....'.
- Category:** A dropdown menu with the text 'choose item category...' and a list of categories: Books, Furniture, Electronics, Shoes, and Misc.
- Image:** A text input field for the image URL, followed by an 'upload' button.
- Notes:** A note at the bottom states: 'Note: Can post up to 5 images *Images must be less than 3MB'.
- Buttons:** 'Cancel' and 'Post' buttons at the bottom right.
- Footer:** A note at the bottom right states: 'Note: The item would have to be approved by administrator before officially posted. Check dashboard for updates.'

3. Once the unregistered user clicks “Post”, they are redirected to a sign-up page where they have to fill out the required information to create an account.



The image shows the UniTrade Sign Up page. At the top is a dark navigation bar with the UniTrade logo, a 'Categories' dropdown, a search bar, and links for 'Home', 'About Us', 'SELL', and 'Login'. The main content area is a light gray box titled 'SIGN UP'. It contains four input fields: 'Email Address*', 'Username*', 'Password*', and a 'captcha' box. Below the captcha is a checkbox for 'I agree with [terms and conditions](#)*'. At the bottom are two orange buttons: 'Cancel' and 'Create Account'.

4. Once the user clicks “Create Account”, they are redirected back to the sell item page with the items still filled in, the user can then review the information and post.



The image shows the UniTrade Sell Item page. It has the same top navigation bar as the sign-up page. The main content area is a light blue box titled 'SELL ITEM'. It contains a 'Description' section with three fields: 'Name of item*', 'Price*' (with a '\$' symbol), and 'Category' (with a dropdown menu showing 'Books', 'Furniture', 'Electronics', 'Shoes', and 'Misc.'). There is also an 'Item description' text area. Below these is an 'Image:' field with an 'upload' button. A note at the bottom states: 'Note: Can post up to 5 images *Images must be less than 3MB'. At the bottom right is a 'Post' button. A footer note says: 'Note: The item would have to be approved by administrator before officially posted. Check dashboard for updates.'

5. After the user clicks “Post”, a message will display on the screen informing that the item has been submitted for approval. The user can check the status of his item on his user dashboard.

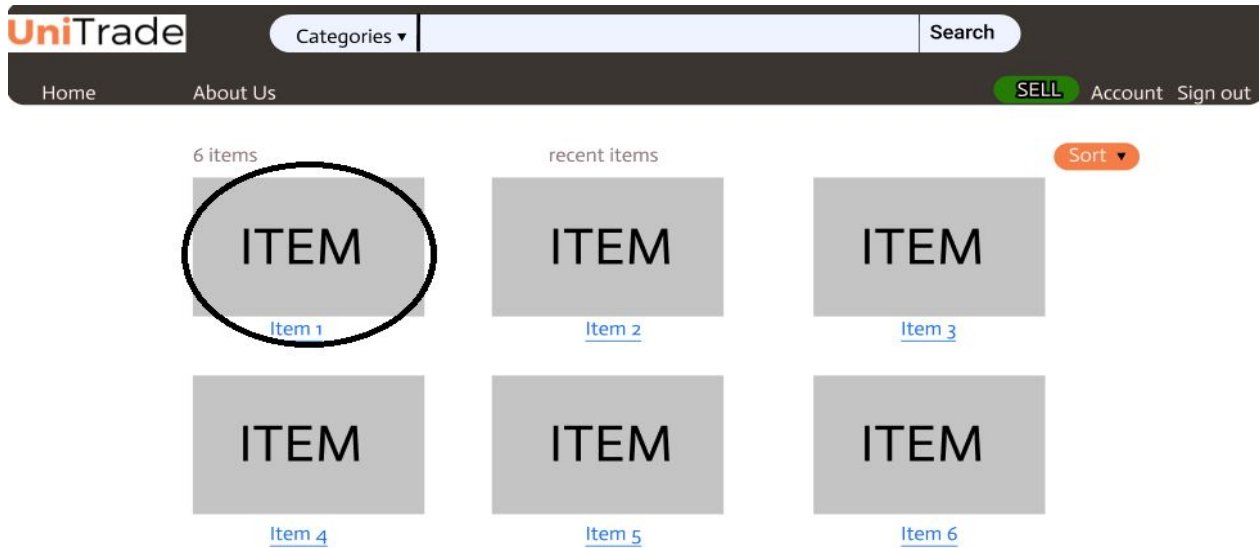


Item has been successfully submitted to administrator for approval within 24 hours.

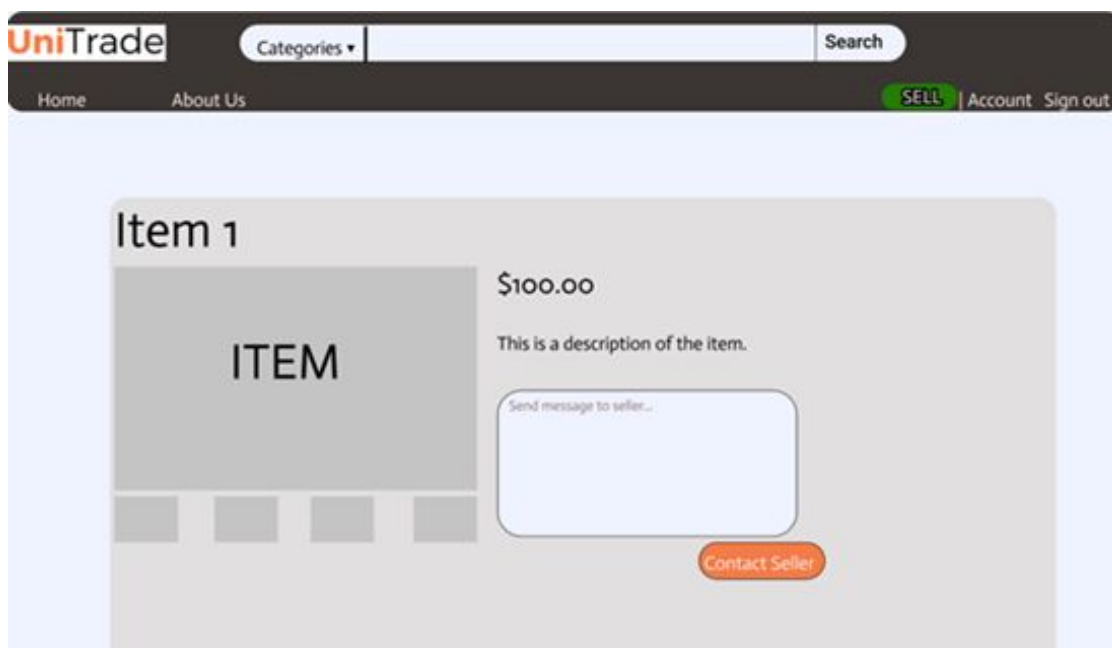
Thank you.

Use Case 2: Registered user interested in buying an item.

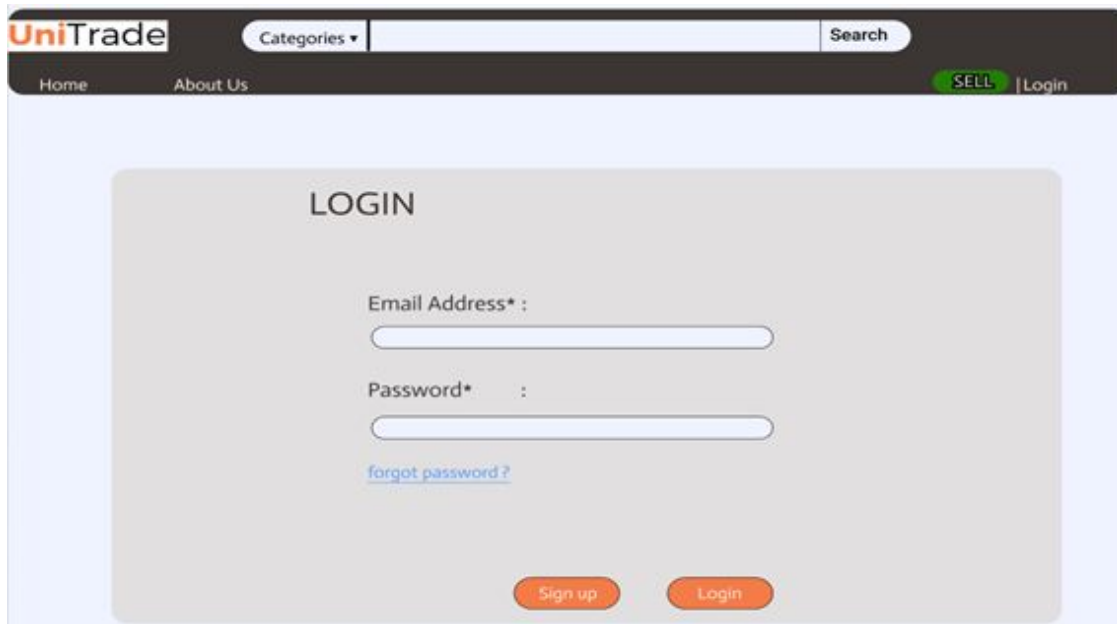
1. The user can choose the item they are interested in and click on the item to view its detail information.



2. The item's detail page will open in a new tab. It contains the item's title, description, images and a text box where the user can write and send a message to contact the seller.

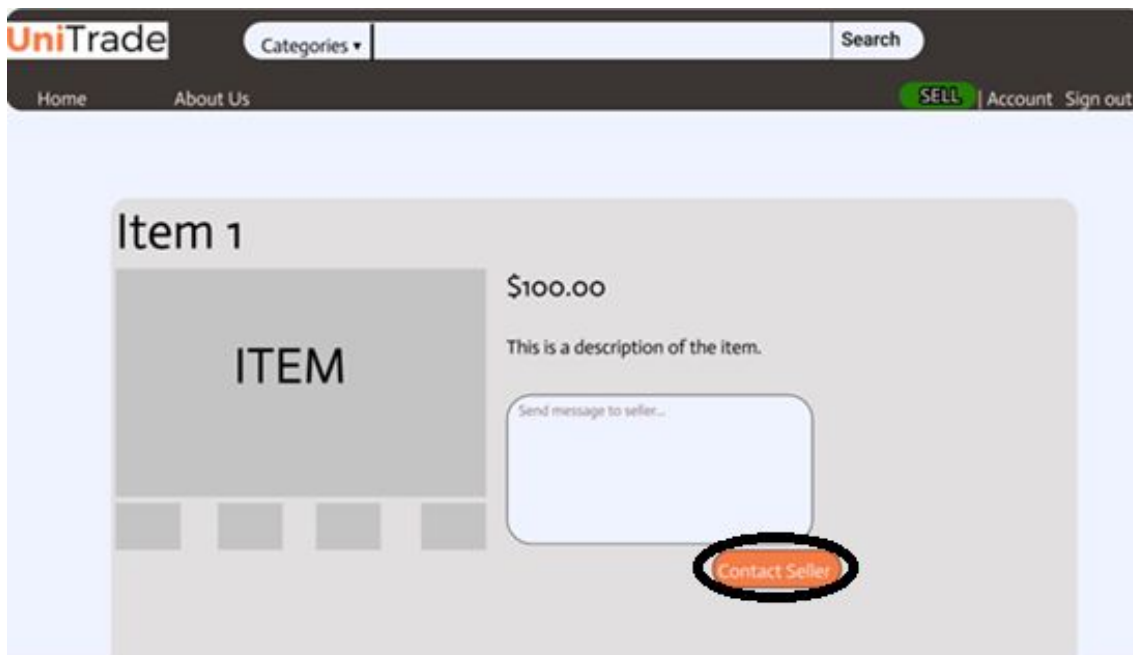


3. If the user is interested in the item they selected, he can write a message to the seller.
If the user is not currently logged in, they would be redirected to the login page.



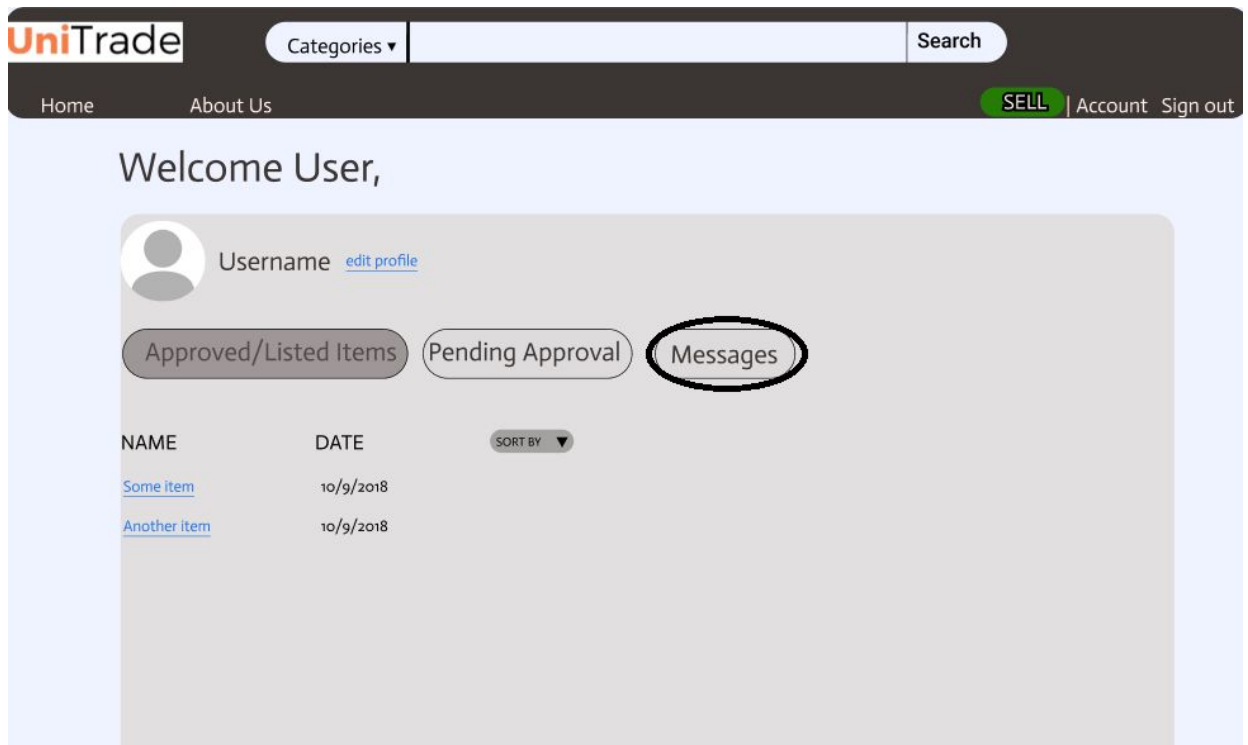
The screenshot shows the UniTrade website's login page. The header includes the UniTrade logo, a 'Categories' dropdown, a search bar, and links for 'Home', 'About Us', 'SELL', and 'Login'. The main content area is titled 'LOGIN' and contains two input fields: 'Email Address*' and 'Password*'. Below the password field is a link for 'forgot password?'. At the bottom of the form are two orange buttons: 'Sign up' and 'Login'.

4. Once the user is logged in, they are redirected back to the item page where they can review their message and click “Contact Seller” to send the message directly to the seller.



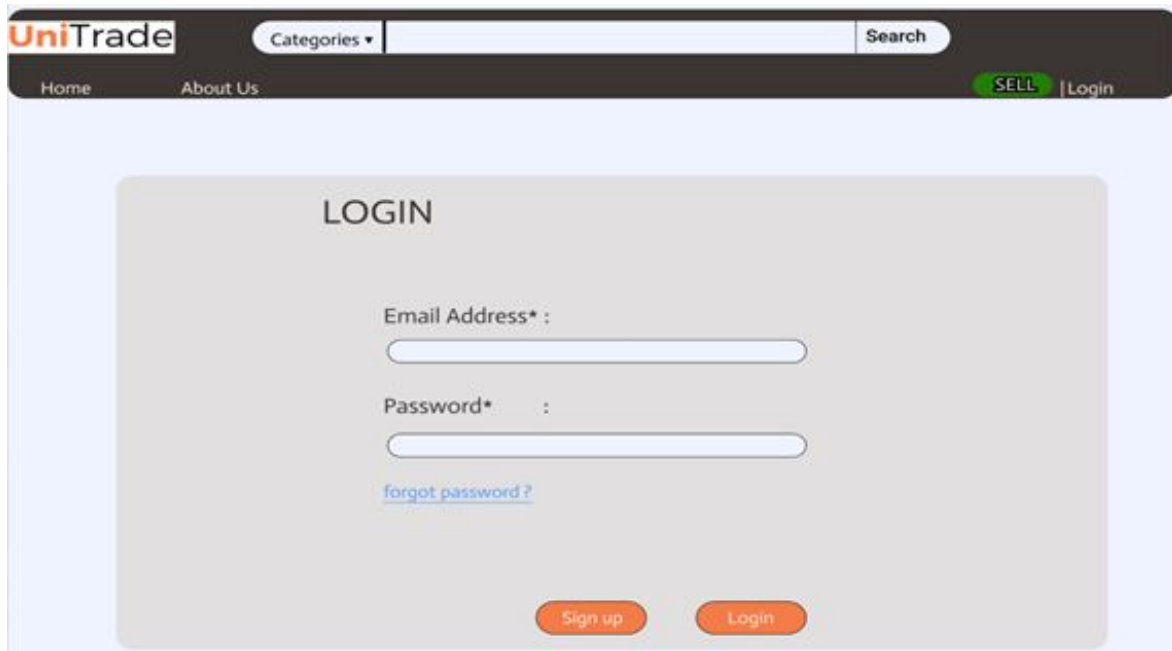
The screenshot shows the UniTrade website's item page for 'Item 1'. The header is identical to the login page, but the 'Login' link is replaced by 'Account' and 'Sign out'. The main content area displays 'Item 1' with a placeholder image labeled 'ITEM', a price of '\$100.00', and a description: 'This is a description of the item.' Below the description is a text input field with the placeholder 'Send message to seller...'. At the bottom right of the item details is an orange button labeled 'Contact Seller', which is circled in black.

5. Once the message is sent, the user will be redirected to his dashboard. The message he just sent will show up on the top of the Messages Sent list (ordered by timestamp of the messages in descending order).



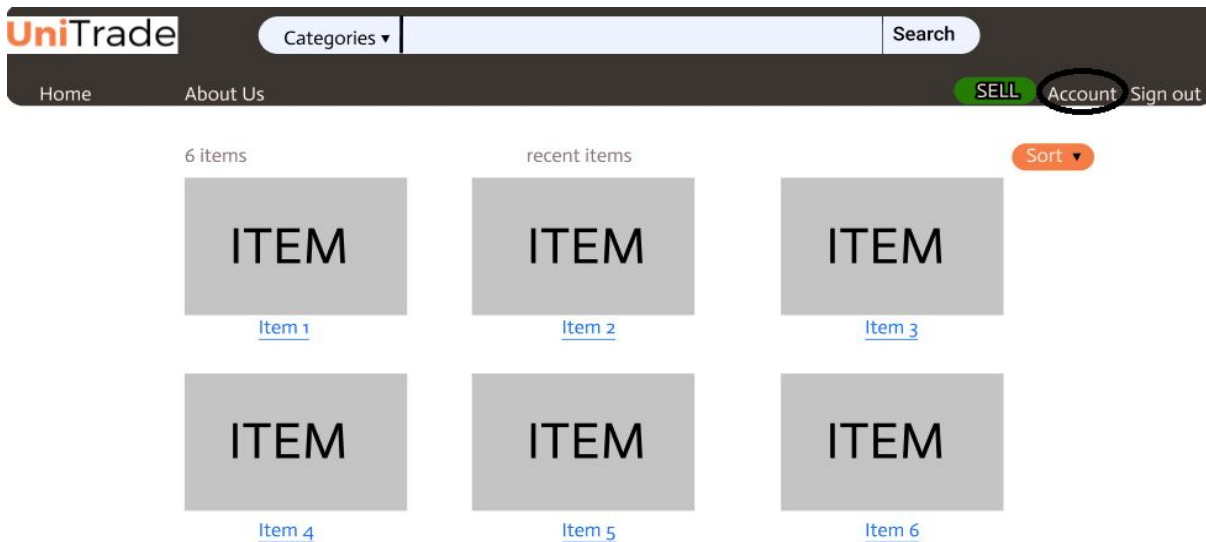
Use Case 3: Registered user viewing their dashboard.

1. The user first clicks “Login”, which brings him to the login page.

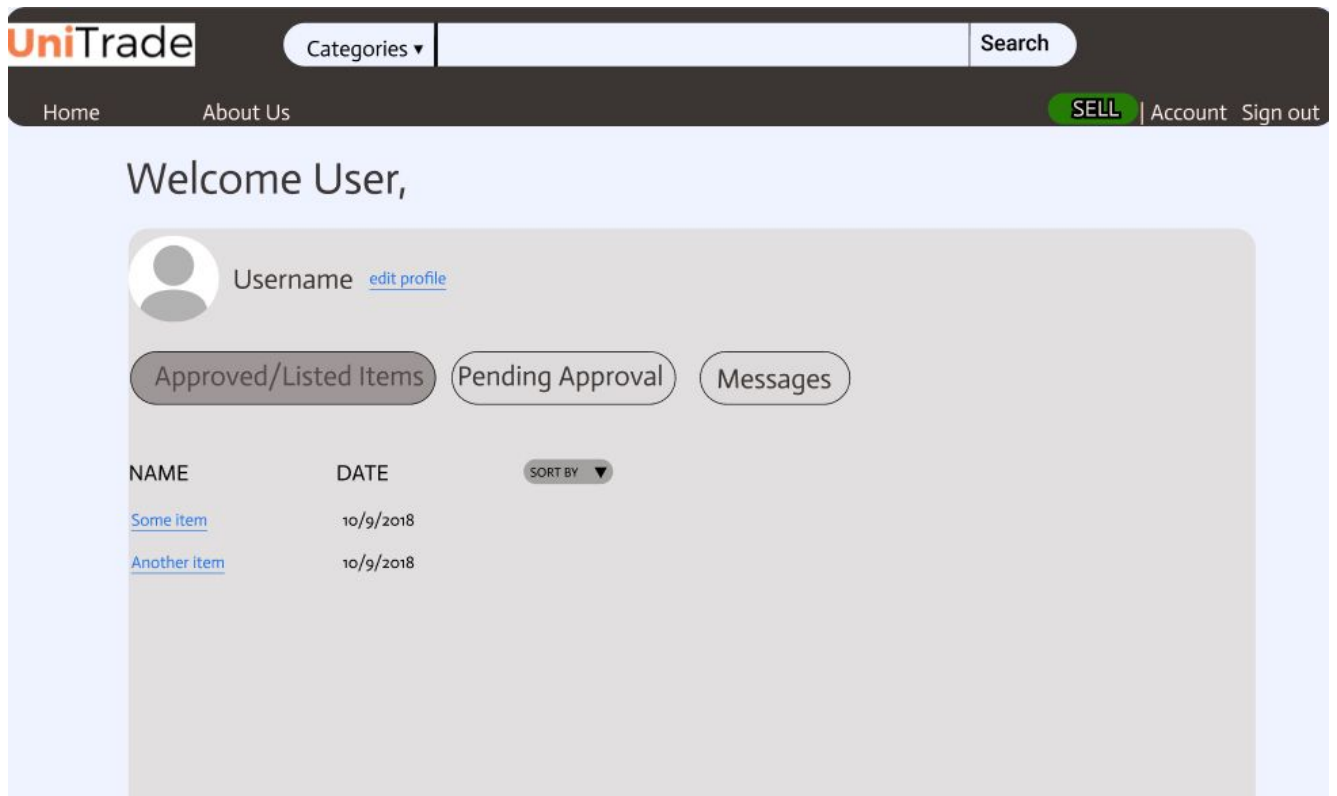


The screenshot shows the UniTrade login page. At the top, there is a navigation bar with the UniTrade logo, a 'Categories' dropdown, a search bar, and links for 'Home', 'About Us', 'SELL', and 'Login'. The main content area is titled 'LOGIN' and contains two input fields: 'Email Address*' and 'Password*'. Below the password field is a link for 'forgot password?'. At the bottom of the login form are two buttons: 'Sign up' and 'Login'.

2. After logging in, he is redirected to the homepage. Then, he can visit his dashboard by clicking on the account link at the bottom right of the navigation bar.

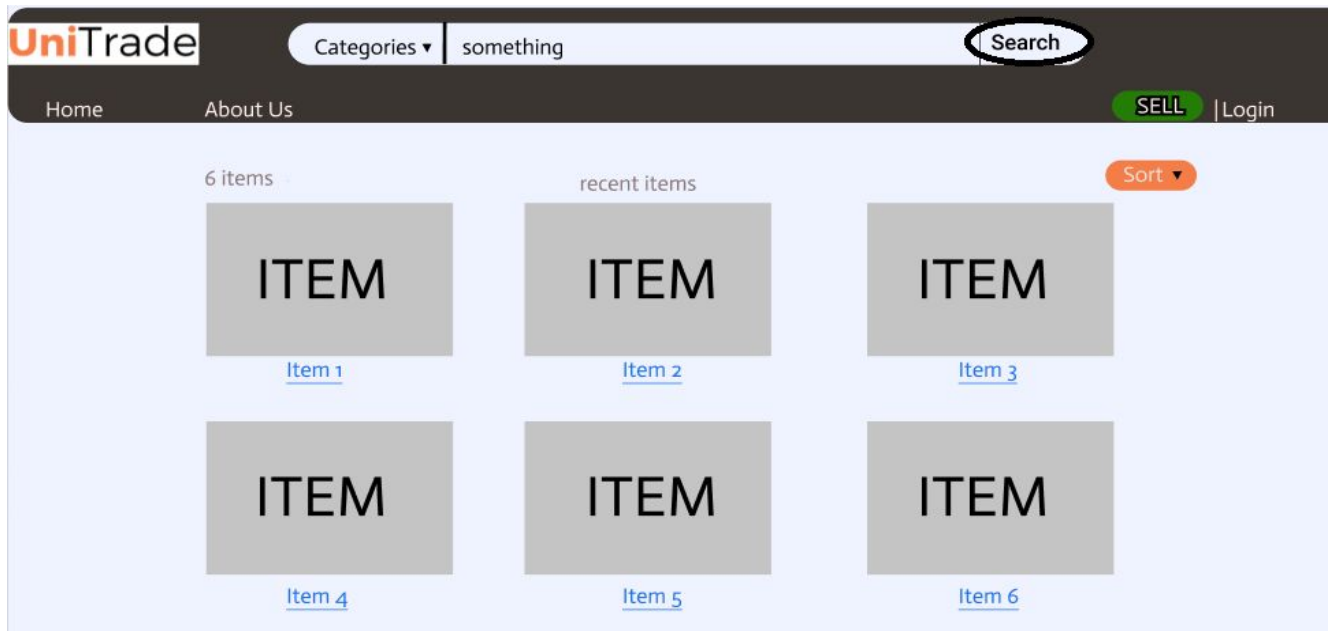


3. He would then be redirected to his dashboard which holds information regarding items listed, items pending approval, and messages sent and received.

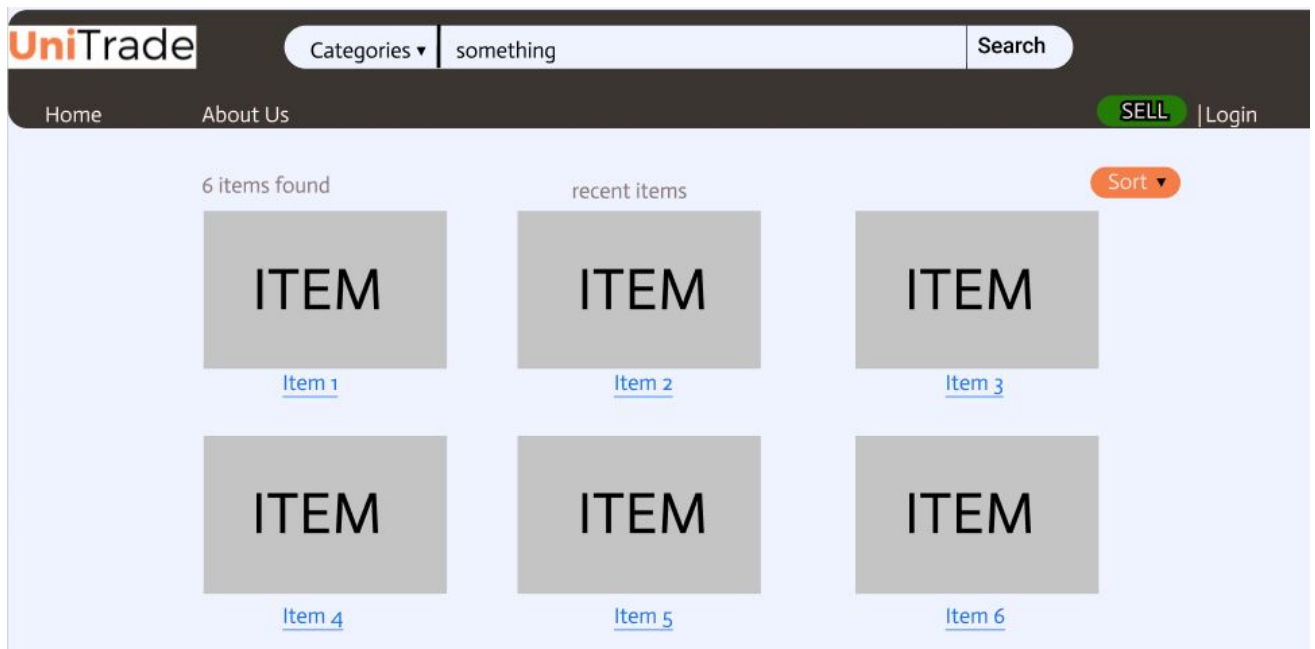


Use Case 4: User looking for a specific item.

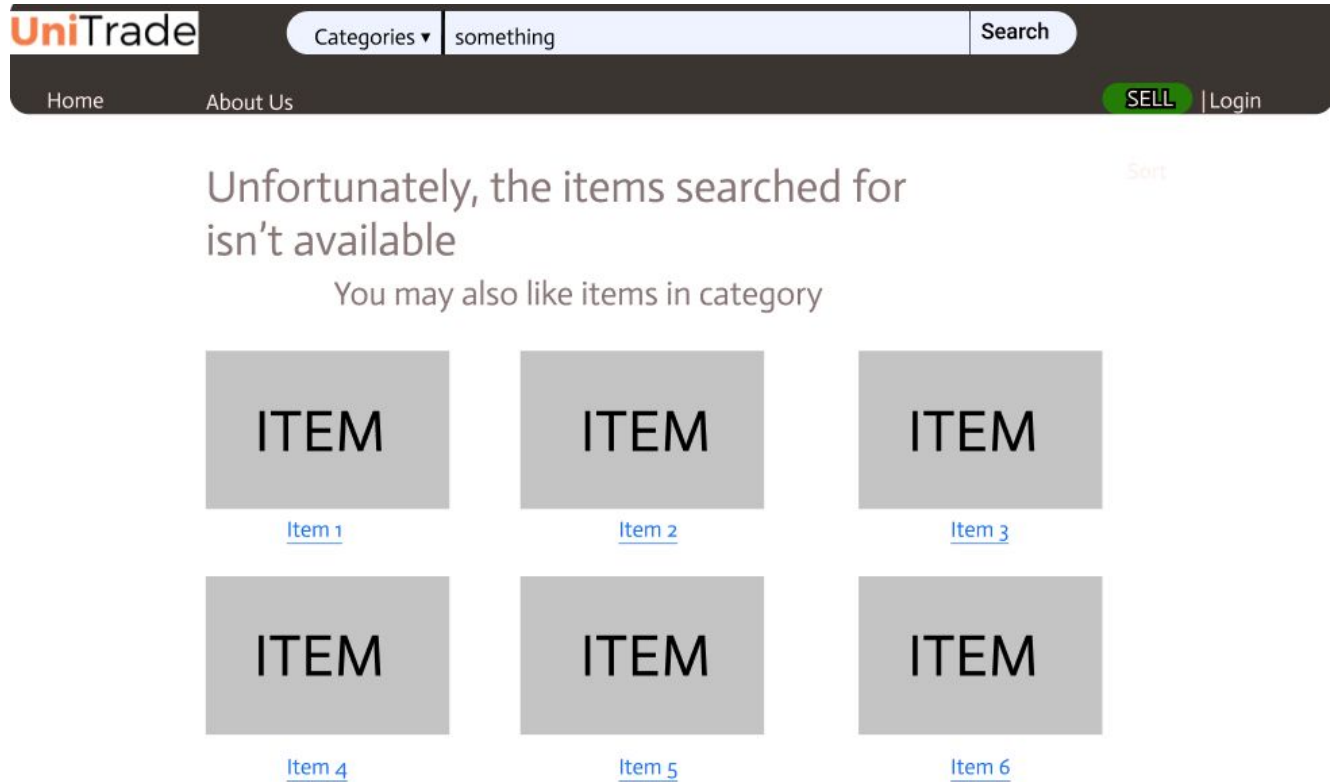
1. A registered or unregistered user can perform a search for a specific item using either by category or keyword. They can type the item they are looking for and click on “Search” which redirects the user to a new tab that lists the search results.



2. The results page will show how many items are found. Out of the items listed, the user can then decide which item they are interested in and click on the item to see more information.



3. However, if the searched item isn't listed on the website. They are redirected to a page informing them of the unavailability of the item while listing items they might also be interested in (all items from the chosen category, or all items if no category was chosen).



4. High Level Architecture, Database Organization

- **DB Organization**

- User
 - username, password (hashed), email
- Item
 - title, price, category, seller, description, image, date, status
- Category
 - name
- Message
 - timestamp, sender, recipient, content, item

- **Media Storage**

- Images and files will be kept in file systems inside the media folder.

- **Search/Filter architecture and Implementation**

- We will use Django's QuerySet API to implement search. We first check if the search keyword is a space string (e.g. space, tab). If it is, we will return all the items. Otherwise, we split the search text by space into different keywords. Then we filter all the items and return the ones that contain all the keywords either in their titles or in their descriptions using `icontains`, which is equivalent to the SQL command `SELECT ... WHERE ... ILIKE '%[keyword]%'`. The returned items will be ordered by their names alphabetically.

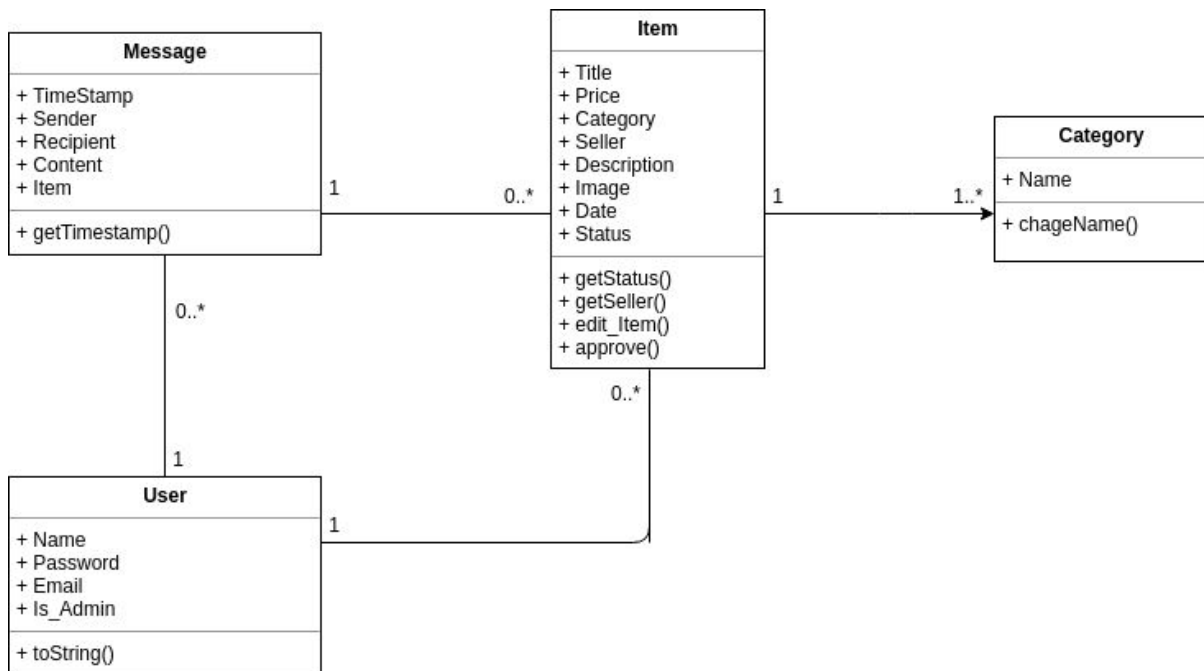
- **Your Own APIs**

- None as of now.

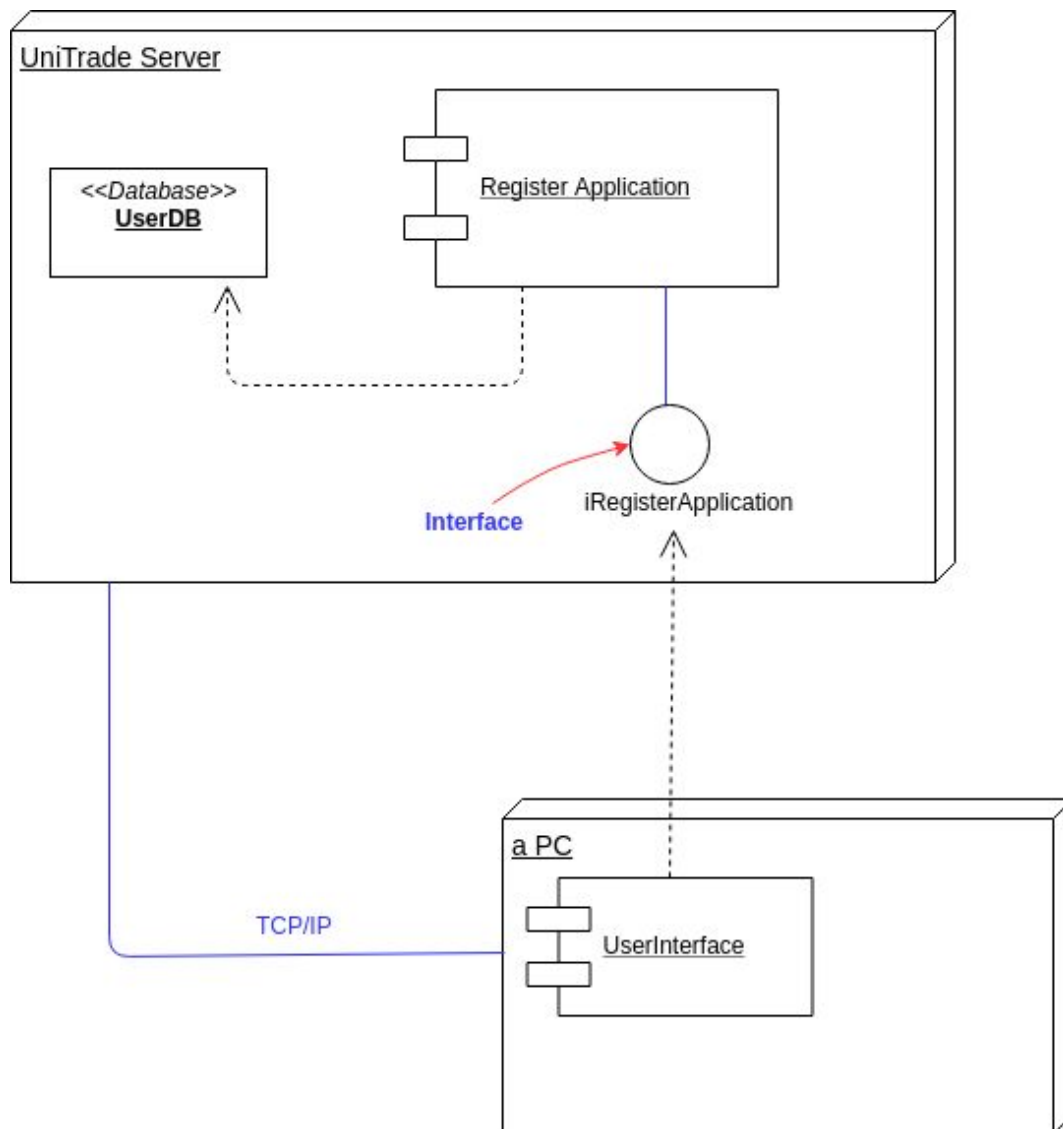
- There is no change in our SW tools and frameworks thus far.

5. High Level UML Diagrams

a) Class Diagrams



b) UML Component and Deployment Diagrams



6. Key Risk

Skill risks:

Not everyone is familiar with Django and Python. Each member is expected to watch the video tutorials posted in slack, anyone who needs additional help is expected to speak up.

The vertical prototype is also provided to each member to show them an example of how the code should work.

Schedule risks:

There's not a single day where our schedules align with each other. To fix this we've decided to meet up at least 30 minutes to 1 hour after class. We also have weekly meetings in zoom on Fridays. If there's a need for it, back-end/front-end members will schedule their own separate meetings.

Legal/Content risks:

UniTrade is not liable for injury, death, damage, cost, expense, or inconvenience arising from any deals made.