

Design Use Cases

Furnitrade

Team FTP



Team Member

Wenlin Mao – Project Manager

Yilin Xie – Software Architect

Yilin Cai – Senior System Analyst

Zhaoyi Huang – Software Development Lead

Mao Li – Business Analyst

Yifeng Zhang – Senior System Analyst

Xiaoyang Zeng – Quality Assurance Lead

Sixing Jiao – Database Specialist

Shengyao Xiao – User Interface Specialist

Zhenghong Ma – Algorithm Specialist

Priority

Low	Features that are nice to have but won't have majority effects on the system functionality.
Medium	Useful features that make the system run more effectively.
High	Must have features that are necessary to run the system.

Status

C: Cancelled
N: Not started
IP: In progress
D: Done

Table of Content

DUC-1	User Signup	D	H
DUC-2	User Login	D	H
DUC-3	User Log out	D	H
DUC-4	Forgot Password	N	M
DUC-5	Reset Password	D	M
DUC-6	View User Profile	D	H
DUC-7	Update User Profile	D	H
DUC-8	Post Furniture	D	H
DUC-9	Edit Selling Furniture's Information	N	L
DUC-10	Delete Selling Items	D	H
DUC-11	Find Furniture	D	H
DUC-12	Add Items to Wishlist	D	M
DUC-13	Remove Items from Wishlist	D	M
DUC-14	Send Request to The Seller	D	H
DUC-15	View History	D	L
DUC-16	Clear History	D	L
DUC-17	View Message	D	M
DUC-18	About Us Page	D	M
DUC-19	Privacy Page	D	L

DUC-1 User Signup

Priority	High
Status	Done
Description	The user creates an account by entering username, email, and password.
User Goal	The user wants to create an account because they need an account to access more features.
Desired Outcome	The user shall be able to create an account in the database.
Actor	Current user
Dependent use cases	N/A
Requirements	SR-1
Pre-conditions	The user wants to sell/buy a furniture, but don't have an account from the website.
Post-conditions	The user's account shall be saved in the database.
Trigger	The user wants to have an account to manage their information that separate from the other users.
Workflow	<ol style="list-style-type: none">1. The frontend shall render MainPage.js2. The user shall click on the "REGISTER" button.3. The frontend shall render and display the Register.js page.4. The users shall input their username, email address, address, password and confirm password in the corresponding text boxes and

	<p>click the “CREATE ACCOUNT” button.</p> <ol style="list-style-type: none"> 5. The backend shall validate the data using <code>user_exist()</code>, <code>email_exist()</code>, <code>check_username_valid()</code> and <code>check_email_valid()</code> functions. 6. The backend shall create a new user object under “users” collection. 7. The backend shall log the user into the application. 8. The frontend shall render <code>MainPage.js</code>.
Alternative Workflow	<p>Invalid username</p> <ol style="list-style-type: none"> 1. The user inputs invalid or already taken username. 2. The frontend shall check if the username is invalid. 3. The backend shall check if the username is taken. 4. The frontend shall notify that username is invalid or taken. <p>Invalid email address</p> <ol style="list-style-type: none"> 1. The user inputs invalid or already taken email. 2. The frontend shall check if the email is invalid. 3. The backend shall check if the email is taken. 4. The frontend shall notify that email is invalid or taken. <p>Invalid password</p> <ol style="list-style-type: none"> 1. User enters invalid password. 2. The backend shall check if the password is invalid. 3. The frontend shall notify the user that password does not meet the requirements.

DUC-2 User Login

Priority	High
Status	Done
Description	The user logs in to the account using email and password.
User Goal	The user wishes to login in to the account.
Desired Outcome	The user shall be able to log in with their username and password.
Actor	Current user
Dependent use cases	UC-1
Requirements	SR-2
Pre-conditions	The user has created an account already and navigated to the login page.
Post-conditions	The user is logged in.
Trigger	The user is not logged in and wants to access the application.
Workflow	<ol style="list-style-type: none">1. The frontend shall render and display the Login.js section.2. The user shall input username or email address and password in the corresponding textboxes.3. The backend shall use verify_user function first check if username exist, if exists, login in with username, if not, check if the user use email, if the user use email, use email to login in.

	<ol style="list-style-type: none"> 4. The backend shall use <code>check_password_hash</code> function to check if the user input the correct password, if so, log the user into the application. 5. The frontend shall render <code>MainPage.js</code>.
Alternative Workflow	<p>Incorrect password</p> <ol style="list-style-type: none"> 1. The user inputs valid username but incorrect password. 2. The backend shall check if the password matches the recorded password in database. 3. The frontend shall notify the user that the password is incorrect. <p>Incorrect username</p> <ol style="list-style-type: none"> 1. The user inputs a username does not exist. 2. The backend shall check if the username exists. 3. The frontend shall notify the user that username does not exist.

DUC-3 User Log out

Priority	High
Status	Done
Description	The user signs out.
User Goal	The user wants to sign out from the system.
Desired Outcome	The user signs out successfully.
Actor	Current user
Dependent use cases	UC-1 UC-2
Requirements	SR-3
Pre-conditions	The user has an account and has logged in already.
Post-conditions	The system terminates the user's session and take user back to home page.
Trigger	The user wants to sign out from the system.
Workflow	<ol style="list-style-type: none"> 1. The user shall click on the drawer button on the top right corner. 2. The user shall find and click the "logout" button. 3. The backend shall terminate the user's session. 4. The frontend shall render MainPage.js.
Alternative Workflow	N/A

DUC-4 Forgot Password

Priority	Medium
Status	Not Started
Description	If the user forgot their passwords when trying to log in, the system will send them an email contains the link to reset the password.
User Goal	The user wants to login to their account but forget the password and wish to recover it.
Desired Outcome	The user has a new password.
Actor	Current user
Dependent use cases	UC-1
Requirements	SR-4
Pre-conditions	The user has account but forgot the password and is not yet logged in.
Post-conditions	The user is emailed a link to a form to reset the password.
Trigger	Users forgot the password and wish to log in.
Workflow	<ol style="list-style-type: none">1. The frontend shall render Login.js section.2. The user shall click the "forget password" button underneath the text boxes.3. The frontend shall display a text box for the user to input email.4. The user shall enter the email address in the text box and hit the "submit" button.

	<ol style="list-style-type: none"> 5. The frontend shall send an email to instruct users to reset passwords. 6. The user shall log into email, click on the link redirecting the user to reset password. 7. The frontend shall render reset.js page. 8. The user shall re-enter a new valid password and input it again in the “confirm password” text box. 9. The user shall hit the “submit” button. 10. The frontend shall check if the password is valid, if so, password reset succeed. 11. The backend shall take the new password and replace the old one in the database. 12. The frontend shall display a text “Password changed successfully”.
Alternative Workflow	<p>Invalid email address:</p> <ol style="list-style-type: none"> 1. The user enters an invalid email address and hits the “submit” button. 2. The backend shall check the email address and finds out the email address is not the email address related to this user in database. 3. The backend shall throw an error. 4. The frontend shall display a text “Invalid email address” to the user. <p>Invalid password:</p> <ol style="list-style-type: none"> 1. The user enters an invalid password and hits the “submit” button. 2. The backend shall throw an error. 3. The frontend shall display a text “Invalid password” to the user.

DUC-5 Reset Password

Priority	M
Status	Done
Description	The user has the option to reset their passwords in their profile page.
User Goal	The user wishes to change passwords when they try to edit their profile information.
Desired Outcome	The user is able to reset passwords successfully.
Actor	Current user
Dependent use cases	UC-4
Requirements	SR-5
Pre-conditions	<ol style="list-style-type: none">1. The user signs in the account and2. The user is on profile page.
Post-conditions	The user resets the passwords in profile page.
Trigger	The user wants to edit their profiles and change passwords during log in.
Workflow	<ol style="list-style-type: none">1. The user shall click on the "reset password" button.

	<ol style="list-style-type: none">2. The system shall display the “Reset Password” page.3. The user shall re-enter a new valid password.4. The user shall hit the “SUBMIT” button.5. The system shall overwrite the old password with the new one.6. The system shall display a text “Password changed”.
Alternative Workflow	N/A

DUC-6 View User Profile

Priority	M
Status	Done
Description	The user can view the information of the account (including name, address, schools, etc).
User Goal	The user wants to view the information on the account.
Desired Outcome	The user shall view their unique profile The system shall direct user to the profile page and show user the account information.
Actor	Current user
Dependent use cases	UC-1 UC-2
Requirements	SR-6
Pre-conditions	1. The user is at home page. 2. The user signs in the account.
Post-conditions	The user shall be able to view the account information.
Trigger	The user wants to view account information.
Workflow	1. The user shall login in and click the drawer button on the top right corner. 2. The user shall click on the "PROFILE" button. 3. The frontend shall render the ProfilePage.js 4. The frontend shall show the account information to the user.
Alternative Workflow	N/A

DUC-7 Update User Profile

Priority	M
Status	Done
Description	The user has the option to edit their profile. The user could also upload a profile picture.
User Goal	The user wants to update their profile.
Desired Outcome	The system shall update modified user's information in the database and display user's changes at profile page.
Actor	Current user
Dependent use cases	UC-2 UC-6
Requirements	SR-7
Pre-conditions	<ol style="list-style-type: none"> 1. The user is on the profile page. 2. The user is logged in to their account.
Post-conditions	<ol style="list-style-type: none"> 1. The user has finished updating their information. 2. The system has reflected changes at the profile page.
Trigger	The user wants to renew their information and upload a new profile picture.
Workflow	<ol style="list-style-type: none"> 1. The user shall click the "EDIT" button at the bottom of the profile page. 2. The system shall change "EDIT" button to "SAVE" button.

	<ol style="list-style-type: none"> 3. The system shall enable the edit mode of profile. 4. The user shall enter any or all of the new username, address, etc. account information. 5. The user shall click “UPDATE” button at the left top of the profile page. 6. The system shall display a dialog. 7. The user shall choose a new profile image from local path and click “OPEN” button. 8. The system shall display newly uploaded profile picture. 9. The user shall click “SAVE” button at the bottom of profile page. 10. The system shall update user’s account information in the database. 11. The system shall display user’s profile with updated information and change “SAVE” button to “EDIT”.
Alternative Workflow	N/A

DUC-8 Post Furniture

Priority	H
Status	Done
Description	The user will be able to post an item that they want to sell on the website.
User Goal	The user wants to sell used furniture.
Desired Outcome	The user posts the item successfully.
Actor	Current user
Dependent use cases	UC-1 UC-2
Requirements	SR-9
Pre-conditions	<ol style="list-style-type: none"> 1. The user is on the home page. 2. The user is logged in and wants to sell items.
Post-conditions	The user posts the item.
Trigger	The user needs to post their items so that they can sell them.
Workflow	<ol style="list-style-type: none"> 1. The user shall click on the drawer button on the top right corner. 2. The user shall click on the "My Furniture" button. 3. The system shall display MyFurniture.js. 4. The user shall click on the "+" button. 5. The frontend shall display AddFurniture.js. 6. The user shall add name, price and description of the item in the text fields.

	<ol style="list-style-type: none"> 7. The user shall upload at least one picture of the item. 8. The user shall select a category and sub-category. 9. The user shall click "SUBMIT" button. 10. The system shall store information above in the database. 11. The system shall display "Post an item successfully" message. 12. The system shall redirect user to the home page.
Alternative Workflow	N/A

DUC-9 Edit Selling Furniture's Information

Priority	H
Status	Not started
Description	The user will be able to edit selling furniture's information (pictures, descriptions, etc.) after they post it.
User Goal	The user wants to change the information of a posted item.
Desired Outcome	The user shall update the information of a posted item successfully.
Actor	Current user
Dependent use cases	UC-2 UC-8
Requirements	SR-10
Pre-conditions	<ol style="list-style-type: none">1. The user is on the home page.2. The user is logged in to their account.3. The user have posted the furniture
Post-conditions	<ol style="list-style-type: none">1. The user has finished updating the furniture's information.2. The system has reflected changes at the furniture's detail page.
Trigger	The user wants to edit or update furniture's information to sell the furniture.
Workflow	<ol style="list-style-type: none">1. The user shall click on the drawer button on the top right corner of home page.2. The system shall display the drawer.

	<ol style="list-style-type: none"> 3. The user shall click on “My Furniture” button from the side drawer. 4. The system shall redirect user to the “My Furniture” page. 5. The user shall click on the furniture card which they wants to edit at “My Furniture” page. 6. The system shall display the detail page of this furniture. 7. The user shall click “EDIT” button at the bottom of the furniture detail page. 8. The system shall change the button to “SAVE” and enable the edit mode. 9. The user shall enter new furniture information or upload new images. 10. The user shall click “SAVE” button. 11. The system will update the information in database and display the updated furniture detail page.
Alternative Workflow	N/A

DUC-10 Delete Selling Items

Priority	H
Status	Done
Description	The user will be able to delete an existing post from the website.
User Goal	The user wants to delete an existing post since they don't want to sell it anymore.
Desired Outcome	The user successfully deletes the item on sale.
Actor	Current user
Dependent use cases	UC-2 UC-8
Requirements	SR-11
Pre-conditions	<ol style="list-style-type: none"> 1. The user is on "My Furniture" page. 2. The user is logged in to their account. 3. The user has posted the furniture.
Post-conditions	<ol style="list-style-type: none"> 1. The user has finished deleting the target item. 2. The system has reflected changes at the category page.
Trigger	The user has posted an item on the website but they don't want to sell it anymore.
Workflow	<ol style="list-style-type: none"> 1. The user shall find the furniture card at the "My Furniture" page (MyFurniture.js). 2. The user shall click "DELETE" button inside the card. 3. The system shall display a dialog with message

	<p>“You are about to delete this. Are you sure to do so?”.</p> <ol style="list-style-type: none">4. The user shall click “DELETE” button at the bottom of the dialog.5. The system shall remove this furniture from the database.6. The system shall then redirect the user to My Furniture page.
Alternative Workflow	N/A

DUC-11 Find Furniture

Priority	H
Status	Done
Description	The user will be able to find a target furniture on the website by selecting specific category it belongs to.
User Goal	The user wants to find by category the furniture they are interested in.
Desired Outcome	The user finds the target furniture as desired.
Actor	Current user
Dependent use cases	UC-2 UC-8
Requirements	SR-15 SR-16
Pre-conditions	<ol style="list-style-type: none"> 1. The user is logged in. 2. The system has the furniture which the user wants in the database.
Post-conditions	<ol style="list-style-type: none"> 1. The user successfully finds the furniture they interested in. 2. The system displays the specific furniture page.
Trigger	The user has already had an account and they want to buy furniture from our website.
Workflow	<ol style="list-style-type: none"> 1. The user shall click the “Category” button in the navigation bar located at the top of the page. 2. The system shall redirect the user to the category page and display Category.js.

	<ol style="list-style-type: none"> 3. The user shall select and click the category where they want to find the furniture. 4. The system shall display a drop-down subcategory list. 5. The user shall select and click the specific subcategory where they want to find the furniture. 6. The system shall redirect the user to specific sub-category page and display Subcategory.js. 7. The user shall select and click the furniture card which they are interested. 8. The system shall fetch the furniture's information from database and display the furniture detail page.
Alternative Workflow	N/A

DUC-12 Add Items to Wishlist

Priority	M
Status	Done
Description	The user is able to add the furniture they are interested in to wishlist.
User Goal	The user wants to store the information of interested furniture for later.
Desired Outcome	The user adds the item to wishlist.
Actor	Current user
Dependent use cases	UC-2 UC-11
Requirements	SR-13
Pre-conditions	<ol style="list-style-type: none"> 1. The user is at sub-category page. 2. The user is logged in. 3. The system has the furniture which the user wants to add to wishlist.
Post-conditions	<ol style="list-style-type: none"> 1. The user adds the item to wishlist. 2. The system stores this information in database.
Trigger	The user is interested in an item and wants to record this information in their wishlist.
Workflow	<ol style="list-style-type: none"> 1. The user shall select and click the furniture card which they are interested in sub-category page (Subcategory.js). 2. The system shall redirect to and display the furniture detail.

	<ol style="list-style-type: none">3. The user shall click “Add to Wishlist” button at the bottom of the furniture detail page.4. The system shall store this information in database and display success message.
Alternative Workflow	<p>Furniture already in wishlist:</p> <ol style="list-style-type: none">1. The user tries to add the furniture which they already have in their wishlist.2. The system shall display an error message indicating the furniture already exists in wishlist.

DUC-13 Remove Items from Wishlist

Priority	M
Status	Done
Description	The user might change their idea over time and they might want to remove unwanted furniture from wishlist.
User Goal	The user wants to remove the furniture from wishlist.
Desired Outcome	The furniture is removed from wishlist.
Actor	Current user
Dependent use cases	UC-2 UC-12
Requirements	SR-21
Pre-conditions	<ol style="list-style-type: none"> 1. The user is logged in. 2. The user has added the furniture in their wishlist.
Post-conditions	<ol style="list-style-type: none"> 1. The furniture is removed from the user's wishlist.
Trigger	The user is no long interested in specific furniture stored in their wishlist.
Workflow	<ol style="list-style-type: none"> 1. The user shall click the drawer button on the right corner of the navigation bar. 2. The system shall display the drawer. 3. The user shall click "My Wishlist" from the side drawer. 4. The system shall redirect to and display Wishlist.js. 5. The user shall find the furniture card in the wishlist

	<p>page.</p> <ol style="list-style-type: none"> 6. The user shall click the “DELETE” button inside the card. 7. The system shall display confirmation dialog. 8. The user shall click “DELETE” button at the bottom of the confirmation dialog. 9. The system shall remove this information in the database and display the new wishlist page.
Alternative Workflow	N/A

DUC-14 Send Request to The Seller

Priority	H
Status	Done
Description	The user as potential buyer sends a request to seller to show their interest in the furniture that the seller sells.
User Goal	The user wants to send a request to the seller so that the user can buy it.
Desired Outcome	The system sends an email to the seller and the message shows up in the seller's "Message" page.
Actor	Current user
Dependent use cases	UC-2 UC-11
Requirements	SR-17
Pre-conditions	<ol style="list-style-type: none"> 1. The user as buyer is logged in. 2. The other user as seller has posted the furniture on our website. 3. The user (buyer) is in the detail page of the furniture that they want to buy.
Post-conditions	<ol style="list-style-type: none"> 1. The user (buyer) sends request to the other user (seller). 2. The system shall send email to the seller with the contact information of the user (buyer).
Trigger	The user wants to contact the seller in order to buy the item they are interested in.
Workflow	<ol style="list-style-type: none"> 1. The user (buyer) shall input the title and message in the text fields of furniture detail page's request

	<p>section. (Request.js)</p> <ol style="list-style-type: none"> 2. The user (buyer) shall click “Contact Seller”. 3. The system shall send a notification email to the seller who posted this furniture. 4. The system shall display the message to the seller in seller’s “My Message” page (MyMessage.js). 5. The user (seller) shall receive the notification email. 6. The user (seller) shall find the message from the user (buyer) following UC-17.
Alternative Workflow	N/A

DUC-15 View History

Priority	M
Status	Done
Description	The user views the list of furniture that they viewed before.
User Goal	The user wants to review an item they saw before.
Desired Outcome	The user sees a list of viewed items displayed by the system.
Actor	Current user
Dependent use cases	UC-2
Requirements	SR-14
Pre-conditions	<ol style="list-style-type: none">1. The user is logged in.2. The furniture which user viewed is posted on the website.3. The user has viewed the furniture.
Post-conditions	<ol style="list-style-type: none">1. The user shall see a list of viewed items.
Trigger	The user wants to review the items which they have seen before but haven't added those items into wishlist.
Workflow	<ol style="list-style-type: none">1. The user shall click the drawer button on the right corner of the navigation bar.2. The system shall display the drawer.3. The user shall click "My History" button from the side drawer.

	<ol style="list-style-type: none">4. The system shall redirect user to the history page. (History.js), and display list of items that the user viewed before.5. The user shall see the list of items they viewed.
Alternative Workflow	<p>The user has viewed nothing:</p> <ol style="list-style-type: none">1. The user viewed nothing on our website2. The system shall display “The history is empty” message in the history page.

DUC-16 Clear History

Priority	M
Status	Done
Description	The user clears and deletes view history.
User Goal	The user wants to clear view history.
Desired Outcome	The user shall delete history successfully and the system shall remove this information from the database.
Actor	Current user
Dependent use cases	UC-2 UC-15
Requirements	SR-20
Pre-conditions	<ol style="list-style-type: none"> 1. The user is logged in. 2. The furniture which the user viewed has been posted to our website. 3. The user has viewed this furniture.
Post-conditions	<ol style="list-style-type: none"> 1. The system shall remove the view history of the user.
Trigger	The user wants to delete view history because they viewed many items and they want to keep their view history clean.
Workflow	<ol style="list-style-type: none"> 1. The user shall click the drawer button on the right corner of the navigation bar. 2. The system shall display the drawer.

	<ol style="list-style-type: none">3. The user shall click “My History” button from the side drawer.4. The system shall redirect user to history page. (History.js)5. The user shall click “Clear History” button.6. The system shall remove this information from database and display empty history message.
Alternative Workflow	<p>Empty History:</p> <ol style="list-style-type: none">1. The user has viewed nothing on our website.2. The system shall display “You didn’t view any furniture recently”.

DUC-17 View Message

Priority	M
Status	Done
Description	Once the user (seller) posts the item on websites, other users (buyers) may send request messages for the furniture. The user (seller) views the messages from “My Message” page.
User Goal	The user wants to view request messages from the other users.
Desired Outcome	The system displayed the messages from buyers to the sellers.
Actor	Current user
Dependent use cases	UC-2 UC-14
Requirements	SR-8
Pre-conditions	<ol style="list-style-type: none"> 1. The user is logged in. 2. The user posted the furniture on our website. 3. The buyer has sent the request message to the user.
Post-conditions	<ol style="list-style-type: none"> 1. The system shows the list of messages received by the user.
Trigger	The user wants to contact with the other users (buyers) who want to buy their furniture.
Workflow	<ol style="list-style-type: none"> 1. The user shall click the drawer button on the right corner of the navigation bar. 2. The system shall display the drawer.

	<ol style="list-style-type: none"> 3. The user shall click “My Message” button in the drawer. 4. The system shall fetch the messages of the user from the database. 5. The system shall redirect to and display MyMessage.js. 6. The user shall see the list of messages sent by other users (buyers).
Alternative Workflow	<p>Empty Message</p> <ol style="list-style-type: none"> 1. The buyers hasn't sent any message to the user. 2. The system shall display “You haven't received any messages” in “My Message” page. (MyMessage.js)

DUC-18 About Us Page

Priority	M
Status	Done
Description	The user can get to know with the development team of this website.
User Goal	The user wants to see the information of this website's development team.
Desired Outcome	The system shall show each member of the development team and brief introduction for each member.
Actor	Current user
Dependent use cases	UC-1 UC-2
Requirements	SR-18
Pre-conditions	The user is logged in
Post-conditions	The system shall render the section that contains the information of the development team.
Trigger	When first visit the website, the user wants to know who develops this website and determine whether this website is trustworthy.
Workflow	<ol style="list-style-type: none">1. The user shall click the “about us” button in the navigation drawer on the top of the website.2. The frontend shall render the aboutUS.js section.
Alternative Workflow	N/A

DUC-19 Privacy Page

Priority	L
Status	Done
Description	Before trading through our website, the user wants to acknowledge all the terms and conditions of furnitrade. The user views these legal details in Privacy page.
User Goal	The user wants to view the legal terms and conditions of furnitrade.
Desired Outcome	The system show the legal details to the user.
Actor	Current user
Dependent use cases	UC-1 UC-2
Requirements	SR-19
Pre-conditions	The user is logged in
Post-conditions	The system shows all the terms and conditions to the user.
Trigger	The user wants to use the website under legal protection.
Workflow	<ol style="list-style-type: none">1. The user shall click the drawer button on the right corner of the navigation bar.2. The system shall display the drawer.3. The user shall click "Privacy" button from the side

	<p>drawer.</p> <p>4. The system shall redirect user to Privacy page. (Privacy.js)</p>
Alternative Workflow	N/A