

**ONLINE OLD STUFF EXCHANGE WEBSITE FOR STUDENTS AT FPTU**

**Software Requirement Specification**

– HoChiMinh, May 2023 –

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# I. Overview

## 1. Vison

**1.1. Background**

Students at FPT University are presently using some platform such as Facebook, Zalo, or ask friends, relationships to exchange or sell their old stuff. But this process wastes amounts of time finding the right people to exhange with, or stuff to buy. Also, many students have valuable items they no longer need, and others are looking for affordable options. By creating this website, you aim to provide a convenient and secure platform for students to connect and engage in these transactions within the university environment.

**1.2. Business opportunities**

- Targeted Audience: Your website will specifically cater to the university community, offering a niche marketplace for students, faculty, and staff. This focused approach allows for tailored marketing strategies and the potential for high user engagement.

- Convenience and Efficiency: By providing a centralized platform, you eliminate the need for individual students to navigate various channels or groups to find suitable exchanges or sales. This convenience and efficiency will attract users seeking a streamlined experience.

- Feedback and Reputation Building: Incorporating a feedback and rating system creates opportunities for users to build their reputations within the community. Positive feedback and ratings will incentivize more transactions and foster trust among users.

- Advertising and Partnerships: As the platform grows and gains popularity, you can explore advertising opportunities and potential partnerships with local businesses. They may be interested in targeting the university community with their products or services.

**1.3. Defenition**

|  |  |
| --- | --- |
| Acronym | Definition |
| Guest | A person using the application without signing in. |
| User | A person who signed in as Normal User, the purpose is to exchange/buy/sell/bid stuff or donate their stuff. |
| Moderator | A person who signed in as Moderator, the purpose is to manage requests from user (donate, delete on-going bid...) and inspect contents on application. |
| Admin | A person who signed in as Admin, the purpose is to manage account, transaction on application. |

## 2. Scope

FXChange – an old stuff exchange website was created to support old stuff exchange for student at FPT University's Campuses via the internet.

- Authentication:

* Users will be able to use university gmail accounts, log in securely, and manage their profiles.
* Password reset and email verification functionalities can be implemented for account security.

- Item Listings:

* Users can create detailed listings for their items, including titles, descriptions, images, and relevant information.
* Users can view a list of items available for exchange, buying, or auction. Items can be categorized and tagged for easier browsing and search.

- Search and Filtering:

* Users can search for specific items using keywords, categories, or tags.
* Advanced filtering options (e.g., price range, location, condition) can be provided to narrow down search results.

- Messaging and Chat:

* Users can communicate with each other through a real-time messaging system.
* Users can initiate conversations, reply to messages, and receive notifications for new messages.

- Feedback and Ratings:

* Users can provide feedback and ratings for successful transactions or interactions with other users.
* Ratings and feedback can be displayed on user profiles to build trust within the community.

- Moderation:

* A moderation system will be in place to manage user-generated content.
* Moderators can review and approve item listings, remove inappropriate content, and resolve reported issues.

- Item Management:

* Users can create, read, update, and delete their own item listings.
* They can edit item details, update availability status, modify prices, and delete items when they are no longer available.

- Mobile Responsiveness:

* The website will be designed to be responsive and accessible on various devices, including desktops, laptops, tablets, and smartphones.

- Future Enhancements:

* As the website grows, you can explore additional features such as an auction system, integration with payment gateways, a wish list, saved searches, or a favorite item feature can be considered for future iterations.

3. System Functions

#### 3.1. Screen Flow

*A picture containing diagram, sketch, drawing, plan

Description automatically generated*

#### 3.2. Screen Details

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Feature** | **Screen** | **Description** |
| 1 | Login | Login | Login by email to access web feature. |
| 2 | New stuff | Create Stuff | Users can fast create stuff for each type. |
| 3 | View Account | DashBoard\Account | Admin can view list account. |
| 4 | Edit Account | DashBoard\Account | Admin can change account status(active/inactive). |
| 5 | View Request | DashBoard\Request | Admin, Moderator can view all request. |
| 6 | Edit Request | DashBoard\Request | Admin, Moderator can approve/disapprove request. |
| 7 | View History | User Profile | Users can view their transaction history. |
| 8 | Edit Profile | User Profile | User can update their information. |
| 9 | Search Stuff | Home Page | Search Stuff. |
| 10 | New Exchange | Exchange | Users can create new exchange stuff. |
| 11 | View Exchange Detail | Exchange | Users can view exchange stuff detail. |
| 12 | Edit Exchange | Manage Stuff | Users can update or delete exchange stuff. |
| 13 | New Sale | Market | Users can create new sale stuff |
| 14 | View Sale Stuff Detail | Market | Users can view sale stuff detail. |
| 15 | Edit Sale Stuff | Manage Stuff | Users can update or delete their sale stuff. |
| 16 | New Auction | Auction | Users can create new auction. |
| 17 | View Auction | Auction | Users can view auction detail. |
| 18 | Edit Auction | Mange Stuff | Users can update or delete(request) auction. |
| 19 | View Own Stuff | Manage Stuff | Users can view their own stuff. |
| 20 | Edit Stuff | Mangage Stuff | Users can update or delete their own stuff. |
| 21 | Check Attendance | Earn Points | Users can earn points for first login of the day |
| 22 | New Users | Earn points | Users can earn points for first time login in web |
| 23 | Invite Friend | Earn points | Users can earn points for enter friends code |

#### 3.3. User Authorization

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Screen** | **Guest** | **Customer** | **Moderator** | **Admin** |
| <<Screen Login>> | x | x | x | x |
| Login Email FPT | x | x | x | x |
|  |  |  |  |  |
| <<Screen Home Page>> | x | x | x | x |
| Search Stuff | x | x | x |  |
| Filter Stuff | x | x | x |  |
| Create New Stuff |  | x | x |  |
|  |  |  |  |  |
| <<Screen Profile>> |  | x | x |  |
| Update Profile |  | x | x |  |
| View History |  | x | x |  |
|  |  |  |  |  |
| <<Screen Exchange>> | x | x | x |  |
| Create new exchange |  | x | x |  |
| View Exchange Detail | x | x | x |  |
| Edit Exchange |  | x | x |  |
|  |  |  |  |  |
| <<Screen Market>> | x | x | x |  |
| Create new Sale Stuff |  | x | x |  |
| View Sale Stuff Detail | x | x | x |  |
| Edit Sale Stuff |  | x | x |  |
|  |  |  |  |  |
| <<Screen Auction>> | x | x | x |  |
| Create New Auction |  | x | x |  |
| View Auction detail | x | x | x |  |
|  |  |  |  |  |
| <<Screen Manage Stuff>> |  | x | x |  |
| View Own Stuff |  | x | x |  |
| Edit Stuff |  | x | x |  |
|  |  |  |  |  |
| <<Screen Earn Point>> |  | x | x |  |
| Check Attendance |  | x | x |  |
| New User |  | x | x |  |
| Invite Friends |  | x | x |  |
|  |  |  |  |  |
| <<Screen DashBoard>> |  |  | x | x |
| View Account List |  |  |  | x |
| Edit Account |  |  |  | x |
| View Request List |  |  | x | x |
| Edit Request |  |  | x | x |

## 

## 4. Overall Description

## 4.1. Product overview

**4.1.1 Functional Requirements**

**4.1.1.a Guest requirements**

Guests are people who have not been authenticated to the system. They only have access to following functions:

* Sign in.
* Search and View stuff: Exchange, Market, Auction

**4.1.1.b User requirements**

Users are people who have signed into the website with “User” role. They can use all Guest functions, plus the following functions:

* View/Edit Profile
* View Inventory
* Add/Modify Stuff
* Exchange, Buy, Sell, Donate, Bid Stuff
* Earn Points

**4.1.1.c Moderator requirements**

Moderators are people who have signed into the website with “Mod” role. They can use all User functions, plus the following functions:

* Stuff moderation
* View/ Edit Request from User: Donate, delete in-progess stuff...

**4.1.1.d Admin requirements**

Admin is a person who have signed into the website with “Admin” role. They can access the following functions:

* View/ Edit Account: User, Moderator
* View/ Edit Request from User: Donate, delete in-progess stuff...

**4.1.2 Non-Functional Requirements**

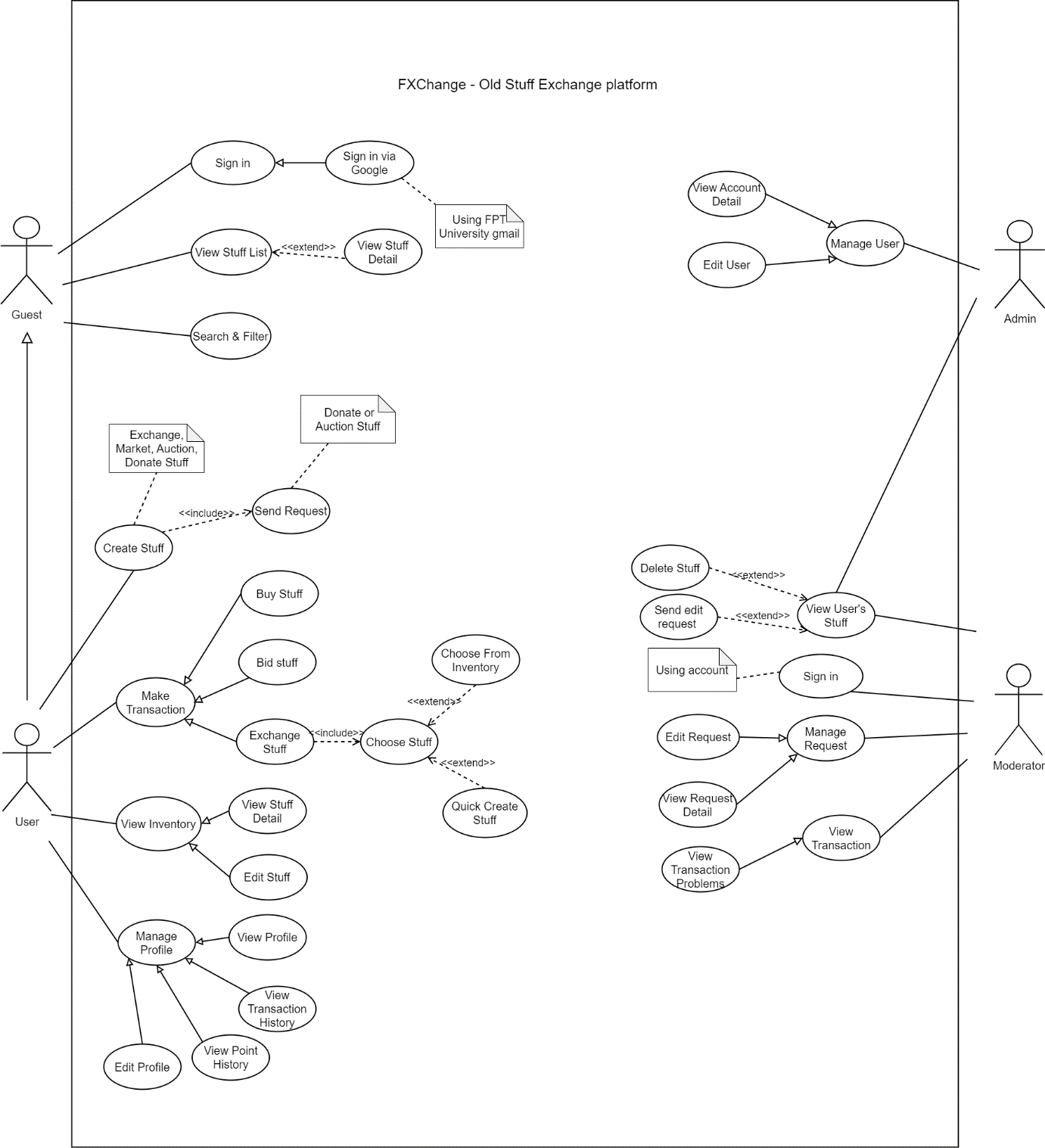
|  |  |
| --- | --- |
| **No.** | **Non-Functional Requirements** |
|  | The website should handle high user traffic and provide quick response times to ensure a smooth user experience. |
|  | Implement measures to protect user data, prevent unauthorized access, and secure financial transactions. |
|  | Ensure the website has an intuitive and user-friendly interface, making it easy for users to navigate, search for items, and complete transactions. |
|  | Ensure the website works effectively across different browsers, devices. |
|  | Adhere to relevant laws and regulations, such as data protection and privacy laws, and provide clear Terms and Conditions for users. |
|  | Provide clear and consistent navigation throughout the website, making it easy for users to find the desired features and sections. |
|  | Optimize the website for mobile devices, ensuring a seamless experience across different screen sizes. |
|  | Provide feedback and confirmation messages to users for successful actions, such as completing a transaction or updating account details. |
|  | Optimize website loading times to minimize waiting periods for users, especially on slower internet connections. |
|  | Monitor and tune database performance to ensure efficient retrieval and storage of data. |
|  | The website should have an intuitive and user-friendly interface, making it easy for users to navigate, search for items, create listings, and complete transactions. It should also be accessible to users with disabilities. |
|  | The website should comply with relevant legal and regulatory requirements, such as data protection laws, privacy regulations, and consumer protection laws. |
|  | The system should have monitoring capabilities to track performance metrics, identify bottlenecks, and proactively address any issues that may arise. |
|  | The website should be designed with SEO best practices in mind, making it easily discoverable by search engines and improving its visibility in search results. |
|  | The system should have robust error handling mechanisms in place to gracefully handle errors and provide meaningful error messages to users. It should also log errors and exceptions for troubleshooting and debugging purposes. |
|  | If the website integrates with third-party services or APIs, it should comply with their terms of use and API guidelines. |
|  | The website should be available to users 24/7, with minimal scheduled maintenance windows and quick response times to handle user requests. |
|  | The chat system should provide real-time communication, allowing users to send and receive messages without noticeable delays. |
|  | Implement push notifications or alerts to notify users about new messages, ensuring they stay updated even when they are not actively using the chat system. |
|  | Display the online/offline status of users to indicate their availability for chat, providing a better understanding of their responsiveness. |

**4.2 Business Rule**

|  |  |
| --- | --- |
| **ID** | **Rule Definition** |
| BR-01 | The internet connection is available |
| BR-02 | User must own an FPT University gmail account |
| BR-03 | All fields must be validated |
| BR-04 | Have required fields |
| BR-05 | User point must enough to make a transaction |
| BR-06 | Actor’s point must be at least 3 steps larger than current price |
| BR-07 | Request must send to complete action |
| BR-08 | Limit the amount of image user upload (Under 5 image) |
| BR-09 | The notification sent to the user must be a push notification, it can show on the device's screen. |
| BR-10 | Built-in chat system must be realtime |
| BR-11 | Chat history must be show |
| BR-12 | Suggested stuff can choose from inventory |
| BR-13 | Consigned items must be delivered within 3 days |
| BR-14 | decrease point of stuff’s owner doesn’t bring stuff on time |
| BR-15 | Transaction will be cancelled if the conditions are not satisfied |
| BR-16 | Receiver must get stuff within 3 days |
| BR-17 | Time for receive stuff will extends for 7 days more |
| BR-18 | Points will be minus if stuff owner cancel the transaction based on reputation |
| BR-19 | Repution will be decreased when transaction was cancelled |
| BR-20 | Reputation will be increased when transaction was success |
| BR-21 | If reputation is too low, user will be ban |

# II. Functional Requirements

## 1. User Case Diagram



## 2. User Case Detail

**2.1. Login**

**A screenshot of a computer

Description automatically generated with low confidence**

|  |  |  |  |
| --- | --- | --- | --- |
| Primary Actor | Guest | Secondary Actor: | N/A |
| Trigger: | The actor wants to sign in to the FxChange web | | |
| Description | This feature allow actor to login the system | | |
| Pre-condition | Actor has FPTU email address | | |
| Post-condition | Success: Redirect to home Page  Fail: The system shows error message corresponding to error code | | |
| Normal Flow | |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | In login page, Actor clicks on “Tiếp tục Với Google” | System shows a list of google.  accounts of users | | 2 | Actor clicks the account they want to use to sign in | System redirects to the home page | | | |
| Abnormal Flow | N/A | | |
| Bussiness Rules: | BR-01, BR-02 | | |
| Assumtions: |  | | |

**2.2 Create New Stuff**

A screenshot of a computer

Description automatically generated

|  |  |  |  |
| --- | --- | --- | --- |
| Primary Actor | User | Secondary Actor: | N/A |
| Trigger: | The actor wants to create new stuff. | | |
| Description | This feature allow actor to create new stuff tp exchange, donate, sell... | | |
| Pre-condition | N/A | | |
| Post-condition | Success: The system show message and user can view their stuff.  Fail: The system shows error message corresponding to error code | | |
| Normal Flow | |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | In home page actor click “Đăng Bán” | System shows a form to enter information. | | 2 | Actor inputs information in textbox | System check and validate the inputs | | 3 | Actor clicks “Đăng” | System redirect to home page and actor can view the stuff | | | |
| Abnormal Flow | N/A | | |
| Bussiness Rule: | BR-06, BR-02 | | |
| Assumptions: |  | | |

**2.3 View Exchange Page**

**A screenshot of a computer

Description automatically generated with medium confidence**

|  |  |  |  |
| --- | --- | --- | --- |
| Primary Actor | User | Secondary Actor: | N/A |
| Trigger: | The actor wants to see the exchange page and exchange stuff. | | |
| Description | This feature allows actors to view exchange stuff list | | |
| Pre-condition | N/A | | |
| Post-condition | Success: Redirect to Exchange page  Fail: The system shows error message corresponding to error code | | |
| Normal Flow | |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | In home page, Actor clicks on “Trao Đổi” tab | System redirects to exchange page. | | | |
| Abnormal Flow | N/A | | |
| Bussiness Rules: | BR-02 | | |
| Assumtions: |  | | |

**2.4 View Exchange Details**

**A screenshot of a computer

Description automatically generated**

|  |  |  |  |
| --- | --- | --- | --- |
| Primary Actor | User | Secondary Actor: | N/A |
| Trigger: | The actor wants to view exchange stuff detail | | |
| Description | This feature allow actor to view exchange stuff detail. | | |
| Pre-condition | N/A | | |
| Post-condition | Success: Show exchange stuff detail  Fail: The system shows error message corresponding to error code | | |
| Normal Flow | |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | In Exchange page, Actor clicks on stuff post | System shows stuff detail:  - Image  - Name  - Description | | 2 | Actor clicks “Bình Luận” | System shows all comment in stuff post | | 3 | Actor clicks “Gợi ý đổi” | System show suggest stuff to exchange | | | |
| Abnormal Flow | N/A | | |
| Bussiness Rules: | BR-02 | | |
| Assumtions: |  | | |

**2.5 View Market Details**

Screens screenshots of a chat

Description automatically generated with medium confidence

|  |  |  |  |
| --- | --- | --- | --- |
| Primary Actor | User | Secondary Actor: | N/A |
| Trigger: | The actor wants to view sale stuff detail | | |
| Description | This feature allow actor to view sale stuff detail. | | |
| Pre-condition | N/A | | |
| Post-condition | Success: Show sale stuff detail  Fail: The system shows error message corresponding to error code | | |
| Normal Flow | |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | In Market page, Actor clicks on stuff post | System shows stuff detail:  - Image  - Name  - Description | | 2 | Actor clicks “Bình Luận” | System shows all comment in stuff post | | 3 | Actor clicks “Đề xuất cho bạn” | System show suggest stuff to exchange | | | |
| Abnormal Flow | N/A | | |
| Bussiness Rules: |  | | |
| Assumtions: | - Actor’s internet connection is available | | |

**2.6 View Auction Detail**

**Screens screenshot of a computer

Description automatically generated with low confidence**

|  |  |  |  |
| --- | --- | --- | --- |
| Primary Actor | User | Secondary Actor: | N/A |
| Trigger: | The actor wants to view auction detail | | |
| Description | This feature allow actor to view auction detail. | | |
| Pre-condition | N/A | | |
| Post-condition | Success: Show auction detail  Fail: The system shows error message corresponding to error code | | |
| Normal Flow | |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | In Auction page, Actor clicks on auction post | System shows stuff detail:  - Image  - Name  - Description  - Time left  - Current price | | 2 | Actor clicks “Tăng thêm” | System shows new price | | | |
| Abnormal Flow | N/A | | |
| Bussiness Rules: | - Actor’s point must be at least 3 steps larger than current price | | |
| Assumtions: | - Actor’s internet connection is available | | |

**2.7 Manage Stuff**

**A screenshot of a chat

Description automatically generated**

|  |  |  |  |
| --- | --- | --- | --- |
| Primary Actor | User | Secondary Actor: | N/A |
| Trigger: | The actor wants to view own stuff, its status, edit it. | | |
| Description | This feature allow actor to view own stuff detail and edit it. | | |
| Pre-condition | N/A | | |
| Post-condition | Success: Show actor’s stuff, actor can edit stuff  Fail: The system shows error message corresponding to error code | | |
| Normal Flow | 1. View Stuff  |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | In Manage Stuff page, Actor clicks on Auction/Market/Exchange | System shows stuff detail base on class:  - Image  - Name  - Description  - Time left  - Current price |  1. Update Stuff  |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | In Manage Stuff page, Actor clicks on Auction/Market/Exchange | System shows stuff detail base on class:  - Image  - Name  - Status  - Description | | 2 | Actor change information in textbox | System validates inputs | | 3 | Actor clicks “Update” | System saves new inputs to database |  1. Delete Stuff  |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | In Manage Stuff page, Actor clicks on Auction/Market/Exchange | System shows stuff detail base on class:  - Image  - Name  - Status  - Description | | 3 | Actor clicks “Delete” | System shows message “Are you sure to delete this stuff?” | | 4 | Actor clicks yes | System inactive the stuff and stop display it | | | |
| Abnormal Flow | |  |  |  | | --- | --- | --- | | No | Cause | System Respone | | 1 | Actor deletes stuff being auction | System show message “Stuff is being auctioned. You still want to delete it”. If yes, send request to Admin/Moderator | | 2 | Actor deletes donate stuff that are waiting for review | System show message “Stuff is being reviewed. You still want to delete it”. If yes, send request to Admin/Moderator | | | |
| Bussiness Rules: |  | | |
| Assumtions: | - Actor’s internet connection is available | | |

**2.8 Exchange Stuff**

**A screenshot of a phone

Description automatically generated with medium confidence**

|  |  |  |  |
| --- | --- | --- | --- |
| Primary Actor | User | Secondary Actor: | N/A |
| Trigger: | The actor wants to exchange stuff on the application | | |
| Description | This feature allow actor to exchange stuff with other people | | |
| Pre-condition | Stuff is valid on the application | | |
| Post-condition | Success: Show notification, actor can see transaction  Fail: The system shows error message corresponding to error code | | |
| Normal Flow | 1.Actor is not the owner   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | In Exchange Stuff page, Actor clicks on Exchange stuff to see it detail | System shows stuff detail base on class:  - Image  - Name  - Status  - Description | | 2 | Actors click “Trao đổi ngay” | System displays the Actor’s stuff | | 3 | Actors choose the stuff to trade with | System show notification that exchange request has been sent to the owner |   2. Actor is the owner   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Actor can view the suggested stuff | System shows stuff detail base on class:  - Image  - Name  - Status  - Description | | 2 | Actors click “Đồng ý trao đổi” | System redirect actor to chatbox | | | |
| Abnormal Flow | 1.if owner and user agree to exchange   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Owner and User click “Xác nhận trao đổi” | System creates a transaction | | 2 | Both users decide a schedule and set schedule | System store schedule and send notification to both user | | 3 | Users give feedback and rate for the stuff owner | System store feedback and rate to display to owner |   2.if owner does not agree to exchange   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Ower clicks notification to view suggested stuff | System shows stuff detail base on class:  - Image  - Name  - Status  - Description | | 2 | Owner clicks “Từ chối trao đổi” | System closes the modal and redirect to home page |   2.if user does not agree to exchange   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | User and owner use chatbox to discuss | Show chat to both user | | 2 | Users click “Từ chối trao đổi” | System closes the chat, send notification, redirect to home page | | | |
| Bussiness Rules: |  | | |
| Assumtions: |  | | |

**2.9 Market Stuff**

**A screenshot of a phone

Description automatically generated with medium confidence**

|  |  |  |  |
| --- | --- | --- | --- |
| Primary Actor | User | Secondary Actor: | N/A |
| Trigger: | The actor wants to buy/sell stuff on the application | | |
| Description | This feature allow actor to buy/sell stuff with other people | | |
| Pre-condition | Stuff is valid on the application | | |
| Post-condition | Success: Show notification, actor can see transaction  Fail: The system shows error message corresponding to error code | | |
| Normal Flow | 1.Actor is the buyer   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | In Market Stuff page, Actor clicks on Market stuff to see it detail | System shows stuff detail base on class:  - Image  - Name  - Status  - Description | | 2 | Actors click “Mua ngay” | System displays the form to input the information | | 3 | Actors choose two type of ship method: direct purchase, Ship by Seller | System shows fields to input address or send notification to seller |   2. Actor is the seller   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Actors can view buyer request | System shows buyer’s information and ship method | | 2 | Actors view the address and ship the stuff to buyer | System changes the status to “Giao dịch đang được thực hiện” | | | |
| Abnormal Flow | 1.Buyer choose direct purchase   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Actor can view buyer request | System shows buyer’s information and ship method | | 2 | Buyer and seller chat to schedule to meet | System provides private chat | | | |
| Bussiness Rules: | BR-02, BR-03 | | |
| Assumtions: |  | | |

**2.10 Stuff Detail’s Built-in Chat**

|  |  |  |  |
| --- | --- | --- | --- |
| Primary Actor | User | Secondary Actor: | N/A |
| Trigger: | The actor wants to discuss about the stuff | | |
| Description | This feature allow actor to chat with the stuff owner | | |
| Pre-condition | Stuff is valid on the application | | |
| Post-condition | Success: Actor can send message and receive it  Fail: The system shows error message corresponding to error code | | |
| Normal Flow | 1. The conversation is new.  |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Actors click chat button in view stuff detail | System creates new conversation and pin stuff in conversation | | 2 | Both actor and owner chat to discuss | System renders message of conversation |  1. The conversation is existed.  |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Actors click chat button in view stuff detail | System renders chat history, update stuff status in conversation | | 2 | Both actor and owner chat to discuss | System renders message of conversation | | | |
| Abnormal Flow |  | | |
| Bussiness Rules: | BR-02, BR-03 | | |
| Assumtions: |  | | |

**2.11 Private Chat**

|  |  |  |  |
| --- | --- | --- | --- |
| Primary Actor | User | Secondary Actor: | N/A |
| Trigger: | The actor wants to view chat history | | |
| Description | This feature allow actor to view and join to old conversation | | |
| Pre-condition | Stuff is valid on the application | | |
| Post-condition | Success: Actor can send message and receive it  Fail: The system shows error message corresponding to error code | | |
| Normal Flow | |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Actors click chat button in the page header | System open chat drawer and render lists conversation | | 2 | Actors select conversation to join chat | System renders list message and scroll to newest message | | 3 | Actors enter message and click send | Store message to session, transfer message to socket, send to receiver. | | | |
| Abnormal Flow |  | | |
| Bussiness Rules: | BR-02, BR-03 | | |
| Assumtions: |  | | |

**2.12 View Point History**

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Description automatically generated

|  |  |  |  |
| --- | --- | --- | --- |
| Primary Actor | User | Secondary Actor: | N/A |
| Trigger: | The actor wants to view point history and overview the frequency of using points | | |
| Description | This feature store and display point spend and receive on the website | | |
| Pre-condition | User has use point on the website | | |
| Post-condition | Success: Show chart, point history list and detail  Fail: The system shows error message corresponding to error code | | |
| Normal Flow | |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Actors click on user avatar at the right corner of website | Show dropdown box with list of feature | | 2 | Actors click on “Ví FP” | System redirect user to point history page | | | |
| Abnormal Flow | N/A | | |
| Bussiness Rules: | BR-01, BR-03 | | |
| Assumtions: | N/A | | |

**2.14 View Stuff Storage**

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|  |  |  |  |
| --- | --- | --- | --- |
| Primary Actor | User | Secondary Actor: | N/A |
| Trigger: | Actors want to view their stuff, modify stuff | | |
| Description | This feature will display all stuff users have and allow them to modify it | | |
| Pre-condition | User must have stuff in exchange, buy, or store on website | | |
| Post-condition | Success: Display all stuff, can modify stuff  Fail: The system shows error message corresponding to error code | | |
| Normal Flow | |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Actors click on user avatar at the right corner of website | Show dropdown box with list of features | | 2 | Actors click on “Tủ Đồ” | Redirect actor to “Tủ đồ” page | | 3 | Actors click on stuff | Display a modal with stuff detail |  |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Actors click on menu modal | Show dropdown box with list of features | | 2 | Actors click on “Chỉnh sửa” | Show box to choose stuff category and type | | 3 | Actors click “Tiếp tục” | Show form to edit stuff detail | | 4 | Actors click “Cập nhật” | Show notifcation and save stuff |  |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Actors click on menu modal | Show dropdown box with list of features | | 2 | Actors click on “xoá” | Show alert box to confirm | | 3 | Actors click “Xác nhận” | Delete Stuff form list | | | |
| Abnormal Flow | N/A | | |
| Bussiness Rules: | BR-01, BR-02, BR-05, BR-07 | | |
| Assumtions: |  | | |

**2.15 View Transaction History**

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|  |  |  |  |
| --- | --- | --- | --- |
| Primary Actor | User | Secondary Actor: | N/A |
| Trigger: | Actors want to view complete transaction, on-going… | | |
| Description | This feature will allow actors view transaction, cancel transaction, … | | |
| Pre-condition | There must be a transaction on the website | | |
| Post-condition | Success: List of transaction will display, actors can cancel transaction  Fail: The system shows error message corresponding to error code | | |
| Normal Flow | |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Actors click on user avatar at the right corner of website | Show dropdown box with list of features | | 2 | Actors click on “Lịch sử giao dịch” | Redirect actor to “Lịch sử giao dịch” page | | 3 | Actors click on type of transaction | Display list of transaction based on Type | | 4 | Actors click on transaction | Display status, detail of transaction |  |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Actors click on transaction | Display status, detail of transaction | | 2 | Actors click “Huỷ giao dịch” | Display a box to enter reason | | 3 | Actors click “xác nhận huỷ” | Cancel transaction, show notification to stuff owner and actors, change status. | | | |
| Abnormal Flow | N/A | | |
| Bussiness Rules: | BR-01, BR-02, BR-05, BR-07 | | |
| Assumtions: | N/A | | |

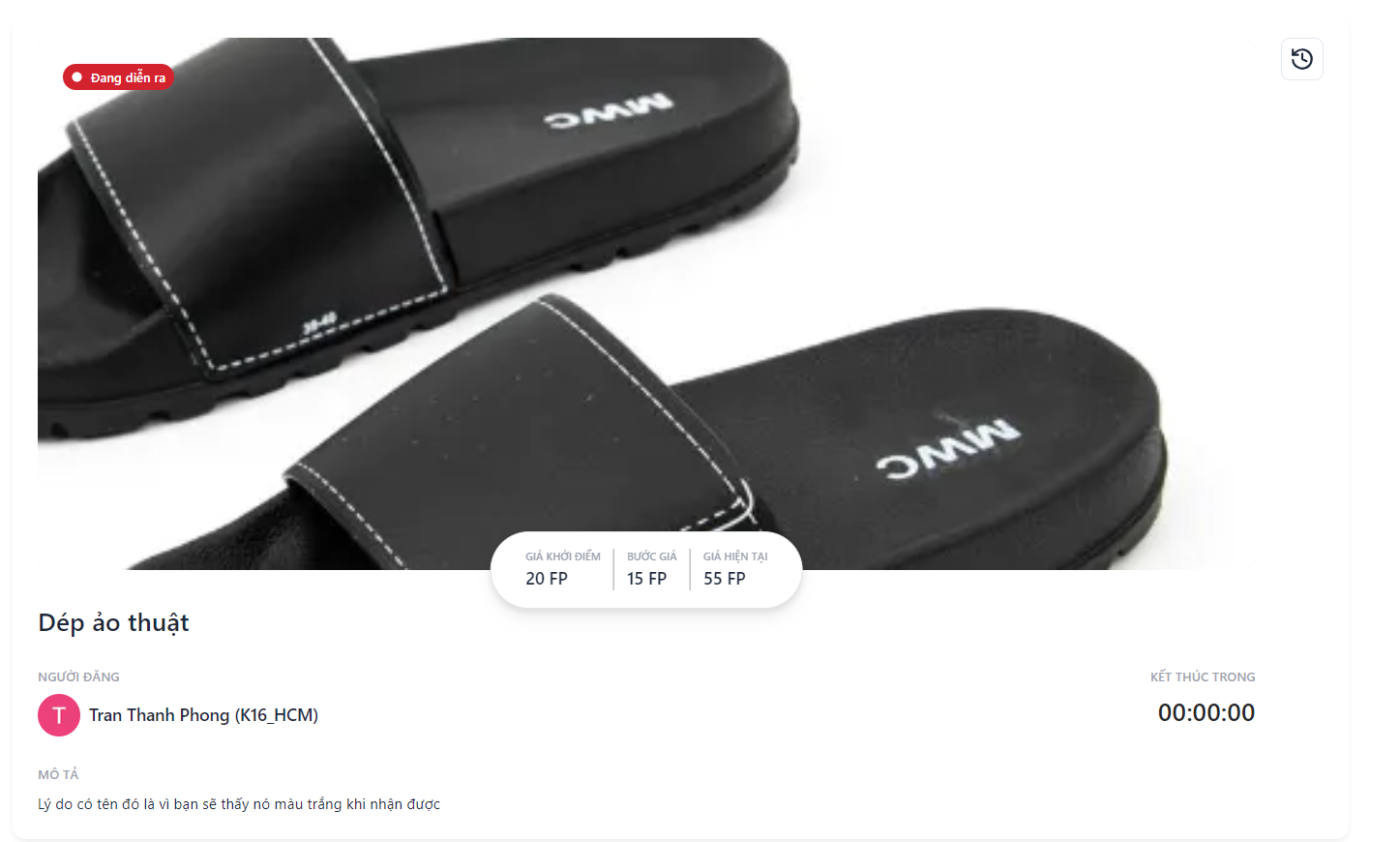
**2.16 View Feedback**

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|  |  |  |  |
| --- | --- | --- | --- |
| Primary Actor | User | Secondary Actor: | N/A |
| Trigger: | Actors want to feedback to the stuff owner, view feedback | | |
| Description | This feature will allow actors view feedback, write feedback. | | |
| Pre-condition | There must have a complete transaction on the website | | |
| Post-condition | Success: Allow actors write feedback, view feedback  Fail: The system shows error message corresponding to error code | | |
| Normal Flow | |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Actors click on user avatar at the right corner of website | Show dropdown box with list of features | | 2 | Actors click on “Đánh giá” | Redirect actor to “Đánh giá” page | | 3 | Actors click on “chưa đánh giá” or “đã đánh giá” | Display list base ion type user choose |  |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Actors click on “đánh giá ngay” | Display a box to enter star and comment | | 2 | Actors click “xác nhận” | Show success notification and save feedback to db | | | |
| Abnormal Flow | N/A | | |
| Bussiness Rules: | BR-05, BR-03, BR-08, BR-07 | | |
| Assumtions: | N/A | | |

**2.17 Auction**

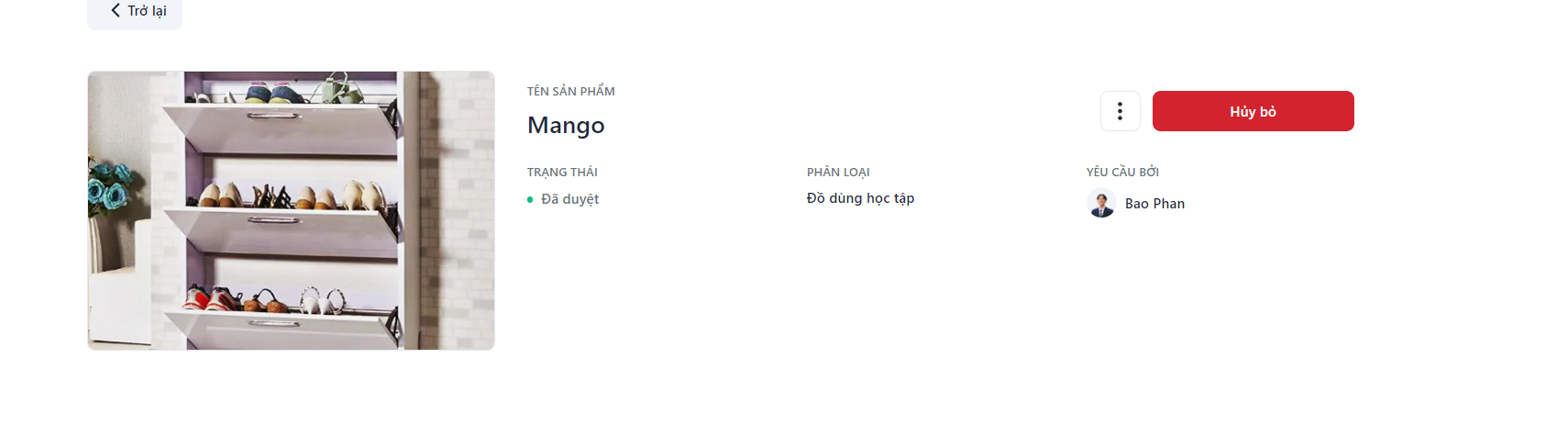
****

|  |  |  |  |
| --- | --- | --- | --- |
| Primary Actor | User | Secondary Actor: | N/A |
| Trigger: | Actors want to place a bid for stuff they like | | |
| Description | This feature allows actors enter a price and bid | | |
| Pre-condition | Actors have more point than current price | | |
| Post-condition | Success: new price will be set to stuff  Fail: The system shows error message corresponding to error code | | |
| Normal Flow | |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Actors click on stuff post at Auction page | Display stuff detail along with price and time | | 2 | Actors enter price | Check the price if larger than current price | | 3 | Actors click “place a bid” | Compare actor’s price with stuff’s price, set new price if it approved | | | |
| Abnormal Flow | N/A | | |
| Bussiness Rules: | BR-09, BR-08, BR-06, BR-07 | | |
| Assumtions: | N/A | | |

**2.18 View Request**

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|  |  |  |  |
| --- | --- | --- | --- |
| Primary Actor | Moderator | Secondary Actor: | Admin |
| Trigger: | Actor wants to view and approve for user’s request | | |
| Description | This feature will display list of requests and let actor decide whether approve that request or not | | |
| Pre-condition | The request has been sent to website | | |
| Post-condition | Success: list of request displayed and mod can view request detail and approve it  Fail: The system shows error message corresponding to error code | | |
| Normal Flow | |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Actors choose type of request (deposit, auction...) | Display list base on type actors has choose | | 2 | Actors click on the request | Display request detail and button to approve | | 3 | Actors click on “chấp nhận” | Set the request to ongoing and send notification |  |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Actors choose type of request (deposit, auction...) | Display list base on type actors has choose | | 2 | Actors click on the request | Display request detail and button to approve | | 3 | Actors click on “Huỷ bỏ” | Set the request to denied and send notification | | | |
| Abnormal Flow | N/A | | |
| Bussiness Rules: | BR-05, BR-03, BR-08, BR-07 | | |
| Assumtions: | N/A | | |

**2.19 View Available Stuff on Website**

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|  |  |  |  |
| --- | --- | --- | --- |
| Primary Actor | Moderator | Secondary Actor: | Admin |
| Trigger: | Actors want to view available stuff on the website and inspect the content | | |
| Description | This feature allows actor view and send modify request to stuff owner | | |
| Pre-condition | N/A | | |
| Post-condition | Success:  Fail: The system shows error message corresponding to error code | | |
| Normal Flow | |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Actors click on “kho đồ” tab | Show all stuff that posted on website | | 2 | Actors click on random stuff | Display stuff detail |      |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Actors click on menu modal of stuff | Show dropbox with 2 options | | 2 | Actors click on “Yêu cầu chỉnh sửa” | Display a box to choose reason | | 3 | Actors choose reason and click “Gửi” | Send notification to stuff owner |  |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Actors click on menu modal of stuff | Show dropbox with 2 options | | 2 | Actors click on “Xoá vĩnh viễn” | Display a alert box to notify actor | | 3 | Actors click on “OK” | Permently delete the stuff and notify stuff owner | | | |
| Abnormal Flow | N/A | | |
| Bussiness Rules: | BR-01, BR-02, BR-05, BR-07 | | |
| Assumtions: | N/A | | |

III. Additional Document

1. **Requirement Prioritization**

- Critical Requirements:

* Sign in: This is essential for both guests and users to access the website and its functionalities.
* View/Edit Profile: Users should be able to manage their profile information.
* View Inventory: Users need to be able to see the items they currently have in their inventory.
* Add/Modify Stuff: Users should be able to add new items or make changes to existing ones.
* Chat System: Enable users to communicate with each other, as well as with moderators and admins, regarding item inquiries, negotiations, and general communication related to transactions.

- High-Priority Requirements:

* Search and View Stuff: Guests and users should be able to search for and view items available for exchange, market, and auction.
* Exchange, Buy, Sell, Donate, Bid Stuff: Users should have the ability to perform various actions related to items, such as exchanging, buying, selling, donating, and bidding.
* Earn Points: Users should be able to accumulate points based on their activities on the website.
* Transaction History: Allow users to view a record of their past transactions, including item details, dates, parties involved, and transaction status.

- Medium-Priority Requirements:

* Stuff Moderation: Moderators should have the ability to review and moderate the items listed on the website.
* View/Edit Request from User: Moderators should be able to view and edit user requests, including donation requests and deleting items in progress.
* User's Feedback: Provide users with the ability to leave feedback and ratings for their transactions with other users. Implement a feedback management system for users to view and respond to received feedback.

- Low-Priority Requirements:

* View/Edit Account: Admin users should have access to view and edit user and moderator accounts.
* View/Edit Request from User: Admin users should be able to view and edit user requests, including donation requests and deleting items in progress.
* Point History: Enable users to access a point history section where they can view a log of their earned points, including information on how they were accumulated.

- Additional Features:

* User Messaging: Implement a messaging system for communication between users, moderators, and admins.
* Notifications: Send notifications to users regarding important activities.
* Reporting and Flagging: Allow users to report inappropriate content or flag suspicious activities.
* User Reviews and Ratings: Enable users to leave reviews and ratings for their transactions and interactions.
* Categories and Filters: Implement a categorization system and filtering options for better item discovery.

1. **Risk Management**

- Risk: Poor User Experience Design

* Potential Impact: Users find the website difficult to navigate, leading to frustration and abandonment.
* Mitigation Strategy: Conduct user research and usability testing to understand user needs and preferences. Design an intuitive and user-friendly interface with clear navigation, well-organized categories, and easily accessible features. Continuously gather user feedback and make iterative improvements to enhance the user experience.

- Risk: Slow Performance and Loading Times

* Potential Impact: Slow page loading times result in user dissatisfaction and increased bounce rates.
* Mitigation Strategy: Optimize website performance by implementing techniques such as caching, minification of files, and image optimization. Conduct regular performance testing to identify bottlenecks and address any issues. Utilize content delivery networks (CDNs) to distribute website content and reduce latency.

- Risk: Incompatibility with Different Devices and Browsers

* Potential Impact: Users may encounter issues accessing the website on various devices or browsers, leading to a diminished user base.
* Mitigation Strategy: Ensure the website is compatible with popular browsers (e.g., Chrome, Firefox, Safari) and responsive across different screen sizes and devices (e.g., desktops, tablets, mobile phones). Conduct cross-browser and cross-device testing to identify and resolve any compatibility issues.

- Risk: Poor Mobile User Experience

* Potential Impact: Increasing mobile user base may face difficulties using the website, resulting in decreased engagement and conversion rates.
* Mitigation Strategy: Implement a mobile-first design approach, optimizing the website for mobile devices with responsive layouts, touch-friendly controls, and streamlined workflows. Conduct thorough testing on different mobile devices and screen sizes to ensure a smooth mobile user experience.

- Risk: Lack of Accessibility

* Potential Impact: Inaccessible website design may exclude users with disabilities, leading to legal compliance issues and reputational damage.
* Mitigation Strategy: Design and develop the website with accessibility guidelines in mind, following WCAG (Web Content Accessibility Guidelines) standards. Provide alternative text for images, ensure proper color contrast, support keyboard navigation, and provide text alternatives for non-text content. Conduct accessibility audits to identify and address any accessibility barriers.

- Risk: Data Loss or Corruption

* Potential Impact: Loss or corruption of user data, including inventory, transaction history, and user profiles.
* Mitigation Strategy: Implement regular data backups and ensure data integrity through robust data storage and database management practices. Implement security measures such as encryption and access controls to protect user data from unauthorized access or loss.

- Risk: Security Breach

* Potential Impact: Unauthorized access to user data, including personal information and transaction details.
* Mitigation Strategy: Implement robust security measures such as encryption, secure authentication, and regular security audits. Follow best practices for handling sensitive data and comply with relevant privacy regulations.

- Risk: User Disputes and Fraudulent Activities

* Potential Impact: Users engaging in fraudulent transactions, disputes arising from misrepresented items or non-payment.
* Mitigation Strategy: Implement a verification process for users, including identity verification and user ratings. Establish clear policies for item listings, transactions, and dispute resolution. Provide secure payment options and ensure transparency in user feedback and ratings.

- Risk: Technical Failure or System Downtime

* Potential Impact: Website unavailability, loss of user trust, and financial losses.
* Mitigation Strategy: Regularly monitor the website's performance, conduct thorough testing, and implement redundancy measures to minimize downtime. Have a backup and recovery plan in place to restore functionality quickly in case of technical failures or system crashes.

- Risk: Insufficient User Adoption

* Potential Impact: Limited user engagement and low usage of the website.
* Mitigation Strategy: Conduct market research to understand user needs and preferences. Develop a user-friendly interface with intuitive navigation and appealing design. Implement effective marketing and promotional strategies to attract and retain users. Continuously gather user feedback and make improvements based on user suggestions.

- Risk: Legal and Compliance Issues

* Potential Impact: Non-compliance with relevant laws and regulations, leading to legal penalties and reputational damage.
* Mitigation Strategy: Stay updated with local laws and regulations related to online transactions, user privacy, and data protection. Ensure compliance with applicable regulations, such as GDPR or CCPA. Seek legal counsel to review website terms of service, privacy policy, and user agreements to mitigate legal risks.

- Risk: Inadequate Scalability

* Potential Impact: Inability to handle increased user traffic and growing demands on the website.
* Mitigation Strategy: Design the website architecture to be scalable, considering potential future growth. Implement load balancing, caching mechanisms, and cloud infrastructure to handle increased traffic. Continuously monitor website performance and plan for scalability upgrades as needed.

- Risk: Lack of Trust and User Safety

* Potential Impact: Users hesitate to participate due to concerns about fraudulent activities, privacy, or unreliable sellers.
* Mitigation Strategy: Establish a comprehensive user verification process to build trust among users. Implement user ratings and feedback systems to provide transparency and build confidence. Educate users about safe online trading practices and provide clear guidelines for secure transactions.