

COMP9900 23T3

Project Report Assessment

Project Title: Woolworths/Coles Collectables Exchange Management System

Group: 9900M11B5Gusts

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1. Overview

1.1 Background

Coles and Woolworths are two of the most popular supermarket chains in Australia. They are among the largest retailers in the country, with locations nationwide, providing consumers with a wide range of products and services for their daily needs. Therefore, the collectible collection campaigns they introduce have attracted a significant number of customers to participate. Many individuals require a platform to exchange or acquire the collectibles they need. Many individuals require a platform to exchange or acquire the collectibles they need.

1.2 Project Description

Considering the need of exchanging collections between users, it is possible to see the collections posted by other users in the marketplace after the user registers. In order to make the exchange process a more convenient experience, users can view the information of the posters and send exchange requests directly to the holders. After negotiation, the item can be acquired by exchanging it or paying for it.

Compared to other websites, we focus more on the accuracy and convenience of users in searching for their desired collections. So when a user wants to post their collection, they can do so by manually selecting the category of their collection or by automatically identifying the category by recognizing the item with an image.

Considering that there will be a large number of collections posted on the market as the number of users increases, making a choice can be difficult for some users who don't have a clear goal in mind. Therefore, we design users can add the collections they want to the wishlist, and can view their own exchange history.

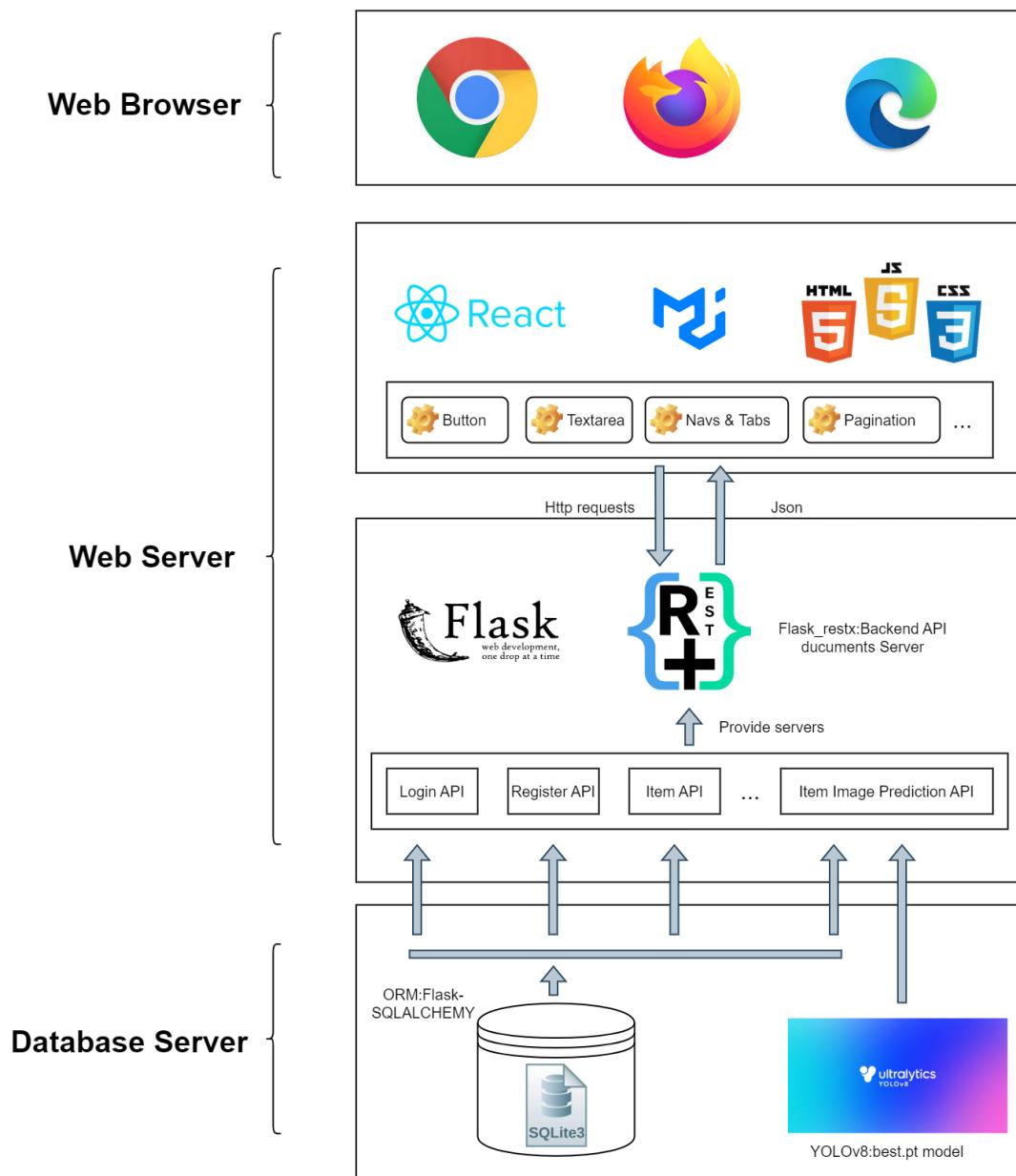
In order to enrich the activities of the site and increase user participation, when the managers publish a new campaign, users can view and comment on the ongoing activities, as well as interact with other users by commenting under their comments.

Managers can upload, edit, delete and archive campaigns. We want to get feedback from users on the campaign, so we designed it so that the campaign can be analyzed by the campaign's comment data. To create a better community environment, managers can manage user comments.

The admin is used for the highest privilege, when the manager uploads a new campaign, the admin has the authority to decide whether the activity is published or not and also can manage users' permissions.

1.3 System Architecture

The system uses B/S Architecture and the Web Server is the separation of front and back ends.

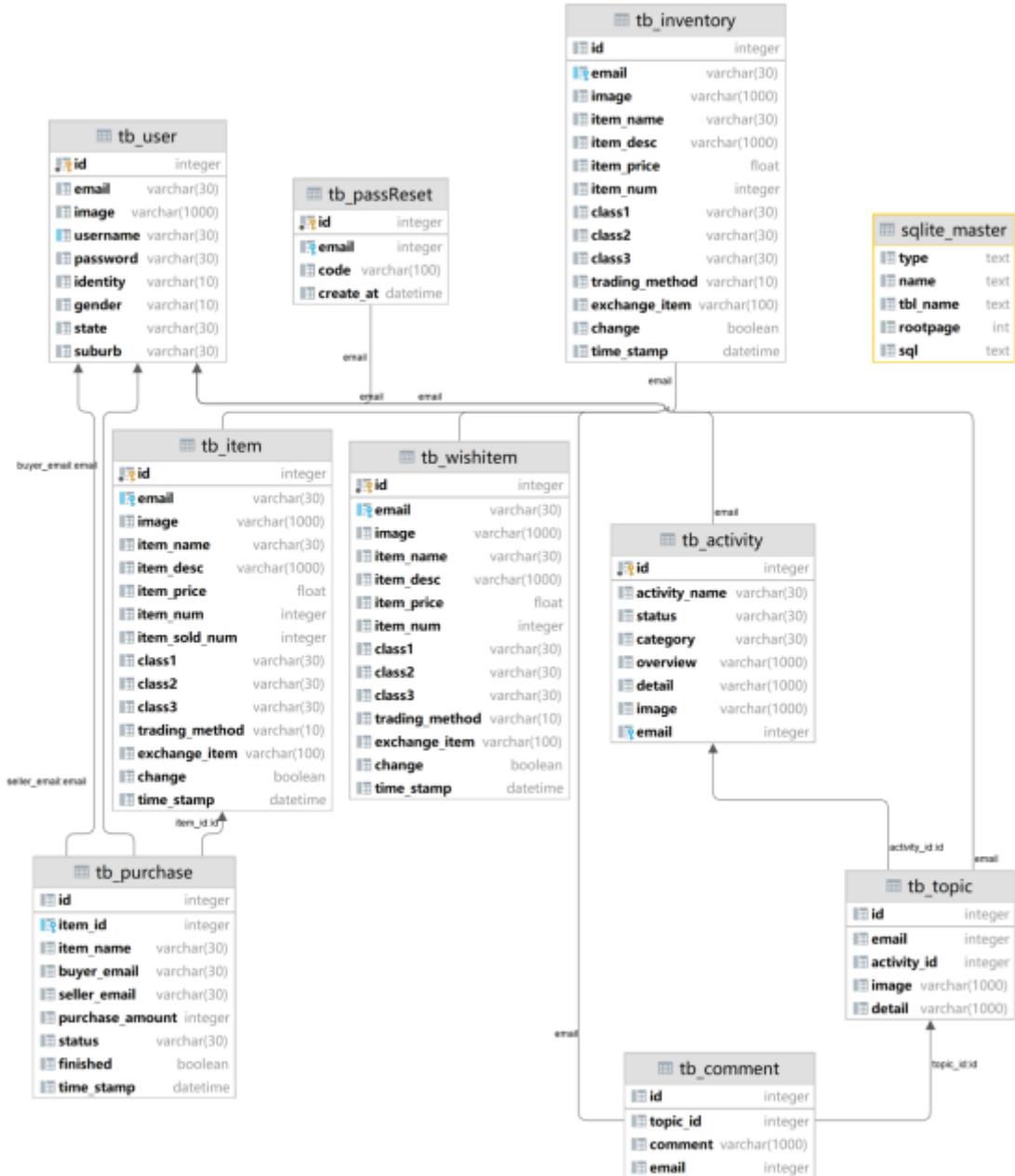


B/S Architecture

2.Data Model

2.1 Database Architecture

The system uses Sqlite3 and there are a total of 9 tables in our system.



Database schema

2.1.1 User Table

Id: primary key

Email: user registers and login email, a unique email is required.

Image: user avatar, base 64 string.

Username & Password: user's name and password.

Identity: user's identity only normal user, manager, and admin required. Registering as a manager or admin needs an identity code.

Gender & state & suburb: user's gender male or female; user's living state(Australia state NSW VIC etc); user's living suburb.

2.1.2 Pass reset table

Id: primary key.

Email: foreign Key REFERENCES user table.

Code: 6 digital numbers. When resetting the email, the system sends an email a code to reset the password.

Time_stamp: reset password action time stamp. A correct code is required to fill in 2 minutes.

2.1.3 Item table

Id: primary key.

Image: item image, base 64 string.

Item name & Item desc: item name and item description.

Item price & Item number: Item price and Item left amount.

Class1 & Class2 & Class3: item three levels of categories.

Trading method & Exchange item: trading method only cash or exchange is required. When the trading method is exchanged, the item price is 0, and an exchange item is required. When the trading method is cash, the item price is required and the exchange item is an empty string.

Change & Time stamp: True or False, the user wants to change or not want to change the item. The system will record the time when the user inserts an item.

2.1.4 Wishlist table

Id: primary key.

Email: foreign Key REFERENCES user table.

Image: wish item image, base 64 string.

Item name & Item desc: wish item name and wish item description.

Item price & Item number: wish item price and Item left amount.

Class1 & Class2 & Class3: wish item three levels of categories.

Trading method & Exchange item: trading method only cash or exchange is required.

When the trading method is exchanged, the item price is 0, and an exchange item is required. When the trading method is cash, the item price is required and the exchange item is an empty string.

Change & Time stamp: True or False, the user wants to change or not want to change the item. The system will record the time when the user inserts a wish item.

2.1.5 Inventory table

Id: primary key.

Email: foreign Key REFERENCES user table.

Image: inventory item image, base 64 string.

Item name & Item desc: inventory item name and inventory item description.

Item price & Item number: inventory item price and inventory left amount.

Class1 & Class2 & Class3: Inventory items have three levels of categories.

Trading method & Exchange item: trading method only cash or exchange is required.

When the trading method is exchanged, the inventory price is 0, and an exchange item is required. When the trading method is cash, an inventory price is required and the exchange item is an empty string.

Change & Time stamp: True or False, the user wants to change or does not want to change the inventory. The system will record the time when the user inserts an inventory.

2.1.6 Purchase table

Id: primary key.

Item id & Item name: item id is the foreign key REFERENCES item table. The item name is the item's name.

Buyer email & Seller email: foreign key REFERENCES user table.

Purchase amount: The buyer wants to purchase the total amount.

Status & finished: Only processing, approved, and rejected are required in status fields. When the status is not processing, finished is True, else False.

Timestamp: The system will record the time when there is a purchase action.

2.1.7 Activity table

Id: primary key.

activity_name: The activity name.

status: The status of the activity. 0 represents unapproved activity. 1 represents approved activity. 2 represents archived activity.

category: The category of the activity.

overview: The overview of the activity.

detail: The detail of the activity.

image: The image of the activity.

email: The email of the activity.

2.1.8 Comment table

Id: primary key.

topic_id: The topic id of the comment.

comment: The content of the comment.

email: The email address of the people who comment on the topic.

2.1.9 Topic table

Id: primary key.

email: The email address of the user who creates the topic.

activity_id: The activity id of the activity to which the topic belongs.

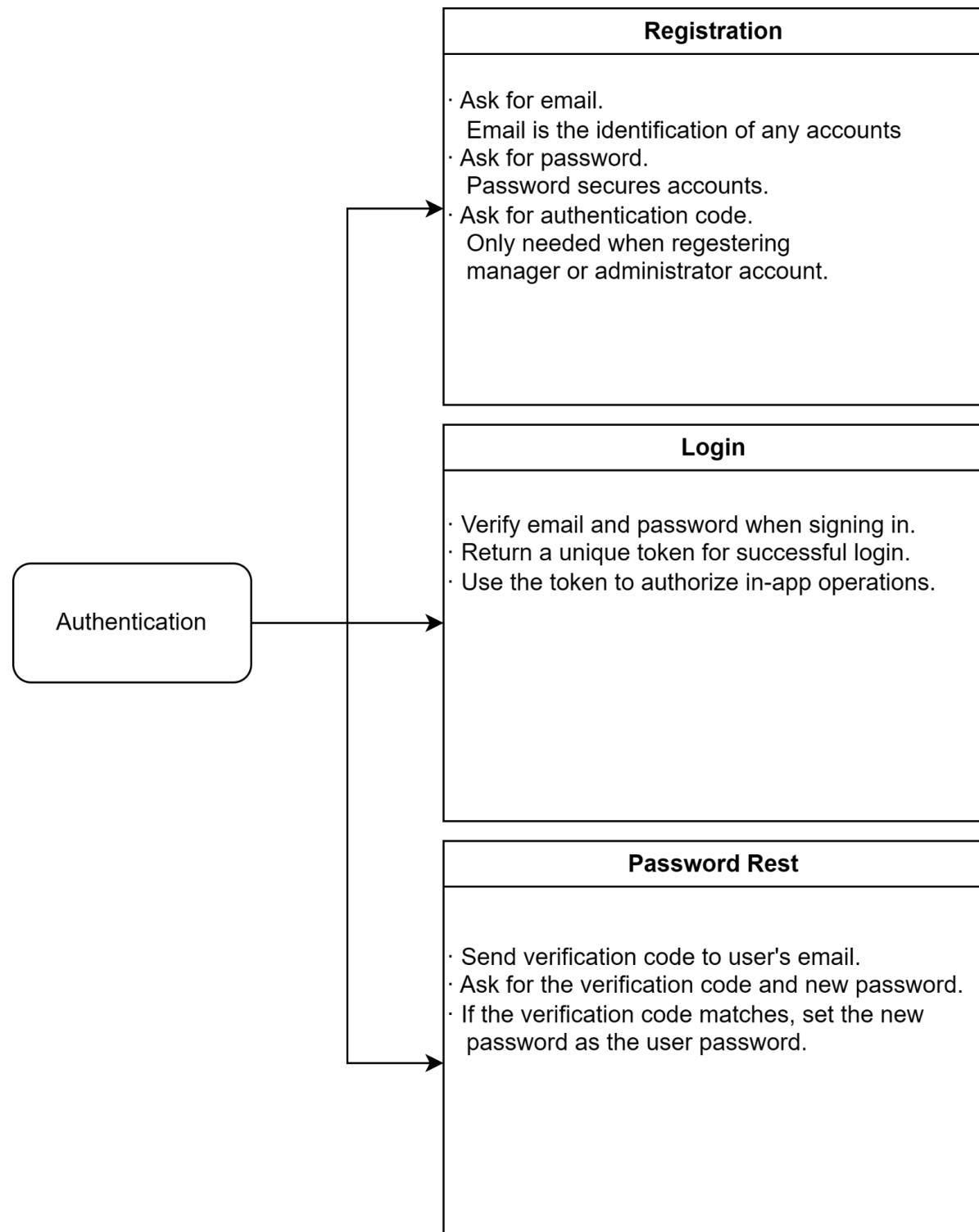
image: The image of the topic.

detail: The detail of the topic.

3. Functionalities

3.1 Authentication and Accounts

Authentication consists of 3 main parts: registration, login, and password reset.



3.1.1 Registration

When registering a new account, email and password are required. Our system uses email to identify users, so email must be unique. When the user is typing a password, an indicator bar will show up to tell the user the estimated strength of his password. Longer password, higher strength.

A name is also required in registration. The name can be easily changed afterward.

Users can register successfully if the above 3 pieces of information are provided correctly.

Users are automatically logged in after registration.

For the manager account and administrator account, an additional authorization code is required. The authority of an account can also be changed by administrators after the registration.

3.1.2 Login

Users are required to provide their email and password. If the email or password is not filled out correctly, an error message will be shown on the screen. If the email and password match the information in our database, the user can successfully sign in to our system. A unique token will be sent to the user. The token is a string. It is a new identification of the user's in-app operations.

3.1.3 Password Reset

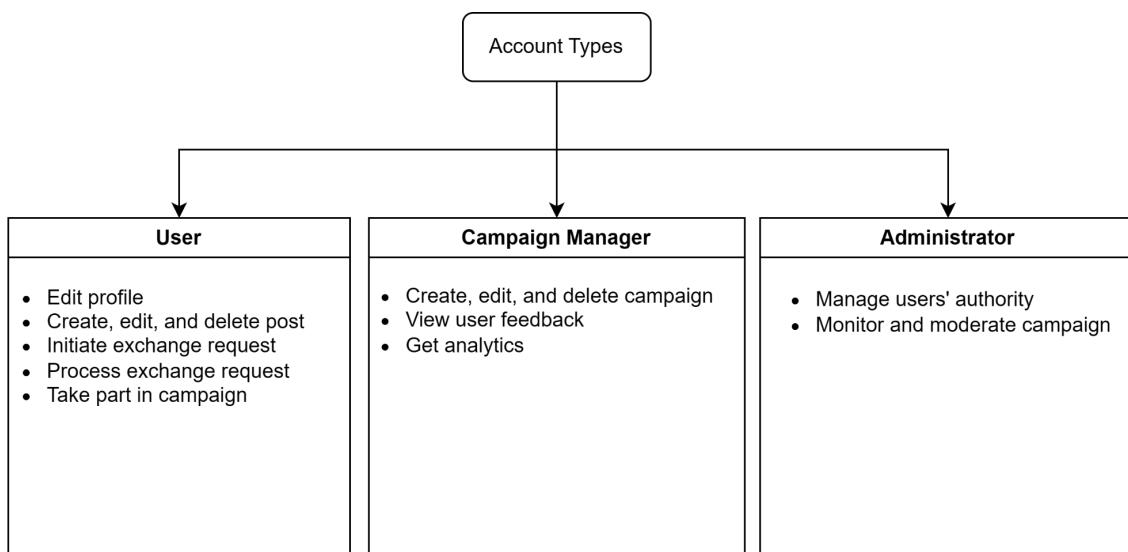
A 'forget password' link can be found on the login page. Clicking that link will lead users to where they can reset their password. A verification code will be sent to the user's email. Each code has a life span of 2 minutes. Users can reset their password if the verification code is correctly and timely submitted.

3.1.4 Accounts

There are 3 types of accounts: user, manager, and administrator.

The user account is what common users possess. They can post, buy, and sell collectibles on the marketplace, edit their own profile, and take part in campaigns.

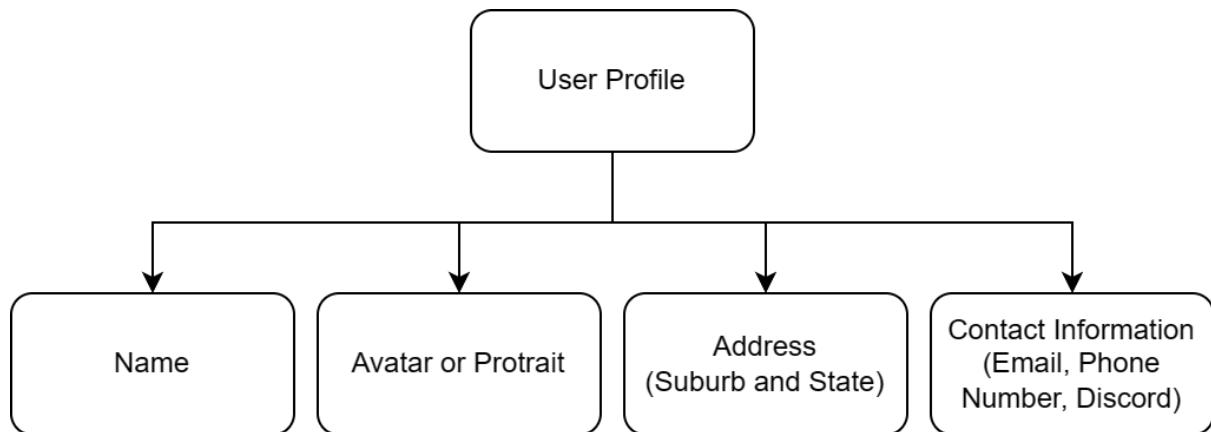
The manager account and administrator account are for the staff who run the platform. More details about account types are listed in the chart below.



3.2 User Profile

There's a profile for every user. Users can edit their name and address, upload an image as an avatar, and update their address and contact information on their profile page.

The user profile can be seen by others. The names of users will be shown somewhere like the marketplace. Clicking their name will open a modal that displays their profile. So do the posted items, wish list, and exchange history. They will be introduced in the 1.1.3 marketplace.



3.3 Marketplace

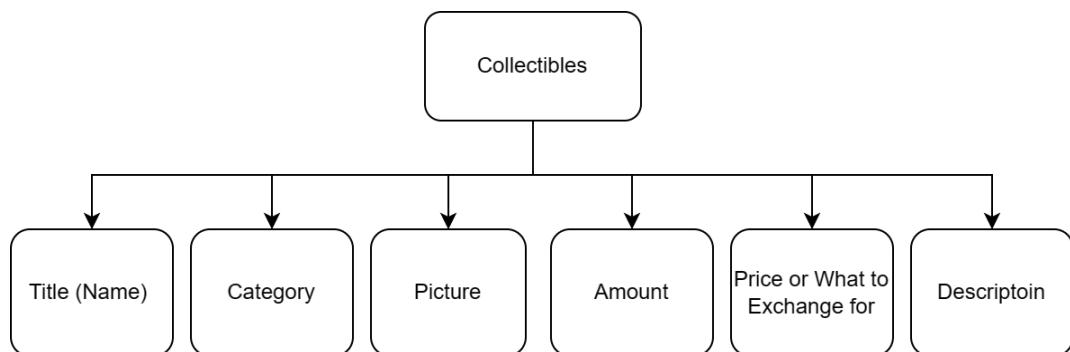
Marketplace is a platform that allows users to post, search, and buy collectibles.

3.3.1 Collectible Posting (Create, Edit, and Delete)

Users can post their collectibles on the marketplace. Their post can be searched based on title and description. All information (listed in the chart below) about the collectibles that users provided can be seen by others.

When all of the collectibles in a post are sold, the post will be marked as 'completed'. Once it is 'completed', it cannot be seen on the marketplace. Users can still find them in their exchange history.

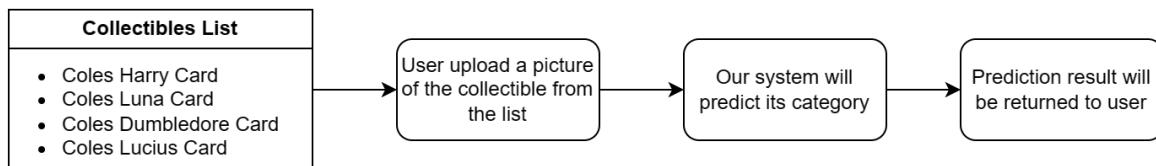
Posts can be edited and deleted by their poster before they are marked as 'completed'.



3.3.2 Collectible Identification System

We trained an object detection and classification model (using Yolo V8) to help users identify what collectibles they have. When a user uploads a photo of their collectibles, our system will automatically run the classification model and predict what category the collectible belongs to. The prediction result will be returned to the frontend and a prompt will be shown to ask users if they want to apply it. This process will take about 3 seconds.

For the time being, our model is only trained for 4 items. They are all collectibles from Coles' Harry Potter series cards. We only went this far because of the lack of training data. We took pictures of the cards by ourselves and manually marked the bounding box. It is extremely time-consuming, so what we can do is build a small model that demonstrates the function. As the number of users grows, more and more pictures will be collected to enrich our training database. Our model will be able to recognize more items than it can today if more data are provided.



3.3.3 Category Filter and Search

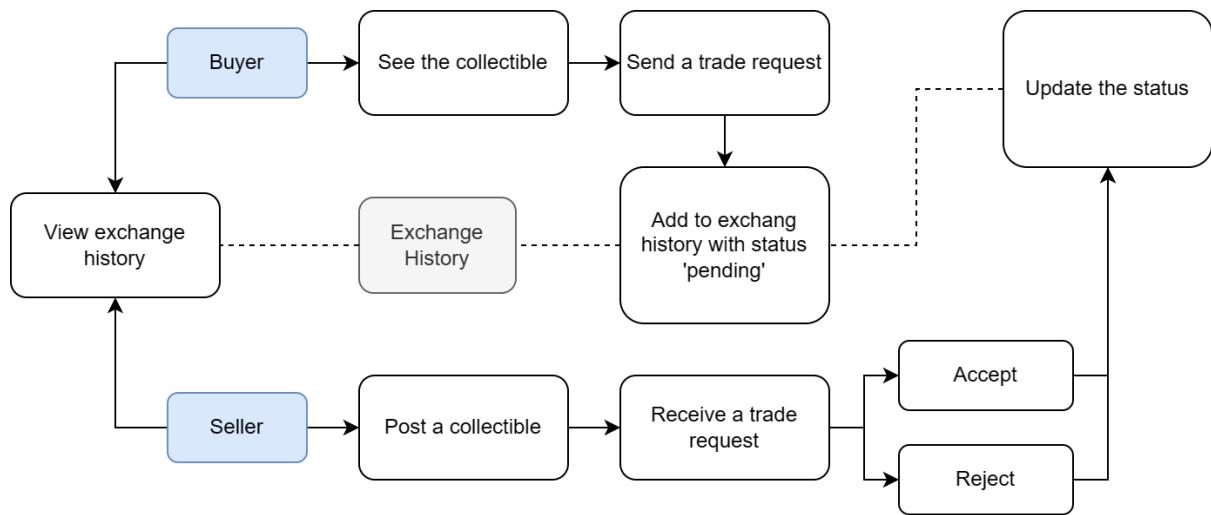
To facilitate users and enhance their experience in finding the collectibles they want, we built a search function with a category filter.

There are many mature and giant social or shopping platforms that exist on the internet, allowing people to exchange collectibles. However, because of their wide range of services and massiveness, they usually don't provide a category listing that is specified for Coles and Woolworth collectibles. So it won't be too easy for their users to find a specific collectible they want among all kinds of stuff and information. Our platform, however, focuses on providing users with an easy-to-use marketplace with up-to-date category listing.

Users can add a category filter when searching for a specific item by clicking the 'choose category' button. Then, our system will filter out all of the stuff that is not under the category, and show the most matching results only.

3.4 Exchange and Trade

There is a simple trade system on our platform. Users can do selling and buying. However, transactions will not be guaranteed safety. Users need to negotiate with each other and exchange their collectibles based on their trust.



3.4.1 Sending and Processing Trade Request

Users can send a trade request to the seller (the user who posted the collectible). The seller will be notified of the trade request, and then the seller can choose if he/she wants to accept the transaction or not. If the transaction is accepted, then it will be removed from the marketplace (if the amount of the item is more than one and only some of the items are sold, the amount will be deducted accordingly) and added to the exchange history.

3.4.2 View exchange history

A transaction has 3 statuses: pending, failed, or completed.

When the transaction is initiated and not yet responded to by the seller, its status is ‘pending’. If the seller accepts the transaction, its status will be changed to complete.

If the seller rejects the transaction, its status will be changed to failed.

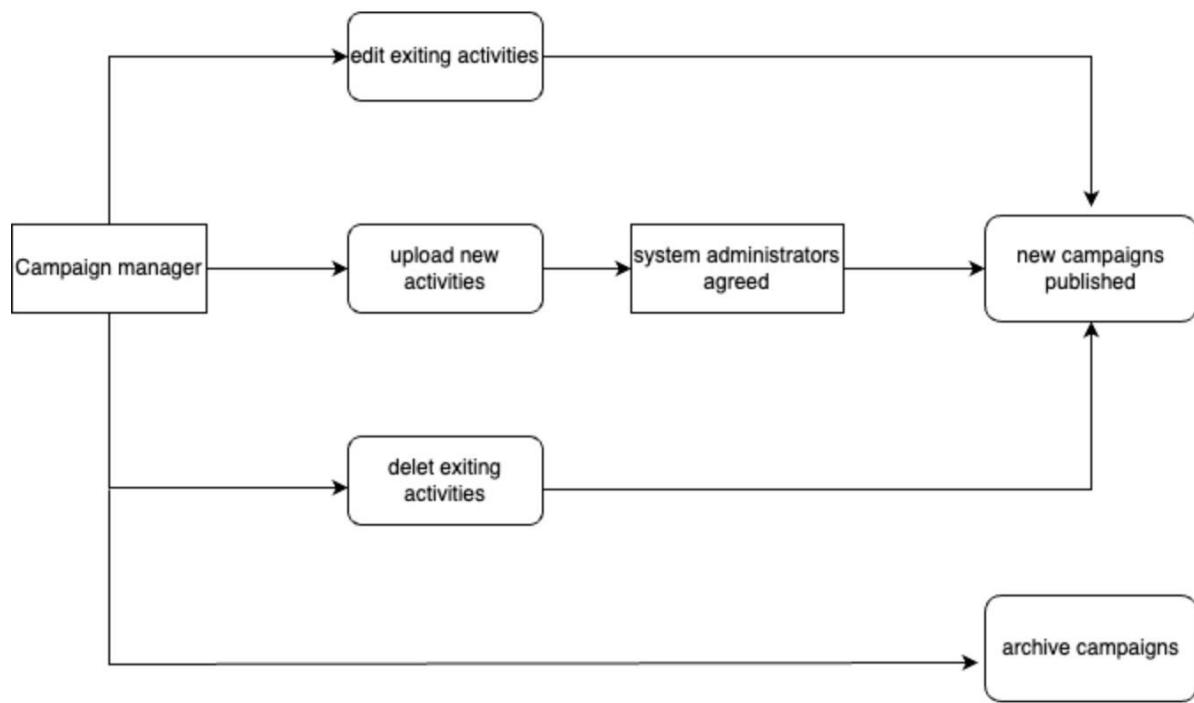
All of the transactions will be documented and can be reviewed in the users’ exchange history. Their status and related information (who? time? item?) will also be clearly stated.

Users can also view the exchange history of others. This would help the user to judge if someone is trustworthy.

3.5 Collectibles Campaign Managers

3.5.1 Post and Advertise

The campaign managers can upload a new activity and also can edit or delete existing activities. Once the campaign manager uploads a new campaign, system administrators receive the campaign application, and after system administrators agree, the new campaign is published to the user.



3.5.2 Campaign Management

The campaign managers can change the status of the campaign and edit or delete existing campaigns. And archive the completed activity.

3.5.3 Analytics

The campaign managers can get the Top10 campaigns with the highest activity, the Top10 activities with the largest number of comments and the Top10 activities with the highest activity of comments from the statistical data of campaign reviews.

3.5.4 User Feedback

The campaign managers can view user feedback on the campaign through the campaign comments. The administrator has the right to delete comments and view user information.

3.6 System Administrators

3.6.1 User Manager System

There are two main functions on this page: manage user permissions and manage user accounts. Administrators have the ability to adjust and set authority for other users or user groups on this page. Including:

- Edit User Permissions: Allocating permission levels for different pages, functionalities, or data that users can access. Administrators can designate users as 'managers.' Users set as managers will obtain all the permissions associated with the manager role, such as the ability to create events and access user feedback.
- Permission Modifications: Administrators have the ability to adjust and modify user permissions as needed, elevating or reducing access levels when necessary.
- User Deletion: Administrators have the ability to delete user accounts that are no longer needed or pose security risks.

3.6.2 Campaign Publication

When a manager creates a new campaign, administrators can view the newly created campaign on this interface. Once approved, the campaign becomes visible to users and open for participation.

3.6.3 Maintaining the Network Environment

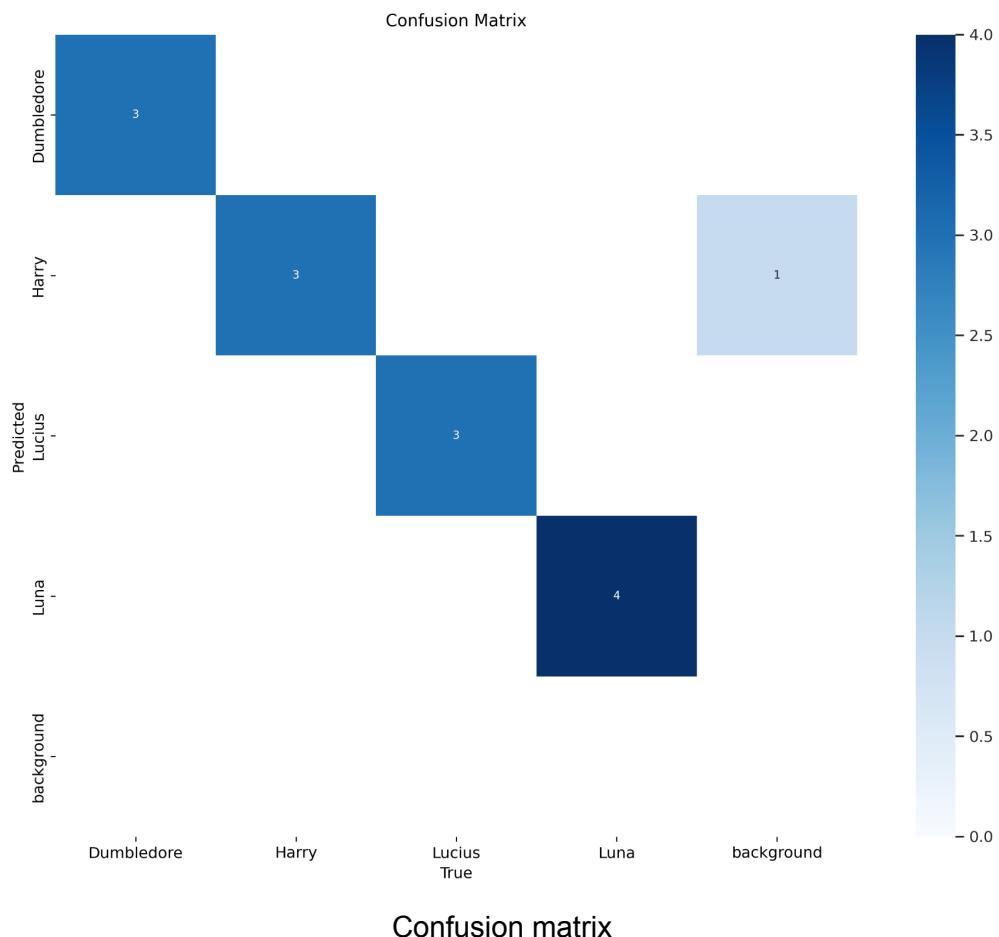
Administrators can access the campaign page to view all comments and posts made by users. They have the authority to remove any inappropriate comments by users when necessary, ensuring a positive campaign experience for all participants.

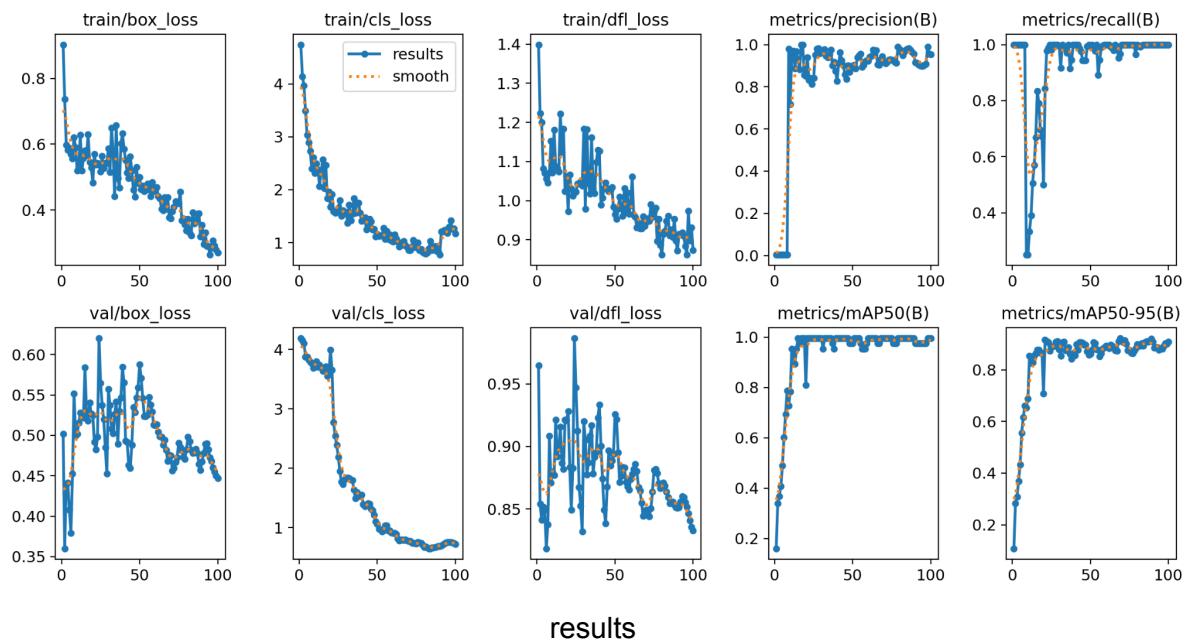
4. Challenge Implementation

We use yolov8 to train our customer datasets. We select Disney Card category item image datasets(Harry cards, Dumbledore cards, Lucius cards, and Luna cards) 4 classes to test our image category prediction function. We used 15 of each class, a total of 60 images we took with our phones, and manually marked the category and bounding box of the photos. We also did dataset preprocessing to increase the generalization ability of the model and make the model have better performance. Here is our operational information such as hyperparameters and data augmentation.

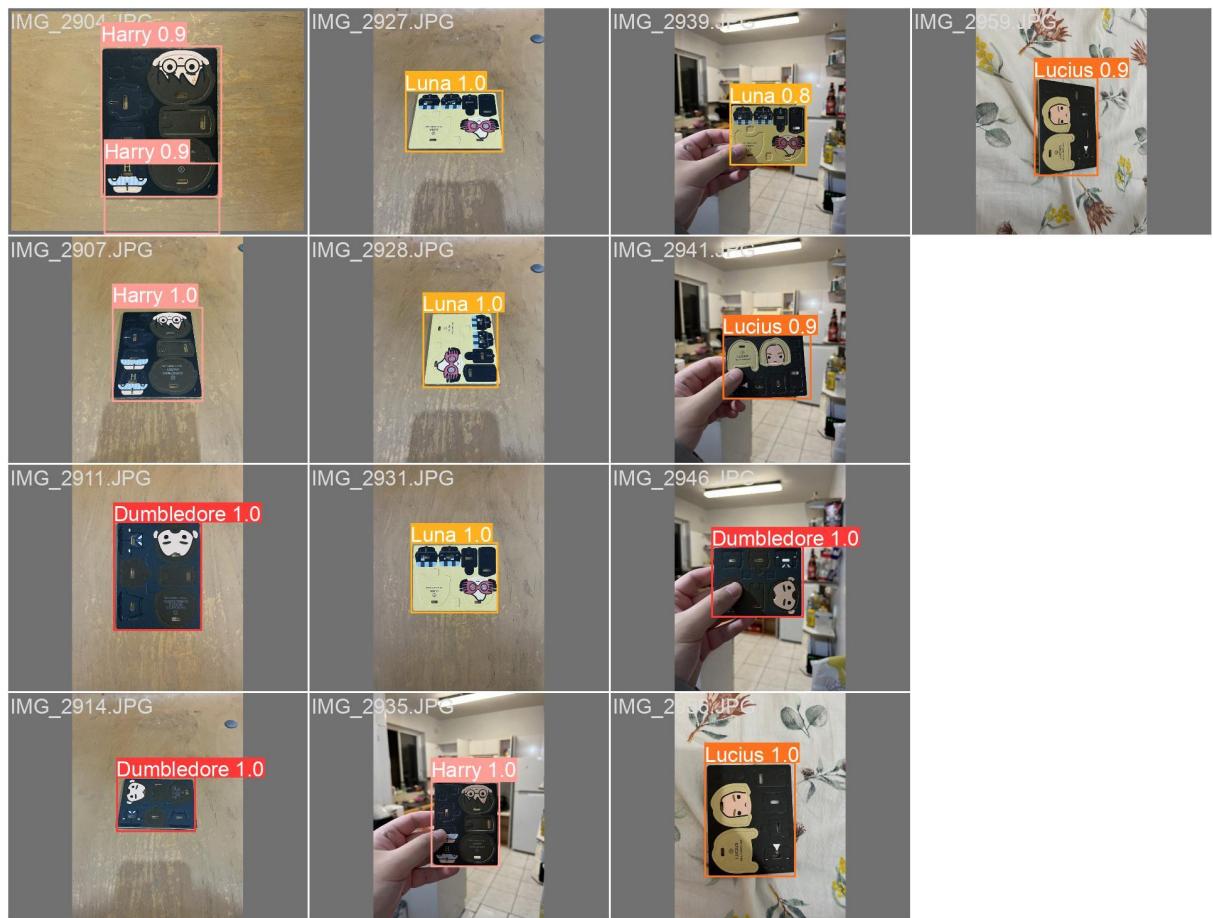
- augment: True
- learning_rate: 0.0001
- momentum: 0.95
- rotate: (0, 360)
- mosaic: 1.0
- mixup: 0.0,
- multi_scale: True
- translate: (0.1, 0.1)
- rect: False

In balancing the model effect and time cost, we found that images with 100 epochs and 1024 dimensions gave better results. Here are the results of the model.

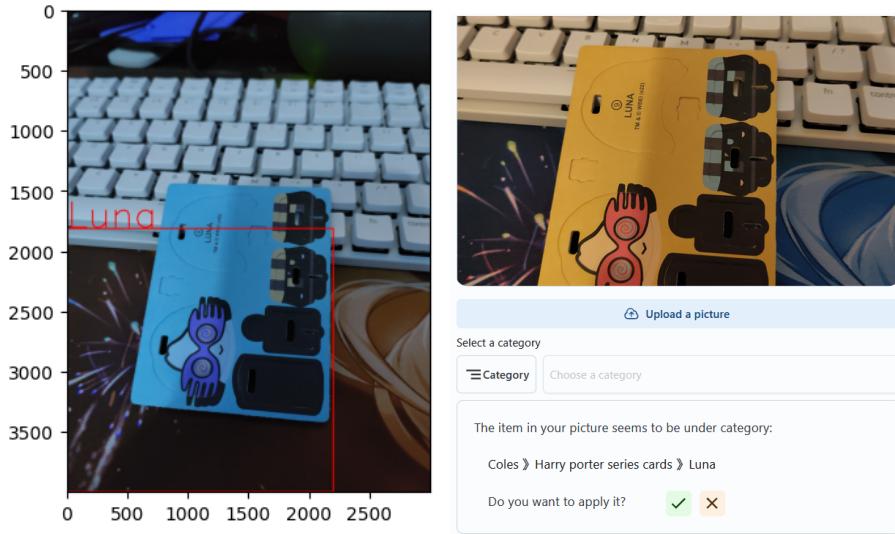




And check the specific results predicted by the model in the training, basically, all categories are predicted correctly, and the prediction results of the bounding box are not hugely different.



We also check the test datasets which are different from the training & validation datasets. We conclude that the model has higher prediction accuracy for photos with fewer background items and photos with obvious separation of cards from the background. Although the forecast and the actual photo IOU may be quite different, only the category of the photo needs to be predicted and returned to the system.



test image results

5. Installation and Manual

5.1 System Setup

We use the Windows operating system, using git to clone the project on your own computer.

```
PS D:\COMP9900\FINAL_VERSION> git clone https://github.com/unsw-cse-comp3900-9900-23T3/capstone-project-9900m11b5gusts.git
Cloning into 'capstone-project-9900m11b5gusts'...
remote: Enumerating objects: 3101, done.
remote: Counting objects: 100% (1326/1326), done.
remote: Compressing objects: 100% (938/938), done.
remote: Total 3181 (delta 384), reused 1292 (delta 361), pack-reused 1775
Receiving objects: 100% (3101/3101), 150.46 MiB | 5.12 MiB/s, done.
Resolving deltas: 100% (1508/1508), done.
PS D:\COMP9900\FINAL_VERSION>
* History restored

● Cloning into 'capstone-project-9900m11b5gusts'...
remote: Enumerating objects: 3133, done.
remote: Counting objects: 100% (1358/1358), done.
remote: Compressing objects: 100% (960/960), done.
remote: Total 3133 (delta 401), reused 1317 (delta 371), pack-reused 1775R
Receiving objects: 100% (3133/3133), 150.49 MiB | 7.56 MiB/s, done.
Resolving deltas: 100% (1525/1525), done.
Updating files: 100% (106/106), done.
```

5.1.1 Backend Setup

Cd to the backend directory

```
PS D:\COMP9900\FINAL_VERSION> cd ..\capstone-project-9900m11b5gusts\backend\
```

Create a virtual environment at backend directory

```
PS D:\COMP9900\FINAL_VERSION\capstone-project-9900m11b5gusts\backend> python -m venv venv
```

Use virtual environment

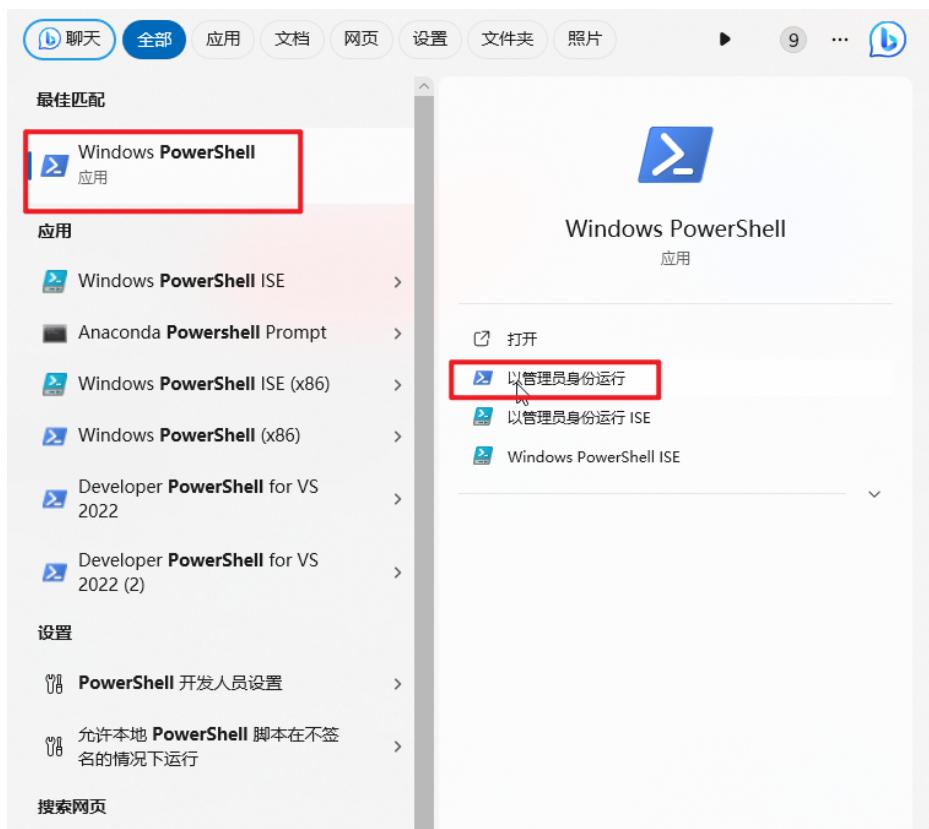
```
● PS D:\COMP9900\FINAL_VERSION\capstone-project-9900m11b5gusts\backend> .\venv\Scripts\Activate
● (venv) PS D:\COMP9900\FINAL_VERSION\capstone-project-9900m11b5gusts\backend> _
```

if you meet the problem below

```
PS D:\UNSW学习资料\9900\9900\capstone-project-9900m11b5gusts\backend> .\venv\Scripts\activate
.\venv\Scripts\activate [-] 无法加载文件 D:\UNSW学习资料\9900\9900\capstone-project-9900m11b5gusts\backend\ve
nv\Scripts\Activate.ps1，因为在此系统上禁止运行脚本。有关详细信息，请参阅 https://go.microsoft.com/fwlink/?L
inkID=135170 中的 about_Execution_Policies。
所在位置 行:1 字符: 1
+ .\venv\Scripts\activate
+ ~~~~~
+ CategoryInfo          : SecurityError: (:) [], PSSecurityException
+ FullyQualifiedErrorId : UnauthorizedAccess
```

Please follow the steps below

1. Run powershell as an administrator



2. Execute the command below to change the policy to Bypass:

```
Get-ExecutionPolicy
```

Set-ExecutionPolicy Bypass

```
PS C:\WINDOWS\system32> Get-ExecutionPolicy
Restricted
PS C:\WINDOWS\system32> Set-ExecutionPolicy Bypass
执行策略更改
执行策略可帮助你防止执行不信任的脚本。更改执行策略可能会产生安全风险，如 https://go.microsoft.com/fwlink/
中的 about_Execution_Policies 帮助主题所述。是否要更改执行策略？
[Y] 是 (Y) [A] 全是 (A) [N] 否 (N) [L] 全否 (L) [S] 暂停 (S) [?] 帮助 (默认值为“N”): Y
PS C:\WINDOWS\system32> Get-ExecutionPolicy
Bypass
PS C:\WINDOWS\system32>
```

Try to activate the virtual environment again

- PS D:\COMP9900\FINAL_VERSION\capstone-project-9900m11b5gusts\backend> .\venv\Scripts\Activate
- (venv) PS D:\COMP9900\FINAL_VERSION\capstone-project-9900m11b5gusts\backend>

Install the requirements.txt package and dependence(May takes about 4 minutes)

```
● (venv) PS D:\COMP9900\FINAL_VERSION\capstone-project-9900m11b5gusts\backend> pip install -r ./requirements.txt
○ Collecting aniso8601==9.0.1
    Using cached aniso8601-9.0.1-py2.py3-none-any.whl (52 kB)
    └───███████████ 4.0.0
```

Once you have installed, you can use python run.py to start the flask backend server.

```
(venv) PS D:\COMP9900\FINAL_VERSION\capstone-project-9900m11b5gusts\backend> python run.py
○ * Serving Flask app 'app'
  * Debug mode: on
  WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
  * Running on all addresses (0.0.0.0)
  * Running on http://127.0.0.1:5000
  * Running on http://192.168.0.226:5000
Press CTRL+C to quit
  * Restarting with stat
  * Debugger is active!
  * Debugger PIN: 562-535-864
```

5.1.2 Frontend Setup

Cd to the frontend directory

- PS D:\COMP9900\FINAL_VERSION> cd .\capstone-project-9900m11b5gusts\frontend\

Install the frontend package and dependence

```
● PS D:\COMP9900\FINAL_VERSION\capstone-project-9900m11b5gusts\frontend> yarn install
○ yarn install v1.22.19
warning package-lock.json found. Your project contains lock files generated by tools other than Yarn. It is advised not to mix package managers in order to avoid resolution
inconsistencies caused by unsynchronized lock files. To clear this warning, remove package-lock.json.
[1/4] Resolving packages...
[2/4] Fetching packages...
[3/4] Linking dependencies...
warning " > @testing-library/user-event@13.5.0" has unmet peer dependency "@testing-library/dom@>=7.21.4".
```

Start the react

- PS D:\COMP9900\FINAL_VERSION\capstone-project-9900m11b5gusts\frontend> yarn start
- yarn run v1.22.19
 \$ react-scripts start

Then you can use 127.0.0.1:3000 to visit the frontend server.

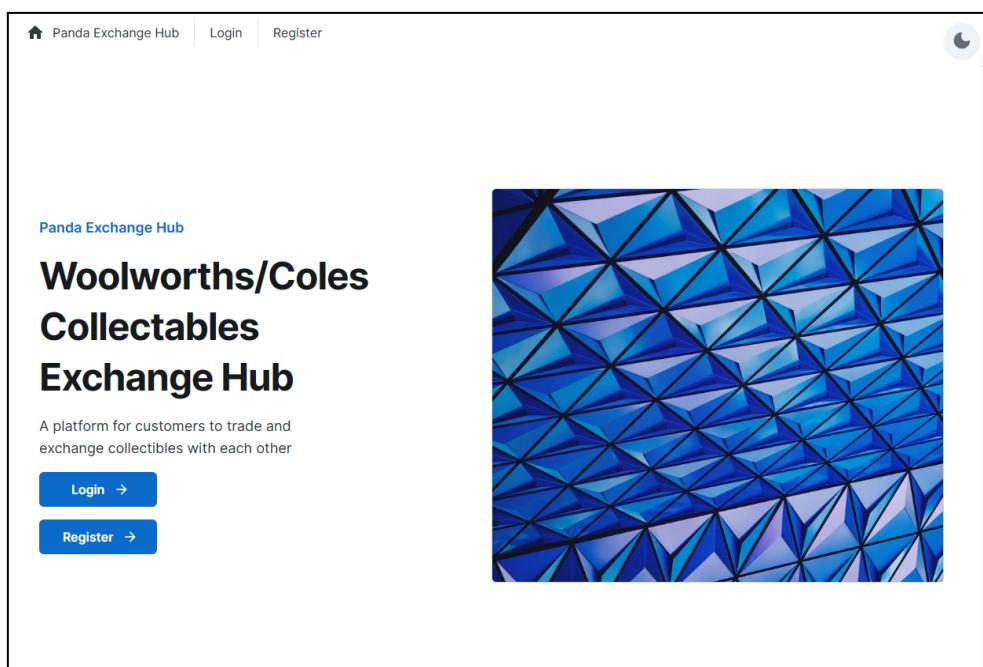
5.2 User Manual

5.2.1 Common User

(1) Introduction Page.

Visit <http://localhost:3000> to start.

By clicking the button or the link on the page, you can switch between the register page, login page, and forget password page.



(2) Registration.

Please provide all the information required to register a new account.

We identify different users by their email, so your email must be unique.

If you are going to register a manager account or administrator account, an additional authorization code is needed.

Authorization codes(listed three for each but only needs one):

For manager: [zxcvb, asdfg, qwert]

For administrator: [poiuy, lkjhg, mnbvc]

Panda Exchange Hub | Login | Register

Register

Have an account? [Go to login.](#)

Email

Name

Password

Identity

User (default option)
 Manager or Administrator (needs authorization code)

[Sign up](#)



(3) Login

Here are two accounts for demonstration:

wendyhahahaha@hotmail.com password: 1
1378282615@qq.com password: 123456

Panda Exchange Hub | Login | Register

Login

Not yet registered? [Go to register](#)

Email

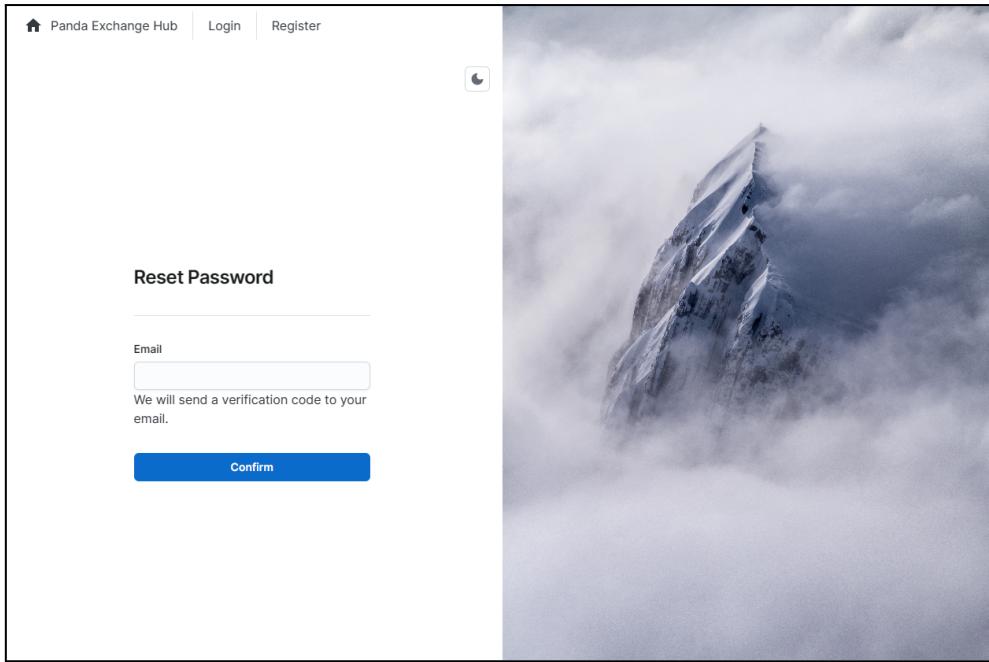
Password

Remember me [Forgot your password?](#)

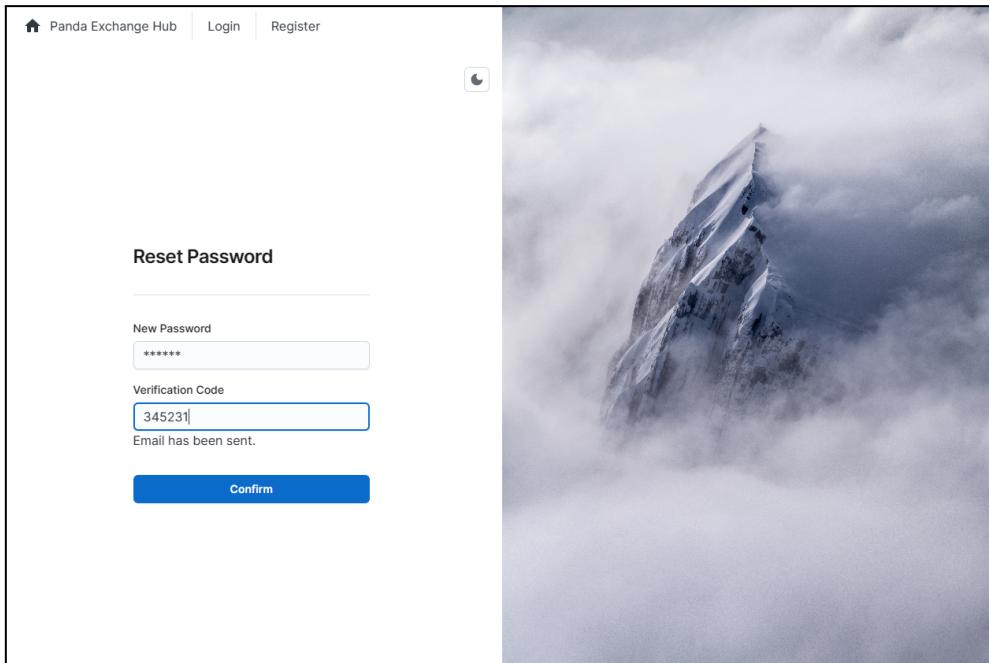
[Sign in](#)



(4) Forget (Reset) Password



Enter the email you registered and then click the confirm button.
A verification code will be sent to your email account. Each verification code has a life span of 2 minutes.



Enter your new password and the verification code received, and then click confirm.
Your password will be reset if the verification code is correct.

(5) Profile

The screenshot shows the 'My profile' section of the Panda Exchange Hub. On the left sidebar, under 'Hub', the 'Market' option is selected. Other options include 'My Collectibles', 'Posts', 'Wish List', 'User Campaigns', 'Messages', 'Exchange History', and 'My Profile'. The main area is titled 'My profile' and contains a 'Personal info' form. It includes fields for Name (Wendy), Identity (User), Email (wendyhahahaha@hotmail.com), Suburb (Kingsford), and State (NSW). There is also a 'New Icon' button and a 'Save' button. At the bottom left is a user icon for 'Wendy'.

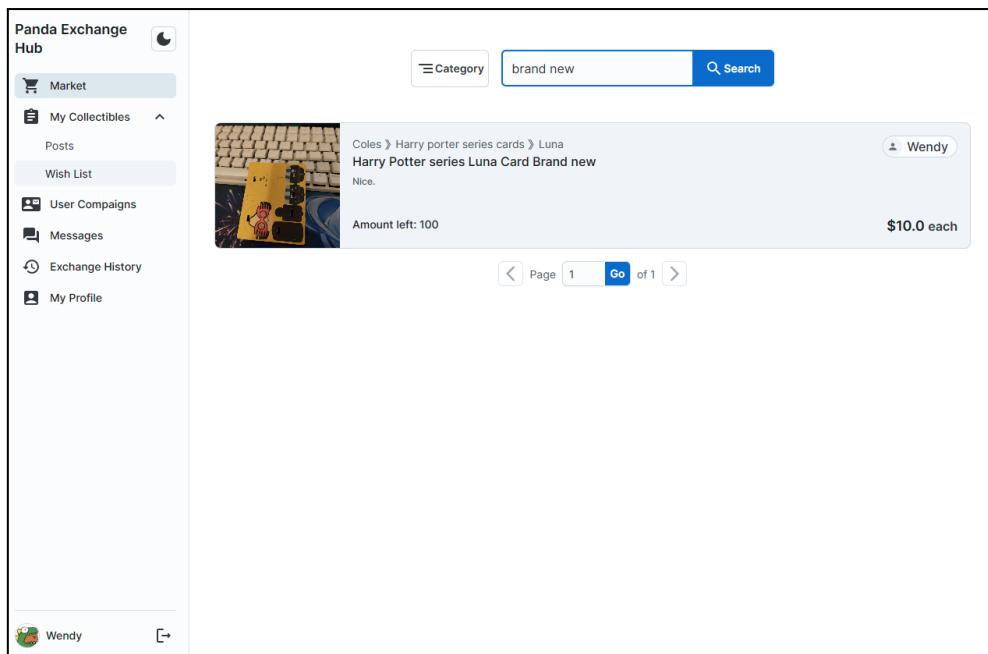
You can view and edit your own profile. Click the 'My Profile' on the sidebar to be there.

(6) Market

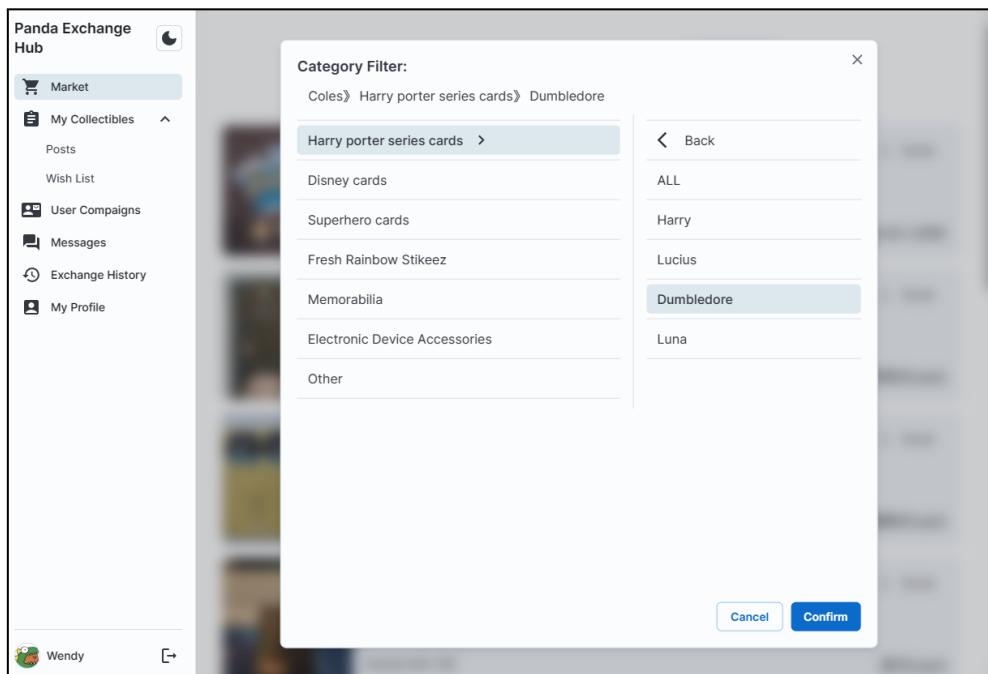
The screenshot shows the 'Market' section of the Panda Exchange Hub. The sidebar shows 'Market' is selected. The main area displays four items for exchange:

- Coles Harry porter series cards Luna LUNA CARDS**
GOOD GOOD
Amount left: 100 \$88.0 each
- Coles Harry porter series cards GOOD HARRY**
GOOD QUALITY
Amount left: 95 Exchange for: LUNA
- Coles Harry porter series cards Dumbledore DEFAULT VALUE**
DEFAULT DESCRIPTION
Amount left: 100 \$100.0 each
- Coles Harry porter series cards Luna LUNA**
GOOD
Amount left: 990 \$88.0 each

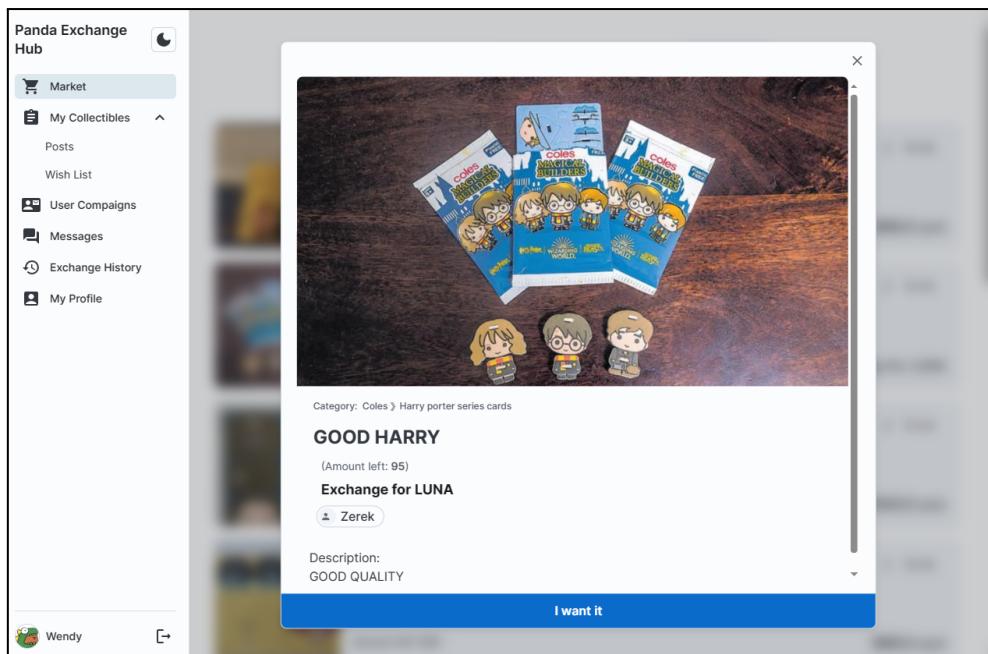
Once you have signed in, the window will switch to the market page.



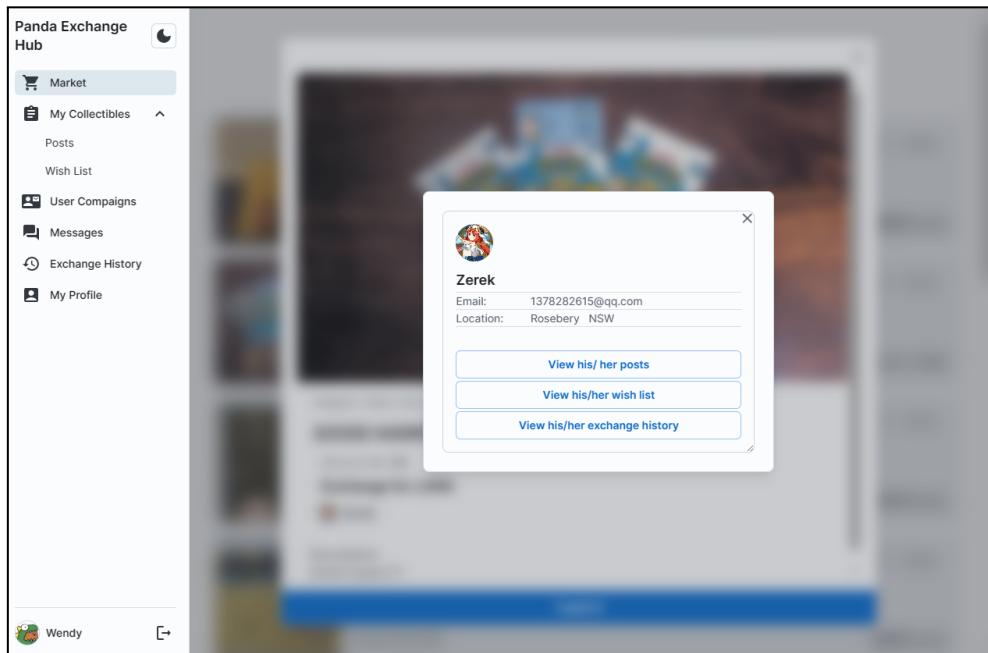
You can type in the search bar on top of the page, and then click search to search for the collectibles you want. The system will return all of the items that contain your search phrase in their title or description.



You can also set the category filter to help you find what you need. Click the 'Category' button and then choose the category in the modal prompted.

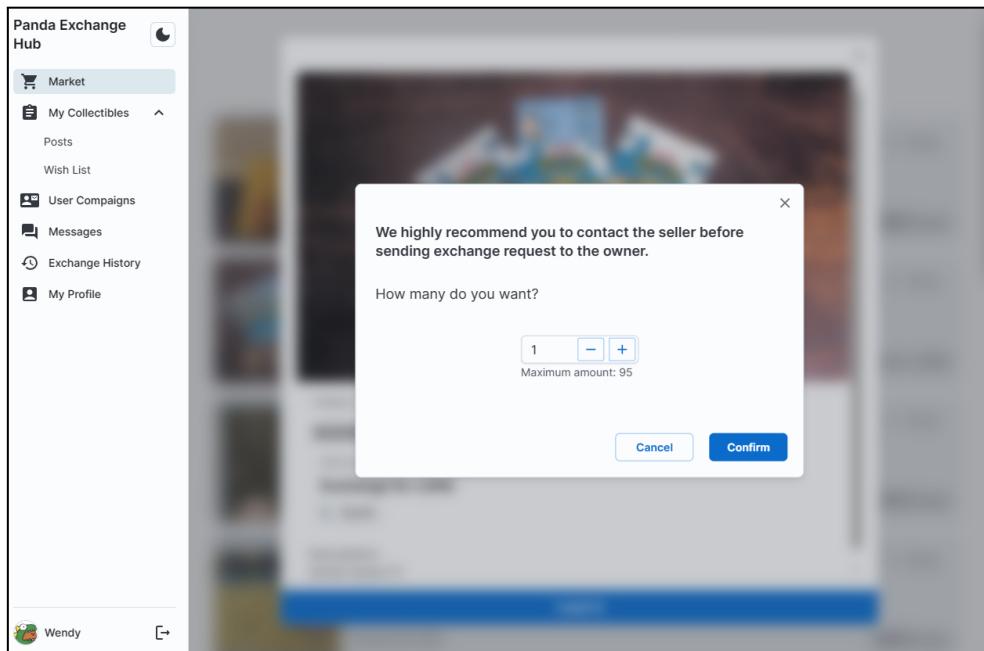


On the market page, you can browse the collectibles posted by others. Click them to open a modal that displays all of the details of the collectible. You can use the pagination navigator at the bottom of the page to switch between pages.

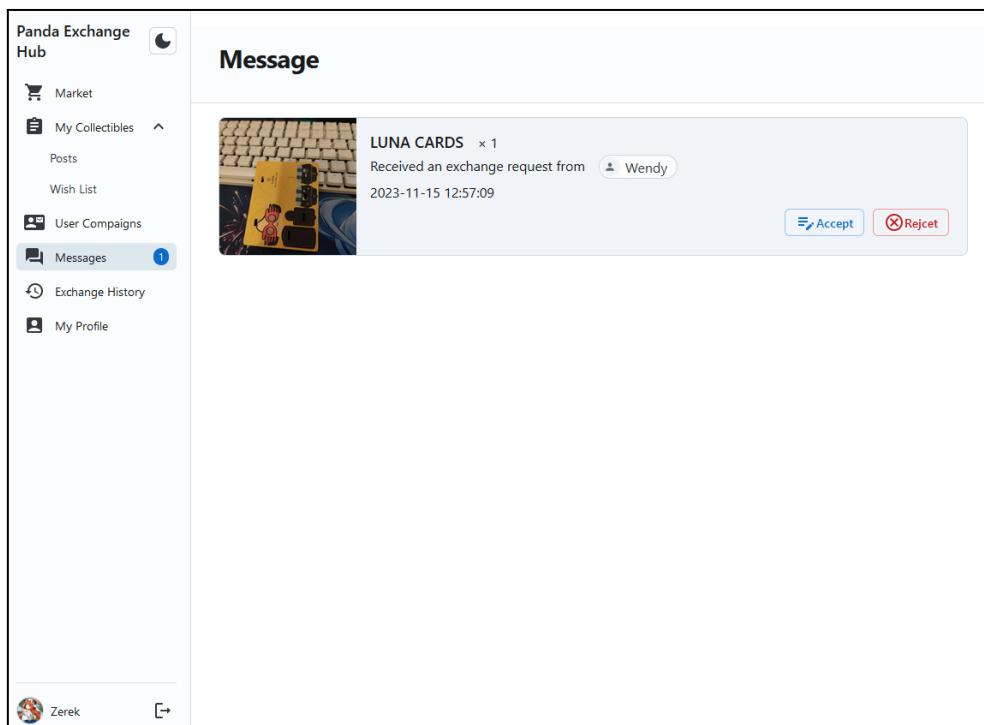


You can find a name tag of the owner of the post. Click it to view his/her profile. Furthermore, you can view others' posts, wish lists, and exchange history.

(7) Trade



Click the 'I want it' button to start a trade request. You can adjust the amount you need. Once you click 'confirm', the trade request will be sent to the seller. This transaction will be at status 'pending' before the seller accepts or rejects your request.

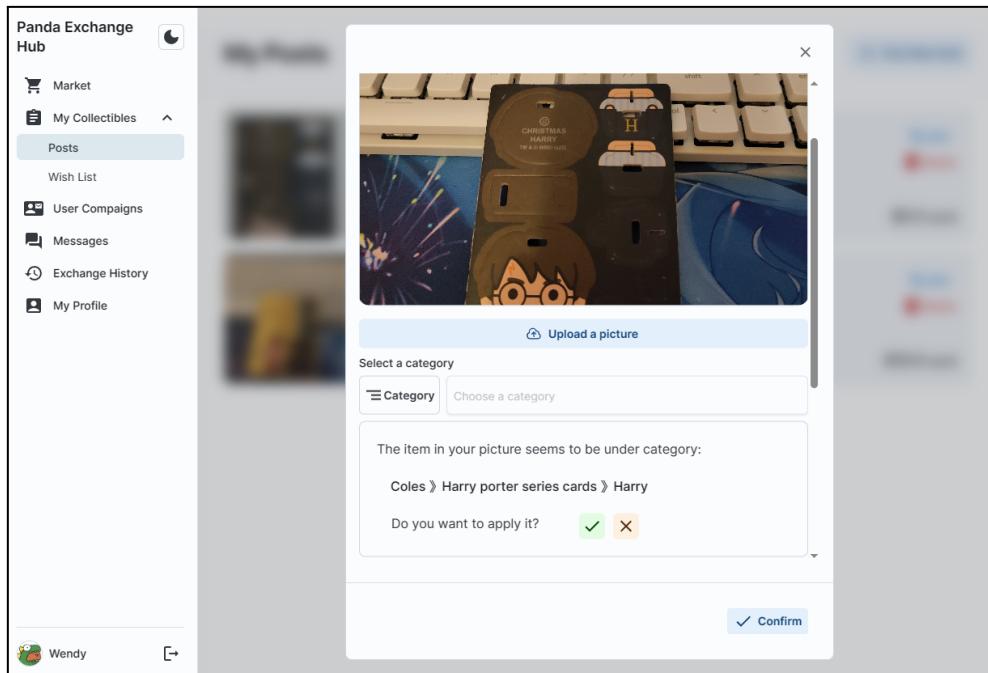


This is the account of the seller. The trade request Wendy just initiated has been shown on the message page. For demonstration, Zerek will accept this request.

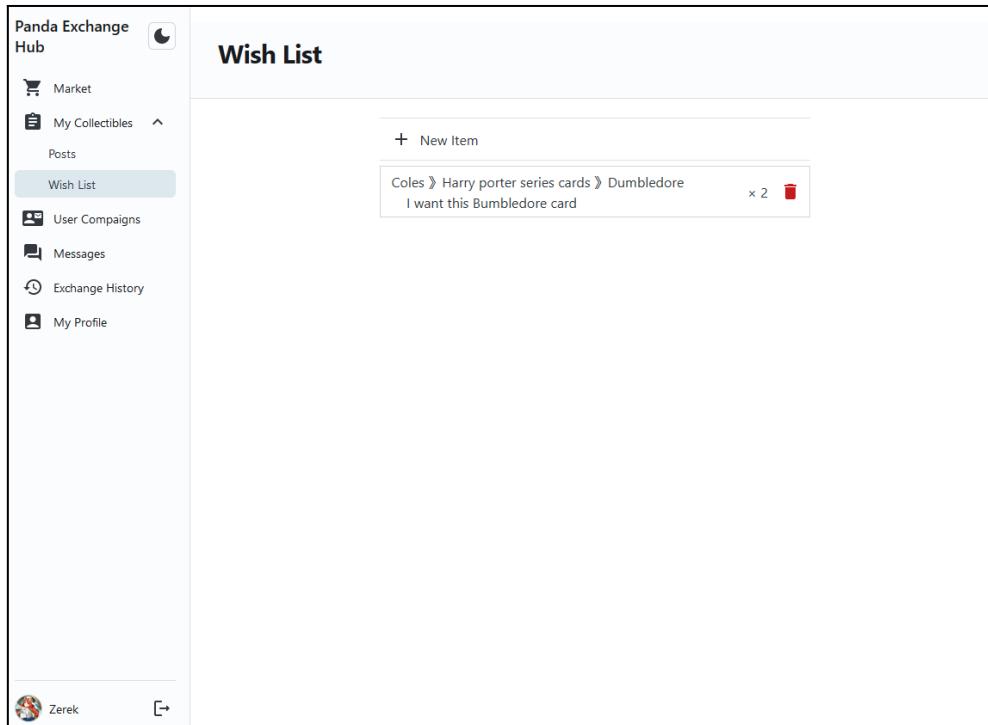
Let's switch back to Wendy's account. From the 'exchange history' page, Wendy can see that the trade she just initiated is there and is marked 'Completed'. If Zerek rejects the request, it will be marked 'Failed' instead.

(8) My Collectibles

'My Collectibles' has two sub-tabs. You can post what you have to the market in the 'Posts' tab, and tell others what you need in the 'Wish List' tab. Also, you can edit and delete what you have created.



On the 'Posts', you can create a new post by clicking the button top-right. You can upload a picture of your collectible. Our system will automatically identify what your collectible is based on your picture, and ask you if you want to apply the predicted result. This will take about 3 seconds after the picture is uploaded.



Add a new item to the wish list by clicking the '+ New Item' button. Click the excited item to modify it. Click the trash bin icon to delete it. The market page will push the items related to your wish list to you.

(9) This is the activity page where users can see all the activities.

The screenshot shows the Panda Exchange Hub's activity page. On the left is a sidebar with options: Market, My Collectibles (Posts, Wish List), User Campaigns, Messages, Exchange History, and My Profile. The main area displays two items:

- name:breastpin**
category:CUTEstories
overview:colorful
detail puppies and kids
- name:Harry porter**
category:Coles
overview:Harry porter series
cards
detail bonus

At the bottom right of the main area is an AI icon.

(10) This is the topic page of certain activities.

The screenshot shows the 'breastpin' topic page. The sidebar on the left is identical to the one in the previous screenshot. The main area shows a post from 'breastpin' with the title 'puppies and kids'. Below the title is a small image of a card. To the right are 'ADD POST' and 'PREV PAGE' buttons. The post content includes:

- I like it**: A small image of a card.
- I have some little shop cards to trade!**: A small image of a card.
- I can send these cards for free.**: A small image of a card.

At the bottom right of the main area is an AI icon.

(11) This is the detailed information on the topic page.

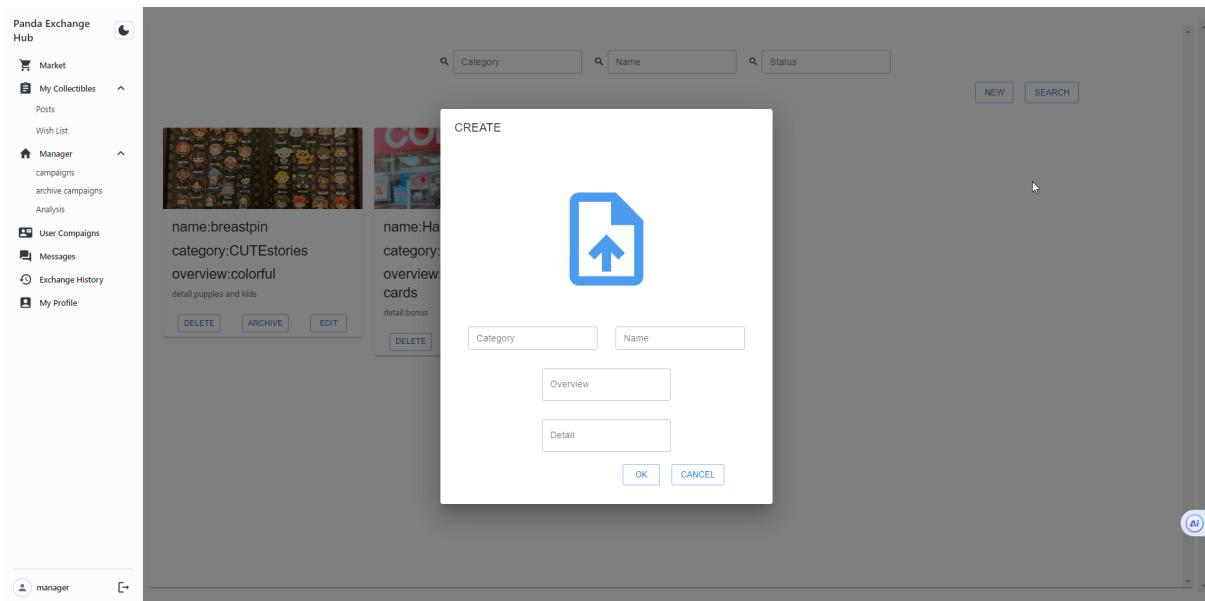
The screenshot shows the detailed information on the 'breastpin' topic page. The sidebar on the left is identical. The main area shows a post from 'Zerek' with the email '1378282615@qq.com'. The post content includes:

- user: Zerek**
email: 1378282615@qq.com
- I have some little shop cards to trade!**: A small image of a card.

At the bottom right of the main area is an AI icon.

5.2.2 Manager

1. Managers can publicize a new campaign (The campaign will need to be approved by the administrator and then be posted. From the users' view, only the campaign which has been approved by the administrator will be shown in the user campaign page.)



2. Managers can only view, edit, archive and delete the campaigns created by themselves. Different managers don't have the privilege of other managers' campaigns.

The screenshot shows the Panda Exchange Hub interface. On the left is a sidebar with navigation links: Market, My Collectibles (with sub-links Posts, Wish List), Manager (with sub-links campaigns, archive campaigns, Analysis), User Campaigns, Messages, Exchange History, and My Profile. The main area displays two campaign cards. The first card, titled "name:breastpin", has details: category:CUTEstories, overview:colorful, detail:puppies and kids. It includes three buttons: DELETE, ARCHIVE, and EDIT. The second card, titled "name:Harry porter", has details: category:Coles, overview:Harry porter series cards, detail:bonus. It also includes three buttons: DELETE, ARCHIVE, and EDIT. At the top right are search fields for Category, Name, and Status, along with NEW and SEARCH buttons. Below the cards is a pagination control showing page 1 of 10.

3. Managers can archive the campaign.

This screenshot is identical to the one above it, showing the same two campaign cards and the overall interface of the Panda Exchange Hub. The sidebar and the layout of the cards and controls remain the same.

4. Managers can view the campaign data obtained based on the analysis of the comments. Includes the top 10 most active activities, the top 10 Comments, and the top 10CommentsActivities.



5.2.3 Administrator

1. Administrators can manage all the users' privileges.

User Manager System					
Icon	User Name	authority management	Email	Del	
👤	Zerek	user ▾	1378282615@qq.com	<button>DEL</button>	
👤	root	administrator ▾	root@qq.com	<button>DEL</button>	
👤	Wendy	user ▾	wendyhahahaha@hotmail.com	<button>DEL</button>	
👤	manager	manager ▾	liziyu0410@gmail.com	<button>DEL</button>	
👤	Admin1	administrator ▾	admin@qq.com	<button>DEL</button>	
👤	789	user ▾	789@qq.com	<button>DEL</button>	
👤	syukay	user ▾	syukay00789@gmail.com	<button>DEL</button>	

2. Administrators can approve the activity posted by managers.

Panda Exchange
Hub

Market

My Collectibles

- Posts
- Wish List

Admin

- User Manager System
- Admin

User Campaigns

Messages

Exchange History

My Profile

Category Name Status

name:cards
category:Coles
overview:DC cards
detail superhero

AuditStatus: Audited

name:breastpin
category:CUTEstories
overview:colorful
detail puppies and kids

AuditStatus: Audited

name:test
category:test
overview:test
detail test

AuditStatus: Unaudited
PASS

name:sdf
category:1
overview:sa
detail dafd

AuditStatus: Unaudited
PASS

name:asd
category:azs
overview:asd
detail asd

AuditStatus: Unaudited
PASS

Admin1

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