Design Document

Tbay

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https://github.com/smbarber2/340ProjectGroup7

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Project Descriptions – Sarah Barber

i. Project General Description

The goal of the Tbay web application is to connect users to a marketplace of used textbooks they can peruse through an interactive method of searching, bookmarking, bidding on, and purchasing textbooks by using the search bar function to find relevant listings that they can scroll through. The Tbay application will also allow providers to post listings that will be shown to users who are browsing.

ii. Product Features

The Tbay application is designed to revolutionize the way users shop for and resell textbooks. Below are the key features and functions that define the core mechanics of the application:

Content Preference Customization: Users can search by entering the name of the book they are searching for. Tbay has flexible options for catalogue perusal, allowing users to choose how specific they want to be when searching through available listings.

Personalized Profile Creation: Enables users to make their own profiles with their profile picture, biography, and a wishlist that reflects their interests. The user can also edit this information at any time to best suit their interests.

Interactive Content Presentation: Tbay has an always-updating catalogue users can scroll through to discover new listings uploaded by sellers. Users can click the wishlist button to add a listing to their wishlist, and they can add listings they wish to purchase to their cart. Users can also leave comments on listings to have a higher level of interaction with sellers.

Listing Creation and Sharing: Provides a marketplace for sellers to list, describe, and sell their products, reaching a targeting audience of users who are in the market. The user can also edit these listings at any time, changing the image, name, description or price as they see fit.

Functional Requirements for Customer System – Juliet Bellion

FR0: Tbay will allow all users to create a profile

FR1: Tbay will allow all users to modify their profile

FR2: Tbay will allow all users to search for listings based on name

FR3: Tbay will allow users to navigate through textbook listings through a result list

FR4: Tbay will allow users to view and leave comments on textbook listings

FR5: Tbay will allow users to save listings for later in a list

FR6: Tbay will allow users to purchase a listing from a seller

FR7: Users will be allowed to login

Non-Functional Requirements for Customer System – Juliet Bellion

NFR0: Only one account per person, determined by the email entered, to save space in the system for as many unique users as possible.

NFR1: Searches for textbooks will be filtered by name.

    i.   Scenarios
   ii.   Users- *Customer*
  iii.   FR0: Tbay will allow all users to create a profile

Initial Assumption: The user has never used this site before and thus must make an account and profile before using its services.

Normal: The user is prompted by a form to provide an email address and password along with a matching password. Once completed, they are redirected to their profile which has an option to upload a profile picture and enter a short biography. Their email and password will already be listed there.

What could go wrong: The user could already have an account on the website. If that's the case, when they login they will be redirected to their profile and be allowed to edit it.

Other activities: Users can change their email, password, profile picture, or biography.

System State on Completion: The website will redirect to the profile page. They now have access to content and their profile.

   iv.   Users – Customer
    v.   FR1: Tbay will allow all users to modify their profile

Initial Assumption: The user has an account with information they would like to update.

Normal: The user clicks on a link that redirects to their profile and then edits any of the following fields; email, password, bio, or profile picture.

What could go wrong: The user could not have an account yet; they would be redirected to the create an account page. They could also not be logged in; they will be redirected to the log in page.

Other activities: Users can look at their listings.

System State on Completion: The website will be refreshed with the new information saved in the database.

   vi.   Users – Customer
  vii.   FR2: Tbay will allow all users to search for titles of textbooks based on name

Initial Assumption: The user is looking for a book on a specific subject and may or may not know the information about a specific textbook.

Normal: The user types into the search bar the information they know about what they are searching for; the title.

What could go wrong: The user could misspell information, and the search results will try to give suggestions on alternate keyword spellings that are close to what was entered.

Other activities: you can search for users as well.

System State on Completion: The website will redirect to the result page. They now have access to content that matches what the user typed.

    viii.   Users – Customer
      ix.   FR3: Tbay will allow users to navigate through textbook listings through a result list

Initial Assumption: The user has searched for information belonging to a textbook and expects to find related listings.

Normal: The user searched for a specific type of textbook, if there are listings related to the search, they will appear. If not, no listings will appear.

What could go wrong: The user could have misspelled something in their search, they will be prompted to check for correct spelling.

Other activities: Users can select a listing and go to its page. The user can also go back to the main page.

System State on Completion: The website will redirect to the listing that was selected.

x.   Users – Customer
xi.   FR4: Tbay will allow registered users to view and leave comments on any textbook listing

Initial Assumption: The user has found a listing they would like to interact with.

Normal: The user is on the listing page and wishes to give feedback on the listing, so they leave a comment and/or add the listing to their cart.

What could go wrong: The user could not have an account yet; they would be redirected to the create an account page. They could also not be logged in; they will be redirected to the log in page.

Other activities: Users can add the listing to their cart.

System State on Completion: The website will refresh with the user supplied input as feedback on the listing or refresh their cart to reflect that they have added the listing to their cart.

xii.   Users – Customer
xiii.   FR5: Tbay will allow users to save listings for later in a list

Initial Assumption: The user has found a listing they would like to purchase later.

Normal: The user is on the listing page and wishes to purchase or keep this listing in mind for later and would like it saved to a list. They would click Add to Wishlist.

What could go wrong: The user could try to add the listing to their wishlist but then realize it has already been bought; in this case the page will refresh and reflect that it is no longer available. The user could also try to add the listing a second time to their wishlist. In that case, the request will be ignored as it is already present on their wishlist.

Other activities: Users can add the listing to their cart.

System State on Completion: The website will refresh the user's wishlist.

xiv.   Users – Customer
xv.   FR6: Tbay will allow users to purchase a listing from a seller

Initial Assumption: The user has found a listing and added it to their cart.

Normal: The user is not on the cart page and wishes to checkout. They click the cart page to be redirected to the page that displays their desired purchases. When satisfied with their selections, they will select Checkout and be redirected to enter payment.

What could go wrong: The user could try to modify their cart and accidentally delete something they meant to keep, there will be an undo option in case this happens.

Other activities: Users can add listings on their Save for Later list to their cart, as there will be a reminder pop up about their Save for Later list on the cart page.

System State on Completion: The website will redirect to the checkout page and then redirect, once paid, to the confirmed order page.

   xvi.   Users – Customer
   xvii.   FR8: Users will be allowed to login

Initial Assumption: The user has never used this site before and thus must make an account before using it.

Normal: The user is prompted by a form to provide an email address and password along with a matching password.

 xviii.   If the second password given does not match the original password, the user will be

           prompted to edit it.

What could go wrong: The user could already have an account on the website. If their email matches one already in the system, they will be prompted with the login screen instead.

Other activates: The user can click the forgot password link to send an email that will verify if it is their account and proceed to account recovery.

They will also have an option to skip to the login page instead if they already have an account

System State on Completion: The website will be redirected to the main page. They now have access to content and their profile.

FR0: Sellers will be allowed to edit their listings

FR1: Sellers will be able to view all incoming orders

FR2: Sellers will be able to view all completed orders

FR3: Sellers will be able to login

FR4: Sellers will be able to create profile

FR5: Sellers will be able to modify profile

FR6: Sellers will be able to delete profile

FR7: Sellers will be able to add new listings

Non-Functional Requirements for Seller – Camden Tuttle

NFR0: Limit the amount of listing created to 10 listings a day

NFR1: Non-authorized/verified customers' orders will be put on hold, and a statement will be emailed to their email address requesting verification, if it not verified, the orders will be canceled

NFR2: Users orders are processed within 1 minute of order confirmation

    xix.   Scenarios – Camden Tuttle

    xx.   Users- Seller

       FR0: Sellers will be allowed to edit their listings

Initial Assumption: The user needs to edit an existing listing to change either pricing, promo photo, description, or the name of the listing.

Normal: The user is prompted to edit the chosen listing. Once completed, they are redirected to their edit listing page, which can edit the pricing, promo photo, description, or the name of the listing. The prior listing information will already be listed there.

What could go wrong: The user could edit the listing to have the same name as another listing from that seller, thus an error will prompt the user to change the name.

Other activities: Users can view the listing as it would be seen on the listing page.

System State on Completion: The website will redirect to the listing page. They now have access to all listings, including the new edited listing.

    xxi.   Users- Seller

       FR1: Sellers will be able to view all incoming orders

Initial Assumption: The seller wants to see all incoming orders that have yet to be satisfied.

Normal: The seller can go to the seller profile page and click on the order page button, which will redirect them to the orders page. There will be a subsection for incoming orders and their corresponding order information.

What could go wrong: The seller can see no incoming orders, either meaning they received no orders, or the orders were not processed on the user side.

Other activities: The seller can view all the specifications for each order including the customer page, buyer address, the order itself.

System State on Completion: The website will redirect to the seller profile page.

    xxii.   Users- Seller

       FR2: Sellers will be able to view all completed orders

Initial Assumption: The seller wants to see all completed orders and their corresponding information.

Normal: The seller can go to the orders page and click on the completed orders button, which will redirect the seller to the completed orders page that has a list of all orders and their information.

What could go wrong: The seller can see no completed orders and thus the page is empty.

Other activities: The seller can view all the specifications for each order including the customer page, buyer address, the order itself.

System State on Completion: The website will redirect to the seller profile page.

xxiii.   Users- Sellers

   FR3: Sellers will be able to login

Initial Assumption: The seller wants to login their account

Normal: The seller is prompted by a pop up to fill in the username and password, if they are correct, the seller is direct to the home page.

What could go wrong: The seller inputs either the wrong username or wrong password, if so, there will be a prompt to tell the seller that the password or username is incorrect.

Other activities: The seller can click the forgotten password link to send an email that will verify if it is their account and proceed to account recovery.

System State on Completion: The website will be redirected to the main page. They now have access to content and their profile.

xxiv. Users- Seller

FR4: Sellers will be able to create profile

Initial Assumption: Seller has never used this site before, and thus must make an account and profile before using its services.

Normal: The seller is prompted by a form to provide an email address and password along with a matching password. Once completed, they are redirected to their profile which has an option to upload a profile picture and enter a short biography. Their email and password will already be listed there.

What could go wrong: The seller could already have an account on the website. If that's the case, when they login they will be redirected to their profile and be allowed to edit it.

Other activities: Sellers can change their email, password, profile picture, or biography.

System State on Completion: The website will redirect to the seller profile page. They now have access to content and their profile.

xxv. Users- Seller

FR5: Sellers will be able to modify profile

Initial Assumption: The seller has an account with information they would like to update.

Normal: Seller clicks on a link that redirects to their seller profile page and then edits any of the following fields; email, password, bio, or profile picture.

What could go wrong: Seller could not have an account yet; they would be redirected to the create an account page. They could also not be logged in; they will be redirected to the log in page.

Other activities: Sellers can look at their listings.

System State on Completion: The website will be refreshed with the edited information saved to the database.

xxvi. Users- Seller

xxvii. **FR6:** Sellers will be able to delete profile

Initial Assumption: Seller has an account on the site, and they want to delete the account.

Normal: The seller will have a link on the seller profile edit page that will redirect to a deletion confirmation page, when it is confirmed, a popup will appear to ensure the seller wants to continue, if so, the account will be deleted.

What could go wrong: The seller must have an account and must login in to delete their account.

Other activities: Sellers can deny the prompt and go back to their seller profile page.

System State on Completion: The website will redirect to the home page and will be logged out. They will not have an account, nor will the listings be seen.

xxviii. Users- Seller

xxix. **FR7:** Sellers will be able to add new listings

Initial Assumption: Seller wants to add a new listing to their page.

Normal: The seller will have a link on the seller profile that will redirect them to a page that will create a listing with the proper fields. Once complete, the new listing will be added to the seller's listings.

What could go wrong: The seller may have left a field blank, thus they will be prompted to fill all listing fields. Additionally, if they gave the new listing the same name as one of their own listings, then they will be prompted to change the listing name to be unique.

Other activities: Sellers can deny the prompt and go back to their seller profile page.

System State on Completion: The website will redirect to the home page and will be logged out. They will not have an account, nor will the listings be seen.

Functional Requirements for SysAdmin – Sarah Barber

FR0: Tbay will allow administrative users to create a profile.

FR1: Tbay will allow administrative users to modify their profile.

FR2: Tbay will allow administrative users to search through all available listings.

FR3: Tbay will allow administrative users to navigate through listings through a result list.

FR4: Tbay will allow administrative users to flag and delete content, comments, and accounts.

Non-Functional Requirements for SysAdmin – Sarah Barber

NFR0: Only one account per person, determined by the email entered, to save space in the system for as many unique users as possible.

NFR1: Searches for textbooks will be filtered by name.

NFR2: Flagging and deleting content should take less than 30 seconds.

xxx.   Scenarios

xxxi.   Users – *SysAdmin*

xxxii.   **FR0: Tbay will allow administrative users to create a profile.**

Initial Assumption: The site admin has not logged into the site before and thus needs to make an account and profile before moderating content.

Normal: The admin is prompted by a form to provide an email address and a password along with a matching password. If their email matches one listed in an admin database, they get an admin account. Once done, the admin is redirected to their profile, where they can edit it accordingly. Their email and password will be listed there.

What could go wrong: The admin could already have an account, or they may not remember/have their or password. If this is the case, when they do log in, they will be redirected to their profile.

Other activities: Admins can change their email, password, profile picture, or biography.

System State on Completion: The website will redirect to the profile page. They now have access to content and their profile and can access the rest of the website.

xxxiii.   Users – *SysAdmin*

xxxiv.   **FR1: Tbay will allow all users to modify their profile.**

Initial Assumption: The administrative user has information they want to update on their account.

Normal: The admin clicks on their profile then edits any of the following fields; email, password, biography, or profile picture.

What could go wrong: The user could not have an account, which would result in them being redirected to the account creation page.

Other activities: Users can merely look at their profiles.

System State on Completion: The website will be refreshed with the new information saved in the database.

xxxv.   Users – *SysAdmin*

xxxvi.   **FR2: Tbay will allow administrative users to search through all available listings.**

Initial Assumption: The administrative user wants to look through all available listings.

Normal: The admin uses the admin dashboard to see all available listings.

What could go wrong: The admin may not be online or may be logged out of their admin account.

Other activities: The admin can search for specific listings as well by using the search function.

System State on Completion: The website will redirect to the resulting dashboard page with all listings available for moderation.

  xxxvii.   Users – *SysAdmin*

xxxviii. **FR3: Tbay will allow administrative users to navigate through listings through a result list.**

Initial Assumption: The administrative user has used the search function and is expecting to find relevant listings.

Normal: The admin has searched for specific information for listings. If there are any listings that relate to the search, they will appear. If not, no listings will appear and an option to go to admin dashboard will appear instead.

What could go wrong: The admin may have misspelled something in their search, and they will be prompted to search again.

Other activities: The admin can select a relevant listing and go to its page or go back to their home page.

System State on Completion: The website will redirect to the selected listing or home page.

xxxix. Users – *SysAdmin*
   xl. **FR4: Tbay will allow administrative users to navigate through all available listings from their dashboard.**

Initial Assumption: The administrative user has ne to their admin dashboard to see all available listings.

Normal: The admin has opened their admin dashboard to see all available listings. If there are no listings on the site, nothing will appear.

What could go wrong: The admin may be offline and unable to connect to the database.

Other activities: The admin can select a relevant listing and go to its page or go back to their home page.

System State on Completion: The website will redirect to the selected listing or the home page.

   xli. Users – *SysAdmin*
   xlii. **FR5: Tbay will allow administrative users to flag and delete content, comments, and accounts.**

Initial Assumption: The administrative user has found content that is deemed inappropriate.

Normal: The admin has come across an inappropriate listing, comment, or account. They have the option to report and delete said content.

What could go wrong: The listing, account, or comment could be deleted between the time it was discovered and deleted by the admin, leading to an error with the same content deleted twice.
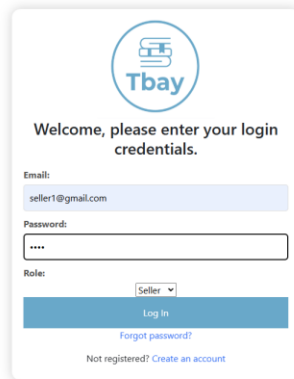
Other activities: Admin can ban users from deleting all of the content they have posted.

System State on Completion: The inappropriate content has been deleted, and the existing user account connected to it reported. The website will redirect back to the result list.
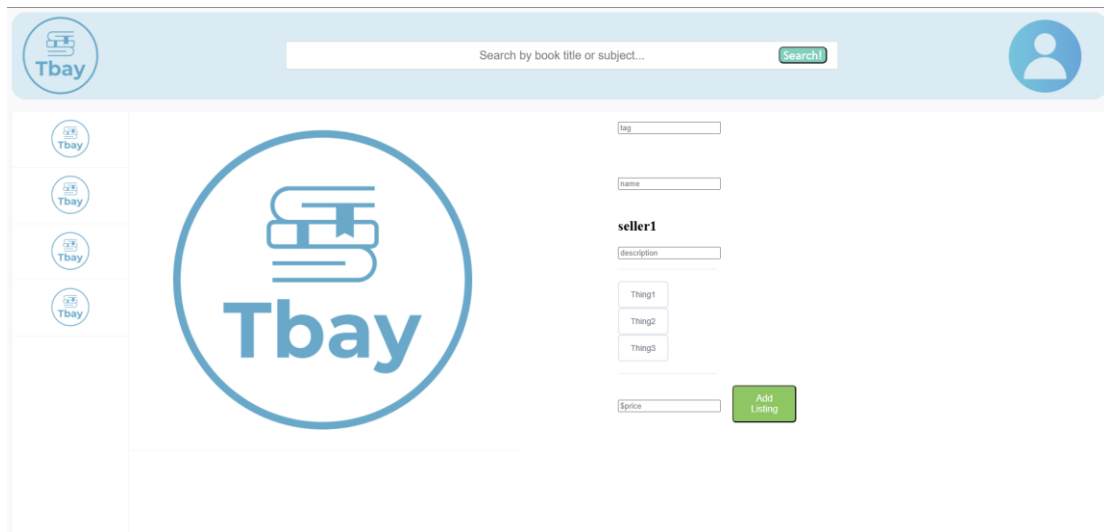
Scenario With Screenshots

Seller: Create listing use case:

1. Seller S1 logs into an existing account.

2. S1 creates a listing with values for searchable criteria 'name' C1 (C1=V1) along with price, description, and image C2, C3, C4 (C2=V2, C3=V3, C4=V4). S1 exits.

Seller: Modify listing use case:

Seller S1 edits existing listing information C1, C2, C3, C4. S1 exits.

User: Create/modify customer profile use case:

User U1 creates their profile and logs in for the first time. U1 modifies information in their profile. U1 exits.
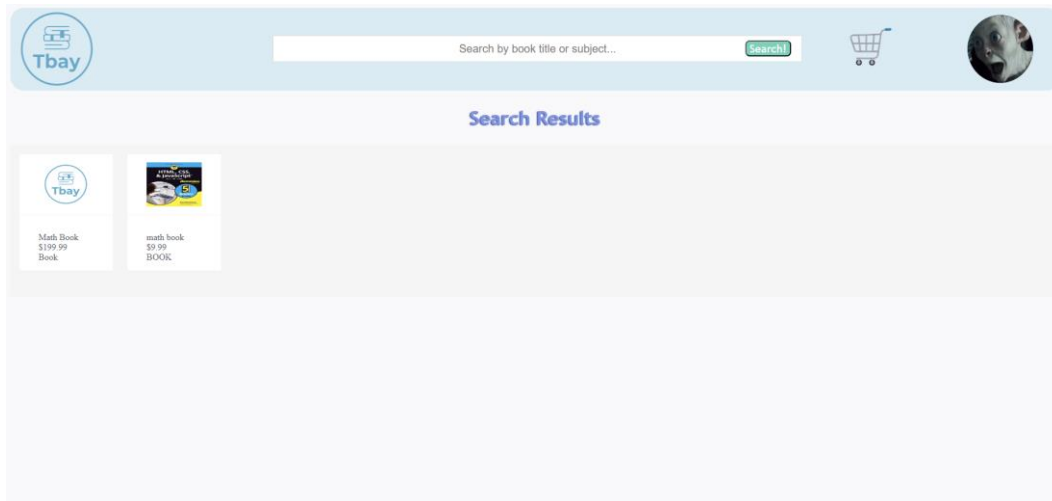
User: Search for listings and Add to Wishlist use cases:

1. User U1 enters a query into the search bar that brings up listings that match.

2. U1 views a listing and adds to wishlist. U1 sees listing now listed in their wishlist. U1 exits.
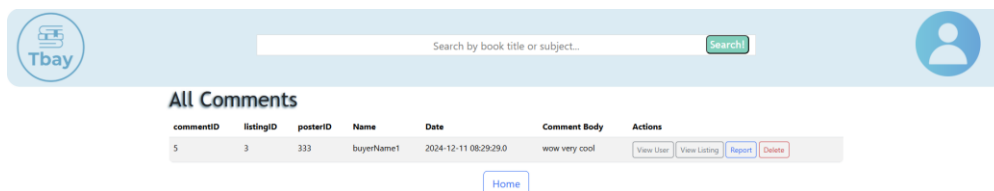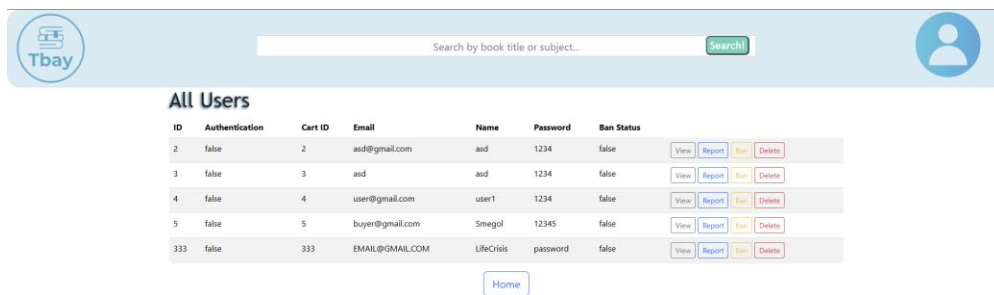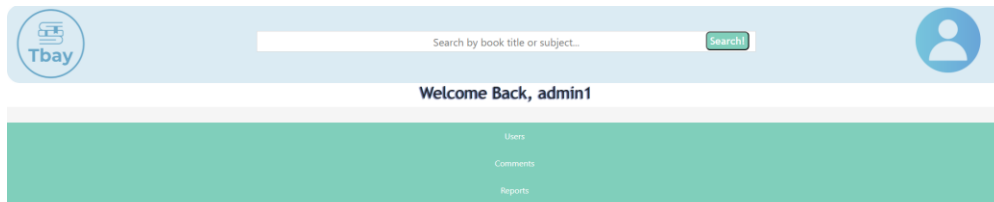

User: Add to cart and Check out use cases:

1. User U1 views S1's listing and adds it to cart. Listing is now shown in their cart with the total price.

2. U1 Checks out and creates an order. U1 exits.

Admin: View Tables, View/delete Comments, Report User use cases:

1. Admin A1 logs in and views information tables for all users, all comments, all reports.

2. Admin A1, views all comments, sees a user's inappropriate comment, deletes comment.

2. Admin A1 reports user for inappropriate activity. A1 exits.

All Users

ID	Authentication	Cart ID	Email	Name	Password	Ban Status				
2	false	2	asd@gmail.com	asd	1234	false	View	Report	Ban	Delete
3	false	3	asd	asd	1234	false	View	Report	Ban	Delete
4	false	4	user@gmail.com	user1	1234	false	View	Report	Ban	Delete
5	false	5	buyer@gmail.com	Smegol	12345	false	View	Report	Ban	Delete
333	false	333	EMAIL@GMAIL.COM	LifeCrisis	password	false	View	Report	Ban	Delete

Home

All Comments

commentID	listingID	posterID	Name	Date	Comment Body	Actions			
5	3	333	buyerName1	2024-12-11 08:29:29.0	wow very cool	View User	View Listing	Report	Delete

Home

Seller: View and Fulfill orders use case:

1. S1 logs in and sees new incoming order from U1.

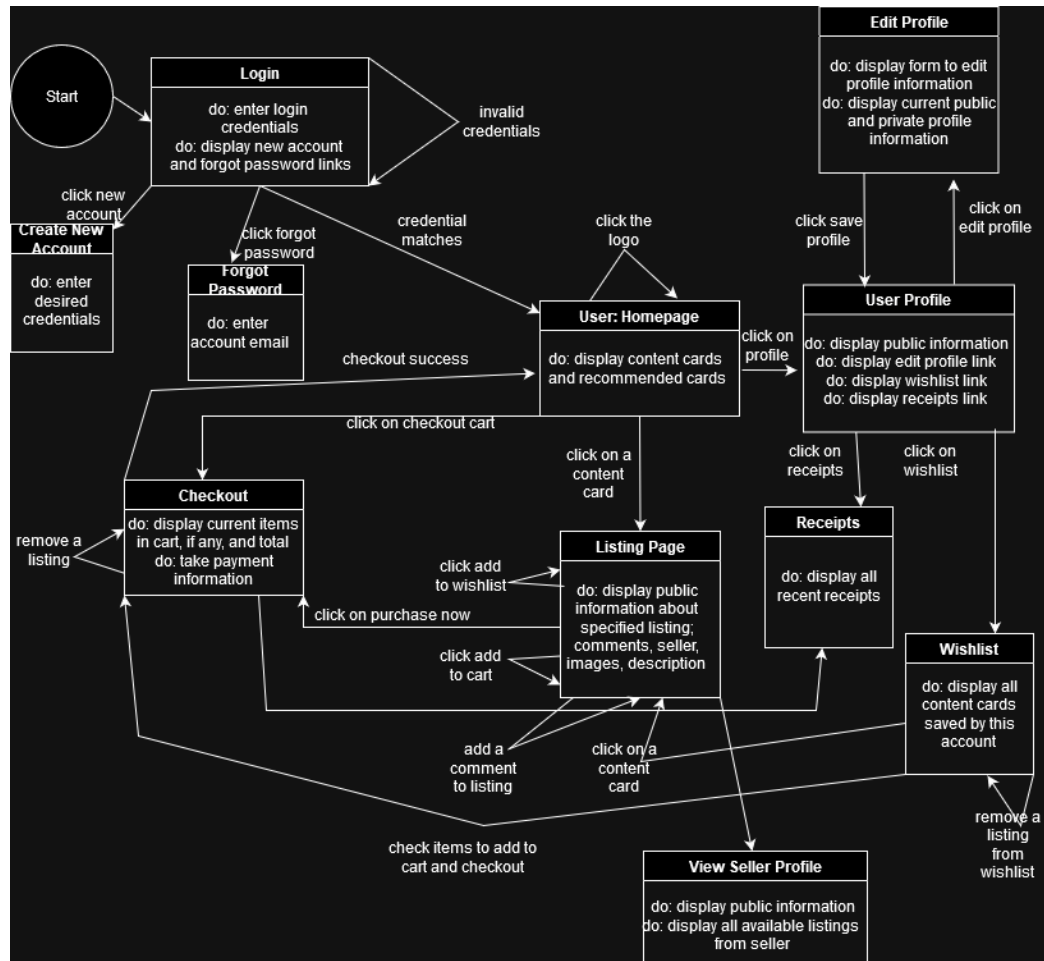2. S1 clicks complete order to mark it as fulfilled. S1 exits.
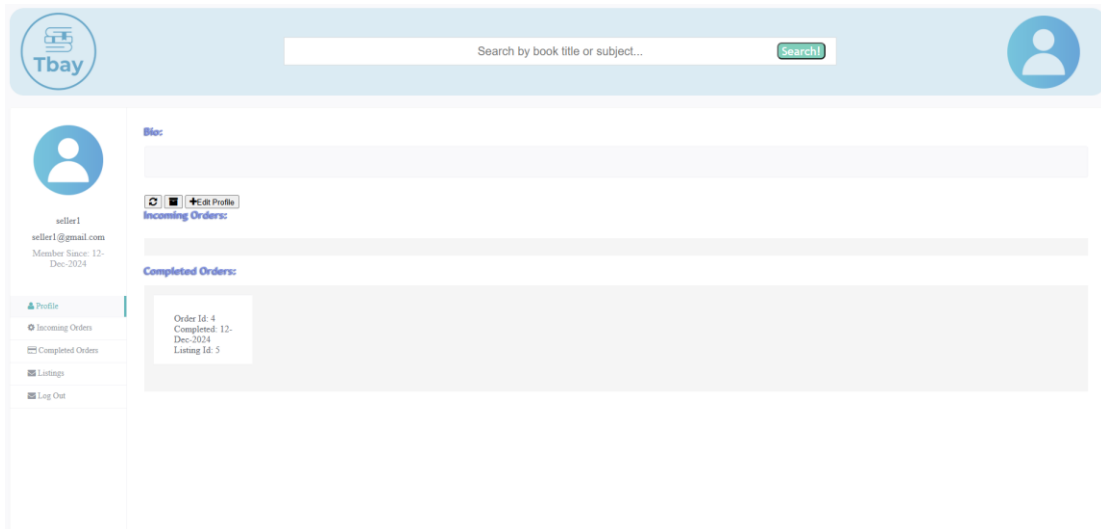
Design Document

The goal of the Tbay web application is to connect users to a marketplace of used textbooks they can peruse through an interactive method of searching, bookmarking, bidding on, and purchasing textbooks by using the search bar function to find relevant listings that they can scroll through. The Tbay application will also allow providers to post listings that will be shown to users who are browsing. All the while admins can monitor and manage content to ensure that everything follows community standards.

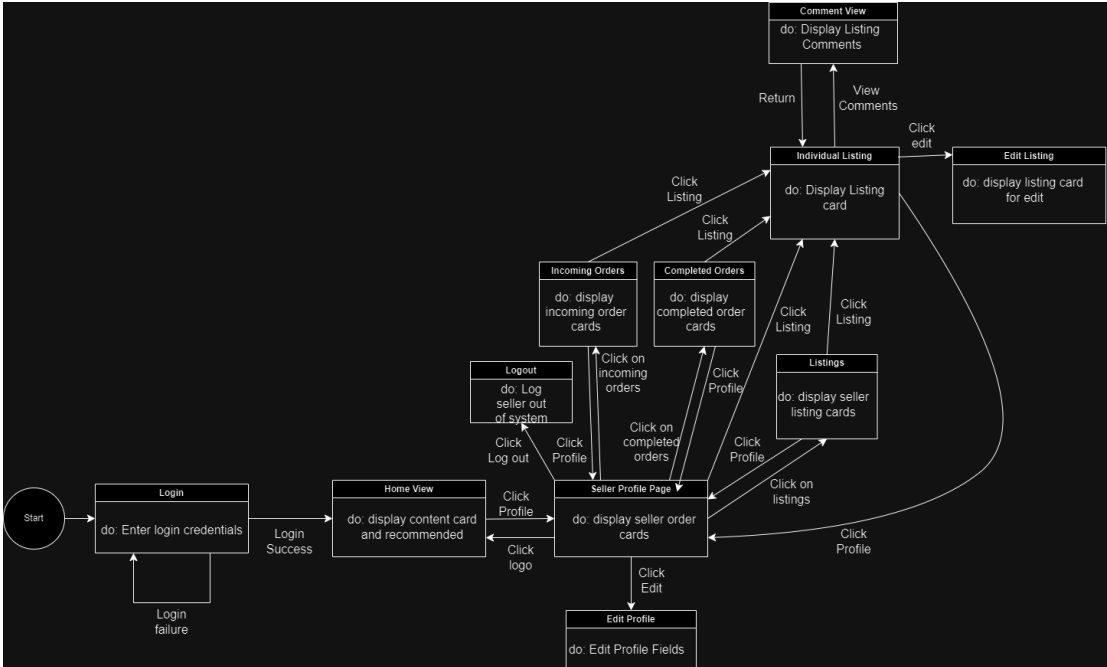iv.   Use-Case Model – Sarah Barber
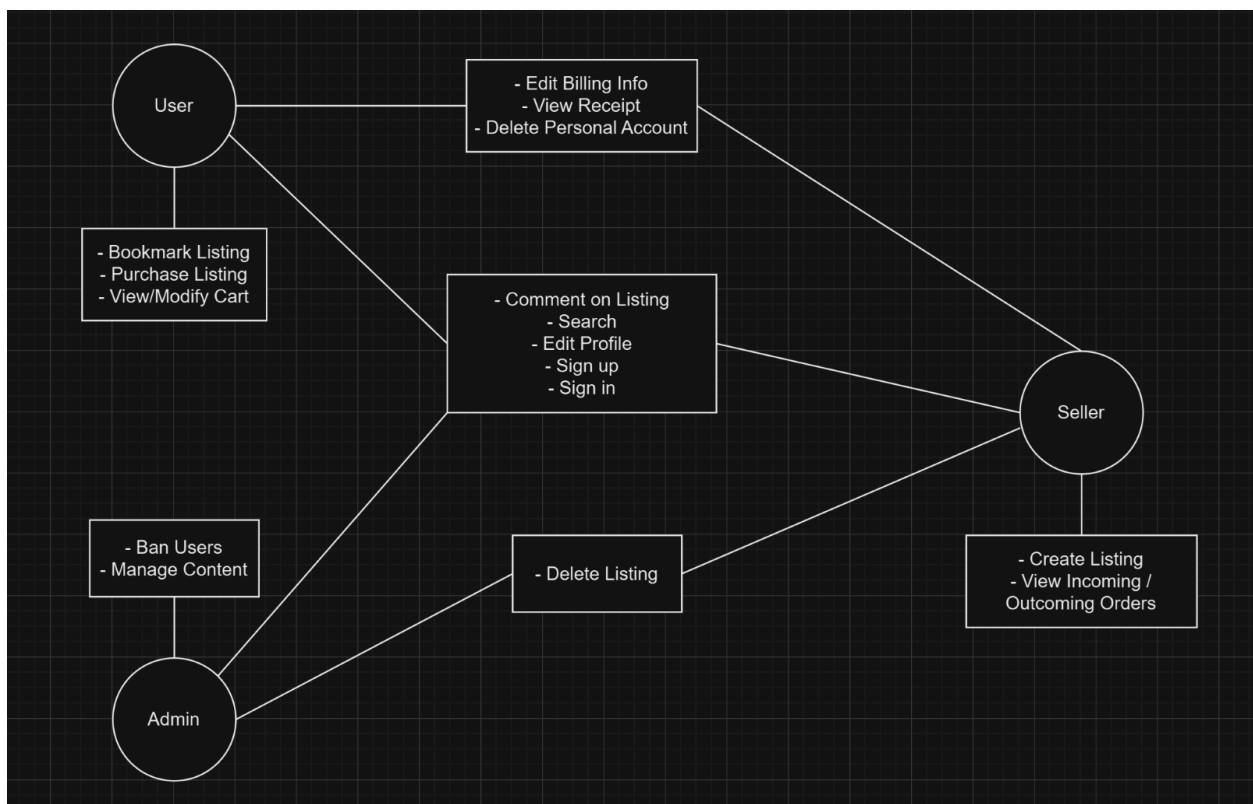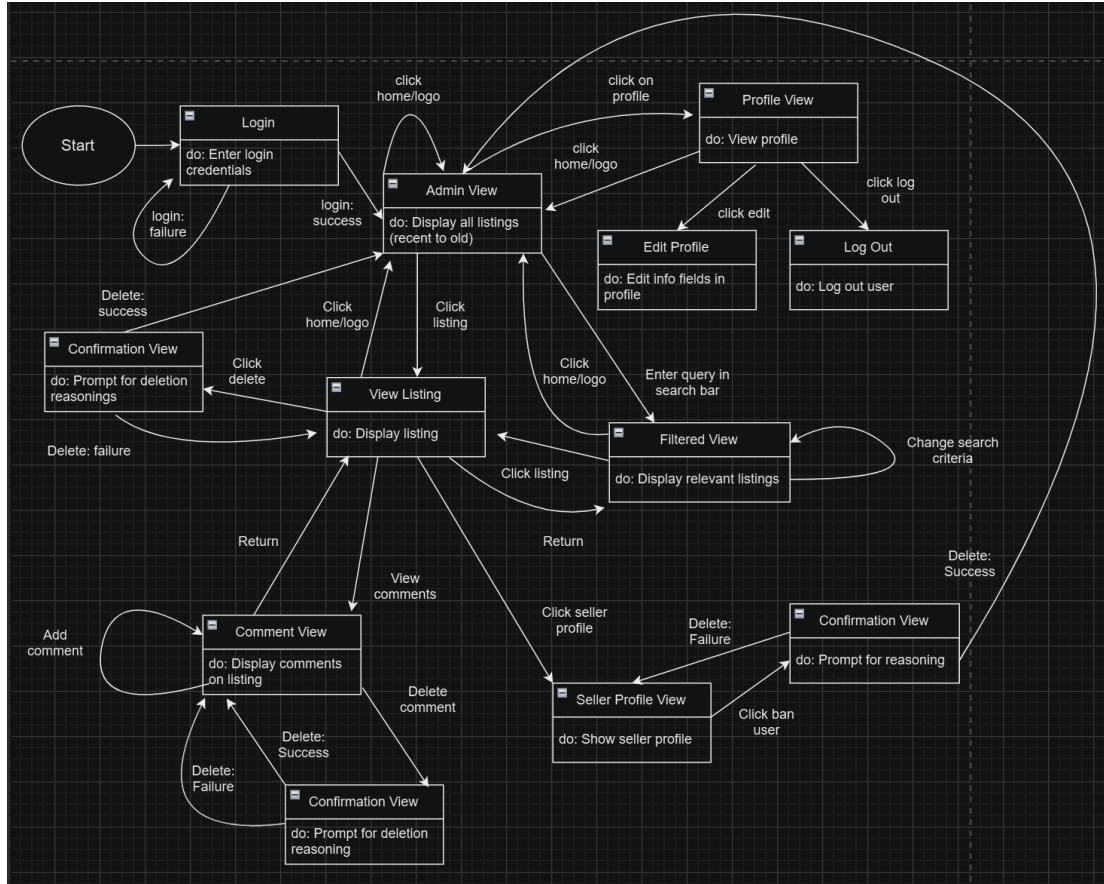
v. State Machine Diagrams
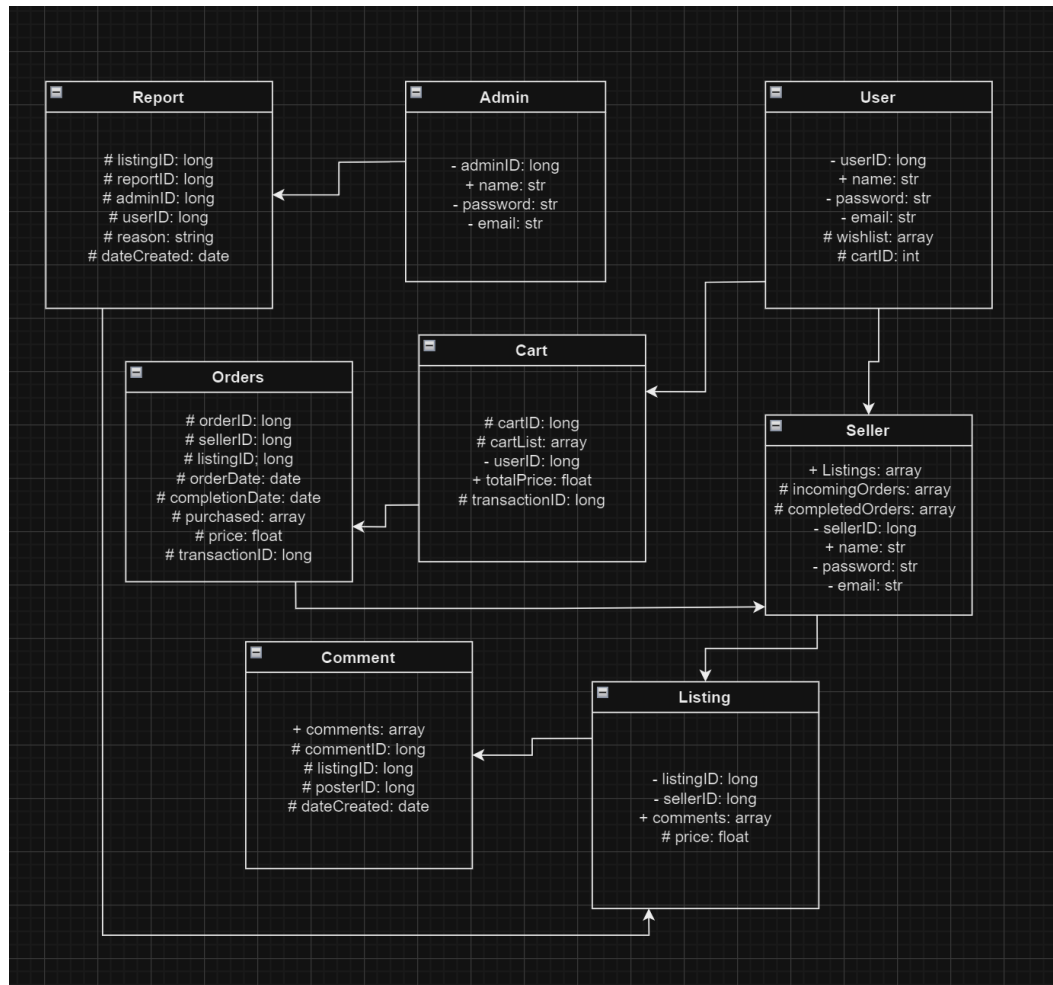
xliii. User – Juliet Bellion

xliv. Seller – Camden Tuttle

xlv. Admin – Sarah Barber

vi. Database Schema – Sarah Barber

Report
listingID: long
reportID: long
adminID: long
userID: long
reason: string
dateCreated: date

Admin
- adminID: long
+ name: str
- password: str
- email: str

User
- userID: long
+ name: str
- password: str
- email: str
wishlist: array
cartID: int

Orders
orderID: long
sellerID: long
listingID: long
orderDate: date
completionDate: date
purchased: array
price: float
transactionID: long

Cart
cartID: long
cartList: array
- userID: long
+ totalPrice: float
# transactionID: long

Seller
+ Listings: array
# incomingOrders: array
# completedOrders: array
- sellerID: long
+ name: str
- password: str
- email: str

Comment
+ comments: array
# commentID: long
# listingID: long
# posterID: long
# dateCreated: date

Listing
- listingID: long
- sellerID: long
+ comments: array
# price: float

vii.   Software Architecture – MVC – Camden Tuttle