

1. Team:

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2. Title:

CampusRecycle

3. Project Summary:

The main goal for this project is to make the useless resources (like old bikes or other products) recyclable and available among students and staff. This will be a platform for CU students to post products they want to sell and organize meetups with potential buyers.

Functionality:

- User must register with @colorado.edu email
- User can view products that are published
- Users can sort products by price / date
- Users can search for products by keyword
- Users can place their items in categories
- User can publish his/her own product
- User can delete his/her published product
- User can update his/her published product (e.g. update price)
- User can mark his/her product as sold
- User can send message to each other
- Users can rate seller and buyer
- Admin can delete some product (e.g. illegal)
- Admin can add / delete categories

Stretch Goals (Optional)

- Admin can delete a seller if they have bad reviews

4. Requirement Analysis

Business Requirements:

ID	Description	Priority
BR-01	user must register with @colorado.edu email	Medium
BR-02	user must login before publish/view the products	High

BR-03	Admin can delete some product for (business reason e.g. illegal product)	Medium
BR-04	Admin can add / delete categories (for business reason)	High
BR-05	Admin can delete a seller if they have bad reviews (for business reason)	Low

User Requirements:

ID	Description	Priority
US-01	User can view product list	High
US-02	User can view category list	High
US-03	User can view product detail page	High
US-04	User can sort product list	Medium
US-05	User can sort product list by date	Medium
US-06	User can sort product list by price	Medium
US-07	User can find product	High
US-08	User can find product by keyword search	Medium
US-09	User can find product by browse categories	Medium
US-10	User can publish his/her own product (but need approval by admin before publish)	High

US-11	User can fill information (title, description,picture,category,p rice) about his/her own product	High
US-12	User can update his/her published product (but need approval by admin before publish)	Medium
US-13	User can delete his/her published product	High
US-14	User can mark his/her product as sold	High
US-15	User can send message to each other (via email)	High
US-16	Users can rate seller and buyer	Low
US-17	Admin can view unprocessed product list	High
US-18	Admin can view unprocessed product detail	Medium
US-19	Admin can verify (approve/deny) product publishment	High
US-20	Admin can add category	High
US-21	Admin can remove category	Medium
US-22	Admin can delete user	Low

Functional Requirements:

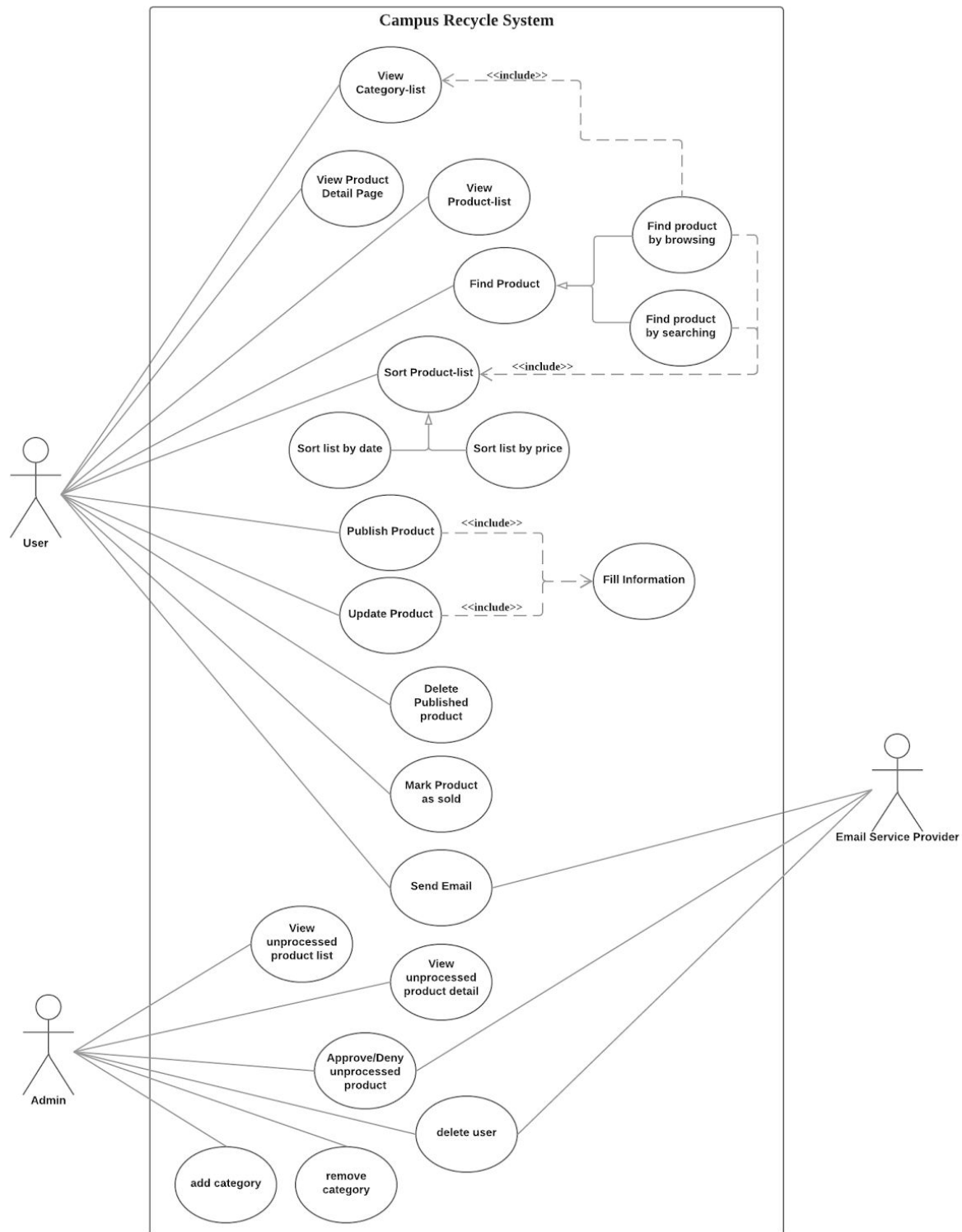
ID	Description	Priority
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FR-1	When a user registers, the system must check that the domain of the email is "colorado.edu"	High
FR-2	The system must send a confirmation email to verify the user has that email address upon registration	High
FR-3	The system should store image, price, description, published date, category, sold flag of each item	High
FR-4	The system should send an email to the recipient whenever a message is sent on the website	High

Non Functional

ID	Description	Priority
NFR-01	Easy and intuitive to use	High
NFR-02	Easy to extend categories for admin	Medium
NFR-03	No operation should take more than 5 seconds	Medium

5. Use cases



Use Case Document

Use Case ID: UC-1

Requirement ID:	US-10
Use Case Name:	User can publish his/her own product
Description:	User can post a product and fill information (i.e.. title, description, picture, category, price). The posted product will going to the “pending” list first to get verified by admin (the verification is in another use case)

Actors:	Users	
Pre-conditions:	User logged in.	
Post-conditions:	A product is added in the “pending” list (for admin to verify).	
Frequency of Use:	whenever a user want to post a product	
Flow of Events:	Actor Action	
	System Response	
	1	Click a “post” icon
	2	Fill title
	3	Fill description
	4	Upload image
	5	select category from a list
	6	Fill price
	7	click “submit
Variations:	3. User may ignore description 4. User may not provide image	
Exceptions:	2.title missing 4.image upload fails 5. category missing 6. price missing	
Developer Notes:		

Use Case Document

Use Case ID:	UC-2
Requirement ID:	US-09
Use Case Name:	browse a product
Description:	A user can find a published product by browsing category list and product list. During the browsing, user can use sort (either by price or by date) to order the product list.

Actors:	Users	
Pre-conditions:	User logged in.	
Post-conditions:	The product detail page is displayed	
Frequency of Use:	Whenever a user wants to browse a product	
Flow of Events:	Actor Action	
	System Response	
	1	Open “categories” page.
		System displays the page of categories.
	2	Click a category from the list.
		System display the item list of this category.
	3	User view the list
	4	User select an item
		System display the item detail page
Variations:	3a. Change sort to “price”. 3b. Change sort to “Date”.	
Exceptions:	2. No items found	
Developer Notes:		

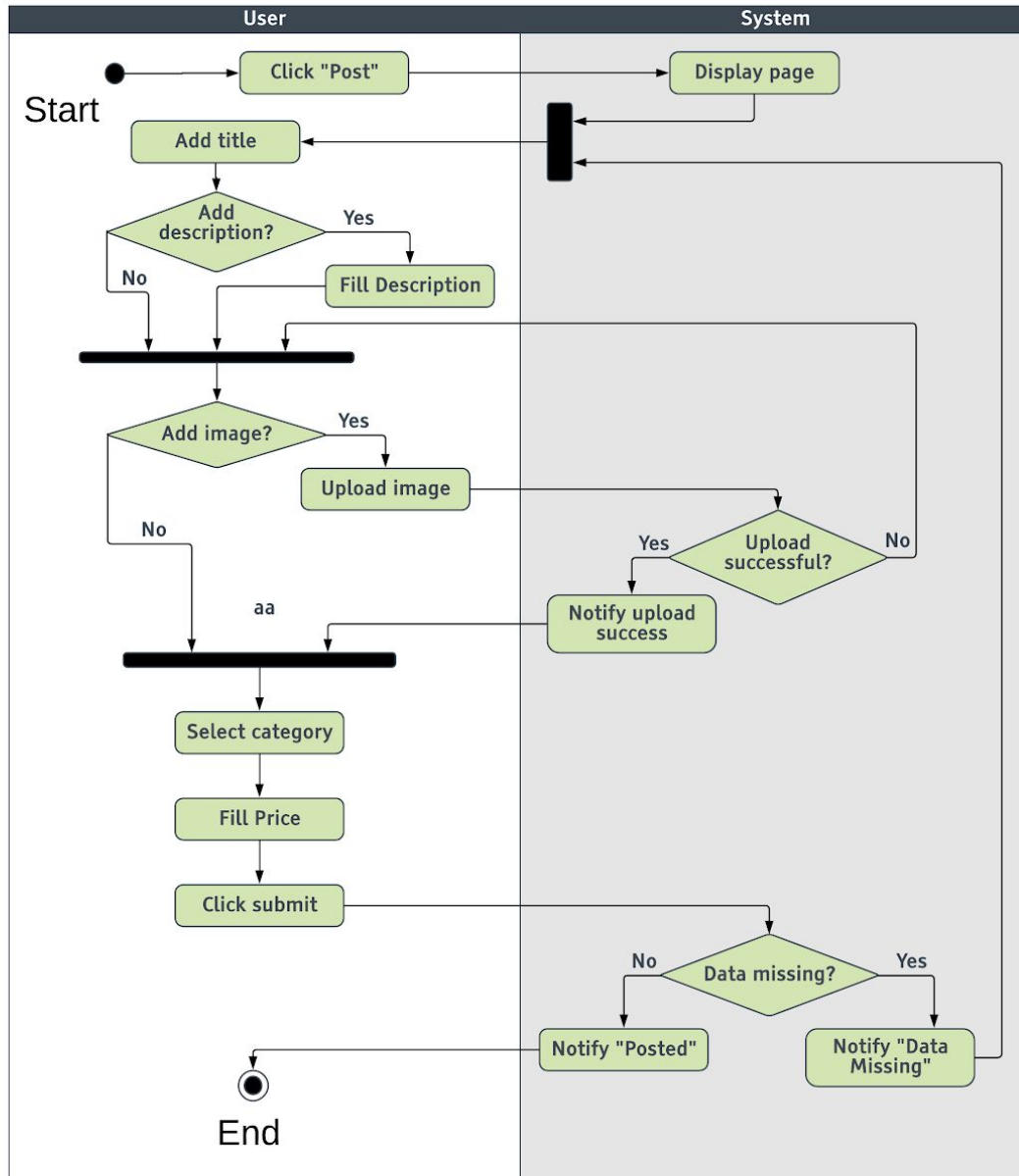
6. Activity Diagrams

“Post” Activity Diagram

Requirement ID: US-10

Use Case ID: UC-1

Description: User can post a product and fill information (i.e.. title, description, picture, category, price). The posted product will going to the "pending" list first to get verified by admin (the verification is in another use case)

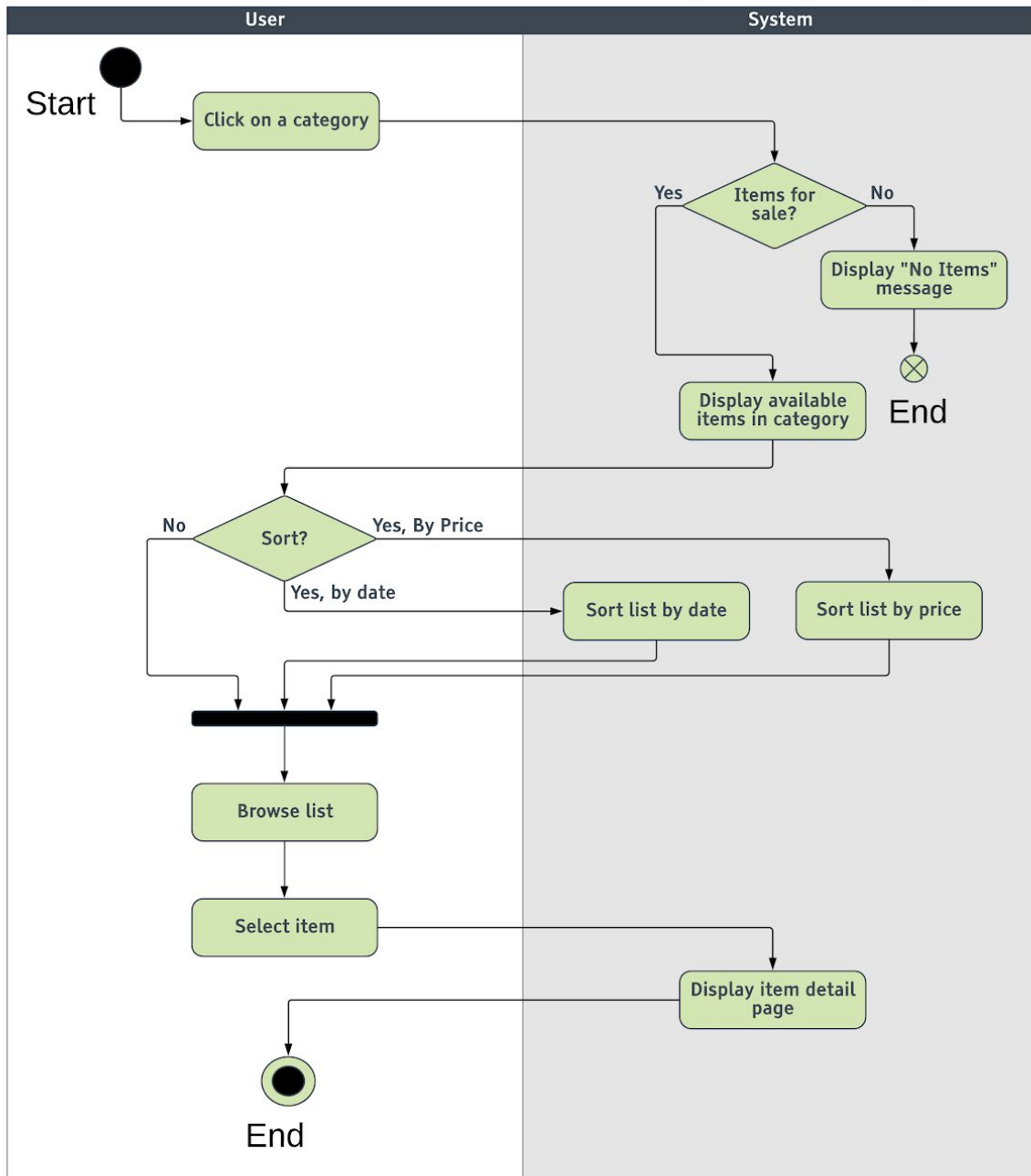


"Browse" Activity Diagram

Requirement ID: US-09

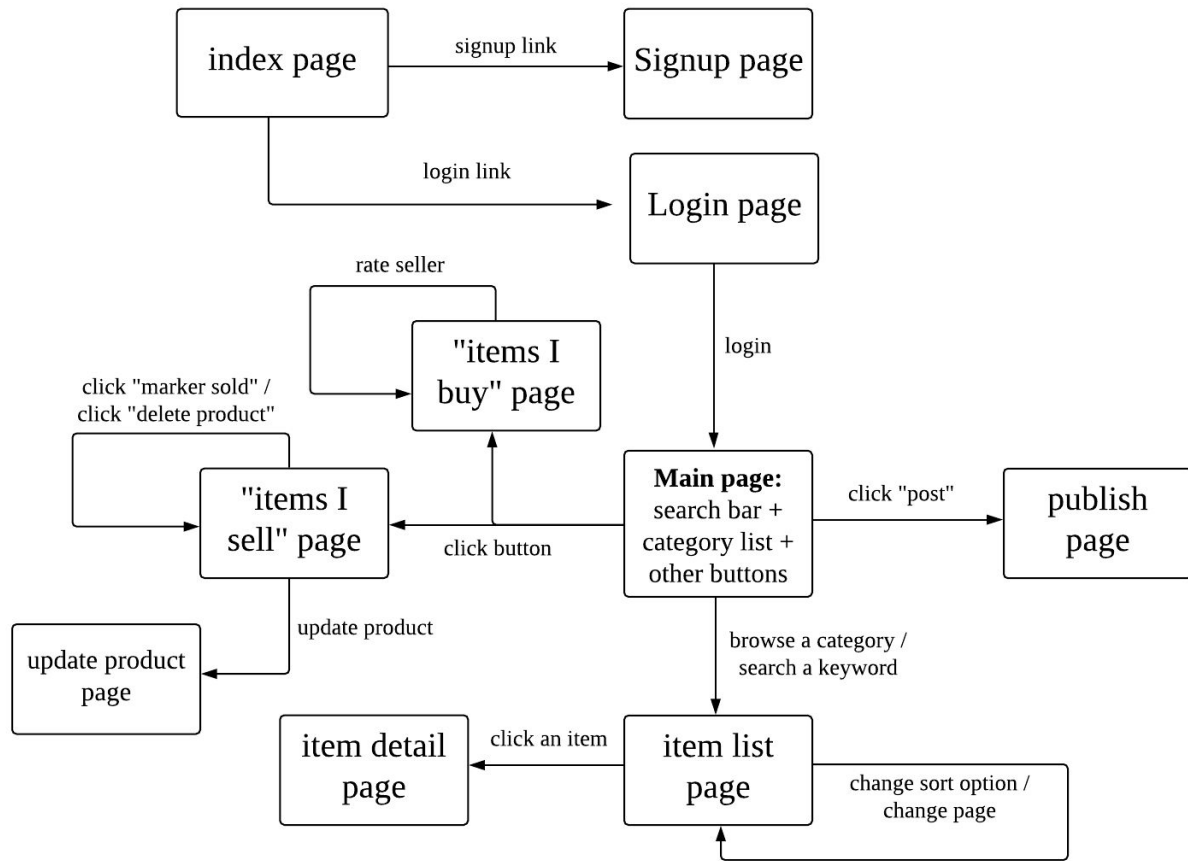
Use Case ID: UC-2

Description: A user can find a published product by browsing category list and product list. During the browsing, user can use sort (either by price or by date) to order the product list.

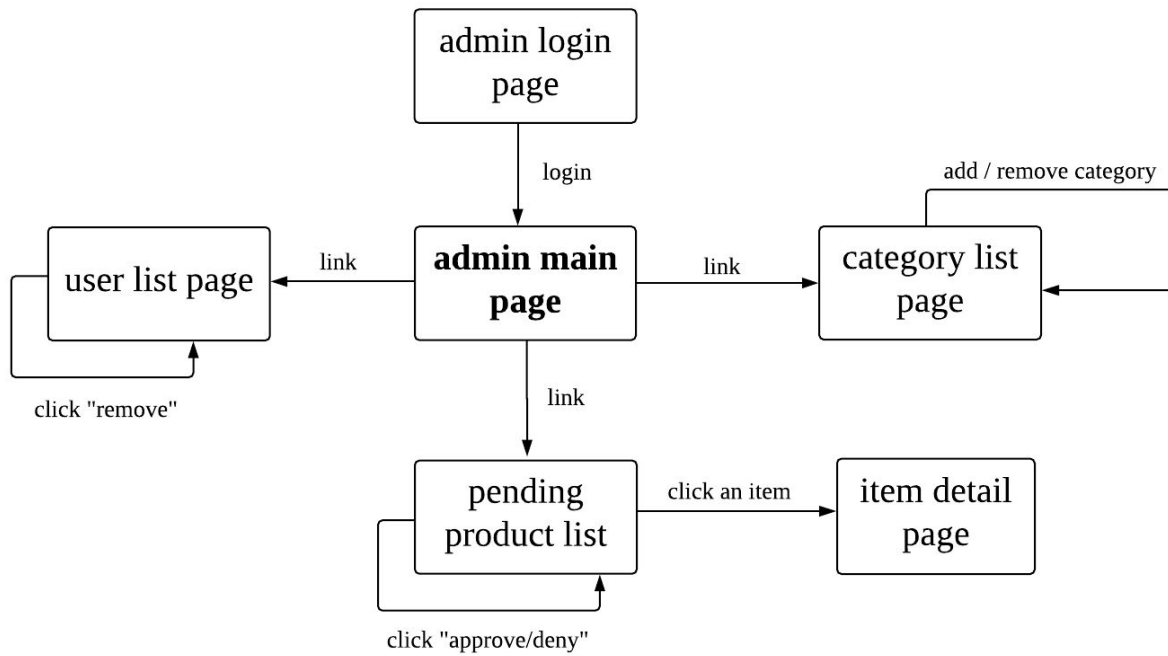


7. UI Mockups

Overall relation of webpages for user

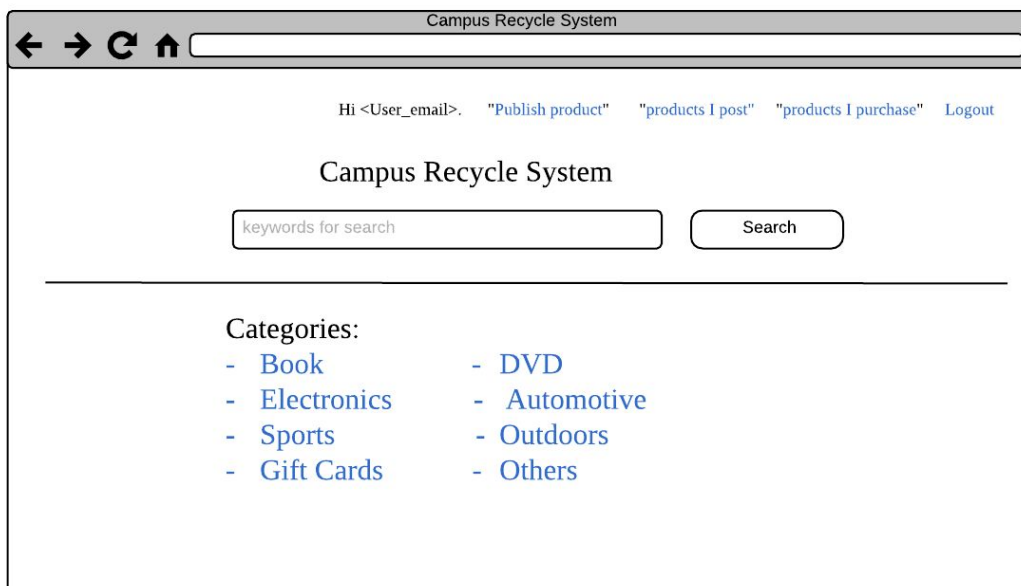


Overall relation of webpages for Admin:



Individual webpage UI Mockup:

Main Page (blue means hyperlinks)



Item List Page:

← → ↻ ⬆

Campus Recycle System

Hi <User_email>. "Publish product" "products I post" "products I purchase" Logout

keywords for search

Sort by: date (ascend/descend); price(ascend/descend)

- <title of item 1>

<price>

- <title of item 2>

<price>

.....

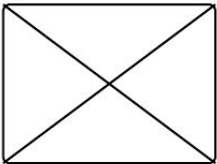
page: 0 1 .. [nextpage](#)

Item Detail Page:

← → ↻ ⬆

Campus Recycle System

Campus Recycle System



picture of product

- Title of product
- published date
- published by ... ([email](#))
- Description of product
- category
- price

“Items I sell” page

CU-Recycle

[Log Out](#)

For Sale
My Sales
Purchases

Active New

Title	Category	Date
Road Bike	Bikes	03/01/18

Sold

Title	Category	Date
Road Bike	Bikes	03/01/17

Admin Main Page

Campus Recycle System

Campus Recycle System
Admin Page

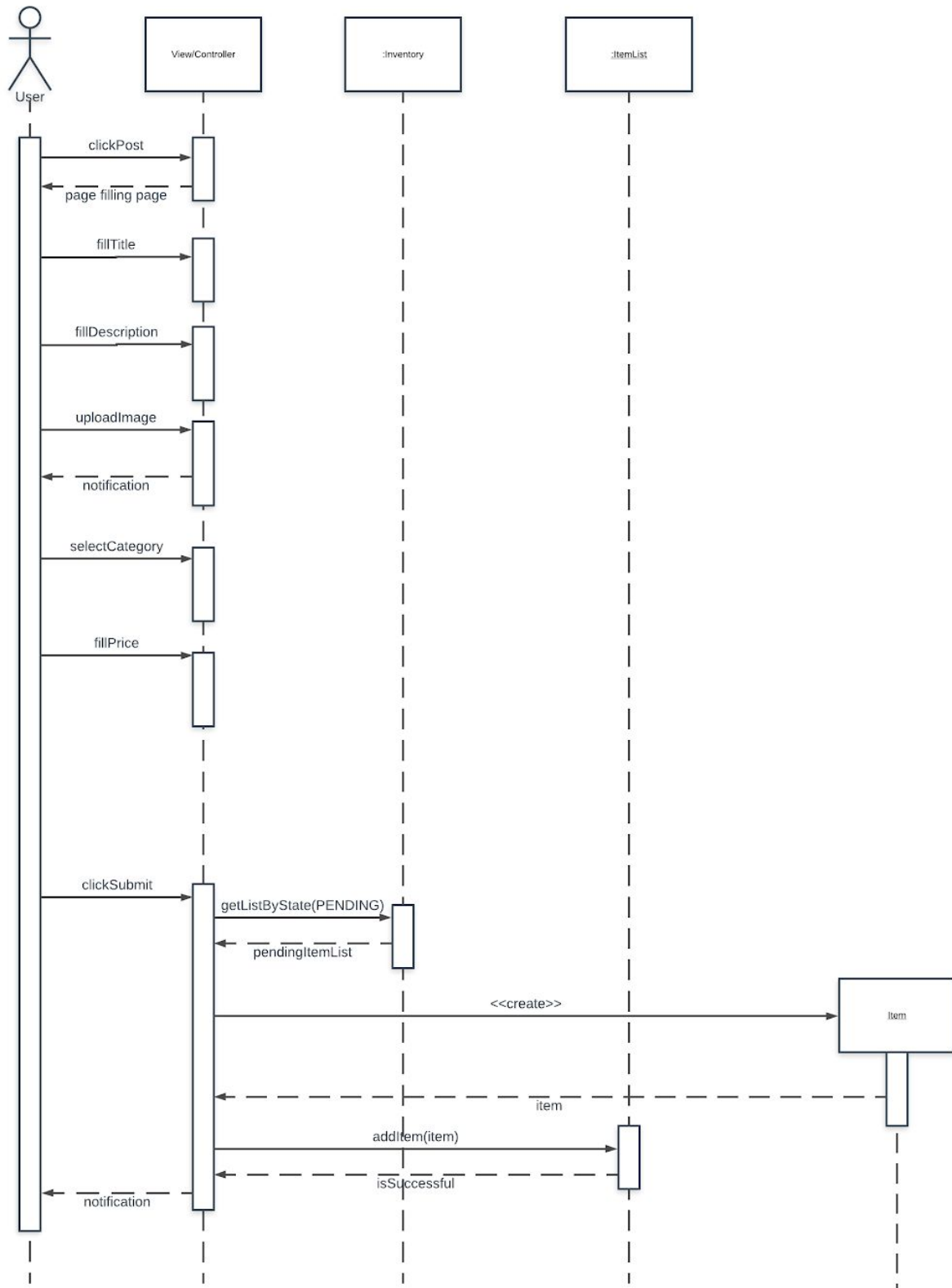
[Pending product List \(to verify\)](#)
[Category List \(to add/ remove\)](#)
[User List \(to remove\)](#)

8.Sequence Diagram

Requirement ID: US-10

Use Case ID: UC-01

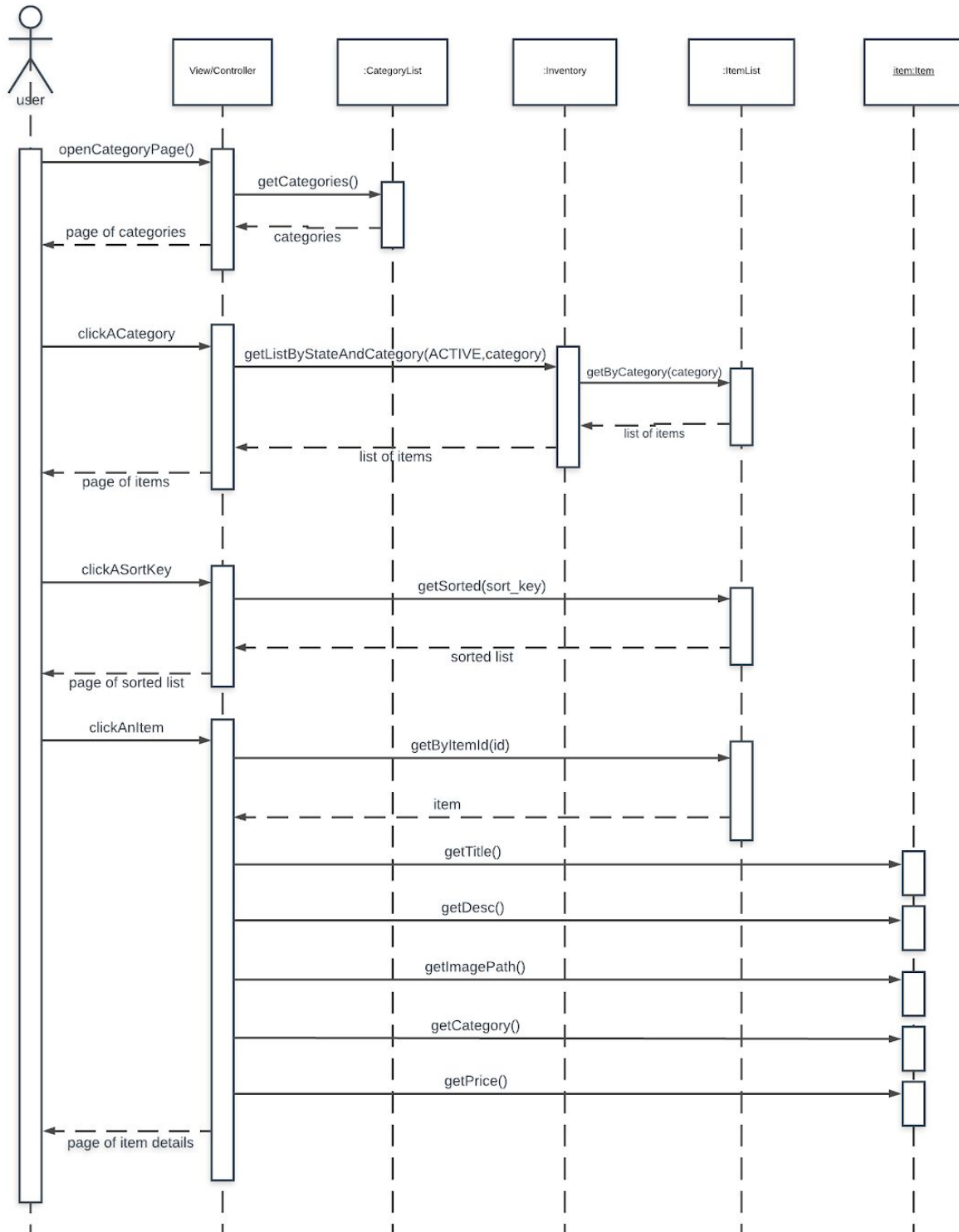
Description: User can post a product and fill information (i.e.. title, description, picture, category, price). The posted product will going to the "pending" list first to get verified by admin (the verification is in another use case)



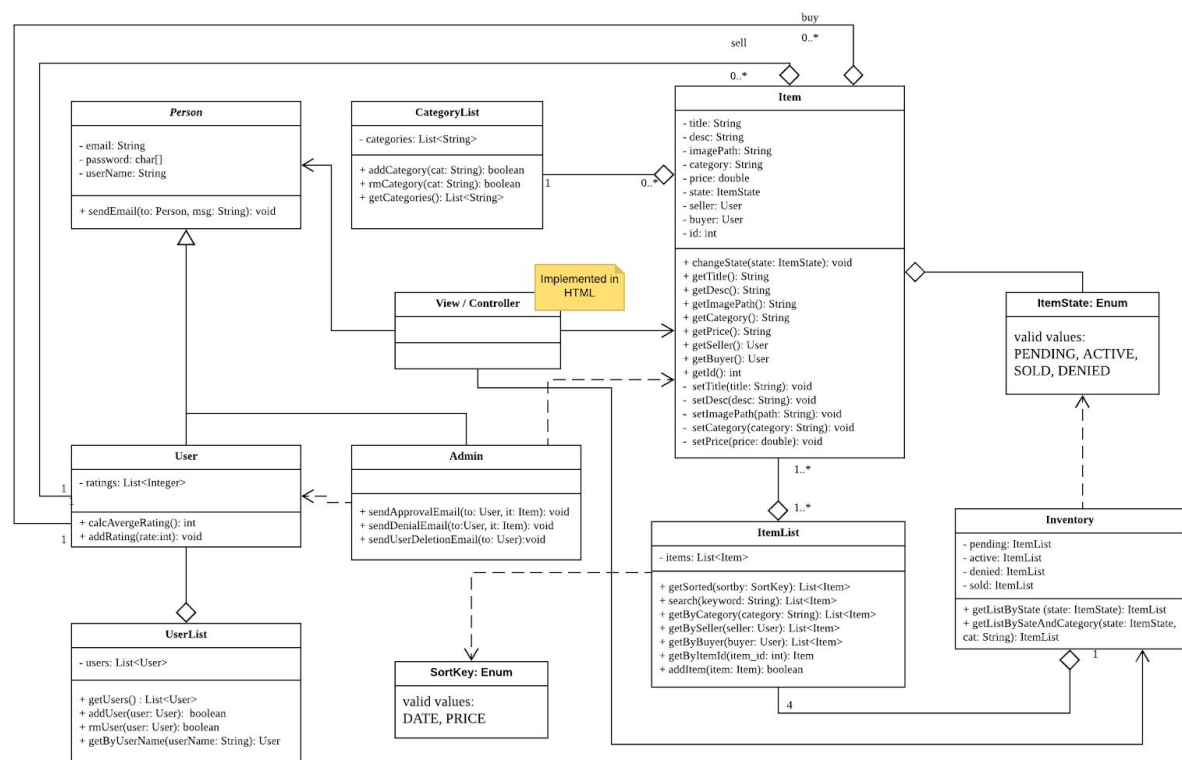
Requirement ID: US-09

Use Case ID: UC-02

Description: A user can find a published product by browsing category list and product list. During the browsing, user can use sort (either by price or by date) to order the product list.



9. Class Diagram



10. Data Storage

We will use the JDBC API to connect to a MySQL database from Java on the server. The database will be used to store items, users, admins, and categories.