

# SW Engineering CSC 648/848 Fall 2018

## Section 01

**Gator Trader**



### **Team # 02 (Local)**

Gayatri Pise, **Team Lead** | [gpise@mail.sfsu.edu](mailto:gpise@mail.sfsu.edu)

**Peter Malolepszy**

**Divam Shah**

**Dylan Wright**

**Moses Martinez**

**Charul Ramtekkar**

**Regine Manuel**

### **“Milestone 2”**

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## History Table

Version	Date	Owner(s)	Description
1.0	10/19/18	Gayatri	Submitted for Review
2.0	10/29/18	Gayatri	Changes as per feedback and document freeze

## 1. Data Definitions V2

1.1 **Unregistered User:** They can browse and search the website but would not be allowed to sell or buy items until they register/sign in.

1.2 **Registered User:** Users who have registered and have an account with Gator Trader can log in, to either sell their items, check the seller dashboard or buy available items on the website. Registered users can be both sellers as well as buyers.

1.3 **Administrator:** An Administrator is a registered user who has special privileges. He is capable of monitoring the Gator Trader website with tasks such as removing illegal items, reviewing and approving pending items from sellers in order to be posted on the website, etc.

1.4 **Item(s):** The main item(s) listed for sale by a registered seller or for purchase by a registered buyer. Item consists of the following: -

1.4.1 Title – This is the Title given to the item while selling by registered user.

1.4.2 Item Id – This is the unique ID associated with each item.

1.4.3 Category – An item would always be associated to one category and the category selection will be drop-down menu.

1.4.4 Price – This is the price of the item at which the registered user wishes to sell his/her item.

1.4.5 Images(s) – An item associated with image(s) while selling would be a plus point as the users can see the condition of the item before buying.

1.4.6 Status – Status of the item can be either pending, approved or rejected.

1.4.7 Description – This is the description associated for each item.

1.5 **Gator Message:** The communication medium between a buyer and a seller used for messaging in Gator Trader website. Once a buyer decides to buy an item posted on the website, he can contact the seller by sending him a message through Gator Messages. The seller can check for the messages received from buyers for his/her appropriate item.

**1.6 Category:** Category would help to sort and group item(s) into different sections. Users can browse by different categories to check for item(s) as per their need. Moreover, sellers need to select a category for posting their item(s) on sale. Category selection would be mandatory for sellers and they would not be allowed to enter his choice for category.

**1.7 User Record:** It is a record that gets created when Unregistered user registers on Gator Trader website by entering information such as User Name, Email Id, Password, etc. Once registered, this email id and password would be used for logging into Gator Trader website by individual registered users. Only registered user records are going to be present in this User Record.

**1.8 Dashboard:** An interface provided to registered users as below:

**1.8.1 Seller Dashboard:** A dashboard is a place where registered users who have posted item(s) on sale on the Gator Trader website are able to view the items, status of the item (such as pending/approved/rejected), view Gator Messages from buyers as well as remove items due to any reason.

**1.8.2 Administrator Dashboard:** It is the dashboard for the Administrator who has special privileges to approve pending items, reject illegal or inappropriate posts on the Gator Trader Website as well as remove suspicious users. No other Registered User other than Administrator can see the Administrator dashboard page.

**1.9 Status:** This is the status associated with an item. When an item is posted by any registered user, it would be in default Pending status. Once, approved by administrator the item status would change to Approved and the item would be live on Gator Trader website. If the item is rejected by administrator for any reason, the item status would change to Rejected from Pending status.

## **2. Functional Requirements V2**

### **Priority 1**

#### **2.1 Unregistered Users**

2.1.1 **Unregistered Users** shall be able to browse the Gator Trader website

2.1.2 **Unregistered Users** shall be able to search any item as per their need on the Gator Trader website

2.1.3 **Unregistered Users** shall be able to search as per Category on the Gator Trader website

2.1.4 **Unregistered Users** shall not be allowed to sell item(s) on the Gator Trader website

2.1.5 **Unregistered Users** shall not be allowed to buy item(s) on the Gator Trader website

2.1.6 **Unregistered Users** shall be able to create an account by using valid username, email id and password

2.1.7 **Unregistered User** shall be able to sort search results using below options:

2.1.7.1 By Posted Date

2.1.7.2 By Price

#### **2.2 Registered Users**

2.2.1 **Registered Users** shall be able to browse the Gator Trader website

2.2.2 **Registered Users** shall be able to search any item as per their need on the Gator Trader website

2.2.3 **Registered Users** shall be able to search as per Category on the Gator Trader website

2.2.4 **Registered Users** shall be able to login into their Gator Trader account by using Email Id and Password entered at the time of account creation

2.2.5 **Registered users** shall be able to post their item(s) for sale on Gator Trader website

2.2.6 **Registered users** shall be able to see the Seller Dashboard on Gator Trader website

2.2.7 **Registered users** shall be able to check the information of their selling item(s) in their Seller Dashboard

2.2.8 **Registered Users** who are selling item(s) shall be able to check Gator Messages in the Seller Dashboard received from Registered Users interested in buying the item(s)

2.2.9 **Registered users** shall be able to buy item(s) on Gator Trader website

2.2.10 **Registered Users** interested in buying an item shall be able to contact the Registered User selling that item

2.2.11 **Registered Users** shall be able to include the following while posting an item(s) for sale on the website:

2.2.11.1 Category

2.2.11.2 Title

2.2.11.3 Description

- 2.2.11.4 Price
- 2.2.11.5 Image(s)
- 2.2.12 **Registered User** shall be able to sort search results using below options:
  - 2.2.12.1 By Posted Date
  - 2.2.12.2 By Price
- 2.2.13 **Registered Users** shall be able to mark an item as sold in their seller dashboard once sold out

## **2.3 Administrator**

- 2.3.1 **Administrator** shall be able to browse the Gator Trader website
- 2.3.2 **Administrator** shall be able to search any item as per their need on the Gator Trader website
- 2.3.3 **Administrator** shall be able to search as per Category on the Gator Trader website
- 2.3.4 **Administrator** shall be able to sort search results using below options:
  - 2.3.4.1 By Posted Date
  - 2.3.4.2 By Price
- 2.3.5 **Administrator** shall be able to login into their Gator Trader account by using Email Id and Password
- 2.3.6 **Administrator** shall be able to see the Item Dashboard
- 2.3.7 **Administrator** shall be able to approve item(s) posted by registered users from Item Dashboard
- 2.3.8 **Administrator** shall be able to reject item(s) posted by registered users if found inappropriate from Item Dashboard
- 2.3.9 **Administrator** shall be able to see the User Dashboard
- 2.3.10 **Administrator** shall be able to delete registered users if found suspicious from User Dashboard

## **Priority 2**

### **2.4 Registered Users**

- 2.4.1 **Registered Users** who are selling their item shall be able to remove the posted item for any reason (such as no longer wishes to sell the item)
- 2.4.2 **Registered Users** shall be able to contact Administrator if required

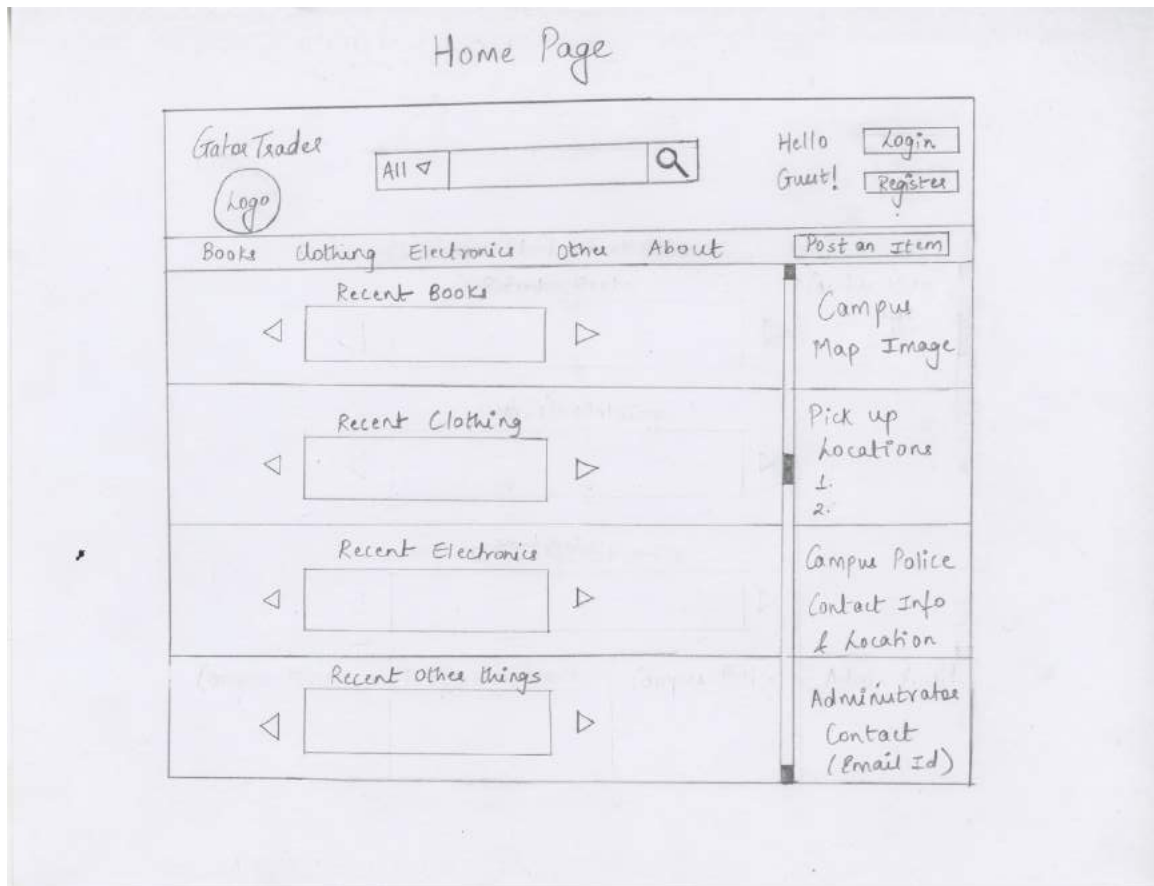
### **2.5 Administrator**

- 2.5.1 **Administrator** shall be able to contact Registered Users if required

### 3. UI Mockups and Storyboards (high level only)

#### 3.1 UI Mockups

3.1.1 **Home Page** - This is the default home page for Gator Trader website where any user can browse and search by entering specific name or by category.



**3.1.2 Search Page-** This is the search page returned upon searching a specific keyword (e.g. iPhone).

*Search Page*

<i>Gabae Trader</i> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; margin: 0 auto; display: flex; align-items: center; justify-content: center;">Logo</div>	<div style="display: flex; align-items: center; justify-content: center;"><div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">All ▾</div><div style="border: 1px solid black; padding: 2px 10px; margin-right: 5px;">iPhone</div><div style="border: 1px solid black; padding: 2px 5px; margin-right: 5px;">Q</div></div>	<div style="display: flex; justify-content: space-between; align-items: center;"><div><i>Hello</i> <div style="border: 1px solid black; padding: 2px 5px;">Login</div></div><div><i>Guest!</i> <div style="border: 1px solid black; padding: 2px 5px;">Register</div></div></div>
<div style="display: flex; justify-content: space-around; font-size: small;"><span>Books</span><span>Clothing</span><span>Electronics</span><span>Other</span><span>About</span><span>Post an item</span></div>		
<div style="display: flex; justify-content: space-between; align-items: center;"><span>Showing 1-25 of 100 results</span><div style="display: flex; align-items: center;"><span>Price</span> <div style="border: 1px solid black; padding: 0 5px;">▾</div></div><div style="display: flex; align-items: center;"><span>Date</span> <div style="border: 1px solid black; padding: 0 5px;">▾</div></div></div>		
Item Image	<div style="display: flex; flex-direction: column; gap: 5px;"><div>Item Name :</div><div>Category :</div><div>Price :</div><div><u>View Details</u></div></div>	<div style="border: 1px solid black; padding: 2px 5px;">Contact Seller</div>
Item Image	<div style="display: flex; flex-direction: column; gap: 5px;"><div>Item Name :</div><div>Category :</div><div>Price :</div><div><u>View Details</u></div></div>	<div style="border: 1px solid black; padding: 2px 5px;">Contact Seller</div>
Item Image	<div style="display: flex; flex-direction: column; gap: 5px;"><div>Item Name :</div><div>Category :</div><div>Price :</div><div><u>View Details</u></div></div>	<div style="border: 1px solid black; padding: 2px 5px;">Contact Seller</div>



**3.1.3 View Item Details Page** - This is the Item detail page that opens in a new tab upon clicking View Details, where users can look up the details of the item.

View Details Page (New Tab)

Gator Trader  
logo

Item Details

Item Image(s)

Item Id: \_\_\_\_\_

Item Name: \_\_\_\_\_

Price: \_\_\_\_\_


Category: \_\_\_\_\_

Description: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Contact Seller

**3.1.4 Post an Item Page** - This page allows a registered user to post an item on the Gator Trader website by entering information in the fields such as Title, Price, Category, etc.


Post an Item Page

Gator Trader 	All <input type="text"/> <input type="button" value="Q"/>	Hello Username <input type="button" value="log out"/> <a href="#">My Dashboard</a>
<a href="#">Books</a> <a href="#">Clothing</a> <a href="#">Electronics</a> <a href="#">Other</a> <a href="#">About</a>		
<u>Post an Item</u>		
TITLE :	<input type="text"/>	0/20
CATEGORY :	<input type="text"/>	▼
PRICE :	<input type="text"/>	
DESCRIPTION :	<input type="text"/>	0/100
IMAGES :	<input type="text" value="click here to select photos"/>	
<p>NOTE: Once item posted is in default Pending status. Please wait until Approved by Administrator to go live.</p>		
<input type="button" value="Cancel"/>		<input type="button" value="Post"/>

**3.1.5 Login Page-** This is the page for logging in with the credentials for registered users and administrators.

Log In Page

Grater Trader



Log In

Email

Password


[Forgot Your Password?](#)  
[New to Grater Trader? Register](#)

Cancel

Log In

**3.1.6 Registration Page** - This is the registration page where unregistered users can create a Gator Trader account by entering details such as username, email and password.

Registration Page

Gator Trader  


Create Account

\* All fields are required

\* Username:

\* Email:

\* Confirm Email:

\* Password:

\* Confirm Password:

☒ I agree to Gator Trader Terms & Conditions


☒ I am not a robot

Already a member? sign in

Create

**3.1.7 My Dashboard Page** - This is the dashboard page for a registered user which shows all their items posted for sale along with the gator messages.

Registered User (seller) Dashboard

Gator Trader  


All ▾

Hello Username  
  
My Dashboard

Books Clothing Electronics Other About

My Dashboard  
Sort By: Price ▾ Date ▾ status ▾

Item Image	Item Name Mobile	Price \$200.00	Date-Posted 01/01/2018	Status Approved <input type="button" value="Remove Item"/>
Item Image	ItemName Book	Price \$90.00	Date-Posted 01/01/2018	Status Pending <input type="button" value="Remove Item"/>
Item Image	(same as above)			

Gator Messages  
sort by Date ▾  


Message from Username

Message from Username

Message from Username

**3.1.8 Admin Item Dashboard Page-** This page is only displayed to administrators who has the privilege to approve or deny items posted by a registered user.


Admin Item Dashboard

Gator Trader 	<div style="display: flex; align-items: center; justify-content: center;"> <span>All ▾</span> <input style="width: 100px; border: 1px solid black;" type="text"/> <span style="border: 1px solid black; padding: 0 5px;">Q</span> </div>	Hello Admin	<span style="border: 1px solid black; padding: 2px 10px;">Log out</span>
<a href="#">Books</a> <a href="#">Clothing</a> <a href="#">Electronics</a> <a href="#">Other</a> <a href="#">About</a>		<a href="#">Item Dashboard</a> / <a href="#">User Dashboard</a>	
<div style="border: 1px solid black; padding: 5px;">             Administrator Item Dashboard           </div>			
Sort By:- Category ▾ Date Posted ▾ Status ▾			
Item Image	<div style="display: flex; flex-direction: column; gap: 5px;"> <div>Item Id</div> <div>Title</div> <div>Price</div> <div>Category</div> <div>Description</div> <div>Status</div> <div>Posted Date</div> <div>User Id</div> </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Approve</div> <div style="border: 1px solid black; padding: 5px;">Reject</div>	
Item Image	Same as above		

**3.1.9 Admin User Dashboard Page-** This page is only displayed to administrators who has the privilege to remove registered users if found suspicious.

Admin User Dashboard

Garba Teacher



All ▾

Q

Hello Admin

log out

[Item Dashboard](#) / [User Dashboard](#)

Books Clothing Electronics Other About

User Id

Administrator User Dashboard

Sort By: Created Date ▾ User Name ▾

User Id

User Name

User Email

Date Joined

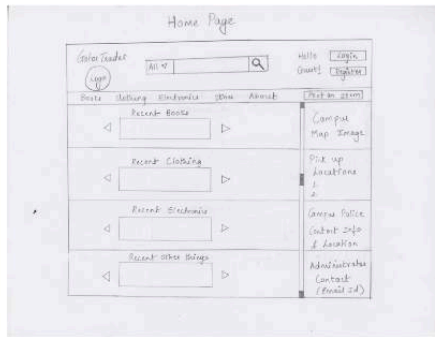
Remove User

same as above

## 3.2 Storyboards

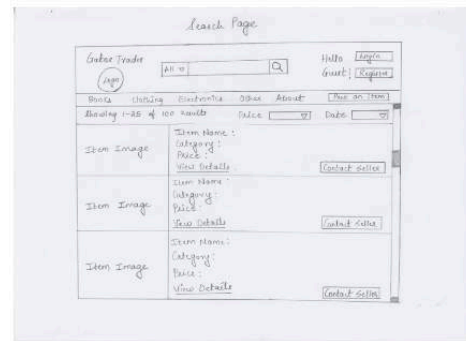
### 3.2.1 Storyboard 1: Desperate Buyer

Regine needs an Android device as soon as possible for completing her homework. She is a registered user on Gator Trader website, so she browses by category and finds a lot of posts selling Android devices. Then, she contacts the seller in order to buy the device.



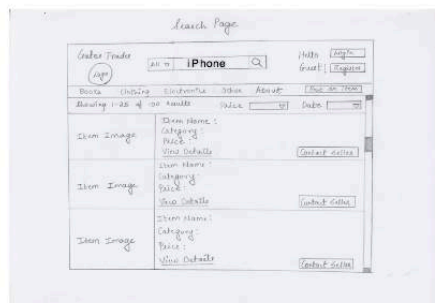
#### 1. Home Page

Regine is on the home page of the website and search by selecting category "Electronics" from the All tab located at the top search bar.



#### 2. Search Page

Regine is led to Search/Results page based on the category that she selected.



#### 3. Search Results

While she is in the Search Results page she types in "Android" to narrow down the search options as per her need. Upon finding the right choice, she can contact the seller in order to buy the item



### 3.2.2 Storyboard 2: Casual Seller

Charul is a senior student at SFSU, graduating this semester. She wants to sell her old textbooks. She comes to know about Gator Trader website and tries to post her item for sale. Being an unregistered user, she is prompted to register. She quickly registers, enters all the item details and then posts the item for sale.

Home Page

Gator Trader

Home Selling Buying About Post an item

Recent Books

Recent Clothing

Recent Electronics

Recent Other Things

Campus Map

Post up locations

Gator Trader

Gator Trader

Gator Trader

#### 1. Home Page

Charul browses on the Gator Trader website and then clicks on "Post an Item"

Registration Page

Gator Trader

Create Account

All fields are required

\*Username:

\*Email:

\*Confirm Email:

\*Password:

☐ I agree to Gator Trader Terms & Conditions

☐ I am not a robot

Create Account

#### 2. Registration Page

Charul being an unregistered user is prompted to register. She quickly registers by entering on the details on the registration page.

Login Page

Gator Trader

Log In

Email:

Password:

[Forgot Your Password?](#)

Cancel Log In

#### 3. Login Page

She logs in with her credentials and then navigates to post an item page.

Post an Item Page

Gator Trader

Post an Item

All fields are required

Title:

Category:

Price:

Description:

Images:

Notes:

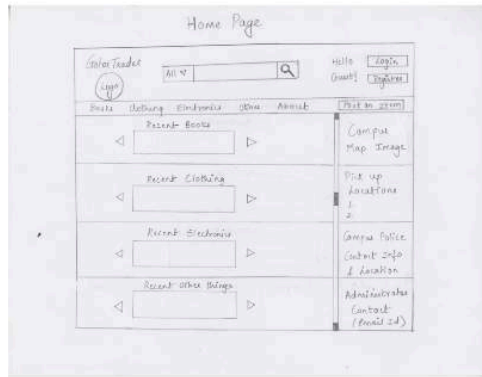
Cancel Post

#### 4. Post an Item Page

She enters all the item details and then posts the item for sale.

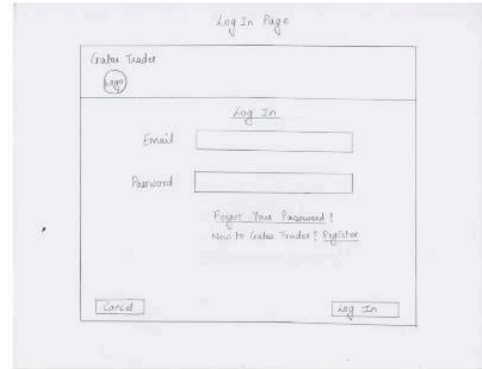
### 3.2.3 Storyboard 3: Serious Seller

Gayatri is moving out of the school dorms. She is a registered user and has posted some of her items for sale on Gator Trader. She is curious to know if her items are approved. She navigates to her dashboard in order to see the status of all her items.



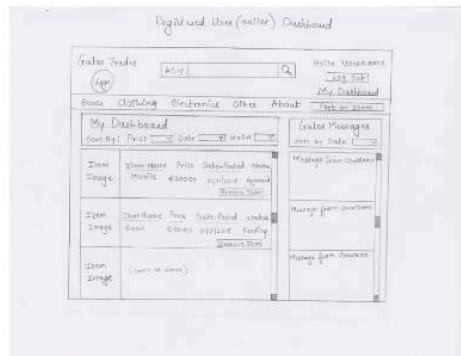
#### 1. Home Page

Gayatri opens Gator Trader website



#### 2. Login Page

She logs in with her credentials.



#### 3. Seller Dashboard Page

She opens her seller dashboard in order to check the status of her posted items.

### 3.2.4 Storyboard 4: Careful Administrator

Dylan is a registered Administrator on the Gator Trader website. He supervises the website and has the right to approve or deny the items posted by registered users as well as delete users if required.

The sketch shows a login page for 'Gator Trader'. It includes a 'Log In' button at the top right. Below it are input fields for 'Email' and 'Password'. A link 'Forgot Your Password? Click Here' is positioned below the password field. At the bottom, there are 'Cancel' and 'Log In' buttons.

#### 1. Login Page

Dylan login with his credentials on Gator Trader website

The sketch shows an 'Admin Item Dashboard'. It features a header with 'Gator Trader' and 'Hello Admin'. Below the header is a navigation bar with links: Home, Clothing, Electronics, Other, About, and Logout. The main content area is titled 'Administrator Item Dashboard' and includes a table with columns for 'Item Id', 'Category', 'Date Posted', and 'Status'. The table contains two rows of data. To the right of the table are 'Approve' and 'Reject' buttons. Below the table, there is a section for 'Item Image' with a note 'Same as above'.

#### 2. Administrator Item Dashboard Page

He goes to the Item dashboard page and approves as well as rejects some of the items posted for sale.

The sketch shows an 'Admin User Dashboard'. It features a header with 'Gator Trader' and 'Hello Admin'. Below the header is a navigation bar with links: Home, Clothing, Electronics, Other, About, and Logout. The main content area is titled 'Administrator User Dashboard' and includes a table with columns for 'User Id', 'User Name', 'User Email', and 'Date Joined'. The table contains two rows of data. To the right of the table is a 'Remove User' button. Below the table, there is a section for 'User Image' with a note 'Same as above'.

#### 3. Administrator User Dashboard Page

Dylan goes to the User dashboard in case he wants to delete any suspicious user.

## 4. High Level Architecture, Database Organization

### 4.1. DB organization - The database tables will be as below: -

4.1.1 user\_record - This is the user registration table when an unregistered user registers on Gator Trader. It will have following data fields.

user\_id SERIAL  
user\_name VARCHAR(15) NOT NULL  
user\_password VARCHAR(20) NOT NULL  
user\_email VARCHAR(25) NOT NULL unique  
Admin\_right BOOLEAN NOT NULL  
timestamp timestamp default current\_timestamp  
Primary Key - user\_id  
Foreign Key - item\_id, dashboard\_id, message\_id

4.1.2 item - This is the item table which creates the item data when a registered user posts an item for sale. It will have the following data fields.

Item\_id SERIAL  
item\_title VARCHAR(30) NOT NULL  
item\_description VARCHAR(100) NOT NULL  
item\_price money NOT NULL  
item\_image bytea NOT NULL  
item\_status VARCHAR(20) NOT NULL  
Primary key - item\_id  
Foreign Key - user\_id, dashboard\_id, message\_id, category\_id

4.1.3 category - This table categorizes item. Whenever a registered user posts an item he has to select the category for an item. Category selection would be mandatory for sellers and they would not be allowed to enter his choice for category. It will have the following data fields.

category\_id SERIAL  
category\_name VARCHAR(30) NOT NULL  
Primary Key - category\_id  
Foreign Key - item\_id

4.1.4 gator\_message - This table contains the messages from registered users who are interested in buying the items posted for sale. It will have the following data fields.

message\_id SERIAL  
message\_text VARCHAR(100)  
message\_date timestamp default current\_timestamp  
Primary Key message\_id  
Foreign Key - user\_id, dashboard\_id, item\_id

4.1.5 dashboard - This table is associated with item details, message details as well as user details for registered users and the administrator. It will have the following data fields.

dashboard\_id SERIAL

Primary Key dashboard\_id

Foreign Key - user\_id,message\_id, item\_id

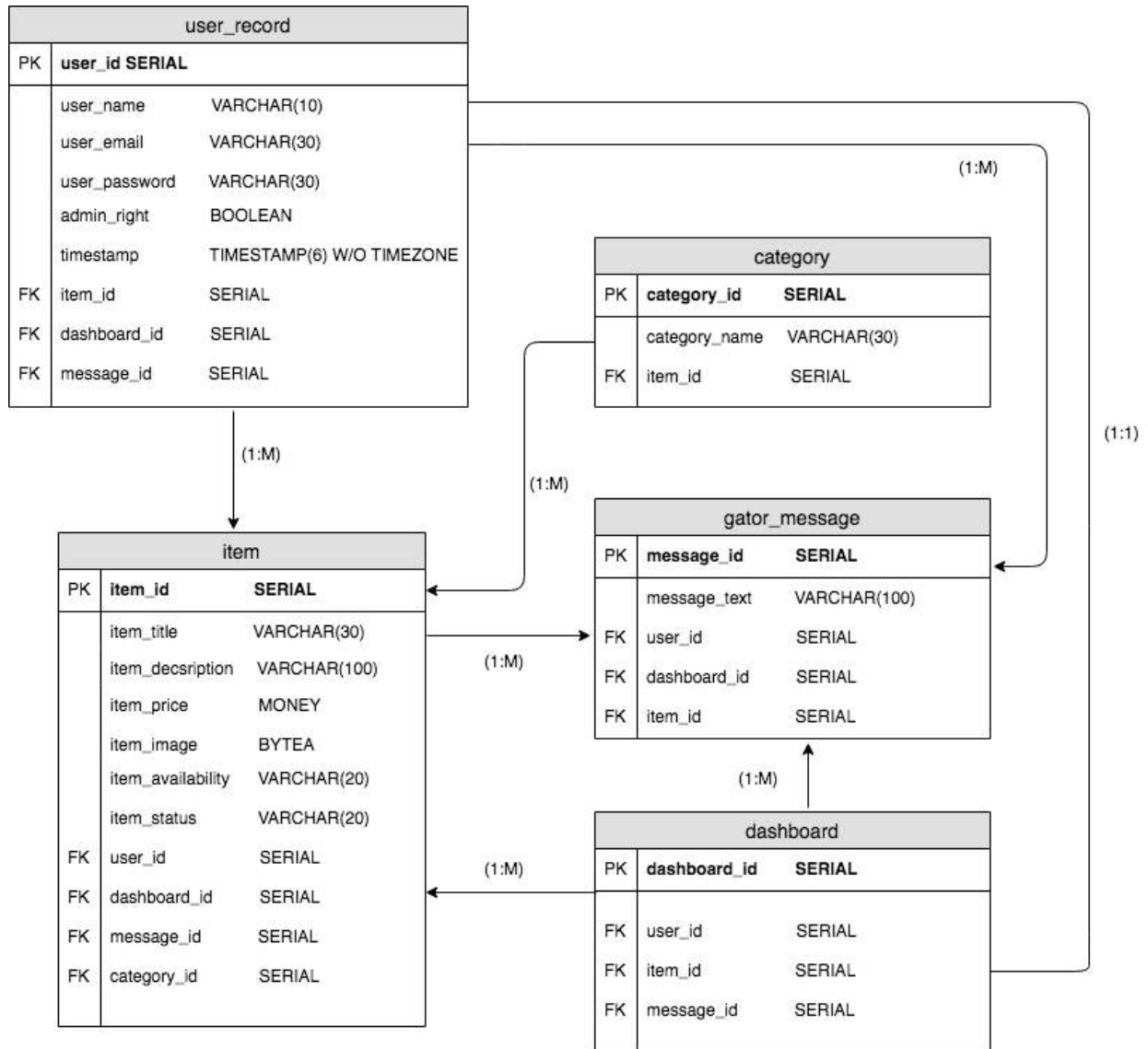
4.2 **Media Storage** - We will use file system at present and if time permits and we gain enough knowledge during vertical prototype, we can try to use DB BLOBS. If we use a file system, then the link to the image will be stored in the database. Standard images file will be accepted. Thumbnails will be created on upload of the image.

4.3 **Search/filter architecture and implementation** - Our website will include a search box where a user can search by specific keyword or by category. Category selection would be a pull-down menu implemented for search. The user can search by some keywords such as item name, etc. which would then display the specific listings according to the keyword using %LIKE Postgres query.

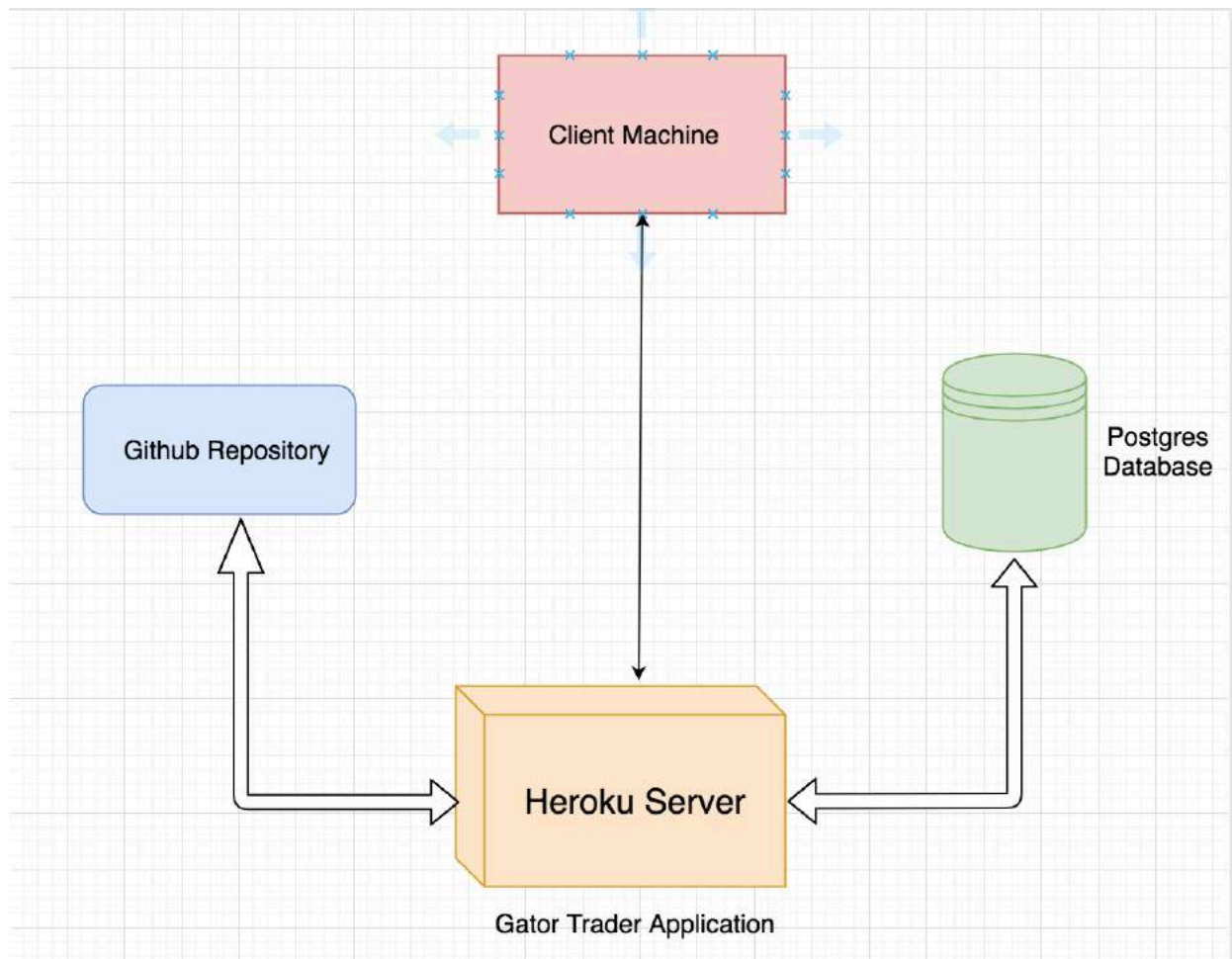
The category pulldown queries the database to receive all the category names and IDs. Then, each category is populated in a dropdown using its ID as the value. The category ID is then passed to Nodejs to select item data based on category ID.

## 5. High Level UML Diagrams

### 5.1 UML Diagram



## 5.2 Component and Deployment Diagram



## 6. Identify Actual Key Risks

**6.1 Skills risks** – Our team has development experience but have rarely designed such a buying/selling website completely. In this case, team members would study on their own and Vertical Prototype would serve as learning tool to all the team members. Developing this website would be an interesting and challenging environment for us to work end to end.

**6.2 Schedule risks** - We have completed all the milestones till now with proper team meetings and communication between our team members. Also, our team has set a Trello account for project management with all the team members. Hence, this part should not be challenging for us.

**6.3 Technical risks** – The technical risk was associated with the git push /pull/ merge branches and the server deployment. However, we have identified a GitHub master who will handle the GitHub conflicts and also, a server master for deploying the working code remotely. Also, vertical prototype will help as a learning tool for an end to end development and would resolve technical risks if any at an early stage of the development process.

**6.4 Teamwork risks** - Our team work well together, and we have good communication between the backend and frontend team. Our team lead takes care that everyone is on the same page.

**6.5 Legal/content risks** - Legal risks may vary depending on the deployment. As we are deploying on Heroku server, we have control over what images we will host on the site. Hence, in this case we assume that there should not be any legal risks associated. However, if we assume the if the site gets deployed publicly, we can run into risks of users uploading images that aren't theirs. In this case, we would append a user agreement in the terms and conditions which would ensure that all images uploaded belong to them and any copyright material will be their responsibility. Also, the website shall prominently display the following text on all pages “SFSU-Fulda Software Engineering Project CSC 648-848, Fall 2018. For Demonstration Only” in order to avoid any conflicts later.