FlipKart

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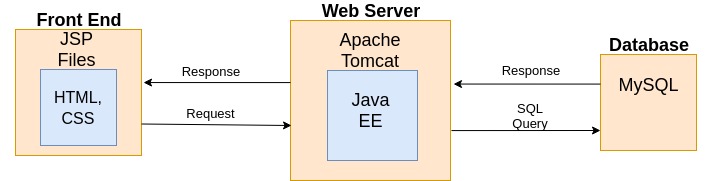
Team 3

CS157a Section 1

**Project Description:**

This project will create a worldwide online shopping website to support e-commerce service. It provides an electronic retail and business platform for registered users to purchase and sell products. This electronic platform will replace the typical online shopping website. It will provide small business or individuals an easier way to post and sell their products, and also serves buyers a more fast and simple way to finish payment transaction. It will become the mainstream online shopping system in the United State and overseas The stakeholders will be 77 billion people worldwide, those people including retail suppliers, entrepreneurs. This platform will provide users a simple, fast, and secure e-commerce site.

**System Environment:**

This ecommerce site will be designed to run within the clients browser and thus the GUI will be created using HTML, CSS. The web server will be handled using Apache Tomcat and thus will be developed using Java EE. This Tomcat server will provide the client with the GUI as well as connect them to the database which will use MySQL as its database management system. The Tomcat server will communicate with the MySQL database through JDBC. 

**Hardware and Software Used:**

* Hosting Services
  + Amazon AWS EC2 to host web server
  + Amazon RDS for MySQL to host database
* Three Tier Environment
  + MySQL version 14.14 Database Management System
  + Apache Tomcat 7 Web server
  + JSP (HTML and CSS) Frontend
* Application Languages
  + Java 8, Java EE8, HTML, CSS, SQL

**Functional Requirements:**

Users of our software will be buyers and sellers of products. They will be able to access our system through their browsers and log in to their own personal accounts. This account will keep track of the user’s personal information such as name, shipping address, billing address, and payment information. As users, they will have CRUD functionality for this information. Each account will also keep track of information such as their current shopping cart, previous transactions and what they currently have posted for sale.

The main feature of the application allows users to buy and sell products. They will be able to interact with the GUI to purchase items of their choosing. The application will also allow users to post their own products for sale, allowing them to post a picture, title and description of the product, as well as set the price. Users will also be able to check their shopping carts and remove items from it if they choose to do so.

**Functions:**

Browse Products:

* The user shall be able to browse database for items that are for sale
* The application shall be able to provide a list of the items available for purchase in a grid-like format and allow the user to select a specific category to view a subset of the database.
* The user will be able to see the each product’s name, picture, and price

Display Product Information:

* The user shall be able to click on a product to view more information
* If a user clicks on a product a new page will be loaded that displays additional information about the product. The page will provide the user additional information about the product as well as the option to purchase and add to their wishlist.

Search for Products:

* The user shall be able to search the database for products by typing a product into a search bar.
* The system shall be able to provide the user with any products that match their query. If the system is unable to find suitable products, the user will be notified with a message.

Split Products into Separate Pages:

* The system shall be able to split the displayed products into separate pages if the product count exceeds a certain number.
* The user shall be able to specify how many products they would like to see on a single page.

Sort Products by:

* The user shall be able to specify how they would like the products to be sorted.
* The system shall be able to rearrange the products based on the user’s selected sorting criteria

Add Products to Wishlist:

* The user shall be able to add a product to their wishlist be clicking a button on the products main page
* The system shall be able to add the product to a wishlist only accessible by the user. The wishlist can be viewed later by the user.

Transfer Products From Wishlist to Cart:

* The user shall be able to transfer one or more selected products from their wishlist to their shopping cart.
* The system shall be able to remove the product from the user’s wishlist and add it to the user’s shopping cart

Add Products to Shopping Cart:

* The user shall be able to add a specified quantity of a selected product to their shopping cart. The cart will only be accessible by the user that owns it

Edit Cart:

* The user shall be able to edit the quantity of items or remove items from their shopping cart.
* The system shall be able to recalculate the total cost when the cart is edited.

View Cart:

* The user shall be able to view the products and the quantity of each product in their shopping cart, as well as a total cost for all the items.

Post Items for Sale:

* The user shall be able to post a product for sale. When doing so, they will be allowed to upload a photo of the product, write a description of the product, and set a price for the product.
* The system shall be able to display items posted to users looking to buy products. The system will also allow users selling products to view all the products they have listed for sale

Edit Items for Sale:

* The user shall be able to edit the information products they have for sale. This will allow them to change the price or description of the product as well as add new photos. However users will not be allowed to change the products name or remove pictures.

Edit Personal Information:

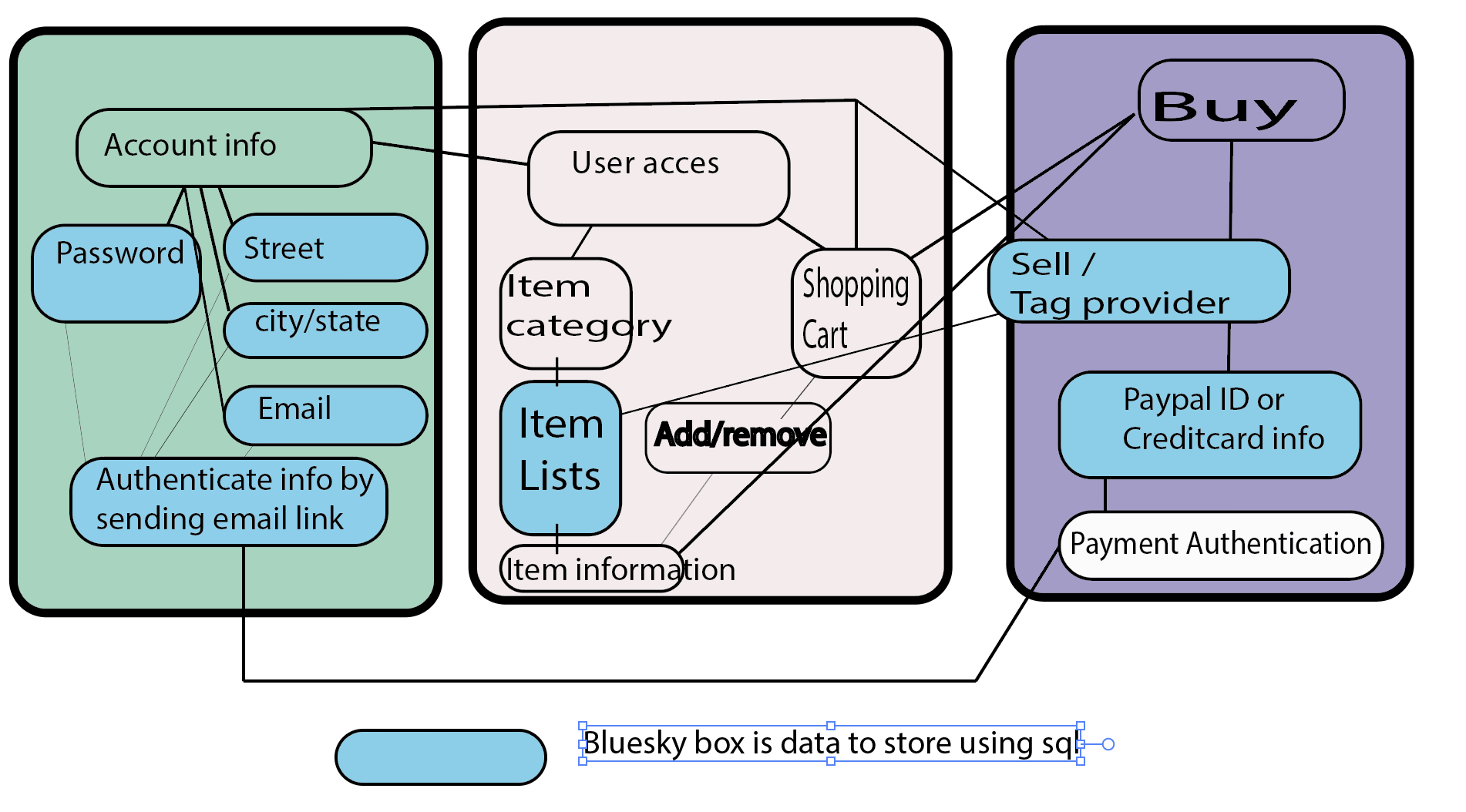
* The user shall be able to edit their personal information such as their name, email, shipping address, and payment information.

Create User:

* The user shall be able to create a new account through a provided form. Completion of this form will be required to successfully create the account.
* The system shall be able to prompt users to enter all relevant information and store it for future reference and changes.

**Non-functional Issues:**

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|  | **Requirements** |
| **Usability**  **(Graphical user interface)** | * HTML and css are part of GUI systems are friendly to user experience. Categorized items are easier to find what customers need. Items are always posted in order of popularity from the top on the list of items. Seller’s hash tag also gives more opportunities to sell his items. Db system : JDBC, mySQL. * User login/signup box, and buy and sell box would be always placed in row on the most right of top on the small box. * After logged in, the account setting box would be replaced instead of login/signup box. * Home link button titled website name is always placed on the middle of top on the web sites in order to come to main page. * Search box attempted to finds information based on item tags. * Separated item category lists would be on the top or left always. * Report system would be always placed on the below of sites. |
| **Security** | * Access all user who buy items, but require email, temporary password(requirements: over 4 characters) and shipping address(street, city, state and zip code). * Account function: create, remove and edit(allow changing pw and card account payment method). Login id is based on Email. * Password and credit card cvv code always show ‘ \* ’ this mark on the filling box. * Account and payment information is always protected. |
| **Verifiability** | * Password rule : 8 digit passcode and must not same with the ID. * If user doesn’t enter either one of required information except payment info, data would not send data to database. * Email check system that email is usable or not * Wrong payment information is notified and user library will help this verification system. * Purchase codes connects relationship between buyer and seller |
| **Availability** | * Availability platforms : web browser(Internet explorer, safari, firefox and Chrome). * In addition, seller must register paypal account or Venmo to take money. * Customer who doesn’t register his payment option, this web blocks user to buy or sell something. |
| **Reusability** | * Keeping data about shopping cart, bought items and statement of account(log in and log out) to reuse. * Payment information is also reused when user do transaction activity something |
| **Survivability** | * If web site errors are broken out, The web site is refreshed and come to main home page automatically. |

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**NFR program logic Frame**