CS3354 Software
Engineering Final Project
Deliverable 1

Green Home

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1. Draft and Feedback

Project Title: Green Home

Group Members:

- Sydney Khamphouseng
- Adam Shafi
- Emma Tung
- Noah Lauer
- Lillian Chen
- Anand Menon
- Hamdiya Abdulhafiz

What the team will be doing:

Engineering an application providing a marketplace for zero-waste, environmentally-friendly household products.

Description of Motivation:

We aim to reduce shoppers' carbon footprints by offering accessible and zero-waste products; our product will help shoppers make eco-friendly choices to improve their quality of life.

Feedback to Learner

9/20/22 4:44 PM

Great project topic with a fringe benefit, as it will help protecting our mother nature.

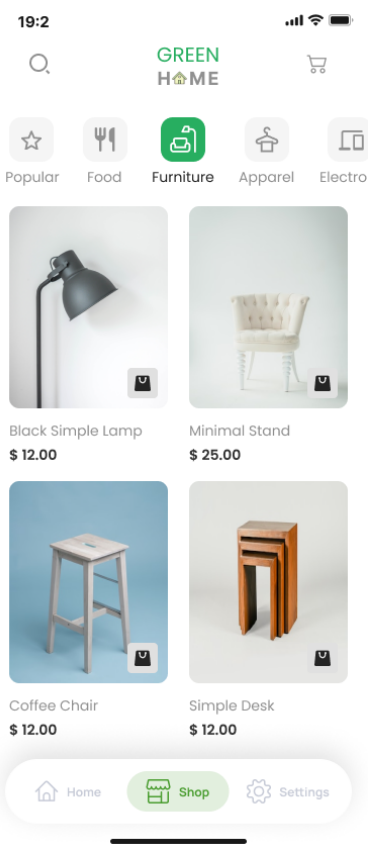
In the final report, please make sure to include comparison with similar applications -if any- and make sure that you differentiate your design from those and explicitly specify how.

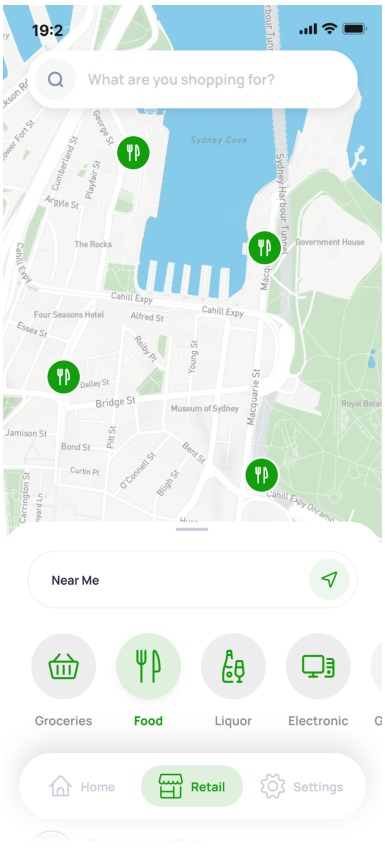
Please share this feedback with your group members.

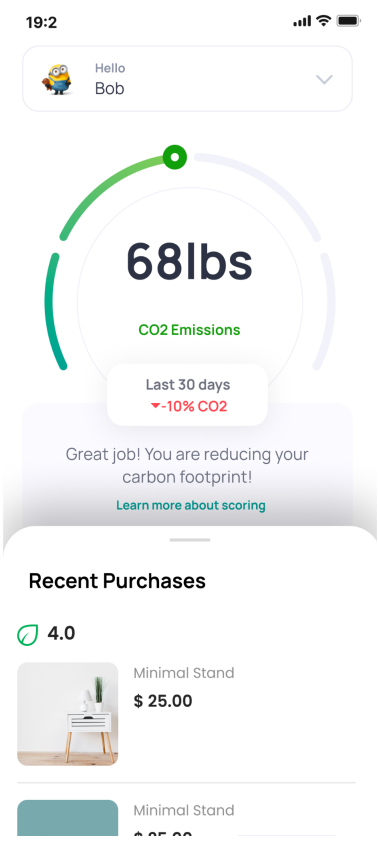
You are good to go. Have fun with the project and hope everyone enjoys the collaboration.

To comply with the feedback, we will compare our app with similar competitors like Amazon. We will explore how our design differs from other applications and exemplify our product's unique features. Unlike Amazon, our app will provide shoppings options at nearby stores to conserve travel resources and costs and to minimize packaging materials. The app will also provide shipping options. Our app's UI will differ from competitors as it will offer users the option to calculate their carbon footprint from the items they have purchased, as shown below in the figures.

Design Mockups for Green Home







2. Github Repository

https://github.com/emmaxtung/3354-GreenHome

3. Delegation of Tasks

- Adam Shafi - Create class diagrams, attach draft and address feedback, Github task 1.6,
- Anand Menon - List software requirements, create sequence diagrams, Github task 1.6
- Emma Tung - Create github and add team members along with TA to repository, create class diagrams, Github task 1.6
- Hamdiya Abdulhafiz - Architectural design : apply and explain how the project will utilize the MVC model, Github task 1.6
- Lillian Chen - Github task 1.5 (adding project scope), create use case diagrams, Github task 1.6
- Noah Lauer - List software requirements, create sequence diagrams, Github task 1.6
- Sydney Khamphouseng - Gitbhub task 1.4, create use case diagrams, Github task 1.6

4. Software Process Model Employed

The software process model that we will be employing is the waterfall model. The waterfall model is an approach that is popularly used in product development as it emphasizes a sequential progression of steps. The team has utilized this software process model already by outlining requirements, deadlines and guidelines for the project. Our approach while working on the final project will follow the logical progression of defining and planning the project, analyzing system specifications for business logic, outline design specifications which includes deciding on the programming language, data sources, and architecture. We will then discuss source code implementations, test our product, and at the end of the project we will be ready to present our final product.

5. Software Requirements

Functional Requirements

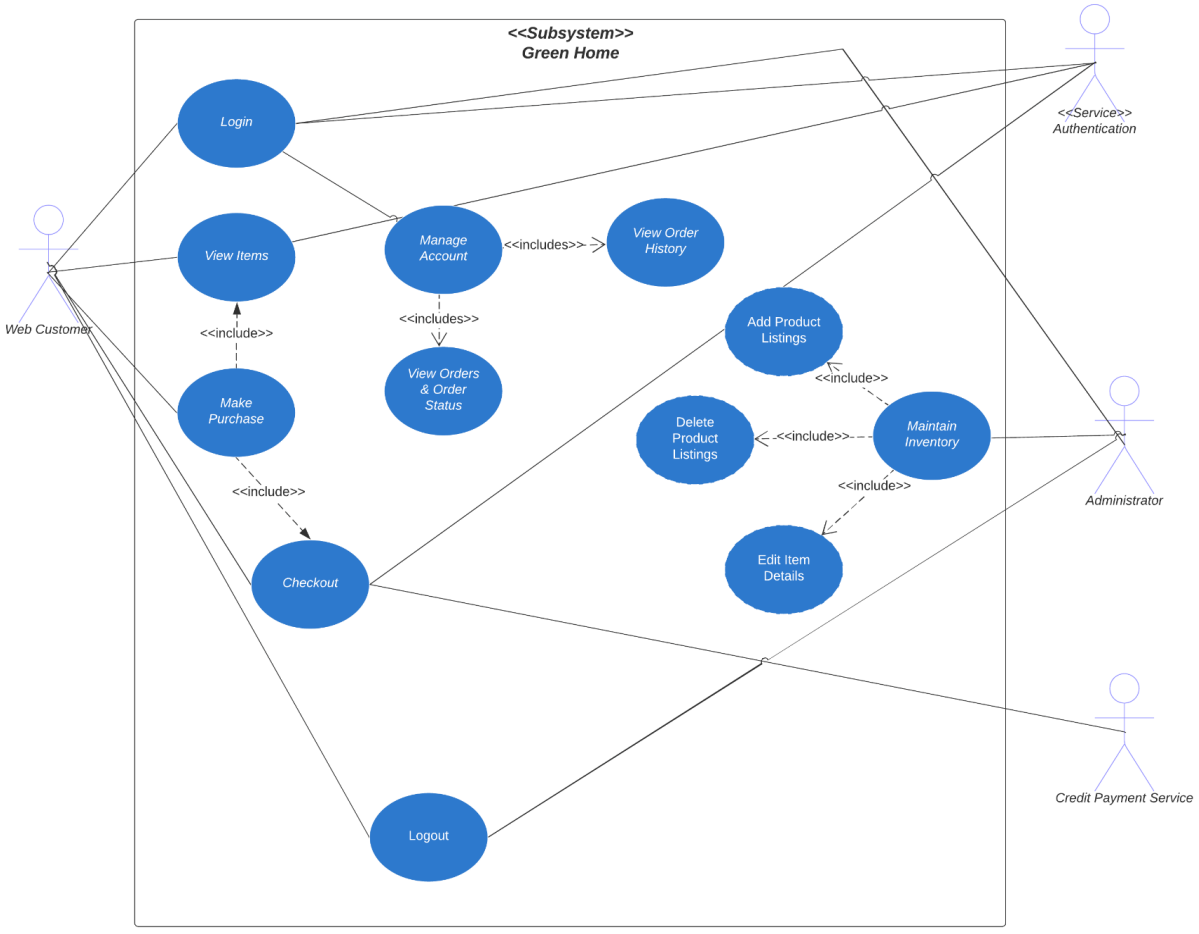
1. Customers must be able to create, modify and delete a user account
2. Customers must be able to browse, search, and filter products by criteria (from at least one provider) as a registered user or as a guest
3. Customers must be provided with a carbon footprint calculator.
4. Providers must be able to create, modify and delete a vendor account.
5. Providers must prove that products meet the environmental standards set by Green Home (EPA/ESG Score)
6. Providers must be notified when one of their items have been purchased
7. Providers must be provided a tax break and incentive calculator if qualified

Non-Functional Requirements

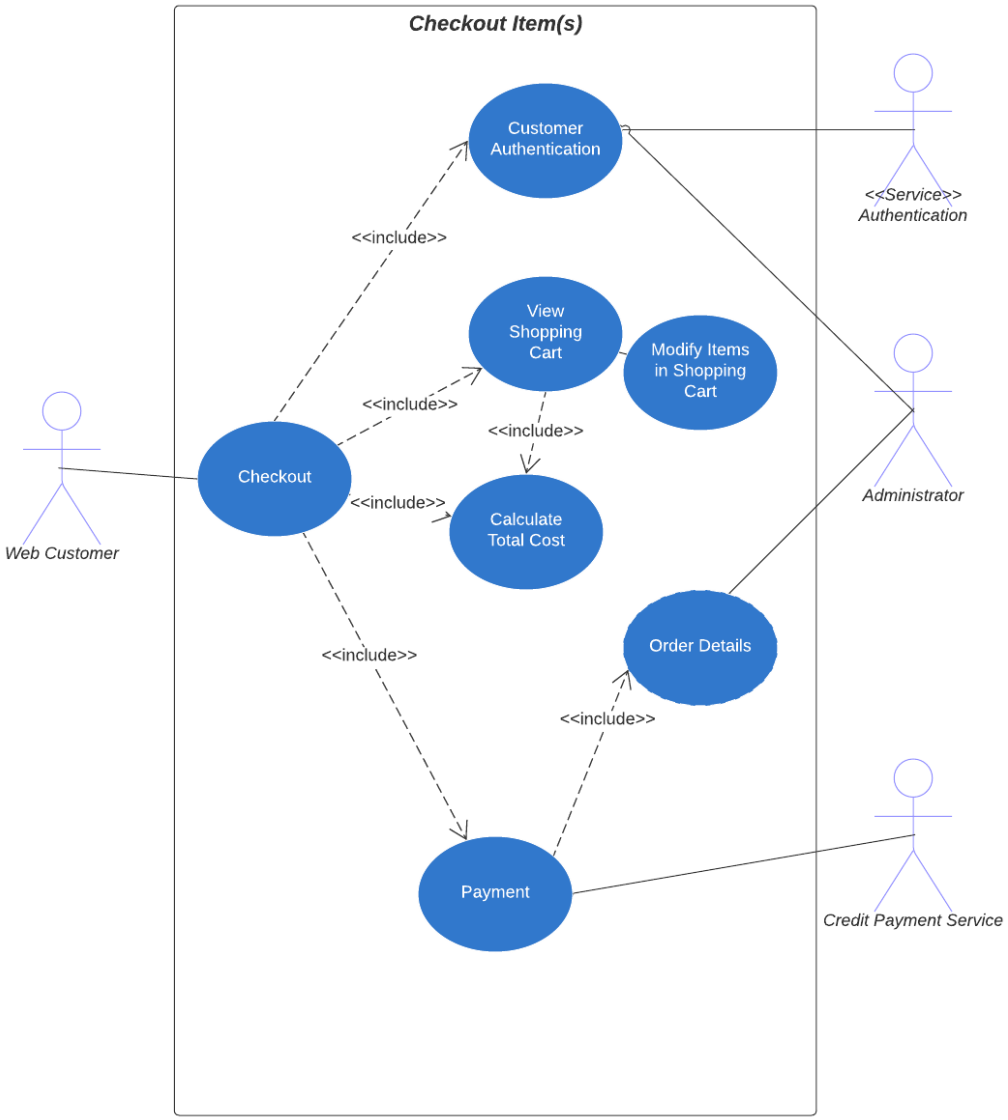
1. Service must be available 24/7 with a downtime of at most ten (10) minutes
2. Sellers need to provide proof of legitimacy and verify they are a registered business.
3. Database to hold seller and user information; server communicates with the database.
4. Any request made by customers or Providers must be handled in an average time of 5 secs.
5. Payment and customer information must be secure and protected.
6. System maintenance must not take more than 1 hour, and backups must be in place.
7. Systems must be in place to prevent unexpected downtime (e.g., from a DDoS)
8. Maintain lawyers on retainer to assist with legal regulations
9. Advertise ethical standards that will be maintained company wide.

6. Use Case Diagrams

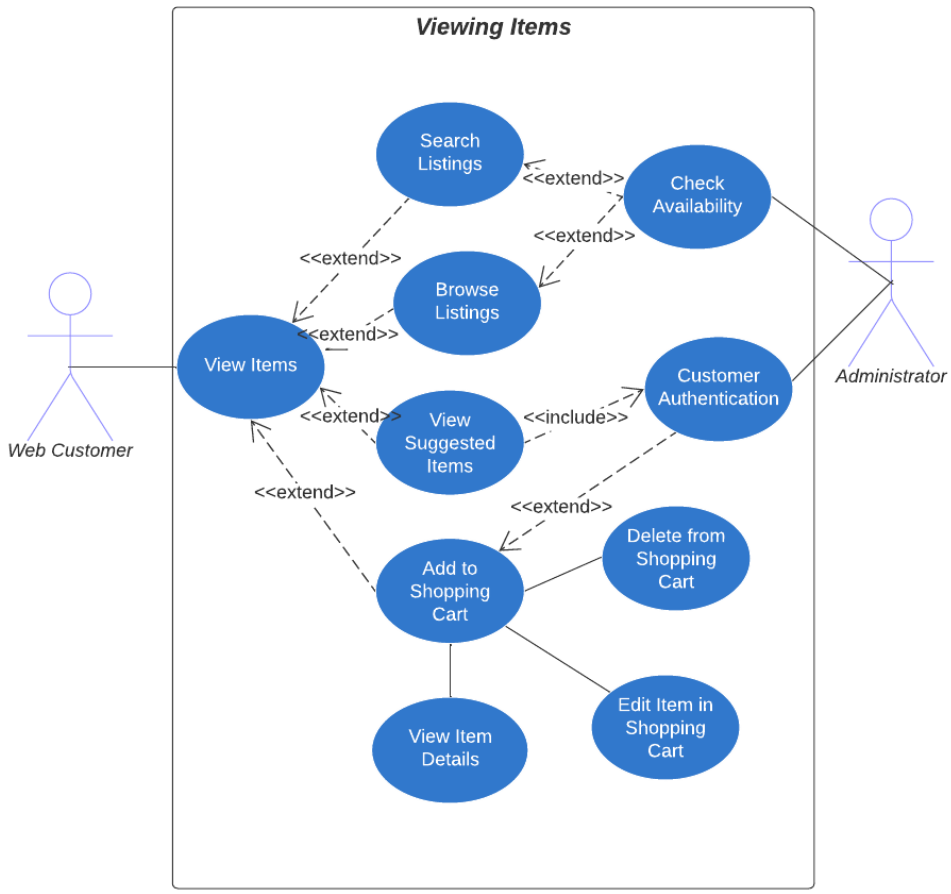
Top Level Use Case Diagram



Checkout Items Use Case Diagram

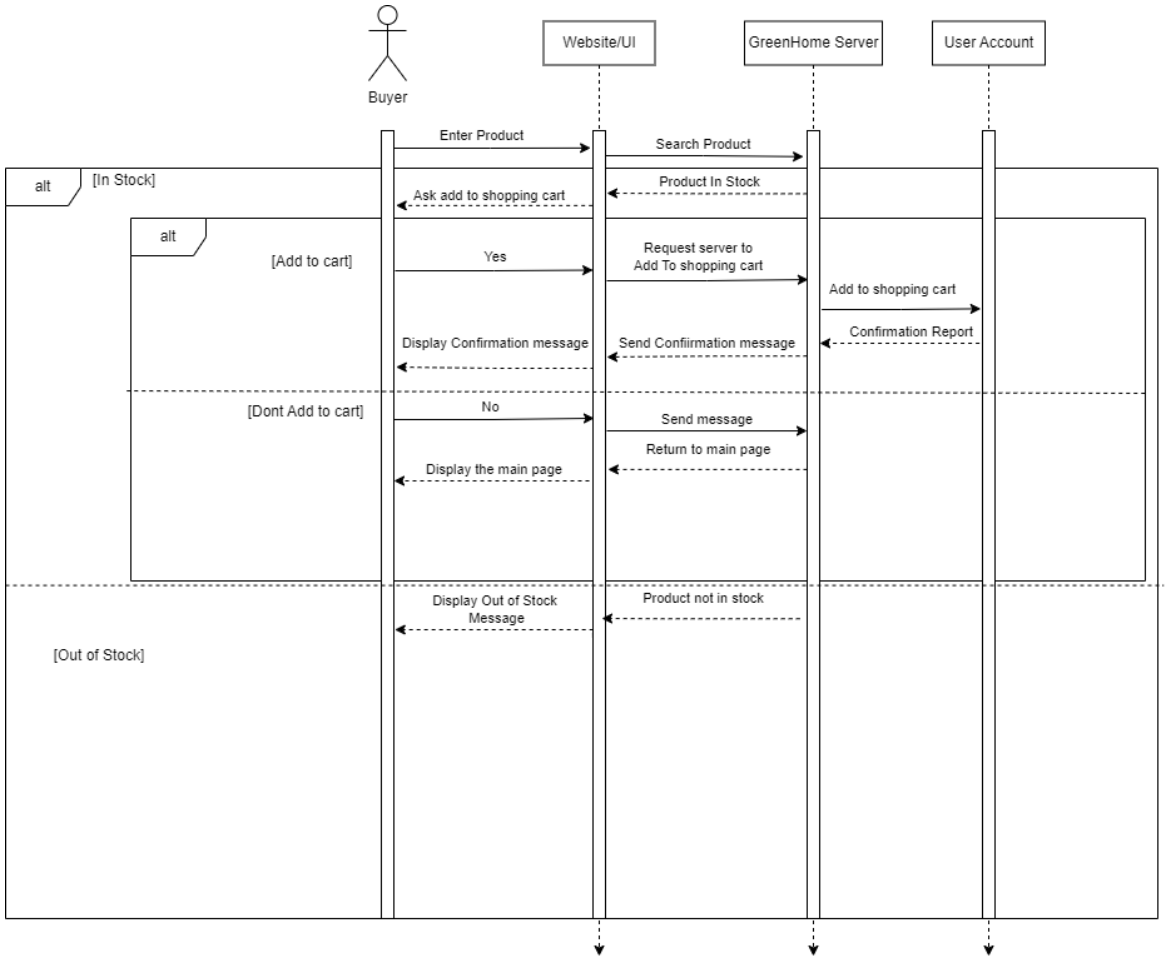


View Items Use Case Diagram

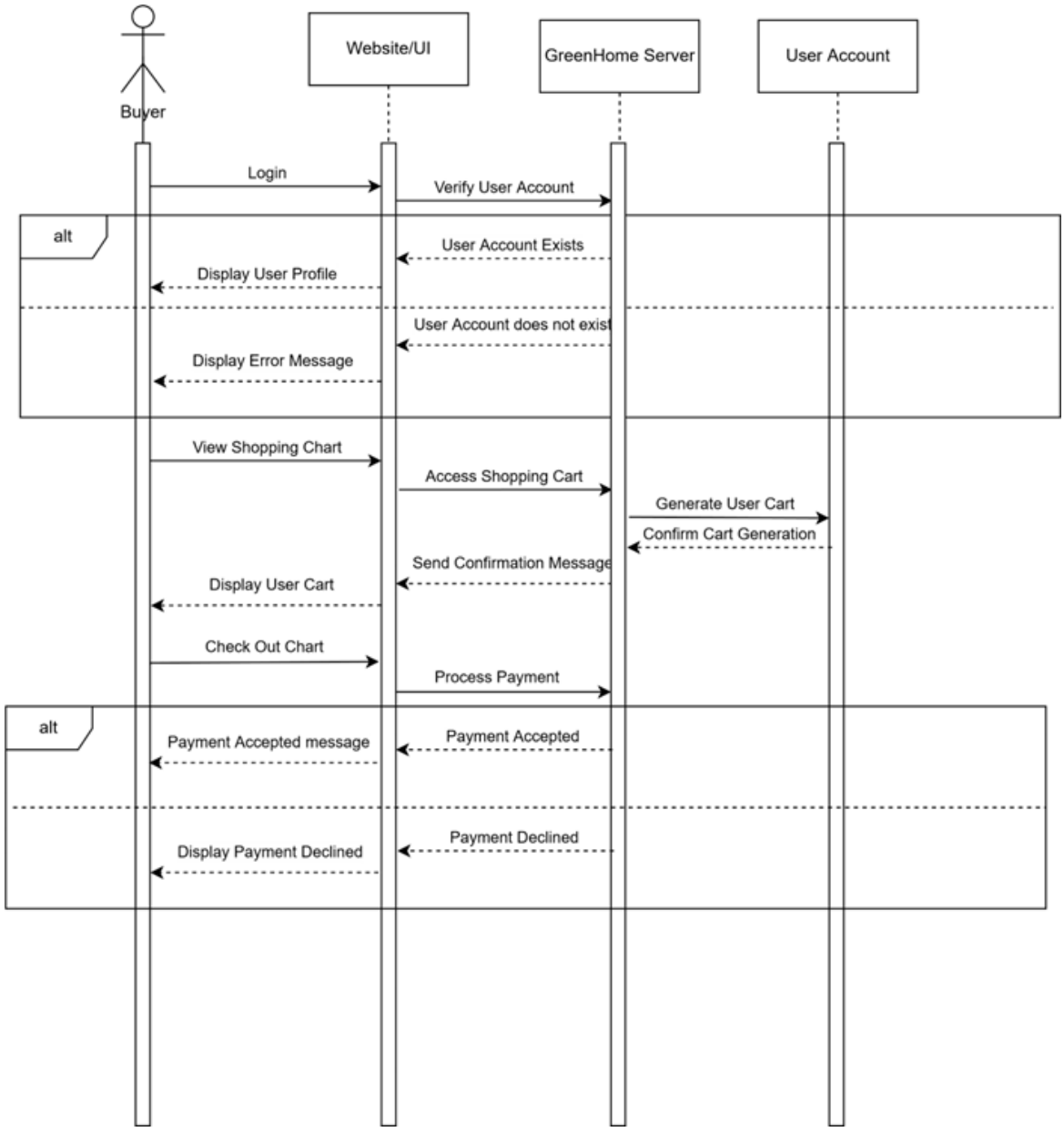


7. Sequence Diagrams

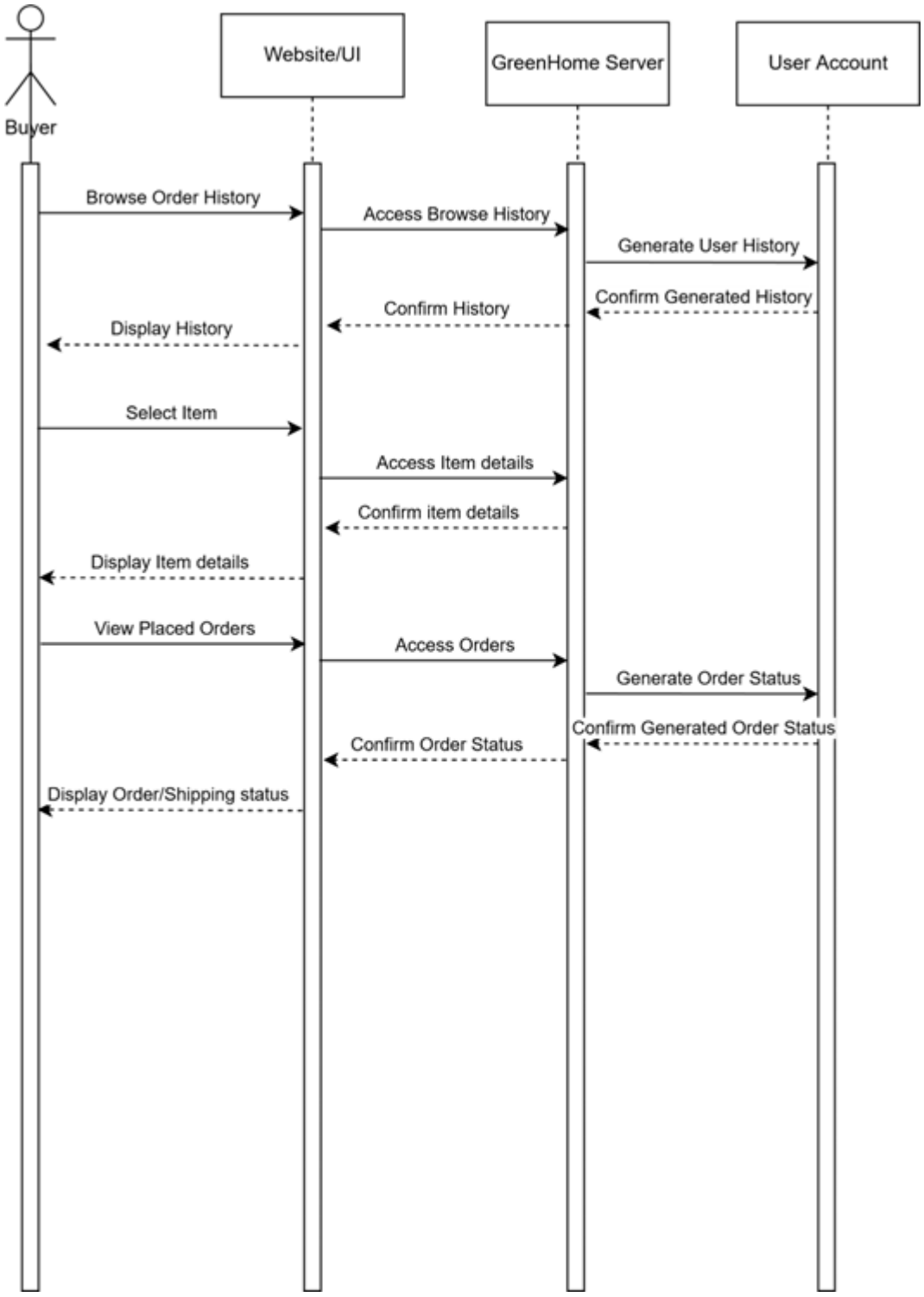
View Items Sequence Diagram



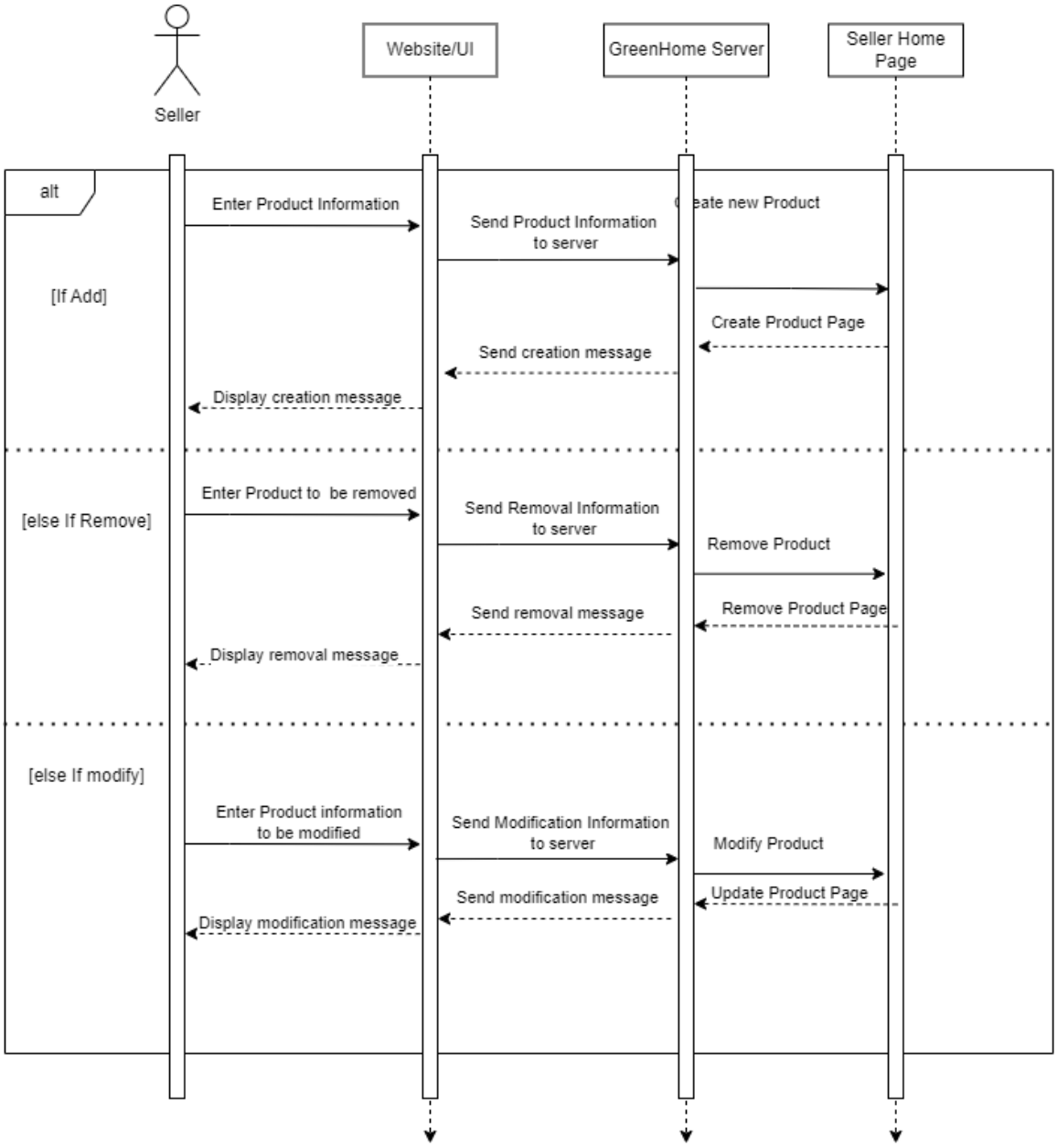
Checkout Sequence Diagram



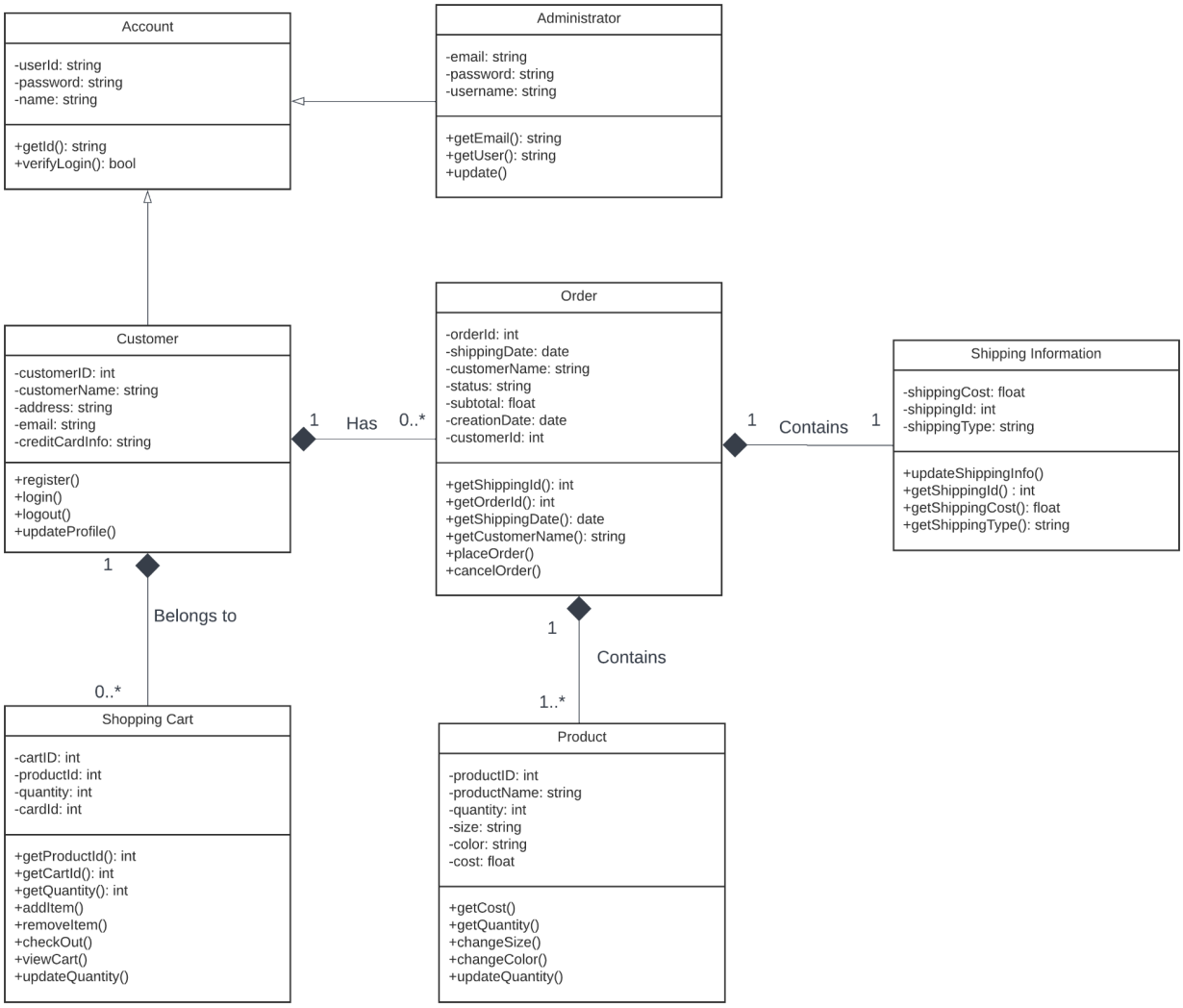
Check Order Status Sequence Diagram



Maintain Items Sequence Diagram



8. Class Diagram



9. Architectural Design

We chose to apply the Model-View-Controller pattern. The MVC would let the client make a request for what they may be looking for and the controller would deal with that request by passing it on to the model which will handle all of the data logic of a request and managing the system data. Once the model sends a response back to the controller, the controller will then interact with the view and then view will then send the final presentation to the controller and the controller will handle sending that presentation back to the user.