DELIVERABLE #4

Due Date:

Saturday, October 19th 2024

Red Team

Amir-Georges

Douyon

Raeeba

Grechelle

Client: Georges AMO

Contact Name: Georges

SIGNATURES

We certify that this assignment is our own work.

I, **Amir-Georges**, certify that I have contributed to this deliverable, A

I, **Douyon**, certify that I have contributed to this deliverable, D

I, **Grechelle**, certify that I have contributed to this deliverable, G

I, **Raeeba**, certify that I have contributed to this deliverable, R

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EXECUTIVE OVERVIEW

In this deliverable, we created a user story map based on our user stories from Deliverables #2 & #3 which reflect the current functioning of the client's business as well as requested improvements to be made to the latter.

Additionally, we also focused on creating several diagrams (such as flowcharts, sequence, class, and user story maps) to visually represent our system's structure, functionality, and interactions. These diagrams have multiple important uses: they help in both the design and the construction of the system, ensuring that all stakeholders have a clear understanding of how the system is organized.

We began by developing the flowchart to illustrate the main steps and actions in the system, helping us visualize how different processes work. Next, we created the use case diagrams to show the specific ways users will interact with the system. The use case diagram also highlights the two types of users of our system (Super Admin and Admin) and their interactions, making it clear how the system meets their needs.

Following that, we created class diagrams to show the structure of our system, outlining the different parts and their relationships. Finally, we developed sequence diagrams which illustrate how objects in our system communicate with each other over time. We based the order of these interactions on the events outlined in our flowchart.

These diagrams not only aid in communication and collaboration among team members but also serve as a reference for future development. Moving forward, we will use these diagrams as a roadmap to guide the coding and implementation phases, ensuring that our system effectively addresses the client's requirements.

DESCRIPTION OF THE CLIENT

Our client's name is Georges. He runs a construction business called Georges AMO, in Laval, where he renovates and builds rooms from the ground up or does terrain adjustments. The client's business has its own website called amoLinat where its clients can make submissions for a renovation project as well. His skills in construction, renovation, and excavations are very well handled and made with precision and care. When it comes to computer skills, they are pretty limited since he has not grown up with technology as much as the current generation has. He has above-average knowledge of Excel but that's his only knowledge of IT.

BUSINESS PROBLEM

The client is dissatisfied with his current inventory management system, which relies on an inefficient process built in Excel. His current inventory system consists of multiple spreadsheets filled with a large volume of supply data, but lacks proper filtering and categorization of materials, making it difficult to manage and track inventory effectively. Consequently, this reduces the client's productivity and leads to frustration as the client will have to look through numerous rows of data to locate necessary materials. As the business expands, managing inventory will become even more challenging.

We aim to address these challenges through our web application, which will optimize the business's inventory management. Additionally, since the Excel spreadsheets contain essential formulas and perform necessary calculations for construction, the web application will feature an integrated calculator to handle these calculations, enhancing both convenience and efficiency.

NARRATIVE DESCRIPTION

The primary users of the system are the Super Admin and Admin. The system allows for only one Super Admin but can have multiple Admins. Both the Super Admin and Admin are required to log in using their email and password to access the system's features. After entering their credentials, they will receive a verification code sent to their registered email. If the code entered in the program matches the code sent via email, they will be granted access. In case of a forgotten password, users can click on the "Forgot my Password" button. The program will then ask the user for their email address, after which a password reset link will be sent to their email. Users can follow the link to create and confirm a new password, which updates the database with their new credentials.

The Super Admin is the main user with unrestricted access to all features of the application which includes the inventory system (updating, deleting, and modifying the inventory), the calculator, and admin user management (adding more Admins). Within the inventory system, the Super Admin can add and update materials and material information such as material name, width, height, stock, vendor details, and price. The Super Admin updates the inventory after every purchase and after every job completion. When modifying or deleting an item in the inventory, the program will prompt the Super Admin to confirm the changes. If an item is low or out of stock, the inventory system will notify the application by displaying these items in bold with a red border. An expandable table listing all of the low and out-of-stock items will be featured at the top of the Inventory page to group this category together.

The Admin users have restricted access to the application. They can view the inventory, but they cannot modify any information. Admins also have access to the calculator just like the Super Admin. In the Calculator, the users need to provide the length, height, and thickness of the wall as well as the spacing between the lumbers and the system will generate the number of materials based on these dimensions.

The Calculator is for informational and visual purposes only—it allows users to see how many materials they currently have on hand, but it will not purchase items nor send the calculated results via email. The Calculator will also display specific inventory items related to wall construction, limited to wool insulation and wood, showing the available stock for these materials. By integrating the inventory feature into the Calculator, the user experience is streamlined, making it more convenient by eliminating the need to open another page to view the primary materials required for wall construction.

APPENDIX 0 - USER STORY MAP

We have selected Jira as our primary tool to represent the system's story map. This choice is based on Jira's reliable features that help with managing projects in an agile way and allow team members to work together easily.

Here are pictures of our Jira user story map:

Change password
SCRUM-20

Clicks "Forgot my Password'
SCRUM-22

User enters their email
SCRUM-21

Click link sent to email
SCRUM-23

Enters a new password
SCRUM-24

Confirm new password
SCRUM-72

Enters email and a new password to sign in
SCRUM-73

Confirm stock change
SCRUM-44

Add new item to Inventory
SCRUM-31

click Add Item"
SCRUM-45

Input item info
SCRUM-46

Confirm
SCRUM-47

Update item information
SCRUM-33

Click "Modify"
SCRUM-48

Change item information
SCRUM-49

Confirm changes
SCRUM-50

Remove item from Inventory
SCRUM-34

click "Remove"
SCRUM-51

Select item(s) to be removes
SCRUM-52

Confirm changes
SCRUM-53

Select employee to modify
SCRUM-61

Modify employee info
SCRUM-64

Confirm changes
SCRUM-65

APPENDIX 1 - FLOWCHART SYSTEM DIAGRAM

The first flowchart shows the overall general view of how our website would work.

The second flowchart illustrates how the user goes through the login and its process. When the login is successful, the user goes through the dashboard where they are met with multiple options one of which can only be accessed by the Super Admin. The Super Admin can choose whether to sign out, manage employees, manage the inventory and use the calculator.
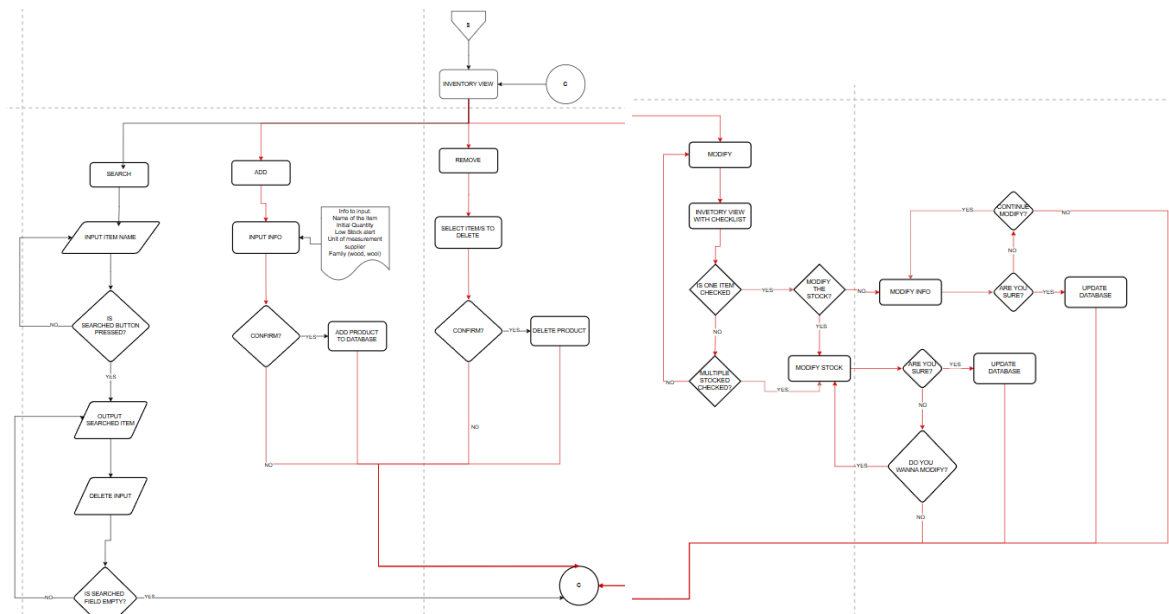
Each of the aforementioned processes is illustrated by the Inventory, Employee, and Calculator/Sign Out flowcharts.
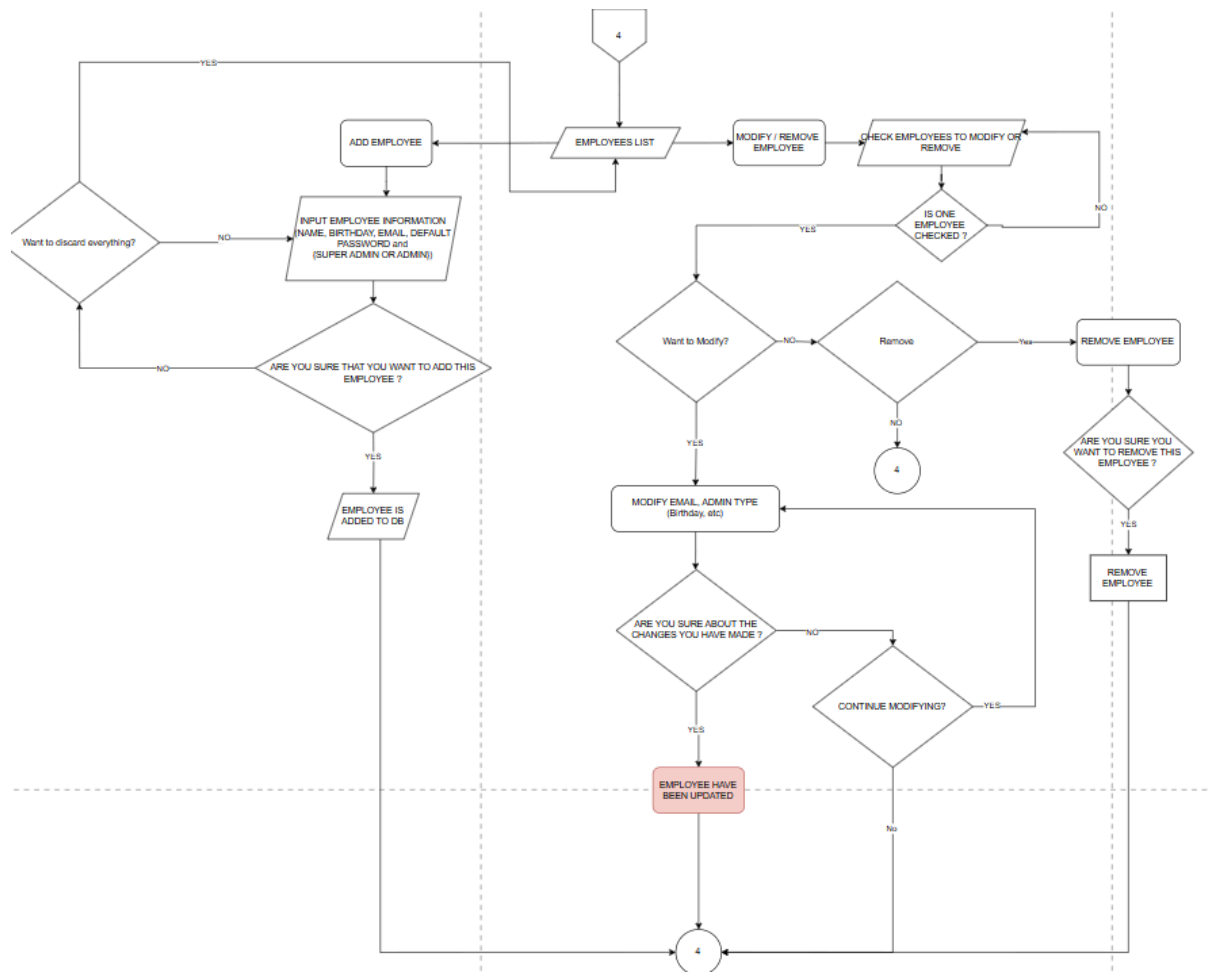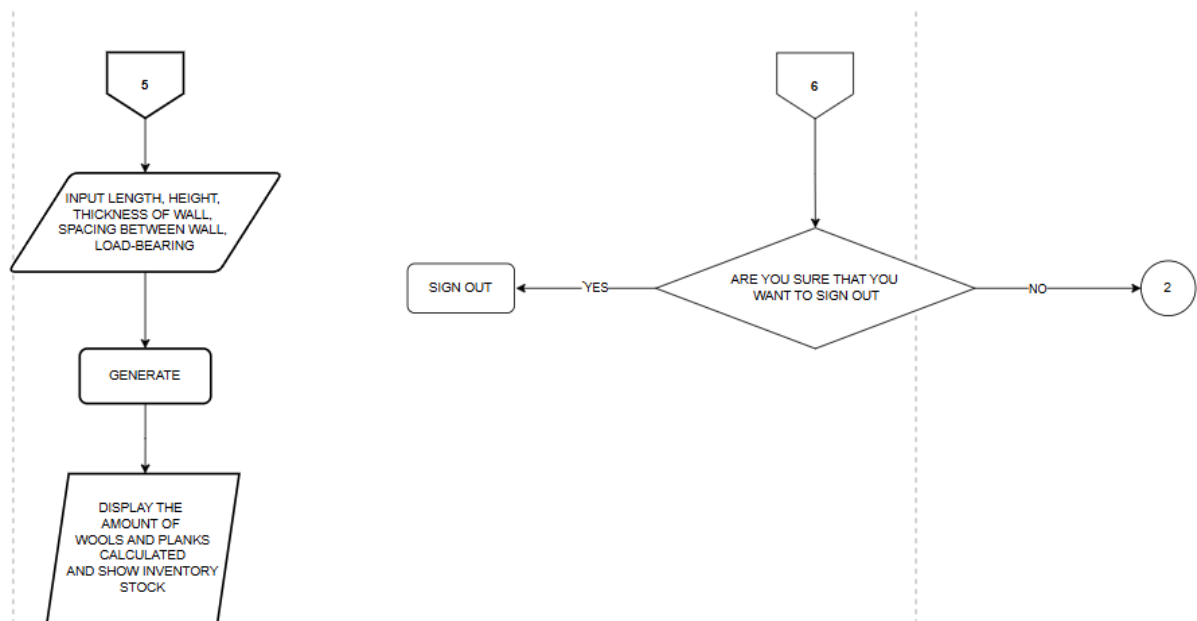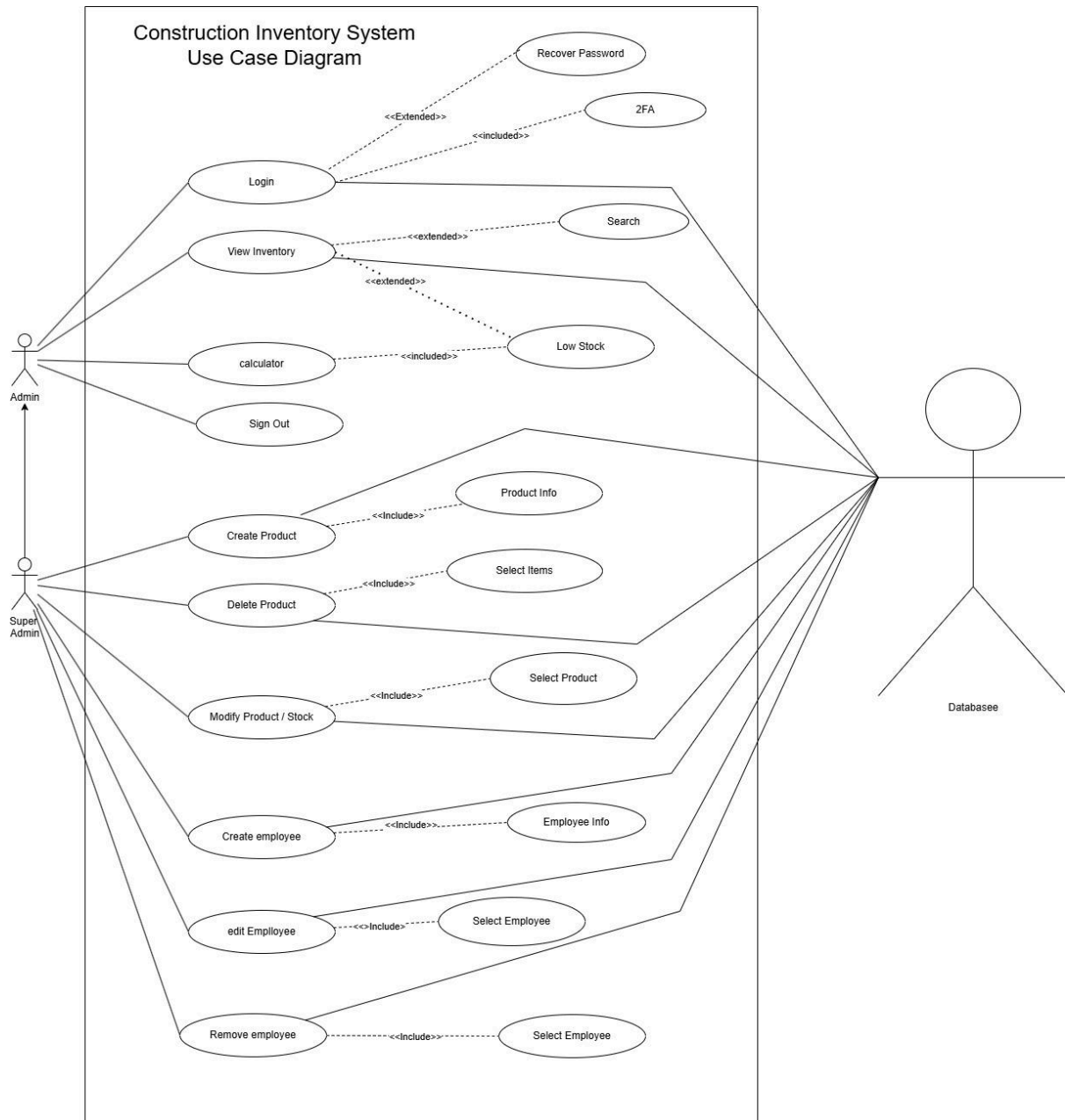
1 | OVERVIEW
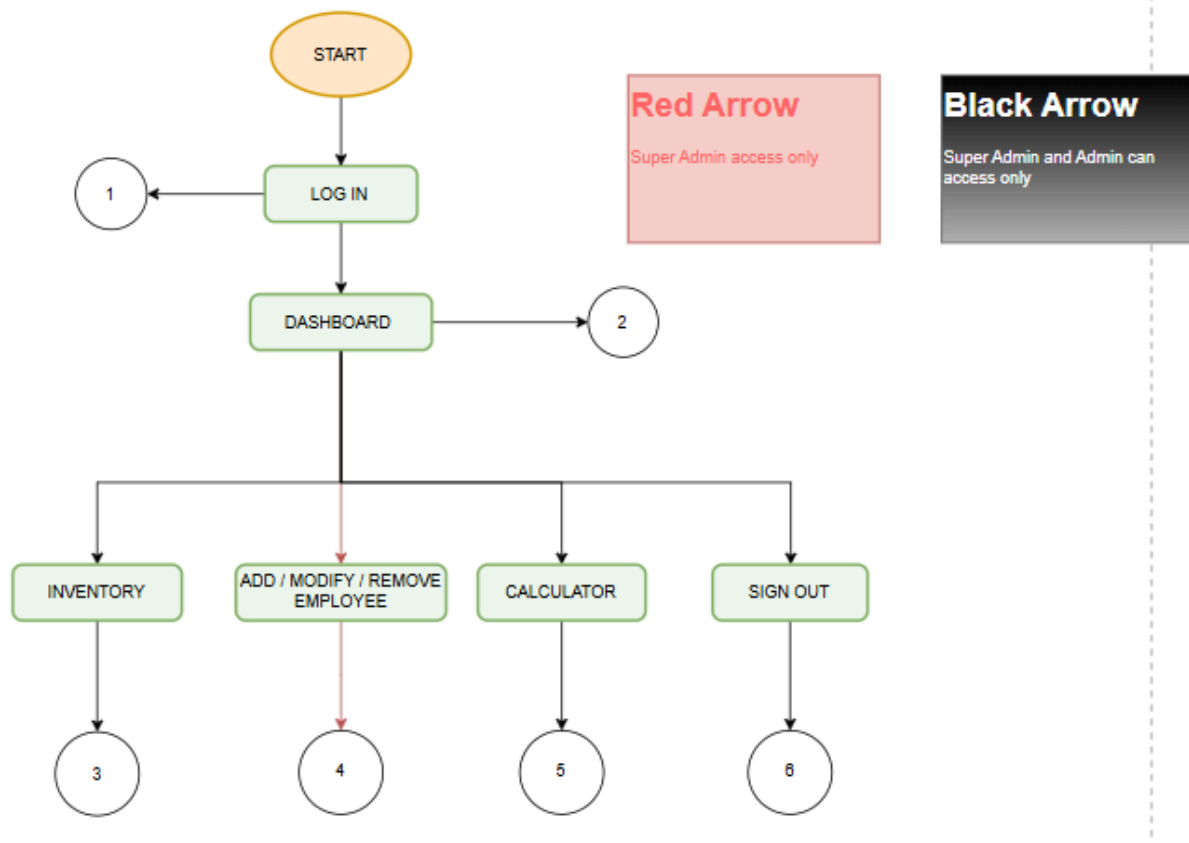
2 | LOGIN
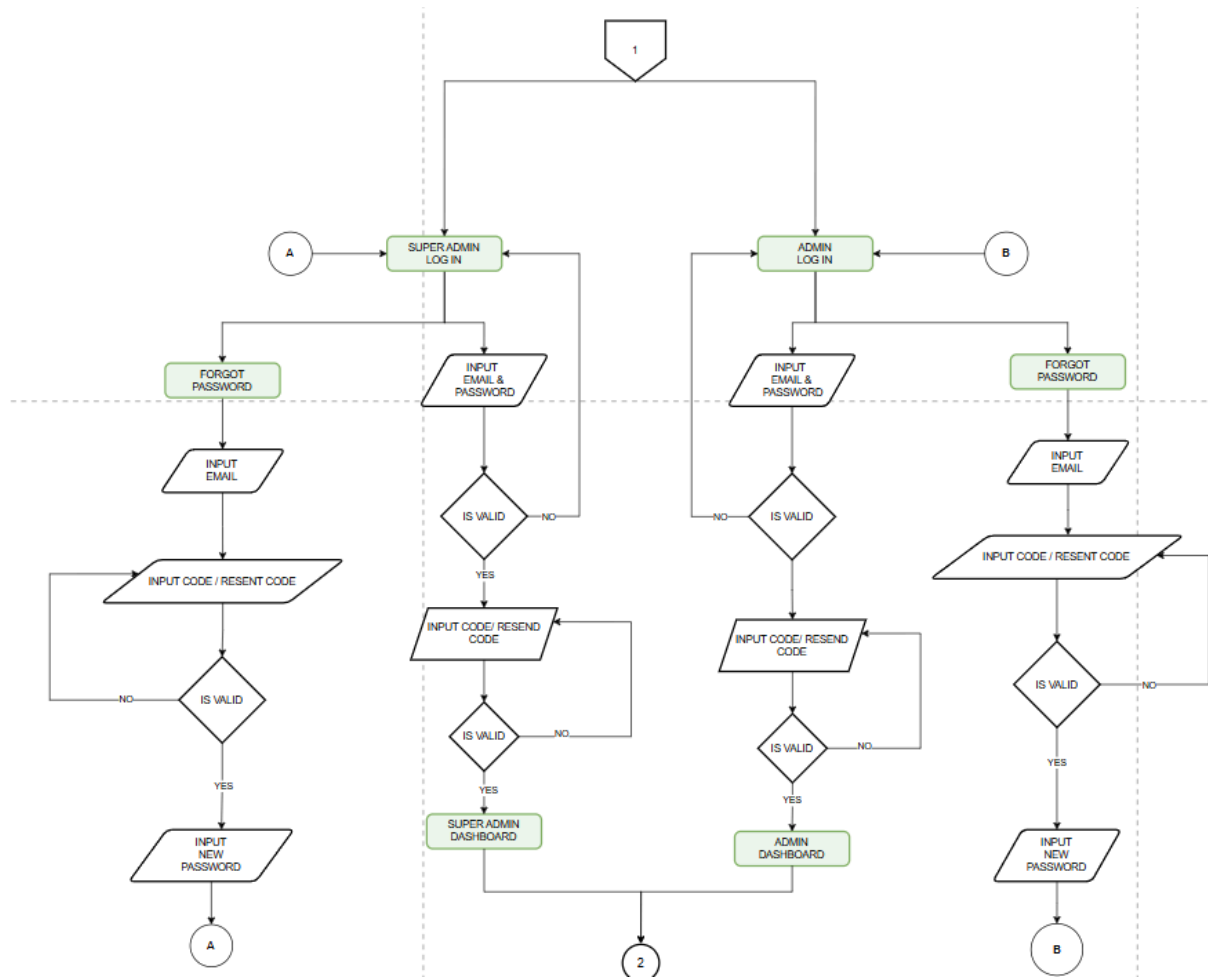
3 | INVENTORY

4 | EMPLOYEE

5 | CALCULATOR/SIGN OUT

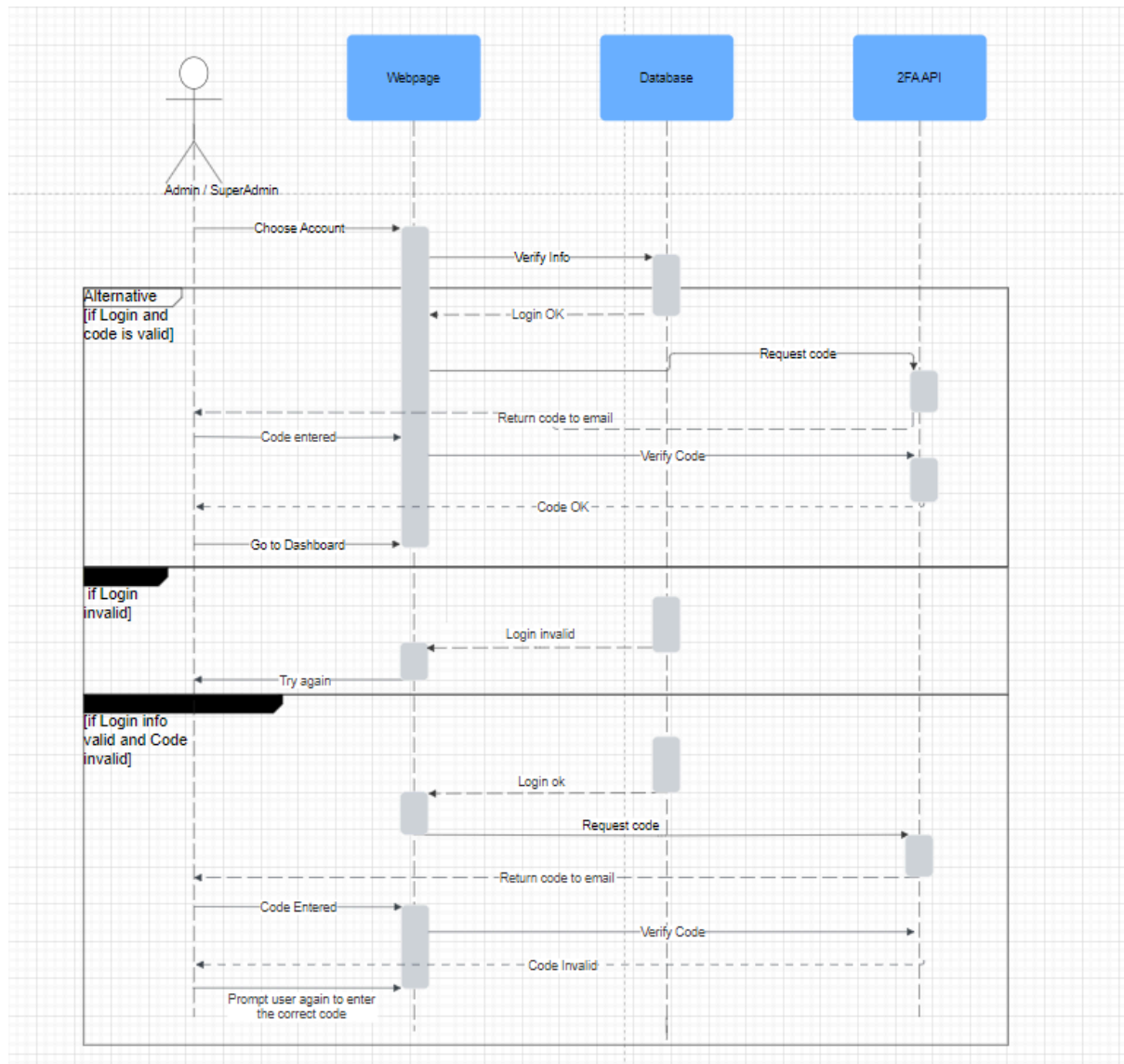# APPENDIX 2 - USE CASES UML DIAGRAM

The use case diagram depicts the possible interactions between the admin or super admin and the system. In simpler terms, it shows what the user can do with the system.
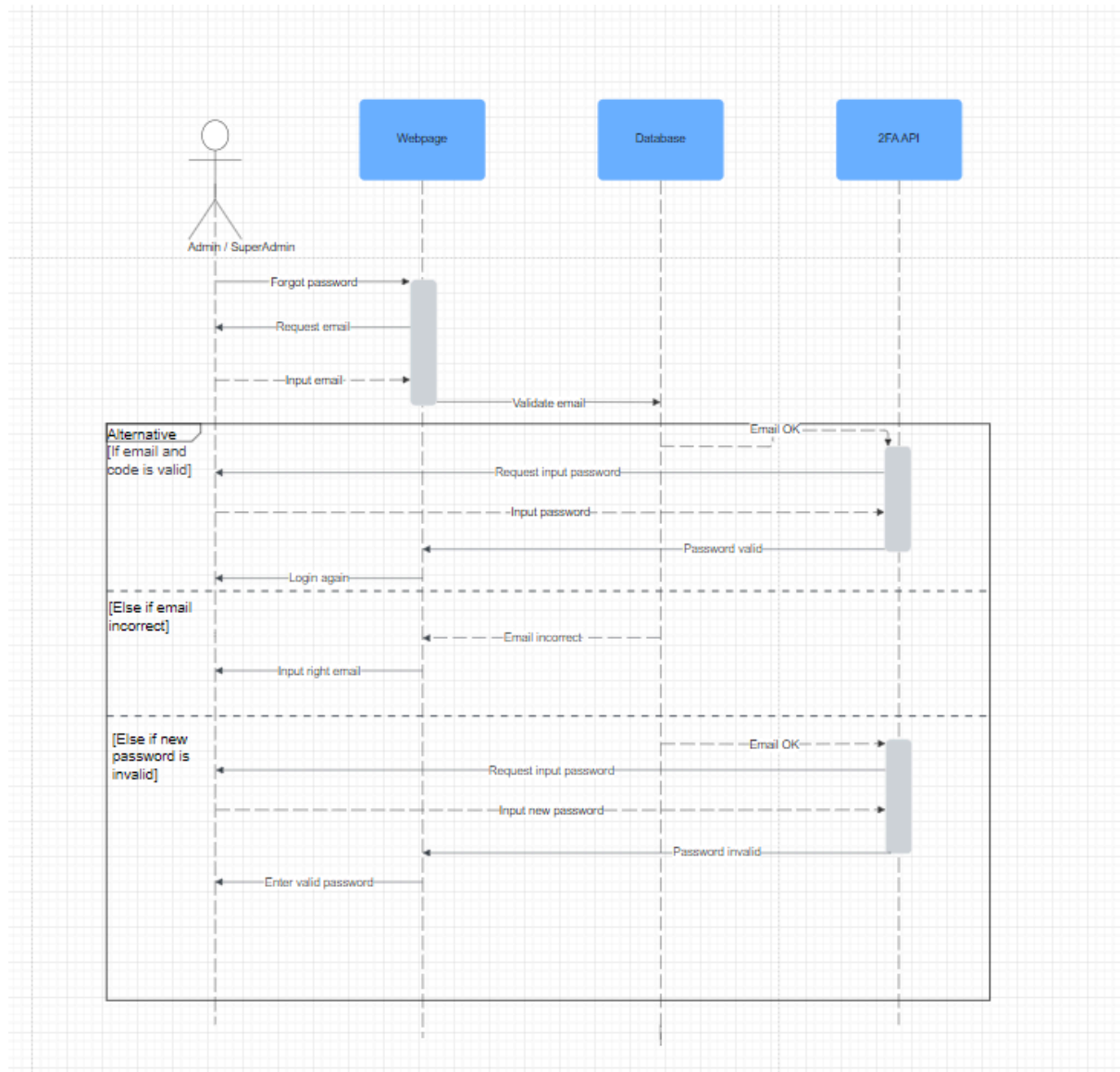
APPENDIX 3 - SEQUENCE DIAGRAMS

The sequence diagrams depict the sequence in which objects in our system will interact and how messages will be sent between them.
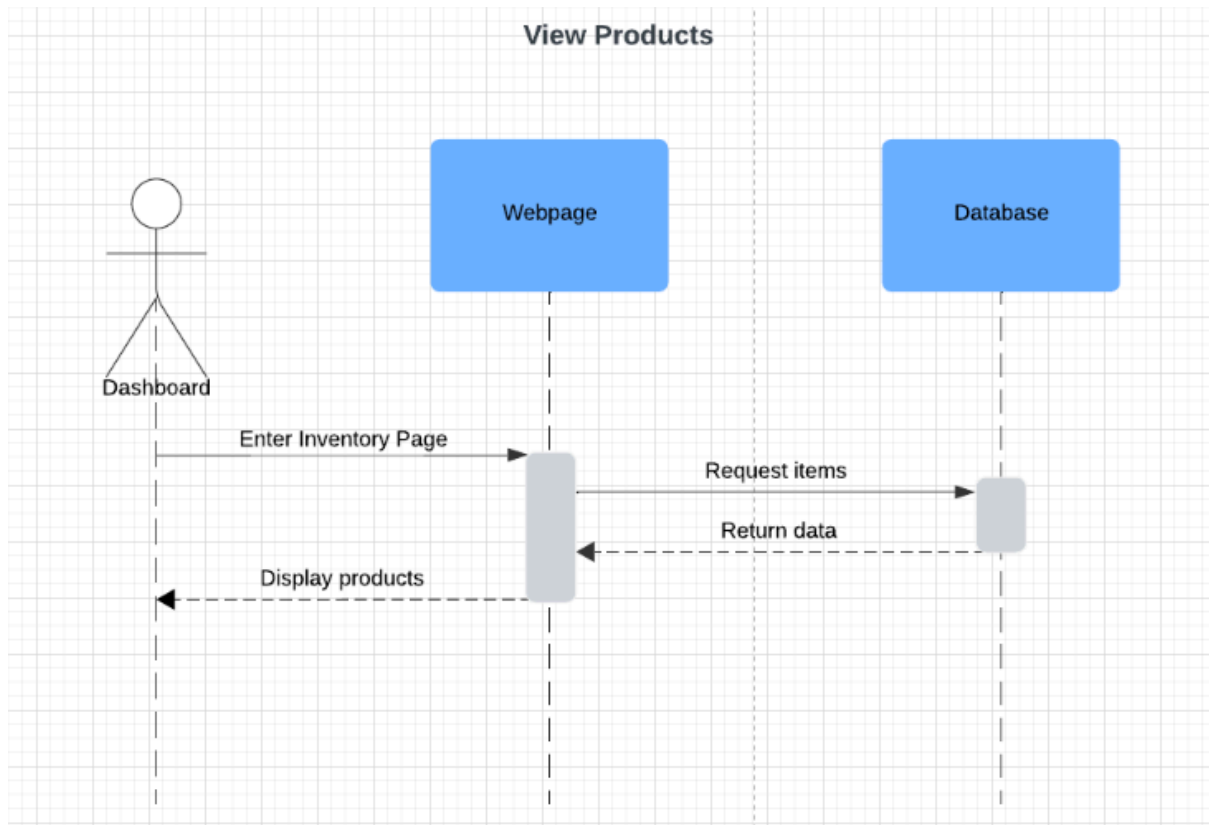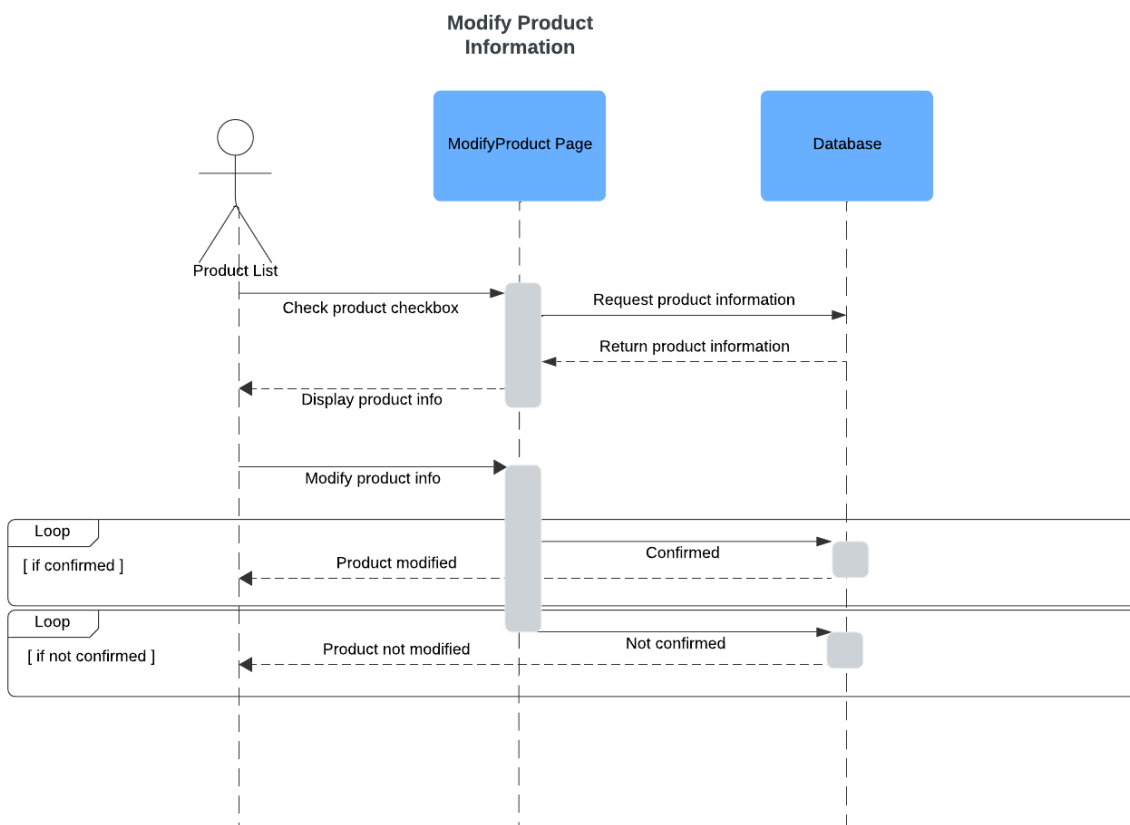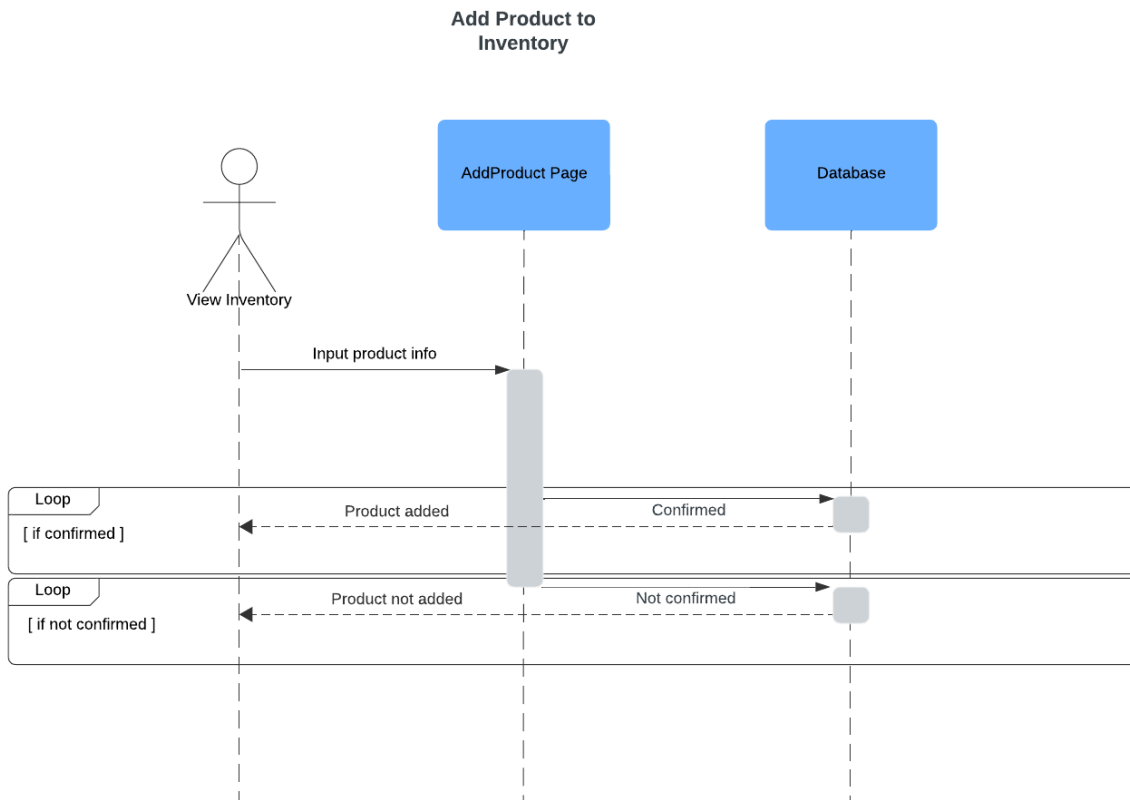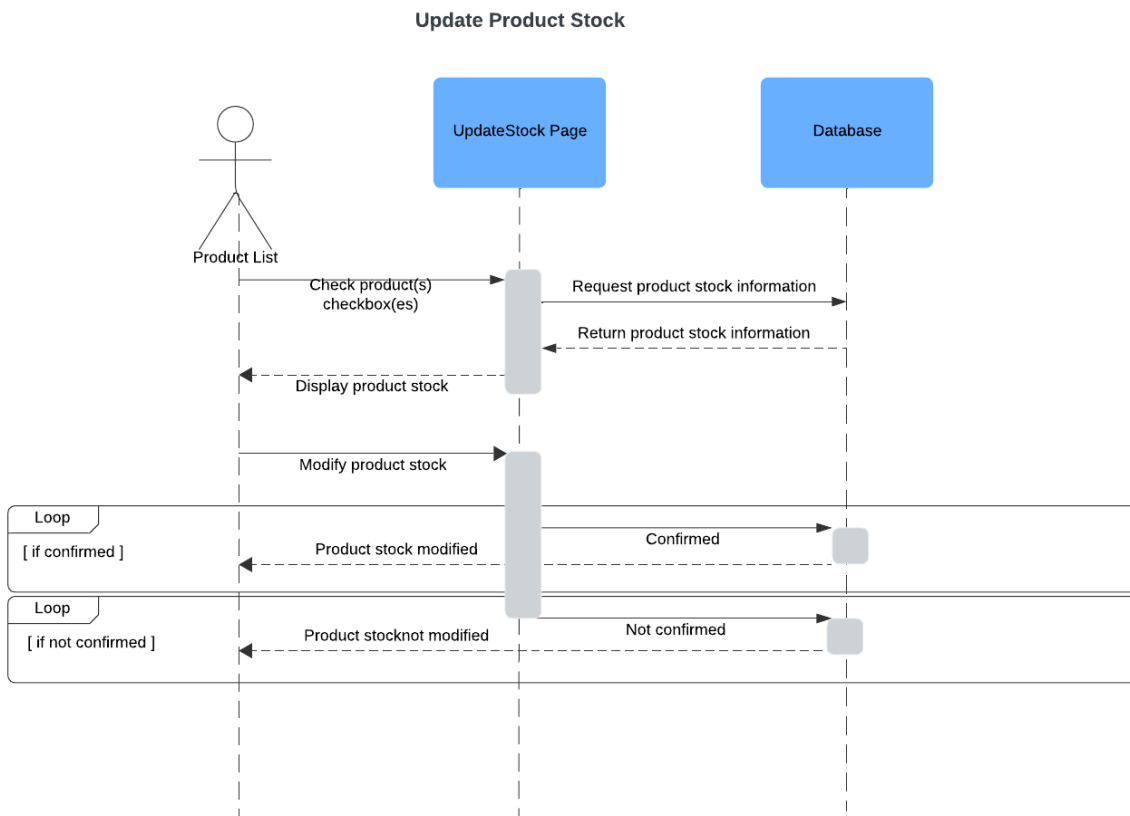
1 | LOGIN

2 | FORGOT PASSWORD

3 | INVENTORY

View Products

Search for Products

**Add Product to
Inventory**

**Modify Product
Information**

Update Product Stock
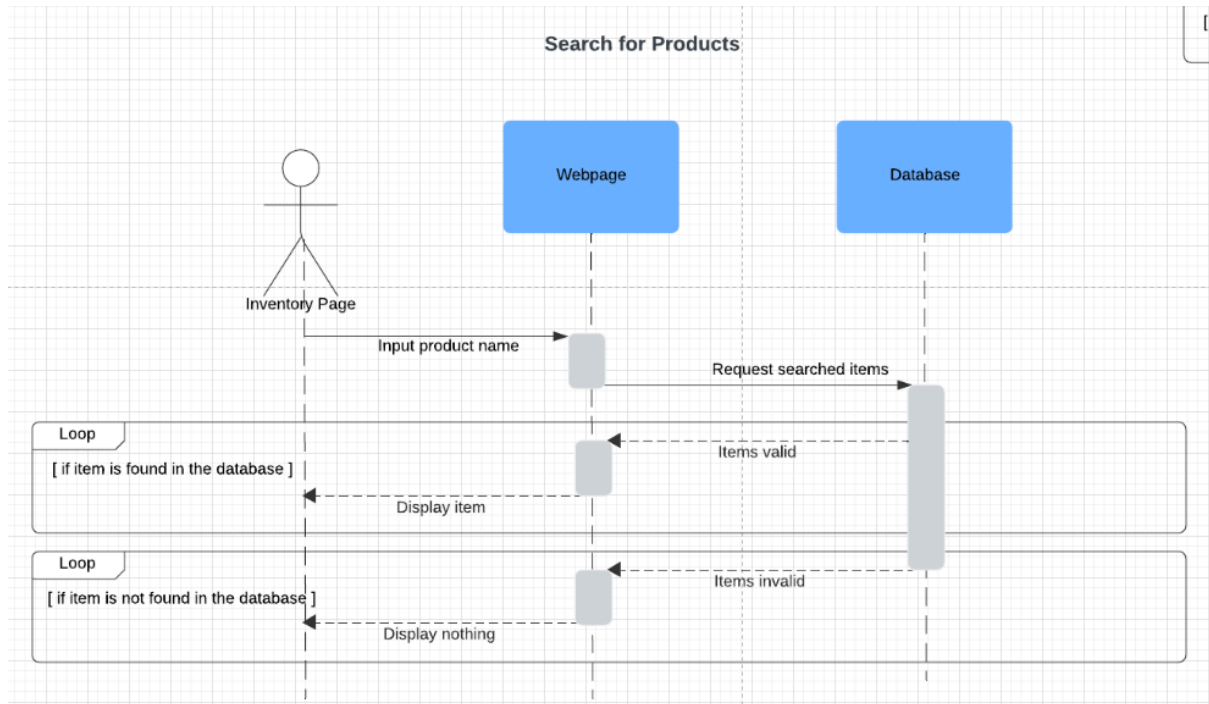
4 | ADD / MODIFY / REMOVE EMPLOYEE

Add Employee

**Modify Employee
Information**

Remove Employee
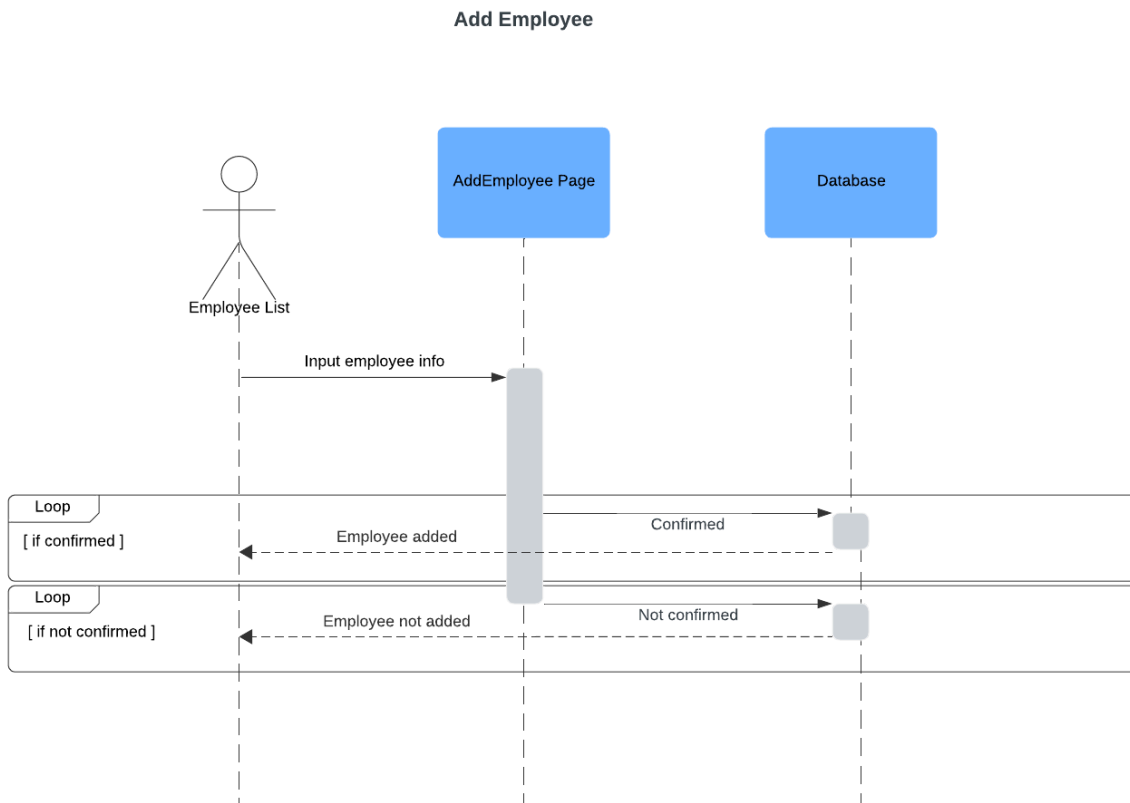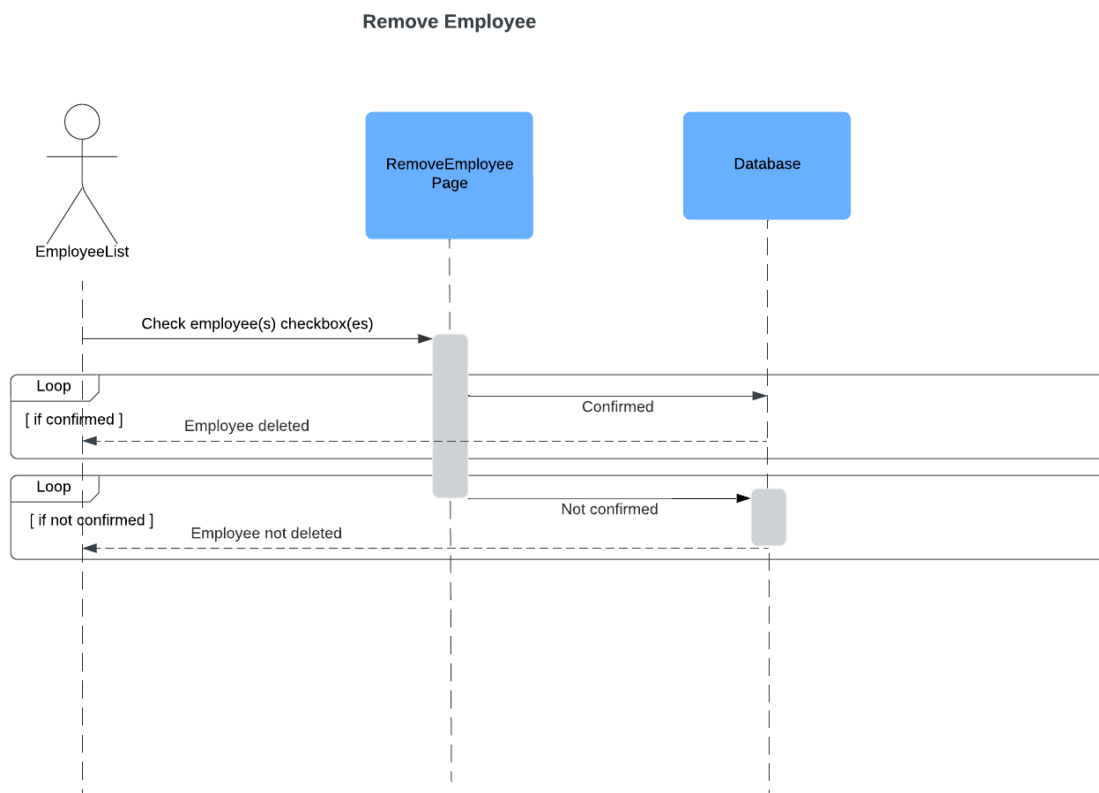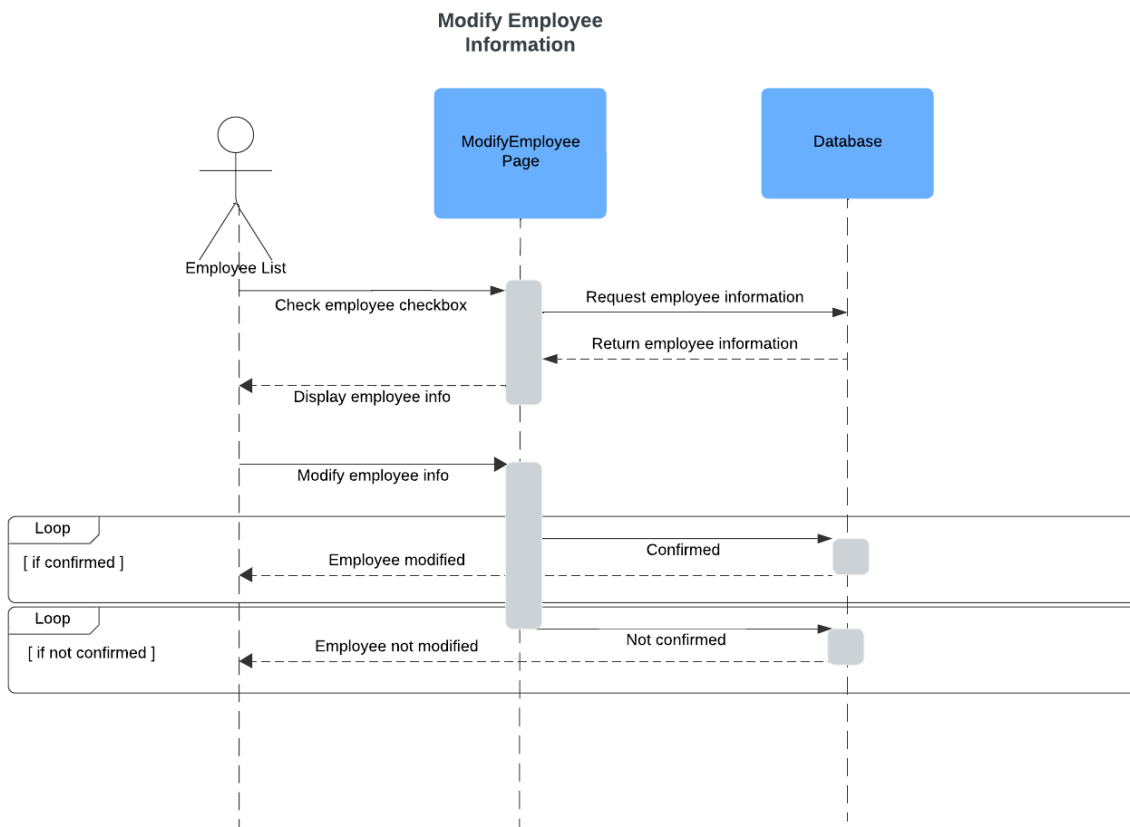
5 | CALCULATOR
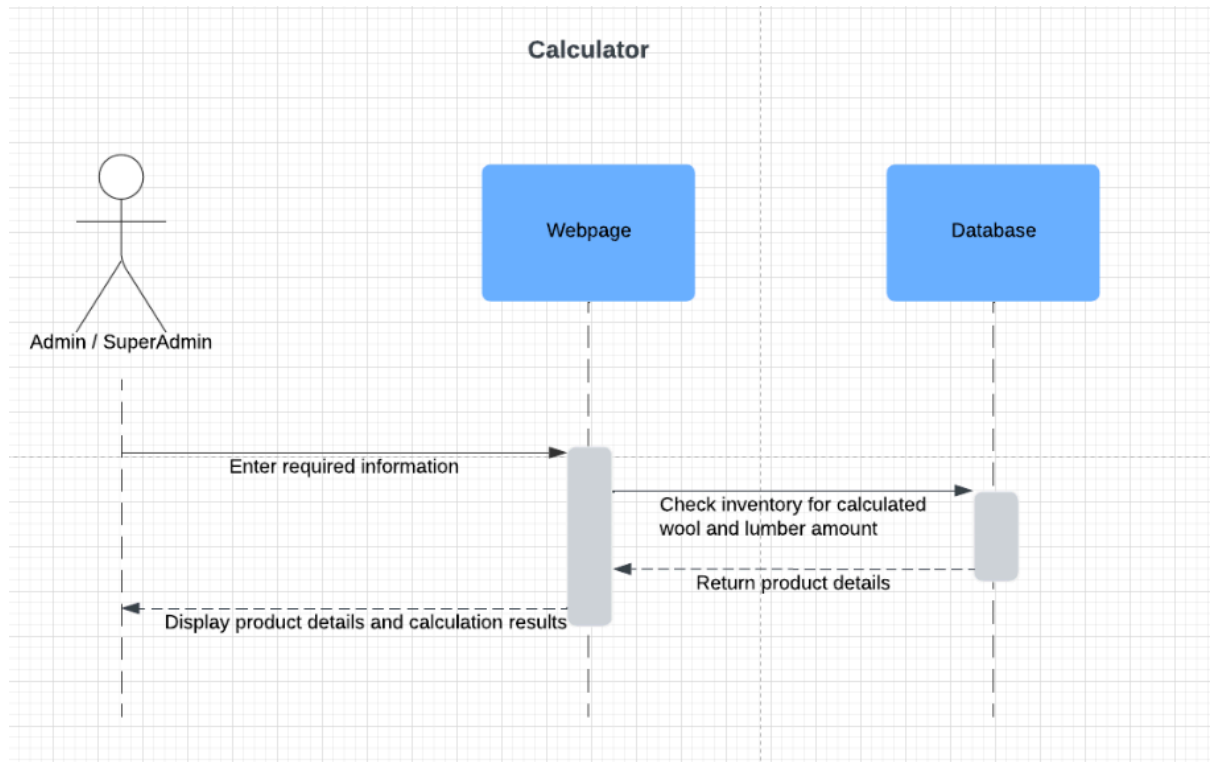
6 | SIGN OUT
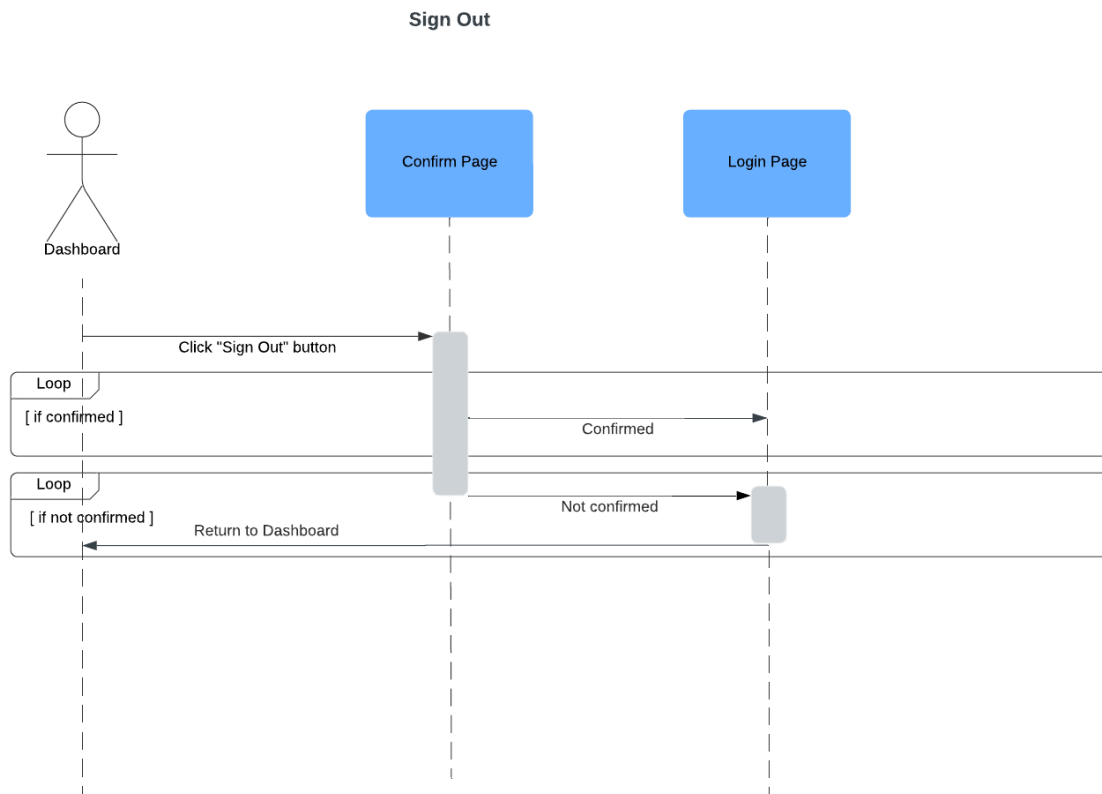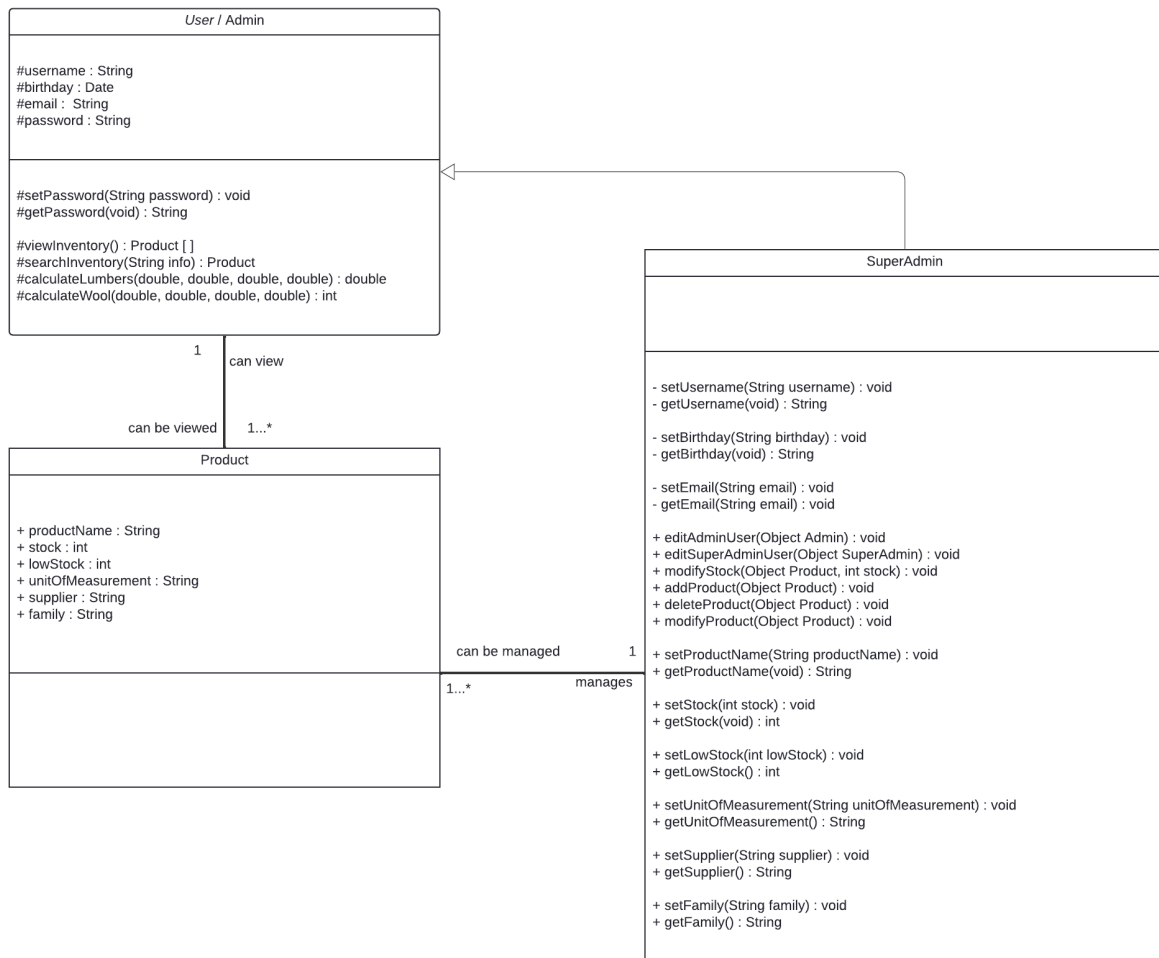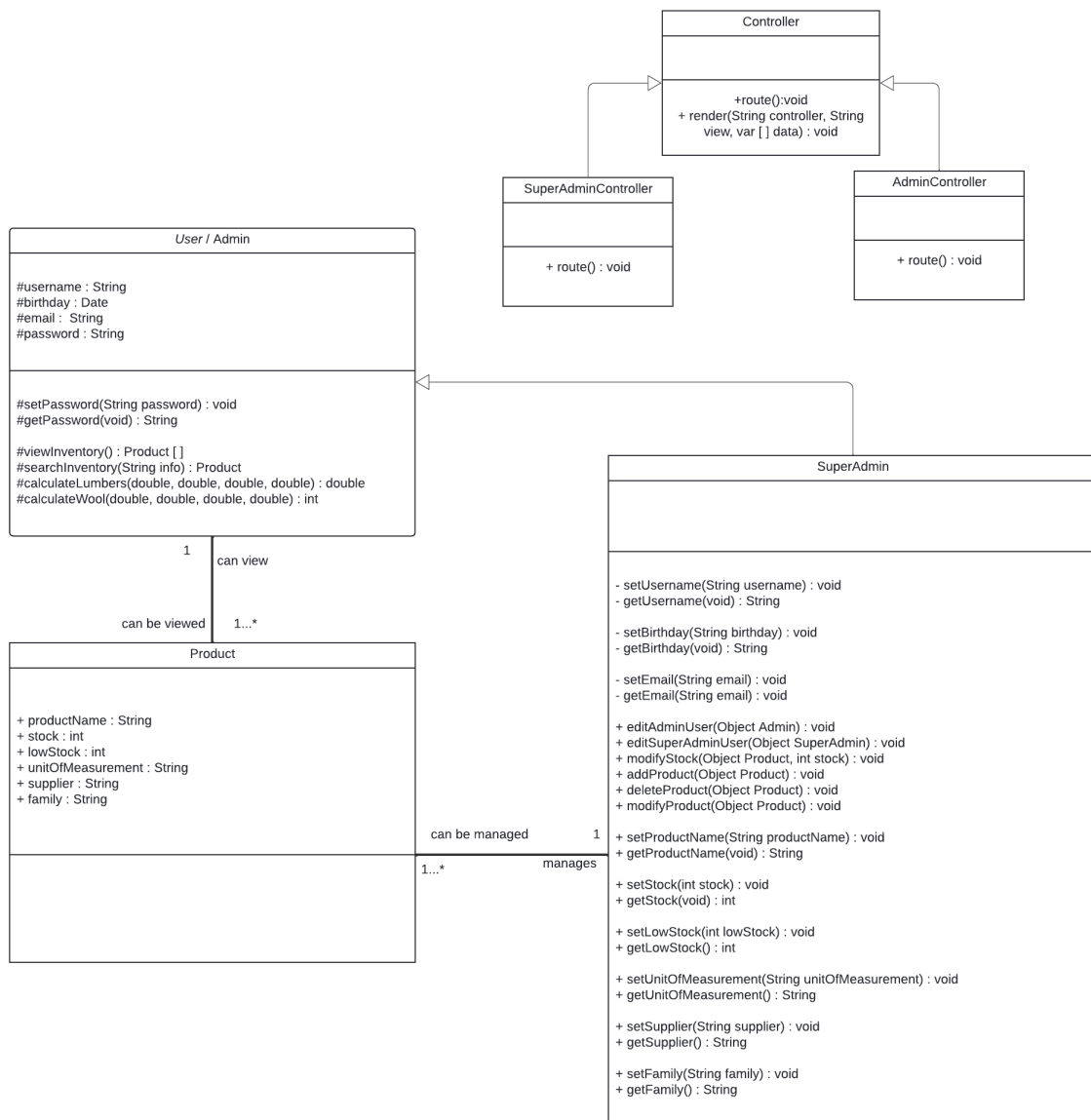
Sign Out

APPENDIX 4 - UML CLASS DIAGRAMS

The UML class diagrams show the classes that will make up our system as well as the relationships between them. There are two versions of our UML class diagram: the regular class diagram, and the class diagram with an MVC structure.

1 | **Regular UML Class Diagram**

2 | UML Class Diagram with MVC Structure

SAMPLE INVENTORY USED BY OUR CLIENT

Here you will find an example of what our client's inventory looks like:

NAME	SIZE	STOCK
Spruce Wood	2*4*12 ft	50 +
Spruce Wood	2*4*8 ft	50 +

Spruce Wood	2*6*12 ft	50 +
Spruce Wood	2*6*8 ft	50 +
Spruce Wood	2*4*93+¼ ft	50 +
Spruce Wood	2*6*93+¼ ft	50 +
Spruce Wood	1*3*12 ft	50 +
Spruce Wood	1*4*16 ft	50 +
Plank	2*10*16 ft	50 +
Plank	2*10*12 ft	50 +
Beam		30 +
Openwork beams		30 +
Columns	6*6 ft	30 +
Glue PL		48 (4 boxes of 12)
Polythene	10*100 ft	5
Acoustic		24 tubes
Urethane		12 tubes
Wool		20 bags
Screw	3+¼	10 boxes
Screw	2+¼	8 boxes

WORKS CITED

amoLinat. (n.d.). AMO & LINAT.

https://amolinat.com/