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**Faculty of Science and Technology 420-436-VA | System Development**

# DELIVERABLE #1

**Due Date:**

Monday February 3rd, 2025

**Orange Team**

Nicholas Roy

Phoeuk Thao

Parth Patel

**Client:** Dépanneur du Souvenir

**Contact Name:** Lay Patel

# SIGNATURES

We certify that this assignment is our own work.

I, **Nicholas Roy, student ID# 6247371**, certify that I have contributed to this deliverable, N-R

I, **Phoeuk Thao, student ID# 2256614**, certify that I have contributed to this deliverable, P-T

I, **Parth Patel, student ID# 6228271**, certify that I have contributed to this deliverable, P-P

# STATEMENT

**(Code from our E-Commerce class will be used for certain features of this project)**

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# 1.1 EXECUTIVE OVERVIEW

Our project is to create a **Store Management System** for a client. Our client, **Lay Patel**, is the owner of a convenient storelocated in Laval. To complete this project, we will meet every Monday during our System Development class from 10:00 AM to 12:00 PM and Friday 8:30 AM to 11:30 AM. To keep track of our progress, we will have an online meeting every Wednesday after 6:00 PM. We will be using Discord to keep in touch and to call since it allows us to share our screen. If any of the members are not active on discord, we also made a group chat so we Text Message each other if needed.

Parth Patel will be responsible for relaying information from the client to the rest of the team.

Our team will use GitHub as our repository throughout the project to minimize the risk of data loss from a USB key. We will also use Jira to sort out tasks in order of priority and Microsoft Project to create our project plan. A new team project leader will be assigned every deliverable. Tasks will be divided according to members’ preferences and strengths, whether it be backend, frontend, or database work.

# 1.2 CLIENT

## 1.2.1 DESCRIPTION

Our client’s name is Lay Patel. He is the owner of a convenient store (or depanneur) called **Dépanneur Du Souvenir**. The store is like any other convenient store, selling multiple types of products such as candies, sodas, chips, drinks, even groceries and more. To manage the complication of creating multiple categories, our program will allow the user to insert their own categories based on their needs.

## 1.2.3 COMPUTER SKILLS AND LITERACY

The client has some computer knowledge. The owner’s skills are like any other average user. Thus, it is important for the program to have a simple and easy to use design. For now, the owner of the store will be the primary user even if he has few employees. The owner usually works more, which is why he wants to be the only user for now, but in the future, he will have his employees be the user.

## 1.2.4 DESCRIPTION OF THE BUSINESS PROBLEM

Our client’s main issue is keeping track of his inventory. He makes a list on paper to track what products he needs to buy or order. The issue with this is that he can sometimes forget what he needs to buy if the list is not well done. Therefore, he needs a program that tracks his inventory, a program that keeps track of the amount of the product. He also wants a program that keeps track of the prices of the product. The database and program will mainly be in English since he only knows English but will also support French for his employees.

# 1.3 TEAM ORGANIZATION

## 1.3.1 TEAM MEETINGS

Our weekly meetings will be every Monday from noon to 14:00 PM and Friday from 8:30 AM to 11:30 AM at Vanier College during our System Development classes. We will have also virtual meetings which will be held on Wednesdays from 19:00 PM to 20:00 PM via Discord.

Discord Link: <https://discord.gg/FchMEFny>

## 1.3.2 REPOSITORIES

Below is a link to our GitHub repository in which we will store everything related to our project, namely our code. In addition, we will also be storing the ﬁnalized versions of our deliverables, reports, and project plan in this repository.

### GitHub repository link:

<https://github.com/Yeeteronii/InventoryManagement.git>

Here is each team member’s GitHub username:

|  |  |
| --- | --- |
| USERNAME | NAME |
| Yeeteronii | Phoeuk Thao |
| MicrowaveBallin | Nicholas Roy |
| ParthPatelA | Parth Patel |

Microsoft Word will be used for our reports. We chose Microsoft Word instead of Google Docs because we find Word to be more friendly to use and simpler for our team.

For task organization, Jira will be used. Jira will as well document the progress and owner of each task. Below you ﬁnd a link to our Jira project:

### Jira link:

<https://yeeteronii.atlassian.net/jira/software/projects/IN/boards/1>

Lastly, we will use Microsoft Project for our project plan.

## 1.3.4 COMMUNICATION STRATEGY

We will be communicating through Instagram and Discord. Instagram will be used for more casual communication, such as asking questions about our deliverable reports or informing the team of any new information that has come to light. Discord will be primarily used for meetings as its voice call and screen-sharing features make it ideal for this type of communication. For these purposes, we have created group chats on both Instagram and Discord.

We will meet synchronously during System Development class on Monday from noon to 14:00 PM and Friday from 8:30 AM to 11:30 AM whenever we are given the time to work on the project in class.

For our meetings on Wednesdays, we will use Discord to communicate via call from 19:00 PM to 20:00 PM from our homes.

The **policies** we have established are as follows:

|  |  |
| --- | --- |
| **POLICY** | **DESCRIPTION** |
| Respect each team member. | Allow each member’s opinions and ideas to be heard. |
| Team decisions must be made through votes, such as through polls via Instagram. | All team members are required to vote unless they explicitly state that they don’t have a preference for personal reasons. This includes reviewing each other's GitHub branches before committing to main. |
| Prioritize teamwork. | Team members should ask for help if they are struggling, and other members must step in to assist. |
| Team members must follow the project plan. | Team members are expected to complete their assigned tasks on time, as per the project plan. If they are unable to do so, they must inform the other members or seek help if needed. |
| All team members are required to show up for scheduled meetings. | All team members are expected to be present at all scheduled meetings. In the event of an absence, a reason must be provided, and the other members must be informed. |

## 1.3.5 AREAS OF RESPONSIBILITY

The minute-takers for each meeting will Phoeuk Thao and Nicholas Roy.

The main point of contact with our client will Parth Patel, as he is the most familiar with the client.

Most tasks and responsibilities will rotate among team members. The SCRUM master for each deliverable will be the team leader for that same deliverable. For the task of team leader, the instructor will select the leader for the ﬁrst deliverable, while the members will choose the leader for subsequent deliverables. However, the roles of minute-taker and point of contact will remain unchanged and will not rotate among members. This consistency for the minute-taker role is crucial for maintaining cohesive and reliable meeting notes.

For the implementation of the ﬁnal product, we have already chosen which member will work on each task. Below you will ﬁnd the members assigned to each implementation task.

|  |  |
| --- | --- |
| **IMPLEMENTATION TASK** | **NAME** |
| Back-end Development | Nicholas Roy |
| Front-end Development | Phoeuk Thao |
| Database | Parth Patel |

## 1.3.6 CLIENT CONTACT

The point of contact with the client for the duration of the project will be

Parth Patel. We have decided not to change the point of contact during each delivery. This is because Parth Patel will know the client and is more suited to ask our client since our client is his co-worker.

## 1.3.7 REPORTS

The team leader will be responsible for ensuring that the necessary reports are prepared properly, and on time for each deliverable.

Below you will ﬁnd the team leaders for each deliverable.

|  |  |
| --- | --- |
| **DELIVERABLE #** | **TEAM LEADER** |
| **1 |** Project plan | Nicholas Roy |
| **2 |** Client and business domain summaries, questionnaire | Parth Patel |
| **3 |** User stories | Phoeuk Thao |
| **4 |** Use cases and UML Diagrams | Phoeuk Thao |
| **5 |** Database design | Parth Patel |
| **6 |** Prototype UI and client comments | Nicholas Roy |
| **7 |** Implementation and client comments | Nicholas Roy |

## 1.3.8 TEAM CONTACT INFORMATION

Below you will ﬁnd each team member’s name, email address, and phone number.

|  |  |  |
| --- | --- | --- |
| **NAME** | **EMAIL** | **PHONE NUMBER** |
| Parth Patel | parth2023patel@gmail.com | 514-677-6245 |
| Nicholas Roy | [nicholas@patroy.ca](mailto:nicholas@patroy.ca) | 438-521-2234 |
| Phoeuk Thao | [thaotfay@gmail.com](mailto:thaotfay@gmail.com) | 438-725-8966 |

# 1.4 PROJECT PLAN

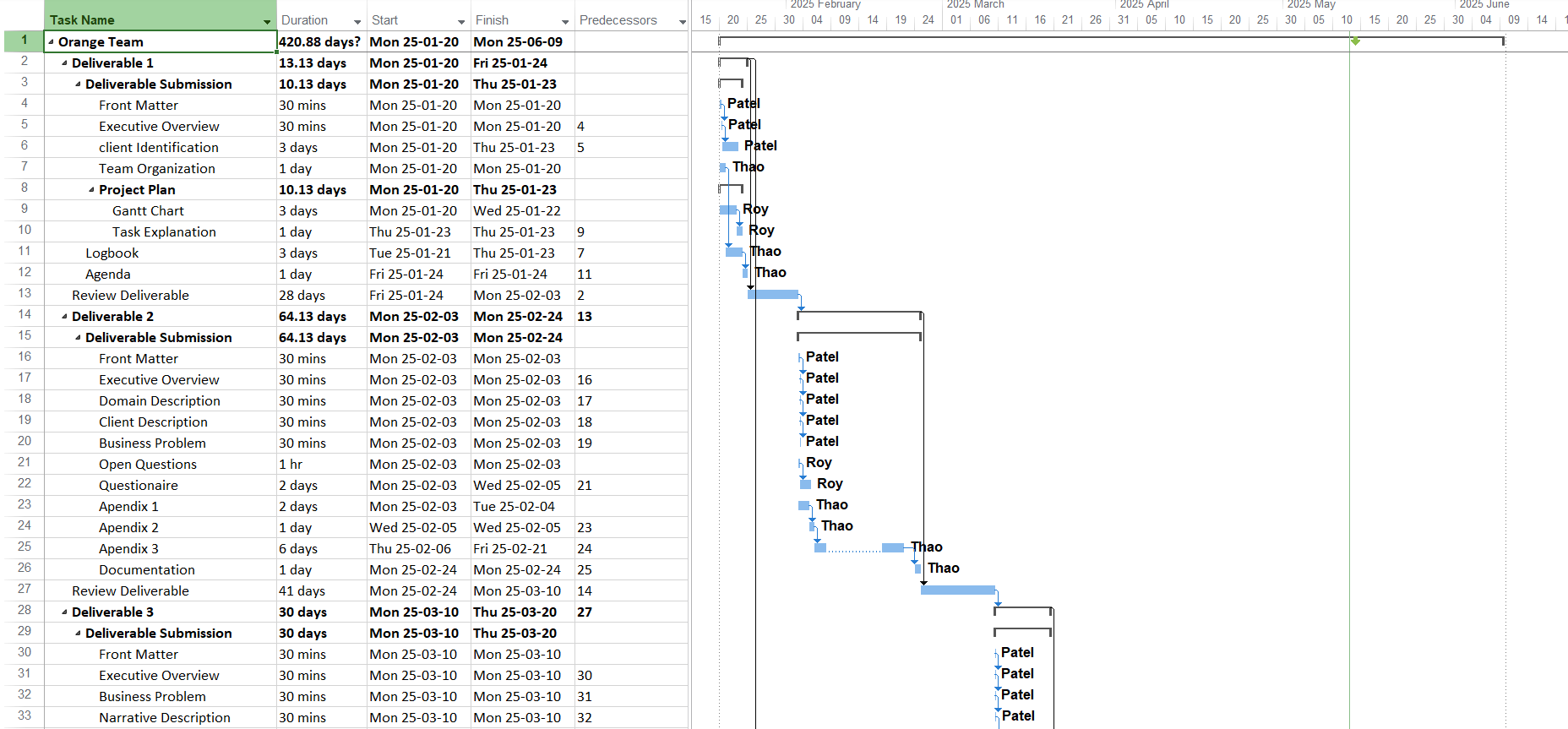
Our inventory management system project will be based heavily on the format given in class so as to not to overcomplicate things. So far, no difficulties have arisen regarding the organization of tasks, as all members are passionate about their individual roles to play in the project. Due to past experiences with unorganized Git repositories in the past, we’ve agreed to use a more secure, and organized arrangement. By each using our individual branches, we can review each other's work before pushing to the main branch. This should save time, reducing mishaps in future development.

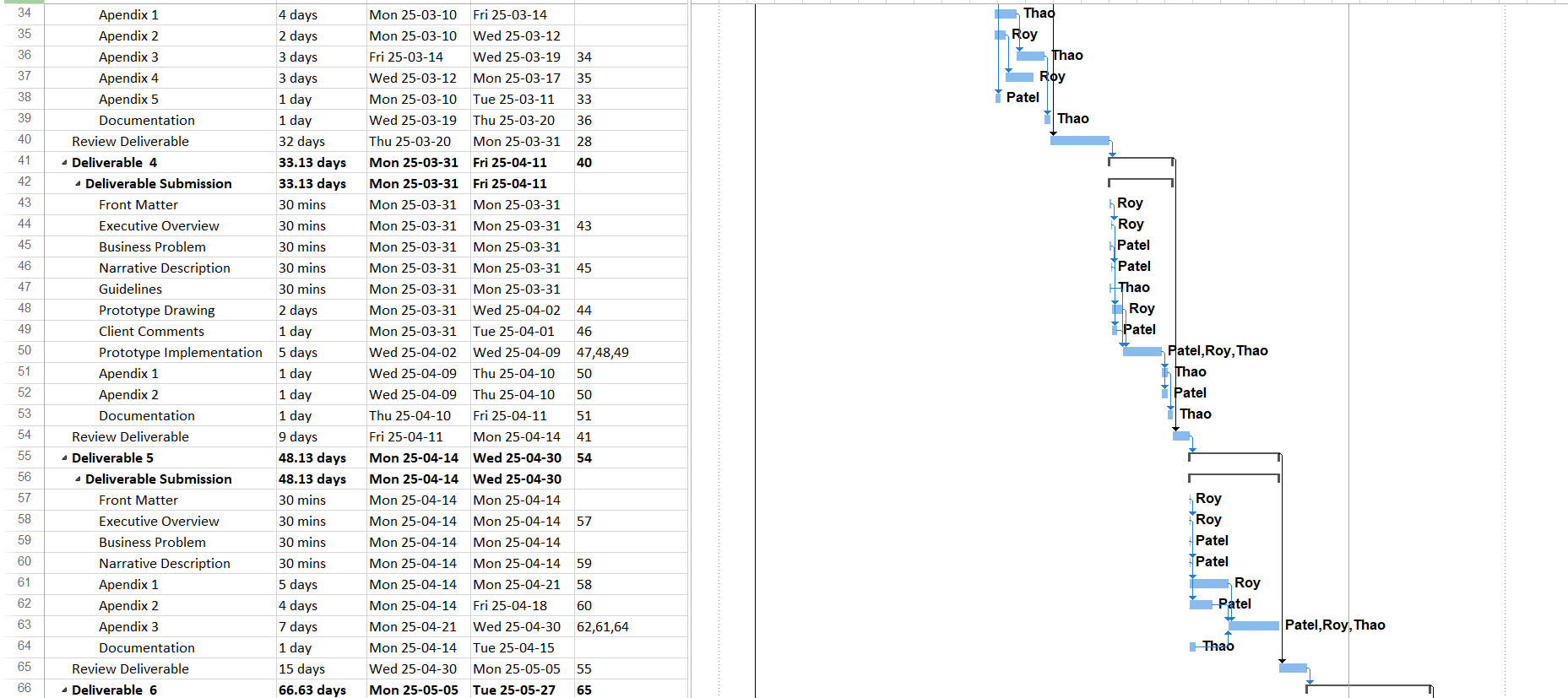
Our initial vision for the program is to facilitate a display of product data in tables sorted by category, and to allow the user to insert their own categories. This allows for easier management and is intended to be used by store or inventory managers. This modular approach allows us to use our product for other purposes again in the future, with minimal adjustments.

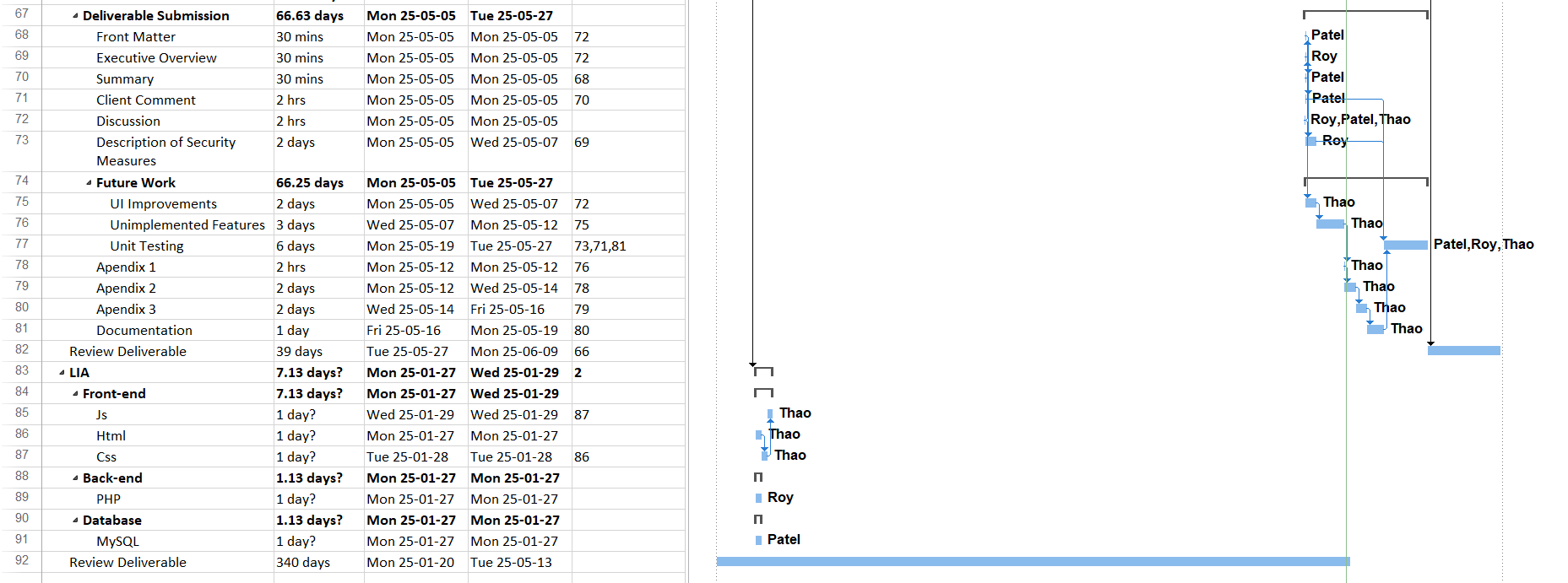
We took careful consideration when dividing tasks among group members, ensuring they were not assigned arbitrarily. To maximize efficiency, we assigned tasks based on each member's strengths. Parth handled the majority of client-related and database tasks, Nicholas was responsible for back-end development and UML design, and Phoeuk took charge of front-end development, UI, and documentation.

For the common tasks that are repeated for each deliverable, such as deliverable document design, we decided it was fitting to assign it to Parth for the first few deliverables since they aren’t heavy in database design. For the later submissions we decided to evenly space these common tasks, so Parth can stay motivated with greater endeavors.

Note that although we do have strict assignments for each team member, we will allow ourselves to trade tasks with one another if our motives change in development. However, we will each try our best to stick to our main section of expertise for the project. Additionally, it is important that we work closely with one another to help with unresolved issues and to ensure that our final product is cohesive, rather than 3 separate functions hastily glued together.







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# DELIVERABLE #2

**Due Date:**

Monday February 21st, 2025

**Orange Team**

Nicholas Roy

Phoeuk Thao

Parth Patel

**Client:** Depanneur du Souvenir

**Contact Name:** Lay Patel

# 2.1 EXECUTIVE OVERVIEW

This project is about making a Store Management System for the Depanneur du Souvenir that will help the business be more organized when working.

In this Deliverable, we find out about what the client, Lay Patel, wants in the program as well as how he works and runs the business. We dive into the business problem and then we ask the clients our questions to get a better idea on how the Store Management System should be. Based on the client’s answers and information, the delivery focuses on the creation of the user stories which will give us an idea on how each user will be able to do in the system.

# 2.2 Description of the Business

The business is a convenience store which is a retail business. The business environment of Depanneur du Souvenir is selling multiple types of products to the consumer. The customers go to the store to purchase consumable products. Our client has owned this convenient store for almost 5 years now and he manages to run the store without having any specific technological system. The retail business of convenience stores is like any other retail store. Our client buys and orders products and sells them to all customers. The products sold in the store are drinks, food, cigarettes, frozen food, and more. For a depanneur, other convenient stores are the competition. For our client, this competition doesn’t affect him a lot, since there isn’t any other convenient store in the neighborhood.

Our client’s name is Lay Patel, who is the owner of Depanneur du Souvenir. He bought the business in 2020-21 and has been running it ever since. He has 3 employees that work at the store. The client has basic computers skills just like any other average user. His daily computer task would be emailing, ordering products, browsing the web just like any other average user. He does have the ability to learn how an application works quickly. So, once we show him how our web-application works, he won’t have a lot of trouble using it.

The business problem is of our client is keeping track of his inventory. He also needs a store management system where he can keep track of his orders, his suppliers, his employees and reports. The client uses pen and paper to keep track of his inventory and wants to have a more efficient way to know his inventory. At the same time, he needs to keep track of his orders and deliveries. Therefore, our Store Management System will help the client be more efficient and organized to run and manage the store.

# 2.3 Open Questions

For the Store management system, we know that we want an inventory system, but does he want to keep track his orders and suppliers. He has multiple employees; does he want to manage who works when? Does he maybe want a feature to keep track of which employee is working, so a clock in clock out feature (shift management). How does our client order a product for the store, by phone, online or maybe another way. On the web-application, we assume he wants to order the products that are in low stock, does he want an order button to let him put the products he needs to buy in like a shopping list. We are also assuming that he will do a report about his earnings. How do we do it? Does he manually calculate the earnings he’s made in a month.

# 2.4 The Questionnaire

1. What type of data would you like to have on the product table? Do you want a price column with and without tax for each column?

**In the Product Table I would like to have the name of the product, the product type(category), the price of the product without and with tax, as well as the price that I paid for the product.**

1. How do you order supplies/ products for the store. Do you want to keep track of the suppliers on the website?

**The orders depend on the product, so products like alcoholic beverages are ordered from a supplier, as well as milk, and certain snacks. There are other products that I go buy physically from stores like Club Entrepot, Costco, or more. Having a page with all the suppliers is useful to keep all the supplier information in one place.**

1. How do you manage the price for a product, like what price do you order from the suppliers, is it with or without taxes?

**From the suppliers, I buy it at their prices which gets tax, then I decide the price to sell however I want.**

1. How do you handle low stock.

**So, most of the time, at the end of the week, I check the stock, to see what is low and what is not. I consider low stock less than 5 quantity wise. At the same time, It depends on the product, certain products take more time to sell than other, so low stock is different.**

1. Would you like an option to create a “shopping list” for low-stock products? (A button that allows him to put the product in a list.

**Yes, that is useful, so I can see a list of what to order and from that list, I can make the purchases.**

1. Do you want to have a feature to manage employees, to manage their schedule and possibly have a clock-in/clock-out feature to track his employees’ shifts.

**I would like to have a feature where I can put the schedule of the employee. Employees can also see that schedule. The clock-in/clock-out feature is not necessary to do since the schedule is a fixed weekly schedule. The schedule does not change every month or week unless there is a major change.**

1. How do you track your earnings?

**There is a report made by the cash register and I just calculate manually how much I made each month.**

1. Do you want a feature to keep track of his reports, like a logbook. Or do you want the system to make the report?

**I would prefer to put in earnings, profits and loss by myself, in case there are items that are not in the system, and I would prefer just to keep it as a log book so I can quickly view it when I need to.**

1. Do you want to keep track of the deliveries coming in?

**Yes, I have no problem, it would be more like me entering the data of a delivery so I know when what is coming?**

1. How does he want the delivery/orders page to look like if he wants to implement it?

**To be answered in the future.**

1. What other features would you like to have?

**That’s mostly it, I can’t think of more things, since the main program I wanted was only an Inventory System, but your recommendations could help me be more organized.**

# 2.5 User Stories

## Table Views

### Stock Management

(See 2.4 Questionnaire – 1)

**User Story:**

As a General User,

I want to view inventory items in a clear and concise manner,

So, I can easily track and manage stock.

**Gerkin Syntax:**

Given I am logged into the system

When I navigate to the inventory page

Then I see a table displaying all inventory items with relevant details such as name, quantity, and category

### Table Layouts

**User Story:**

As a General User,

I want all tables available to me (Product Inventory and Employee Calendar for all users, Orders, Reports for Admin users) easily accessible through a sidebar widget,

So, I can easily navigate the program and use it efficiently.

**Gerkin Syntax:**

Given I am on the main dashboard

When I click on the sidebar menu

Then I see a list of available tables and can select and navigate to any table from the sidebar

### Item Categorization

**User Story:**

As a General User,

I want to list items by type category, as well as create, edit, update, and delete my own categories,

So, they can be easily visualized.

**Gerkin Syntax:**

Given I am on the inventory page

When I select a category filter

Then I see only the items belonging to that category

### Stock Threshold Indication

(See 2.4 Questionnaire – 4)

**User Story:**

As a General User,

I want an indicator on each item that compares current stock quantity to expected stock quantity,

So, I can easily track my current stock, and what products I need to resupply.

**Gerkin Syntax:**

Given I am on the inventory page

When I view the stock quantity of an item

Then I see an indicator comparing the current stock to the expected stock level, highlighting low stock items in red

### Inventory Record Creation

**User Story:**

As an Admin User,

I want to enter items into the inventory database using only the necessary fields,

So, record insertion can be quick and easy.

**Gerkin Syntax:**

Given I am on the inventory entry form

When I fill out the required fields and submit the form

Then the new item is added to the inventory database and visible in the inventory list

### Searching Records

**User Story:**

As a General User,

I want to search for specific strings within each table,

So, I can easily remove, update, delete, and track items.

**Gerkin Syntax:**

Given I am on the inventory page

When I enter an item name in the search bar

Then I see matching records displayed in the table

### Creating Records

**User Story:**

As an Admin,

I want to add records to my inventory,

So, I can better track said items.

**Gerkin Syntax:**

Given I am on the record creation page

When I enter the necessary information and submit the form

Then a new record is created in the inventory

### Adding to Cart

**User Story:**

As a General User,

I want to add product records to a cart,

So, the admin can know what items to order.

**Gerkin Syntax:**

Given I am on the product page

When I add an item to the cart

Then a new record is created in the Order Table.

## Administrator

### Admin Access

**User Story:**

As an Admin,

I want a separate administrator login,

So, only I can have access to certain important features like orders and reports for better store security.

**Gerkin Syntax:**

Given I am on the login page

When I enter my admin credentials

Then I gain administrative access

### Two-Factor Authentication

**User Story:**

As an Admin User,

I want all user to authenticate their identity via email,

So, I can ensure business information security.

**Gerkin Syntax:**

Given I have the right username and password

When I click on the log in button

Then I will receive a notification to verify my credibility using an authenticator.

### Creating Users

**User Story:**

As an Admin User,

I want to create user accounts for my employees,

So, my employee accounts can remain secure.

**Gerkin Syntax:**

Given I am on the create user page

When I input a new employee information

Then I create a new employee

### Orders View

**User Story:**

As an admin,

I want to view my product orders,

So, I can easily track deliveries.

**Gerkin Syntax:**

Given I am on the admin dashboard

When I navigate to the orders page

Then I see all product orders with relevant details

### Report View

(See 2.4 Questionnaire – 7)

**User Story:**

As an Admin,

I want to record earnings,

So, I can track my analytics and optimize my store accordingly.

**Gerkin Syntax:**

Given I am on the reports page

When I enter an earning

Then I can view the earnings data

### Employee Scheduling

(See 2.4 Questionnaire – 6)

**User Story:**

As an Admin,

I want to schedule my employees’ working hours for a grid,

So, we may both easily track hours, and thus function more efficiently.

**Gerkin Syntax:**

Given I am on the employee scheduling page

When I assign shifts to employees on a weekly grid

Then the shifts are saved, and employees can view them

## Employee

### Employee Login

**User Story:**

As an Employee,

I want my own login details,

So, I can easily track my own working hours, stock items info.

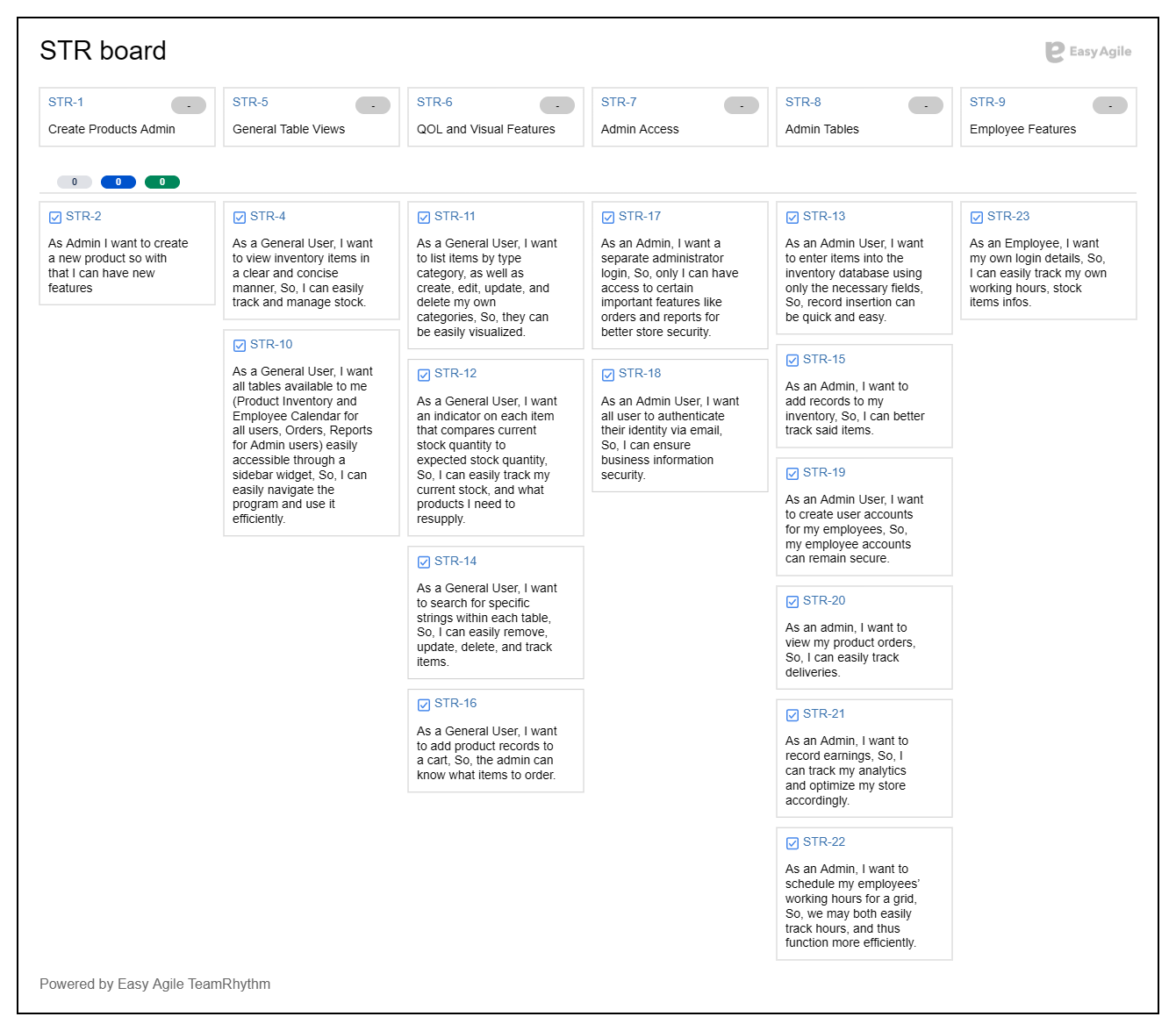
**Gerkin Syntax:**

Given I am on the login page,

When I enter my employee credentials

Then I am logged in and can view my personal dashboard

# 2.6 User Map

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# DELIVERABLE #3

**Due Date:**

Monday March 16th, 2025

**Orange Team**

Nicholas Roy

Phoeuk Thao

Parth Patel

**Client:** Dépanneur du Souvenir

# 3.1 EXECUTIVE OVERVIEW

This project is about making a Store Management System for the Depanneur du Souvenir that will help the business be more organized when working.

In this Deliverable, we find out about what the client, Lay Patel, wants in the program as well as how he works and runs the business. We dive into the business problem and then we ask the clients our questions to get a better idea on how the Store Management System should be. Based on the client’s answers and information, the delivery focuses on the creation of the user stories which will give us an idea on how each user will be able to do in the system.

# 3.2 Summary description of the client

Lay Patel, the business owner of Depanneur du Souvenir, is our client. He has been managing the business since he purchased it in 2020–21. At the store, he employs three people. Like any other typical user, the client is proficient in the basics of computers. Like any other typical user, he would use his computer every day to email, order things, and browse the internet. He is capable of picking up on an application's functionality fast. He won't have much issue using our web application once we demonstrate how it operates.

# 3.3 Description of the business problem

The business problem is of our client is keeping track of his inventory. He also needs a store management system where he can keep track of his orders, his suppliers, his employees and reports. The client uses pen and paper to keep track of his inventory and wants to have a more efficient way to know his inventory. At the same time, he needs to keep track of his orders and what he needs to buy for the store. Therefore, our Store Management System will help the client be more efficient and organized to run and manage the store.

# 3.4 Narrative Description

Both admin and employee can login in the program, using their username and password. Both users are redirected to the main page where they have all the pages linked in the side bar.

As an employee, I have access to the shift/schedule page, products page, as well as the settings of the program. The employee can go to the product table/page, and update the quantity of the product, the employee can also put a product in the order list.

The employee can also check their shifts/ schedule in the shift page.

In the settings the employee can change the language English to French for the employee’s preference.

As the admin of the system, I can access all pages, which are, shift/schedule page, products page, settings page, orders list page, supplier page, employee page, and report page.

As the admin, in the product page, I can create, update and delete a product. The admin can also put a specific product on the order list page.

The admin can then access the order list page, where he sees all the products that need to be purchased for the store. He can also check the list of all the suppliers where he can add and remove suppliers.

The admin can go in the shift table to make the schedule or change anything in the schedule for the employee. The employee can be created by the admin from the employee page.

The admin has accessed the reports page, where he can enter his report and log, to keep track of what he has made. It is almost like a personal logbook.

The admin can go in the settings, where he can change the language preferences and can update his personal/account credentials.

# 3.5 Flowchart

A diagram of a login page

AI-generated content may be incorrect.

A diagram of a software flowchart

AI-generated content may be incorrect.

A diagram of a code

AI-generated content may be incorrect.A diagram of a change language

AI-generated content may be incorrect.

A diagram of a slide bar function

AI-generated content may be incorrect.

A diagram of a product

AI-generated content may be incorrect.A diagram of a work flow

AI-generated content may be incorrect.

A diagram of a report

AI-generated content may be incorrect.A diagram of a process

AI-generated content may be incorrect.

A diagram of a product

AI-generated content may be incorrect.A diagram of a work flow

AI-generated content may be incorrect.

A diagram of a workflow

AI-generated content may be incorrect.

A diagram of a product

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AI-generated content may be incorrect.

A diagram of a software system

AI-generated content may be incorrect.

A diagram of a flowchart

AI-generated content may be incorrect.

A diagram of a flowchart

AI-generated content may be incorrect.

# 3.6 User Case Diagram

A diagram of a company

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A diagram of a network

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A diagram of a network

AI-generated content may be incorrect.

A diagram of a network

AI-generated content may be incorrect.

# 3.7 Sequence Diagram

A diagram of a record

AI-generated content may be incorrect.

A diagram of a software update

AI-generated content may be incorrect.

A diagram of a record

AI-generated content may be incorrect.A diagram of a program

AI-generated content may be incorrect.

# 3.8 Class Diagram

A diagram of a company

AI-generated content may be incorrect.

# 3.9 Appendix 5

The client was not willing to share any documents to present for this project.

A red and black logo

Description automatically generated

**Faculty of Science and Technology 420-436-VA | System Development**

# DELIVERABLE #4

**Due Date:**

Tuesday April 8th, 2025

**Orange Team**

Nicholas Roy

Phoeuk Thao

Parth Patel

**Client:** Dépanneur du Souvenir

# 4.1 EXECUTIVE OVERVIEW

This project is about making a Store Management System for the Depanneur du Souvenir that will help the business be more organized when working.

In this Deliverable, we find out about what the client, Lay Patel, wants the program to look like. Based on the client's feedback we design the user interface of the Store Management System. We first designed a prototype to show the client and based on his feedback we proceeded to make the design and the user interface better.

# 4.2 Narrative Description

The Narrative Description is the same as the section [3.4](#_3.4_Narrative_Description).

The Store Management System is going to be used by the types of users, the admin(owner of the business) and the employees.

Changes:

As the admin, I can add categories for the products and indicate the type of tax for that specific category.

# 4.3 Description of the business problem

The issue faced by our client is managing his inventory effectively. He also requires a store management system to monitor his orders, suppliers, employees, and reports. The client relies on pens and paper to monitor his inventory and seeks a more efficient method to manage it. Simultaneously, he must monitor his orders and determine what supplies he needs for the store. In short, our Store Management System will assist the client in becoming more organized and efficient in running and managing the store.

# 4.4 Prototype Interface

## First Prototype Interface

A screen shot of a computer

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### Products

A screenshot of a computer

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### Schedule

A screenshot of a computer

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### Orders

A screenshot of a computer

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### Reports

A screenshot of a computer

AI-generated content may be incorrect.

## Figma Prototype Interface

<https://www.figma.com/design/3BEJKy7AfxBJ3mXfwnCHXM/StoreManagmentSystem?node-id=0-1&t=IQ628SYgVo3UI0kz-1>

# 4.5 Client Comments

At first, we made a prototype of the website and made only the front end. Then the P.O.(Parth) met with the client in person to show him the prototype to get his opinion. In the beginning when we first were talking about the website with the client, we asked him how he would want the website to look like and he wanted the website to look simple and visually user-friendly. He didn’t want anything complicated.

After showing him the first prototype, the client was pleased overall with how it looked. However, he wanted to change the page for the Schedule looked like.

Then, we worked on the second prototype (mockup), but this time we worked on Figma to have more details on the design. He found that the designs on Figma were better since they had much more details. He also liked the way the schedule page looks on the Figma prototype.

**The Changes:**

Initially, the schedule table on the Schedule page looked like a table where each column was a day, and then the shift would be present there, but it wasn’t like a slot for each shift. Therefore, on the second prototype we made the shifts on the grid like a slot, where each slot is a shift that has the employee’s name.

# 4.6 Usability Guidelines

1. **Dynamic color display on Products page:**

The main product table is meant to display a list of all products in a manner that is concise and easily understandable, which is why we opted to color each entry depending on if the given item is low, or empty of stock. In those cases, it will display yellow or red respectively. All other entries will be in simple white or gray so as to not clutter the view.

1. **Multi-Select on Table views:**

For some of the more cluttered Pages such as Products and Orders most notably, we opted to implement a multi-selection for actions like deleting, which won't see much use, and will only take up valuable space for other icons/buttons. On the example of deleting on the Products page, now the user must follow more steps to remove an entry, making for less accidental button selection from the sheer volume of buttons.

Product table being cluttered. This also comes with the benefit of being able to run actions on many entries at a time, meaning a snappier user experience.

1. **Sidebar Navigation:**

By organizing pages on a static sidebar widget, the user can easily see and access desired pages to rapidly perform important actions.

1. **Start on Welcome page:**

By first displaying the Welcome page upon logging in, the user is given a blank slate to better judge their desired course of action. When given an empty Welcome page, the user’s eyes are immediately drawn to the sidebar which holds all the important program functions. Since this was designed as a B-B program, the welcome page serves for business efficiency rather than pretty visuals. However, we may implement an appealing splash screen in the future.

1. **Access level on top-right:**

Displaying user login status on the static top bar better serves to inform the user of their privileges when navigating the program.

1. **Dynamic Add and Update pages:**

By keeping the Add and Update pages dynamically generated based on the current action, the user can easily recognize the same action in different use-cases. For example, adding or updating the record on the Product table displays the same UI as doing so for Records, only with the fields changed. This gives the user useful feedback to help them understand what operations they are performing.

1. **Color palette on intermediary pages:**

The program features 2 types of pages, main view pages with a list of entries and operations related to each entry, and temporary table altering pages like Add and Update, which are used to manipulate table data. To better help the user grasp program navigation, we’ve decided to color-code each page type, accordingly, giving a bright color palette for main list views, and a darker secondary color layout for altering pages.

1. **Color-coded employee scheduling:**

Coloring each employee’s shift block to better serve the admin when scheduling employees. This would help them make sure they don’t over-clock an employee’s working hours, and to serve to makeshift blocks stand out from empty time slots.

1. **Sort by Category + Selected Field on Products an**d Orders pages:

On view pages that deal with products (Product and Orders pages), the user will be able to select between 2 different sorting options, which can be applied together. By allowing sorting by Category, as well as a secondary field, the user can precisely find or view items in their desired order.

1. **Table layout:**

The table layouts themselves are important to the user experience. We made sure to think about fine details such as button placement, alternating row coloring, and button feedback, to better guide the user with complex operations.

The buttons on the top of the tables are to be separated in sorting on the left, and actions on the right to provide clarity when attempting to locate the button tied to a desired operation. Action buttons will be on the left if no sorting options are available. Secondly, alternating white and light gray for table entries allows the eyes to separate them using a subtle color difference. Finally, all buttons will give visual feedback once they are clicked. For example, the “Add to Cart” icon on the Products page will turn into a checkmark once clicked, to signify it was successfully added to the cart. Additionally, it will remain as a checkmark until its stock is refilled.

# 4.7 Revised Story Maps and User stories

Check out Deliverable 2, section [2.5](#_2.5_User_Stories) and [2.6](#_2.6_User_Map).

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**Faculty of Science and Technology 420-436-VA | System Development**

# DELIVERABLE #5

**Due Date:**

Tuesday April 21st, 2025

**Orange Team**

Nicholas Roy

Phoeuk Thao

Parth Patel

**Client:** Dépanneur du Souvenir

# 5.1 EXECUTIVE OVERVIEW

This project is about making a Store Management System for the Depanneur du Souvenir that will help the business be more organized when working.

In this Deliverable, we design the database for the Store Management System. We design the database user ER diagram and with that we normalize it and make a database dictionary as well.

# 5.2 Business problem

The issue faced by our client is managing his inventory effectively. He also requires a store management system to monitor his orders, suppliers, employees, and reports. The client relies on pens and paper to monitor his inventory and seeks a more efficient method to manage it. Simultaneously, he must monitor his orders and determine what supplies he needs for the store. In short, our Store Management System will assist the client in becoming more organized and efficient in running and managing the store.

# 5.3 Narrative Description of the Database Design (Revised Story Maps and User stories)

We have 2 types of actors in our system. There is the admin, with one set of login information, who has access to the entire system, and employees, which have certain permissions for Products and Orders, as well as being able to view their schedule.

Employees can edit the stock amount of products which they can view in the product list, as well as add them to the cart (Order table). They may also view their shift schedule and are unable to interact with any of the other features. This ensures security for the store administrator, as allowing further access can lead to leaks of sensitive information, or expensive business errors from inexperienced staff meddling with important business data.

The administrator has full control over all features of the system and is responsible for managing user shifts. The admin has access to Products, Scheduling, Orders, Suppliers, Employees, and Reports, which they can view, edit, add, and hide entries from. Before the system is to be functionally introduced to the store and its employees, the admin must add all product entries to the database with their sell price, current stock amount, the expected stock amount, and the category they belong to. The expected stock amount field is used as a threshold to display yellow if the current stock is half of the expected value, and red if empty. To manage employee shifts, the admin can add times directly to the schedule page, which will appear as time blocks in a weekly grid for the employees. At any time, the administrator can add items from Products into the Order table to marked to buy in the near future. Items added this way will have a default amount to restock equal to the expected stock amount - the current stock amount to cover the difference. However, expected values, as well as the amount to restock can be edited later to adjust for changes in supply and demand. The admin may decide to track his reports in our system, which will remain confidential. They can track earnings and total profits, which will be attached to a given date. Entries on this table will be permanently deleted instead of hidden like the others to ensure security.

# 5.4 Data Dictionary

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# 5.5 ER Diagram

A screenshot of a computer

AI-generated content may be incorrect.

# 5.6 Updated Class Diagram

A diagram of a product controller

AI-generated content may be incorrect.

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Description automatically generated

**Faculty of Science and Technology 420-436-VA | System Development**

# DELIVERABLE #6

**Due Date:**

May 16th, 2025

**Orange Team**

Nicholas Roy

Phoeuk Thao

Parth Patel

**Client:** Dépanneur du Souvenir

# 6.1 EXECUTIVE OVERVIEW

This project is about making a Store Management System for the Depanneur du Souvenir that will help the business be more organized when working.

In this Deliverable, we design the database for the Store Management System. We design the database user ER diagram and with that we normalize it and make a database dictionary as well.

# 6.2 Client Description and Business problem

The client’s name is Lay Patel, who is the owner of the Depanneur du Souvenir. He has some basic knowledge when using technology just like any other average user.

The issue faced by our client is managing his inventory effectively. He also requires a store management system to monitor his orders, suppliers, employees, and reports. The client relies on pens and paper to monitor his inventory and seeks a more efficient method to manage it. Simultaneously, he must monitor his orders and determine what supplies he needs for the store. In short, our Store Management System will assist the client in becoming more organized and efficient in running and managing the store.

# 6.3 Narrative Description

The Narrative Description is the same as the section [4.2](#_4.2_Narrative_Description).

# 6.4 Client’s Comment

The client was pleased with how the project turned out. He was glad we implemented all the features he wanted. On top of that, he was happy that we included more useful features that he hadn’t thought about, like downloading the reports as pdf and more. He was happy with restoring the deleted products as well. Overall, the client was pleased with the StoreManagementSystem.

# 6.5 Design and Implementation

For the code itself, we opted to use a combination of PHP and MySQL for back-end MVC structure and database respectively, as well as HTML, CSS, and JavaScript for front-end functionality. This format was familiar to us from our ECommerce class, so there was not much headache over deciding what tools to use.

Features such as 2FA and printing to PDF, which are both features not included in our prototype, require external libraries. RobThree’s TwoFactorAuth (<https://github.com/RobThree/TwoFactorAuth>) was a library that enabled the use of 2FA and generating QR codes. As for printing to PDF, FPDF (<https://www.fpdf.org/>) is a relatively simple format for displaying data in an easy-to-read PDF format.

We also found a possible free hosting service to run our webpage, since we’ve been using localhost for the time being. A friend of ours offered to lend space for our own purposes, meaning we won't have to deal with data scrapping 3rd party providers if we intend to launch the program as our product.

# 6.6 Description of current security measures

Despite our application being strictly business to business, we still needed features to prevent non-authorized users accessing important data. Our first and most important security implementation was our use of 2FA, which requires all users to link their account with secondary authentication.

Secondly, upon logging in, we store a token of the current user id in the session, which is referred to every action to ensure the user is properly logged in. If not, the user will be prompted with the login page to verify their authenticity.

Finally, we implemented a user rights system, which ties certain actions in our program to permissions of each user type. For instance, employees have far less access than admins do. Therefore, before each action is to be followed through, the user’s rights are verified, and denied if they don’t possess permission to access what they are trying to access.

# 6.7 Future Work

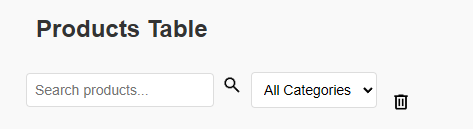
We are done with all the main implementation of the project. For the future, if we do improve anything, it will be the look and design of the project, make it look more modern. We can also have multiple themes for the visuals of the web applications. Our user stories are implemented as well. Some future security measures we can add are more error preventions. We can also add a verify email when a user forgets his/her password.

# 6.8 Appendix 1 – Revised User Interface

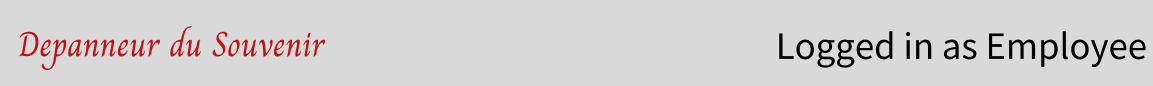
Our final design is almost identical to the prototypes, except for a few of the views. All our tables share the same functionality as the ones described in the prototype, however the buttons we used for important actions were replaced by icons, which are easier to read and are less cumbersome. Tables such as product also had slight tweaks to the content itself, now featuring Tax Price and Sell Price, which were important stats requested by the user. Additionally, our original idea of allowing the user to select between 2 filters to search the products table (by category and a secondary field), created too much clutter onto the page, and didn’t really justify its need for space. Thus, we shortened the table options to only sport a single dropdown filter for categories.

**Old Products bar:**

**Updated Products bar:**



Changes were also made to our top navigation bar since the prototype. Instead of giving the user the change language option in settings, we figured it’d be better to simply stick it on the top bar. Now users don’t need to sift through illegible hieroglyphics to find the language options if their native language isn’t the program default.



# 6.9 Appendix 2 – User Guide

The PDF of the user manual will be submitted through the submission and will also be presented in the GitHub: <https://github.com/Yeeteronii/StoreManagement.git>

It is under the Extra Files folder.

# 6.10 Appendix 3 – List with screen images

Stock Management

(See 2.4 Questionnaire – 1)

**User Story:**

As a General User,

I want to view inventory items in a clear and concise manner,

So, I can easily track and manage stock.

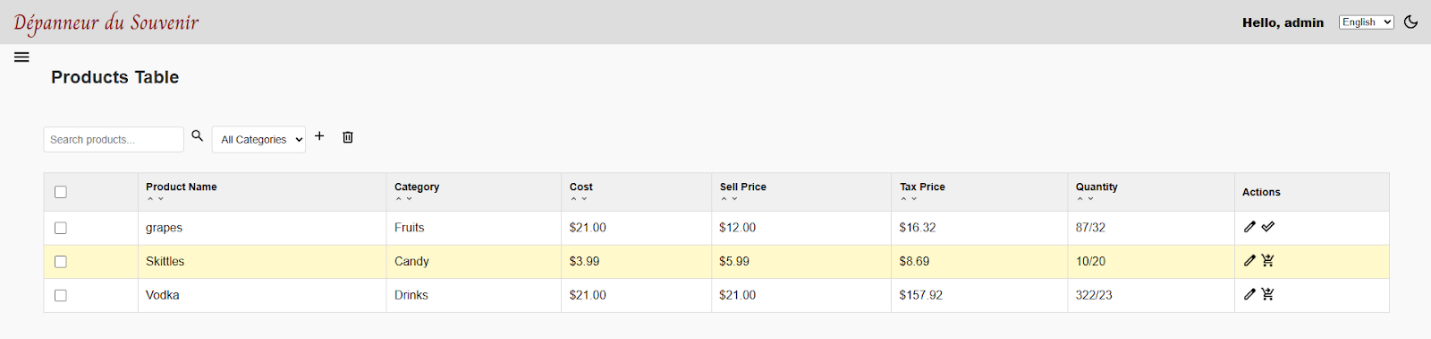


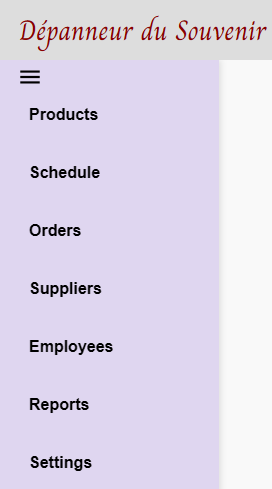
Table Layouts

**User Story:**

As a General User,

I want all tables available to me (Product Inventory and Employee Calendar for all users, Orders, Reports for Admin users) easily accessible through a sidebar widget,

So, I can easily navigate the program and use it efficiently.



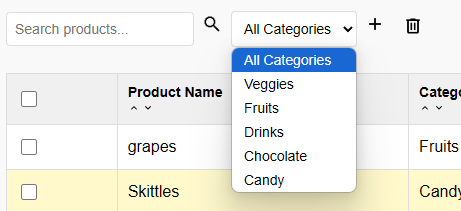
Item Categorization

**User Story:**

As a General User,

I want to list items by type category, as well as create, edit, update, and delete my own categories,

So, they can be easily visualized.



Stock Threshold Indication

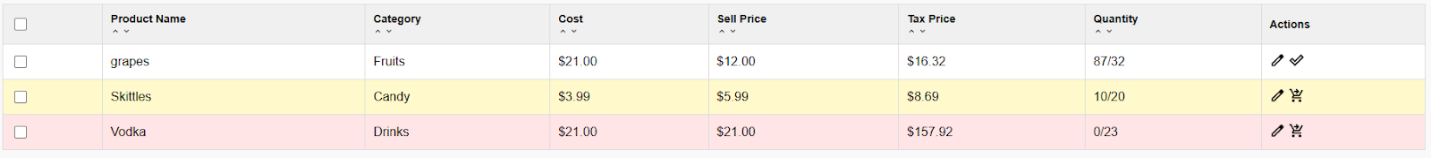
(See 2.4 Questionnaire – 4)

**User Story:**

As a General User,

I want an indicator on each item that compares current stock quantity to expected stock quantity,

So, I can easily track my current stock, and what products I need to resupply.



Inventory Record Creation

**User Story:**

As an Admin User,

I want to enter items into the inventory database using only the necessary fields,

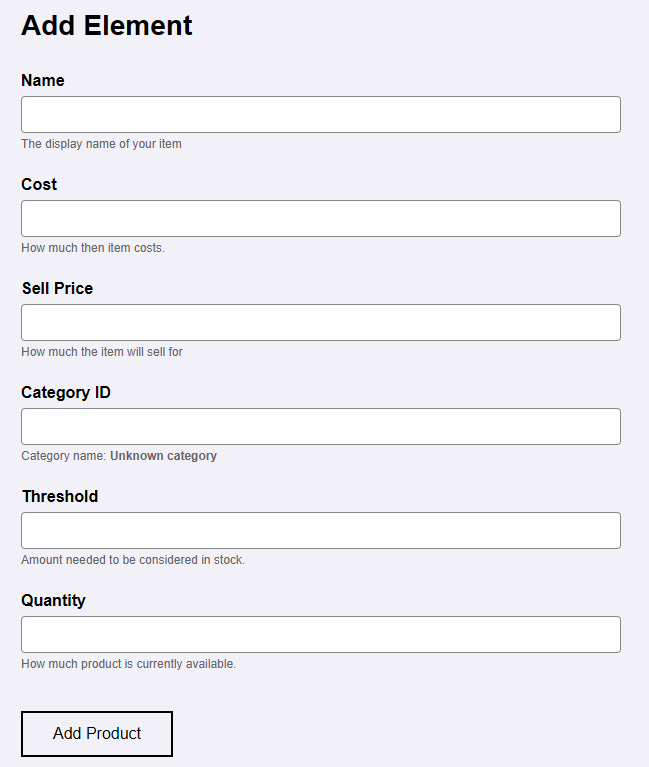
So, record insertion can be quick and easy.

**User Story:**

As an Admin,

I want to add records to my inventory,

So, I can better track said items.



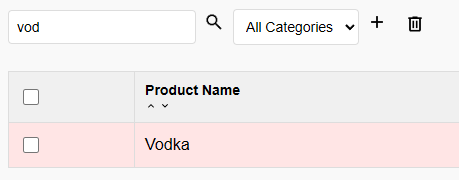
Searching Records

**User Story:**

As a General User,

I want to search for specific strings within each table,

So, I can easily remove, update, delete, and track items.



Adding to Cart

**User Story:**

As a General User,

I want to add product records to a cart,

So, the admin can know what items to order.

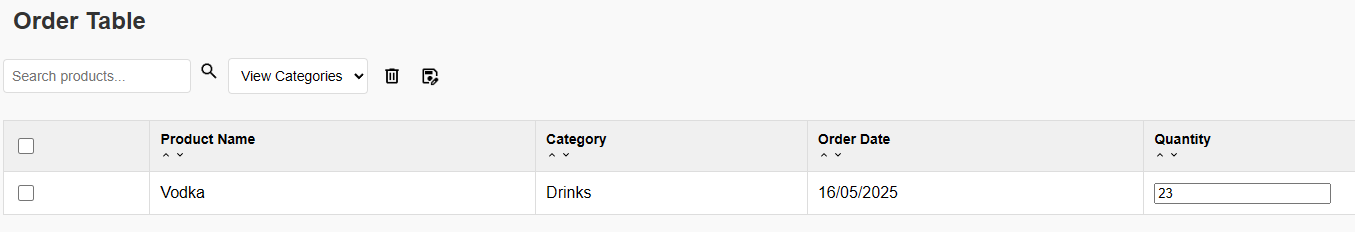
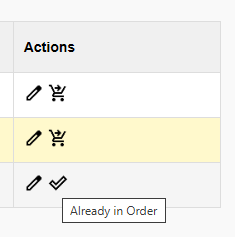
Orders View

**User Story:**

As an admin,

I want to view my product orders,

So, I can easily track deliveries.



Administrator

Admin Access

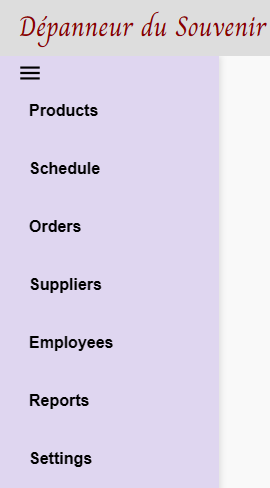
**User Story:**

As an Admin,

I want a separate administrator login,

So, only I can have access to certain important features like orders and reports for better store security.

**Admin Sidebar:**



**Employee Sidebar:**  

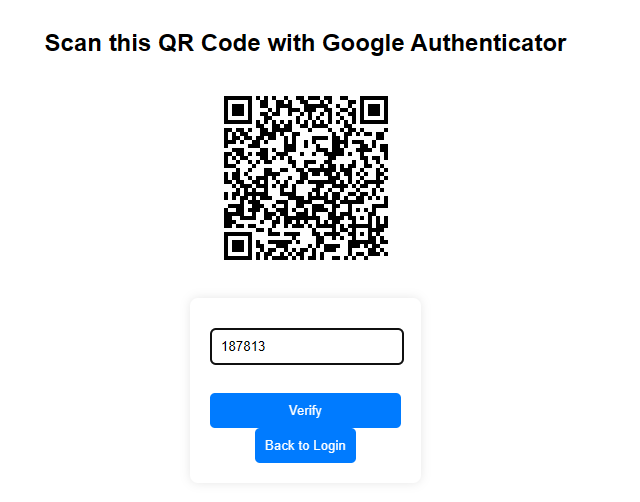

Two-Factor Authentication

**User Story:**

As an Admin User,

I want all user to authenticate their identity via email,

So, I can ensure business information security.



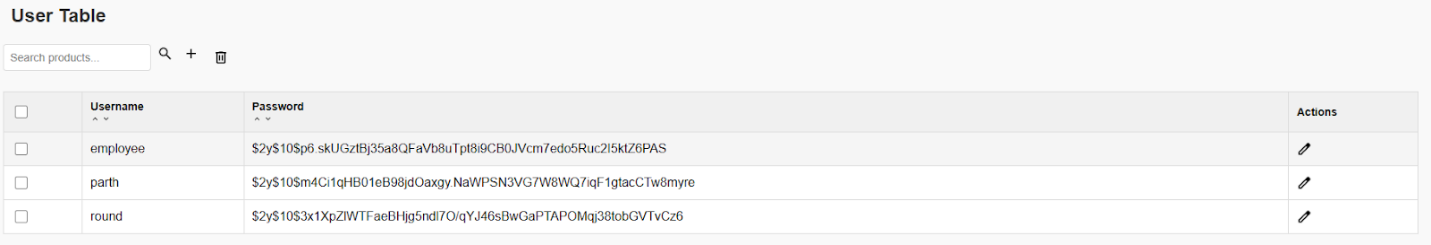
Creating Users

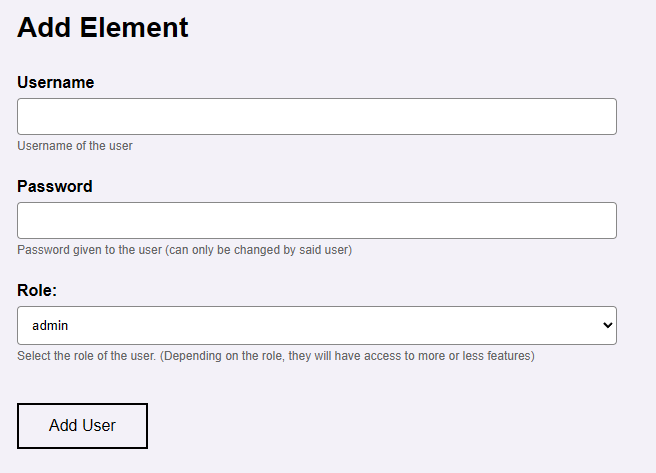
**User Story:**

As an Admin User,

I want to create user accounts for my employees,

So, my employee accounts can remain secure.





Note: only admins have access to the list of accounts

Report View

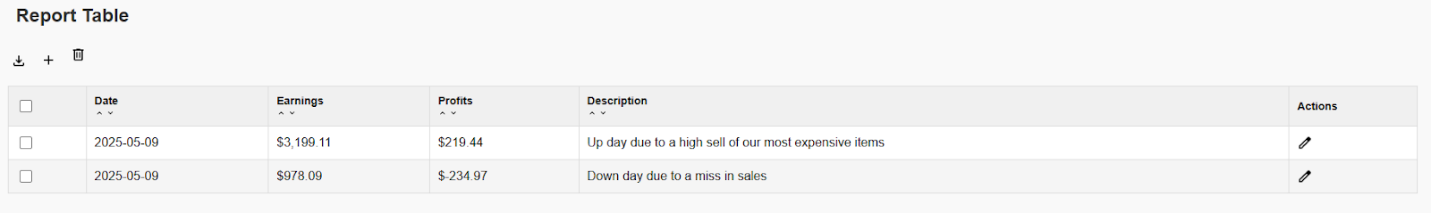
(See 2.4 Questionnaire – 7)

**User Story:**

As an Admin,

I want to record earnings,

So, I can track my analytics and optimize my store accordingly.



Employee Scheduling

(See 2.4 Questionnaire – 6)

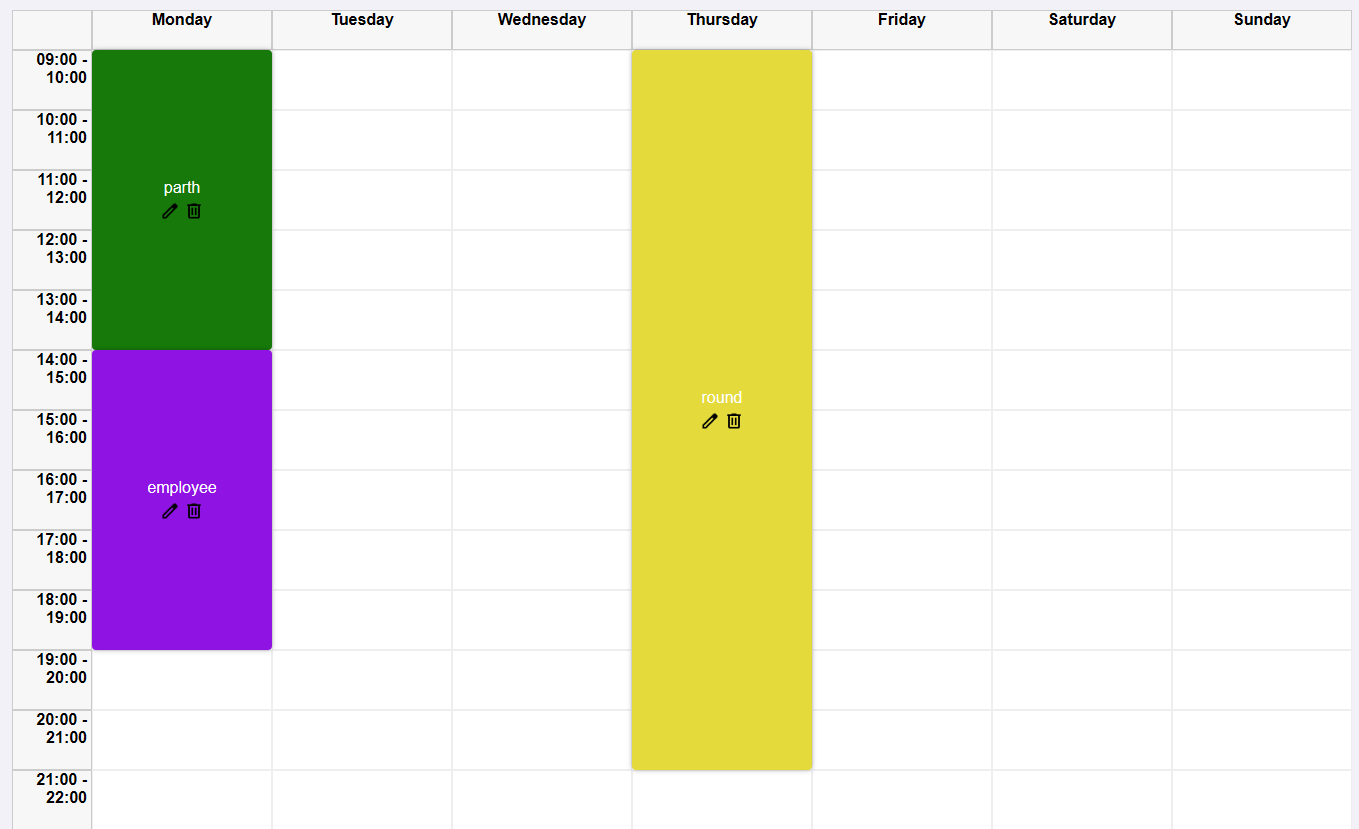
**User Story:**

As an Admin,

I want to schedule my employees’ working hours for a grid,

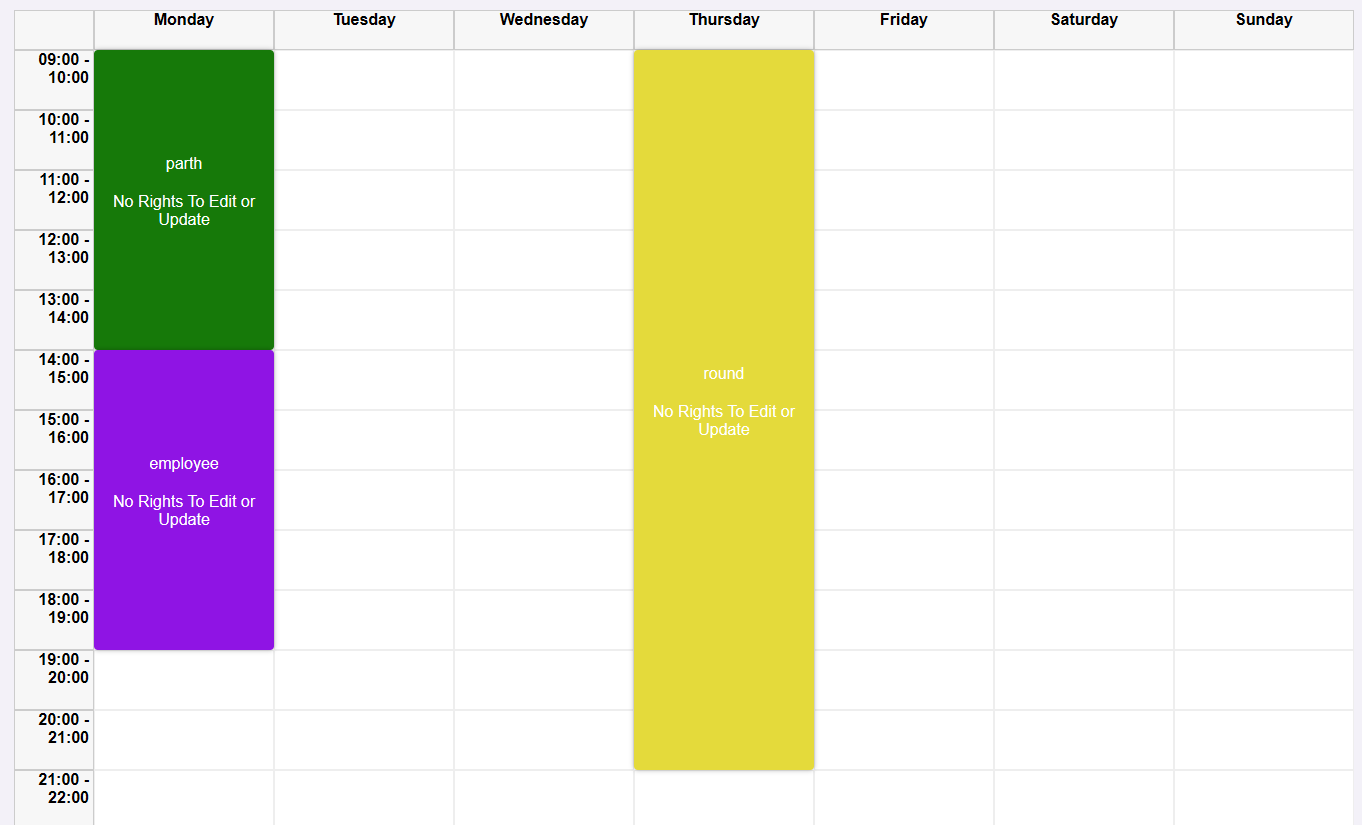
So, we may both easily track hours, and thus function more efficiently.

**View for admins:**





**View for employees:**



Employee

Employee Login

**User Story:**

As an Employee,

I want my own login details,

So, I can easily track my own working hours, stock items info.

