

Deliverable #3: Use cases and UML Diagrams

Systems Development

Green Team - Vanier College

There are no previous works, either for design or implementation which were used

I, \_\_\_\_\_, student ID# \_\_\_\_\_, certify that

I have contributed to this deliverable, \_\_\_\_\_.

I, \_\_\_\_\_, student ID# \_\_\_\_\_, certify that

I have contributed to this deliverable, \_\_\_\_\_.

I, \_\_\_\_\_, student ID# \_\_\_\_\_, certify that

I have contributed to this deliverable, \_\_\_\_\_.

I, \_\_\_\_\_, student ID# \_\_\_\_\_, certify that

I have contributed to this deliverable, \_\_\_\_\_.

I, the team leader, \_\_\_\_\_, student ID# \_\_\_\_\_,

certify that I have contributed to this deliverable, \_\_\_\_\_.

Client: Louis et Jacob  
Name: Louis Vincent De Paul  
Contact: (514) 892-7108  
Date: Feb 25, 2020

Haymond Yan  
James-Gabriel Cortez-Gregoire  
Synthia Vincent De Paul  
Tristan Turcotte  
Xiang Di Su

DELIVERABLE #3: USE CASES AND UML DIAGRAM	2
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### **Deliverable #3: Use cases and UML Diagrams**

#### **Executive Overview**

Our client is Louis Vincent De Paull, Synthia's dad. He owns a restaurant, Louis & Jacob, named after him and his brother, Jacob. He needs a system to track his wine inventory more effectively than on paper. As they do not have an automated system, they are in a disadvantageous position when it comes to restocking wine on time.

It is mostly the owner's responsibility to verify the wine stock weekly, but even the waiters do it. The owner would order wine from SAQ based on wine that gets sold quicker. He either buys it from the store that is near their restaurant or orders from the SAQ website. Once the wine is delivered, the waiter will verify its content to make sure there is no mistake on the order. Then, proceed to put the wine in their respective rows.

The tables and diagrams are self-explanatory.

#### **Summary Description of Client**

The name of our client is Louis Vincent De Paul. He owns a restaurant at Centropolis in Chomedey in Laval. The restaurant is called Louis et Jacob. The problem with this client is that they write their inventory for the wines on paper. The client uses Microsoft to write down the quantities of the wine products. The client needs a program that makes him and his waiter keep track of the wines easily. To add, he needs a system that makes the purchasing more simple. The skills of the client and his employees on a computer are Microsoft Word and Microsoft Excel. They are both bilingual in English and French.

**Business Problem**

As it stands today, the client is currently taking inventory of the wine in his restaurant by taking counts every week by noting down the quantities of wine required to be purchased on a piece of paper. Doing this takes a considerable amount of time every week when a count is done. The client is not aware when stock of a particular wine is running low until the last bottle is sold. It also does not provide a clear status of the inventory sales over time, as the client only ever takes note of the required inventory to order and not the current stock on hand. With the current method of tracking inventory, the client cannot accurately predict wine sales year-over-year or calculate and visualize inventory turnover ratios with certainty.

**Description of Present Information System**

The inventory of the wine is checked every week on Monday or Tuesday morning primarily by the owner or at times the waiter. The owner or the waiter brings a paper and pen with him to the stockroom. He goes through all the wine in the inventory and writes down the wine names in which he needs and the quantity of bottles he needs for that specific wine. He goes through the same process when checking the inventory in the wine fridge. Since this process is done weekly, the owner does a fresh count every time the inventory is checked. He also determines which wine to purchase based on the popularity of that wine. The owner has a good memory of the wine bottles his employees sell therefore, he knows which bottles they sell quickly and more of for the next inventory check.

The owner would purchase the wine on the same day as when the inventory is checked, i.e. when the inventory is counted. The owner uses the SAQ online site to purchase his wine. On this site, he has the list of wine he has to order. Any wine that he wants to buy is added to the list.

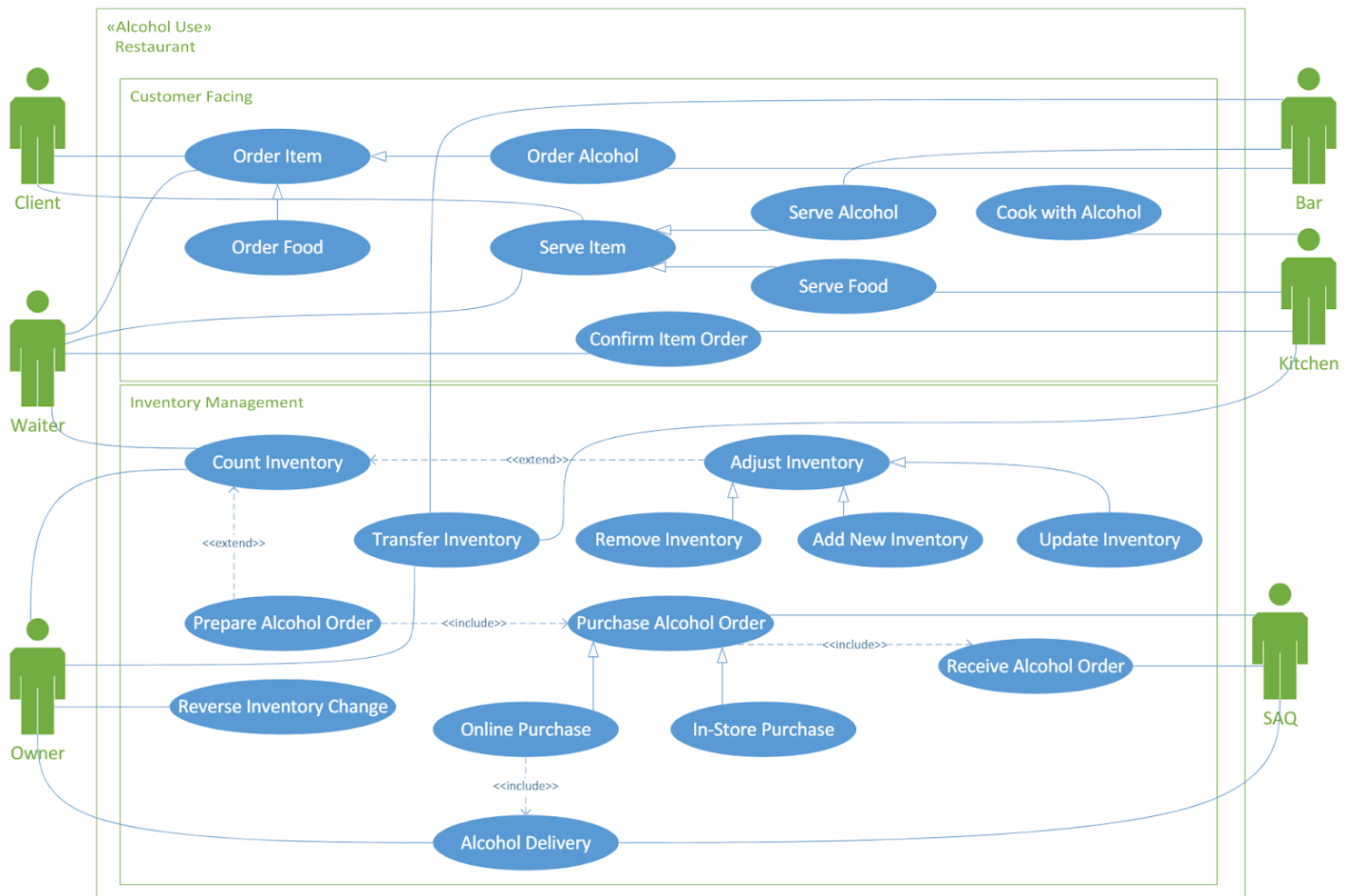
Depending on the quantity of wine in stock and the high demand of customers, the owner may also go to SAQ directly to buy the wine there. After the wine is purchased, he would bring the bottles back to the restaurant himself and have them arranged in the inventory room by the waiter.

SAQ delivers the wine to the restaurant every week on Thursday, in the morning or evening. When the wine is delivered to Louis & Jacob, the waiter verifies that all the wine ordered are present in the box with the right amount needed. After he ensures that the order is correct, the waiter then proceeds to organize the wine in the stockroom and in the wine fridge. On that account, the wine is fully stocked for the week and would not be counted until the week after.

Furthermore, when a customer purchases wine, the inventory of the wine is not deducted unless the customer has finished the whole bottle. The bar then confirms the wine order and the waiter serves the food, if ordered, and the wine together to the appropriate customer. Ultimately, when the customer is done with their meal and wine, the customer would then make a payment to the waiter.

## Appendices

## Appendix 1 - Use cases



## Appendix 2 - Detailed use cases

## 1) COUNT\_INVENTORY

<b><u>Use Case ID:</u></b>	UC-01-COUNT_INVENTORY		
<b><u>Use Case Name:</u></b>	Count Inventory		
<b><u>Created By:</u></b>	Haymond Yan, Xiang Di Su	<b><u>Last Updated By:</u></b>	Xiang Di Su and Haymond Yan
<b><u>Date Created:</u></b>	2020/02/18	<b><u>Last Revision Date:</u></b>	2020/02/25
<b><u>Actors:</u></b>	Waiter, Owner		
<b><u>Description:</u></b>	Counting the quantity of alcohol products to know which products are low in stock or out of stock.		
<b><u>Trigger:</u></b>	Noticing that there is a low quantity of product.		
<b><u>Preconditions:</u></b>	1. Have paper and pen.		
<b><u>Postconditions:</u></b>	1. Prepare alcohol order 2. Adjust inventory		
<b><u>Normal Flow:</u></b>	1. Employees notice low quantities on products. 2. Employees are tasked with checking inventory. 3. Employees check and count the inventory. 4. Employees note quantities and names on a piece of paper. 5. Employees highlight products that are low in stock. 6. Employee leaves paper on the side so the owner orders later.		
<b><u>Alternative Flows:</u></b>	4a. Employees find that there are products that are low in stock. 1. Employee notifies Owner of the low stock products. 2. Owner immediately orders from SAQ.		
<b><u>Exceptions:</u></b>	5a. If Employee counts and writes the incorrect quantities of products 1. Owner will check the quantity of alcohol by himself. 2. Owner corrects the wrong quantity.		
<b><u>Includes:</u></b>	Steps 1-6 are required for the wine stocking.		
<b><u>Frequency of Use:</u></b>	This case is referenced once per week		
<b><u>Special Requirements:</u></b>	Inventory must be stocked accordingly based on the number of clients that buy products.		
<b><u>Assumptions:</u></b>	It is necessary to restock the inventory to continue the restaurant business operations		
<b><u>Notes and Issues:</u></b>	Did the person who checked the inventory miscount?		

**2) ADJUST\_INVENTORY**

<b><u>Created By:</u></b>	Synthia Vincent De Paul	<b><u>Last Updated By:</u></b>	James-Gabriel Cortez-Gregoire
<b><u>Date Created:</u></b>	22/02/2020	<b><u>Last Revision Date:</u></b>	25/02/2020
<b><u>Actors:</u></b>	Waiter, Owner		
<b><u>Description:</u></b>	Changing the inventory amounts of alcohol products. Either adding or deducting.		
<b><u>Trigger:</u></b>	To add to the wine inventory, the owner or waiter adds the bottles received from the alcohol order, from SAQ, to the stock room. To deduct from the wine inventory, a client orders wine from the menu and if the bottle finishes that wine bottle is thrown out, thus taken out from the inventory.		
<b><u>Preconditions:</u></b>	<p>To add:</p> <ol style="list-style-type: none"> <li>1. Wine order arrives at the Louis &amp; Jacob restaurant</li> <li>2. Owner or waiter deposits wine in the stock room</li> </ol> <p>To deduct:</p> <ol style="list-style-type: none"> <li>1. Client orders wine bottle or glass of wine to waiter</li> <li>2. Waiter takes bottle from inventory</li> </ol>		
<b><u>Postconditions:</u></b>	<p>To add:</p> <ol style="list-style-type: none"> <li>1. Stock room is filled with wine bottles</li> </ol> <p>To deduct:</p> <ol style="list-style-type: none"> <li>1. Client orders a glass of wine, wine is not deducted if bottle is not finished</li> <li>2. If client orders full wine bottle, that bottle is taken from inventory</li> </ol>		
<b><u>Normal Flow:</u></b>	<p>To add:</p> <ol style="list-style-type: none"> <li>1. Owner or waiter unboxes wine they had received</li> <li>2. They add the new wine bottles to the stockroom</li> <li>3. They arrange the wine bottles according to the names and wine type</li> </ol> <p>To deduct:</p> <ol style="list-style-type: none"> <li>1. Client chooses wine he/she wants to purchase from the menu</li> <li>2. Client orders wine bottle or glass of wine to waiter</li> <li>3. Waiter goes to the inventory, where the wine is stored</li> <li>4. Waiter removes bottles from inventory accordingly with client's request.</li> <li>5. Waiter pours wine and serves it to the customer</li> </ol>		
<b><u>Alternative Flows:</u></b>	<p>To deduct:</p> <p>4a. In step 4 of the normal flow for deducting wine, if the wine in the inventory is already opened or if the client wants a full bottle</p> <ol style="list-style-type: none"> <li>1. Client will order a full bottle to waiter</li> <li>2. Waiter will go to wine inventory room</li> <li>3. Waiter will remove bottle from inventory room</li> <li>4. Use Case resumes on step 4 of normal flow</li> </ol>		



<b><u>Exceptions:</u></b>	1a. In step 2 of the normal flow for deducting wine, if the wine the client ordered is out of stock. 1. Waiter must advise the client 2. Waiter must also advise owner for shortage of stock in inventory
<b><u>Includes:</u></b>	To adjust the wine inventory system, step 1 & 2 are required to add to the inventory and step 3 & 4 are required to reduce from the inventory.
<b><u>Frequency of Use:</u></b>	When adding to the inventory, stock of wine arrives once a week. Deducting from the wine inventory is done suitably with the client's order and demand for wine.
<b><u>Special Requirements:</u></b>	The inventory should be properly checked, accordingly to ensure wine stock is full.
<b><u>Assumptions:</u></b>	The client ordered a full bottle or a glass of wine
<b><u>Notes and Issues:</u></b>	N/A

### 3) ORDER\_ITEMS

<b><u>Use Case ID:</u></b>	UC-03-ORDER_ITEM		
<b><u>Use Case Name:</u></b>	Order Item		
<b><u>Created By:</u></b>	Tristan Turcotte	<b><u>Last Updated By:</u></b>	Tristan Turcotte
<b><u>Date Created:</u></b>	22/02/2020	<b><u>Last Revision Date:</u></b>	22/02/2020
<b><u>Actors:</u></b>	Bar, Client, Waiter		
<b><u>Description:</u></b>	Client makes a decision on an item to purchase from the restaurant. The order will be processed and the client would receive the item afterwards.		
<b><u>Trigger:</u></b>	Client decides what to purchase.		
<b><u>Preconditions:</u></b>	1. Client has the required money to purchase the item. 2. Client made a decision on what to order.		
<b><u>Postconditions:</u></b>	1. The Bar receives an order for an alcoholic beverage. 2. The Waiter receives an order for either a meal or an alcoholic beverage		
<b><u>Normal Flow:</u></b>	1. Client orders an item 2. Order gets received by the respective personnel		

<b><u>Alternative Flows:</u></b>	<p>2a. In step 2 of the normal flow, if the customer orders food from the Waiter</p> <ol style="list-style-type: none"> <li>1. Waiter would leave the table with the order</li> <li>2. Waiter would pass the order to the Kitchen and confirm the order with them</li> <li>3. Once the Kitchen is done the order, the Waiter would take the order from the Kitchen and serve it to the Client</li> </ol> <p>2b. In step 2 of the normal flow, if the customer orders alcohol from the Waiter</p> <ol style="list-style-type: none"> <li>1. Waiter would go to the bar with the order</li> <li>2. Waiter would prepare the beverage</li> <li>3. Waiter would then serve the alcoholic beverage to the Client</li> </ol> <p>2c. In step 2 of the normal flow, if the customer orders alcohol from the Bar</p> <ol style="list-style-type: none"> <li>1. The Bar would prepare the beverage</li> <li>2. The Bar would serve the alcoholic beverage to the Client</li> </ol>
<b><u>Exceptions:</u></b>	<p>2a. In step 2 of the normal flow, if the required product is not in stock</p> <ol style="list-style-type: none"> <li>1. Client is informed of the out of stock status of the item they requested</li> <li>2. Use Case resumes on step 1 of the normal flow</li> </ol>
<b><u>Includes:</u></b>	N/A
<b><u>Frequency of Use:</u></b>	1-5 times per Client
<b><u>Special Requirements:</u></b>	N/A
<b><u>Assumptions:</u></b>	The Client wants to order either an alcoholic beverage or a meal.
<b><u>Notes and Issues:</u></b>	N/A

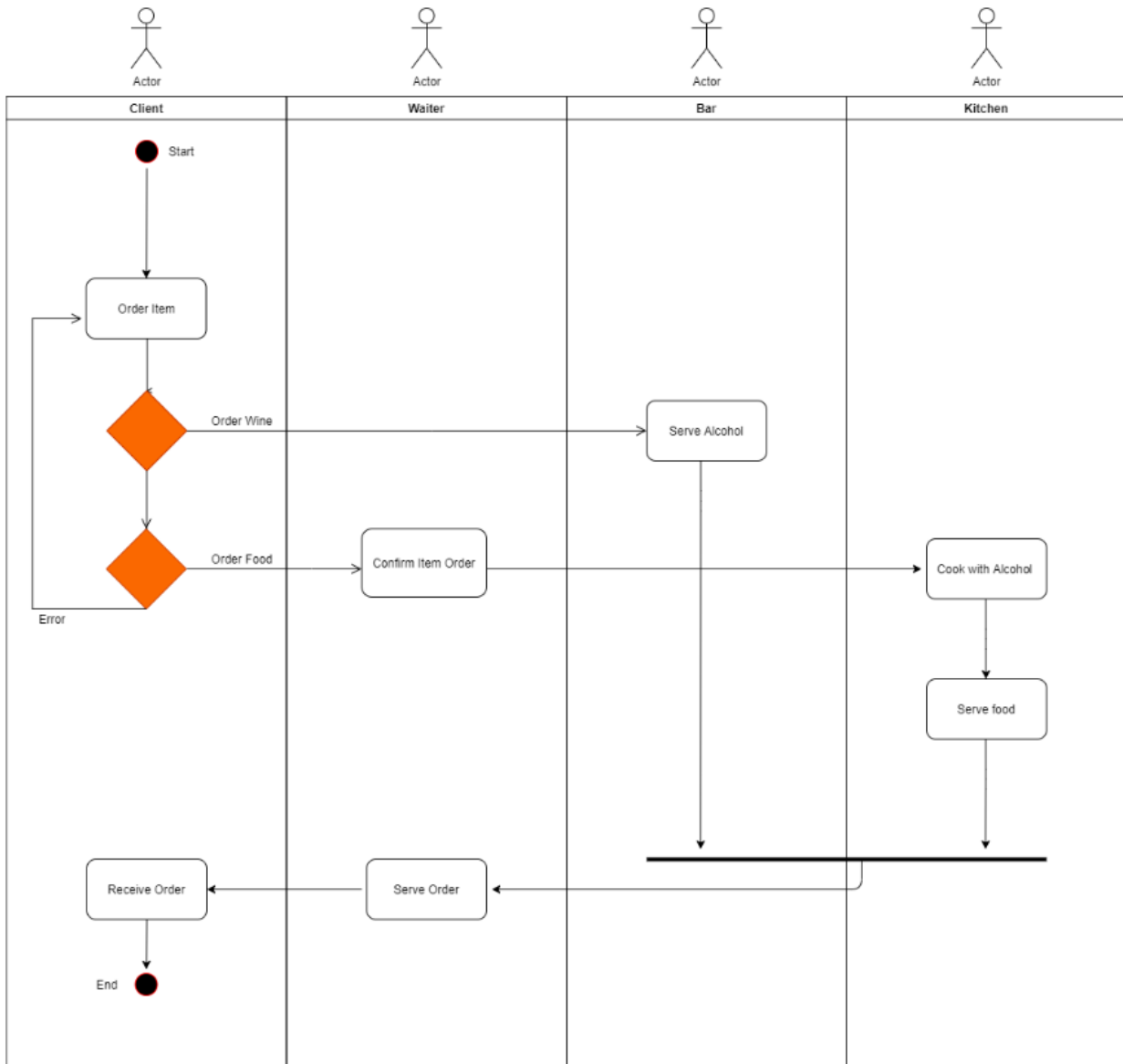
#### 4) PURCHASE\_ALCOHOL

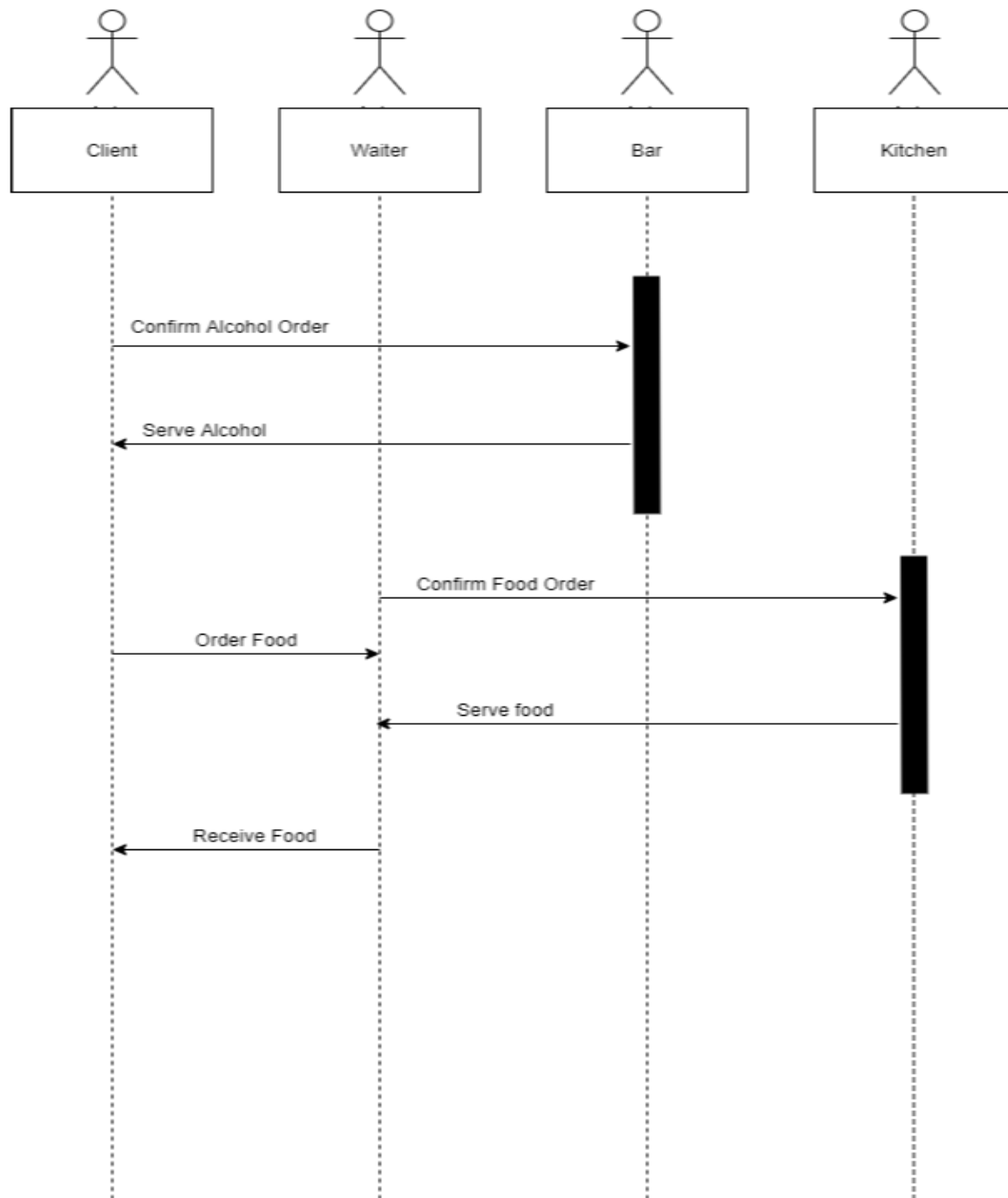
<b><u>Use Case ID:</u></b>	UC-04-PURCHASE_ALCOHOL		
<b><u>Use Case Name:</u></b>	Purchase Alcohol		
<b><u>Created By:</u></b>	James-Gabriel Cortez-Gregoire	<b><u>Last Updated By:</u></b>	Synthia Vincent De Paul
<b><u>Date Created:</u></b>	22/02/2020	<b><u>Last Revision Date:</u></b>	25/02/2020
<b><u>Actors:</u></b>	Owner, SAQ		
<b><u>Description:</u></b>	Owner purchases different types of wine from SAQ. Amount of wine is specified as well.		

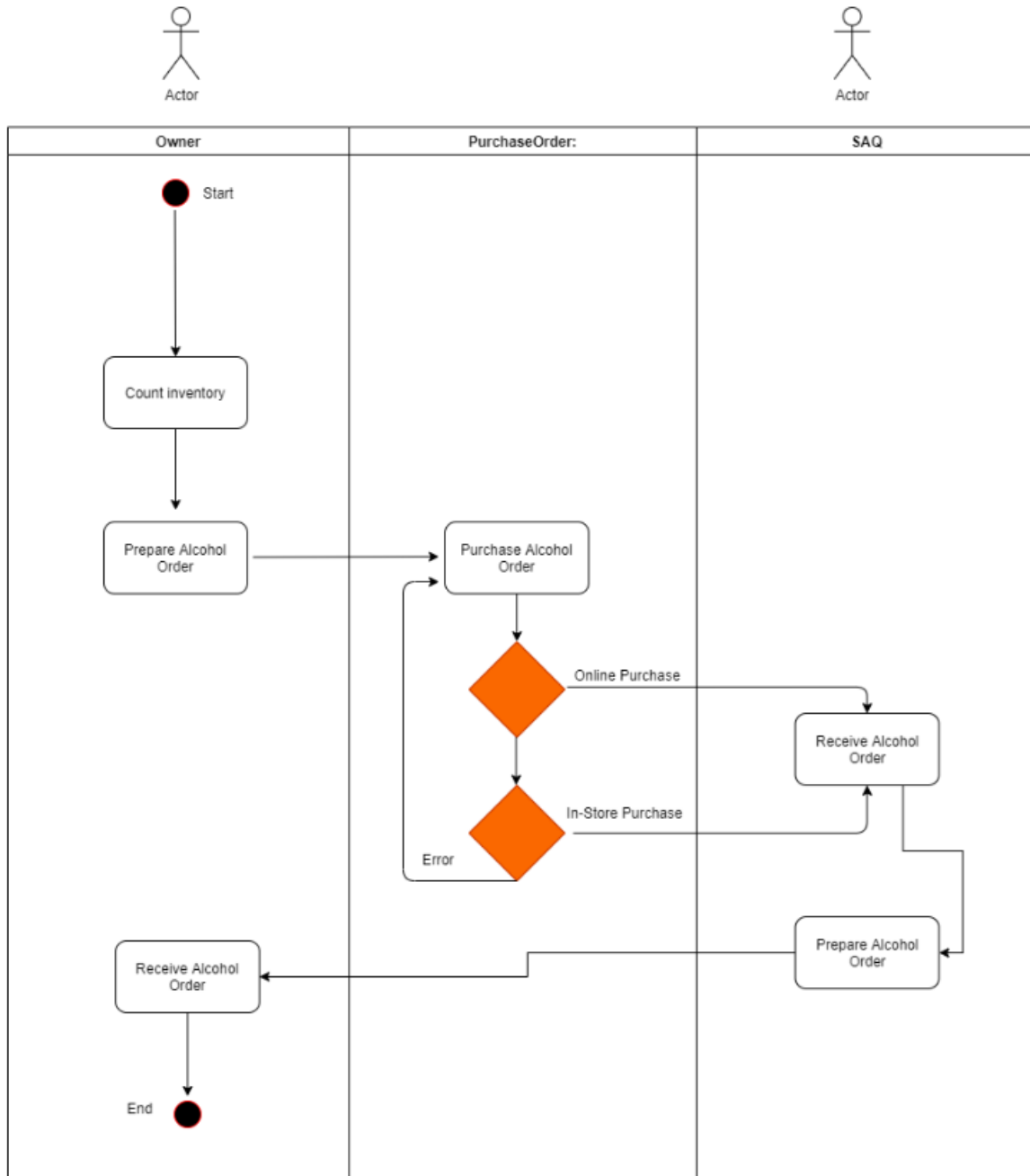
<b><u>Trigger:</u></b>	After the owner or waiter counts the inventory, depending on the amount counted, the owner prepares the alcohol order.
<b><u>Preconditions:</u></b>	1. Inventory must be counted. 2. Prepare order form.
<b><u>Postconditions:</u></b>	1. SAQ receives the order. 2. Wine is either delivered to the restaurant or brought back by the owner. 3. Wine is stored in the restaurant.
<b><u>Normal Flow:</u></b>	1. The owner prepares an order form. 2. The order is placed and SAQ receives the order. 3. SAQ delivers the wine. 4. The wine is stored.
<b><u>Alternative Flows:</u></b>	2a. If the owner goes to SAQ directly 1. Owner orders at SAQ. 2. Owner brings the wine back to the restaurant. 3. The wine is stored.
<b><u>Exceptions:</u></b>	N/A
<b><u>Includes:</u></b>	Step 1 is required to know which wine the owner wants to buy and steps 2 and 3 is required for successfully purchasing the wine.
<b><u>Frequency of Use:</u></b>	Purchasing wine would be done once a week.
<b><u>Special Requirements:</u></b>	N/A
<b><u>Assumptions:</u></b>	Wine must be purchased every week by the owner.
<b><u>Notes and Issues:</u></b>	Difficulties with purchasing large quantities of wine, did the owner forget to add a type of wine to the order?

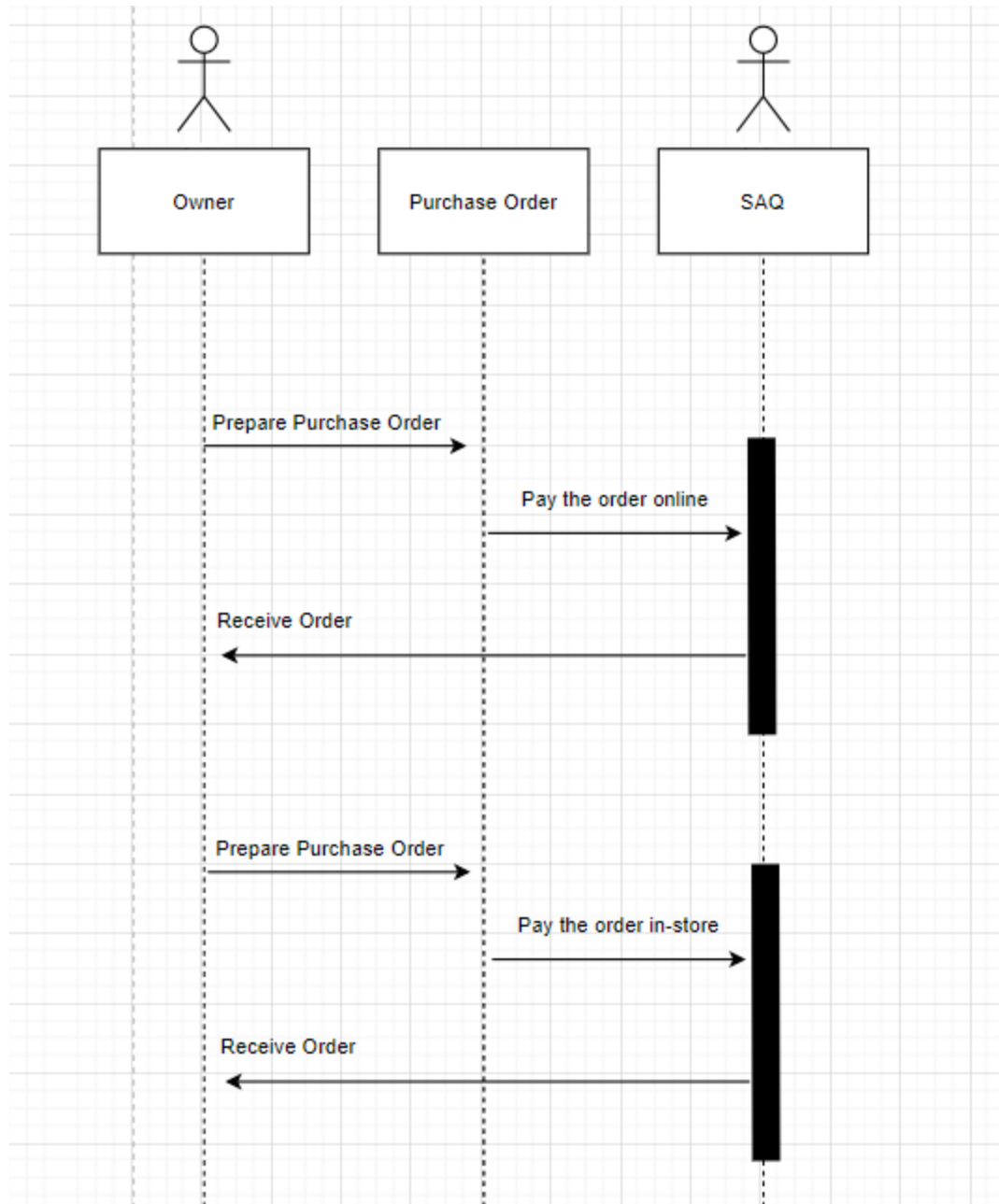
### Appendix 3 - UML Diagrams

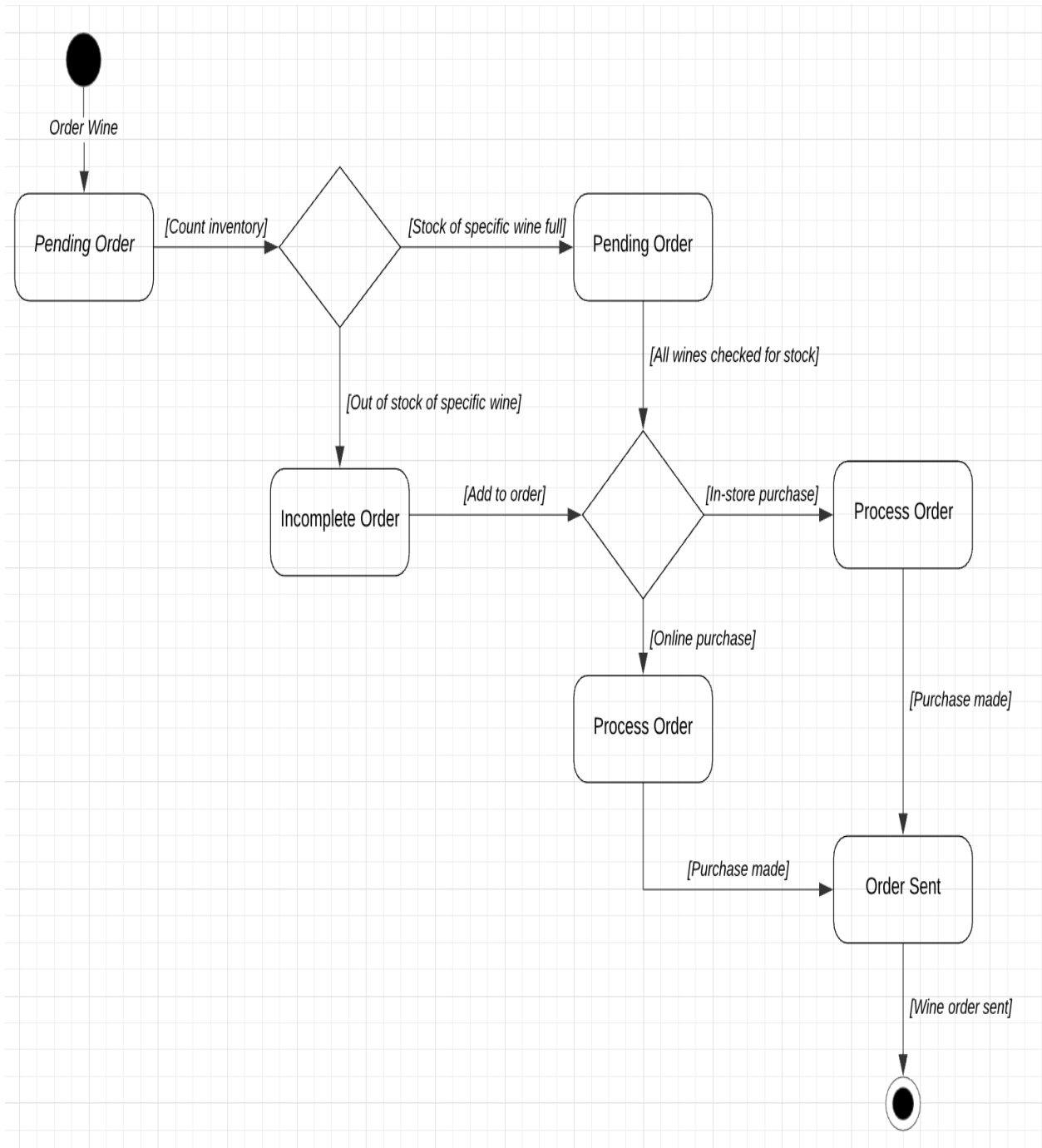
#### 1a) Order Items - Activity Diagram



**1b) Order Items - Sequence Diagram**

**2a) Adjust Inventory - Activity Diagram**

**2b) Adjust Inventory - Sequence Diagram**

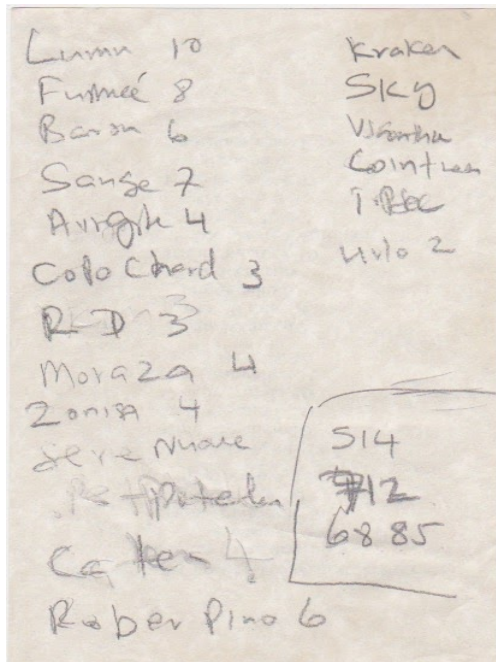
**Appendix 4 - Statechart Diagram**



## Appendix 5 - Class Diagram



## Appendix 6 - Client Documents



Copy of client's current inventory system. This paper was written when counting the wine inventory. The names represent the wine names and the numbers represent how many wine bottles for that type they need.

**SAQ** SOCIÉTÉ DES ALCOOLS DU QUÉBEC  
Centre spécialisé de Montréal (900001)  
Centre contact clientèle  
1947, rue des Falaises  
Montréal, QC H1N0P1  
Téléphone : (514) 254-6666  
Télécopieur : (514) 873-3344  
Courriel : c.client@saq.qc.ca

**COMMANDE DÉTAILLÉE**  
Titulaire de permis

Commande détaillée : 3  
Page : 1 de 1  
No de référence : 34154942  
Date de référence : 20-02-12  
No de commande : 20421122  
Date de commande : 20-02-11  
No de commande du client :  
No de l'expédition : 16570572

Facture :  
No client : 14189233  
Exposé :  
No client : 14189233  
Message :  
Louis & Jacob Resto-Bar  
9336-1079 Québec Inc.  
2981, boul. Saint-Martin Ouest  
Laval QC H7T2Y8  
Téléphone : (450) 686-9005  
Télécopieur :  
Courriel :  
Pers. ressource : Louis & Jacob Resto-Bar

Conditions de Paiement sur paiement :  
Mode de paiement :  
Carte de crédit :  
No. d'établissement : 0002090420000  
443360

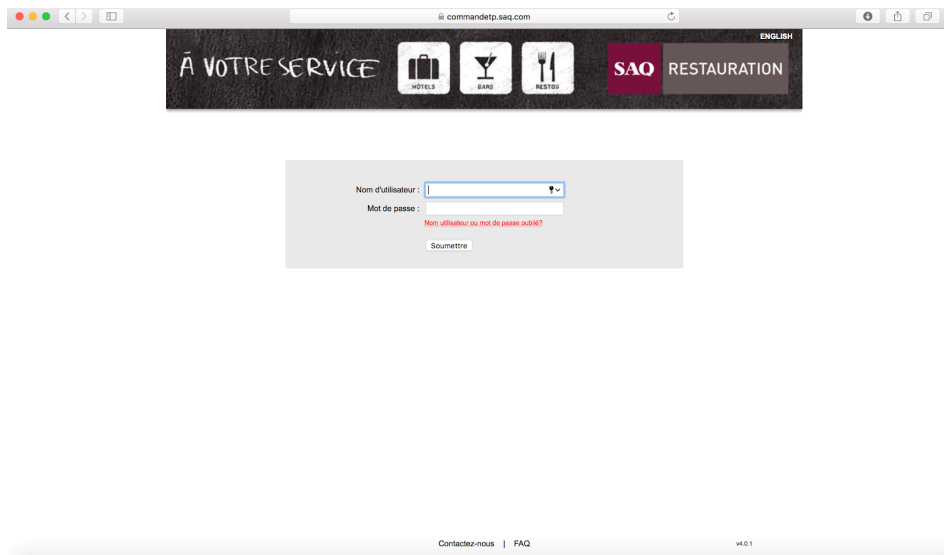
Numéro d'article	Description	N. cmd	LWC	Couleur	Format	U	Qté	Qté	Prix unitaire	Total
		privé			(ml)	M	commande	(bouteille)	(sans taxes)	(sans taxes)
11551254	Skyy	6	Incolo	1140	BT	1	1	1	31,225	31,225
11594478	Promo à durée limitée Captain Morgan Original Spiced	8	Ambiv	1140	BT	1	1	1	36,136	36,136
<b>Total partie sans taxes</b>										67,361
498	Ruffino Chianti	24	Rouge	375	RT	2	2	2	8,865	17,730
194141	Chablis Joseph Drouhin	12	Blanc	750	BT	5	5	5	24,808	124,040
465435	Pinet Noir Pinus Selection Robert Mondavi California	12	Rouge	750	BT	3	3	3	17,378	52,135
503338	Veuve Clicquot Ponsardin Brut	6	Blanc	750	BT	1	1	1	63,008	63,008
903567	J.L. Lohr Seven Oaks Pinus Robles	12	Rouge	375	BT	2	2	2	11,296	22,592
10027701	Kiri Coudouf Sauvignon Blanc Marlborough	12	Blanc	750	BT	4	4	4	18,525	74,098
12070471	Ruffino Lunas Traversata	12	Blanc	750	BT	6	6	6	12,361	74,158
12070488	Prosecco Ruffino	6	Blanc	750	BT	4	4	4	16,388	65,568
12473825	Monzie Rége	12	Rouge	750	BT	4	4	4	17,108	68,432
13189501	Ton Gore Cabernet-Sauvignon	12	Rouge	750	BT	3	3	3	18,878	55,713
13059992	Zorin Valpolicella Ripasso Superiore	12	Rouge	750	BT	6	6	6	17,678	106,028
1306136	Mouton Cadei Réserve Bordeaux	12	Rouge	750	BT	3	3	3	17,496	52,475
13780001	Jackson-Triggs Pinot Grigio	12	Blanc	750	BT	6	6	6	8,565	51,388
14227353	Ruffino Il Ducale Toscana	12	Rouge	750	BT	3	3	3	18,508	55,508
<b>Total partie vins et autres sans taxes</b>										892,015
<b>Total partie sans taxes</b>										959,376
TPS 5,000%										47,788
TVG 9,975%										95,335
<b>Total partie</b>										1 098,865
<b>TOTAL COMMANDE</b>										<b>1 098,865</b>

Nombre de caisses :  
Nbre de caisses remises :  
Date :  
Par :  
Signature de client :

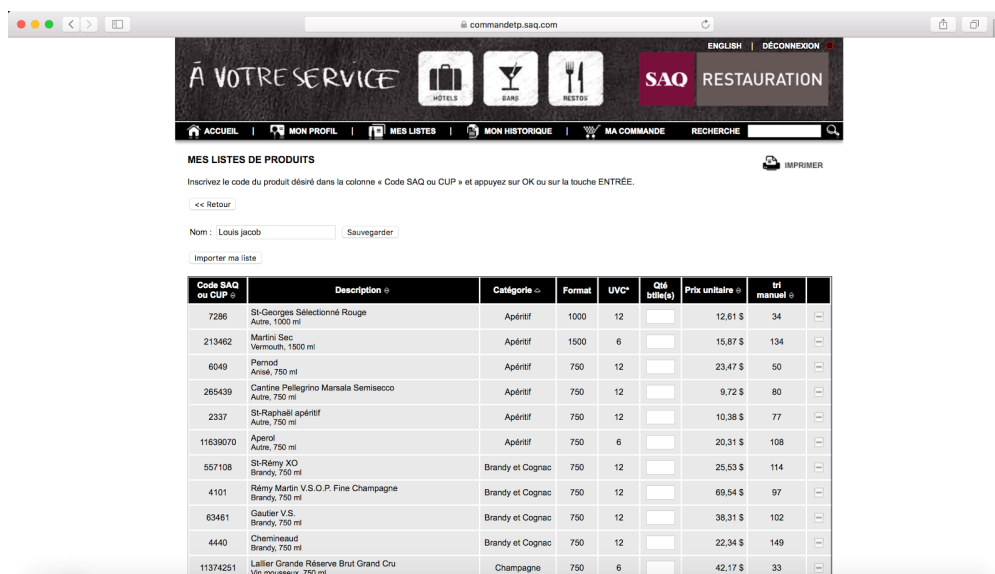
Activités expédites :

RSQ/SAQ/SAQ/0001.00

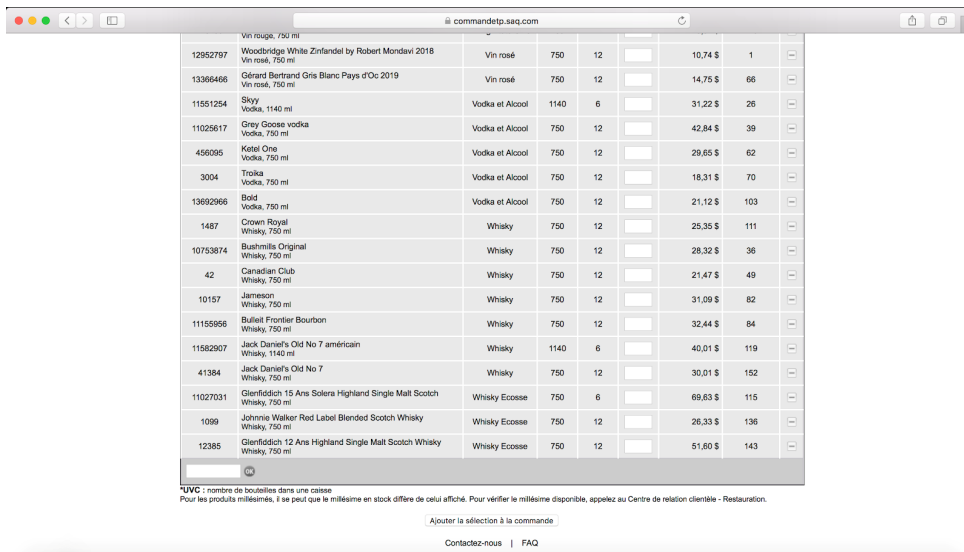
Copy of client's SAQ bill after purchasing wine list.



Screenshot of  
homepage login to  
access online SAQ  
site to order wine.



Screenshot of online  
SAQ site after login  
(beginning of page).



The screenshot shows a web browser window with the URL @commandetp.saq.com. The page displays a table of products, likely from a restaurant or bar's inventory system. The table has columns for product name, type, volume, price, and stock. The products listed include various wines (e.g., Woodbridge White Zinfandel, Gérard Bertrand Gris Blanc Pays d'Oc) and spirits (e.g., Skyy Vodka, Grey Goose vodka, Ketel One Vodka, Troika Vodka, Blod Vodka, Crown Royal Whisky, Bushmills Original Whisky, Canadian Club Whisky, Jameson Whisky, Bulleit Frontier Bourbon Whisky, Jack Daniel's Old No 7 américain Whisky, Jack Daniel's Old No 7 Whisky, Glenfiddich 15 Ans Solera Highland Single Malt Scotch Whisky, Johnnie Walker Red Label Blended Scotch Whisky, Glenfiddich 12 Ans Highland Single Malt Scotch Whisky). The table also shows the price per unit and the stock quantity for each product.

Product Name	Type	Volume	Price	Stock
Vin rouge, 750 ml				
12952797 Woodbridge White Zinfandel by Robert Mondavi 2018	Vin rosé	750	12	10,74 \$
13386466 Gérard Bertrand Gris Blanc Pays d'Oc 2019	Vin rosé	750	12	14,75 \$
11551254 Skyy Vodka, 1140 ml	Vodka et Alcool	1140	6	31,22 \$
11025617 Grey Goose vodka Vodka, 750 ml	Vodka et Alcool	750	12	42,84 \$
456095 Ketel One Vodka, 750 ml	Vodka et Alcool	750	12	29,65 \$
3004 Troika Vodka, 750 ml	Vodka et Alcool	750	12	18,31 \$
13692966 Blod Vodka, 750 ml	Vodka et Alcool	750	12	21,12 \$
1487 Crown Royal Whisky, 750 ml	Whisky	750	12	25,35 \$
10753874 Bushmills Original Whisky, 750 ml	Whisky	750	12	28,32 \$
42 Canadian Club Whisky, 750 ml	Whisky	750	12	21,47 \$
10157 Jameson Whisky, 750 ml	Whisky	750	12	31,09 \$
11155956 Bulleit Frontier Bourbon Whisky, 750 ml	Whisky	750	12	32,44 \$
11582907 Jack Daniel's Old No 7 américain Whisky, 1140 ml	Whisky	1140	6	40,01 \$
41384 Jack Daniel's Old No 7 Whisky, 750 ml	Whisky	750	12	30,01 \$
11027031 Glenfiddich 15 Ans Solera Highland Single Malt Scotch Whisky, 750 ml	Whisky Ecosse	750	6	69,63 \$
1099 Johnnie Walker Red Label Blended Scotch Whisky, 750 ml	Whisky Ecosse	750	12	26,33 \$
12385 Glenfiddich 12 Ans Highland Single Malt Scotch Whisky, 750 ml	Whisky Ecosse	750	12	51,60 \$

\*UVC : nombre de bouteilles dans une caisse  
Pour les produits millésimés, il se peut que le millésime en stock diffère de celui affiché. Pour vérifier le millésime disponible, appelez au Centre de relation clientèle - Restauration.

Ajouter la sélection à la commande

Contactez-nous | FAQ

Screenshot of online  
SAQ site after login  
(end of page).

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