



# KLAUS BREWING COMPANY FINAL SOLUTION

BY:FINAL PATH CONSULTING

# INTRODUCTION

**Client: Klaus Brewing Company**

**Our Name: Final Path Consulting**

**Team members:**

John Joshua Izuegbu: Project Manager

Faryal Khan: Coordinator/Designer

Chantera Lazard : Systems analyst/Coordinator/Designer

Pratik Asarpota : Designer

Sean Tran : Systems Analyst/Designer

Adekunle Kukoyi: Designer



## OUR APPROACH

- Our group has decided to take the SDLC approach towards this project by analyzing and designing with a phased approach
- By using this approach, we will provide client with best deliverable solution possible and meet all their objectives as well.



PHASE I

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OUR CLIENT-  
KLAUS  
BREWING  
COMPANY



## PROJECT SELECTION ANALYSIS

- We all had separate strategies on how we searched for clients.
- Our first potential client was a salon named MC hair salon discovered by Faryal. The owner stated she was uninterested because she was not able to commit since she was too busy.
- Our second potential client was a manufacturing company named Umbilicals International discovered by Chantera. The reason we decided not to go with this client is Umbilicals international recently switch CEOs and they were unsure if the new CEO would give them clearance to share information with our Consulting Firm.
- Our last potential client was a brewery named Klaus Brewing Company discovered by Sean. Sean was able to secure the brewery as our client.

## BACKGROUND

- Klaus Brewing Company was founded by a local group of family and friends led by passionate brewer Thomas Lemke.
- Focused on bringing the under-served German-style beers to a wide range of consumers, from beer aficionados to new converts alike. They chose the name Klaus because they wanted a strong traditional German name. The name's meaning is "The People's Victory".
- Recently, during the first quarter of 2020, a global pandemic took place due to which countries, cities, states nation-wide were all on a lockdown. This event had negatively affected a lot of people's jobs and livelihoods. Some were fortunate, others not so much. Unfortunately, Klaus Brewing Company was negatively affected by this disaster and was forced to fire the entire lower level employees – Biertenders, Brewers, and the Sales Rep. They were only able to keep the managers employed.

# CLIENT ORGANIZATION TIMELINE



## Klaus Brewing Company

Thomas Lemke and Mary Lou Lemke founded the brewing company

## Klaus Brewing Company introduced Live Entertainment

The company allowed local entertainers such as comedians or bands to play at the establishment.



## Klaus Brewing Company Hired Final Path Consulting

Klaus Brewing Company hired Final Path Consulting to aid them in expanding their company.



# OUR ANALYSIS

# COMMUNICATION PLAN

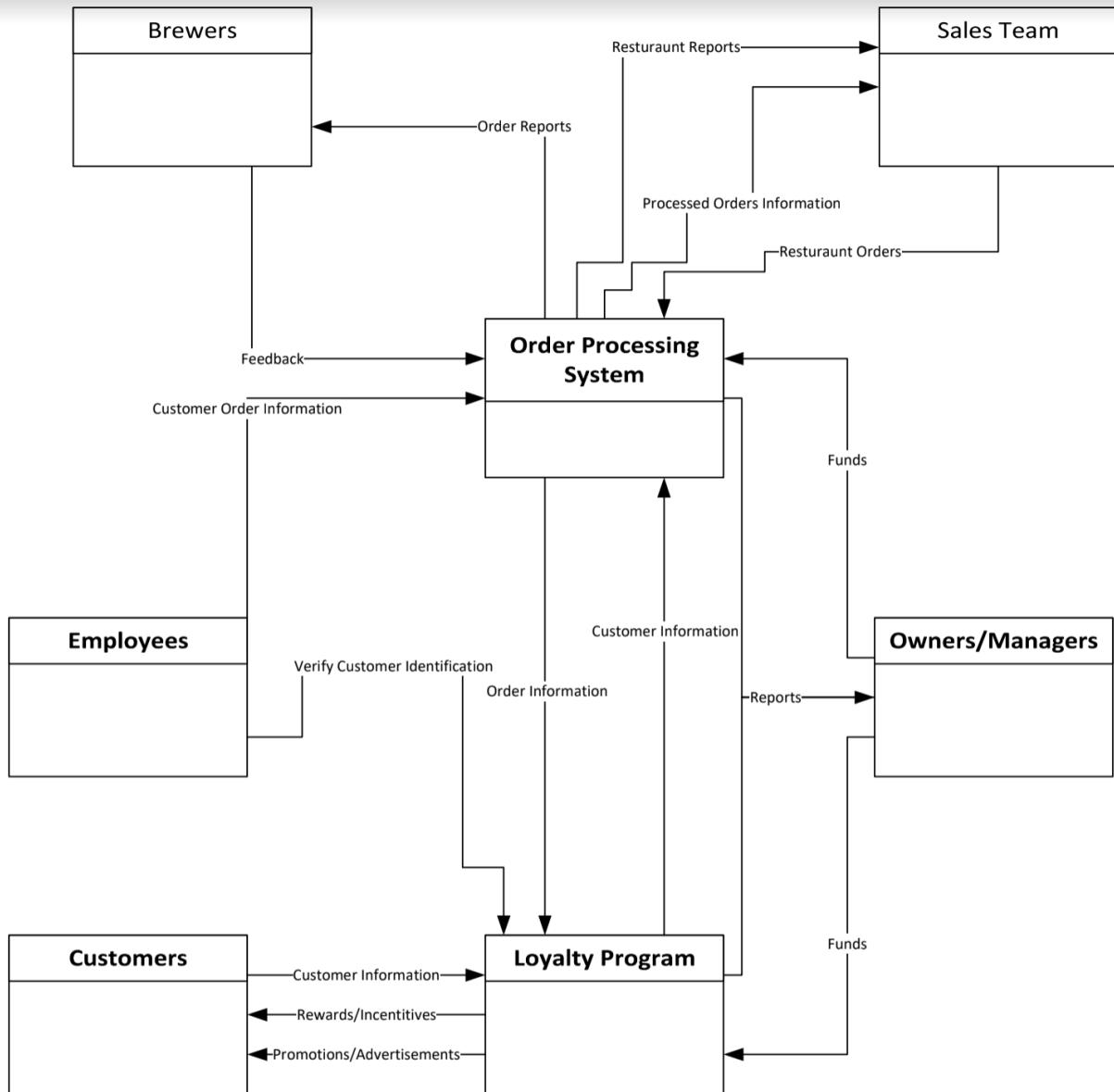
Stakeholders	Document/Communication's Name	Document/Delivery Method Format	Contact Person/Producer	Due Date/Frequency
Project team	Weekly updates	Hard copy, weekly meeting, Google drive is used for updating deliverable	John-Joshua Izuegbu, Pratik Asarpota	Tuesdays 4pm
Client's Organization	Monthly status report	Hard copy and monthly meetings	Sean Tran	Depends on client's availability
Project steering committee	Weekly updates	Weekly meetings	Faryal Khan, Adekunle Kukoyi and Chantera Lazard	Tuesdays 4pm

- Since communication is an extremely important key when it comes to succeeding in a project, our team is making sure that we communicate accordingly and are constantly keeping in check what updates or issues we need to work on as a team and as individuals.
- Using google drive, the entire team can keep up with all deliverables since everyone is required to submit their deliverable on the drive by specific date assigned to each individual.
- Due to COVID-19, our weekly updates are still in schedule, but have been done online via TEAMS.
- If a group member has any concern about updating or modifying the communications management plan, they can talk to project manager regarding their concern and project manager can update the communications management plan.
- Informally, if any team members has any individual questions or updates, they can chat via TEAMS or GroupChat.

## INITIAL PROBLEM STATEMENT

- Our client Klaus Brewing Company, has a few needs that they want to be implemented into their business.
- Our client will need a complex system that tracks orders and assigns it to a customer via an established client database. The system would also have to analyze these orders in a way to assist the company in creating a loyalty program for recurring customers as well as allow the company to send exclusive deals to their loyal customers.

# SCOPE DIAGRAM



## CURRENT SYSTEM DESCRIPTION

- The scope of our project pertains to the systems involved in the taproom. Klaus Brewing Company does not have a loyalty program in place nor a way to contact clients.
- They do advertisements around the taproom by printing flyers and posting them in the bathroom and customizing their menu boards. They also might post advertisements via the website.
- The taproom is over-serving customers. Their current system within scope includes a system which is employed to sell customers merchandise and/or bier. The order is placed via the POS system.
- The customer has the option of keeping a tab open or paying now.
- If a customer chooses to keep a tab open, they will hand the biertender their credit card which is filed by the last name. When they want to close the tab they will go back to the biertender, give their name, and finish paying.
- If they pay now, the customer just hands the biertender their method of payment.
- There are three methods of payment: cash, credit card, and tokens.
  - Tokens are sold in pairs of two and three. A customer buys tokens and they are allowed to cash them in for any core beer which is Klaus Brewing Company's main bier.
- Once they finish making their payment they will receive a receipt.

# CURRENT OBJECTIVES LIST

## Main Objectives

- To design and offer a graphical user interface application with an SQL database system for Klaus Brewing Co.
- To develop a customer loyalty program that is more pleasing to ownership and new customers.
- To allow more customer interaction with incentives discovered through the system.

## **CLIENT APPLICATION (SYSTEM) OBJECTIVE LIST**

- To create a computerized order processing system in a way that ensures a 100% increase in data storage efficiency so that employees can access information on products and customers faster. Can be measured by the number of taproom employees who can successfully use the system.
- To create a loyalty rewards program in a way that helps reward customers that return so that we get a 20% increase in customers that keep buying products from Klaus Brewing. Can be measured by the number of increased customers that register for the loyalty program.

# INDIVIDUAL USERS OBJECTIVE LIST

- Brew master
  - Data entry to be computerized and stored, and for data entry to be simplified. Uniformed data format for each department to use.
- Taproom Manager
  - Computer access to the system and fluidity of the app.
  - Ability to see up-to-date readings of inventory on hand.
  - Ability to place orders at notified time
  - Encourage more customers to return
  - Bring in more of the younger adult crowd
- Sales Manager
  - Ability to get notifications of recurring customers.
  - Ability to connect to a larger customer base (use forms)
- Bartender & Brewers
  - Ability to see up-to-date readings of inventory on hand.
  - Ability to place orders at notified time

## STROBE ANALYSIS

- Klaus Brewing company hosts a friendly laid-back environment where group of people come to enjoy beer, play games, and converse.
- They offer many areas including the Brewery, the Garden area, and the main taproom area. Workers have to attend to their daily activities as well as manage the counter. Most information is written on boards and events are posted around the establishment. They have a steady flow of customers so in often observed cases, the taproom employees are multitasking or taken advantage of their free time.



# Brewery

- This is where the Brewing masters mix the ingredients and create their Beer. All their Beer is made in-house and poured into kegs. The kegs are then used in the taproom or whole kegs are sold to restaurants.

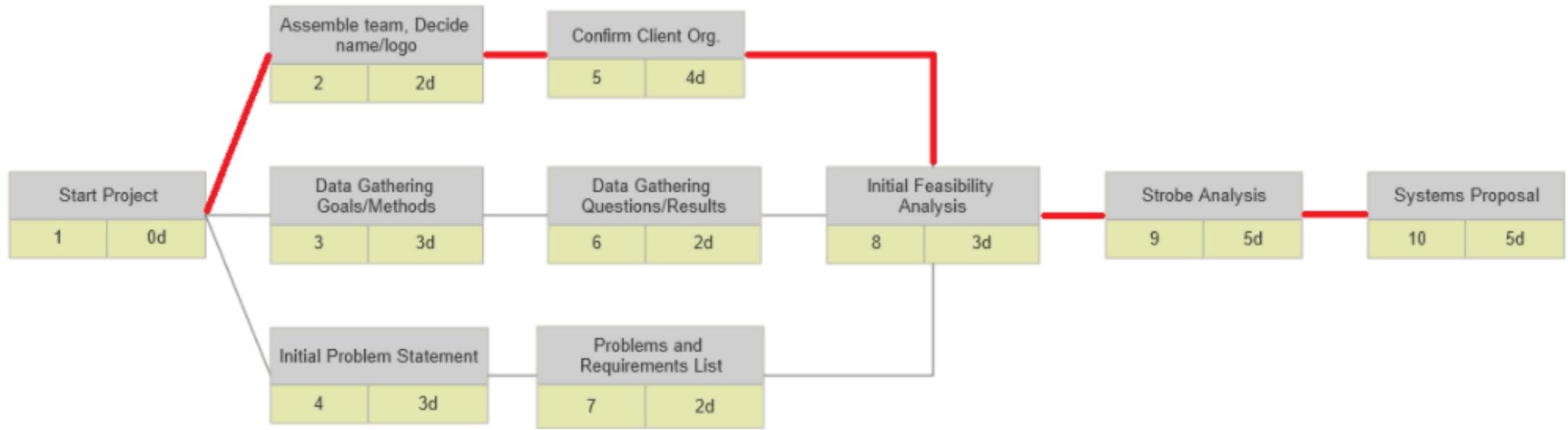


# The counter

Klaus Brewing company employee works behind the counter serving customers. In the top left photo, the employees are aiding customers in their order. The next photo shows Larissa pouring a bier from a tap into a pint glass. The next photo includes Nanhi's work space. She updates social media posts while working the counter. The last photo is the sink. While the employees serve customers, they must clean up as they go including washing the glasses and doing laundry.

# GANTT CHART





# PERT CHART

STAKEHOLDER REGISTER						
Stakeholder name	Title	Role	Power (H/L)	Interest (H/L)	Requirements	Concerns
Nanhi	Taproom Manager	Sponsor	H	H	<ul style="list-style-type: none"> <li>-Loyalty Program keeps track of how often the customer visits the establishment</li> <li>-keep track of how much money a customer spends</li> <li>-Able to send mass emails utilizing client information</li> </ul>	<ul style="list-style-type: none"> <li>-Would like the system to be integrated to website, but she does not have complete access to the website due to prior issues</li> </ul>
Larissa	Taproom Shift Lead	Employee Feedback	L	H	<ul style="list-style-type: none"> <li>-Would like the order processing system and loyalty program to be dynamic</li> <li>-System is efficient</li> <li>-Would like a training session as well as a SOP with pictures</li> </ul>	<ul style="list-style-type: none"> <li>-Worried about overall cost</li> </ul>
Ashley	Part-Time Bartender; Part-time Brewer	Other department's feedback	L	L	<ul style="list-style-type: none"> <li>-Would like the system to be dynamic</li> <li>-Wants contact information to Final Path Consulting for additional questions</li> </ul>	-
John R.	Customer	Customer Feedback	L	H	<ul style="list-style-type: none"> <li>-Optional ways to pull up customer information</li> <li>-Ease of Use online to look at points and information</li> </ul>	-

## USERS/STAKEHOLDER ANALYSIS

# INITIAL FEASIBILITY ANALYSIS

## Technical

- We have found that our client is going to need at least 2 dedicated PC's or a tablet that will have the capability of connecting to a server. With that the client needs a -data server being cloud based or an in-house system.

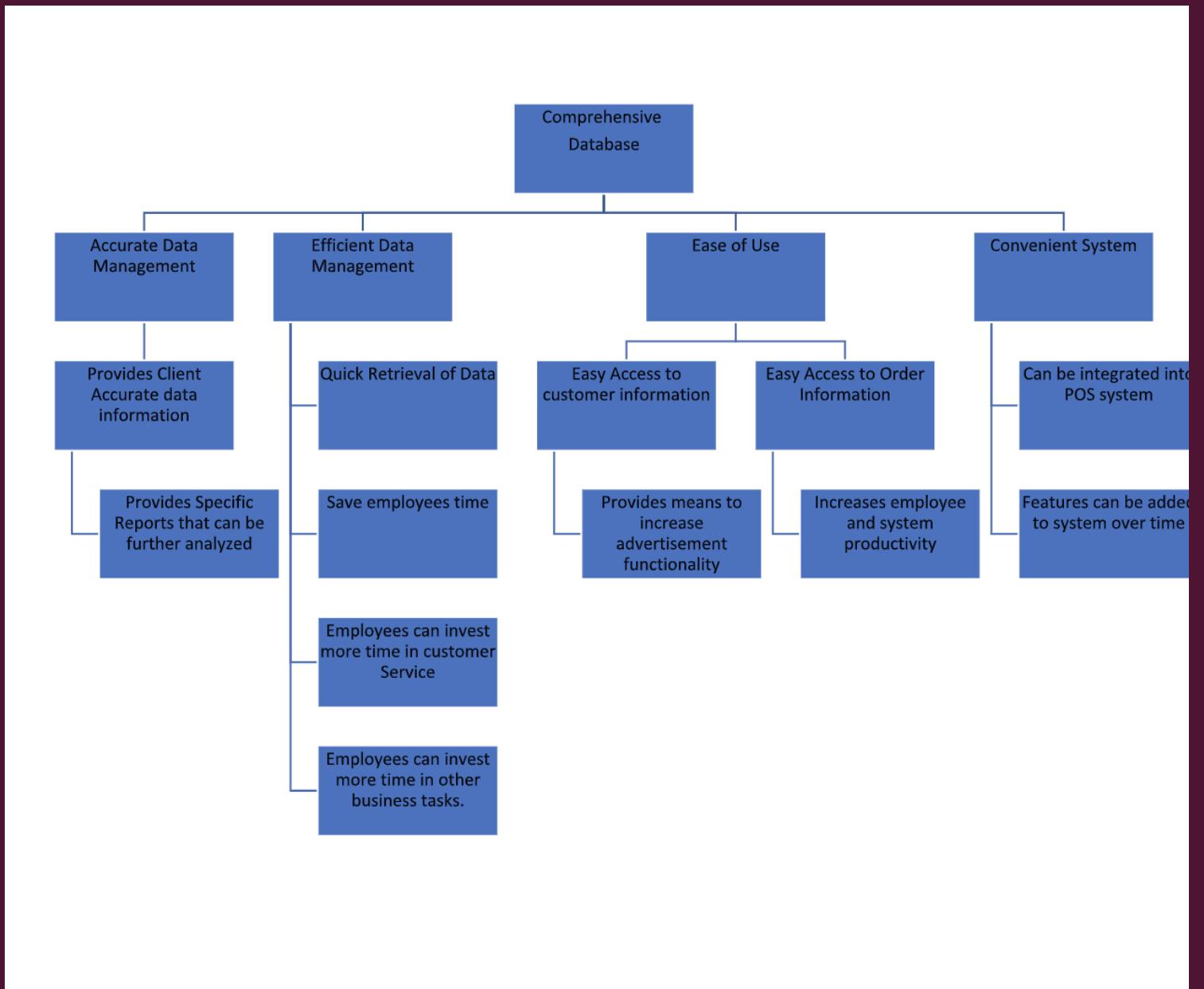
## Operational

- The main thing to look for is the technical prowess of the workers who will utilize the system. If they can be properly taught the system for use. Then can the new system hold information needed by the client for inventory needs and scheduling needs.

## Economical

- our client will need to acquire a database to hold the data and files of their business. That we either incorporate a cloud-based server or an in-house option. They can either rent or buy a server. By renting the server for one fixed monthly price from a service provider like ServerMania or Microsoft Azure, Or purchase a server from a company like Dell and store it in their office.

# CRITICAL REQUIREMENT ANALYSIS OBJECTIVE TREE



## CURRENT BUSINESS RULE LIST

- If a customer buys any glass, their first fill is free.
- If a customer forgets their credit card, Klaus will close their tab and automatically charge 20% gratuity on the bill.
- Tables cannot be reserved unless the customer pre-purchases a package.
- On Thursdays, customers can bring in their own Stein for a free fill. However, the fill is limited to only one liter.
- If customers want to participate in any event (trivia, bingo, comedy night, or etc.), they must purchase at least one bier.
- Tokens can be exchanged for one pint of a core bier. Tokens do not have expiration dates.

## CURRENT BUSINESS ACTIVITY LIST

### Daily Taproom Activities

- Prepare Taproom for the day by following normal opening protocols
- Set up Beer Garden (including umbrellas and outside games)
- Serving Beer, wine, or soda to Customers

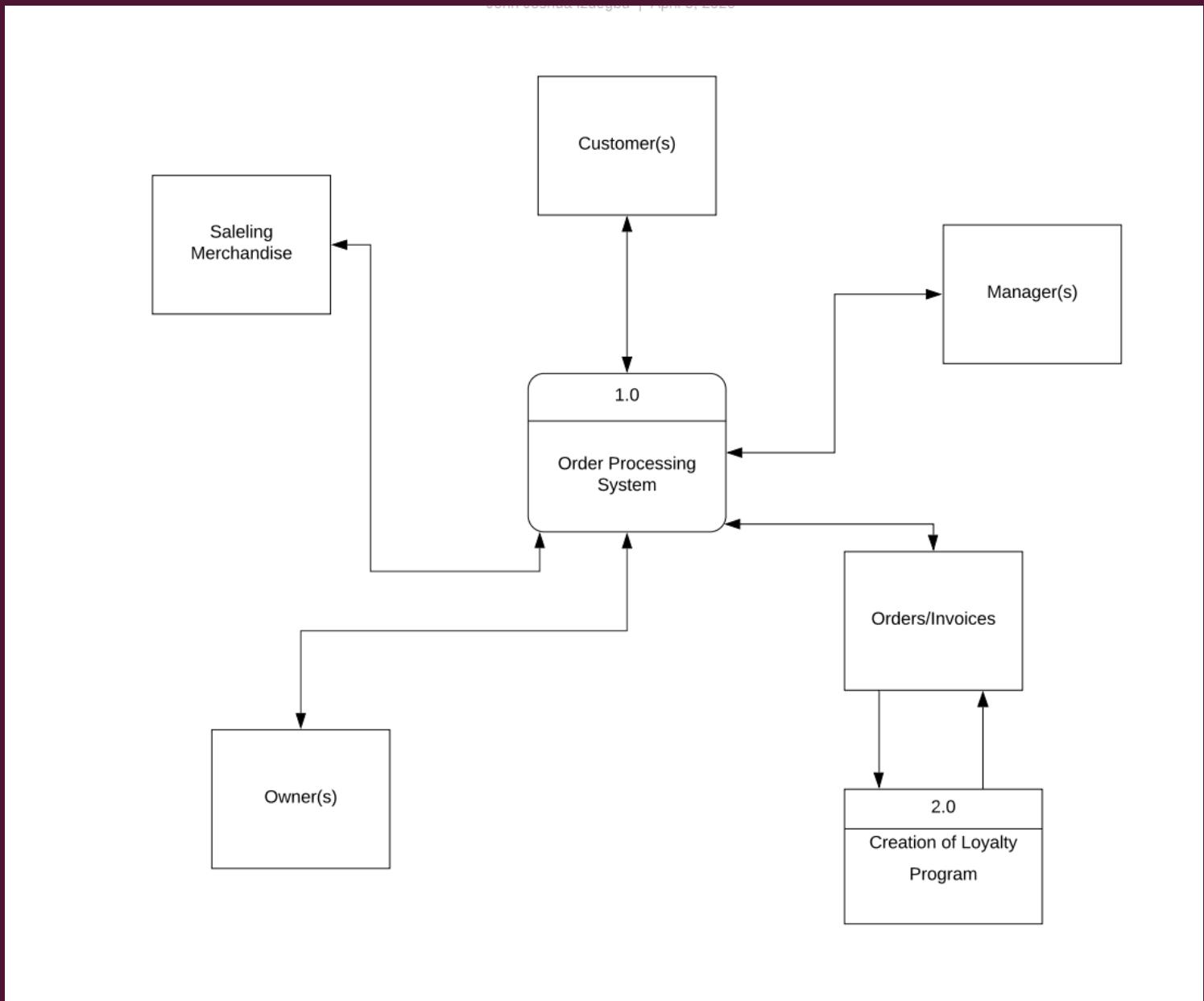
### Weekly Taproom Activities

- Inventory is taken
- Deep Clean taproom and beer garden following Sunday Deep Cleaning Checklist
- Manager Meetings (All managers and Owners)
- Sales Meetings (Sales Manager, Sales Team Members, Owners)

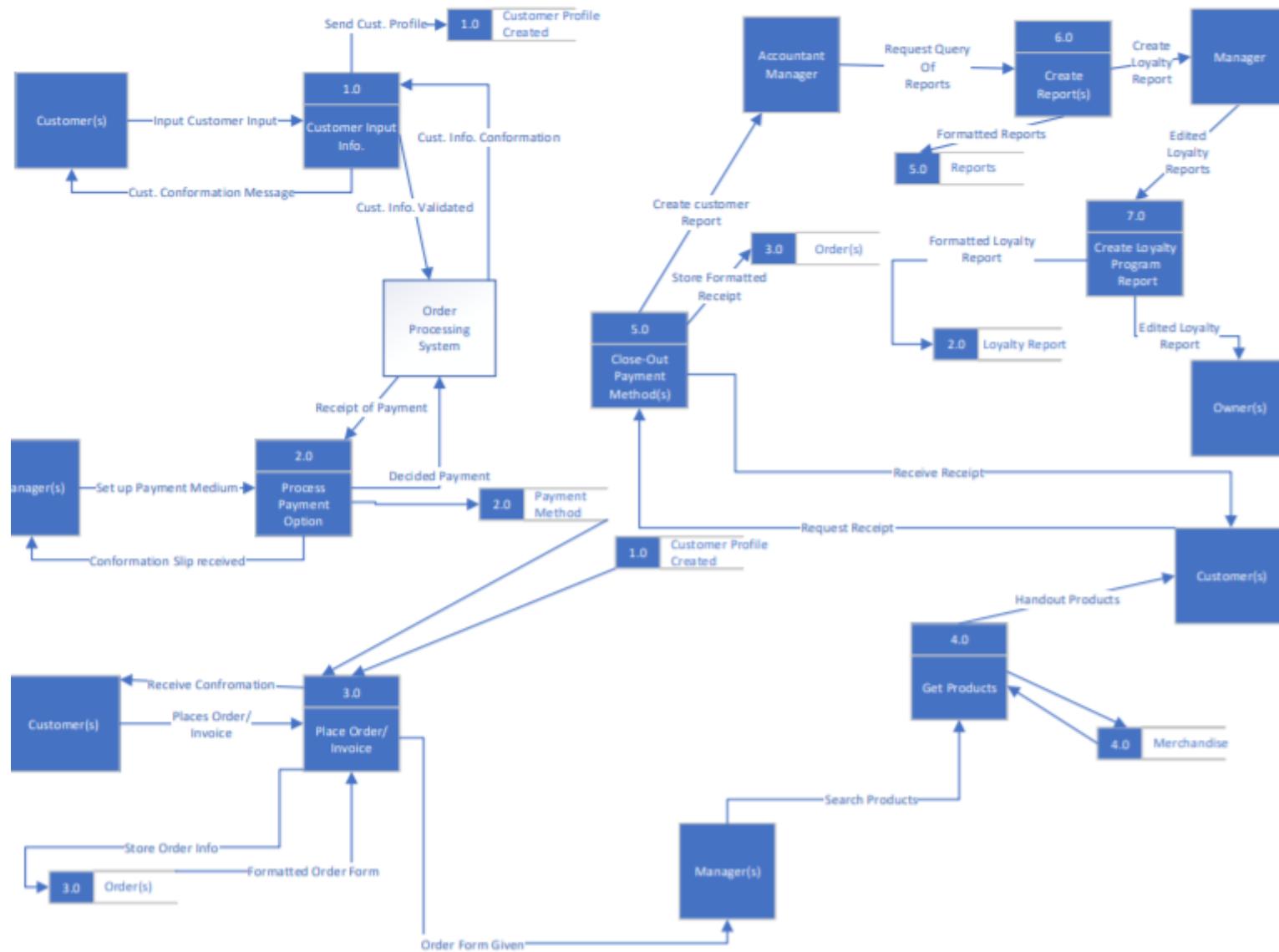
### Yearly Taproom Activities

- Oktoberfest
- Maifest
- Inspections
  - Safety Inpections
  - TABC compliance audit

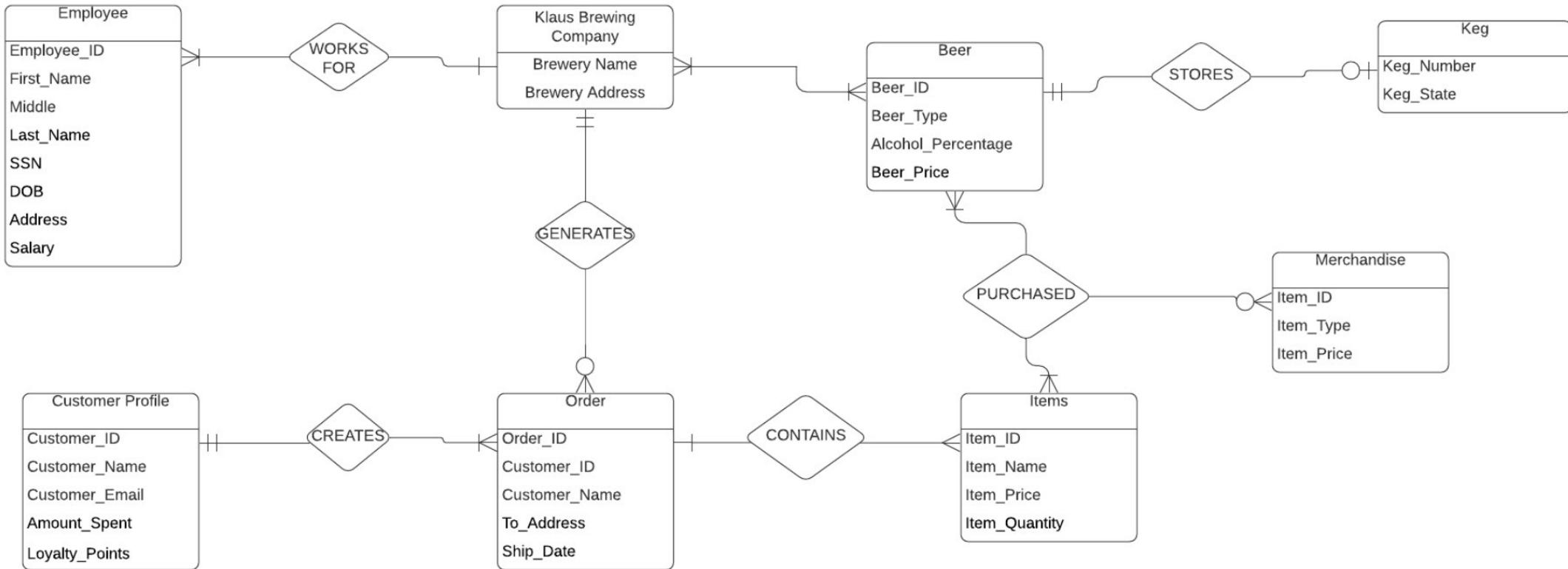
# CURRENT DATA FLOW DIAGRAM (LEVEL 0)



# CURRENT DATA FLOW DIAGRAM LEVEL I



# CURRENT ENTITY RELATIONSHIP DIAGRAM



# CURRENT EVENT RESPONSE TABLE

Event	Response
Prepare Taproom for the opening	Taproom managers and employees come in early to set up beer gardens, games, and set up chalk-boards with daily specials or events of the day.
Serving Customers	Biertenders choose what the customer requests via the POS system and charges the customer. Then hand the customers their paid items which could be Beer, wine, soda, or merchandise.
Customer inquires about food	Biertenders direct customers to Food Trucks available on the premises.
Event night	Biertenders and Taproom managers set up events. Then gives customers a countdown timer so they settle in and participate if they want.
Keg Changes	If kegs become defective, Kegs are switched out via the Bartenders or Taproom Manager.
Cleaning	Laundry, dishes, and cleaning is done periodically by Biertenders during business hours and at closing time.
Prepare Taproom for Close	Taproom Managers and Biertenders follow closing protocol to close down operations for the night.
Inventory	Mary-Lou takes inventory by checking on merchandise that she feels is subjectively low and needs to be ordered.

# CURRENT DATA DICTIONARY

**Table 1- Employee**

	Field name	Type	Length	Req	Index	PK	Description
Employee	Employee-ID	Long		10 ✓	✓	✓	Unique auto incrementing ID
	First Name	Varchar		33 ✓	✓		First name of employee
	Middle Name	Varchar		33 ✓			middle name of employee
	Last Name	Varchar		33 ✓	✓		last name of employee
	SSN	Varchar		11 ✓			social security number of employee
	DOB	Date/Time			✓		date of birthday
	Address	Varchar		70 ✓			physical address of employee
	Salary	Char		20 ✓			Salary of employee

**Table 2-Customer Profile**

	Field name	Type	Length	Req	Index	PK	Description
Customer profile	Customer-ID	Long		10 ✓	✓	✓	Unique auto incrementing ID
	Customer Name	Varchar		33 ✓	✓		name of customer
	Amount_Spent	Char		10 ✓	✓		Amount of money spent
	Loyalty points	Char		10 ✓	✓		Loyalty points for customer

**Table 3- Klaus Brewing Company**

	Field name	Type	Length	Req	Index	PK	Description
Klaus Brewing Company	Brewery name	Varchar		33 ✓	✓		name of brewery
	Brewery address	Varchar		70 ✓	✓		Address of brewery

**Table 4- Order**

	Field name	Type	Length	Req	Index	PK	Description
Order	Order ID	Long		10 ✓	✓	✓	Unique auto incrementing ID
	Customer ID	Long		10 ✓	✓	✓	Unique auto incrementing ID
	Customer name	Varchar		33 ✓	✓		name of customer
	To_Address	Varchar		50 ✓	✓		Address
	Ship_Date	Varchar		50 ✓	✓		Date

## S

- Excellent customer service: Klaus brewery puts great emphasis on providing best customer service to their clients and train their employees to respect their customers.
- Location- Located in central Houston, Klaus brewery has an excellent advantage of being located in business center gaining more visitors.
- Reputation: Klaus Brewery is known among Houstonians for its excellent beer and great atmosphere provided by kind and dedicated employees.

## W

- Lack of social media presence- Klaus brewery is not actively involved with social media hurting their chance of advertisement and marketing.
- Lack of technology- Klaus brewery uses paper and manually kept orders, not utilizing technology and database software's making procedures lengthy and extensive.

## O

- Houston's growing population and tourists can provide opportunity for business growth and profit value.
- Brewery's market is constantly growing and is not going away any time soon.

## T

- Competition: There are several breweries in Houston that can hurt business and can cause to lose potential clients.
- There is a threat for high priced supplies from suppliers in the future.

# CLIENT SWOT ANALYSIS

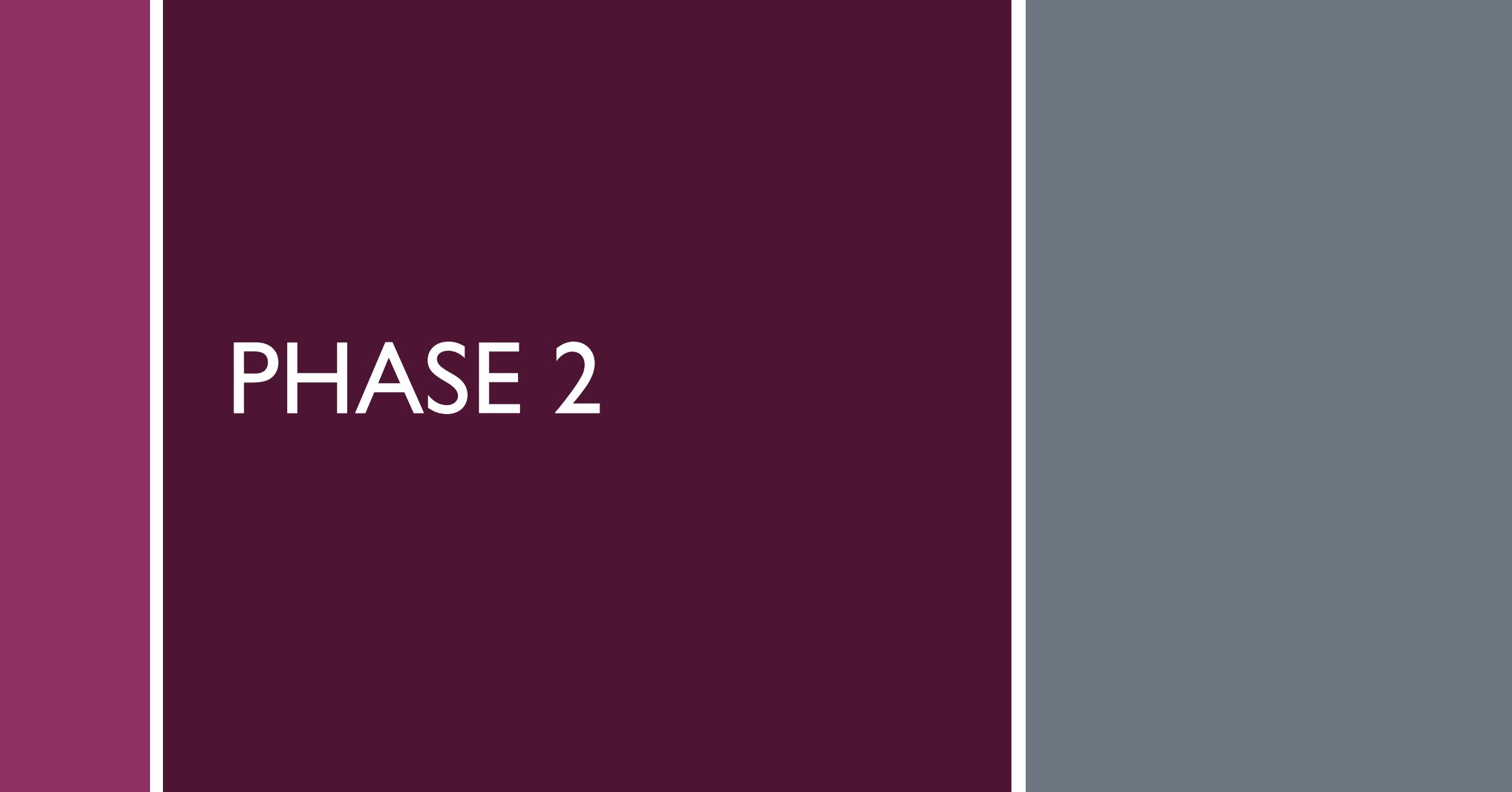
# OUR SYSTEM PROPOSAL

- Option 1

A system that creates an Order Processing system which itemizes merchandise including bier, glasses, gift sets, to-go bottles, sodas, wines, hats, and t-shirts. The system will then keep track of customer orders and purchases each day. The system will have the potential to grow as the new company grows which may include adding a shipping feature for their merchandise or integrating with a future inventory system. We are also proposing to create a system that will function as a database for customer data and relates it to how much money they spend, the merchandise they have purchased via the Order Processing system and how often they visit the Client's site. This system will also hold information on how long the customer has been a member of Klaus Brewing Company. Data from the database system will assist in creating a loyalty program that rewards returning members' incentives and benefits regarding the program. This system will be integrated into their POS system as their website so they can easily transition into using our system.

- Option 2

A system that creates an Order Processing system which itemizes merchandise including bier, glasses, gift sets, to-go bottles, sodas, wines, hats, and t-shirts. The system will then keep track of customer orders and purchases each day. The system will have the potential to grow as the new company grows which may include adding a shipping feature for their merchandise or integrating with a future inventory system. We are also proposing to create a system that will function as a database for customer data and relates it to how much money they spend, the merchandise they have purchased via the Order Processing system and how often they visit the Client's site. This system will also hold information on how long the customer has been a member of Klaus Brewing Company. Data from the database system will assist in creating a loyalty program that rewards returning members' incentives and benefits regarding the program. This system will be a standalone system and will be integrated into their current POS system but not their website. This will be beneficial if they have to change their website database.



PHASE 2

## OUR PROPOSED SOLUTION

- A system that creates an Order Processing system which itemizes merchandise including bier, glasses, gift sets, to-go bottles, sodas, wines, hats, and t-shirts. The system will then keep track of customer orders and purchases each day. The system will have the potential to grow as the new company grows which may include adding a shipping feature for their merchandise or integrating with a future inventory system. We are also proposing to create a system that will function as a database for customer data and relates it to how much money they spend, the merchandise they have purchased via the Order Processing system and how often they visit the Client's site. This system will also hold information on how long the customer has been a member of Klaus Brewing Company. Data from the database system will assist in creating a loyalty program that rewards returning members' incentives and benefits regarding the program. This system will be a standalone system and will be integrated into their current POS system but not their website. This will be beneficial if they have to change their website database.

# INITIAL STAKEHOLDER REGISTER & AGREEMENT TO PROCEED

Stakeholder Register & Agreement to Proceed		
Role	Name	Signature & Date
Client Sponsor:	Nanhi Tran	<i>Nanhi Tran</i> 04 / 01 / 2020
Project Manager:	John-Joshua Izuegbu	<i>John-Joshua Izuegbu</i> 04 / 01 / 2020
Team Member:	Pratik Asarpota	<i>Pratik Asarpota</i> 04 / 01 / 2020
Team Member:	Faryal Khan	<i>Faryal Khan</i> 04 / 01 / 2020
Team Member:	Adekunle Kukoyi	<i>Adekunle Kukoyi</i> 04 / 01 / 2020
Team Member:	Chantera Lazard	<i>Chantera Lazard</i> 04 / 01 / 2020
Team Member:	Sean Tran	<i>Sean Tran</i> 04 / 01 / 2020

- Project Team members understand that they have an obligation to work with the client to deliver a 'best effort' MS Access product which satisfies both: Client requirements (which will be defined in the Requirements Traceability Matrix), Class requirements (as defined in the Project Requirements document);
- Client Sponsor authorizes the Project Team to begin working on a Statement of Scope, Work Breakdown Structure and Work Plan, which will provide an overall structure for managing the software development effort.

## UPDATED CLIENT BACKGROUND INFORMATION

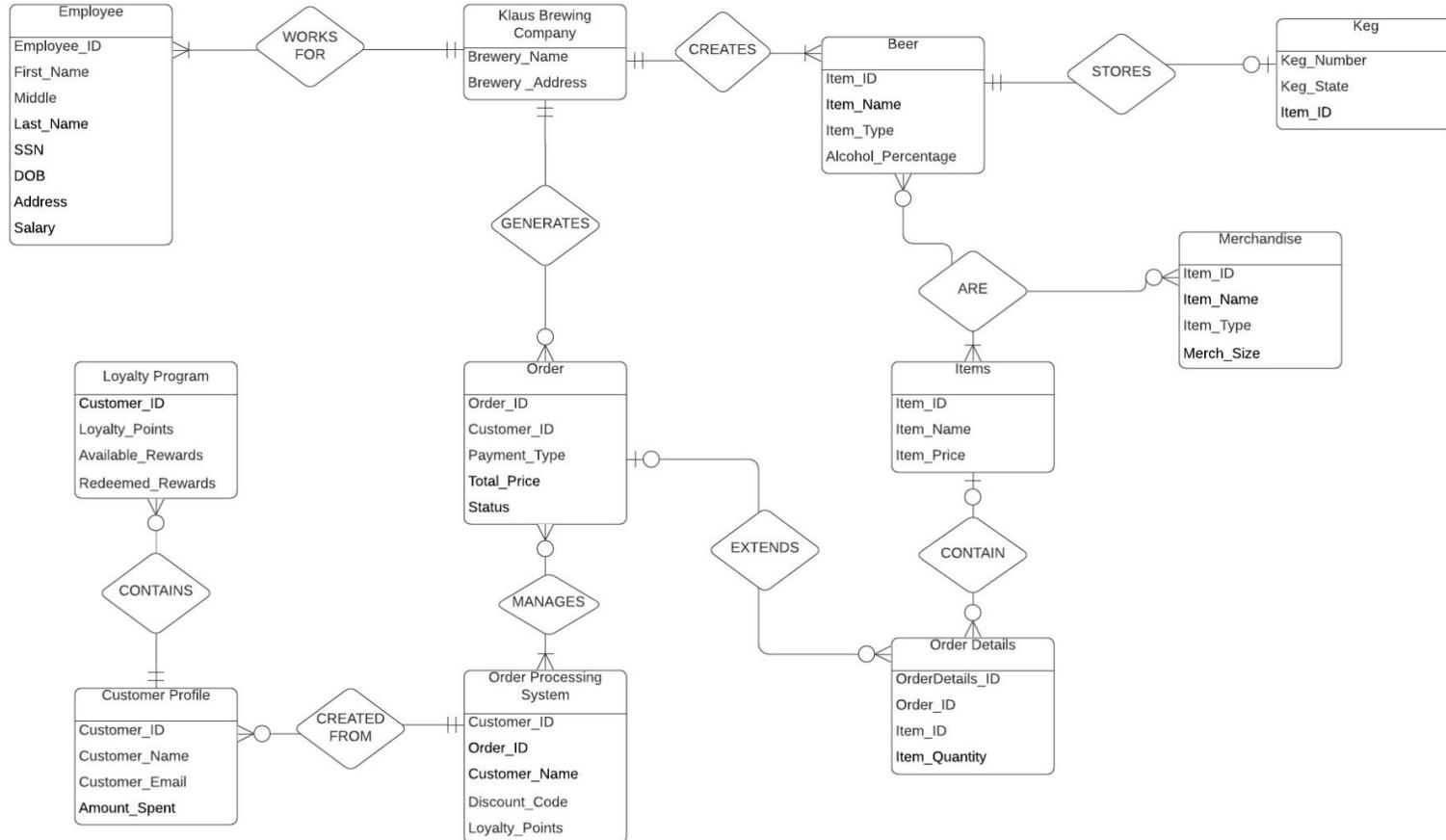
Klaus Brewing Company was founded by a local group of family and friends led by passionate brewer Thomas Lemke. Focused on bringing the under-served German-style beers to a wide range of consumers, from beer aficionados to new converts alike. They chose the name Klaus because they wanted a strong traditional German name. The name's meaning is "The People's Victory". The company feels being able to offer people the ability to experience great locally crafted beer in a welcoming environment is truly a victory for everyone.

Recently, during the first quarter of 2020, a global pandemic took place due to which countries, cities, states nation-wide were all on a lockdown. This event had negatively affected a lot of people's jobs and livelihoods. Some were fortunate, others not so much. Unfortunately, Klaus Brewing Company was negatively affected by this disaster and was forced to fire the entire lower level employees – Biertenders, Brewers, and the Sales Rep. They were only able to keep the managers employed.

Ref Number	Problem Description	Source	Date	Priority (M, K, D)	Rank	Requirements Description	Current Performance (Excellent, Fair, Poor)	Required Performance	Scope ("in" or "out")
2	Upload spreadsheet form of merchandise and beer	Nahni	02/16/2020	M	5	Solution allows for uploading of current spreadsheets	P	E	In
3	Loyalty Program creation	Nandhi	11/6/2019	M	7	Solution allows for tables to be created depicting customer lastiness in brewery and what was purchased	F	E	In
1	Electronic access to resources	Nahni & Group	02/10/20	K	1	Create solution that allows company to access any forms, reports, customer info and order holdings online	P	E	In
4	Forms to handle customer profiles	Group & Nandhi	02/16/2020	K	3	Solution allows customer to input data and create profile from information	F	E	In
6	Pull up Customer Loyalty Report	Nandhi	11/6/2019	K	4	Solution allows ET to pull up any and all completed reports and tables of customer info related to purchased items	F	E	In
5	Live update of merchandise tracking	Nandhi	02/16/2020	D	8	Solution allows client to see up-to-date readings of merchandise and orders from client to customer.	P	F	In
7	Email notification of deals to Customers	Nandhi	03/18/2020	D	8	Solution allows for clients to send out email vouchers and deals, and give the customer the ability to sign up for a newsletter from the client.	F	P	Out
9	Website Integration	Nanhi	03/20/2020	P	5	Solution allows for client to access the system through the company online website.	F	F	TBD
10	Loyalty Program Rewards Criteria	Final Path Group	04/04/2020	M	8	The business rule is defined for the different incentives given by the creation of the loyalty program.	P	E	In

## CONTINUED UPDATED REQUIREMENT LIST

# REQUIRED SYSTEM ERD



# REQUIRED BUSINESS RULE LIST

- For each customer that comes in the brewery and makes a purchase, their purchase has to be recorded in their customer profile assigned to them according to the loyalty program.
- For each \$7 that a customer spends, they receive 1 point in their profile.
- Whenever a customer makes a purchase, whoever is working as a cashier at the moment is required to ask the customer for their email address or phone number and see some sort of photo id as well if the purchase regards any sort of alcohol.
- It's mandatory for employees to add customer purchases so they can later be awarded rewards programs later.
- For a customer that qualifies for a loyalty reward program, the cashier will ask them that they have an option whether to save their points for a bigger discount in the future or use the current points for a discount on the current day.
- If an employee returns any merchandise that they have purchased, it won't affect their rewards points and points won't be taken away from their customer profile.
- Employees are required to constantly update any sort of additional data or address changes to customers profiles in the database.

# REQUIRED SYSTEM ACTIVITY LIST

- Daily Taproom Activities
- Prepare Taproom for the day by following normal opening protocols
- Set up Beer Garden (including umbrellas and outside games)
- Requesting if customers are loyalty members or not
  - If a member, the taproom employees prompts the customer to login to their account via phone number or email address.
    - If the application is down, the taproom employees prompts the customer to keep the receipt and go online and login to the account. Add receipt number in a limited timeframe and the order would go against loyalty rewards.
  - If not a member, the taproom employees prompts the customer to go online and fill out a form to become a member.
    - If the application is down, the taproom employees prompt the customer to keep receipt and set up a profile later. Put the receipt number in in a limited timeframe and the order would go against loyalty rewards.

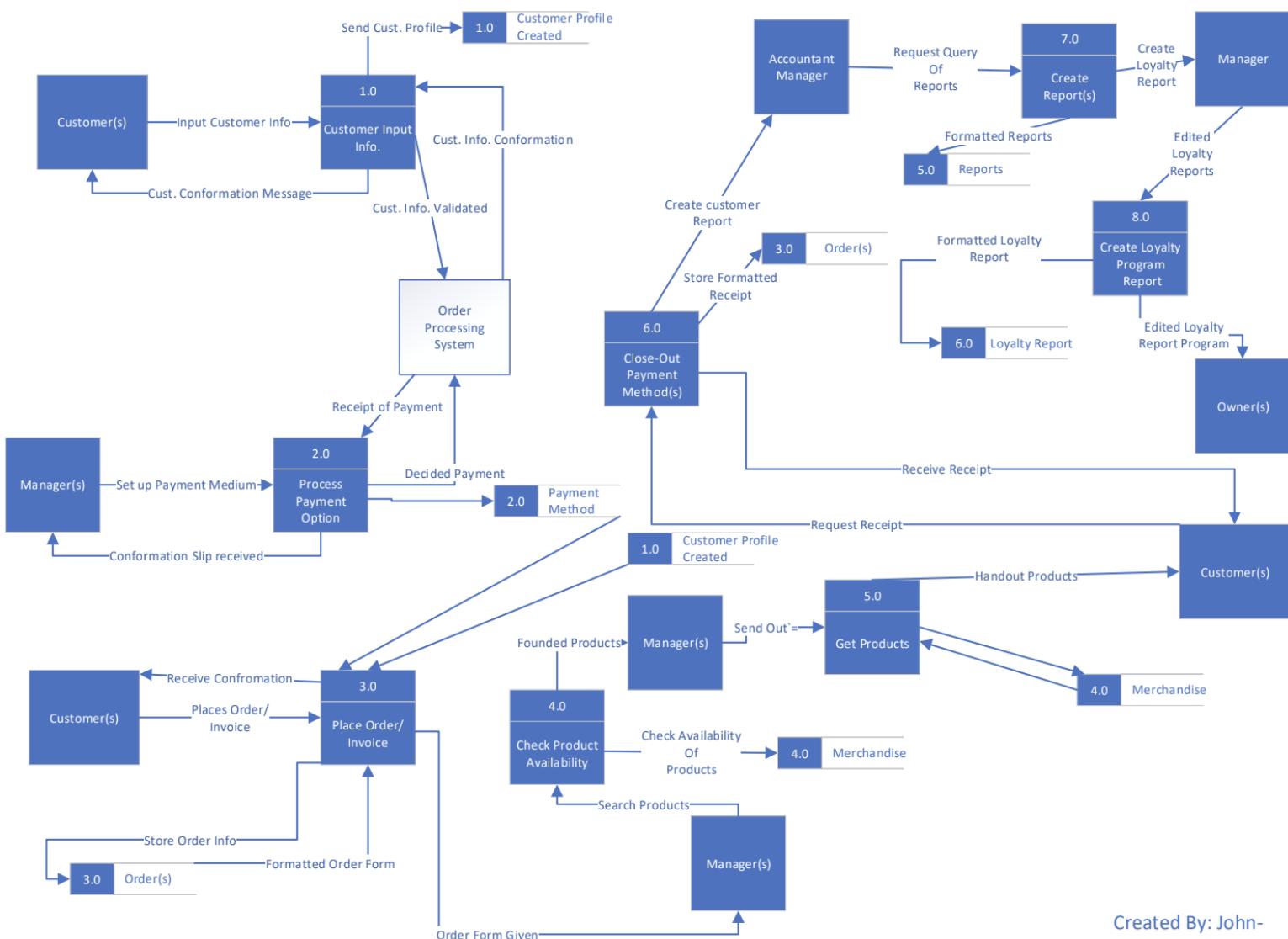
	<b>Set Employee Privileges</b>	<b>Beverage Reports</b>	<b>Access Report System</b>	<b>Merchandise Reports</b>	<b>Quarterly Sales Reports</b>	<b>Loyalty Program Reports</b>	<b>Access Employee Details</b>
<b>Owner (CEO)</b>	CRUD	CRUD	CRUD	CRUD	CRUD	CRUD	CRUD
<b>Taproom Manager</b>	CRUD	CRUD	CRUD	CRUD	CRUD	CRUD	CRUD
<b>Biertenders</b>	-----	CRU	CRU	CRU	CRU	CRU	-----

## REQUIRED SYSTEM CRUD MATRIX

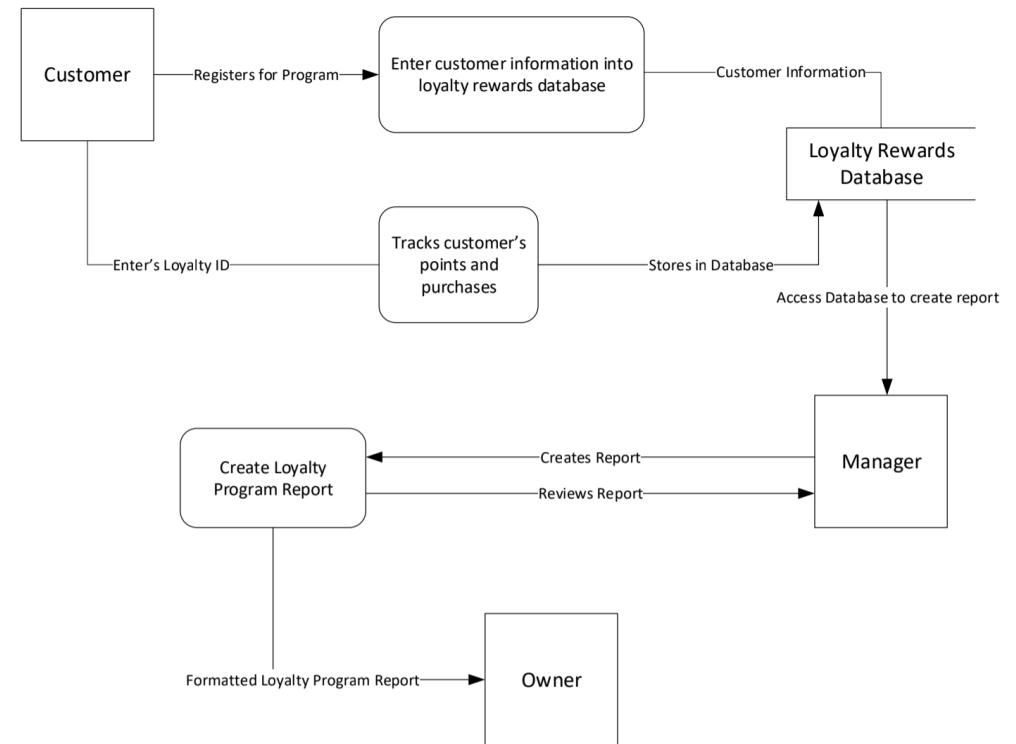
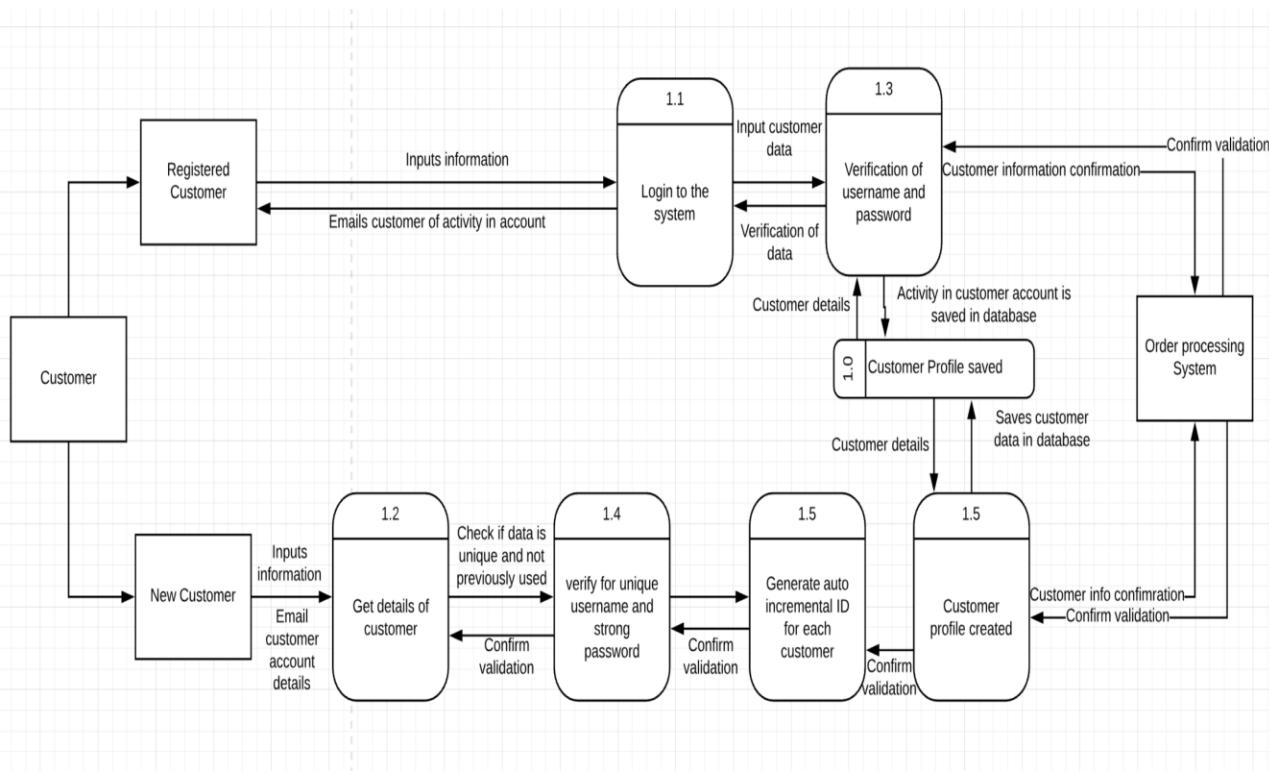
Event	Response
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Serving Customers	Biertenders ask customers for their phone number or email so that the customer's purchase can be tracked by the application provided by finalpath, for the loyalty program. Then biertenders choose what the customer requests via the POS system and charges the customer. Then hands the customers their paid items which could be Beer, wine, soda, or merchandise.
Customer inquires about food	Biertenders direct customers to Food Trucks available on the premises.
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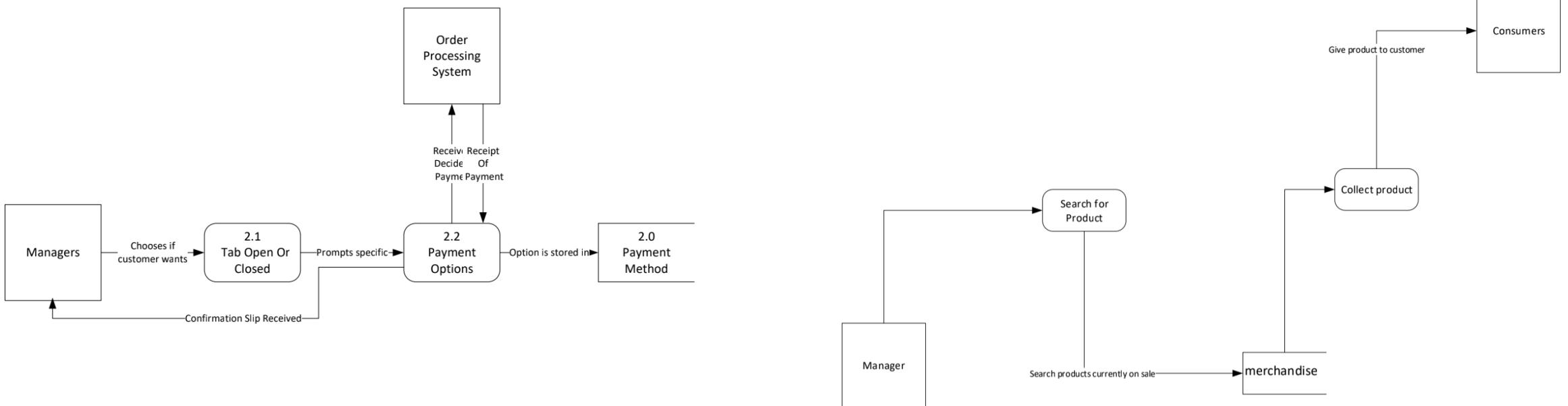
# REQUIRED SYSTEM EVENT RESPONSE TABLE

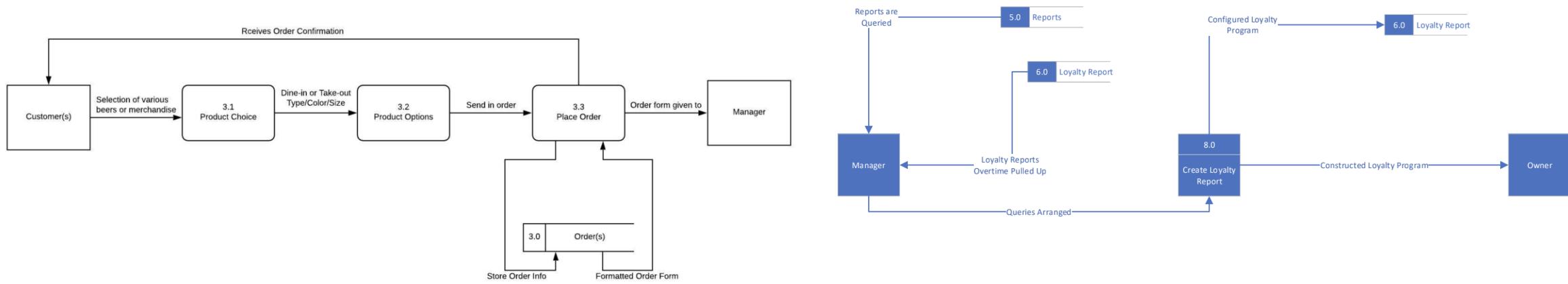
# REQUIRED DATA FLOW DIAGRAM



Created By: John-Joshua Izuegbu







	Attributes	Data Type	Length	PK	Required	Comments
<b>Table 1- Employee</b>	<b>Employee-id</b>	UUID	15	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Unique Auto incrementally Id
	<b>First name</b>	Varchar	33		<input checked="" type="checkbox"/>	First name of employee
	<b>Middle name</b>	Varchar	33		<input checked="" type="checkbox"/>	Middle name of employee
	<b>Last name</b>	Varchar	33		<input checked="" type="checkbox"/>	Last name of employee
	<b>SSN</b>	Char	11		<input checked="" type="checkbox"/>	SSN number of employee
	<b>DOB</b>	Data/time			<input checked="" type="checkbox"/>	Date of birth of employee
	<b>Address</b>	Varchar	100		<input checked="" type="checkbox"/>	Physical address of employee
	<b>Salary</b>	Float	30			Salary of employee

	Attributes	Data Type	Length	PK	Required	Comments
<b>Table 2- Loyalty program</b>	<b>Customer-id</b>	UUID	15	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Unique Auto incrementally Id
	<b>Loyalty points</b>	Char	10		<input checked="" type="checkbox"/>	Number of total loyalty points
	<b>Available rewards</b>	Char	8		<input checked="" type="checkbox"/>	Rewards that are available in account
	<b>Redeemed awards</b>	Char	8		<input checked="" type="checkbox"/>	Rewards that are already redeemed

	Attributes	Data Type	Length	PK	Required	Comments
<b>Table 3- Customer profile</b>	<b>Customer-id</b>	UUID	15	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Unique Auto incrementally Id
	<b>Name</b>	Varchar	33		<input checked="" type="checkbox"/>	name of customer
	<b>Email</b>	Varchar	45		<input checked="" type="checkbox"/>	Unique email of a customer
	<b>Amount-spent</b>	Char	10		<input checked="" type="checkbox"/>	Amount of money customer has spent

# REQUIRED DATA DICTIONARY

*Technical Feasibility*: The technical feasibility analysis was based on the company's current resources (hardware and software) and technology that are required to accomplish the user requirements within the allocated budget and time. For this, we had to check whether the current technology could be upgraded with our proposed solution being added onto the current system, or if we would have to develop a new, independent system.

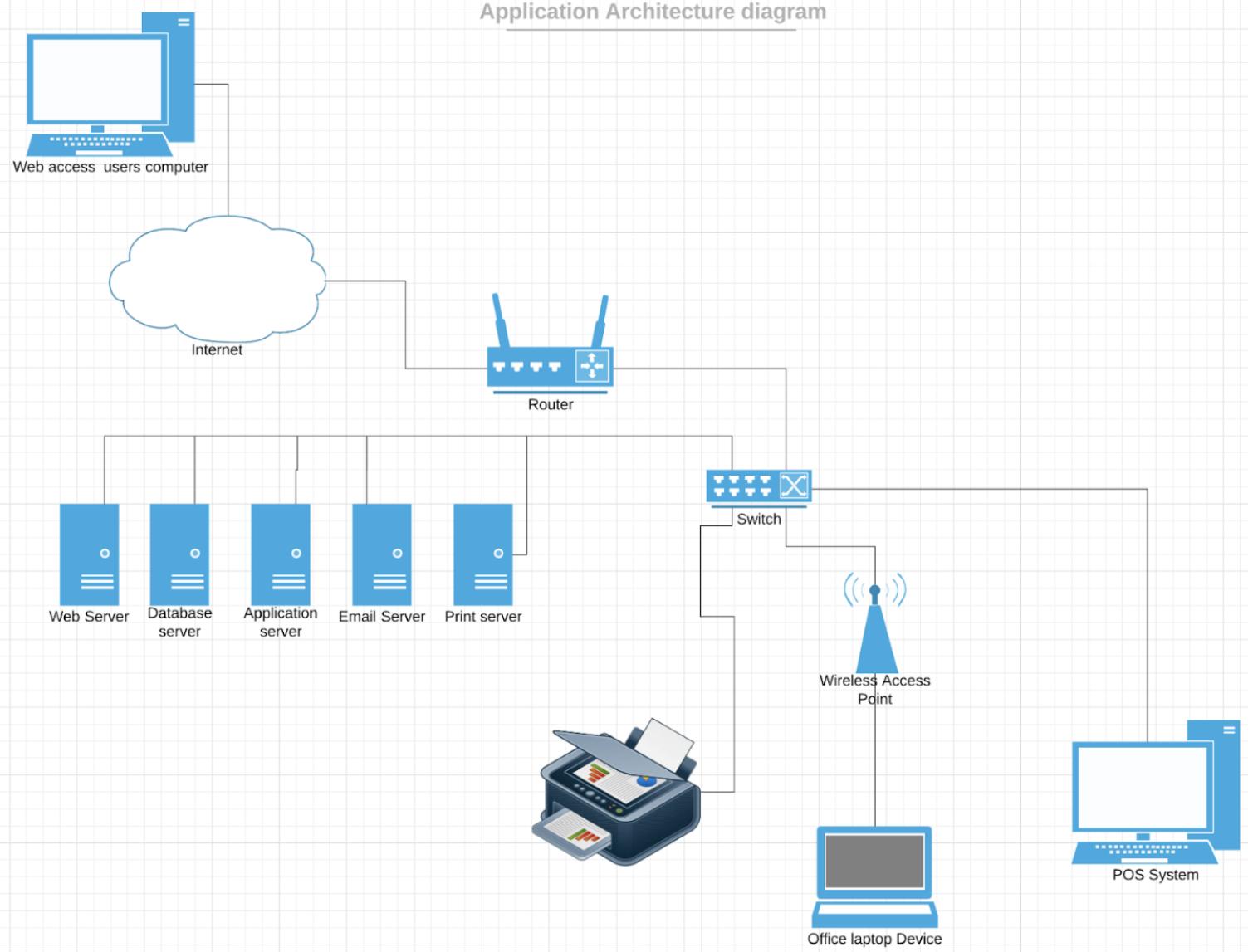
*Economic Feasibility*: The economic feasibility analysis was based on whether the required solution is capable of generating any financial gains for the organization. It included costs incurred on the software development team, estimated hardware and/or software costs, cost of performing a feasibility study, cost of training employees and so on.

*Operational Feasibility*: The operational feasibility analysis was based on assessing the extent to which the required solution performs a series of steps/tasks to solve business problems and user requirements. Our proposed solution will not require too much time to educate the employees, as it is essentially an upgrade that will not drastically change the current system and will be fully functional and ready to be used as soon as implemented. The recommended solution will be heavily used on a daily basis to help employees perform daily operations in a more efficient manner. Therefore, our proposed solution has a high probability of being implemented.

*Scheduling Feasibility*: The scheduling feasibility analysis was based on estimating the time required for completing the project. This is done by measuring the time required for the development of the system, which is based on the system requirements. Through this, efforts are made from our team to allocate manpower to their respective tasks which allows us to ensure completion of the project within the deadline.

## FEASIBILITY ANALYSIS

# APPLICATION ARCHITECTURE DIAGRAM



# DATA ACQUISITION & CONVERSION STRATEGY

Klaus Brewing Company currently stores and files their customer and merchandise data in paper files in multiple folders and a point-of-sale system that is linked to transactions by said customers. The transactions are held in the front two computers in the taproom at the facility. Once paper files become old and outdated in regards to management they are filed in file cabinets in the facility. In order to fully convert to the new proposed system, the older files that are stored in the cabinets will need to be converted into digital format.

With the use of scanners and tri-copied receipt material, the documents will be filed in the system to be accessible on the computer. Depending on the type of file, the document will be saved as is in the system. The saved electronic files will be then converted into a text file, and formatted to the conditions we will have set for the client information in the database. Due to the amount of files needed to be converted and stored, the use of external hard drives or the cloud is needed.

After conversions of old paperwork is completed then, we will have to transfer over customer and transaction information from the client's POS (Point-of-Sale) system. We will have to convert the document cover to an excel document then to import into our system to populate the tables and queries. Finally, the use of an SQL database to store and format the data will be occurring with the ability to hold the information.

# INITIAL DRAFT OF TESTING PLAN

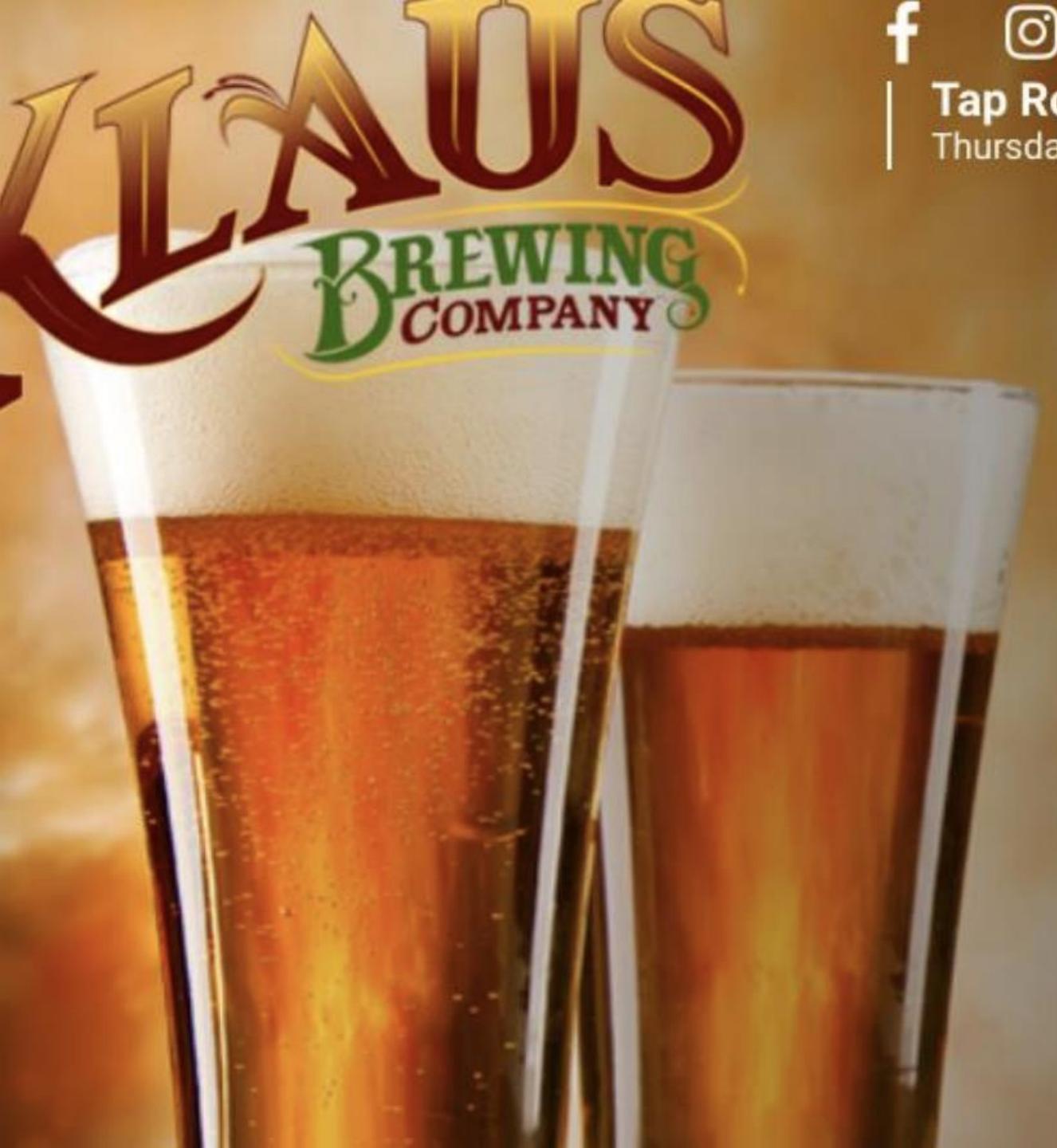
One of our tests will be on whether the customer's transactions with Klaus Brewing are being stored and tracked for the loyalty program, using Final Path Application. One way to test could be by making a dummy account and then having an employee put in certain orders to see if they will be saved on the database in relation to the dummy account email we provide. The dummy account will also have personal information details that have been filled out with the use of forms. We will check to see if the form filled by the dummy account is updated to our database correctly. The dummy account also needs to be able to see how many loyalty points it has accumulated. Information regarding this will be on the right side of the window. We will check to see if the loyalty progression being shown is correlating with the reports in our database. If all this is successful, then we have been able to make our application track customer transactions with Klaus Brewing for the loyalty program.

Another test we would need to do is for when the customer forgets their login information or want to update their information. The dummy account could still be used to test this possibility by clicking the "forgot password" button and seeing if all the prompts we made work correctly. Some of those prompts are: asking for the email after saying they have forgotten their password, giving the option of sending the email to the phone number related to the dummy account if the customer has forgotten their email, then after that the customer types in the email and the email receives a link with a temporary password, the customer comes back to our page and types in the temporary password in a new window to log in successfully; after this, the customer has to make a new password by clicking the change password section in the profile. If all these works successfully for the dummy account, then the test was a success.

# APPLICATION PROTOTYPE

A large, abstract circular graphic in the background, composed of a dark blue center surrounded by concentric rings of white and light blue, resembling a stylized planet or a splash of paint.

# Customer View of Web Application



**LAUS**  
**BREWING**  
**COMPANY**



**Tap Room & Beer Garden** - 346-284-1473

Thursday and Friday 3p - 10p | Saturday 12p - 10p | Sunday 12p - 8p

-Visit Our-  
**Loyalty Program**  
Site

-ABOUT OUR-  
**CRAFT BEER**

-WHERE TO-  
**BUY OUR BEER**

-TOUR THE-  
**BREWERY**

- VISIT OUR -  
**TAPROOM**



## Log In to Your Account



Email address



Password

**LOGIN**

[Forgot Email/Password?](#)

Not a Loyalty Member? Sign up [HERE](#)  
Employee? Click [HERE](#)



## Create new customer account

First Name\*

Click to add text

Last Name\*

Click to add text

Birthday

Click to add text

E-mail\*

Click to add text

Phone Number\*

Click to add text

Password\*

Click to add text

Re-type Password\*

Click to add text

\* Required Fields

SUBMIT

Provided by Final Path Consulting



Insert  
Customer  
Picture

## Customer Details

JOHN DOE

(999) 999-9999

John.doe@finalpathconsulting.com



OVERVIEW

CONTACT

ORDER HISTORY

REWARDS

### Customer highlights

75

Orders

\$120.89

Average Amount

\$2000

Store Credit

2 months ago .

Last visit

### Reward status

57

Total points

1908

Lifetime points

906

Redeemed points

24

Redemptions

01/07/2020

Last redemption

2

Rewards

Provided by Final Path Consulting



# Contact

First Name

John

Last Name

Doe

Birthday

09/13/1996

E-mail

Johndoe@finalpathconsulting.com

Phone number

123-456-7890

Password

\*\*\*\*\*

[Change my email](#)

[Change my phone number](#)

Provided by Final Path Consulting



# Change Email

Current email:

Johndoe@finalpathconsulting.com

New Email :

Johndoe@gmail.com

Re-Type New Email:

Johndoe@gmail.com

**Change my Email address**

Provided by Final Path Consulting



# Change phone number

Current phone number:

123-456-7890

New phone number:

989-234-1231

Re-Type New phone number:

989-234-1231

**Change my phone number**



## Order history

Order no	Date	Payment status	Fulfilment Status	Total
#1231	12/12/2019	Paid	Fulfilled	\$20.98
#1238	11/20/2019	Paid	Fulfilled	\$32.00

Provided by Final Path Consulting



## Order 1231

Date purchased: 12/12/2019

Product	Price	Quantity	Subtotal
Red wine	\$8.97	1	Total : \$ 18.97
Klaus brewery t-shirt	\$9.00	1	Tax: \$ 3.01
			Subtotal: \$20.98



# Rewards

Loyal insider  
50 points

A-Lister  
200 points

VIP Member  
500 points

Birthday discount of 10% off



Discount per purchase



Eligible for Free Beer for every \$20 spent



Free T-shirt for every \$50 spent



Free cup of red wine for every \$30 spent



Early access to sales



Early access to new products



Due to covid-19, our client is unable to give us the information regarding specific rewards yet

Provided by Final Path Consulting



# Taproom Manager View of Web Application



## Log In to Your Employee Account



Employee Email Address



Password

**LOGIN**

[Forgot Email/Password?](#)

Customer? Click [HERE](#)

Provided by Final Path Consulting

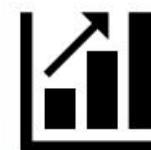


Dashboard  
Reports  
Transactions  
Logout



52

New Customers | YTD



\$106,268.43

Total Sales | YTD

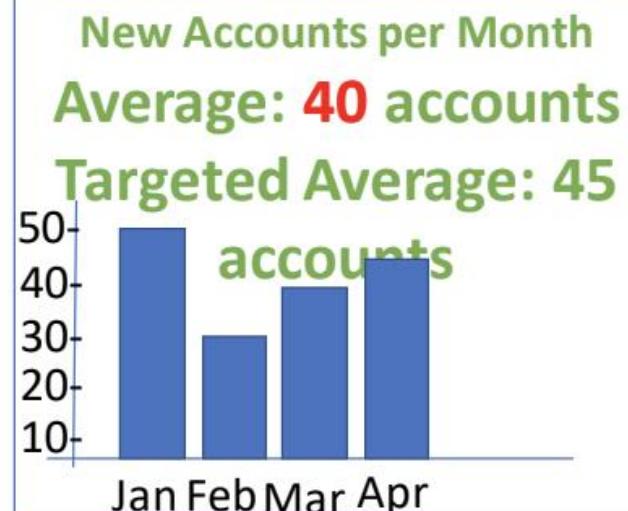


\$83,100.11

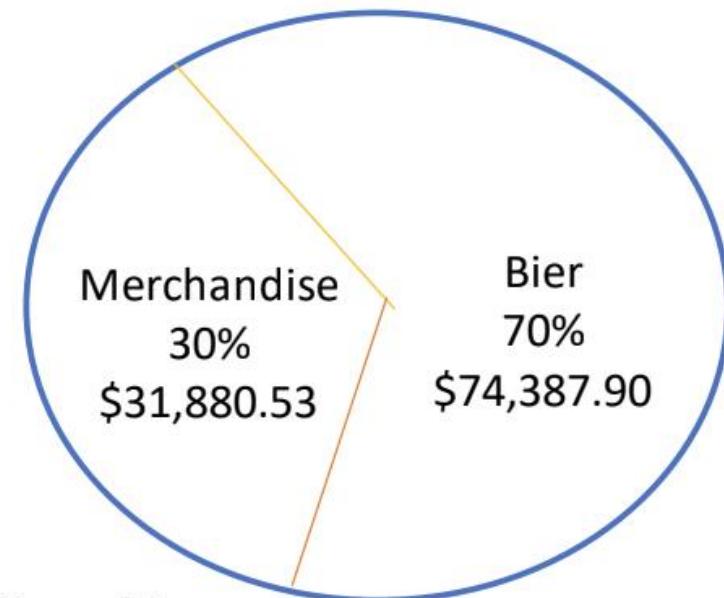
Total Loyalty Customer  
Sales | YTD

## Top 5 Spenders (Ending March 31st)

1. John Doe \$212.45
2. Jane Doe \$176.24
3. Bill Doe \$159.04
4. Kate Doe \$125.10
5. Lane Doe \$101.43



Total Loyalty  
Customer  
Sales | YTD





[Dashboard](#)  
[Reports](#)  
[Transactions](#)  
[Logout](#)

### Employee

Employee ID  
First Name  
Middle Name  
Last Name  
SSN  
DOB  
Address  
Salary

### Klaus Brewing Company

Brewery Name  
Brewery Address

### Bier

Item ID  
Item Name  
Item Type  
Item Type  
Alcohol Percentage

### Items

Item ID  
Item Name  
Item Price

### Order

Order ID  
Customer ID  
Payment Type  
Total Price  
Status  
Date

### Order Details

Order Details ID  
Order ID  
Item ID  
Item Quantity

Criteria: Date = 11/15/2019

[Create Report](#)

Provided by Final Path Consulting



Dashboard  
Reports  
Transactions  
Logout

Employee ID	First Name	Last Name	Order ID	Customer ID	Total Price	Date
1001	Tera	Lazard	0001	0004	\$100.01	11/15/2019
2002	Nanhi	Tran	0002	0003	\$20.01	11/15/2019
1001	Tera	Lazard	0003	0002	\$50.01	11/15/2019
3001	Faryal	Khan	0004	0001	\$5.01	11/15/2019

End Of Report

[Print Report](#)



Dashboard  
Reports  
**Transactions**  
Logout

## Transactions Dashboard

### Transaction Type

ALL

### Order Number:

Type Order Number

### Customer ID:

Type Customer Number

### Start Date:

11/15/2019

### End Date:

11/15/2019

**Apply Filter**

**Reset Filter**

Order #	Customer #	Customer Name	Trans Type	Trans Date
1	<a href="#">3715</a>	Jane Doe	Sale	11.15.2019
2	<a href="#">3716</a>	John Doe	Sale	11.15.2019
3	<a href="#">3718</a>	Jim Doe	Sale	11.15.2019
4	<a href="#">3719</a>	Jill Doe	Return	11.15.2019
5	<a href="#">3720</a>	Jack Doe	Sale	11.15.2019

Provided by Final Path Consulting



## Order 1

Date purchased: 11/15/2019

Product	Price	Quantity	Subtotal
Red wine	\$8.97	1	Total : \$ 18.97
Klaus brewery t-shirt	\$9.00	1	Tax: \$ 3.01
			Subtotal: \$20.98

Provided by Final Path Consulting



## Customer Details

Insert  
Customer  
Picture

JOHN DOE

(999) 999-9999

 John.doe@finalpathconsulting.com



OVERVIEW

CONTACT

ORDER HISTORY

REWARDS

### Customer highlights

75

Orders

\$120.89

Average Amount

\$2000

Store Credit

2 months ago .

Last visit

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Total points

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Lifetime points

906

Redeemed points

24

Redemptions

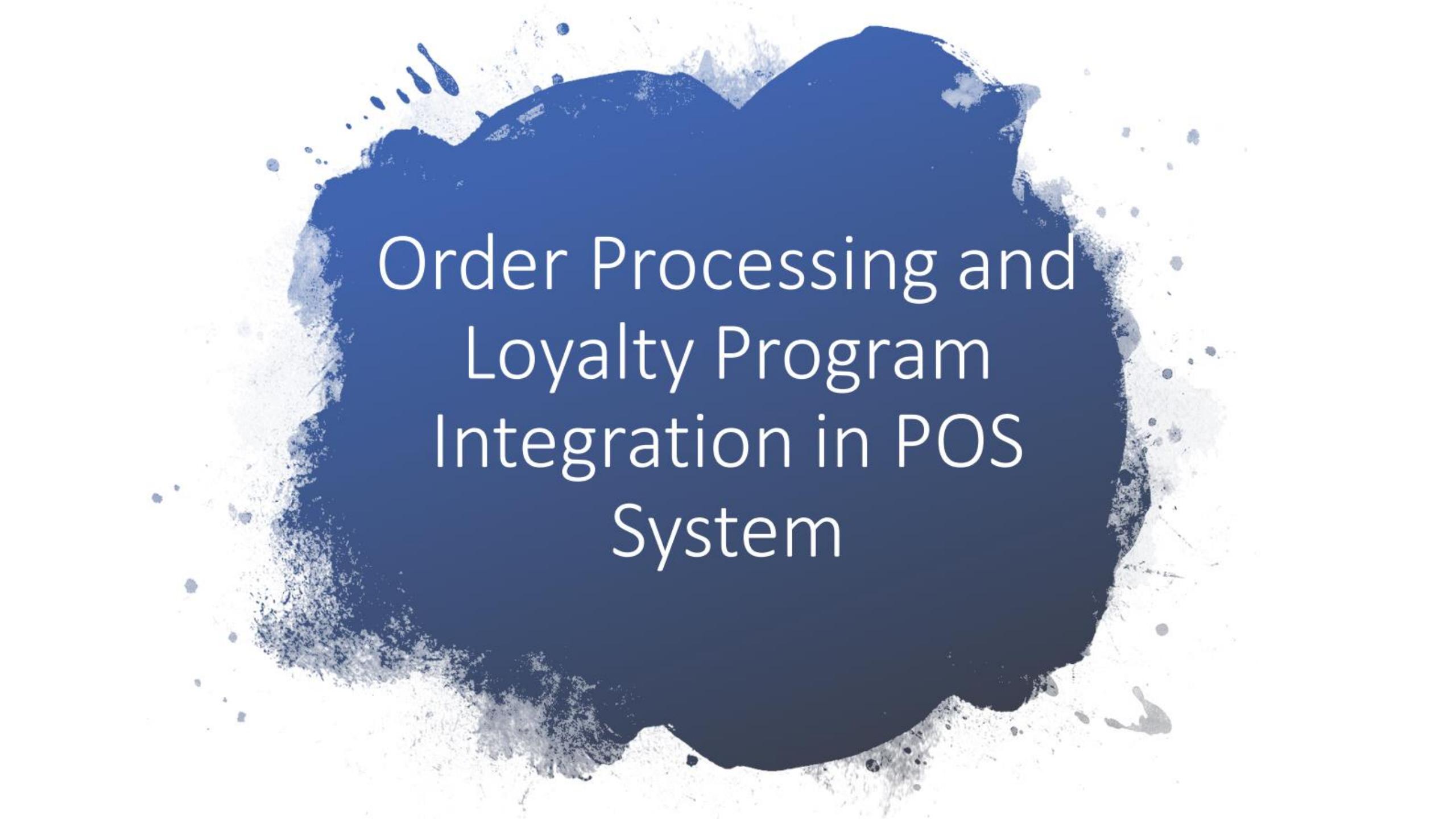
01/07/2020

Last redemption

2

Rewards

Provided by Final Path Consulting



# Order Processing and Loyalty Program Integration in POS System

John Doe | johndoe@klausbrewery.com | 1234567890 |  
#9888

Loyalty Program      Rewards      Visits  
456                    10

Purchases

Name	Code	Qty	Price
IPL	672	1	\$10.00
Dunkel	612	1	\$9.98

Total : \$19.98  
Tax: \$2.00  
Subtotal : \$21.98

3 points earned!



PAY

# EXECUTIVE SUMMARY OF OUR PROJECT

Final Path consulting began with the acquisition process of finding a client. We had the opportunity to work with a grocer, a salon, and some other businesses in greater Houston. Nevertheless, we came to the decision/opportunity to work with Klaus Brewing Company. After discussions with a group members, Nanhi (or liaison with our client), and Sean (a family member that is also a group member). We decided to move forward with our client to create their requested application needs. After multiple meetings with our liaison and other client workers, our group gathers information from our client utilizing open/closed ended questions from interviews with the stakeholders and regular employees that will utilize the system.



From there we defined where we will take the project. A back and forth from client, team, and professor took place to outline the framework and flow of where the project will go. After our conversations we came to the conclusion and agreement that we will be developing an order processing system, that will keep track of user information with what said users just purchased. Then after that we will create a loyalty program from the information given in customer forms. With this information we created the framework for our application that our client wants and needs for a better productive environment. So we started filling in the paperwork with our clients business information from client business rules, to what type of supplies and merchandise is available on hand. Then on our end we (the Final Path Consulting Team) created the outline for the database and how we will fulfill the requirements needed for the application from the problems given by the client.



Then to finish out, we will define the guidelines and the framework to the Loyalty Program through the requirements and suggestions from our liaison and staff. We will create the search parameters needed for all the requirements of customers to receive the incentives. With this project we laid the framework for an application to meet the needs of our client and the requested features they will like to use on a day-to-day effort. Utilizing an SQL database, a web based-application system, our client will have the ability to consolidate paperwork they used to fill and file by hand, gain valuable time that can be used in different fashions to build more profitability. And create a program to grow a recurring customer base that will be helpful to the company in the long run.

# FINAL PROBLEMS AND REQUIREMENT LIST

Ref Number	Problem Description	Source	Date	Priority (M, K, D)	Rank	Requirements Description	Current Performance (Excellent, Fair, Poor)	Required Performance	Scope ("in" or "out")
2	Upload spreadsheet form of merchandise and beer	Nanhi	02/16/2020	M	5	Solution allows for uploading of current spreadsheets	P	E	In
3	Loyalty Program creation	Nanhi	11/6/2019	M	7	Solution allows for tables to be created depicting customer lastingness in brewery and what was purchased	F	E	In
1	Electronic access to resources	Nanhi & Group	02/10/20	K	1	Create solution that allows company to access any forms, reports, customer info and order holdings online	P	E	In

Ref Number	Problem Description	Source	Date	Priority (M, K, D)	Rank	Requirements Description	Current Performance (Excellent, Fair, Poor)	Required Performance	Scope ("in" or "out")
4	Forms to handle customer profiles	Group & Nanhi	02/16/2020	K	3	Solution allows customer to input data and create profile from information	F	E	In
6	Pull up Customer Loyalty Report	Nanhi	11/6/2019	K	4	Solution allows ET to pull up any and all completed reports and tables of customer info related to purchased items	F	E	In
5	Live update of merchandise tracking	Nanhi	02/16/2020	D	8	Solution allows client to see up-to-date readings of merchandise and orders from client to customer.	P	F	In
7	Email notification of deals to Customers	Nanhi	03/18/2020	D	8	Solution allows for clients to send out email vouchers and deals, and give the customer the ability to sign up for a newsletter from the client.	F	P	Out

Ref Number	Problem Description	Source	Date	Priority (M, K, D)	Rank	Requirements Description	Current Performance (Excellent, Fair, Poor)	Required Performance	Scope ("in" or "out")
9	Website Integration	Nanhi	03/20/2020	P	5	Solution allows for client to access the system through the company online website.	F	F	TBD
10	Loyalty Program Rewards Criteria	Final Path Group	04/04/2020	M	8	The business rule is defined for the different incentives given by the creation of the loyalty program.	P	E	In

# LESSONS LEARNED

As a team throughout the semester, we have learned how to improve our communication. At the beginning of the project, there was a lack of communication where not all team members were responsive in the group chat and not everyone was stating their issues. However, the lack of communication caused several members to submit deliverables in the wrong format or with incomplete information. We had a group meeting before starting phase 2 and realized that few team members did not have a proper understanding of our project's overall scope and due to them not having complete details, they were submitting wrong formatted and incorrect deliverables. After realizing that issue, we worked together as a team to come up with an effective form of communication and came to the conclusion that we need to be more consistent with our weekly meetings every week and everyone was asked to not hesitate in asking questions from their team and if they need any sort of help.

Another lesson that we have learned as a team is to use the professor's given deliverables rubric to properly format each deliverable. Earlier in the semester, our team was confused about how to format their individual deliverables. However, After talking to our project manager and professor, we realized that the deliverables rubric was supposed to assist in formatting each document.

Due to COVID 19, our team had to adapt to how to work from home on our project with no face to face interaction. In the beginning, it was a bit complicated to adjust to such sudden change, however through the use of Microsoft TEAMS, our team soon adjusted to this change by scheduling weekly meetings on Microsoft teams instead of face to face.

# REFERENCES

- “Brewers Association Releases Annual Growth Report.” *Brewers Association*, 2 July 2019, [www.brewersassociation.org/press-releases/brewers-association-releases-annual-growth-report/](http://www.brewersassociation.org/press-releases/brewers-association-releases-annual-growth-report/).
- Egan, John. “Houston’s Big Population Boom Continues with This Many New Residents Each Day.” *CultureMap Houston*, 24 Apr. 2019, [houston.culturemap.com/news/city-life/04-23-19-houston-the-woodlands-sugar-land-population-growth-us-census/](http://houston.culturemap.com/news/city-life/04-23-19-houston-the-woodlands-sugar-land-population-growth-us-census/).
- Takahashi, Paul. “Houston’s Craft Beer Craze More than Doubles Brewery Space in Six Years.” *Houston Chronicle*, Houston Chronicle, 23 Aug. 2019, [www.chron.com/business/texas-inc/article/Houston-s-craft-beer-craze-more-than-doubles-14370128.php](http://www.chron.com/business/texas-inc/article/Houston-s-craft-beer-craze-more-than-doubles-14370128.php).
- “What’s on Tap...” *Home*, [www.klausbrewing.com/](http://www.klausbrewing.com/).
- “Understanding Use Cases.” *Understanding Use Cases - IHRIS Wiki*, [wiki.ihris.org/wiki/Understanding\\_Use\\_Cases](http://wiki.ihris.org/wiki/Understanding_Use_Cases).
- Interviews with Klaus Brewery management
- Results from data gathering
- Class Lectures
- Notes
- Environment of business