ACE Systems Solutions

Systems Proposal

For Blockhouse Coffee & Kitchen

November 10, 2020

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Team Communication Plan

Communication between the team is key while communication between the team and the client is essential. Team communication can keep all members and the client aligned with project targets and deadlines. Nonetheless, it is crucial to schedule meeting times so as to not lose progress and fall behind. To minimize outliers, we have developed a schedule to determine the best meeting times for each member. As such, the team, Ace Systems Solutions, has concluded on meeting twice a week on Mondays at 5:30pm and Thursdays at [Enter time] through Microsoft Teams. The purpose of these meetings would be to check how everyone is progressing through their tasks, which tasks they have completed, which tasks they have left, and which tasks they could need assistance with. Due to current times meeting through Microsoft Teams is the most feasible solution while keeping up to date throughout the project. Apart from meeting on Microsoft Teams, all members are also present in a group on GroupMe for more frequent and casual communication. GroupMe is a messaging application that is used to congregate all members of the team while allowing them to discuss over the project, discuss issues, opportunities, and schedule any further meetings that may be needed. However, we still needed to find a platform to collaborate on documents and tasks. We came to the conclusion that Google Docs suit our purposes the most, allowing us to collaborate in real-time, double-check and edit each other's work, check documents with version control, while having all our files on the cloud and easily accessible from any device.

Team Communication Plan

Communication between the team and the professor is done through Zoom for face-to-face meetings, or in-person on Campus if needed, while more frequent communication is through school email. The main form of communication between the team and the client is through text messaging while also face-to-face, mainly through our member, Jake Simpson.

Team Roles and Responsibilities Matrix

Role	Name	Department	Contact Info
Project Manager	Jorge Vazquez	CIS	jhvazquez@cougarnet.uh.edu (832-417-3318)
Assistant Project Manager	Eric Pham	CIS	
Project Sponsor	Jake Simpson	CIS	
Senior Analyst	Joshua Wilson	CIS	Jrwils24@cougarnet.uh.edu (703-895-6047)
Junior Analyst	Dan Thomas	CIS	Dthomas1999@comcast.net (281-867-5309)
Senior Programmer	Andres Pirela	CIS	aapirela@cougarnet.uh.edu
Junior Programmer	Andy Luong	CIS	aluong4@cougarnet.uh.edu (281-823-2242)
Visual Analyst	Jesse Requena	CIS	jrequena@uh.edu (281-691-2912)

Project Manager	The project manager will oversee the overall project and try to keep all objectives on task.
Assistant Project Manager	The assistant project manager will be second in command and will fill in for the group leader when unavailable.
Project Sponsor	The project sponsor will be responsible for all communication between the client and the team.
Senior Analyst	The senior analyst will gather and interpret data in order to improve the client's current system.
Junior Analyst	The senior analyst will assist in gathering and interpreting data in order to improve the client's current system.
Senior Programmer	The senior programmer will oversee designing and maintaining the application and other programming solutions.
Junior Programmer	The junior programmer will assist in designing and maintaining the application and other programming solutions.
Visual Analyst	The visual analyst is in charge of editing and formatting various documentation throughout the project life cycle.

Confirm Client Organization

Below is a picture of an email correspondence between Jake Simpson and Cody Frederick, a founder and owner of Blockhouse Coffee & Kitchen. This Email response is to serve as an agreement between our team and the client organization in working together for the duration of the project.

Client Agreement Letter

Cody Frederick
Blockhouse Coffee & Kitchen
611 Jackson St., Suite C
Richmond, TX 77469

September 30th, 2020

ACE Systems Solutions
4800 Calhoun Rd.
Houston, TX 77093

Mr. Jorge Vazquez,

This letter confirms a mutual agreement between Blockhouse Coffee & Kitchen and ACE Systems Solutions. I, [Signee Name] agree to work with your company for the semesters of Fall 2020 and Spring 2021. You have my permission to improve our systems to the best of your ability.

Should you have any questions, your team member Mr. Jake Simpson will be our point of contact. You can also reach me at 281-766-4866, or by email at [Email].

Cody Frederick
_____
Founder

Client Organization

History & Background

Natives of South Louisiana, Aimee & Cody met in 2005 while working for a popular restaurant concept in Baton Rouge. Given the opportunity to grow the brand by opening their own location, the couple moved to Fort Bend in 2007. They married in 2009 and started a family a year later. Together, with their combined 25 years in the restaurant industry and deep network of skilled colleagues, they decided to create something new.

In the early 1820's, a group of colonists led by Stephen F. Austin constructed a blockhouse style fort in a bend of the Brazos River near present day Richmond, TX. This blockhouse was known as Fort Bend, and later became the namesake of the county. Blockhouse Coffee & Kitchen is named in tribute to the rich history of Fort Bend County and Richmond, TX.

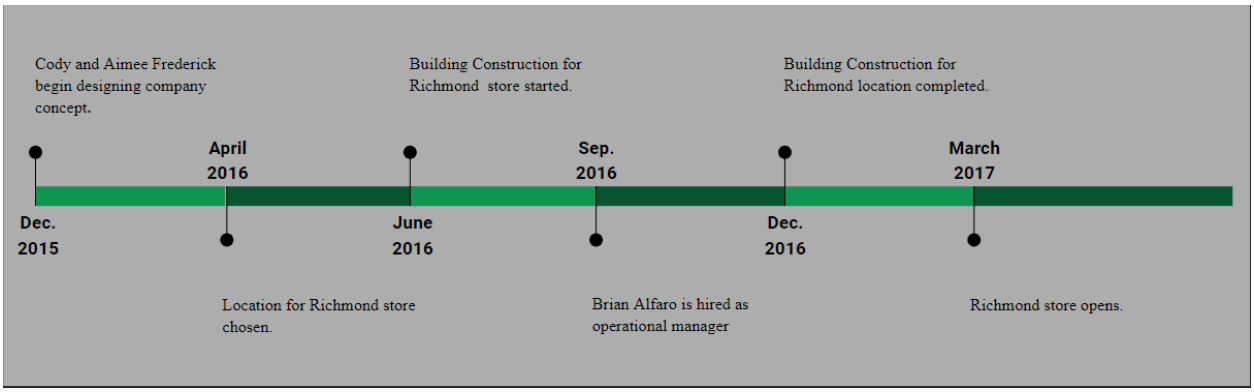
Blockhouse believes that they are more than a coffee shop. Their motto is that they are a cafe for the community. Blockhouse Coffee & kitchen seeks out goods from the best producers, artisans and artists in the area and feature their products on our menu, store shelves and display their work on our walls. The shop's space is sometimes used to host special events, inviting local craftsmen to participate as vendors so they may share their craft directly with you. They are intentionally family friendly and communal, nudging neighbors to sit together (rather than alone), which leads to eye contact, conversation and meaningful connection.

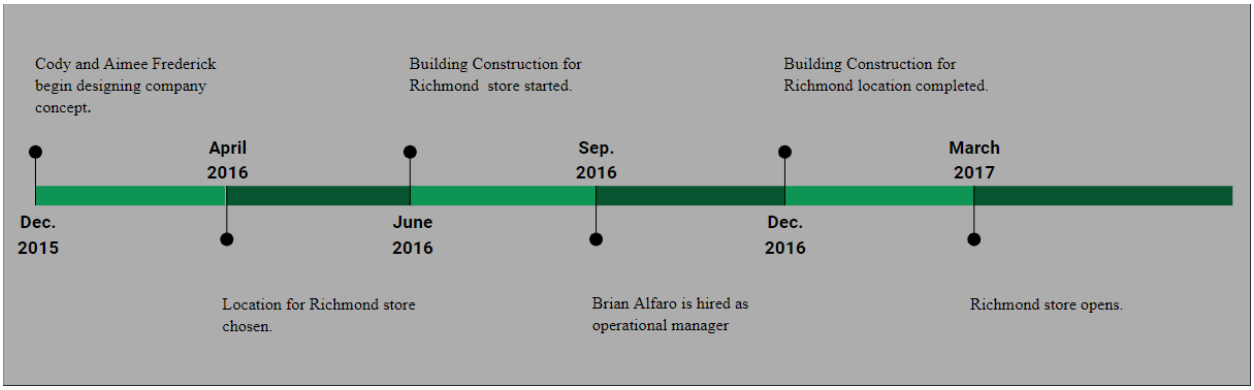
Client Organization

History & Background

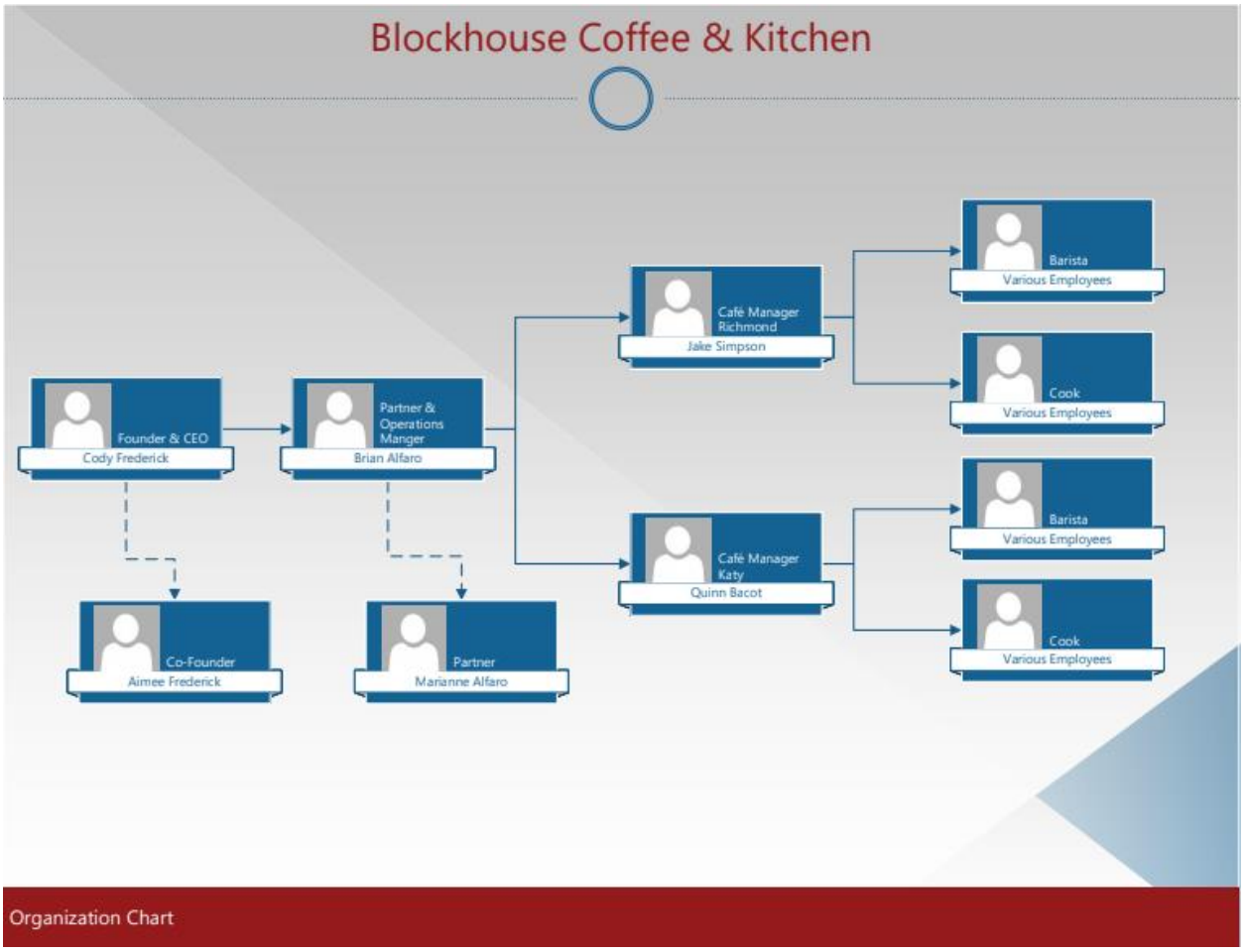
In the collective 20+ years as residents, Blockhouse discovered that their county is brimming with talented people doing interesting things. Blockhouse Coffee & Kitchen was born out of a desire to bring these people together and create something valuable, right here in our backyard. As a platform for local craftsmen and an advocate for connection in the community, Blockhouse is a place that celebrates its home and is proud to be a part of it.

Client Organization Timeline





Client Organization Chart



Project Selection Analysis

The client we ended up deciding to work with was Blockhouse Coffee and Kitchen. As a team we had three potential businesses we wished to work with. The businesses were El Rancho Supermercado, Fry's Electronics and, lastly, the business we ended up working with, Blockhouse Coffee and Kitchen.

One of our team members works for El Rancho and there was a possibility of being able to design a system for the supermarket. However, El Rancho already had many systems in place, licensed by third parties or created in-house. Their inventory system was already working well and was heavily integrated inside the company and their pricing department already had an in-house solution for generating pricing tags and distributing them to stores. Even their database systems are handled by the company Arcserve, so we could not contribute in that department. For a company that has been in the business for 32 years many of the systems that are essential for a supermarket to be successful have been implemented.

The next company we looked at was Fry's Electronics. Fry's is a much larger business than the other two, but since we had a group member that worked there, we thought we might be able to work with the company. It would have been a perfect business to partner up with since Fry's deals with electronics and computers. However, since our member was just an associate at the company it was difficult to get any meetings with business owners or even contact the higher corporate employees. Plans to work with Fry's fell through and we searched for other businesses.

The business that we decided to work with was Blockhouse Coffee and Kitchen. Blockhouse fits all of our checkboxes: a smaller business that is successful but still has room

Project Selection Analysis

for improvement in implementing systems and a group member that knows the owners personally and could get us all the much-needed information easily and without delay.

Blockhouse Coffee is a small and new business founded in 2017 and has two locations. There is room for improvement for this small coffee shop and one thing we noticed in our interview with the owners was the need for an inventory system. If Blockhouse only had one location, then maybe an inventory system would not be needed since doing inventory manually would have sufficed. However, now that Blockhouse has expanded to two locations an inventory system should be something that the business should begin to look at. An inventory system could help coordinate supplies and products in both locations. If one cafe is low on their special in-house ground coffee the cafe should be able to check the other cafe's inventory and see if there is product available without having to make a phone call to check if they can pick up any excess inventory. Being able to coordinate supplies between both cafes will be essential in making sure there is no excess inventory that is eating away at profits. In the long run, if Blockhouse decides to expand to more cafes around Houston an inventory system will make a difference in transitioning new stores to become efficient and productive in a shorter amount of time.

Initial Problem Statement & Requirements List

Initial Problem Statement

Blockhouse Coffee & Kitchen would like to expand its operations by opening more locations within the Houston area. However, they are experiencing issues that they believe would hinder this goal were they to actually do so. Specifically, their current way of managing inventory is not quick or even accurate in some cases. This leads to increased overhead costs when items are either overstocked, understocked, or ordered in incorrect amounts as a result of counting errors. Consequently, the current system is not suited to larger business operations.

Problems List

- Currently they have no concise, efficient, effective, and accurate way of managing inventory
- Conducting counts and entering them manually into google sheets leaves too much room for error
- Having individual sheets for every week and month is becoming increasingly difficult to manage on a google drive as the business ages
- Entering the counts a second time into a separate sheet to gauge par levels and place weekly orders is both time consuming and opens the possibility for more entry errors

Requirements List

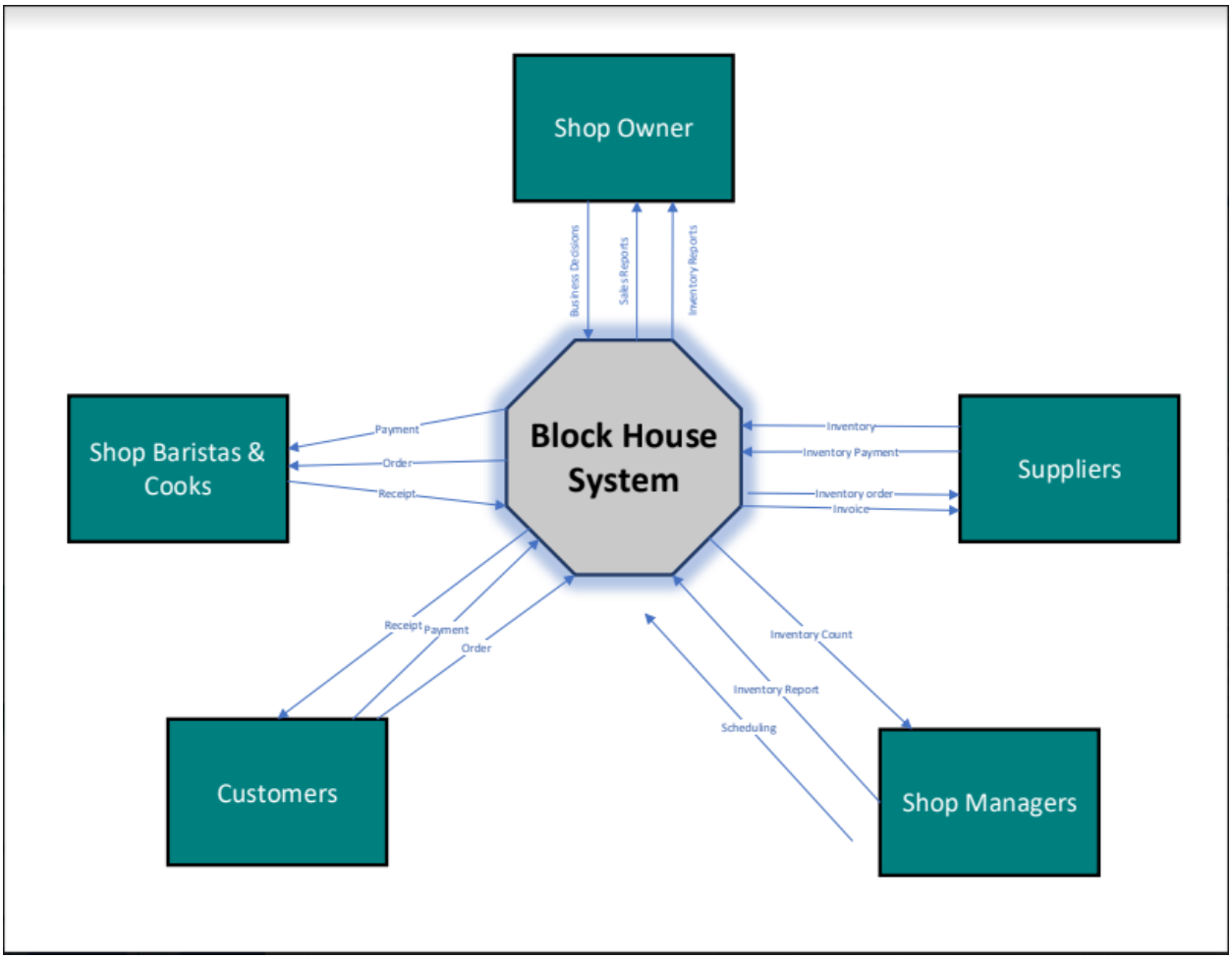
- System should have complete list of inventoried items
- Only upper management should have permission to edit the list of items (add/remove/update)
- Items should have the amount required to be on hand (Par levels)

Initial Problem Statement

& Requirements List

- System should be organized into two main categories: End of Week Counts, and End of Month counts
- System should notify upper management once a count is marked as completed
- After a count is completed, the system should auto generate a list of items to order that are below the required par level

Scope Diagram (Info Flow)



Data Gathering Goals

- Learn more details about the business and their goals.
- Gather information about how the business operates and the current system they use.
- Try to identify the current problems they have, so that we can develop a solution to replace or improve their current system.

For our goals, we want to interview the owner of the coffee shop to get more insight on the business. In terms of the interview process, we want to get as much information as possible. Furthermore, we want to ease the owner into this project by giving them questions to answer to show that we are competent about improving their business. With these goals in mind, we want to get a better understanding on how the business operates so that we can find the best way to help them.

During the interview, one of our primary focuses is to find any problems within the business so that we can find a way to fix them. Whether it is a new system that can help save money or be more efficient is a viable option for us to create. We want to be transparent with the business about what we are doing with updates. However, at the same time we do not want to waste their valuable time, so we want to obtain as much detail as possible. Overall, we hope to achieve our goals and prove that our group is a suitable candidate to take on this mission.

Data Gathering Methods

For our data gathering methods, we had chosen to go with an interview to get more information about the business. Our questions consisted of a mixture of open and closed ended questions. These questions allowed us to gain more insight on the following:

- Current System(s) in Place
- Information of the Business & Client
- System Proposal Features

Additionally, one of our team members, Jake Simpson, is an employee at the coffee shop we decided to work with. This provides us with another method for gathering information which is through one of our team members. Since he is an employee, he has more knowledge of the operations that goes on in the business than we do and can provide us with information that we need.

Furthermore, aside from asking the owner questions, we can also ask Jake questions about the coffee shop for additional details. We can communicate with him through many different avenues, such as GroupMe, e-mail, Phone, and other programs online. Another method to get more data is to have Jake directly communicate with the owner of the business, as well as the other employees as well if needed. This can be done through talking in person, phone, or e-mail.

Finally, we have discovered multiple methods of gathering data through our team members, as well as talking to the owner through interviews. With this, we believe that we should be able to acquire substantial data needed to complete this project.

Data Gathering Questions

Data gathering questions are questions used to gain information from the client, their business, their current system, and what their ideal system and features would be. The most informative questions were elected after we had a brainstorming session with the whole team during one of our virtual meetings. We chose these questions as we thought they would retrieve valuable information from the client and aid us in developing a system to their content.

Current System(s) in Place:

- Which system(s) do you currently use for transactions? If so, which type?
- Do you use a system for inventory? If so, what kind?
- Are you currently experiencing any issues with the systems you have in place? If so, what issues are you having?
- How do you keep track of your inventory?
- What has been the worst event you have experienced with your current system?
- What does your current daily system process consist of?
- What would you improve in your current system?

Information of the Business and Client:

- What does your normal day consist of, from start to finish?
- How long has the company been in business?
- What made you pursue this business and career?
- How have you been dealing with the current COVID-19 pandemic?
- How many employees/workers are there?

Data Gathering Questions

- What would you say is your business' slogan or mission statement?
- How do you track your yearly progress/goals/revenue?

Systems Proposal Features:

- Would you be interested in a system that makes inventory management more efficient?
- Would you be interested in a system that uses similar features that your current existing system uses?
- What would be the top 3 features you would like in your system?
- Do you have a preference between a local (on-site) system or a cloud system?
- What do you think your ideal system would be in a few sentences?
- How do you want your ideal system to look?
- Do you have a preference on how you want to access your ideal system? By computer, phone, etc?
- Do you have any questions for us?

Data Gathering Results

Begin Interview with Brian Alfaro – Operations Manager at Blockhouse Coffee & Kitchen.

Conducted by Jake Simpson on September 30th, 2020.

General Information on the Business and Client:

Q. What does a normal day consist of at Blockhouse Coffee & Kitchen, from start to finish?

A. Blockhouse operates 7 days a week from 7AM-3PM. They serve various types of coffee, tea, and pastries at the bar, and have a kitchen that serves breakfast and lunch. The kitchen closes at 2PM, and the bar closes at 3PM.

Q. How long has the company been in business?

A. Blockhouse Coffee & Kitchen opened in March of 2017.

Q. What made you pursue this business and career?

A. Before opening Blockhouse, the owners had a combined 25 years of experience in the restaurant industry and shared a love for great coffee. They decided to create something new and different for the Richmond area.

Q. How have you been dealing with the current COVID-19 pandemic?

Data Gathering Results

A. Like many small businesses, Blockhouse has suffered a large decrease in revenue, and even decided to shut both locations down for the entire month of April. Brian said it has obviously been tough dealing with such an unprecedented event, but since reopening both stores in May, sales have been picking up and business is once again trending in the right direction.

Q. How many employees does Blockhouse have?

A. Between both locations, Blockhouse has roughly 20 employees. Each store has a café manager, and a small team of baristas and cooks.

Q. How do you track your yearly progress, goals, and revenue?

A. Similar to the inventory, Blockhouse keeps spreadsheets to track all of these things. They can pull most of this data from the Square system.

Q. Does Blockhouse have a mission statement or business slogan?

A. Their business motto is that Blockhouse Coffee & Kitchen is more than just a coffee shop, it is a café for the community.

Current System(s) in Place:

Q. What kind of system do you use for daily transactions?

Data Gathering Results

A. Blockhouse uses the Square system for transactions. This system also keeps records of customers and provides a loyalty program that is fully customizable by the business.

Q. Do you use a system for inventory? If so, what kind?

A. Blockhouse does not have an official inventory system. Currently the cafe managers are conducting counts and entering them into Google sheets that are stored on the companies Google Drive.

Q. How are you keeping track of your inventory?

A. Blockhouse keeps track of inventory through their Google Drive by organizing their inventory spreadsheets into different folders.

Q. Are you currently experiencing any issues with the systems you have in place? If so, can you please elaborate on the difficulties you are facing?

A. Blockhouse is very happy with the Square system, but wishes they had a better system in place for inventory and counts. The current system leaves too much room for error and is time consuming for both the business owners and the café managers. There is also no easy way to search for an older count other than browsing the drive and trying to locate it manually.

Q. What has been the worst event you have experienced with your current inventory system?

Data Gathering Results

A. A café manager accidentally deleted a batch of previous counts. They were able to recover the files because of Google Drive's auto backup, but it was a tedious process because multiple folders and files were deleted. The business owners sometimes forget to set proper permissions on the items stored in the drive, which leads to problems like this.

Q. What would you improve in your current system?

A. Brian would like a system that can automate the process of creating new sheets with the correct permissions for the café managers to fill out every week. Brian also said that to place the weekly truck orders, the café managers re-enter their counts into a separate spreadsheet that specifies how much of each inventoried item should be on hand. He would like a system that can auto-generate a list of items that should be ordered based on the inventory counts. Finally, he would like a search function that will allow him to look up specific counts based on criteria like month and year.

System Proposal Features:

Q. Would Blockhouse be interested in a system that makes inventory management more efficient?

Yes, Brian expressed interest in a new system.

Q. Would Blockhouse be interested in a system that has features similar to your current system?

Data Gathering Results

A. Blockhouse would like a new system that is similar in the way it is accessed (cloud based, through personal devices), but different in the way it is updated and maintained.

Q. What would be 3 most important features to you in a new system?

A.

1. Data that is well organized and easy to find with a search function to look up inventory counts by dates or other criteria.
2. The ability for the business owner to add, remove and update items that are kept in inventory.
3. An auto-generated list of items that should be ordered by the café manager after an inventory count is complete. The par levels for items should be editable only by the business owner.

Q. Would you prefer your new system to be local (on-site), or cloud-based?

Blockhouse would prefer a cloud-based system.

Q. What do you think your ideal system would be in a few sentences?

A. Blockhouse would like a new system that will make the inventory and ordering process easier, less time consuming, and more efficient for both the café managers, and the business owners. The system should allow the business owners to manage the items that are inventoried and should give café managers the ability to conduct counts on these items. The system should

inform the café managers which items need to be ordered after a count is complete. Finally, the system should give both the café manager and business owner the ability to easily search through any previous counts with functional search features.

Q. How would your ideal system look?

A. Blockhouse is not particular about the looks or cosmetics of a new system; they just want something that is functional and user-friendly.

Q. Do you have a preference on how you want to access your ideal system? Computer, phone, etc.?

A. Currently, the sheets are accessed from personal devices. The café managers conduct their counts using tablets, and the business owners access the sheets with their personal computers. Blockhouse would prefer if the new system remains accessible in this way.

End Interview with Brian Alfaro – Operations Manager at Blockhouse Coffee & Kitchen.

Current System Description

- Currently our client does not have a system in place to manage their inventory
- Once a week the café manager conducts inventory counts on high priority items and enters them into an “End of Week Inventory” google sheet
- At the end of each month the café manager conducts a full inventory count and enters them into an “End of Month Inventory” google sheet
- After completing a count, the café manager then enters the counts into a different spreadsheet that specifies what the inventory levels should be at, called the Par Sheet.
- After filling out the Par Sheet and determining which items are low in stock, the café manager places the weekly truck order
- Higher management periodically accesses these sheets to review the counts

Current System

Problem Description

Our client currently updates inventory records manually. Important items counted weekly and the rest counted once a month. Under this system low priority items are so rarely counted that it is difficult to know how much of each item they have. Because each item must be counted manually, there is no feasible way to make inventory counts more frequent.

The current inventory system is also susceptible to human error. If an item is miscounted it will take between a week and a month for that error to be corrected. The current system lacks methods for simple updates or corrections.

After inventory is collected it is put into a locally stored spreadsheet. That information is then manually copied into a Google Drive spreadsheet that is sent to higher management. Manually moving data between these two spreadsheets is reducing the efficiency of their data collection.

Instead of having one spreadsheet that is updated after each inventory count, a new spreadsheet is created every time. The longer this system is used the more difficult it is to manage inventory data.

Client Organization Objective List:

The client organization, Blockhouse Coffee & Kitchen, is looking to increase their number of locations so they can expand their reach within the Houston metropolitan area. In addition to this, they seek to implement a drive-thru system for their coffee services and also to create a membership and rewards system to attract a wider range of clientele. Blockhouse operates as both a café and a restaurant which means it must perform well on two fronts. In order for the business to thrive in the coffee market, which is dominated by names like Starbucks, and to survive as a restaurant in a city where restaurants come and go easily, they will require a well-rounded system to manage their information needs.

Currently, the organization has no real system by which they conduct inventory counts, or place weekly truck orders. All of the information is stored in and retrieved from spreadsheets on Google Drive. This will lead to an increase in disorganization of information over time as well as an increase in costs through an inefficient process and inaccuracies which lead to bad business decisions. Furthermore, this lack of a solid system will prevent Blockhouse from expanding operations in the long term.

Consequently, the most immediate objective of the organization is to implement a system which allows them to accurately and easily track their inventory as well as place and track orders based on current inventory. Additionally, they would like the system to provide ways of tracking or storing things like employee information, customer information, operational information, and trends on products or service sales.

Client Application

(System) Objective List:

Our team, ACE Systems Solutions, will create an SQL database which will store records of inventory information, customer information, sales information, order information, employee information, schedules, and operational logs. Our goal is to enable the organization, Blockhouse Coffee & Kitchen, to more easily and accurately gather and store information and produce reports from their system. By doing this, we increase their efficiency, productivity, and reduce overhead costs.

Objective Statement

To: Create an SQL database through which users may store, search, and modify information as well as create useful reports from that information.

In a way that:

a. Increases productivity

b. Increases efficiency of operations

c. Reduces overhead costs

So that:

a. More scheduled employee hours (90%) can be spent driving sales

b. Time spent storing and finding unorganized information is reduced 50%

Client Application
(System) Objective List:

c. Errors in inventory counts and subsequent orders are reduced 50%

Can be measured by:

a. An immediate increase in the number of sales for the client organization, then followed by a gradual increase in sales, and then a leveling of sales due to the implementation of the system

b. A decrease in the time a manager or supervisor will spend searching through inventory records (1 hour) to create a list of items and their amounts to be ordered down to 30 minutes

c. A decrease in the amount of overhead resulting from information errors from 10 to 20 per week down to 1 to 5 per week

Individual User Objective List

Our system will define users into three categories, employees, cafe managers, and Executives. The goal of the system is to aid each of these categories of individuals in their workflow such that it is more efficient, effective, and accurate. Additionally, it is best if the new system requires as little change in the daily, weekly, or monthly activity on part of the users so that they can easily adapt to it.

Employees:

- Employees will be able to input and record sales information and create receipts.
- Employees wish to continue their normal POS operations

Managers:

- Cafe managers will be able to update inventory values in the database.
- Cafe managers will be able to generate reports based on inventory and sales data, and send those reports to the executives.

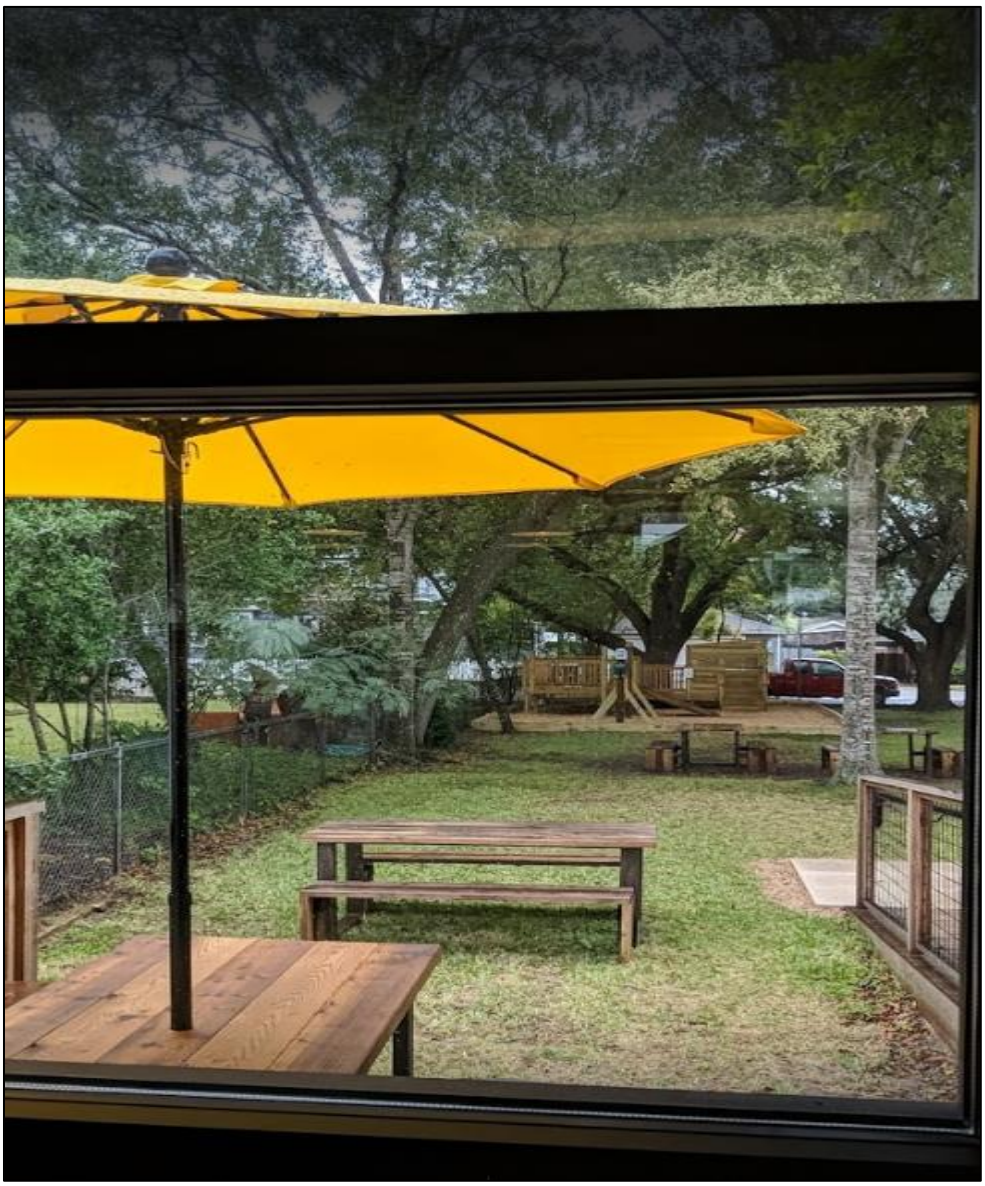
Executives:

- Operational managers will be able to receive reports on sales, inventory, and orders from managers such that they can make appropriate business decisions
- Executives want the ability to change settings for items that can be stored in the database.

STROBE Analysis

This is the store front of the Richmond location. It is at the end of a small strip center and has a front patio with outdoor seating.

STROBE Analysis



Blockhouse has a backyard area behind the store that is complete with patio seating, picnic tables, and a small playground.

STROBE Analysis

This is the lobby at the front of the store where customers can sit and enjoy their food and drink inside. Blockhouse provides free Wi-Fi and plenty of electrical outlets, making this a great place to study or get some work done. It is worth noting that the lobby normally contains even more seating, but in compliance with COVID regulations they have temporarily removed 50% of it.

STROBE Analysis

This is the bar area where baristas take orders and make drinks. Blockhouse uses the iPad pictured above and Square as their point of sale system.

STROBE Analysis

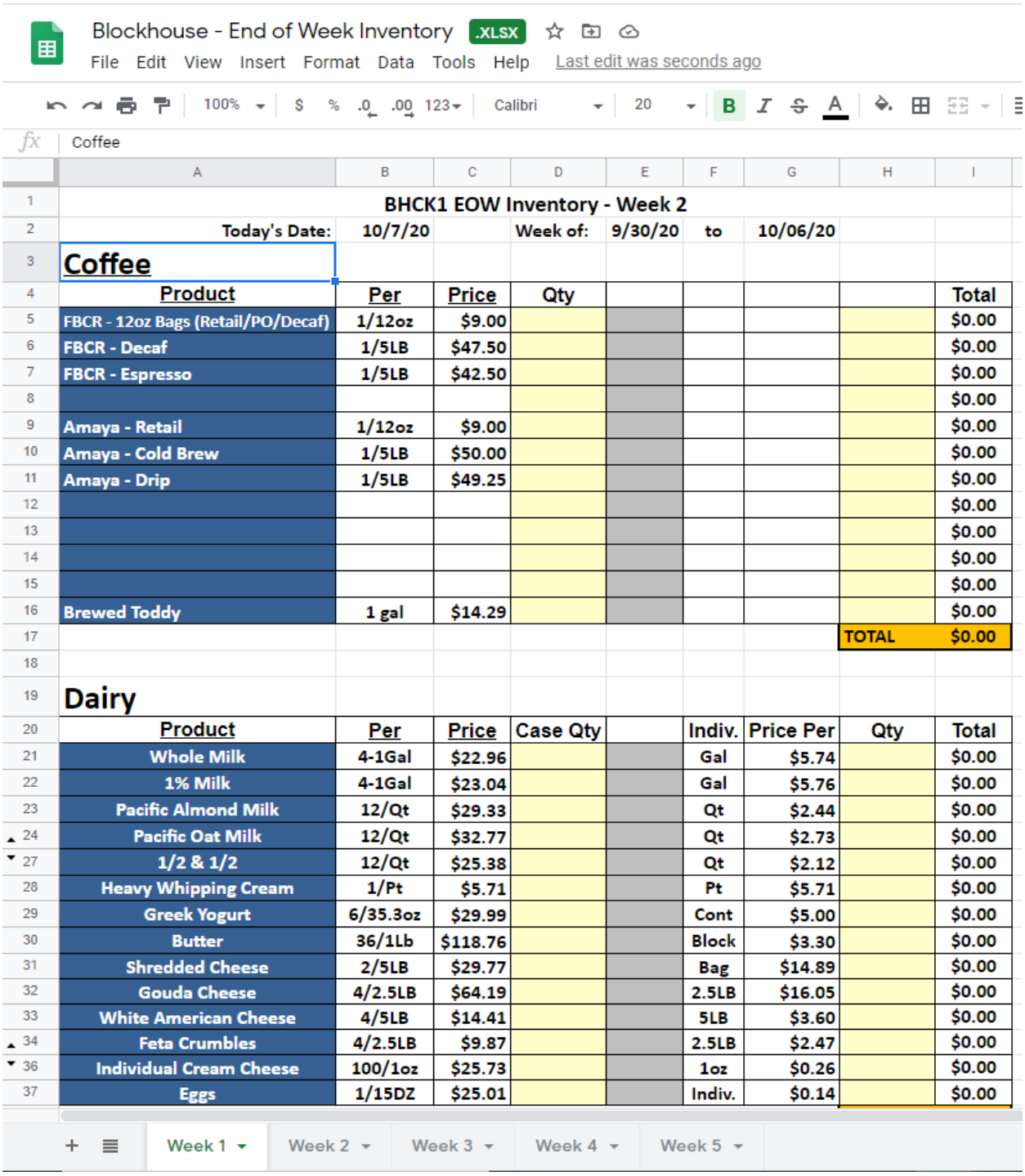
Blockhouse has a small storage room where they keep some of their extra inventory including paper products, condiments, bottled drinks, and other non-perishable food items.

STROBE Analysis

The kitchen at Blockhouse is surprisingly small and contains a fridge, freezer, convection oven, toaster over, 2 induction burners, and a small sandwich board with refrigerated storage underneath. They also have storage shelves throughout the kitchen, and a dishwashing station in the back.

Samples of Records

Sample of Blockhouse Coffee & Kitchen Inventory Spreadsheet:



Blockhouse - End of Week Inventory .XLSX

File Edit View Insert Format Data Tools Help Last edit was seconds ago

Coffee

BHCK1 EOW Inventory - Week 2

Today's Date: 10/7/20 Week of: 9/30/20 to 10/06/20

Coffee

Product	Per	Price	Qty					Total
FBCR - 12oz Bags (Retail/PO/Decaf)	1/12oz	$9.00						$0.00
FBCR - Decaf	1/5LB	$47.50						$0.00
FBCR - Espresso	1/5LB	$42.50						$0.00
								$0.00
Amaya - Retail	1/12oz	$9.00						$0.00
Amaya - Cold Brew	1/5LB	$50.00						$0.00
Amaya - Drip	1/5LB	$49.25						$0.00
								$0.00
								$0.00
								$0.00
								$0.00
Brewed Toddy	1 gal	$14.29						$0.00
							TOTAL	$0.00

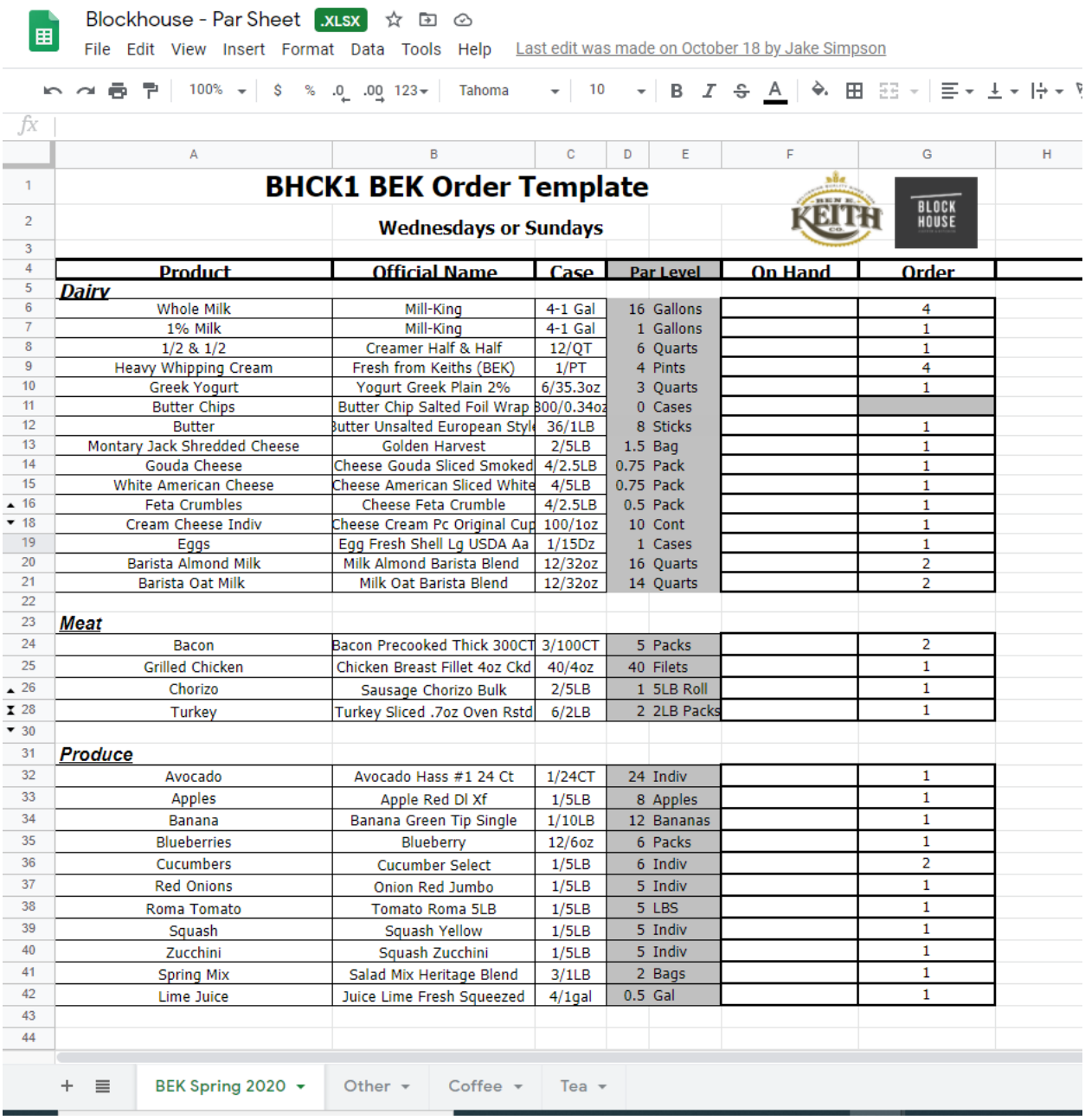
Dairy

Product	Per	Price	Case Qty		Indiv.	Price Per	Qty	Total
Whole Milk	4-1Gal	$22.96			Gal	$5.74		$0.00
1% Milk	4-1Gal	$23.04			Gal	$5.76		$0.00
Pacific Almond Milk	12/Qt	$29.33			Qt	$2.44		$0.00
Pacific Oat Milk	12/Qt	$32.77			Qt	$2.73		$0.00
1/2 & 1/2	12/Qt	$25.38			Qt	$2.12		$0.00
Heavy Whipping Cream	1/Pt	$5.71			Pt	$5.71		$0.00
Greek Yogurt	6/35.3oz	$29.99			Cont	$5.00		$0.00
Butter	36/1Lb	$118.76			Block	$3.30		$0.00
Shredded Cheese	2/5LB	$29.77			Bag	$14.89		$0.00
Gouda Cheese	4/2.5LB	$64.19			2.5LB	$16.05		$0.00
White American Cheese	4/5LB	$14.41			5LB	$3.60		$0.00
Feta Crumbles	4/2.5LB	$9.87			2.5LB	$2.47		$0.00
Individual Cream Cheese	100/1oz	$25.73			1oz	$0.26		$0.00
Eggs	1/15DZ	$25.01			Indiv.	$0.14		$0.00

Week 1 Week 2 Week 3 Week 4 Week 5

Samples of Records

Sample of Blockhouse Coffee & Kitchen Par levels spreadsheet:



Blockhouse - Par Sheet .XLSX

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BHCK1 BEK Order Template

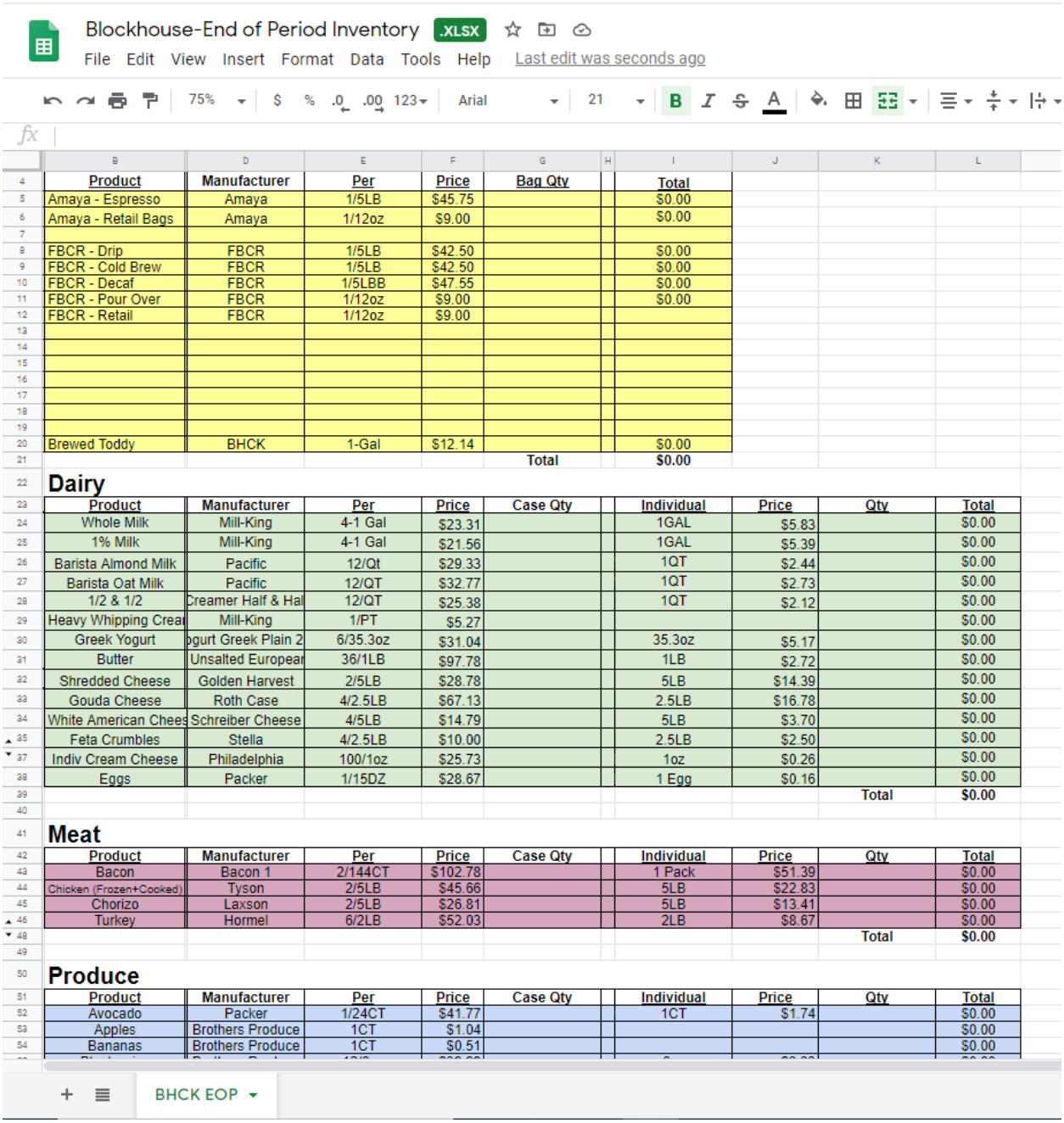
Wednesdays or Sundays

Product	Official Name	Case	Par Level	On Hand	Order
Dairy					
Whole Milk	Mill-King	4-1 Gal	16 Gallons		4
1% Milk	Mill-King	4-1 Gal	1 Gallons		1
1/2 & 1/2	Creamer Half & Half	12/QT	6 Quarts		1
Heavy Whipping Cream	Fresh from Keiths (BEK)	1/PT	4 Pints		4
Greek Yogurt	Yogurt Greek Plain 2%	6/35.3oz	3 Quarts		1
Butter Chips	Butter Chip Salted Foil Wrap	300/0.34oz	0 Cases		
Butter	Butter Unsalted European Style	36/1LB	8 Sticks		1
Montary Jack Shredded Cheese	Golden Harvest	2/5LB	1.5 Bag		1
Gouda Cheese	Cheese Gouda Sliced Smoked	4/2.5LB	0.75 Pack		1
White American Cheese	Cheese American Sliced White	4/5LB	0.75 Pack		1
Feta Crumbles	Cheese Feta Crumble	4/2.5LB	0.5 Pack		1
Cream Cheese Indiv	Cheese Cream Pc Original Cup	100/1oz	10 Cont		1
Eggs	Egg Fresh Shell Lg USDA Aa	1/15Dz	1 Cases		1
Barista Almond Milk	Milk Almond Barista Blend	12/32oz	16 Quarts		2
Barista Oat Milk	Milk Oat Barista Blend	12/32oz	14 Quarts		2
Meat					
Bacon	Bacon Precooked Thick 300CT	3/100CT	5 Packs		2
Grilled Chicken	Chicken Breast Fillet 4oz Ckd	40/4oz	40 Filets		1
Chorizo	Sausage Chorizo Bulk	2/5LB	1 5LB Roll		1
Turkey	Turkey Sliced .7oz Oven Rstd	6/2LB	2 2LB Packs		1
Produce					
Avocado	Avocado Hass #1 24 Ct	1/24CT	24 Indiv		1
Apples	Apple Red Dl Xf	1/5LB	8 Apples		1
Banana	Banana Green Tip Single	1/10LB	12 Bananas		1
Blueberries	Blueberry	12/6oz	6 Packs		1
Cucumbers	Cucumber Select	1/5LB	6 Indiv		2
Red Onions	Onion Red Jumbo	1/5LB	5 Indiv		1
Roma Tomato	Tomato Roma 5LB	1/5LB	5 LBS		1
Squash	Squash Yellow	1/5LB	5 Indiv		1
Zucchini	Squash Zucchini	1/5LB	5 Indiv		1
Spring Mix	Salad Mix Heritage Blend	3/1LB	2 Bags		1
Lime Juice	Juice Lime Fresh Squeezed	4/1gal	0.5 Gal		1

BEK Spring 2020 | Other | Coffee | Tea

Samples of Records

Sample of Blockhouse Coffee & Kitchen End-of-Period Inventory Spreadsheet:



Blockhouse-End of Period Inventory .XLSX

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Product	Manufacturer	Per	Price	Bag Qty		Total
Amaya - Espresso	Amaya	1/5LB	$45.75			$0.00
Amaya - Retail Bags	Amaya	1/12oz	$9.00			$0.00
FBCR - Drip	FBCR	1/5LB	$42.50			$0.00
FBCR - Cold Brew	FBCR	1/5LB	$42.50			$0.00
FBCR - Decaf	FBCR	1/5LBB	$47.55			$0.00
FBCR - Pour Over	FBCR	1/12oz	$9.00			$0.00
FBCR - Retail	FBCR	1/12oz	$9.00			
Brewed Toddy	BHCK	1-Gal	$12.14			$0.00
				Total		$0.00

Dairy

Product	Manufacturer	Per	Price	Case Qty		Individual	Price	Qty	Total
Whole Milk	Mill-King	4-1 Gal	$23.31			1GAL	$5.83		$0.00
1% Milk	Mill-King	4-1 Gal	$21.56			1GAL	$5.39		$0.00
Barista Almond Milk	Pacific	12/Qt	$29.33			1QT	$2.44		$0.00
Barista Oat Milk	Pacific	12/QT	$32.77			1QT	$2.73		$0.00
1/2 & 1/2	Creamer Half & Hal	12/QT	$25.38			1QT	$2.12		$0.00
Heavy Whipping Crea	Mill-King	1/PT	$5.27						$0.00
Greek Yogurt	ɔgurt Greek Plain 2	6/35.3oz	$31.04			35.3oz	$5.17		$0.00
Butter	Unsalted Europea	36/1LB	$97.78			1LB	$2.72		$0.00
Shredded Cheese	Golden Harvest	2/5LB	$28.78			5LB	$14.39		$0.00
Gouda Cheese	Roth Case	4/2.5LB	$67.13			2.5LB	$16.78		$0.00
White American Chees	Schreiber Cheese	4/5LB	$14.79			5LB	$3.70		$0.00
Feta Crumbles	Stella	4/2.5LB	$10.00			2.5LB	$2.50		$0.00
Indiv Cream Cheese	Philadelphia	100/1oz	$25.73			1oz	$0.26		$0.00
Eggs	Packer	1/15DZ	$28.67			1 Egg	$0.16		$0.00
								Total	$0.00

Meat

Product	Manufacturer	Per	Price	Case Qty		Individual	Price	Qty	Total
Bacon	Bacon 1	2/144CT	$102.78			1 Pack	$51.39		$0.00
Chicken (Frozen+Cooked)	Tyson	2/5LB	$45.66			5LB	$22.83		$0.00
Chorizo	Laxson	2/5LB	$26.81			5LB	$13.41		$0.00
Turkey	Hormel	6/2LB	$52.03			2LB	$8.67		$0.00
								Total	$0.00

Produce

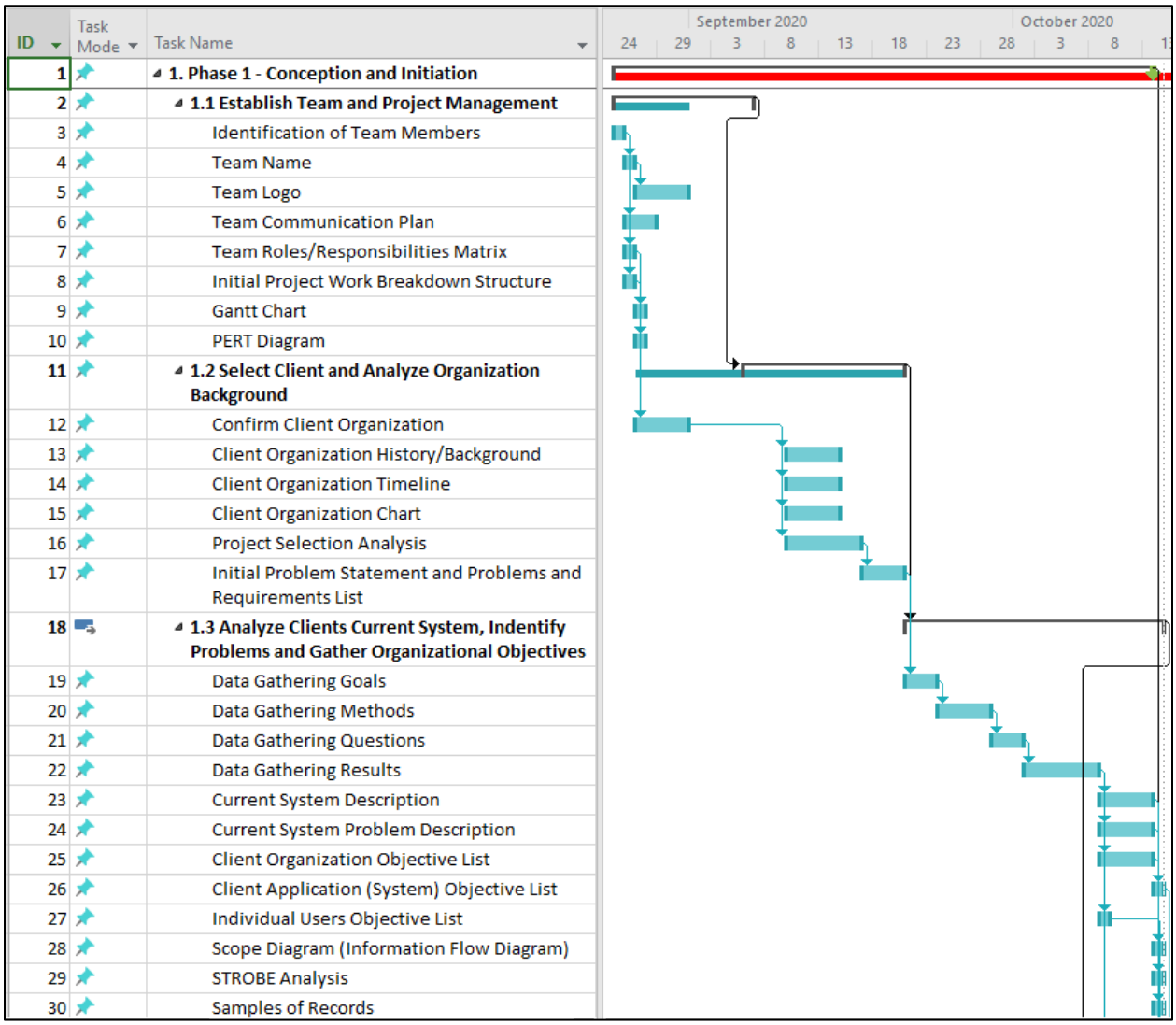
Product	Manufacturer	Per	Price	Case Qty		Individual	Price	Qty	Total
Avocado	Packer	1/24CT	$41.77			1CT	$1.74		$0.00
Apples	Brothers Produce	1CT	$1.04						$0.00
Bananas	Brothers Produce	1CT	$0.51						$0.00

BHCK EOP

Initial Project WBS

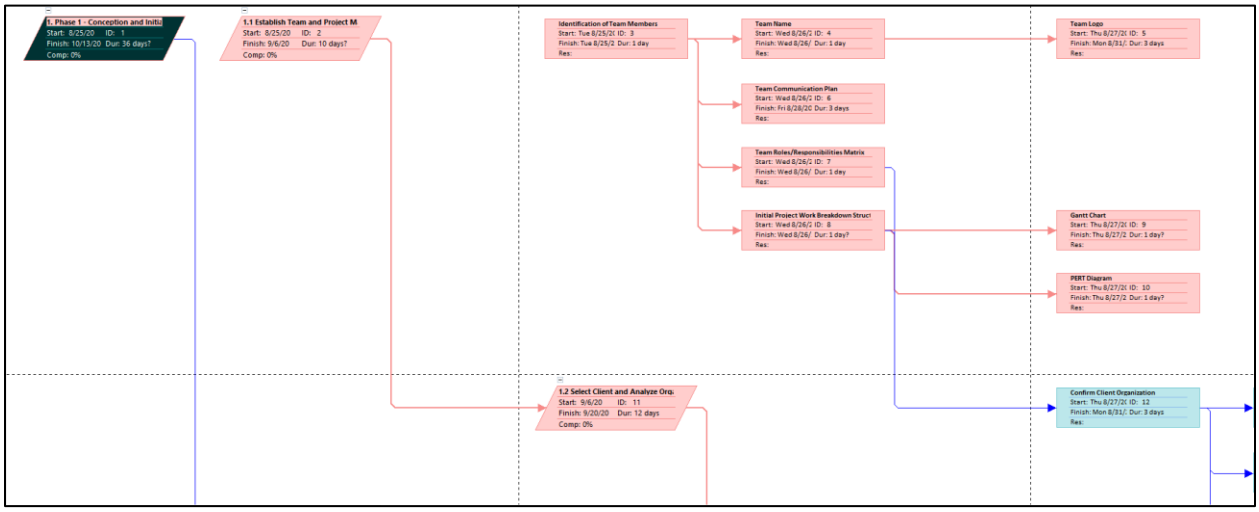
ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors
1		**1. Phase 1 - Conception and Initiation**	**36 days?**	**Tue 8/25/20**	**Tue 10/13/20**	
2		**1.1 Establish Team and Project Management**	**10 days?**	**Tue 8/25/20**	**Sun 9/6/20**	
3		Identification of Team Members	1 day	Tue 8/25/20	Tue 8/25/20	
4		Team Name	1 day	Wed 8/26/20	Wed 8/26/20	3
5		Team Logo	3 days	Thu 8/27/20	Mon 8/31/20	4
6		Team Communication Plan	3 days	Wed 8/26/20	Fri 8/28/20	3
7		Team Roles/Responsibilities Matrix	1 day	Wed 8/26/20	Wed 8/26/20	3
8		Initial Project Work Breakdown Structure	1 day?	Wed 8/26/20	Wed 8/26/20	3
9		Gantt Chart	1 day?	Thu 8/27/20	Thu 8/27/20	8
10		PERT Diagram	1 day?	Thu 8/27/20	Thu 8/27/20	8
11		**1.2 Select Client and Analyze Organization Background**	**12 days**	**Sun 9/6/20**	**Sun 9/20/20**	**2**
12		Confirm Client Organization	3 days	Thu 8/27/20	Mon 8/31/20	7,8
13		Client Organization History/Background	3 days	Thu 9/10/20	Mon 9/14/20	12
14		Client Organization Timeline	3 days	Thu 9/10/20	Mon 9/14/20	12
15		Client Organization Chart	3 days	Thu 9/10/20	Mon 9/14/20	12
16		Project Selection Analysis	5 days	Thu 9/10/20	Wed 9/16/20	12
17		Initial Problem Statement and Problems and Requirements List	3 days	Thu 9/17/20	Sun 9/20/20	16
18		**1.3 Analyze Clients Current System, Indentify Problems and Gather Organizational Objectives**	**18 days?**	**Mon 9/21/20**	**Wed 10/14/20**	**11**
19		Data Gathering Goals	3 days	Mon 9/21/20	Wed 9/23/20	17
20		Data Gathering Methods	3 days	Thu 9/24/20	Mon 9/28/20	19
21		Data Gathering Questions	3 days	Tue 9/29/20	Thu 10/1/20	20
22		Data Gathering Results	5 days	Fri 10/2/20	Thu 10/8/20	21
23		Current System Description	3 days	Fri 10/9/20	Tue 10/13/20	22
24		Current System Problem Description	3 days	Fri 10/9/20	Tue 10/13/20	22
25		Client Organization Objective List	3 days	Fri 10/9/20	Tue 10/13/20	22
26		Client Application (System) Objective List	1 day	Wed 10/14/20	Wed 10/14/20	25
27		Individual Users Objective List	1 day	Fri 10/9/20	Fri 10/9/20	22
28		Scope Diagram (Information Flow Diagram)	1 day?	Wed 10/14/20	Wed 10/14/20	23
29		STROBE Analysis	1 day?	Wed 10/14/20	Wed 10/14/20	23
30		Samples of Records	1 day?	Wed 10/14/20	Wed 10/14/20	24

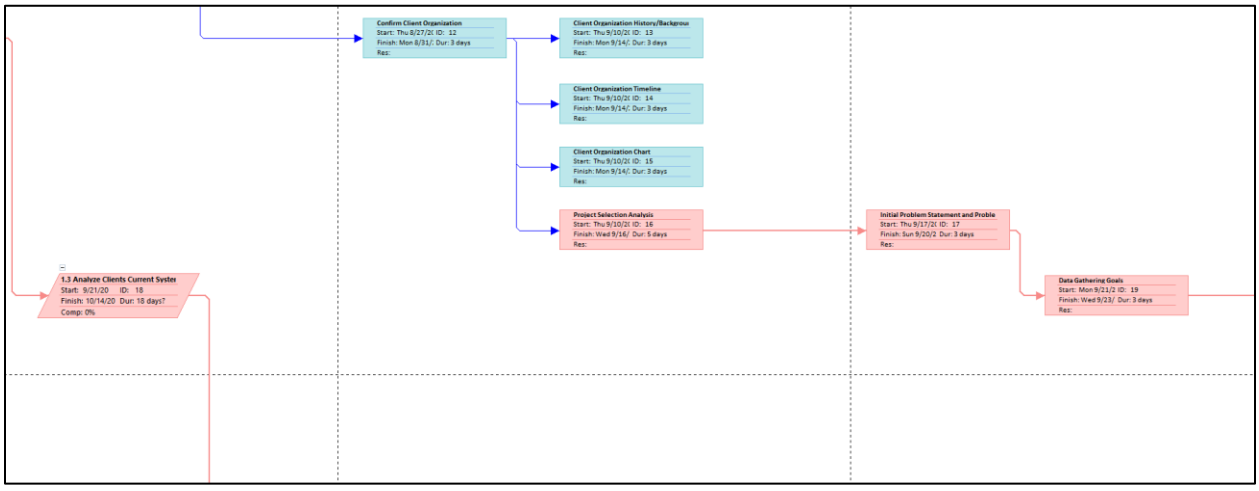
Gantt Chart

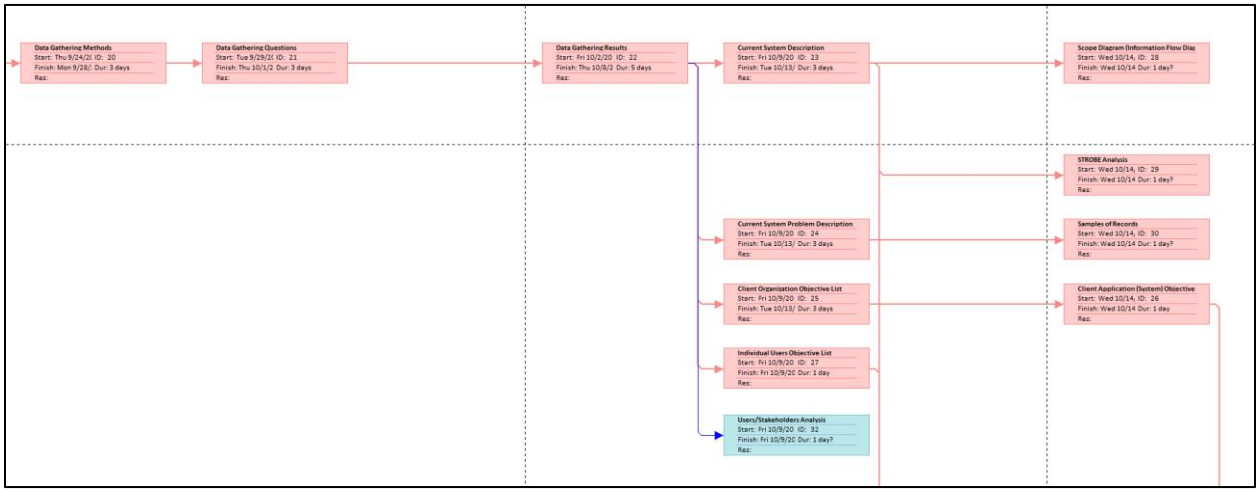


ID	Task Mode	Task Name
1		**1. Phase 1 - Conception and Initiation**
2		**1.1 Establish Team and Project Management**
3		Identification of Team Members
4		Team Name
5		Team Logo
6		Team Communication Plan
7		Team Roles/Responsibilities Matrix
8		Initial Project Work Breakdown Structure
9		Gantt Chart
10		PERT Diagram
11		**1.2 Select Client and Analyze Organization Background**
12		Confirm Client Organization
13		Client Organization History/Background
14		Client Organization Timeline
15		Client Organization Chart
16		Project Selection Analysis
17		Initial Problem Statement and Problems and Requirements List
18		**1.3 Analyze Clients Current System, Indentify Problems and Gather Organizational Objectives**
19		Data Gathering Goals
20		Data Gathering Methods
21		Data Gathering Questions
22		Data Gathering Results
23		Current System Description
24		Current System Problem Description
25		Client Organization Objective List
26		Client Application (System) Objective List
27		Individual Users Objective List
28		Scope Diagram (Information Flow Diagram)
29		STROBE Analysis
30		Samples of Records

PERT Diagram







Users & Stakeholders Analysis

Stakeholders	Importance	Commitment	Involvement	Goals
Cody Frederick	Owner Tells us what the problem is	5	Decision Maker	Better inventory system More accurate information Able to store user information efficiently
Brian Alfaro	Partner Operations Manager	4	Administration	Improved performance
Jake Simpson	Cafe Manager Keeps count of inventory	4	Feedback / Information	Inventory is more organized Manage resources more efficiently
Employees	Insight on current system	3	Feedback	Provide feedback to the system Able to use system if needed
Customers	Thoughts on improving system	2	Feedback	Expects better service

Initial Feasibility Analysis

Technical Feasibility

Currently Blockhouse Coffee & Kitchen operates its inventory through a set of spreadsheets shared on Google Drive. These files can only be accessed by the Owners and Café Managers only from the device of their choosing. A positive of this system is that it can be edited and updated from any device since it is all stored in the cloud. Nonetheless, this operation is becoming inefficient, confusing, and disorderly causing the owners and upper management to spend extra unnecessary time on these tasks. The system proposed would streamline this process, allow for better cohesion between tasks, while organizing their files and inventory for easy and quick access. This system would allow the owners and café managers to access their inventory from any device and from any location while allowing them to see real-time updates, create reports, and order more stock. This would consolidate all the files and data they would need to manage their inventory in one central hub.

Operational Feasibility

As Blockhouse Coffee & Kitchen have expanded recently, the system would also need to be adaptable and easily scalable, for any further plans the Owners may have. This will be solved by implementing the system in the Cloud thus allowing easy scalability if Blockhouse were to further expand. We also want to minimize redundancy within their system. Centralizing all the inventory processes into one core system allows Blockhouse to have one place where they can access, create, and manage their operations. However, we want to create a system that would be user-friendly and can cater to both tech-savvy individuals and users that may not be as knowledgeable. We are positive that our application will fulfill these needs.

Initial Feasibility Analysis

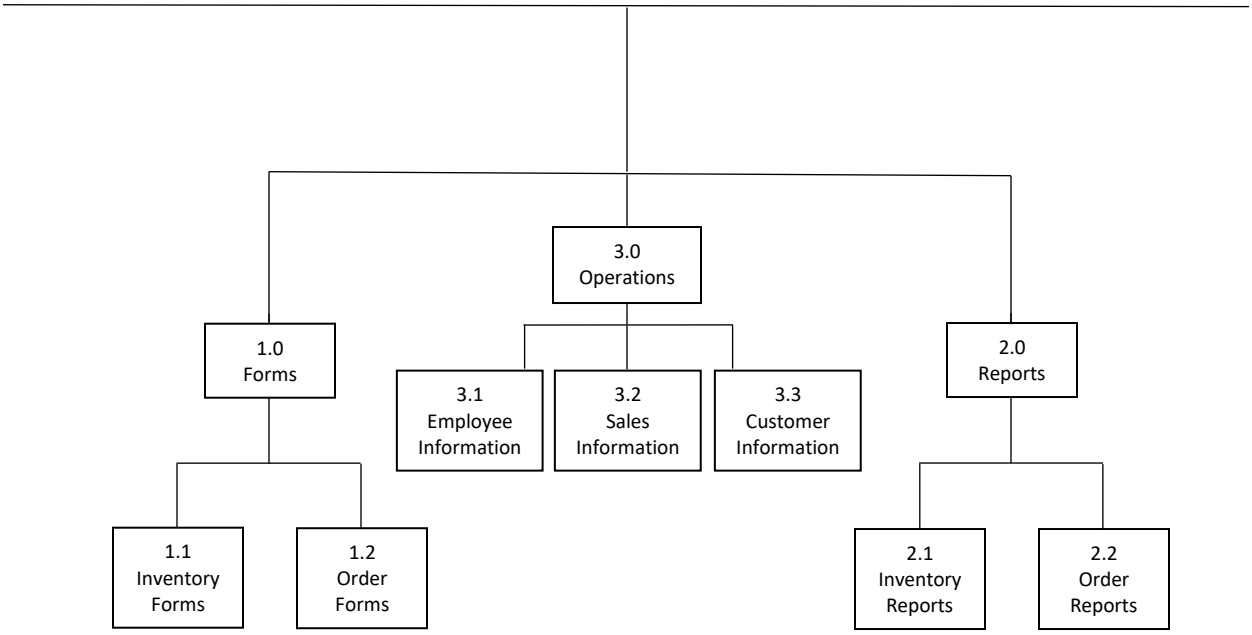
Economic Feasibility

Essential to business is good return on investment (ROI) therefore we would also want to minimize the costs needed to run this system. With our solution, Blockhouse would only need to pay a small monthly fee to store, run, and access the system from the cloud thus negligibly hurting their revenue. There would be no need to upgrade any local systems as it all runs from the cloud. Scalability allows the system to be upgraded while only increasing the monthly fee by cents. The proposed system would save Blockhouse valuable money, time, and effort while being easy to implement in new locations.

Critical Requirements Tree

Critical Requirements Analysis Objective Tree

Objective: Create an SQL database through which users may store, search, and modify inventory information in an efficient manner as well as create useful reports from that information for constructing orders



Current Business Rule List

Store Rules

Richmond – Jax & 7th Location	Katy – Stableside Location
COVID-19 Hours of operation: • Daily: 7:00am-3:00pm • Daily: Kitchen open until 2:00pm	COVID-19 Hours of operation: • Daily: 7:00am-6:00pm • Daily: Kitchen open until 2:00pm
Regular Hours of Operation: • Weekdays 7:00am-5:00pm (Breakfast until 10:30am / Lunch until 2:00pm) • Weekends 8:00am-4:00pm (Breakfast until 2:00pm / Lunch until 2:00pm) • Customers may order pickup or delivery through DoorDash	Regular Hours of Operation: • Weekdays 6:00am-8:00pm (Breakfast & lunch until 4:00pm) • Weekends 7:00am-8:00pm (Breakfast & lunch until 4:00pm) • Customers may order pickup or delivery through DoorDash
Store Contact Information: • Website: https://www.blockhousecoffee.co/jax-7th • Physical Address: 611 Jackson Street Suite C, Richmond, TX 77469 • Phone Number: +1 (281) 766-4866	Store Contact Information: • Website: https://www.blockhousecoffee.co/katy-stableside • Physical Address: 9910 Gaston Road, Suite 170, Katy, TX 77494 • Phone Number: +1 (346) 278-5535

Current Business Rule List

Managerial Rules

- Manage and maintain weekly and monthly inventory spreadsheets
- Counts and orders ingredients and supplies at the end of every week
- Schedule employee hours
- Train new employees

Current Business Activity List

Daily

- Cafe managers count cash at the beginning and end of every day
- Cafe managers schedule employees
- Cafe managers count and order smaller inventory items

Weekly

- Cafe managers count ingredients, items, and supplies in stock, then enter them into an End of Week (EOW) Inventory spreadsheet
- After each count, the managers refer to the Par Level spreadsheet which contains a full list of items for the business and how much they should have in stock at the beginning of every week and place orders accordingly

Monthly

- Cafe managers combine all EOW Inventory spreadsheets into an End of Period/Month (EOP) spreadsheet, containing a full list of items for the business
- Cafe managers do a second-round count of the entire store's inventory
- Cafe managers train and staff employees as needed for events or new systems

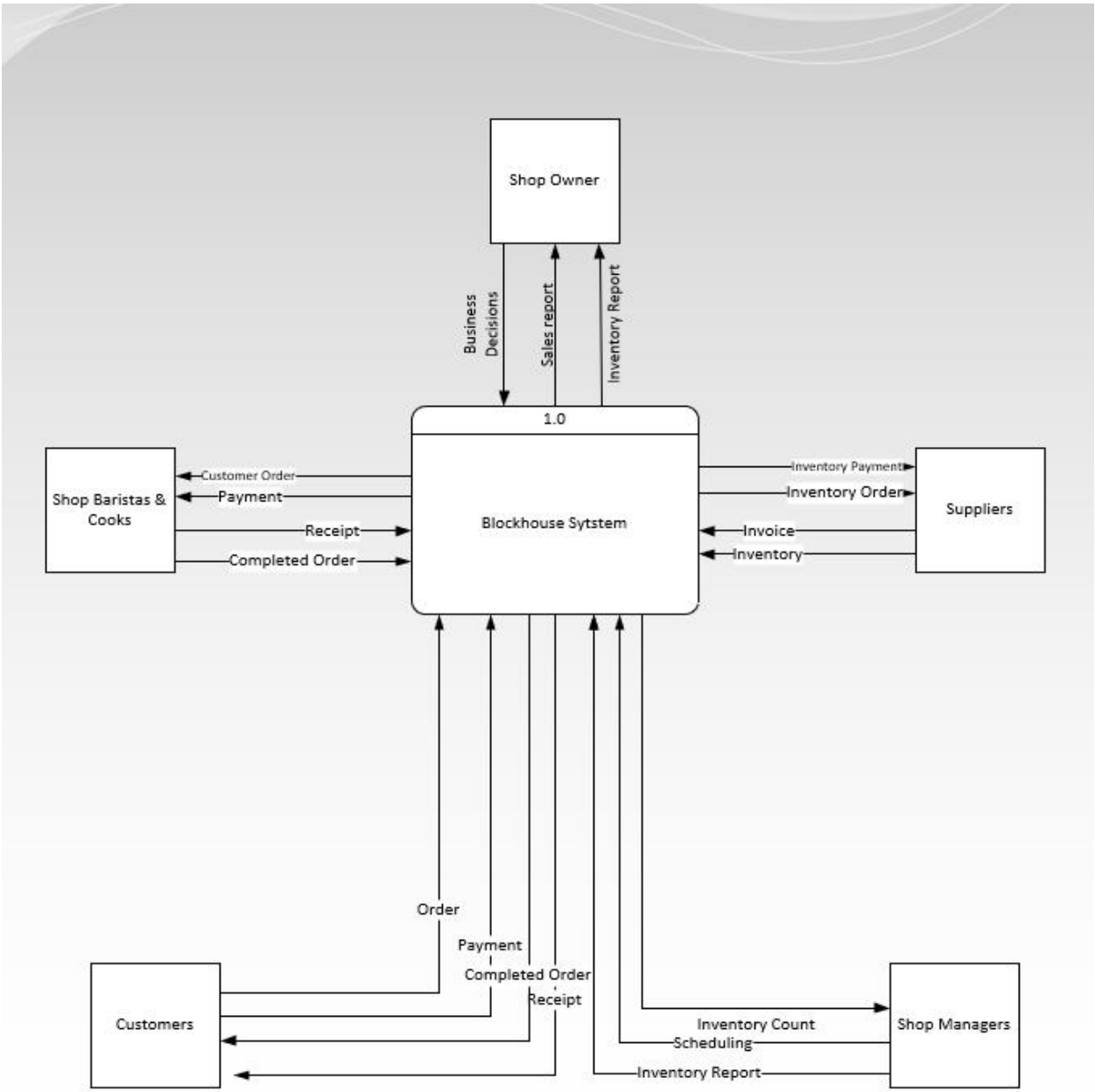
Current Event Response Table

ID	Event	Source	Trigger	Activity	Response	Destination
1	Cafe managers conduct physical counts of inventory items.	Cafe Manager	Items are used throughout the work week.	Inventory is counted.	Item counts are entered into EOW spreadsheets.	EOW Google Spreadsheet
2	Cafe managers place orders on ingredients and supplies.	Cafe Manager	Inventory count needs to meet Par Level sheet every week.	Ingredients and supplies are ordered.	Ingredients and supplies are delivered to the store.	EOP Google Spreadsheet
3	Customer orders items on menu.	Customer	Cashier opens order to kitchen.	Kitchen uses supplies to fulfill order.	Supplies are depleted.	Consumer products (food, drinks)
4	Employee scheduling	Cafe Manager	Cafe managers want to schedule employee shifts.	Cafe managers designate employee shifts.	Employees are scheduled.	Squarespace Database

Current System

Data Flow Diagram

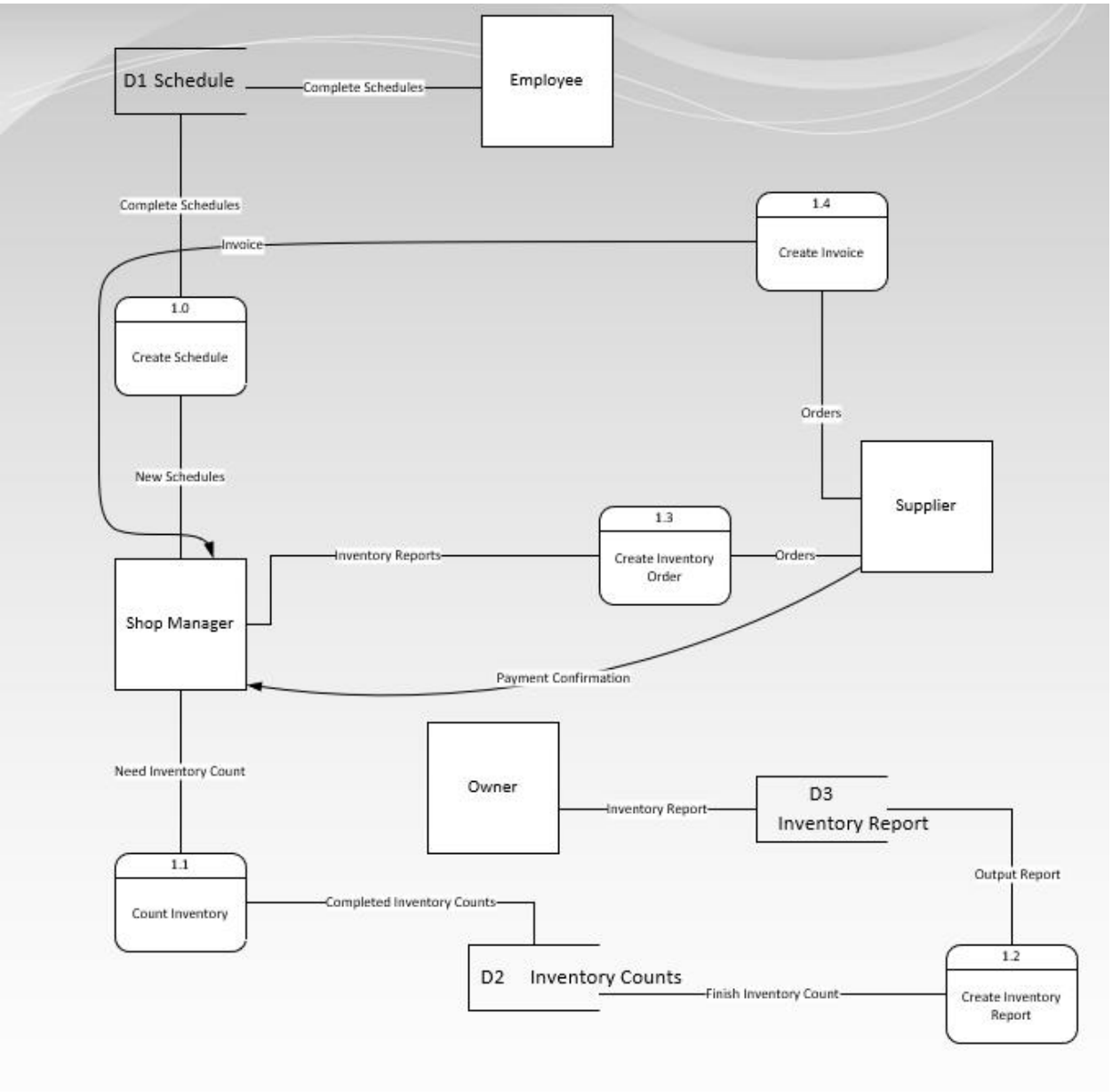
Context Level DFD



Current System

Data Flow Diagram

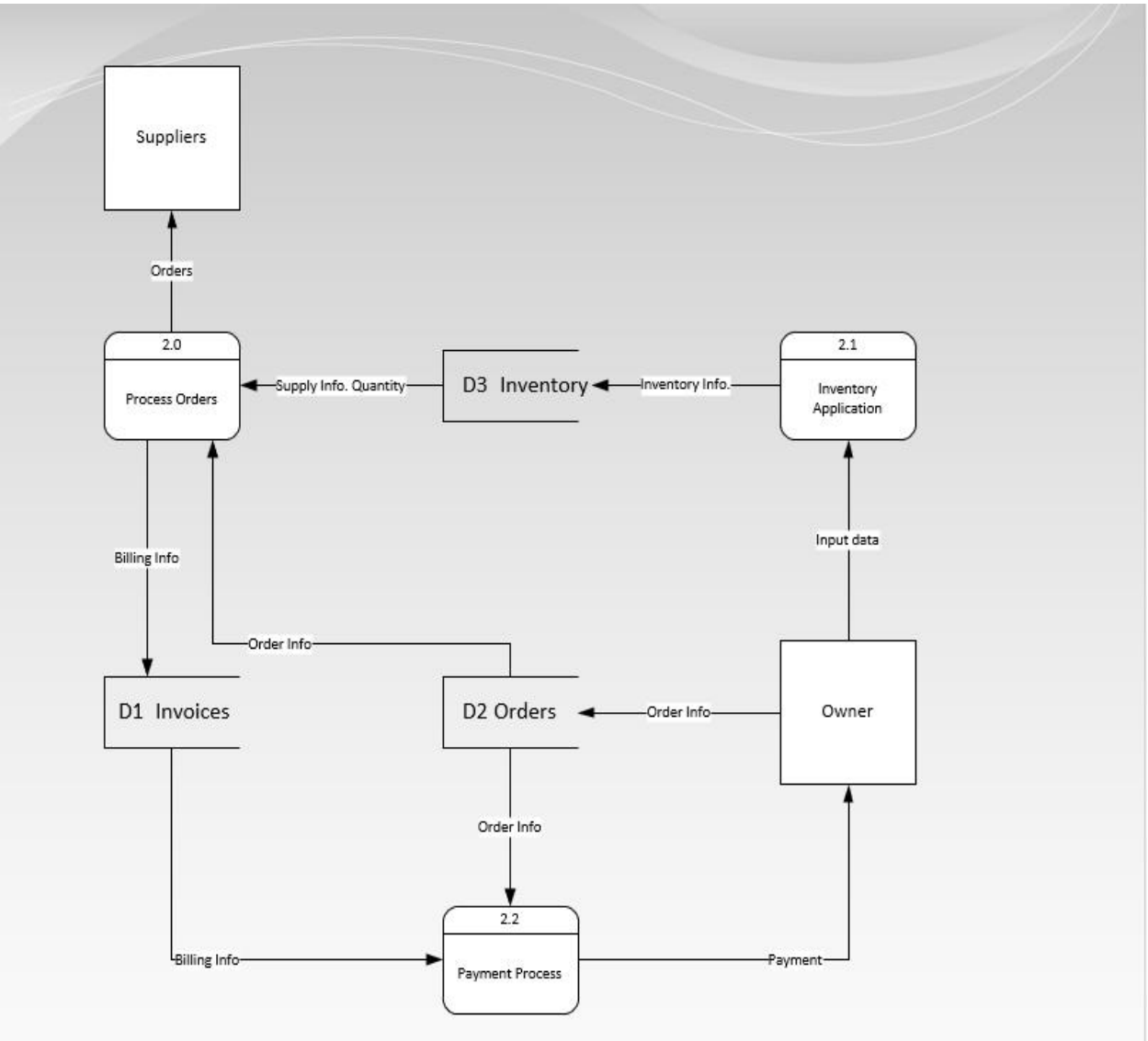
Current System DFD – part 1



Current System

Data Flow Diagram

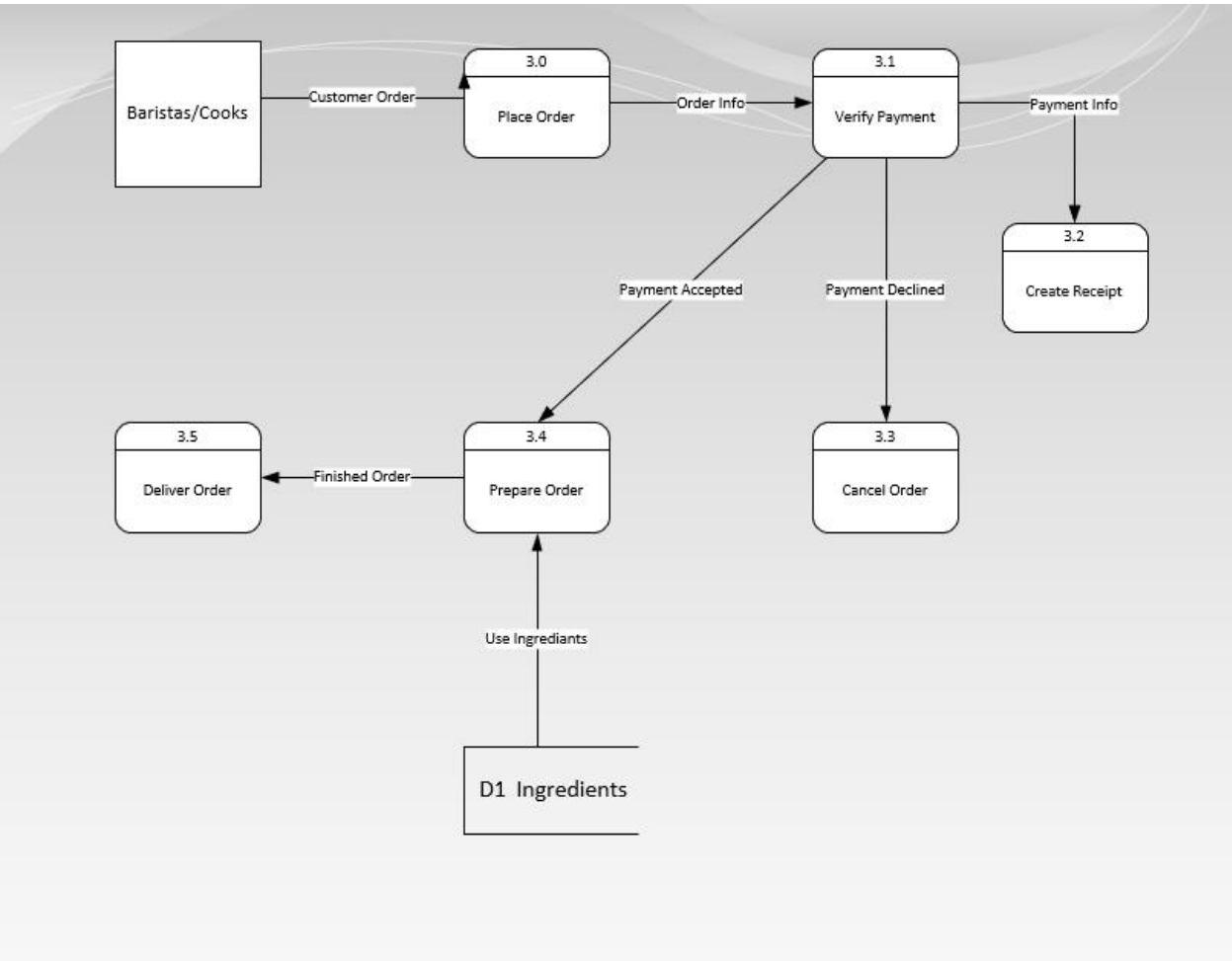
Current System DFD – part 2



Current System

Data Flow Diagram

Current System DFD – part 3



Current Data Dictionary

Address Information				
Field Name	**Field Length**	**Data Type**	**Constraint**	**Description**
address_id	8	INT	Primary Key	Unique ID for the vendors
street_address	35	VARCHAR	Null	Street address
city	20	VARCHAR	Null	City
state	10	VARCHAR	Null	State
postal_code	6	INT	Null	Postal Code

Order Information				
Field Name	**Field Length**	**Data Type**	**Constraint**	**Description**
order_id	8	INT	Primary Key	Unique ID for the order
order_date	N/A	DATE	NN	Order Date
order_status	20	VARCHAR	NN	Order Status
order_comments	120	VARCHAR	Null	Special requests

Manufacturer Information				
Field Name	**Field Length**	**Data Type**	**Constraint**	**Description**
manufacturer_id	8	INT	Primary Key	Unique ID for the supplier
manufactuer_name	20	VARCHAR	Null	Supplier Name
manufactuer_product	25	VARCHAR	Null	Supplier's product
address_id	6	INT	Foreign Key	Foreign key to the Address Information Table
order_id	6	INT	Foreign Key	Foreign key to the Order Information Table

Current Data Dictionary

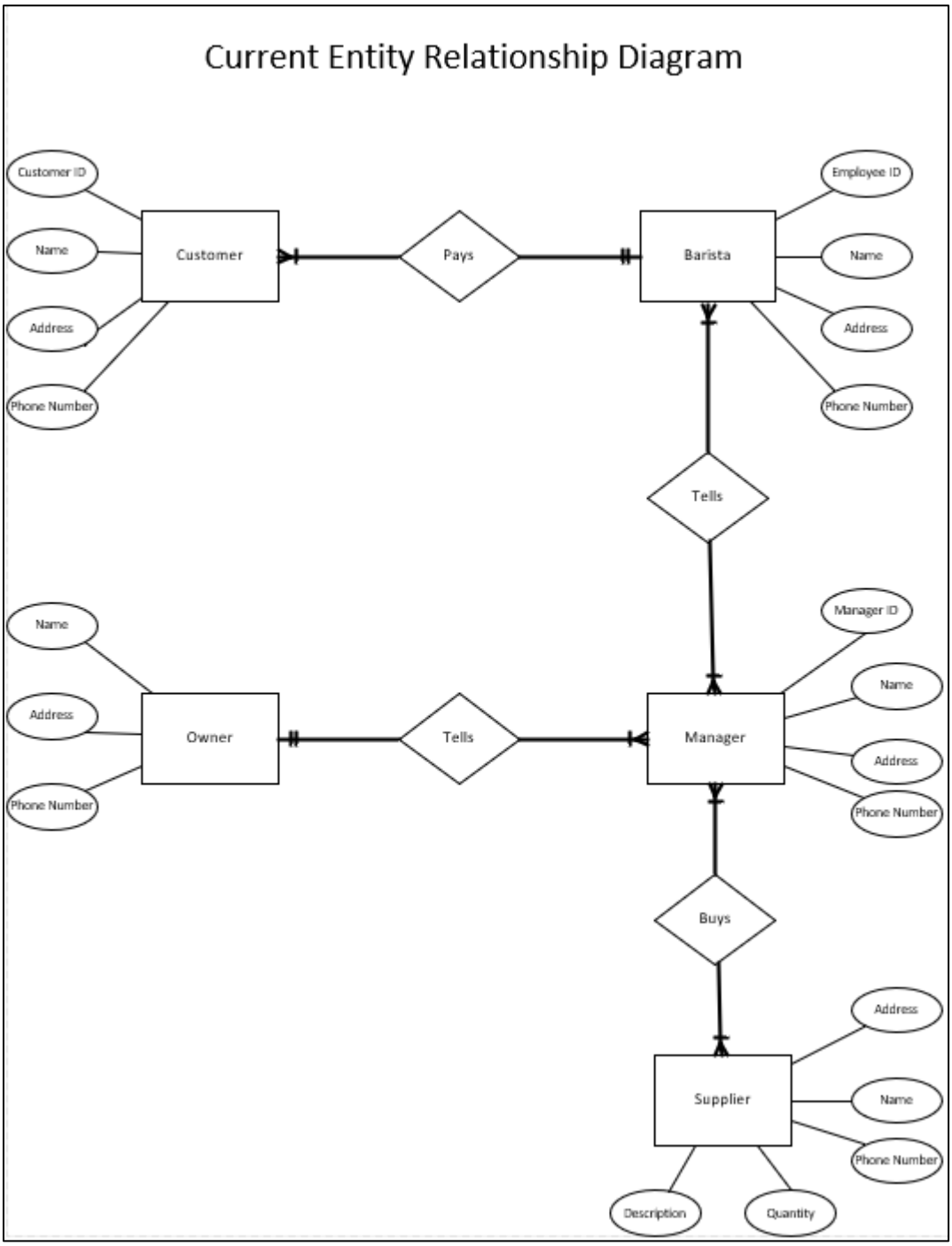
Product Information				
Field Name	**Field Length**	**Data Type**	**Constraint**	**Description**
product_id	8	INT	Primary Key	Unique ID for the product
product_name	30	VARCHAR	NN	Product Name
product_type	25	VARCHAR	NN	Product Type
product _description	120	VARCHAR	N	Product Description
order_id	8	INT	Foreign Key	Foreign key to the Order Information Table
manufacturer_id	8	INT	Foreign Key	Foreign key to the Manufacturer Information Table
per_id	8	INT	Foreign Key	Foreign key to the Per Information Table
price_id	8	INT	Foreign Key	Foreign key to the Price Information Table

Price Information				
Field Name	**Field Length**	**Data Type**	**Constraint**	**Description**
price_id	8	INT	Primary Key	Unique ID for the price
price_amount	30	VARCHAR	NN	Price Name

Par Information				
Field Name	**Field Length**	**Data Type**	**Constraint**	**Description**
per_id	8	INT	Primary Key	Unique ID for the per
per_quantity	10	VARCHAR	NN	Quantity per box
per_unit	25	VARCHAR	NN	Unit type

Current System

Entity Relationship Diagram



Client SWOT Analysis

STRENGTHS	WEAKNESSES
• Community driven • Restaurant industry veterans • Caters communal events for community artisans • 20+ years residents to build relationships • Large network of people as devout customers	• New company • Still learning • Does not take advantage of technology • Weak media presence
OPPORTUNITIES	**THREATS**
• Acts as a platform for local craftsmen • Can be a different type of coffee shop other than a “Starbucks” • Can focus on quality products to build a following • Become an anchor in the local community for improvement	• Many coffee shops, oversaturated market • Pandemic is keeping their key aspect of community driven environment from bringing people closer • Starbucks • People prefer fast and cheap when in a rush

The inventory application we will create for Blockhouse Coffee will streamline the tedious process of maintaining inventory and make more time for employees to engage with customers. Minimizing errors during the inventory and ordering process will help Blockhouse plan ahead, whether ordering enough product for a large local event or just for the peak times during the weekend, always having enough product on hand will help Blockhouse offer better service and keep their menu available all day. Blockhouse takes pride in being a communal coffee shop and spending less time in the back of the shop counting and ordering products will help managers and the owners spend more time at the front with customers, connecting and creating relationships to create loyal customers that come back time and time again.

Client SWOT Analysis

Blockhouse is expanding and as it grows the need for a more sophisticated method of ordering and keeping track of inventory will be needed. Blockhouse is bringing that community feel all over Houston and this application will help them in their goal.

System Proposal

Proposal 1: Cloud Database for Inventory Management

Create a Graphical User Interface for a SQL Database with a backup in the cloud that would allow the Owner and Managers to add, remove, edit, update items in the inventory, create weekly/monthly/yearly reports, and update employees. This solution would also update and display the minimum items needed per week and/or per month for the café and when new orders for these items should be placed to maintain the right amount of stock. This would automate the process that the café managers currently have to do.

Pros:

Access from any device with an internet connection, data is relatively safe being stored on-site and backed up in the cloud, high uptime, several cloud providers, low maintenance, easily expandable

Cons:

Monthly fee, data is stored in the cloud (privacy concerns), if the cloud is down then the system is down, need internet access

System Proposal

Proposal 2: Integrate Square Transactions with Inventory Management Database

Similar to Proposal 1, we would create a GUI with the same features listed previously while also integrating Square orders into the database. This would allow for the Inventory database to automatically update itself whenever an order is placed in the café. This would automate the whole inventory and order process while still allowing the Inventory database to take care of when items need to be restocked. Nonetheless, this solution is difficult to implement as it would depend on Square's API.

Pros:

The best of both worlds, process is completely automated

Cons:

Need to integrate two different services, difficult solution to implement

Sponsor Decision

Regarding System Proposal

Proposal Selection Letter

Brian Alfaro
Blockhouse Coffee & Kitchen
611 Jackson St., Suite C
Richmond, TX 77469

October 20th, 2020

ACE Systems Solutions
4800 Calhoun Rd.
Houston, TX 77093

Mr. Jorge Vazquez,

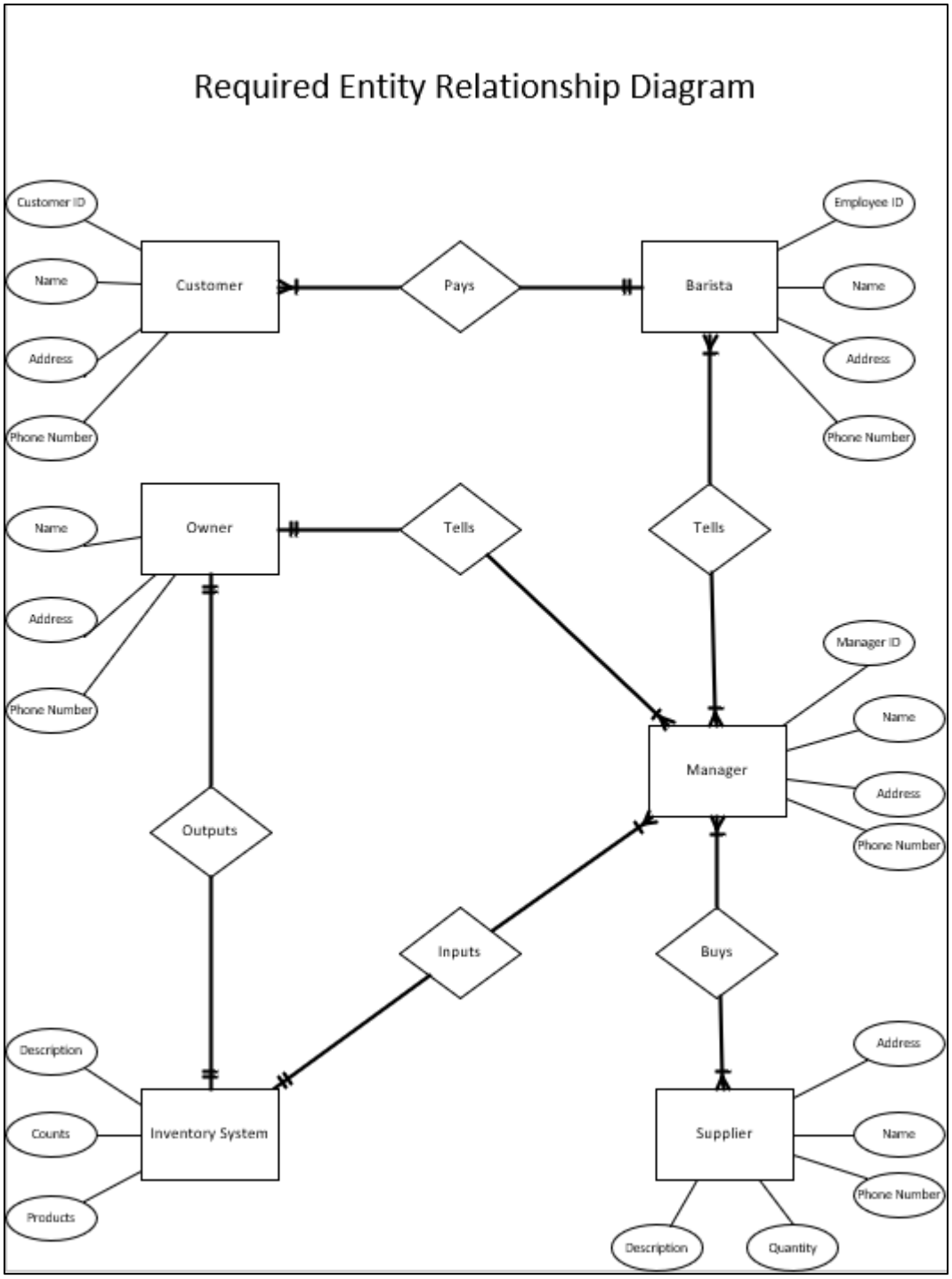
We have reviewed the system options proposed by you and your team. After consideration, we have determined that option one is most suited to our needs. We look forward to seeing the system in action and hope that it will prove useful for our company.

Brian Alfaro

_____
Operations Manager

Required System

Entity Relationship Diagram



Required System
Business Rule List

Operational Rules

Richmond – Jax & 7th Location	Katy – Stableside Location
COVID-19 Hours of operation: • Daily: 7:00am-3:00pm • Daily: Kitchen open until 2:00pm	COVID-19 Hours of operation: • Daily: 7:00am-6:00pm • Daily: Kitchen open until 2:00pm
Regular Hours of Operation: • Weekdays 7:00am-5:00pm (Breakfast until 10:30am / Lunch until 2:00pm) • Weekends 8:00am-4:00pm (Breakfast until 2:00pm / Lunch until 2:00pm) • Customers may order pickup or delivery through DoorDash	Regular Hours of Operation: • Weekdays 6:00am-8:00pm (Breakfast & lunch until 4:00pm) • Weekends 7:00am-8:00pm (Breakfast & lunch until 4:00pm) • Customers may order pickup or delivery through DoorDash
Store Contact Information: • Website: https://www.blockhousecoffee.co/jax-7th • Physical Address: 611 Jackson Street Suite C, Richmond, TX 77469 • Phone Number: +1 (281) 766-4866	Store Contact Information: • Website: https://www.blockhousecoffee.co/katy-stableside • Physical Address: 9910 Gaston Road, Suite 170, Katy, TX 77494 • Phone Number: +1 (346) 278-5535

- Employees ensure cleanliness of store
- Employees stock items in store to required capacity

Required System Business Rule List

- Employees conduct Point-of-Sale operations

Managerial Rules

- Managers Check and verify automated system counts of inventory on hand
- Managers manually adjust system counts
- Managers construct orders based on system counts
- Managers verify order deliveries are complete
- Managers produce reports on inventory data
- Managers produce reports on sales data
- Managers produce reports on operational costs
- Managers schedule employee hours
- Managers hire employees
- Managers add/remove employees from the system and set their permissions
- Managers train new employees

Executive Rules

- Executives analyze reports on sales, operational costs, and inventory
- Executives make business decisions
- Executives hire managers
- Executives add/remove managers from the system and set their permissions

Required System
Business Activity List

Daily

- Employees conduct normal business operations. The system automatically collects, stores, and adjusts existing information based on sales
- Cafe managers count cash at the beginning and end of every day
- Cafe managers schedule employees
- Cafe managers count and order smaller inventory items
- If necessary, Café managers place emergency orders for out of stock items (items that sell unusually quickly)
- Employees and café managers will receive and verify that orders from suppliers are complete

Weekly

- Cafe managers verify automated counts of ingredients, items, and supplies in stock, and adjust the counts in the system if necessary.
- If necessary, Café managers will adjust Par Levels in the new system to accurately reflect business needs.
- After automated counts are verified, the café managers use the new system to automatically construct orders based on predetermined Par Levels (A table of all items for the business and how much they should have in stock at the beginning of every week) in the system. If necessary, managers will adjust the orders.

Required System

Business Activity List

- At the end of each week, café managers will automatically create weekly sales, inventory, and order reports using the new system. The reports are sent to the executives of the company
- Executives will use weekly reports to make business decisions

Monthly

- Café managers conduct a monthly count of the entire store's inventory to verify the system has not encountered errors
- At the end of each month, café managers will automatically create monthly sales, inventory, and order reports using the new system. The reports are sent to the executives of the company
- Executives will use monthly reports to make business decisions
- Café managers train and staff employees as needed for events or new systems

Required System CRUD matrix

Entity Legend:

1. Sales Information
2. Employees
3. Products
4. Price Information
5. Order Information
6. Par Information
7. System Users
8. Current Inventory

CRUD Matrix Begin

Process:	1	2	3	4	5	6	7	8
1.0| Customer Makes Purchase			R	R				
1.1|Employee Fulfills Customer Purchase								
1.2| Purchase Information is Processed	C,U		R	R				
1.3| Update Current Inventory Count	R		R			R		C,U
2.0|Generate Sales Report	R,D		R	R			R	
2.1|Examine Sales Report	R							
2.2|Set Par Levels	R		R			U		R
3.0|Generate Inventory Reports							R	R
3.1|Verify Inventory Counts							R	R
3.2|Determine Inventory Needs	R		R			R		

Required System CRUD matrix

Entity Legend:

1. Sales Information
2. Employees
3. Products
4. Price Information
5. Order Information
6. Par Information
7. System Users
8. Current Inventory

CRUD Matrix Continued

Process:	1	2	3	4	5	6	7	8
4.0|Construct Order			R		C,U	R	R	R
4.1|Generate Order Report					R,D		R	
4.2|Place Order with Supplier					R		R	R
5.0|Process Order								
5.1|Payment Process								
5.2|Fulfill Order								U
6.0|Determine Store Price			R	R				
6.1|Approve or Disapprove				R				
6.2|Change Store Prices				C,U, D			R	
7.0|Determine Products for Sale	R							

Required System CRUD matrix

Entity Legend:

1. Sales Information
2. Employees
3. Products
4. Price Information
5. Order Information
6. Par Information
7. System Users
8. Current Inventory

CRUD Matrix End

Process:	1	2	3	4	5	6	7	8
7.1|Add new Products to system			C,U	R		C,U	R	U
7.2|Set Product Options in Store			R					
7.3|Remove Product from System			U,D			U,D	R	D
8.0|Process Employee into system		C,U					C,U	
8.1|Create Schedules		R						
8.2|Review Schedules		R						
8.3|Delete Employee Profile		U,D					U,D	
8.4|Add Employee to Prior Employees		U						

Use Case Scenarios

Jorge Vazquez – Use Case 1

Use Case Name:	Create New Employee Profile
Author:	Jorge Vazquez
Last Revised:	November 4th, 2020
Actor(s):	Manager(s)
Description:	Allow manager to set a minimum amount for a certain inventory item.
Triggering Event:	Manager notices that a certain inventory item is getting used up faster than usual.
Pre-Conditions:	Inventory item has a minimum amount that is too low.
Steps Performed:	1. Log into the system 2. Navigate to inventory management page 3. Select item 4. Edit item minimum 5. Log off system
Post-Conditions:	The system returns a confirmation that the item minimum has been edited.
Error-Conditions	Minimum has been entered as a negative number or a number larger than 30.

Use Case Scenarios

Jorge Vazquez – Use Case 2

Use Case Name:	Update Employee Information
Author:	Jorge Vazquez
Last Revised:	November 5th, 2020
Actor(s):	Manager(s)
Description:	Allow manager to add low inventory items to an order report
Triggering Event:	System gives an alert that an inventory item has reached the minimum requirement
Pre-Conditions:	A minimum has been set for inventory item
Steps Performed:	1. Alert gives the option to add inventory item to order report 2. add item to report or extend minimum option is clicked
Post-Conditions:	The system returns a confirmation that the item has been added to order report. The system navigates you to edit minimum.
Error-Conditions	The exit box of the alert is selected before an option is selected.

Use Case Scenarios

Jorge Vazquez – Use Case 3

Use Case Name:	Create Prior Employee Information and Remove Employee Information
Author:	Jorge Vazquez
Last Revised:	November 5th, 2020
Actor(s):	Manager(s)
Description:	Allow a manager to view order report containing the low inventory items.
Triggering Event:	The end of the week, the end of the month.
Pre-Conditions:	There has been an order report created.
Steps Performed:	1. Log in to the system 2. Navigate to reports page 3. Select order report 4. View order report 5. Log off system
Post-Conditions:	The order report has been saved if edited
Error-Conditions	The exit box of the report has been selected without saving an edited report.

Use Case Scenarios

Eric Pham – Use Case 1

Use Case Name:	View Inventory History
Author:	Eric Pham
Last Revised:	November 10, 2020
Actor(s):	Owners
Description:	Allow owners to view the inventory reports history.
Triggering Event:	Owners want to view previous inventory reports.
Pre-Conditions:	Previous inventory report has to be created. Must have executive login information.
Steps Performed:	1. Log into system with executive login. 2. Navigate to Inventory History page. 3. Type in date or vendor of inventory report they'd like to see in filter. 4. Click "View Report".
Post-Conditions:	The system shows the desired report.
Error-Conditions:	Incorrect filter input.

Use Case Scenarios

Eric Pham – Use Case 2

Use Case Name:	View Order History
Author:	Eric Pham
Last Revised:	November 10, 2020
Actor(s):	Owners
Description:	Allow owners to view the order reports history.
Triggering Event:	Owners want to view previous order reports.
Pre-Conditions:	Previous order report has to be created. Must have executive login information.
Steps Performed:	5. Log into system with executive login. 6. Navigate to Inventory History page. 7. Type in date or vendor of order report they'd like to see in filter. Click "View Report".
Post-Conditions:	The system shows the desired report.
Error-Conditions:	Incorrect filter input.

Use Case Scenarios

Eric Pham – Use Case 3

Use Case Name:	Edit Current Order
Author:	Eric Pham
Last Revised:	November 10, 2020
Actor(s):	Owners, Managers
Description:	Allows the owners or managers to edit an order they're currently placing.
Triggering Event:	Owner or manager wants to change the order they are currently placing.
Pre-Conditions:	Order must have been created. Order must not have been submitted. Inventory items must be added in database.
Steps Performed:	1. Log into system. 2. Navigate to Order Creation page. 3. Click on "Edit Order". 4. Adjust as needed.
Post-Conditions:	Current order will become editable.
Error-Conditions:	Order has not been created. Order has been submitted.

Use Case Scenario

Jake Simpson – Use Case 1

Use Case Name:	Create New Employee Profile
Author:	Jake Simpson
Last Revised:	November 6th, 2020
Actor(s):	Owner, Manager
Description:	Allow a manager or owner to view previously completed inventory counts.
Triggering Event:	Manager or owner needs to know how many of specific item was counted the week before
Pre-Conditions:	Previous count has been completed and stored in the database.
Steps Performed:	1. Login to the system 2. Navigate to inventory history 3. Enter search criteria 4. View the count in question 5. Logoff the system
Post-Conditions:	The system has given the owner or manager the information needed.
Error-Conditions	Invalid search criteria are entered into the system.

Use Case Scenario

Jake Simpson – Use Case 2

Use Case Name:	Update Employee Information
Author:	Jake Simpson
Last Revised:	November 8th, 2020
Actor(s):	Owner
Description:	Allow the owner to add a new vendor
Triggering Event:	Blockhouse decides to carry a new item that is not available from any of the current vendors
Pre-Conditions:	Vendor selected does not exist in the current vendor table
Steps Performed:	1. Login to the system 2. Navigate to vendor information 3. Select “Add New Vendor” 4. Enter vendor information 5. Save vendor information 6. Logoff the system
Post-Conditions:	The new vendor information is added to the vendor table.
Error-Conditions	The vendor information entered already exists in the vendor table.

Use Case Scenario

Jake Simpson – Use Case 3

Use Case Name:	Create Prior Employee Information and Remove Employee Information
Author:	Jake Simpson
Last Revised:	November 8th, 2020
Actor(s):	Owner
Description:	Allow the owner to update the par level for an item in inventory
Triggering Event:	Owner decides the store is stocking too much of an item.
Pre-Conditions:	Item and par information exists in the current database.
Steps Performed:	1. Login to the system 2. Navigate to inventory management 3. Find the specific item that needs to be updated 4. Change par level to desired number 5. Save changes 6. Logoff the system
Post-Conditions:	The par level information for the item has been updated in the system.
Error-Conditions	A negative number is entered, or an invalid character is entered.

Use Case Scenario

Joshua R. Wilson – Use Case 1

Use Case Name:	Create New Employee Profile
Author:	Joshua R. Wilson
Last Revised:	November 3rd, 2020
Actor(s):	Manager, New Employee
Description:	Allow a manager or new employee to create an employee profile consisting of information such as: name, hire date, address, etc.
Triggering Event:	Manager hires a new employee
Pre-Conditions:	Manager is present and new employee is present or new employee has provided personal information
Steps Performed:	1. Applicant is considered for hire 2. Applicant is hired 3. Employee information is gathered 4. Login to the system 5. Employee information is populated into profile 6. Logoff the system
Post-Conditions:	The employee information has been entered and the employee profile has been created
Error-Conditions	Missing information in new employee form resulting and or incorrect format entered for information

Use Case Scenario

Joshua R. Wilson – Use Case 2

Use Case Name:	Update Employee Information
Author:	Joshua R. Wilson
Last Revised:	November 4th, 2020
Actor(s):	Manager(s)
Description:	Allow a manager to update employee information in the system.
Triggering Event:	An Employee has requested to change their personal information in the system
Pre-Conditions:	The employee information has not yet been altered
Steps Performed:	1. Login to the system 2. Find employee profile 3. Alter employee information 4. Submit changes in employee information 5. Logoff the system
Post-Conditions:	The employee information has been changed and the employee profile has been successfully updated
Error-Conditions	Missing information in current employee form resulting and or incorrect format entered for information

Use Case Scenario

Joshua R. Wilson – Use Case 3

Use Case Name:	Create Prior Employee Information and Remove Employee Information
Author:	Joshua R. Wilson
Last Revised:	November 5th, 2020
Actor(s):	Manager(s)
Description:	Allow a manager to remove employee information from the system and create a Prior Employee profile
Triggering Event:	An employee has been terminated from or has quit the company
Pre-Conditions:	The employee information is currently stored in the system
Steps Performed:	1. Login to the system 2. Find Employee Profile 3. Transfer employee information into a prior employee profile 4. Delete employee profile 5. Logoff the system
Post-Conditions:	The employee information has been removed and the prior employee profile has been created
Error-Conditions	Missing information in prior employee form resulting and or incorrect format entered for information

Use Case Scenario

Daniel Thomas – Use Case 1

Use Case Name:	Update inventory database
Author:	Daniel Thomas
Last Revised:	November 6th, 2020
Actor(s):	Store manager
Description:	Allow managers to update inventory records
Triggering Event:	Inventory count
Pre-Conditions:	Items already in database
Steps Performed:	1. Log into the system 2. Update records 3. Log out of system
Post-Conditions:	The system confirms that updates have been saved
Error-Conditions	Non-valid entry for an inventory item.

Use Case Scenario

Daniel Thomas – Use Case 2

Use Case Name:	Update sales information
Author:	Daniel Thomas
Last Revised:	November 6th, 2020
Actor(s):	Manager, employee
Description:	Tracks and updates sales information
Triggering Event:	Item is sold in store
Pre-Conditions:	employee must sell an item
Steps Performed:	1. System login 2. Select item sold 3. Define amount sold 4. Save and update records
Post-Conditions:	Sales information updated
Error-Conditions	No access to database

Use Case Scenario

Daniel Thomas – Use Case 3

Use Case Name:	Create weekly inventory report
Author:	Daniel Thomas
Last Revised:	November 6th, 2020
Actor(s):	Manager
Description:	Generates the end of week inventory report for the manager.
Triggering Event:	End of business week.
Pre-Conditions:	Access to inventory database
Steps Performed:	1. System login 2. Generate report 3. Save report 4. Log out of system
Post-Conditions:	Report generated
Error-Conditions	No access to inventory database

Use Case Scenario

Andres Pirela – Use Case 1

Use Case Name:	Update Inventory Item
Author:	Andres Pirela
Last Revised:	November 5th, 2020
Actor(s):	Owner, Manager(s)
Description:	Allow owner and manager to update an inventory item.
Triggering Event:	Owner or manager are expecting new inventory for existing items.
Pre-Conditions:	Inventory item has to already exist in database.
Steps Performed:	1. Log into the system 2. Navigate to inventory management page 3. Select item 4. Update item 5. Save 6. Log off the system
Post-Conditions:	The system confirms that the item has been updated.
Error-Conditions	Item has not been changed or a negative number has been entered.

Use Case Scenario

Andres Pirela – Use Case 2

Use Case Name:	Create End of Period Inventory Report
Author:	Andres Pirela
Last Revised:	November 5th, 2020
Actor(s):	Owner, Manager(s)
Description:	Allow owner and manager to create end of period inventory report.
Triggering Event:	The end of the period and business has closed.
Pre-Conditions:	Check and view inventory.
Steps Performed:	1. Log in to the system 2. Navigate to reports page 3. Create End of Period Inventory Report 4. Save report 5. Log off system
Post-Conditions:	The End of Period Inventory Report has been created and saved.
Error-Conditions	The End of Week Report has not been created.

Use Case Scenario

Andres Pirela – Use Case 3

Use Case Name:	Create End of Week Inventory Report
Author:	Andres Pirela
Last Revised:	November 5th, 2020
Actor(s):	Owner, Manager(s)
Description:	Allow owner and manager to create end of week inventory report.
Triggering Event:	The end of the week and business has closed.
Pre-Conditions:	Check and view inventory.
Steps Performed:	1. Log in to the system 2. Navigate to reports page 3. Create End of Week Inventory Report 4. Save report 5. Log off system
Post-Conditions:	The End of Week Inventory Report has been created and saved.
Error-Conditions	The End of Week Report has not been created.

Use Case Scenarios

Andy Luong – Use Case 1

Use Case Name:	Add Inventory Item
Author:	Andy Luong
Last Revised:	November 3rd, 2020
Actor(s):	Managers, Owner
Description:	Allow a manager or owner to add a new inventory item
Triggering Event:	A new menu item or ingredient is introduced
Pre-Conditions:	Item must be properly entered and must not already be in the system
Steps Performed:	1. A new item is recognized & approved 2. Item information is gathered 3. Login to the system 4. Item information is entered into system 5. Logoff the system
Post-Conditions:	Inventory list is updated and shows new item added
Error-Conditions	Incorrect information entered will result in a error and prompt you to try again

Use Case Scenarios

Andy Luong – Use Case 2

Use Case Name:	Delete Inventory Item
Author:	Andy Luong
Last Revised:	November 3rd, 2020
Actor(s):	Managers, Owner
Description:	Allow a manager or owner to delete an inventory item
Triggering Event:	An item is no longer needed
Pre-Conditions:	An existing item must be added before deletion
Steps Performed:	1. Login to the system 2. Find existing item 3. Delete Item 4. Confirm changes 5. Logoff the system
Post-Conditions:	Inventory system is updated, and deleted item is no longer there
Error-Conditions	Incorrect information entered will result in an error and prompt you to try again

Use Case Scenarios

Andy Luong – Use Case 3

Use Case Name:	View Inventory Items
Author:	Andy Luong
Last Revised:	November 3rd, 2020
Actor(s):	Managers, Owner
Description:	Allow a manager or owner to view the inventory items in the system
Triggering Event:	An employee would like to see how much of an item is in stock
Pre-Conditions:	Items must be entered into the system
Steps Performed:	1. Login to the system 2. View all items 3. Gather information 4. Logoff the system
Post-Conditions:	All the items are revealed with their remaining stock and various information
Error-Conditions	System will check for input errors and prompt user if error is detected

Use Case Scenarios

Jesse Requena – Use Case 1

Use Case Name:	Create New Supplier Profile
Author:	Jesse Requena
Last Revised:	November 5, 2020
Actor(s):	Manager, Owner
Description:	Allow the owner or a manager to create a supplier profile consisting of information such as: name, product, address, etc.
Triggering Event:	Owner or manager find a new supplier for their products
Pre-Conditions:	Owner or manager do not yet have any supplier data
Steps Performed:	1. New supplier is found 2. Supplier information is gathered 3. Login to the system 4. Supplier information is populated into profile 5. Logoff the system
Post-Conditions:	The supplier information has been entered and the supplier profile has been created
Error-Conditions	Missing information in new supplier form resulting and/or incorrect format entered for information

Use Case Scenarios

Jesse Requena – Use Case 2

Use Case Name:	Update Supplier Information
Author:	Jesse Requena
Last Revised:	November 5, 2020
Actor(s):	Owner, Manager
Description:	Allow an owner or manager to update supplier information in the system.
Triggering Event:	A supplier already in the system begins supplying new products or has changed business location.
Pre-Conditions:	The supplier information is already in the system
Steps Performed:	1. Login to the system 2. Find supplier profile 3. Alter supplier information 4. Submit changes in supplier information 5. Logoff the system
Post-Conditions:	The supplier information has been changed and the supplier profile has been successfully updated
Error-Conditions	Missing information in current supplier form resulting and/or incorrect format entered for information

Use Case Scenarios

Jesse Requena – Use Case 3

Use Case Name:	View Supplier Information
Author:	Jesse Requena
Last Revised:	November 6, 2020
Actor(s):	Owner, Manager
Description:	Allow an owner or manager to view the supplier information on the system
Triggering Event:	An owner or manager would like to see information pertaining to a particular supplier
Pre-Conditions:	The supplier information must be in the system
Steps Performed:	1. Login to the system 2. Find supplier profile 3. View supplier information 4. Gather needed information 5. Logoff the system
Post-Conditions:	The supplier information is gathered and for their needed use
Error-Conditions	System will check for input errors and send errors to user

Required System

Event Response Table

ID	Event	Source	Trigger	Activity	Response	Destination
1	Employee conducts business with customer	Employee	Customer places an order	Kitchen uses supplies to fulfill order.	Supplies are depleted.	Consumer
2	Cash count	Café manager	Store opens or closes	Café manager conducts a count of cash	Cash on hand is verified	Records of cash
3	Scheduling	Café Manager	A new schedule is needed	Café managers create new schedules for the upcoming business weeks	New schedules are created	Employees
4	Emergency Order	Café Manager or Employee	Inventory for item has unexpectedly been depleted	Café Manager places a rush order on a particular product	Product is delivered	Store
5	Order Deliveries	Supplier	An order to refill current inventory has arrived on location	Employees and managers receive the order from the delivery service	Order is verified as received	Stock

Required System

Event Response Table

ID	Event	Source	Trigger	Activity	Response	Destination
6	Verify automated counts	System	Weekly count is needed	Café Manager verifies that current inventory counts are accurate	Automated counts verified	Weekly count report
7	Adjust Par Levels	System	Par levels need to be adjusted to reflect sales	Café Manager updates par levels in the system	Par levels are accurate	Par Levels Records
8	Weekly Reports	Café Manager	Executives require weekly sales, inventory, and order reports	Café manager generates reports on sales, inventory, and orders	Reports are created	Executive
9	Weekly Order	System	Café manager must order new products to refill inventory	Café manager constructs an order for products using current inventory and par levels	Order constructed	Supplier
10	Review Weekly Reports	Café Manager	Café manager has delivered reports to executives	Executives review the reports and provide feedback to managers	Feedback	Café Manager
11	Monthly Count	System	Monthly check of current inventory	Café Manager verifies the current inventory of the system	Inventory Verified	Monthly Count report

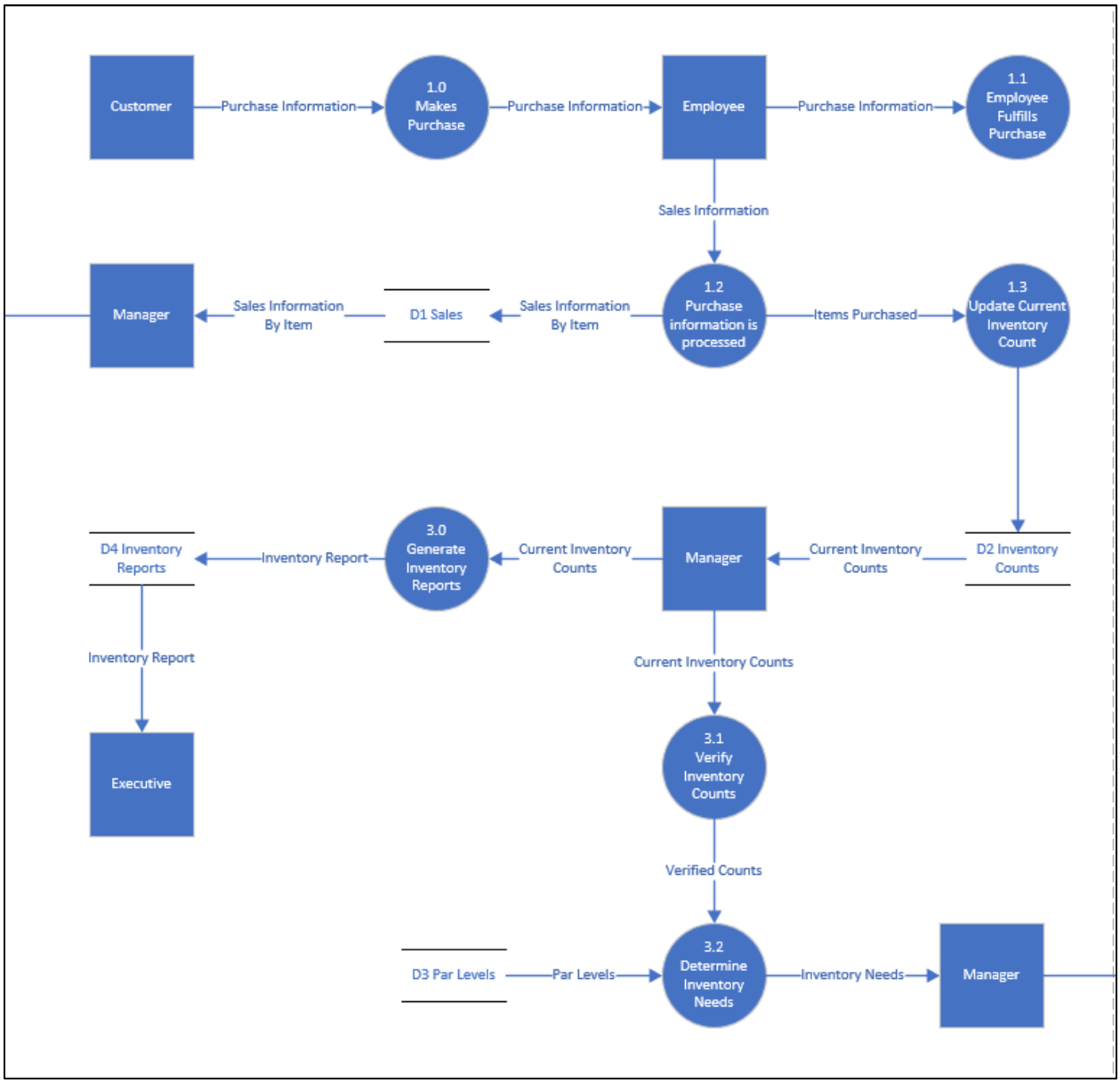
Required System

Event Response Table

ID	Event	Source	Trigger	Activity	Response	Destination
12	Monthly Reports	Café Manager	Executives Require monthly sales, inventory, and order reports	Café Manager generates reports on sales, inventory, and orders	Reports are created	Executive
13	Review Monthly Reports	Café Manager	Café manager has delivered reports to executives	Executives review the reports and provide feedback	Feedback	Café Manager
14	Staff Employees	Applicant	Café manager has received applications	Café manager conducts the hiring process	Applicant hired	New Hire

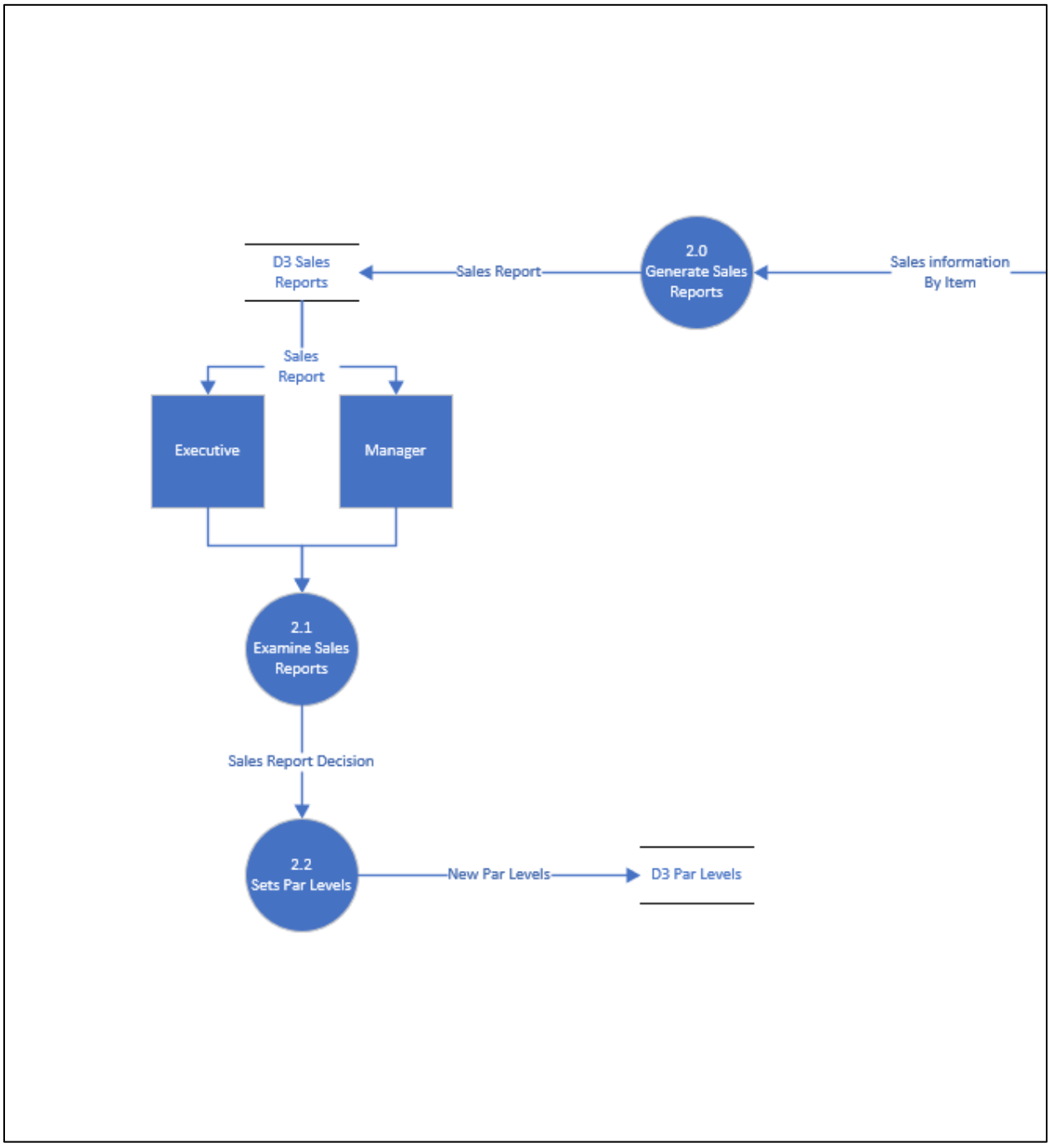
Required System

Data Flow Diagram



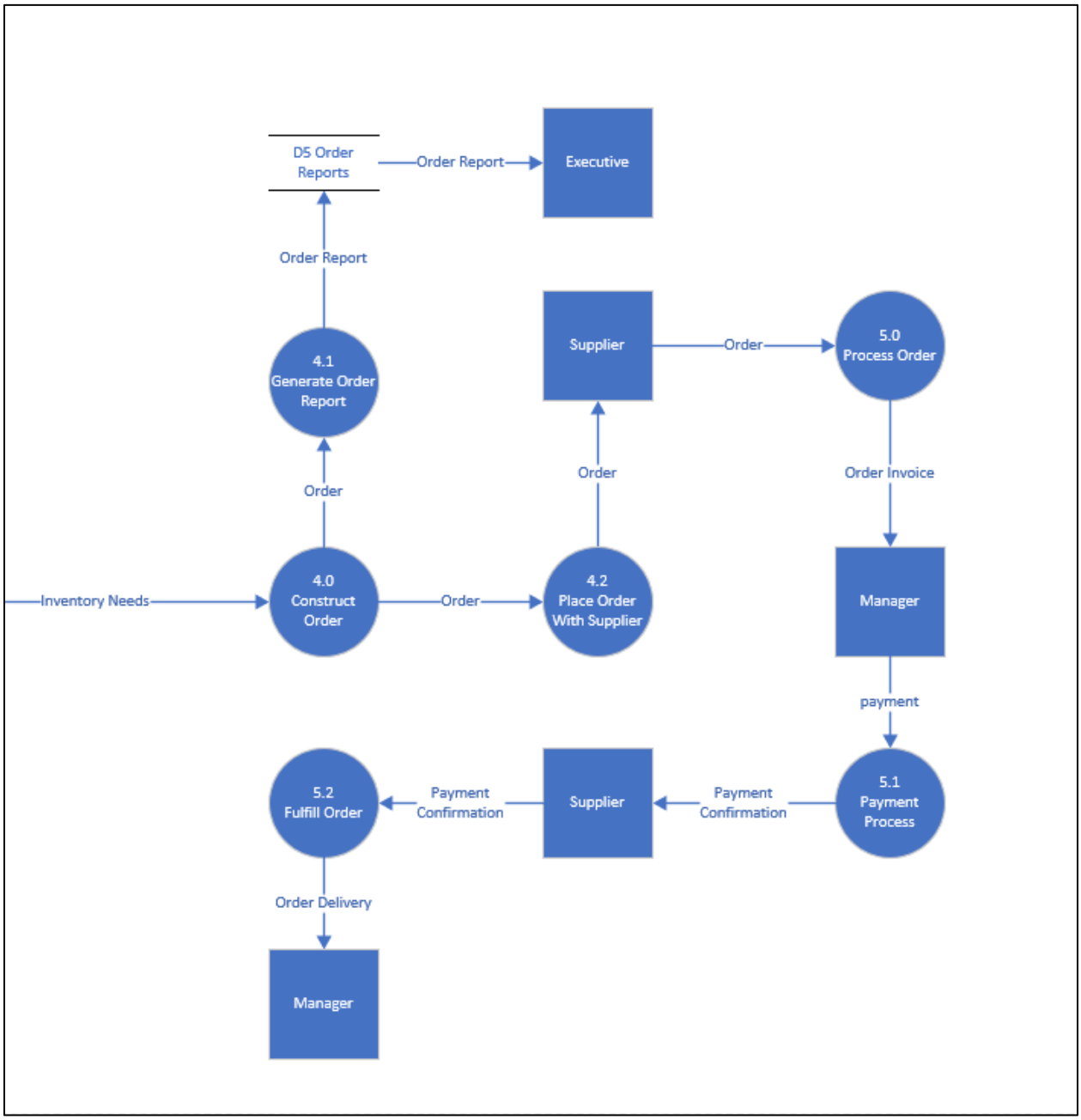
Required System

Data Flow Diagram



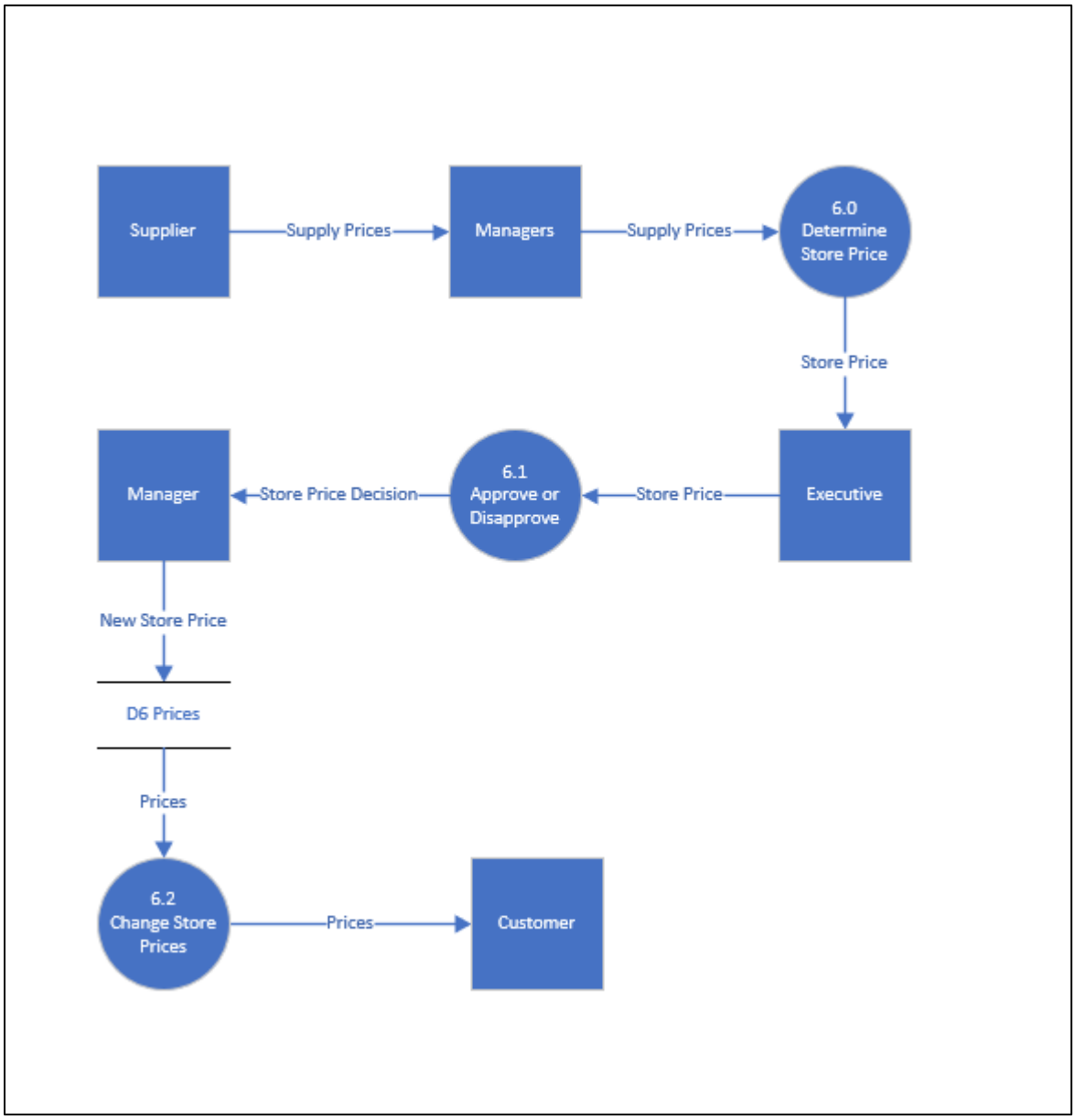
Required System

Data Flow Diagram



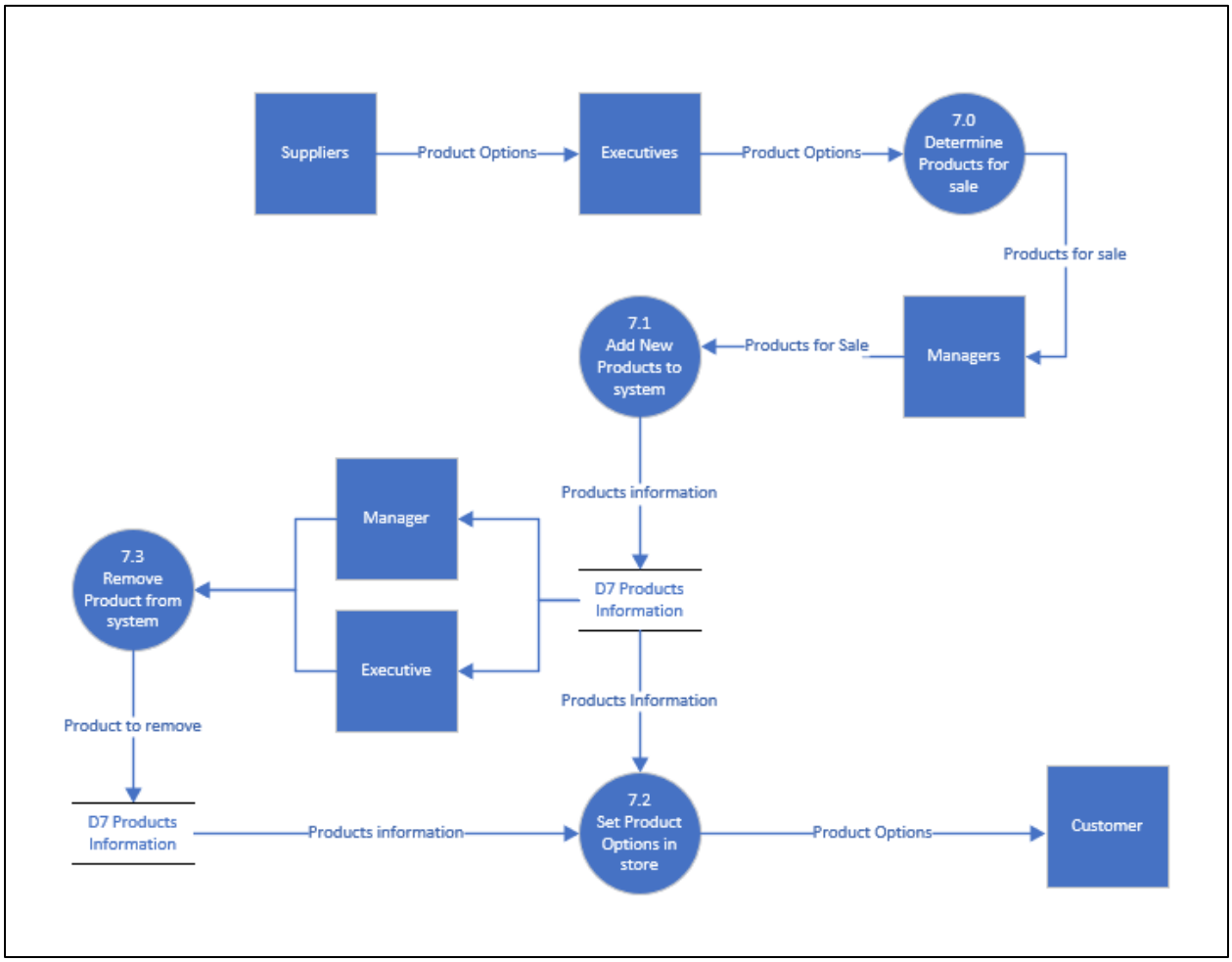
Required System

Data Flow Diagram



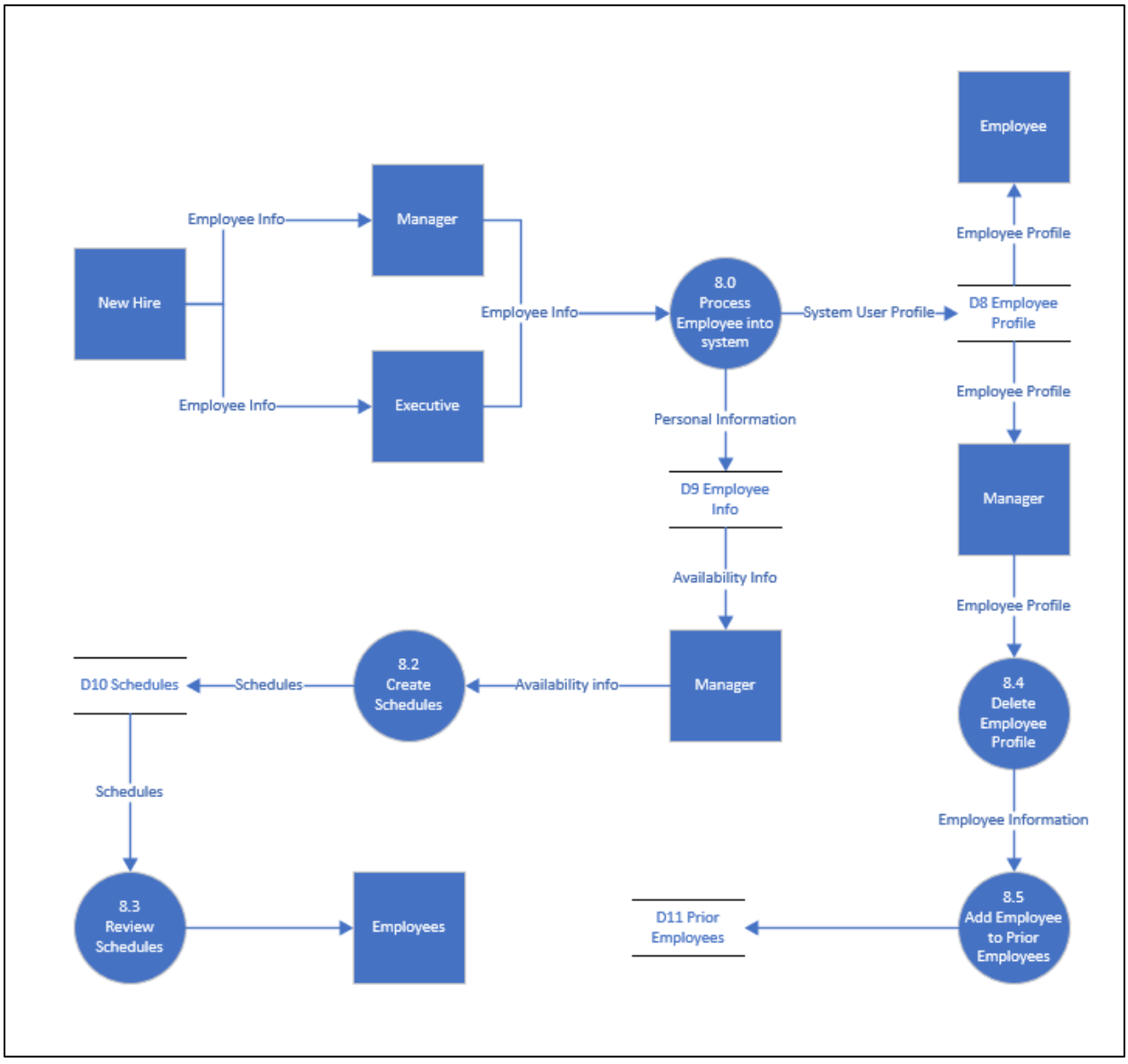
Required System

Data Flow Diagram



Required System

Data Flow Diagram



Required System Data Dictionary

Address Information				
Field Name	**Field Length**	**Data Type**	**Constraint**	**Description**
address_id	8	INT	Primary Key	Unique ID for the vendors
street_address	35	VARCHAR	Null	Street address
city	20	VARCHAR	Null	City
state	10	VARCHAR	Null	State
postal_code	6	INT	Null	Postal Code

Order Information				
Field Name	**Field Length**	**Data Type**	**Constraint**	**Description**
order_id	8	INT	Primary Key	Unique ID for the order
order_date	N/A	DATE	NN	Order Date
order_status	20	VARCHAR	NN	Order Status
order_comments	120	VARCHAR	Null	Special requests

Equipment Information				
Field Name	**Field Length**	**Data Type**	**Constraint**	**Description**
Equipment _id	8	INT	Primary Key	Unique ID for the Equipment
Equipment _name	20	VARCHAR	Null	Equipment Name
manufacturer_phone	10	INT	NN	Supplier phone number
manufacturer_email	25	VARCHAR	NN	Supplier email

Required System Data Dictionary

Master Product Information				
Field Name	**Field Length**	**Data Type**	**Constraint**	**Description**
product_id	8	INT	Primary Key	Unique ID for the product
product_name	30	VARCHAR	NN	Product Name
product_type	25	VARCHAR	NN	Product Type
product _description	120	VARCHAR	N	Product Description
order_id	8	INT	Foreign Key	Foreign key to the Order Information Table
manufacturer_id	8	INT	Foreign Key	Foreign key to the Manufacturer Information Table
par_id	8	INT	Foreign Key	Foreign key to the Per Information Table
price_id	8	INT	Foreign Key	Foreign key to the Price Information Table

Price Information				
Field Name	**Field Length**	**Data Type**	**Constraint**	**Description**
price_id	8	INT	Primary Key	Unique ID for the price
price_amount	30	VARCHAR	NN	Price Name

Par Information				
Field Name	**Field Length**	**Data Type**	**Constraint**	**Description**
per_id	8	INT	Primary Key	Unique ID for the per
per_quantity	10	VARCHAR	NN	Quantity per box
per_unit	25	VARCHAR	NN	Unit type

Required System Data Dictionary

Vendors Information				
Field Name	**Field Length**	**Data Type**	**Constraint**	**Description**
vendor_id	8	INT	Primary Key	Unique ID for coffee/office supplies
vendor_name	30	VARCHAR	NN	Supply name
order_id	8	INT	Foreign Key	Foreign key to the Order Information Table

Employee Information				
Field Name	**Field Length**	**Data Type**	**Constraint**	**Description**
employee_id	8	INT	Primary Key	Unique ID for employee
first_name	30	VARCHAR	NN	Employee first name
middle_name	30	VARCHAR	NN	Employee middle name
last_name	30	VARCHAR	NN	Employee last name
employee_email	30	VARCHAR	NN	Employee email
address_id	8	INT	Foreign Key	Foreign Key to address information
group_id	8	INT	Foreign Key	Foreign key to group information

Users Information				
Field Name	**Field Length**	**Data Type**	**Constraint**	**Description**
user_id	8	INT	Primary Key	Unique ID for user
user_access	30	VARCHAR	Null	user access
username	20	VARCHAR	NN	user username
password	20	VARCHAR	NN	user password
is_valid	1	BIT	Null	user is valid?

Required System Data Dictionary

Canceled Orders Information				
Field Name	Field Length	Data Type	Constraint	Description
cancel_id	6	INT	Primary Key	Unique ID for cancelling
cancellation_date	15	DATE	NN	Order cancel date
order_id	8	INT	Foreign Key	Unique ID for the order
employee_id	8	INT	Foreign Key	Unique ID for employee

Sales Information				
Field Name	Field Length	Data Type	Constraint	Description
sale_id	8	INT	Primary Key	Unique ID for payment
payment_type	30	VARCHAR	Null	Type of pay
product_name	30	VARCHAR	NN	Product Name
payment_time	15	DATE	Null	Time of day the payment was processed

Paper Products				
Field Name	Field Length	Data Type	Constraint	Description
product_type	8	INT	Primary Key	Unique id for coffee equipment
product_id	8	INT	Foreign Key	Unique id for coffee equipment
product_name	30	VARCHAR	Null	Equipment name
price_id	8	INT	Foreign Key	Foreign key to the Price Information Table
vendor_id	8	INT	Foreign Key	Unique ID for coffee/office supplies

Required System Data Dictionary

Produce Products				
Field Name	Field Length	Data Type	Constraint	Description
product_type	8	INT	Primary Key	Unique id for coffee equipment
product_id	8	INT	Foreign Key	Unique id for coffee equipment
product_name	30	VARCHAR	Null	Equipment name
price_id	8	INT	Foreign Key	Foreign key to the Price Information Table
vendor_id	8	INT	Foreign Key	Unique ID for coffee/office supplies

Meat Products				
Field Name	Field Length	Data Type	Constraint	Description
product_type	8	INT	Primary Key	Unique id for coffee equipment
product_id	8	INT	Foreign Key	Unique id for coffee equipment
product_name	30	VARCHAR	Null	Equipment name
price_id	8	INT	Foreign Key	Foreign key to the Price Information Table
vendor_id	8	INT	Foreign Key	Unique ID for coffee/office supplies

Coffee Products				
Field Name	Field Length	Data Type	Constraint	Description
product_type	8	INT	Primary Key	Unique id for coffee equipment
product_id	8	INT	Foreign Key	Unique id for coffee equipment
product_name	30	VARCHAR	Null	Equipment name
price_id	8	INT	Foreign Key	Foreign key to the Price Information Table
vendor_id	8	INT	Foreign Key	Unique ID for coffee/office supplies

Required System Data Dictionary

Weekly Count Products				
Field Name	Field Length	Data Type	Constraint	Description
product_type	8	INT	Primary Key	Unique id for coffee equipment
date	8	INT	Null	Date of count
product_id	8	INT	Foreign Key	Unique id for coffee equipment
product_name	30	VARCHAR	Null	Equipment name
price_id	8	INT	Foreign Key	Foreign key to the Price Information Table
vendor_id	8	INT	Foreign Key	Unique ID for coffee/office supplies

Monthly Count Products				
Field Name	Field Length	Data Type	Constraint	Description
product_type	8	INT	Primary Key	Unique id for coffee equipment
date	8	INT	Null	Date of count
product_id	8	INT	Foreign Key	Unique id for coffee equipment
product_name	30	VARCHAR	Null	Equipment name
price_id	8	INT	Foreign Key	Foreign key to the Price Information Table
vendor_id	8	INT	Foreign Key	Unique ID for coffee/office supplies

Bread Products				
Field Name	Field Length	Data Type	Constraint	Description
product_type	8	INT	Primary Key	Unique id for coffee equipment
product_id	8	INT	Foreign Key	Unique id for coffee equipment
product_name	30	VARCHAR	Null	Equipment name
price_id	8	INT	Foreign Key	Foreign key to the Price Information Table
vendor_id	8	INT	Foreign Key	Unique ID for coffee/office supplies

Required System Data Dictionary

Diary Products				
Field Name	Field Length	Data Type	Constraint	Description
product_type	8	INT	Primary Key	Unique id for coffee equipment
product_id	8	INT	Foreign Key	Unique id for coffee equipment
product_name	30	VARCHAR	Null	Equipment name
price_id	8	INT	Foreign Key	Foreign key to the Price Information Table
vendor_id	8	INT	Foreign Key	Unique ID for coffee/office supplies

Required System Feasibility Analysis

Technical Feasibility

The proposed system will streamline the current process at Blockhouse Coffee & Kitchen. It will allow for better cohesion between tasks, while organizing their files and inventory for easy and quick access. This system would allow the owners and café managers to access their inventory from any device and from any location while allowing them to see real-time updates, create weekly, monthly, yearly reports, and get notified when inventory stocks are low. This would also consolidate all the files and data they would need to manage their inventory in one central hub. This central hub would be hosted on a SQL database and a Virtual Machine where the main application GUI will be running.

Operational Feasibility

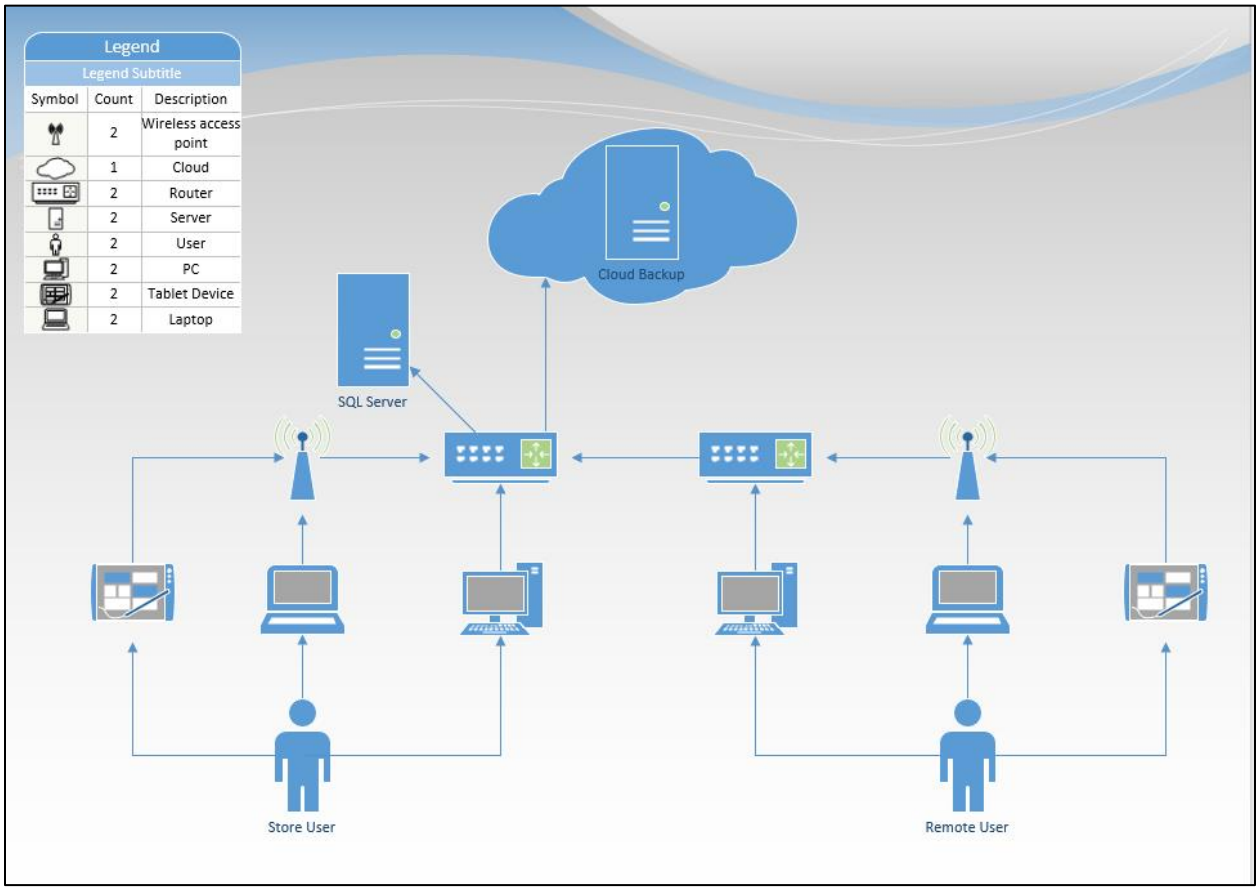
The system proposed would also allow it to be adaptable and easily scalable, for any further expansion plans the Owners may have. This is solved by implementing the system in the Cloud thus allowing easy scalability. We also want to minimize redundancy within their system. Centralizing all the inventory processes into one core system allows Blockhouse to have one place where they can access, create, and manage their operations. However, we want to create an application that would be user-friendly and can cater to both tech-savvy individuals and users that may not be as knowledgeable. We are positive that our application will fulfill these needs while also needing minimal maintenance. To avoid any case of confusion, initial training of the system will be offered by us, Ace Systems Solutions, when the application is first delivered.

Required System Feasibility Analysis

Economic Feasibility

With our solution, Blockhouse will only need to pay a relatively small monthly fee to store, run, and access the system from the cloud thus negligibly hurting their revenue. The system would consist of a Virtual Machine (VM) and a SQL Database hosted on Microsoft Azure. More specifically, an A0 compute unit VM on Azure cloud and a B performance level SQL database. These two services would cost a total of $19.55 per month. There would be no need to upgrade any local systems as it all runs on the cloud. Scalability would allow the system to be upgraded while potentially only increasing the monthly fee. The proposed system would save Blockhouse valuable money, time, and effort while being easy to implement in new locations.

Application Architecture Diagram



Data Acquisition
& Data Conversion Strategy

For this system, ACE Systems Solutions chief objective is to design a system which eliminates the fragmented information created by Blockhouse Coffee & Kitchen within their normal business operations. Currently, their method of acquiring and converting the data they gather is inefficient and disorganized to an extent which prevents them from being able to reliably expand their business operations. Specifically, when acquiring data, the biggest setback is having to manually count inventory to ensure that the business has the appropriate number of items on hand and to ensure that the business only orders what is necessary to meet that capacity. In terms of converting the acquired data, they are again being held back by the inefficient and potentially inaccurate transfer of information to spreadsheets on the companies google drive. This is a result of an interface which is neither concise nor user friendly.

While we ultimately aim to reduce the need for manual acquisition and conversion of information, our proposed data acquisition & data conversion strategy for the new system will be as outlined below:

Data Acquisition: this is how the data will be acquired under the new system

- Manual counts of inventory (to provide a check of automated count adjustments and potential expiration of items)
- Automatic updates of inventory based on sales (recording sales information for alternative purposes as well)
- Automatic updates of inventory based on orders placed to suppliers

Data Acquisition

& Data Conversion Strategy

Data Conversion: this is how the data will be converted, or entered, into the system once it has been acquired

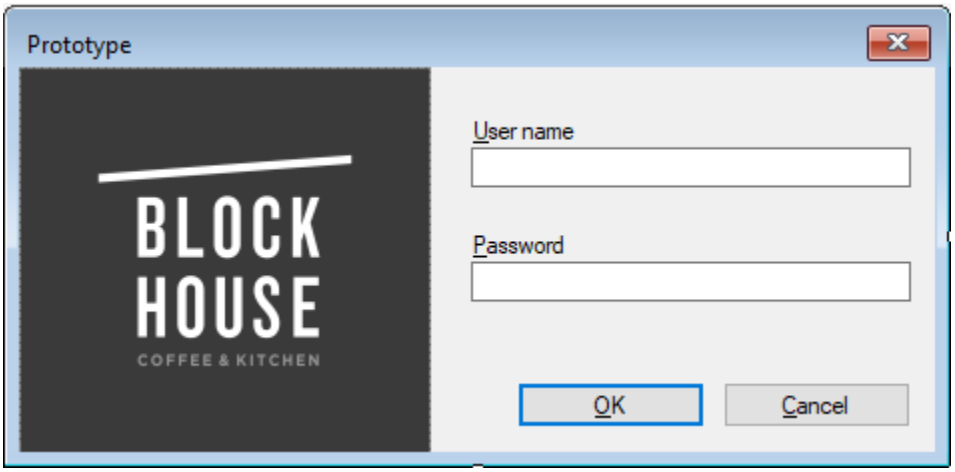
- Specially designed forms for various types of inventory. For example, food items vs. drink items will have their own forms where appropriate. These forms will provide a concise method for input of information which will eliminate errors. The data will be uploaded automatically to the SQL Server database.
- Specially designed forms for constructing orders to suppliers. The stored inventory data will be acquired and used to place these orders.
- For data that is stored in the current system we will employ parallel conversion. In doing this, we will manually transfer the stored information to the new system and compare it to the old system to ensure that the conversion is complete and correct.

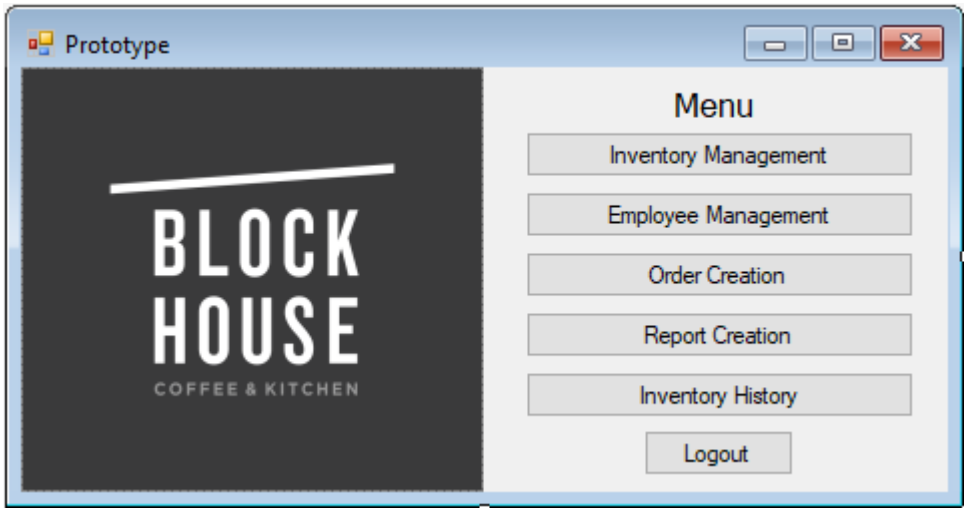
Initial Draft of Testing Plan for Application and Database Creation

As our system is intended for use in a business environment, we need to ensure that we thoroughly test our application and remove bugs. Our method for doing so is to populate the database with test data similar to the inputs we would expect from actual use. Then we go through all the functions of the application. The criteria we will use for our testing is:

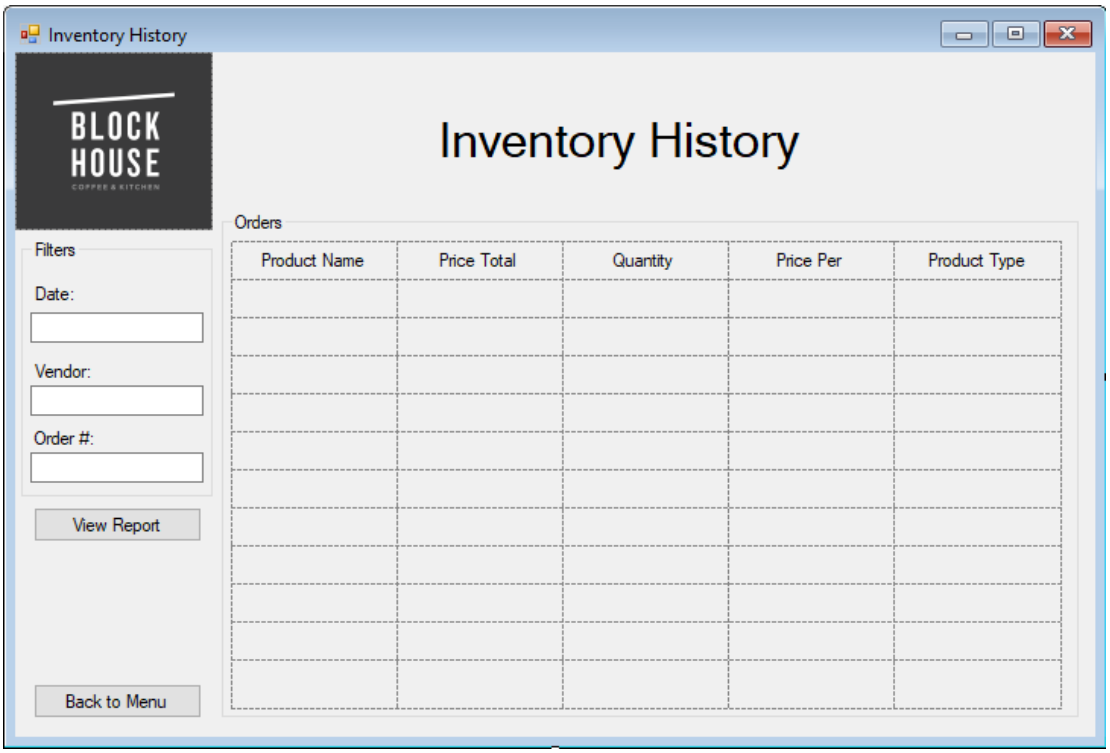
- Does the system authenticate logins properly?
- Does the system assign edit permissions to the proper users?
- Can the users add or remove items in the database?
- Does the system signal when items are below the par level?
- Can the user input criteria to filter the database?
- Can inventory data be altered after it is saved?
- Does data automatically sync with the SQL database?
- Does inventory data correctly export to end of week/month forms?
- Will the user be able to input special characters?
- Are users able to properly log out of the system?
- What happens when a user's input is too long or is the wrong datatype?
- Does the system create accurate employee schedules?
- Can new employees be added to the system with working login credentials?

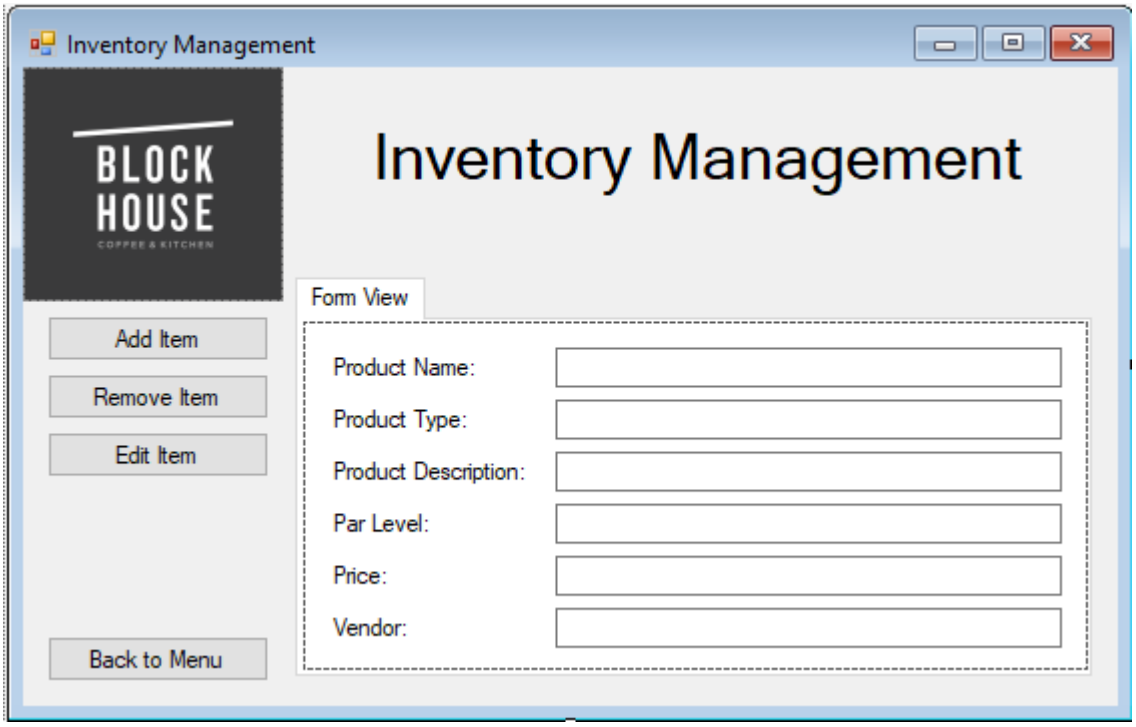
Application Prototype



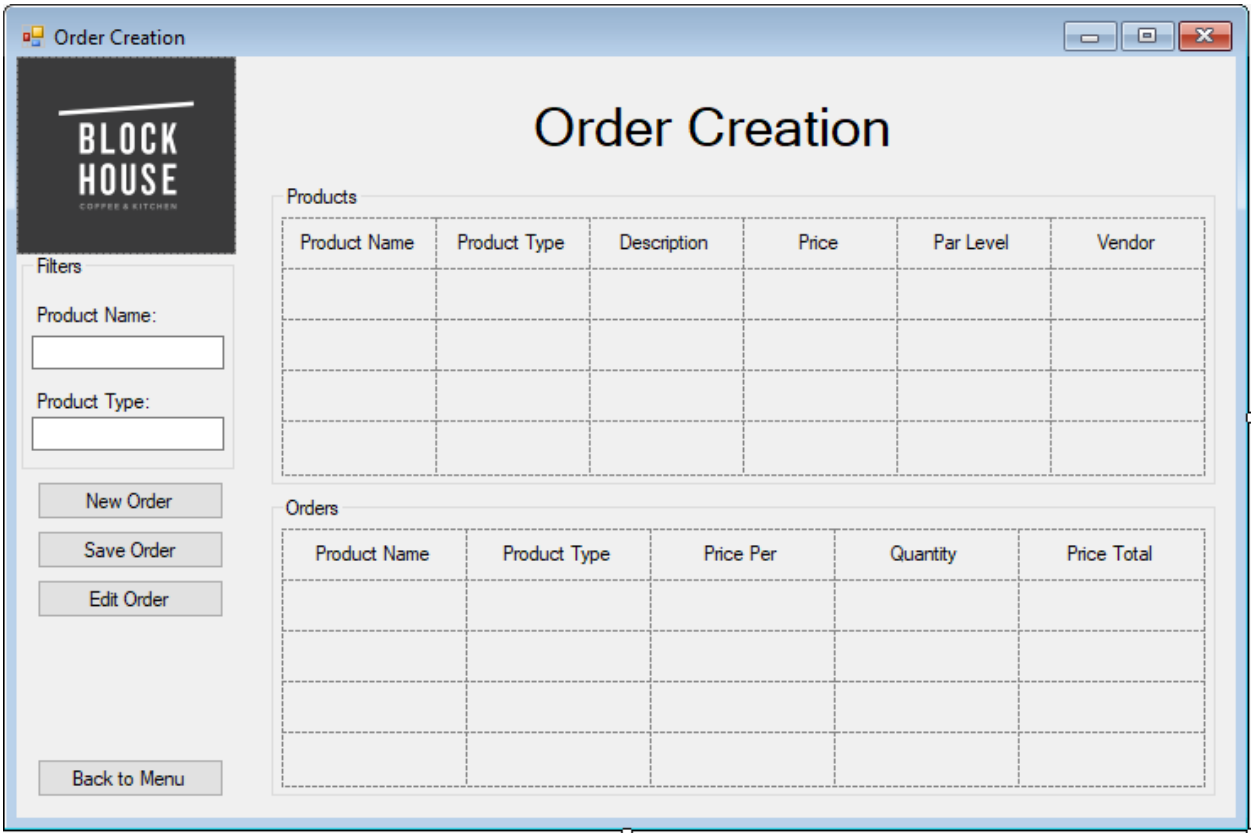


Application Prototype

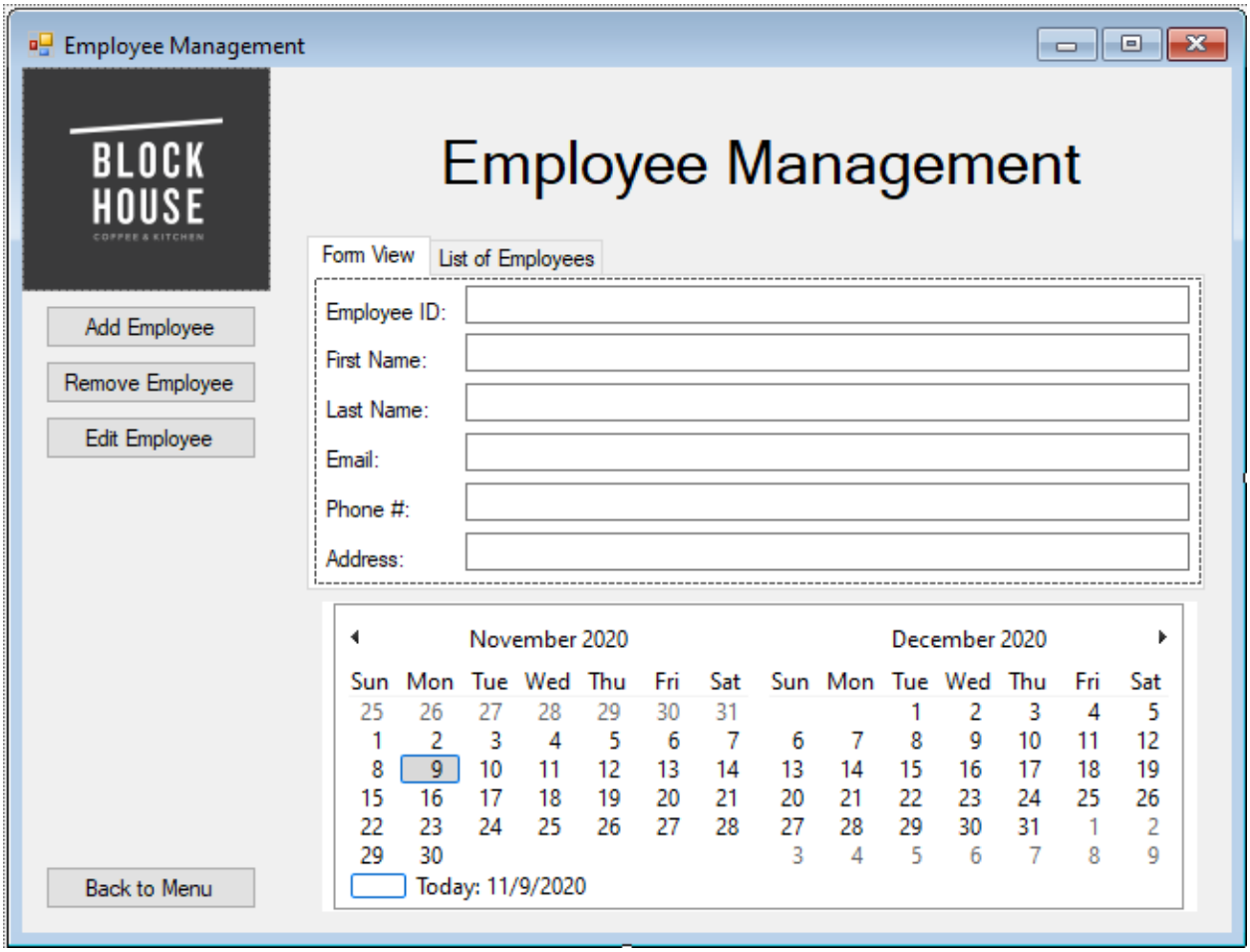




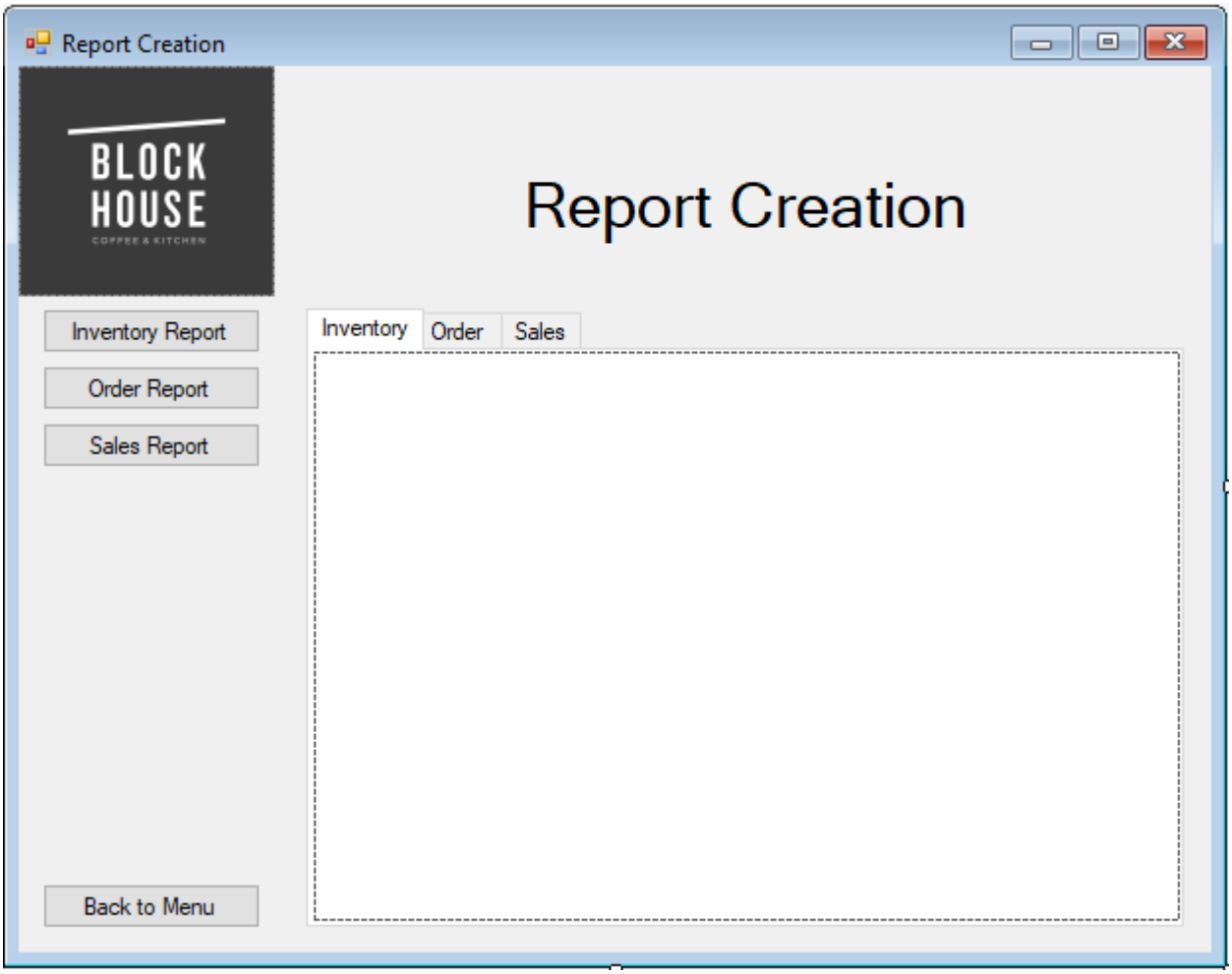
Application Prototype



Application Prototype



Application Prototype



Managerial Report:

Eric Pham

Our client, Blockhouse Coffee & Kitchen, have been struggling with their management and organization of their inventory spreadsheets. Having a Google Drive full of daily, weekly, and monthly inventory counts for both their Richmond and Katy locations creates a huge data dump of spreadsheets to go through, which creates excess time that managers could be focused elsewhere.

For example, café manager Jake Simpson spends over thirty minutes starting from logging onto the store computer and opening the Drive full of hundreds of sheets and having to look for the dedicated Par Levels sheet as well as creating a new inventory count spreadsheet for the day or week. This time could be reduced to as little as five minutes as our system proposal will contain a GUI that allows them to easily access the dedicated Par Levels sheet as well as having a blank spreadsheet with a template already open on the window, making it easier and quicker to input data.

As for any business, time is money, and with the time saved the managers could focus on other tasks and duties to close out, maintain the store during open hours, etc. Having easier access to specified spreadsheets and a templated new spreadsheet will reduce the time it takes to conduct inventory reports and allow managers to dedicate their time on other things.

Executive Report:

Eric Pham

The business owners of Blockhouse Coffee & Kitchen want to be the only people that have access to previous reports for both inventory and orders, but with their current system where they have up to 40 new spreadsheets a month created all in the same Drive, it becomes a nuisance and hassle to manually restrict access to old files daily, weekly, and monthly.

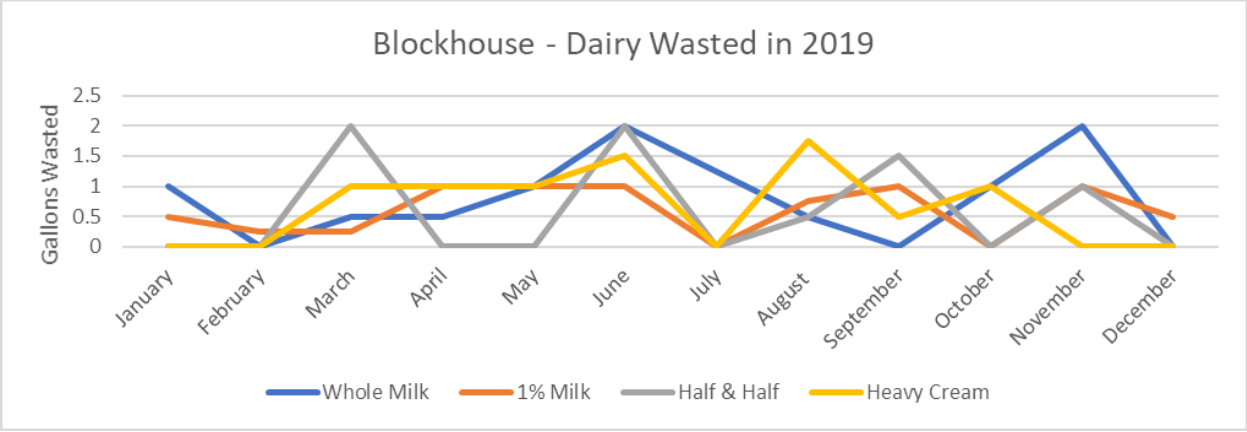
With the proposed system, all reports will automatically be saved into a History section where only the owners with their given executive login information will be able to have access. This saves the owners much time and confusion as they no longer have to browse through hundreds of spreadsheets just to find the right ones to restrict, and since it is now automatically restricted, they no longer worry about others being able to access those files once they are submitted.

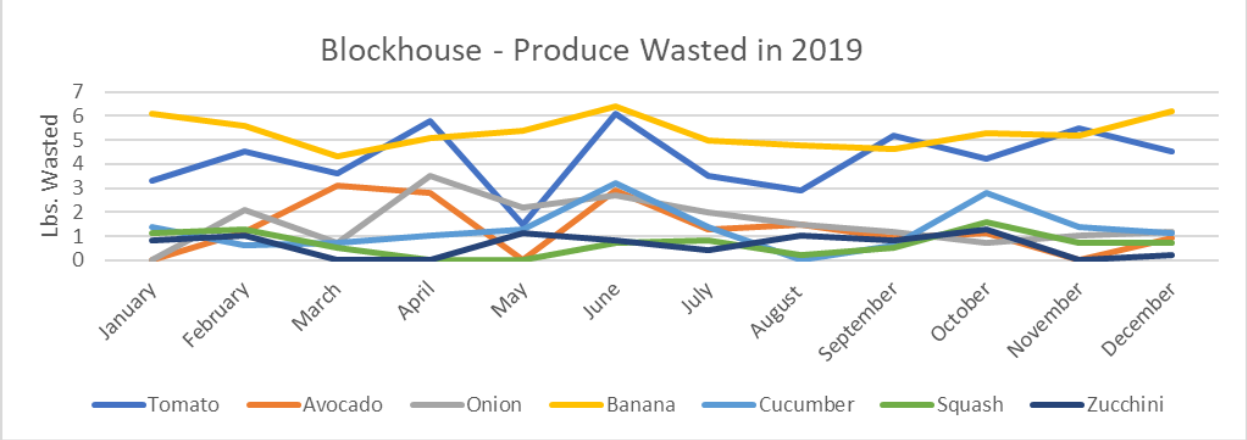
Operational Report:

Jake Simpson – Minimizing Waste by Reducing Order Errors

One area our client expressed some initial concern was around product waste that is being caused by ordering errors from the store managers. This is especially true with inventory that can spoil quickly, specifically dairy and produce. We believe the current system is leaving too much room for entry error because the store managers are entering counts twice, once into the weekly inventory counts, and again into the weekly order sheets. Ace Systems Solutions believes our proposed system will greatly reduce these types of costly errors by automating the process of creating orders after a weekly count is completed by the store manager.

The graphs below show the waste in 2019 at Blockhouse for dairy and produce:

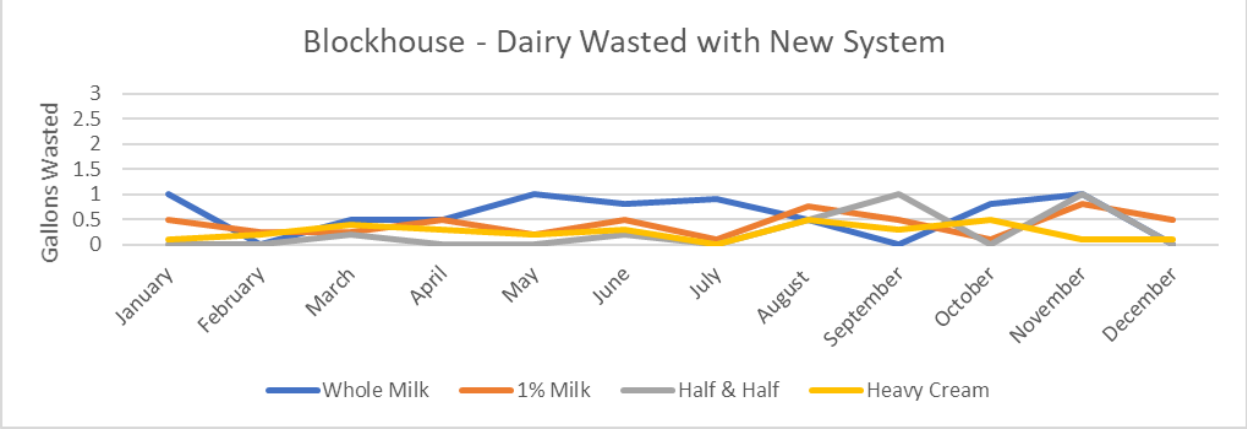


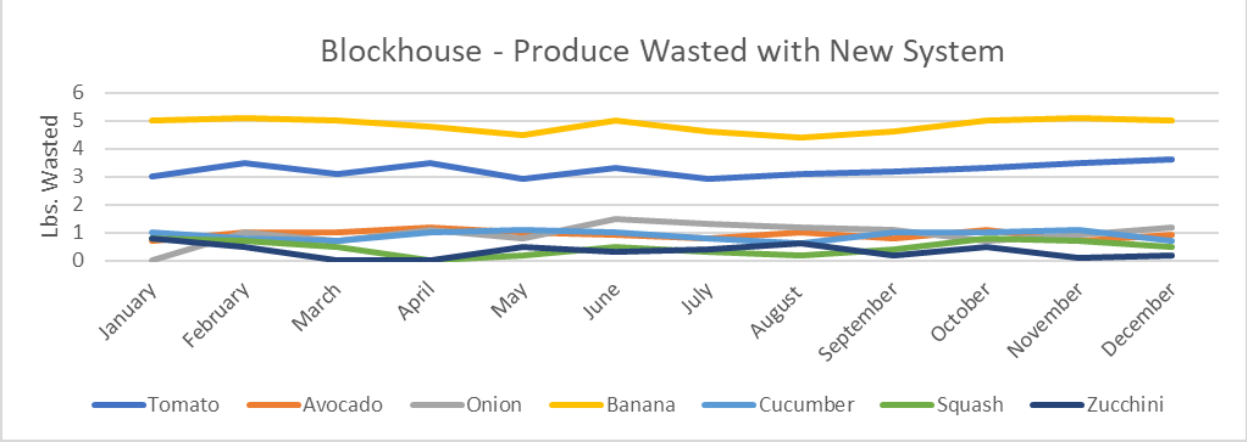


Operational Report:

Jake Simpson – Minimizing Waste by Reducing Order Errors

While some of this waste is unavoidable, our client believes a significant portion of it can be attributed to ordering errors by the store managers, especially the spikes in months like June and April. With our new system we believe Blockhouse will be able to lower some of their product waste and eliminate unpredictable spikes, resulting in reliable, consistent, and most importantly, lower numbers. The graphs below depict our projected waste numbers throughout 2021 after the new system is implemented.

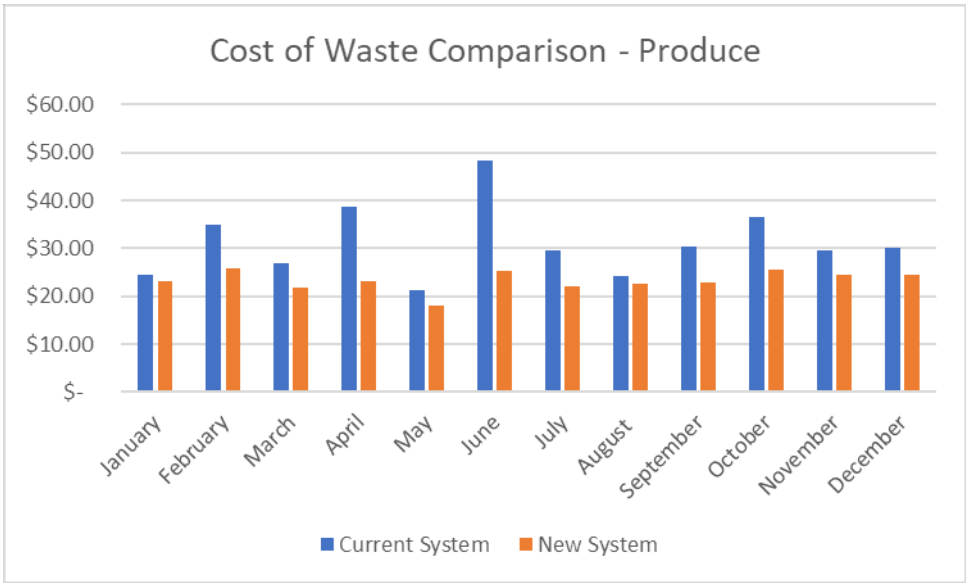


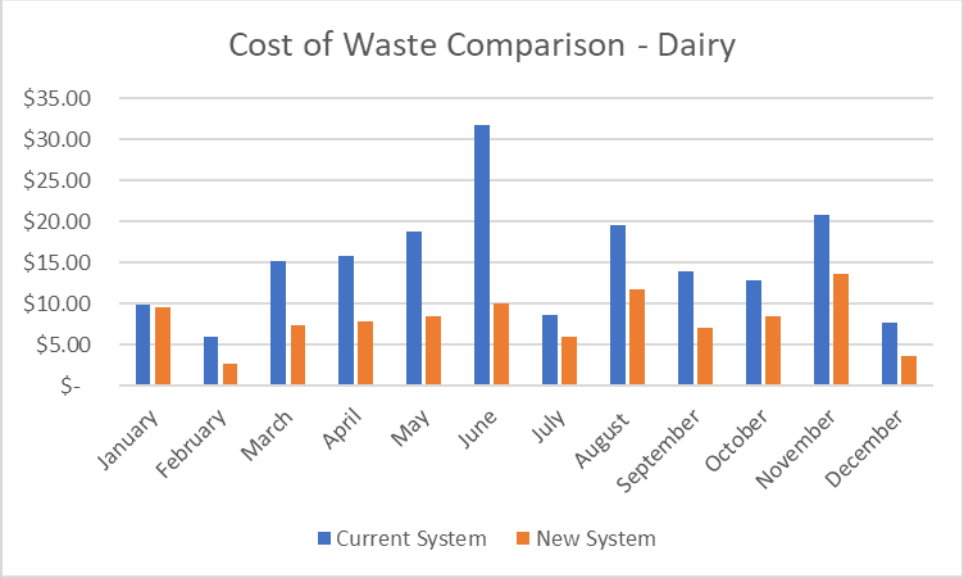


Executive Report:

Jake Simpson – Minimizing Waste by Reducing Order Errors

Waste is costly for any business and can add up quickly. The graphs below examine a comparison of the monthly dollar amount Blockhouse will lose on waste from dairy and produce:

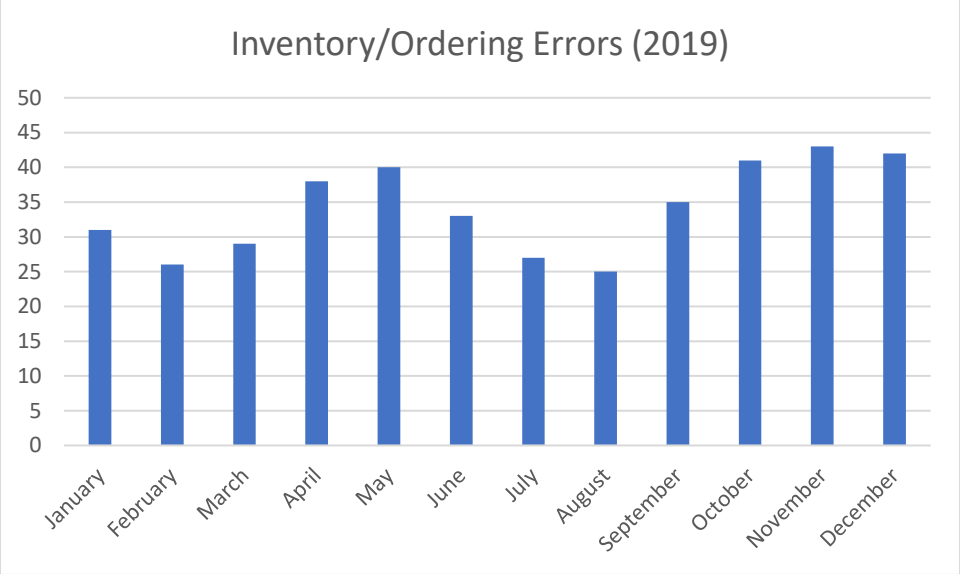




Managerial Report:

Joshua Wilson – Inventory/Ordering Errors monthly

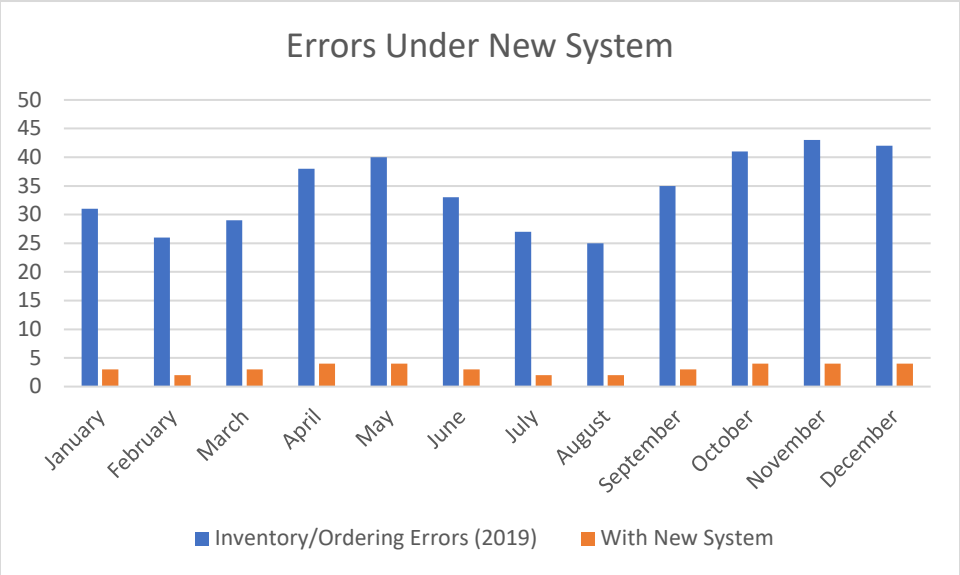
One outcome of the use of our proposed system by Blockhouse Coffee & Kitchen is that it will greatly eliminate inventory/ordering errors. The graph below is a chart of the occurrences of inventory errors at both of the Blockhouse Coffee & Kitchen locations in Houston. On the Y-axis we can see the number of errors and on the X-axis, time is expressed in months.



Based on this graph, bringing error occurrences under control is important because it will remove an obstacle from opening more locations in Houston. If levels remain as they are, more locations will result in more errors. However, with the new system, we anticipate error occurrences to fall by 90%. With two Blockhouse locations open, the number of errors would be at a far more manageable level. For comparison, an example graph under the new system would appear as below:

Managerial Report:

Joshua Wilson – Inventory/Ordering Errors monthly

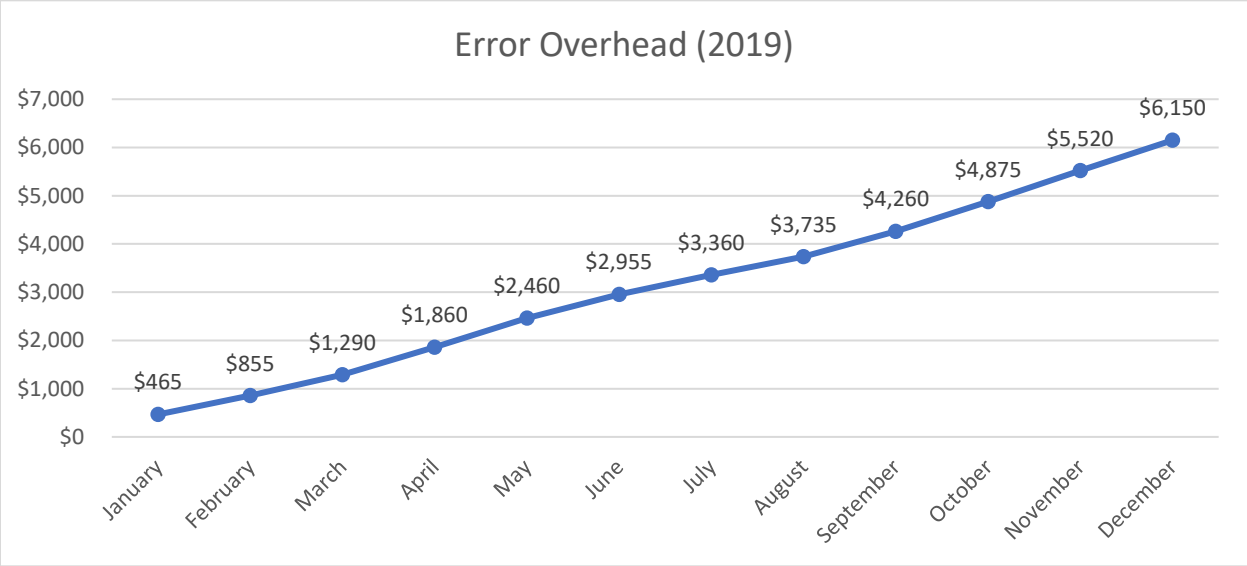


Analysis: The human element in the current system, which requires manual counts of all inventory items and manual creation of orders, results in errors. The proposed system is designed to remove the human element as much as possible such that errors can be anticipated, measured, and controlled.

Executive Report:

Joshua Wilson – Average Overhead Costs from Errors

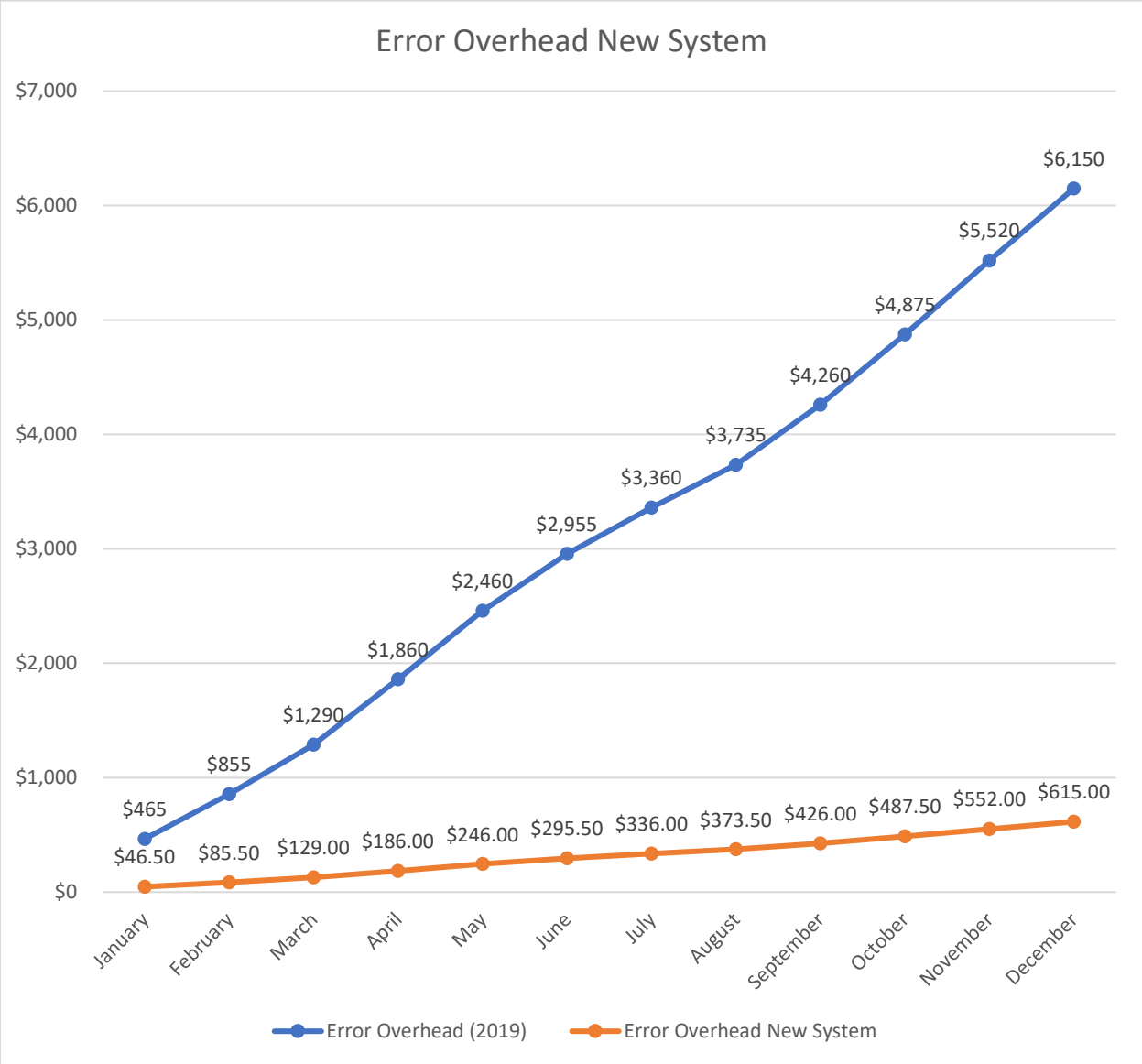
In the chart below you can see the overhead costs from inventory and ordering errors accruing for the year of 2019. These costs are represent the total overhead between the two Blockhouse locations in Houston. On the Y-axis you can see the cost, and on the X-axis you can see the months of the year. Observe how the overhead grows throughout the year:



As a result of errors in inventory and ordering, Blockhouse Coffee & Kitchen accrues overhead costs when they either run out of an item or order too many of an item. When they run out of an item, the company loses a sale they would have otherwise made. Alternatively, when they order too much of an item, it can result in unsold inventory.

Executive Report:

Joshua Wilson – Average Overhead Costs from Errors



Analysis: After implementing the new system at Blockhouse Coffee & Kitchen, we anticipate errors in inventory and ordering to decrease 90%. Consequently, overhead costs should reduce by roughly the same amount. As a result, we would expect the overhead costs under the new system to appear as what you see above.

Executive Report:

Daniel Thomas

The management of Blockhouse coffee has stated that they are looking to reduce costs due to errors in inventory data. Inaccurate inventory data has led to situations where either a product runs out and is not re-ordered, or too much of a product is ordered and the store is left with unsold excess.

Current business rules have the managers count track inventory by hand and then enter those counts into a datasheet. This is done once weekly, with a new sheet for every count. Over time this method has led to a large amount of datasheets being accrued, and users are having trouble finding important data in these sheets. Our new system will help the management more easily sort and access records from multiple weeks from one place. Doing so will increase the readability of inventory data while reducing the amount of resources needed to maintain inventory records.

Overall, our new system will be able to address the problems of the current system. Helping to improve the accuracy and efficiency of data collection while increasing the readability of that data. Should Blockhouse choose to implement our system they could expect to see costs due to inventory errors reduced by a substantial amount.

Managerial Report:

Daniel Thomas

Our main goal is to provide a new inventory system for Blockhouse coffee. The system currently in place for inventory is able to adequately serve the business for now but will fall behind the longer it is used. The biggest issue with the current system is that all inventory must be manually counted, with human error leading to frequent miscounts.

The new system that we will create will noticeably improve the efficiency of both inventory data collection, and data report generation. Our system will calculate the amount of inventory left based on product sales. When supplemented with human counts the amount of errors in inventory counts. The system will also give Blockhouse staff control over the creation, deletion, and updating of a database made of inventory items. The system will then be able to use that stored data to create forms to be used for end of week and end of period reports

Our proposed system will be much easier to use than the system that is being used at the moment. We expect that the installation of our system would improve the efficiency of creating inventory reports and allow for more accurate inventory data records.

Managerial Report:

Andres Pirela

Our client Blockhouse Coffee & Kitchen, among several problems one that stands out is how they store their current and past weekly inventory sheets and files. The problem they are currently facing is that all the new and old files are stored in a Google Drive that is shared with the Owner and Managers of each location. Currently they have two locations, one in Richmond, and one in Katy, both in the Greater Houston Area but the owner aspires of expanding and adding more locations in the future. As one can see, having all these files in one area has the positive that they are all consolidated in one spot but there is no organization when it comes to looking up past files since it is a mess.

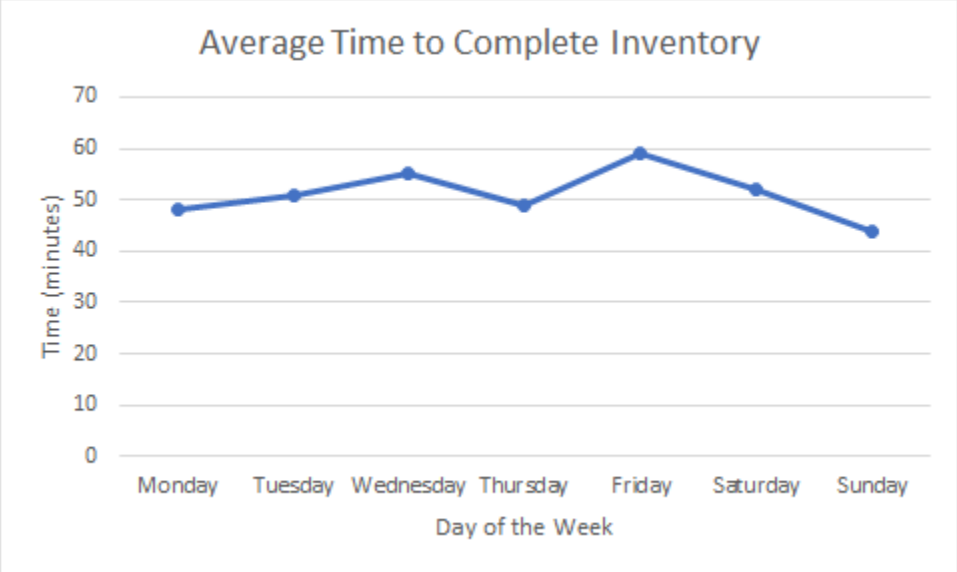
Ace Systems Solutions will fix this issue by creating a Graphical User Interface (GUI) that will allow the owner and managers to access and create these weekly inventory sheets and files while simplifying looking up past and current files. The brains and backend of this solution consist of deploying a SQL database in the cloud hosted by Microsoft Azure where all the tables and data connecting the files to the GUI will be stored. This allows the owners and managers to easily access and view their files and database when need be. The application will have the option to look up past files by searching the date or with a small calendar that will allow the user to click on a date which would then show the reports and files that correspond to that date. This solves the issue of having to look through their Google Drive to find a file which is time consuming and inefficient.

The owner and managers will now have one central hub where they can see current and past files without getting confused or wasting time. One quick search or a couple of clicks and they will be able to view the files they need. Being hosted on the cloud also allows for scalability when the owner decides to open new locations.

Operational Report:

Andres Pirela

Day	Start Time	End Time	Time Taken
Monday	3:00pm	3:48pm	48
Tuesday	3:00pm	3:51pm	51
Wednesday	3:00pm	3:55pm	55
Thursday	3:00pm	3:49pm	49
Friday	3:00pm	3:59pm	59
Saturday	3:00pm	3:52pm	52
Sunday	3:00pm	3:44pm	44



Analysis:

The Inventory process at Blockhouse Coffee & Kitchen approximately takes 45 minutes to an hour. We believe we can cut down on this time by a minimum of 25 minutes with our proposed system. This in turn would save time for the managers to complete other tasks while also increasing productivity.

Executive Report:

Andy Luong

Our Group, Ace System Solutions, is fairly new to the scene and have opted to help Blockhouse Coffee. Our client is Cody Frederick, who wants to be a leading coffee shop in the business. However, one of the problems he and the rest of the staff are having is to manage information. Currently, our client does not have a system to manage their inventory. Our goal is to help this small business increase efficiency and productivity by creating a system to help achieve this process.

As of right now, Blockhouse Coffee has their manager conduct an inventory count and then puts that information into a google sheet at the end of the week. Afterwards, a new sheet is created at the end of the month compiled from these weekly sheets. With this being said, there are a lot of sheets being created which can lead to an excess number of logs. Our goal is to make a system allow users to gather and store information easily. With this system implemented it will allow for:

- Increased efficiency
- Less resources to be used
- Automation of lists

Conclusion:

This system can help with inventory management. It will make sure that the managers can easily organize inventory items, so they do not have to run out of stock. Also, they can keep track of high priority items used in the business. This will save time and reduce errors in the workplace. As of right now, we do not know if the owner will choose to adopt our solution. However, it is an option if they want to try it out and we will make it a priority for them to easily adapt to this new system.

Managerial Report:

Andy Luong

Introduction:

Blockhouse Coffee & Kitchen is a small business that is currently doing fine. One of our team members is a manager at this establishment and has informed us that they are lacking in terms of managing information. With this said, our team is currently on route to creating an application that can help count inventory and automate most of the work instead of physically creating sheets repeatedly.

Objectives:

With the introduction of our new system, Blockhouse Coffee & Kitchen can expect to see improved results in managing their inventory. Only upper level management can access this system because regular employees are not in charge of counting inventory. Managers and owners can utilize this system. With this application, the user can have the option of editing a list of items, such as adding, removing, or updating said list. The user also has the option to see the full list of inventoried items. In terms of counting inventory, you will be able to see the amount of inventory that is available, so that you will be informed if an item is almost out of stock. For automation purposes, the system is able to generate a list of items if they are almost out of stock.

Conclusion:

We believe this system is better than the current system that they currently use. It is more efficient and can result in time saved from both managers and owners. We can also expect to see a decrease in user errors because the system can handle calculations. Ultimately, this is a viable solution to consider and may lead to positive results in the future if they choose to use this system.

Managerial Report:

Jesse Requena

Introduction:

Blockhouse Coffee & Kitchen is a small business that is doing quite well. Although it is a small business it does have many suppliers. Most importantly their coffee suppliers are varied and unique. To cater to a wide range of tastes and interests in coffee from their customers, Blockhouse needs different coffee suppliers both big and small. Ace Systems Solutions will help Blockhouse handle and keep track of all their suppliers ranging from coffee to straws, this will help keep Blockhouse managerial teams on top of all their products and where they come from.

Objectives:

When our new system is implemented Blockhouse Coffee & Kitchen will see improved results in organizing and verifying where their supplies come from. With the new system only upper level management will be able to view, alter or extract sensitive supplier data. This type of information is extremely sensitive and being able to have a secure application to contain it is essential. Coffee shops is already an extremely competitive business, so any advantage helps.

Conclusion:

We believe the new system is a large improvement over the previous system which is the use of Google docs. Just the peace of mind knowing that data is secure will put the owners and managers of Blockhouse Coffee & Kitchen at ease.

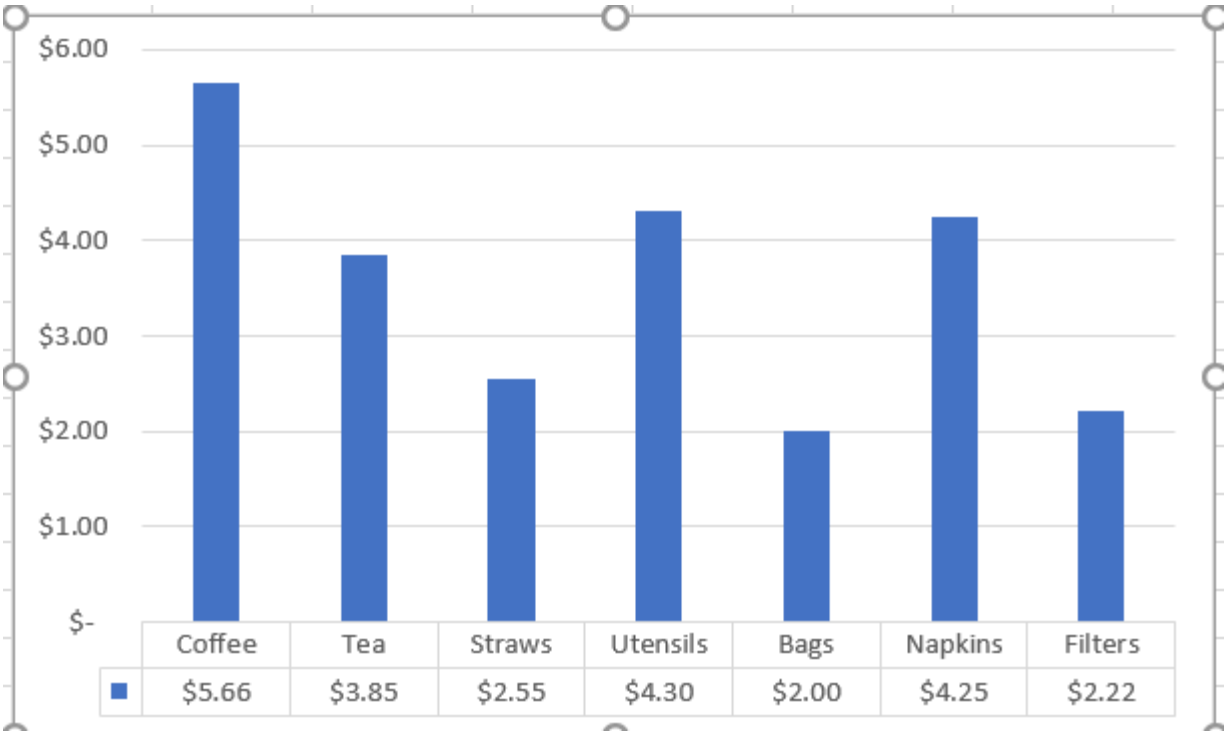
Operational Report:

Jesse Requena

Small businesses must usually shop around more than any other type of business to find the best prices for any type of supplies or products. Blockhouse Coffee & Kitchen knows that fact more than anyone and being able to pick and choose which suppliers to use for each type of product is a nightmare to organize and keep track of. With the system Ace Systems Solutions will be building supplier data will be easy to input, query and secure with minor input from the user.

The graphs show that shopping around can help cut costs, so being able to manage all the data is pivotal.

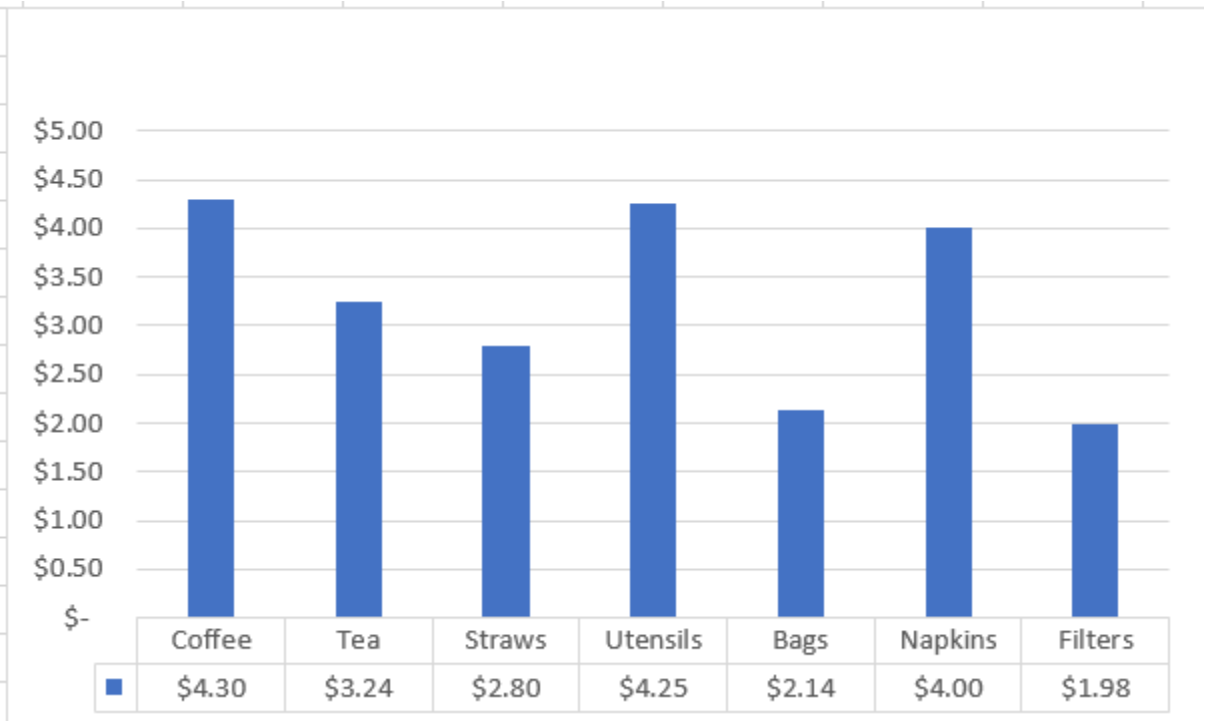
Graph of one supplier: Sysco



Operational Report:

Jesse Requena

Graph of multiple suppliers:



Managerial Report:

Jorge Vazquez

Blockhouse Coffee handled they're inventory with excel sheets and shared them through a cloud drive. For a small shop this can be effective, though it might get cluttered and based on our conclusions these leave little opportunity for greater expansion of the business. Once we install our UI design and database blockhouse can expect increased efficiency. History suggest that the main way information technology changes management is thought changes in how information is gathered. Our UI gives blockhouse a sleek visual aid to input their inventory numbers and automates part of the ordering process.

We predict that the benefits of installing this inventory management software to blockhouse coffee will be:

- Inventory Accuracy
    - Helps organize and streamline inventory placing and acquisition for better fulfillment
- Cost Cutting
    - Reduces human error which them results in less time and money spent fixing problems
- Improved data Visibility
    - The reporting tools and analytic tools will give us valuable insight into how daily processes function and how to plan for the future.
- Preventing Stock Issues
    - Avoid situations where there is not enough or too much in stock
- Better Customer Service
    - All the above boost customer service practices. Fewer errors mean accurate deliveries and happier customers.

Final Problems
& Requirements List

Problem Statement

Blockhouse Coffee & Kitchen would like to expand its operations by opening more locations within the Houston area. However, they are experiencing issues that they believe would hinder this goal were they to actually do so. Specifically, their current way of managing inventory is not quick or even accurate in some cases. This leads to increased overhead costs when items are either overstocked, understocked, or ordered in incorrect amounts as a result of counting errors. Consequently, the current system is not suited to larger business operations.

Problems

- Currently they have no concise, efficient, effective, and accurate way of managing inventory
- Conducting counts and entering them manually into google sheets leaves too much room for error
- Having individual sheets for every week and month is becoming increasingly difficult to manage on a google drive as the business ages
- Entering the counts a second time into a separate sheet to gauge par levels and place weekly orders is both time consuming and opens the possibility for more entry errors

Requirements

- System should have complete list of inventoried items
- Only upper management should have permission to edit the list of items (add/remove/update)

Final Problems

& Requirements List

- Items should have the amount required to be on hand (Par levels)
- System should be organized into two main categories: End of Week Counts, and End of Month counts
- System should notify upper management once a count is marked as completed
- After a count is completed, the system should auto generate a list of items to order that are below the required par level
- System should be easy to understand for new users
- System should be an available option if the business decides to use it with or without their current system
- System should be finished by Spring 2021

Executive Summary of Project

When we first met with business owner Cody Frederick of Blockhouse Coffee and Kitchen it was clear to us that his business was a product of passion. Above all else, Cody and his team strive to build a community that fosters meaningful connections and supports other small businesses in the area. Their shelves are stocked with goods from local producers, craftsman, and artisans. Learning about the culture and history of Blockhouse made us even more excited to work with their organization.

During our initial interview with operations manager Brian Alfaro, we learned that while they run a fairly smooth operation, there were undoubtedly some areas where we felt we could greatly improve their efficiency and save the company money. When we asked Brian how they kept track of their inventory, he told us that the store managers conduct counts and enter them into spreadsheets on the company's Google Drive. When we continued to question him on this system, we learned that counts on higher usage items like coffee, milk, and produce are conducted at the end of every week, and a complete inventory count is conducted at the end of every month. We also learned that store managers place weekly truck orders using a different spreadsheet that contains par levels for each item. Once a weekly count is finished, the store managers re-enter the numbers into the par level spreadsheet to get the quantities of each item that should be ordered.

Brian was not hesitant to admit that their current system was inefficient and becoming more problematic as the company aged. He complained that the company's Google Drive was becoming a mess of spreadsheets that is increasingly difficult to keep organized. There have

Executive Summary of Project

been many instances when he feels like too much time is spent digging through files trying to find information from an older inventory count. He also mentioned that store managers often make mistakes on truck orders because they make entry errors when updating the par level spreadsheet. Brian also must manually create every spreadsheet each month for the store managers to enter their counts into. Learning this information made it clear to us that a new information system would substantially help Blockhouse to save time and money.

Upon asking Brian what his ideal system would look like, he told us that there were a few features that he deemed mandatory:

- A log-in system with different user privileges, and the ability for the business owner to add/remove users when staffing changes are made
- The ability for the business owner to manage the items in inventory, set the par levels, and classify which items are high use
- Automated generation of spreadsheets for store managers to conduct their counts on – end of week counts should contain only high use items; end of month counts should contain all items.
- The ability for store managers to log in and conduct inventory counts
- Automated order reports for the store managers that are created when a count is finished based on par levels
- The ability for users to look up previous counts with some type of search functionality

Executive Summary of Project

- A system that is scalable as the company continues to grow and open new locations

Based on these requirements, Blockhouse Coffee & Kitchen chose proposal option one which is described below:

Create a Graphical User Interface for a SQL Database with a backup in the cloud that would allow the Owner and Managers to add, remove, edit, update items in the inventory, create weekly/monthly/yearly reports, and update employees. This solution would also update and display the minimum items needed per week and/or per month for the café and when new orders for these items should be placed to maintain the right amount of stock. This would automate the process that the café managers currently have to do.

Updated Listing

of Authors Per Deliverable

Deliverables	Primary Author	Secondary Author
Team Communication Plan	Andres Pirela	
Client Organization History/Background	Jorge Vazquz	Jake Simpson
Client Organization Timeline	Jorge Vazquez	Joshua Wilson
Client Organization Chart	Jorge Vazquez	
Project Selection Analysis	Jesse Requena	
Initial Problem Statement, Problems and Requirements List	Jake Simpson	
Scope Diagram (Info. Flow Diagram)	Jorge Vazquez	
Data Gathering Goals	Andres Pirela	Andy Luong
Data Gathering Methods	Andres Pirela	Andy Luong
Data Gathering Questions	Andres Pirela	Andy Luong
Team Roles/ Responsibilities Matrix	Jorge Vazquez	
Data Gathering Results	Jake Simpson	
Current System Description	Jake Simpson	
Current System Problem Description	Dan Thomas	
Client Organization Objective List	Joshua Wilson	
Client Application (System) Objective List	Joshua Wilson	
Individual Users Objective List	Dan Thomas	
STROBE Analysis	Jake Simpson	
Samples of Records	Jake Simpson	
Initial Project Work Breakdown Structure	Jorge Vazquez	
Gantt Chart	Jorge Vazquez	
PERT Diagram	Jorge Vazquez	
Users/ Stakeholders Analysis	Andy Luong	
Initial Feasibility Analysis	Andres Pirela	
Critical Requirements Analysis Objective Tree	Joshua Wilson	
Current Business Rule List	Eric Pham	
Current Business Activity List	Eric Pham	
Current Event Response Table	Eric Pham	
Current System Data Flow Diagrams	Team	
Current Data Dictionary	Jesse Requena	
Current Entity Relationship Diagram	Andy Luong	
Client SWOT Analysis	Jesse Requena	
Systems Proposal	Team	
Systems Proposal PowerPoint Presentation	Team	
Listing of Authors per Deliverable	Jorge Vazquez	
Sponsor Decision	Jake Simpson	
Required System Entity Relationships	Andy Luong	
Required System Business Rule List	Joshua Wilson	

Required System Business Activity List	Joshua Wilson	
Required system CRUD Matrix	Joshua Wilson	
Use Case Scenarios	Team	
Required System Event Response Table	Joshua Wilson	Eric Pham
Required System DFD	Team	
Required System Data Dictionary	Jesse Requena	Team
Required System Feasibility Analysis	Andy Pirela	
Application Architecture Diagram	Jake Simpson	Joshua Wilson
Data Acquisition and Data Conversion Strategy	Joshua Wilson	
Initial Draft of Testing Plan for Application and Database Creation	Dan Thomas	
Application Prototype	Eric Pham	Team
2 Unique Reports	Team	
Updated Listing of Authors per Deliverables	Jorge Vazquez	
Executive Summary	Jorge Vazquez	
Updated Client Background Information	Jorge Vazquez	
Final Problems & Requirement List	Jake Simpson	
Full Documentation	Team	

Complete List of References

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