

# Requirements Determination and Analysis

PROJECT PART 2

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## **Requirements Determination**

### **Requirements Gathering Techniques**

We began our requirements gathering process with careful observation of the current manual process the company was utilizing. We determined that observation of the manual process would be most effective to get us familiar with it and its functionality. This allowed us to understand more fully what our employees do and how to effectively develop a new automated system to replace their current manual process.

Once we felt we had significant knowledge of this manual process, we developed questionnaires to gather unobservable information from the employees who work with the manual process as part of their daily routines. These questionnaires allowed us to gain further information about the As-Is system, including the obstacles employees encountered most often that likely would not be able to be observed adequately during our first step in our requirements gathering process. The final question in these questionnaires determined if any individuals felt strongly enough or had additional information to share with us through interviews that would be conducted at a later date.

Once we had received all the questionnaires we had sent out, we developed interview questions to elicit further information from willing employees about what to include in the To-Be system to ensure it had all necessary functionalities. We chose to interview only select individuals because it allowed us to gain insight from employees who wished to discuss further the As-Is and To-Be processes. These gave us the chance to ask more detailed questions and gain longer and more effective responses from a sample of employees. The interviews also gave employees who wanted it, the chance to further discuss with us the details needed in this new

system from the perspective of what would make their job easier and their roles more efficient.

Copies of these questionnaires and interview transcripts can be found in the Appendix.

### **From Whom We Received Data**

There are twelve employees who work with the current manual process. We chose to observe and then send questionnaires to each of them; we then interviewed the employees from those twelve who wanted to be interviewed. Since we are a small but growing company, we were able to give questionnaires to each employee that interacts with this system and whose roles within the company would be affected by the implementation of this new system. By interviewing the employees who interact with the current manual process, we were able to gain a better understanding of the As-Is process and how we could best develop the To-Be system. The employees from whom we gathered information are the ones who have the most to gain from this new system.

## **Requirement Analysis**

### **Use Case Diagrams and Narratives**

The first Use Case Diagram needed for our system deals with the customer side of the entire process. This includes customers creating accounts, logging in to the system, and placing orders. Once a customer places an order, they can view the order, update the order, and track the shipment once the order has been shipped. The inventory staff interacts with this system as well. They can also login to the system, but they are the ones filling the orders placed by the customers. They can view the order details, fill the orders, update inventory information, and ship the order to the customers.

The second Use Case Diagram for our system conveys the inventory staff and supplier side of the process. Our inventory staff manager will send out purchasing requests so we may order new beans and manage receiving reports for our received orders. Additionally, they will manage our relationships with our chosen suppliers. The inventory staff manager will also save invoice records from our placed orders. Inventory staff included in this system, will be managing inventory records and levels. The staff will determine when it is time to place a request for more beans based on their analysis of inventory levels. The staff will save all inventory records, and compile reports that will be delivered to the financial office. Our suppliers will have limited access to our system and be able to send order and tracking IDs through it. Suppliers will also be able to view their invoices with us and see the payments sent to them by our financial office.

### **Activity Diagrams and Narratives**

The first activity diagram gives a brief overview of how the new system will operate. When a customer tries to order an item, the system automatically checks the inventory levels to see if we have that product in stock. If it is unavailable, the order will not go through, and the system will send an email to the customer when the item is back in stock. If the item is available, the system will send an order confirmation to the customer. If their entire order is available, the system will finalize the order details and send an order confirmation email to the customer. Once the billing department issues an invoice and collects payment, the shipment is sent to the customer.

The second activity diagram focuses on how customers will interact with the system. New customers will need to create an account, whereas existing customers will login with their

credentials which the system will authenticate. If the login attempt fails, the customer will need to re-enter their credentials or follow steps to create a new password. If the login attempt is successful, customers can then either search for products, view their order history, or update their customer information. If the customer chooses to search for a product, they can select said product and add it to their order. If the customer chooses to view their order history, they can re-order products they have previously purchased. After each of these two steps, the customer is then able to view their order, make a payment, and confirm their order. If the customer chooses to update their personal information, they can add new information to their account and then save their updates. Finally, customers can sign out of their account.

The third activity diagram shows how the inventory department staff will interact with the new system. Users will enter their login credentials which the system will then authenticate. From there, users will be able to view the inventory levels of each item our company sells. If the user determines that the item's inventory level is sufficient, they can choose to either update the inventory level for that item or view a different item. If the user determines that the inventory level is low, the staff members can send a bean request to their manager. Once that request is granted, they will send out a purchasing request then place an order with the supplier. The inventory department will then receive an invoice from the supplier for their order, along with an order ID and tracking ID once it is shipped. Once the shipment of beans is received from the supplier, the inventory level of that item will be updated, and the user can sign out.

## Appendix

### Questionnaire Responses and Interview Transcripts

**Employee Name:** Jerry M.

#### Questionnaire

1. How many hours per week do you interact with this current manual process?
    - 25 hours
  2. What is your role in the current manual process?
    - I review the financial reports that are delivered to my office. I examine and check out current payments owed and collected receipts
  3. What is the biggest challenge or obstacle you have faced with the manual process?
    - The biggest challenge is to gather the information required for the financial reporting to produce the reports.
    - It is also a challenge to validate that the information is accurate since we have to do it manually.
  4. Of the following, rank your priority of the most important features for this new system to have:
    1. Automated financial tracking for processing customer bills and producing receipts
    2. Electronically tracking orders using Order\_IDs
    3. Expeditious shipments to customers
    4. Alerts for tracking and managing stocks of inventory on hand
    5. Automated alerts for reorder of inventory from suppliers
- Final Question:** Do you have further information you would like to share with us for this future system? If so, can we interview you?
- Yes, I am essential to this system, and would like to provide additional information to support the application development

#### Interview

1. What are your future goals for this company? (6 months, 1 year, 5 years)
  - I hope this company can become a leader within the field. I have been the financial advisor for over six years and can see the promise we hold.
2. What would success look like for you in terms of this new system?
  - An automated system that is accurate that produces billing, receipts, and reports.
  - There have been issues of lost receipts. I want all our payments we owe and have received to be stored in one database which I can access and organize with ease.
3. What is your biggest concern implementing a new system?
  - My biggest concern is the transition from manual recording to an automated system. It will cause a huge problem in the financial office if we have data missing.

4. Do you have any questions for me?

- What type of training will be offered prior to the implementation of the new system?

**Employee Name:** Kathy V.

### Questionnaire

1. How many hours per week do you interact with this current manual process?

- 40 hours

2. What is your role in the current manual process?

- I am the manager for our staff who handles our customer orders. This includes inventory levels, order placement, tracking ids, receipts from our vendors and from our customers.

3. What is the biggest challenge or obstacle you have faced with the manual process?

- The biggest challenge has been managing proper inventory with the orders placed by our customers. Our customers' orders have increased, and it is harder to maintain our stock in line with orders placed.
- Time required to complete these activities and also want to see accurate order tracking to make sure there are no orders unfulfilled.

4. Of the following, rank your priority of the most important features for this new system to have:

1. Expeditious shipments to customers
2. Electronically tracking orders using Order\_IDs
3. Automated alerts for reorder of inventory from suppliers
4. Alerts for tracking and managing stocks of inventory on hand
5. Automated financial tracking for processing customer bills and producing receipts

**Final Question:** Do you have further information you would like to share with us for this future system? If so, can we interview you?

- Yes, I would like to further discuss the implementation of this system. I would also like additional information on the training plans for my staff.

### Interview

1. What are your future goals for this company? (6 months, 1 year, 5 years)

- The biggest goal I have for this company is that we can become successful without losing the community we have built. We have had rapid growth and as of now it is taking a toll on the staff and management. This company has built a strong community with our staff and customers. As we grow, I hope we can maintain our good relationships with our newfound success.

2. What would success look like for you in terms of this new system?

- Success would be creating a system that eases the lives of my staff without costing productivity. The manual recording worked when our customer base was smaller, but now it is unmanageable with our increase of orders. It is clear an IT solution is necessary, and I believe this system is the key.



3. What is your biggest concern implementing a new system?
  - My biggest concern is that this system may not cover all we need. I am happy we are starting with my department for the company's first IT solution. However, I believe the success of this company will be greater if all our current departments adopt automated methods. I am concerned issues will arise if this system is interacting with other departments which are still using manual methods.
4. Do you have any questions for me?
  - Is the company expecting to automate all the departments?
  - Once the automation is done will we be integrating all the systems into a company wide application?

**Customer Name:** Quinten M.

### Questionnaire

1. How many hours per week do you interact with this current manual process?
    - Depends on how many orders I need to place. 1-2.
  2. What is your role in the current manual process?
    - I am a current customer. I order beans for my coffee roasting company.
  3. What is the biggest challenge or obstacle you have faced with the manual process?
    - The biggest challenge/frustration I have faced is late shipment. My order has been placed, received, yet I had to wait much longer to receive my order.
  4. Of the following, rank your priority of the most important features for this new system to have:
    1. Timeliness of shipments
    2. Electronically tracking customer receipts
    3. Electronically tracking orders using Order\_IDs
    4. Management of inventory levels
    5. Automatic reorder of inventory from suppliers
- Final Question:** Do you have further information you would like to share with us for this future system? If so, can we interview you?
- Yes, I'd like to discuss opportunities for additional automatic alerts for orders and deliveries so that I don't have to come back to the company to see the status of my request.

### Interview

1. What are your future goals for this company? (6 months, 1 year, 5 years)
  - I have enjoyed the milled product from this company. I would like to see improvement in the management of inventory and timely delivery to customers.
2. What would success look like for you in terms of this new system?
  - Success would be a broad selection of inventory, and I receive stock within the week of ordering. It affects my company if I order beans and they do not come in on time.
  - Billing reports that are easy to understand and use.
3. What is your biggest concern implementing a new system?

- That the system will not be user friendly.
  - I am concerned it will be difficult to place orders and track information about deliveries.
4. Do you have any questions for me?
- Will I be able to use information from all your customers to better track trends in the industry?
  - Do you anticipate customers having the ability to set automatic reorder points similar to amazon?

**Primary Investor Name:** Molly N.

### Questionnaire

1. How many hours per week do you interact with this current manual process?
  - 4 hours
2. What is your role in the current manual process?
  - I am invested in many companies, but I have been with this one since the beginning of my career. I review and have final approval for all new projects. I also play a significant role in maintaining relations with our current and future customers.
3. What is the biggest challenge or obstacle you have faced with the manual process?
  - Since reporting a manual process, it is very difficult to get ad hoc reporting information in a timely manner.
  - The biggest challenge is responding to unhappy customers who have had delays due to inventory or shipping issues as a result of our manual system.
4. Of the following, rank your priority of the most important features for this new system to have:
  1. Timeliness of shipments
  2. Electronically tracking customer receipts
  3. Electronically tracking orders using Order\_IDs
  4. Management of inventory levels
  5. Automatic reorder of inventory from suppliers

**Final Question:** Do you have further information you would like to share with us for this future system? If so, can we interview you?

- Yes, I would like to continue discussing ways we can leverage the system to improve customer support.

### Interview

1. What are your future goals for this company? (6 months, 1 year, 5 years)
  - My goal is that we continue to grow and we would become a premier distributor for milled bean orders.
2. What would success look like for you in terms of this new system?
  - Success would be an increase in customer satisfaction, and fast implementation of this system. I am most concerned with maintaining our customer base and expanding to

become a distributor for others. That will not be possible if orders are not properly received, tracked, and delivered in a timely manner.

3. What is your biggest concern implementing a new system?
  - My biggest concern is if the system will be user friendly, and that we do not go over budget. It is crucial that a system that is easy for our customers to use is created. The system will be a failure if we lose customers because it is too complicated to place orders. Although this system is necessary, we must be mindful of the current budget.
4. Do you have any questions for me?
  - How will you build this system to be user friendly?
  - Is there a capacity of how many orders this system can process?
  - Who will oversee the system once it is implemented?
  - What training will be provided to our customers?

**Employee Name:** Leland P.

### Questionnaire

1. How many hours per week do you interact with this current manual process?
  - I'd say 20 - 30 hours of my roughly 45 hours per week
2. What is your role in the current manual process?
  - I'm in charge of the manual inventory tracking portion. My responsibilities deal with the supplier and our customers. On the supplier side I prepare orders, prepare receiving reports as orders arrive. I deliver the receiving report to the billing office so they can make payments. I set reorder points, watch reorder timelines, check quantity levels, rotate the inventory, and manage spoilage.
  - On the customer side I receive sales receipts from the sales department and prepare shipments based on customer orders. I reduce the inventory based on the amount of beans requested from customer orders. I prepare shipping documents which are delivered to the shipping department. A copy is sent to the billing department to establish financial reports.
3. What is the biggest challenge or obstacle you have faced with the manual process?
  - The biggest challenge I have faced is manually updating the inventory, and maintaining our reorder points. Much of my time is spent manually tracking our inventory, which is determined from our quantity levels and requested orders. An automated system would alleviate this problem. I would need this system to have automated reorder points, that are based on the amount of beans requested from customers.
4. Of the following, rank your priority of the most important features for this new system to have:
  1. Alerts for tracking and managing stocks of inventory on hand
  2. Automated alerts for reorder of inventory from suppliers
  3. Electronically tracking orders using Order\_IDs
  4. Expeditious shipments to customer
  5. Automated financial tracking for processing customer bills and producing receipts

**Final Question:** Do you have further information you would like to share with us for this future system? If so, can we interview you?

- Yes and yes

## Interview

1. What are your future goals for this company? (6 months, 1 year, 5 years)
  - I would like to see our company utilize technology to make us more competitive & make our lives easier
  - An automated system can decrease our mistakes while increasing productivity
  - I don't really have specifics in mind... but the most important thing for our future growth is technology and its proper use and utilization
  - We need to automate and optimize a system for inventory tracking and reordering if we want to be able to maintain our current growth and expand more in the future
2. What would success look like for you in terms of this new system?
  - Success for this new system would be implementing automated reorder points. This would make my time more efficient, as I would not need to manually set reorder points for our inventory. I would like this system to process our customer orders, instead of our current manual system. If this criteria is met I would expect an increase in customer satisfaction and customer retention.
3. What is your biggest concern implementing a new system?
  - My biggest concerns lie in the transition period during and after implementation of this new system. I don't want my position to become more difficult if there is a length transition period. I am concerned that I will not fully trust this system, and I want to be assured that this system is running successfully and does not disrupt the inventory process.
4. Do you have any questions for me?
  - From what you've heard from people, do you think this project is going to greatly disrupt our current process of how we do things (positively or negatively)?
  - How will you create reorder points for inventory?
  - Will customer orders be manually added into the system?

**Employee Name:** Lucy F.

## Questionnaire

1. How many hours per week do you interact with this current manual process?
  - About 15 hours per week
2. What is your role in the current manual process?
  - I am a manager. I work on the supplier side of the inventory process.
3. What is the biggest challenge or obstacle you have faced with the manual process?
  - Our biggest challenges are: long ship times, delays due to inventory on back order, missed orders / missing order receipts [happens occasionally] and an unorganized supplier ordering process.
4. Of the following, rank your priority of the most important features for this new system to have:
  1. Electronically tracking orders using Order\_IDs

2. Automated financial tracking for processing customer bills and producing receipts
3. Automated alerts for reorder of inventory from supplier
4. Expeditious shipments to customers
5. Alerts for tracking and managing stocks of inventory on hand

**Final Question:** Do you have further information you would like to share with us for this future system? If so, can we interview you?

- Yes & yes

## Interview

1. What are your future goals for this company? (6 months, 1 year, 5 years)
  - My objectives for the company for the next five years are: sustained/continual growth, improved supplier relations. I would like to see automated order tracking, and automated ordering from suppliers.
2. What would success look like for you in terms of this new system?
  - A successful system will have automatic reordering based on inventory levels, set reorder points based on historical data, automated inventory alerts, and offer suppliers the ability to track the status of payments. If these terms are met there will be improved supplier relations, enhanced tracking of orders and invoices from suppliers, and an efficient inventory reordering process.
3. What is your biggest concern implementing a new system?
  - My biggest concern with the new system is if it may negatively impact our relationships with our suppliers due to poor design or implementation.
4. Do you have any questions for me?
  - How long will the development and implementation of this project take? Do you have an estimate?
  - Are any of our suppliers included within the design process?
  - How will our suppliers interact with this system?
  - Will this affect our daily activities while it is being developed?

**Employee Name:** Sam N.

## Questionnaire

1. How many hours per week do you interact with this current manual process?
  - 15 to 20 hours per week
2. What is your role in the current manual process?
  - My responsibilities are maintaining supplier relations and tracking shipments received, on the supplier side of the process.
  - I update our inventory system to reflect products received.
3. What is the biggest challenge or obstacle you have faced with the manual process?

- The biggest challenge has been manually tracking receipts of shipments and invoices from vendors. This has resulted in some lost receipts, and occasional loss of goodwill with suppliers.
4. Of the following, rank your priority of the most important features for this new system to have:
1. Electronically tracking orders using Order\_IDs
  2. Expeditious shipments to customers
  3. Automated alerts for reorder of inventory from supplier
  4. Alerts for tracking and managing stocks of inventory on hand
  5. Automated financial tracking for processing customer bills and producing receipts

**Final Question:** Do you have further information you would like to share with us for this future system? If so, can we interview you?

- No thank you.

**Employee Name:** Nolan M.

### Questionnaire

1. How many hours per week do you interact with this current manual process?
  - 10-15 hours
2. What is your role in the current manual process?
  - My role is to handle inventory reordering. I establish reorder points based on shipping and consumption information. I do this manually. I work with vendors to ensure they stock the products we require. I look for opportunities to find value within the terms offered by the different vendors.
3. What is the biggest challenge or obstacle you have faced with the manual process?
  - The biggest challenge I have faced is manually calculating the reorder points. When there is a miss calculation this can cause missing inventory for customer orders and creates delays of shipments. Poor reorder points can also cause spoilage of product, and a failure in inventory turnover. I want this new system to resolve these issues so I may resume efficient management of inventory levels.
4. Of the following, rank your priority of the most important features for this new system to have:
  1. Alerts for tracking and managing stocks of inventory on hand
  2. Automated alerts for reorder of inventory from suppliers
  3. Expeditious shipments to customers
  4. Electronically tracking orders using Order\_IDs
  5. Automated financial tracking for processing customer bills and producing receipts

**Final Question:** Do you have further information you would like to share with us for this future system? If so, can we interview you?

- I'd prefer to not be interviewed

**Employee Name:** Jessica D.

### Questionnaire

1. How many hours per week do you interact with this current manual process?
  - I typically spend 22-24 hours per week.
2. What is your role in the current manual process?
  - I work as an inventory clerk. I work with suppliers of the coffee beans and assist with processing orders. My job requires me to maintain and analyze the demand and supply of beans. This includes reviewing best terms and prices for quality products and placing orders. I have to watch our product, watch stock rotation, reconcile inventory with products prepared for shipping, track and expedite deliveries, prepare receiving reports to support payments, and reconcile orders with deliveries. Orders are based on delivery schedule and reorder points, which have to be carefully monitored and fluctuate, based on demand and availability.
3. What is the biggest challenge or obstacle you have faced with the manual process?
  - Balancing the demand and supply has been a little hectic, but manageable. However, the company would benefit from automated reorder points so the system can use all the available information to make adjustments in a timely fashion, which is not possible with current manual systems. Ultimately automated reorder points would lead to more satisfied customers and a more profitable bottom line.
4. Of the following, rank your priority of the most important features for this new system to have:
  1. Alerts for tracking and managing stocks of inventory on hand
  2. Automated alerts for reorder of inventory from suppliers
  3. Automated financial tracking for processing customer bills and producing receipts
  4. Electronically tracking orders using Order\_IDs
  5. Expeditious shipments to customers

**Final Question:** Do you have further information you would like to share with us for this future system? If so, can we interview you?

- No, I am not interested in giving an interview.

**Employee Name:** Kaitlyn L.

### Questionnaire

1. How many hours per week do you interact with this current manual process?
  - I work for roughly 25-30 hours per week.
2. What is your role in the current manual process?
  - I prepare billing invoices for customers based on shipping information, reconcile payments received against billing documents, and prepare financial reports for management. I receive invoices from suppliers, reconcile with the orders placed, and settle payments within the terms agreed to with each supplier. I prepare financial documents for management to review.
3. What is the biggest challenge or obstacle you have faced with the manual process?
  - It has become taxing and less than productive for my team to keep only manual financial records. It's proving insufficient to meet the requirements for our growing business.
4. Of the following, rank your priority of the most important features for this new system to have:



1. Automated financial tracking for processing customer bills and producing receipts
2. Electronically tracking orders using Order\_IDs
3. Expeditious shipments to customers
4. Alerts for tracking and managing stocks of inventory on hand
5. Automated alerts for reorder of inventory from suppliers

**Final Question:** Do you have further information you would like to share with us for this future system? If so, can we interview you?

- Yes, you can interview me.

## Interview

1. What are your future goals for this company? (6 months, 1 year, 5 years)
  - I would like to see an increase in sales, enhance productivity, and expand our distribution channels. I want to maintain high levels of customer satisfaction by delivering quality products at a fair price.
2. What would success look like for you in terms of this new system?
  - The new system should reconcile supplier orders, invoices, and automate payments. We would like similar functionality on the customer side. It needs to reconcile our shipping receipts with billing and payments. As well as generating financial reports. I am looking forward to leveraging the system to take advantage of supplier discounts for early payments to save cost, as well as other opportunities to better serve our customers and suppliers.
3. What is your biggest concern implementing a new system?
  - My biggest concern will be the timeline for training and the management of two systems until the new system is fully implemented. However if we can leverage the system to take advantage of supplier discounts for early payments to save cost, as well as other opportunities to better serve our customers and suppliers
4. Do you have any questions for me?
  - Will there be alerts for discounts?
  - Will there be aging reports for customer billing?
  - Will we be able to set automatic alerts, such as when a bill is more than thirty days old?
  - Will automatic letters be generated for our customers for payments?

**Employee Name:** Brooke G.

## Questionnaire

1. How many hours per week do you interact with this current manual process?
  - I spend approximately 25-30 hours working in the current system
2. What is your role in the current manual process?
  - I receive products for shipment from the inventory team. When I prepare for shipment, I review the various options for the shipment, and find the best pricing and terms for each of my customers. We establish a shipment id which is linked to the inventory, which is used



for tracking the product through the shipping process until it reaches the customers. I provide records of shipment to the billing department, so they can prepare customer invoices.

3. What is the biggest challenge or obstacle you have faced with the manual process?
  - The biggest challenge is to ensure the product arrives within 48 hours to our customers to ensure freshness of our product. We have had a number of problems with different delivery carriers in terms of predictability and reliability.
4. Of the following, rank your priority of the most important features for this new system to have:
  1. Expeditious shipments to customers
  2. Electronically tracking orders using Order\_IDs
  3. Alerts for tracking and managing stocks of inventory on hand
  4. Automated financial tracking for processing customer bills and producing receipts
  5. Automated alerts for reorder of inventory from suppliers

**Final Question:** Do you have further information you would like to share with us for this future system? If so, can we interview you?

- No, but it would be helpful if the new system could automate the tracking process, and send alerts when orders are running late so we may notify the customer.

**Employee Name:** Derek G.

### Questionnaire

1. How many hours per week do you interact with this current manual process?
  - I would say I work about 40 hours per week with this current process
2. What is your role in the current manual process?
  - I work in billing, My primary function is to issue customer invoices/bills and process customer payments. I also make payments to our suppliers, based on invoices for deliveries of beans. The ordering and shipping department provides data which serves as the basis for our billing and payments.
3. What is the biggest challenge or obstacle you have faced with the manual process?
  - I haven't had problems however it would be terrific if the new system was able to simplify the reconciliation and tracking of payments and invoices. And I have heard from others that they have faced challenges maintaining billing information from each supplier.
4. Of the following, rank your priority of the most important features for this new system to have:
  1. Automated financial tracking for processing customer bills and producing receipts
  2. Electronically tracking orders using Order\_IDs
  3. Expeditious shipments to customers
  4. Alerts for tracking and managing stocks of inventory on hand
  5. Automated alerts for reorder of inventory from suppliers

**Final Question:** Do you have further information you would like to share with us for this future system? If so, can we interview you?

- No

Employee Name: Julianna H.

### Questionnaire

1. How many hours per week do you interact with this current manual process?
  - I would say I work about 30 hours per week with the current process.
2. What is your role in the current manual process?
  - I work in the Inventory department as a clerk. My primary responsibilities are maintaining records of product on hand, tracking quantities used, preparing orders, and receiving products. Based on orders received I prepare product for shipment. As part of my responsibilities I manually update inventory based on products received, decrement inventory based on product prepared for shipment, and order products based on predetermined reorder points.
3. What is the biggest challenge or obstacle you have faced with the manual process?
  - Since our increase in orders, we have struggled to ensure we have appropriate alerts set for re-order points so we can maintain sufficient inventory without over-stocking. The coffee bean business is about freshness, which means there's a danger to not having enough, but there is also potential loss of customer or product if we over-order and are unable to rotate our stock to ensure freshness.
4. Of the following, rank your priority of the most important features for this new system to have:
  1. Alerts for tracking and managing stocks of inventory on hand
  2. Automated alerts for reorder of inventory from suppliers
  3. Expeditious shipments to customers
  4. Electronically tracking orders using Order\_IDs
  5. Automated financial tracking for processing customer bills and producing receipts

**Final Question:** Do you have further information you would like to share with us for this future system? If so, can we interview you?

- I am happy to be interviewed.

### Interview

1. What are your future goals for this company? (6 months, 1 year, 5 years)
  - I want this company to continue to grow and eventually become the biggest distributor for milled beans. I can see that our company has so much potential, and is going in the right direction. I wouldn't prefer a new system, however I do believe manually inputting data has caused some issues, perhaps an automated system could resolve it. Especially for our younger employees, who are much more comfortable and well versed in technology.
2. What would success look like for you in terms of this new system?
  - I'm hoping the system will more accurately track trends in sales, which will allow us to better manage our reorder points and quantities to ensure we have the appropriate stock on hand. Our inability to properly trend sales has caused customer orders to be delayed because our inventory hasn't properly kept up with demand. As our current method is

manual, a successful system will automatically order inventory based on order placement. I would expect this will alleviate the stress of maintaining proper inventory levels.

3. What is your biggest concern implementing a new system?
  - If the system does not go well, it will result in inventory problems, which will reflect badly on my department and could affect sales long term. I am also concerned the new system won't understand the complexity and the importance of the inventory function to the success of this business.
4. Do you have any questions for me?
  - How long would it take to train the supervisors and other employees?
  - How much will this new process cost?
  - How often will the new system update the inventory count?
  - Will you run this system in parallel with the manual process until we can ensure the new system is working?
  - What kind of testing will you do to ensure the new system is working?
  - How will you reconcile the new with the old?

**Employee Name:** Steven R.

### Questionnaire

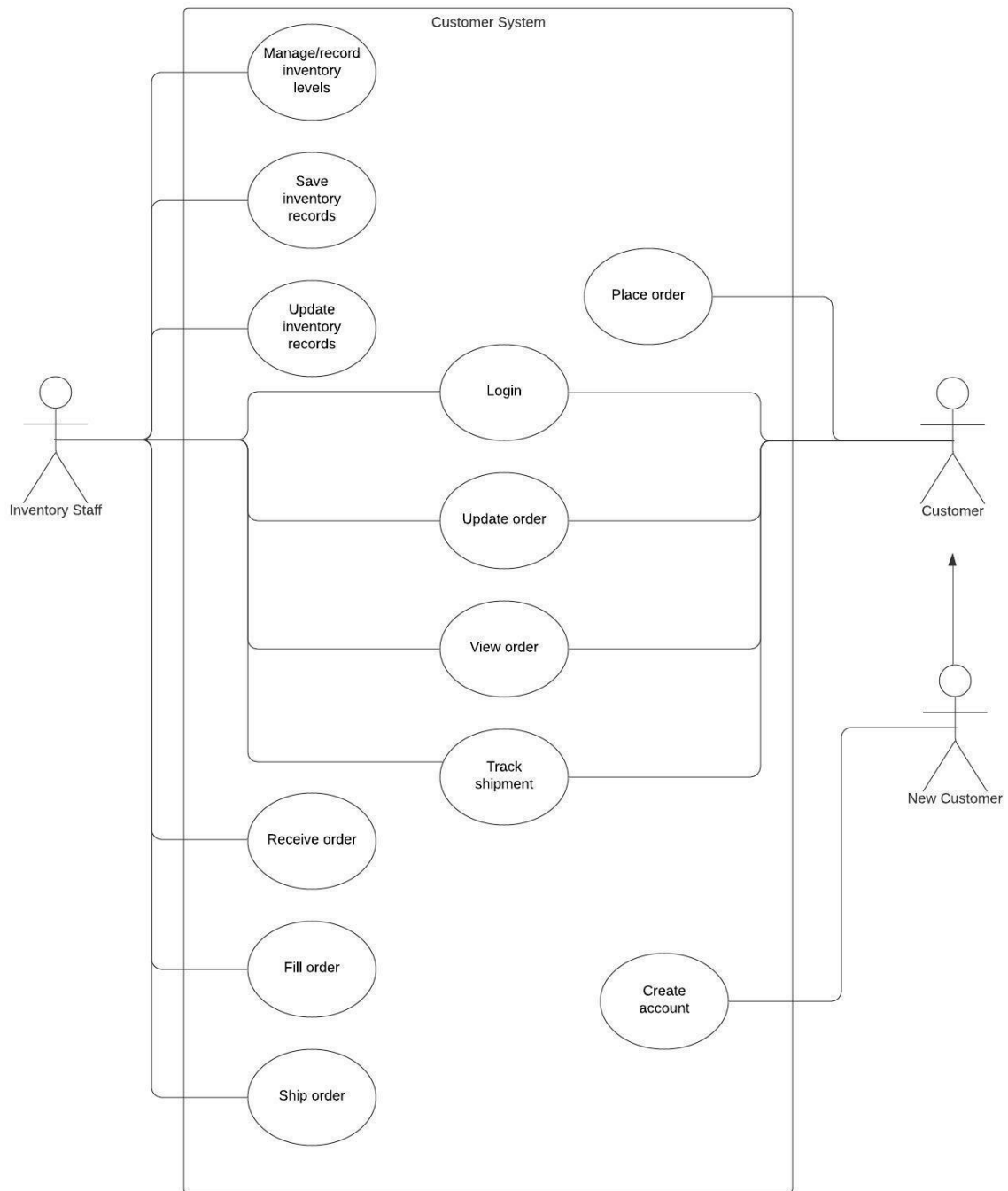
1. How many hours per week do you interact with this current manual process?
  - I would say I work about 20 hours per week with this current process
2. What is your role in the current manual process?
  - I work in the Shipment department as a clerk.
  - I use the current process to track and update the status of outgoing shipments, create and maintain daily logs of order movements, and keep a count of shipments sent to our customers each day.
  - We establish tracking numbers for each shipment and maintain a history for each of our orders shipped out. We also provide shipping information and tracking ids to the billing section.
3. What is the biggest challenge or obstacle you have faced with the manual process?
  - I work in the Shipment department as a clerk.
  - I use the current process to track and update the status of outgoing shipments, create and maintain daily logs of order movements, and keep a count of shipments sent to our customers each day.
  - We establish tracking numbers for each shipment and maintain a history for each of our orders shipped out. We also provide shipping information and tracking ids to the billing section.
4. Of the following, rank your priority of the most important features for this new system to have:
  1. Electronically tracking orders using Order\_IDs
  2. Expeditious shipments to customers
  3. Automated alerts for reorder of inventory from suppliers
  4. Alerts for tracking and managing stocks of inventory on hand

5. Automated financial tracking for processing customer bills and producing receipts

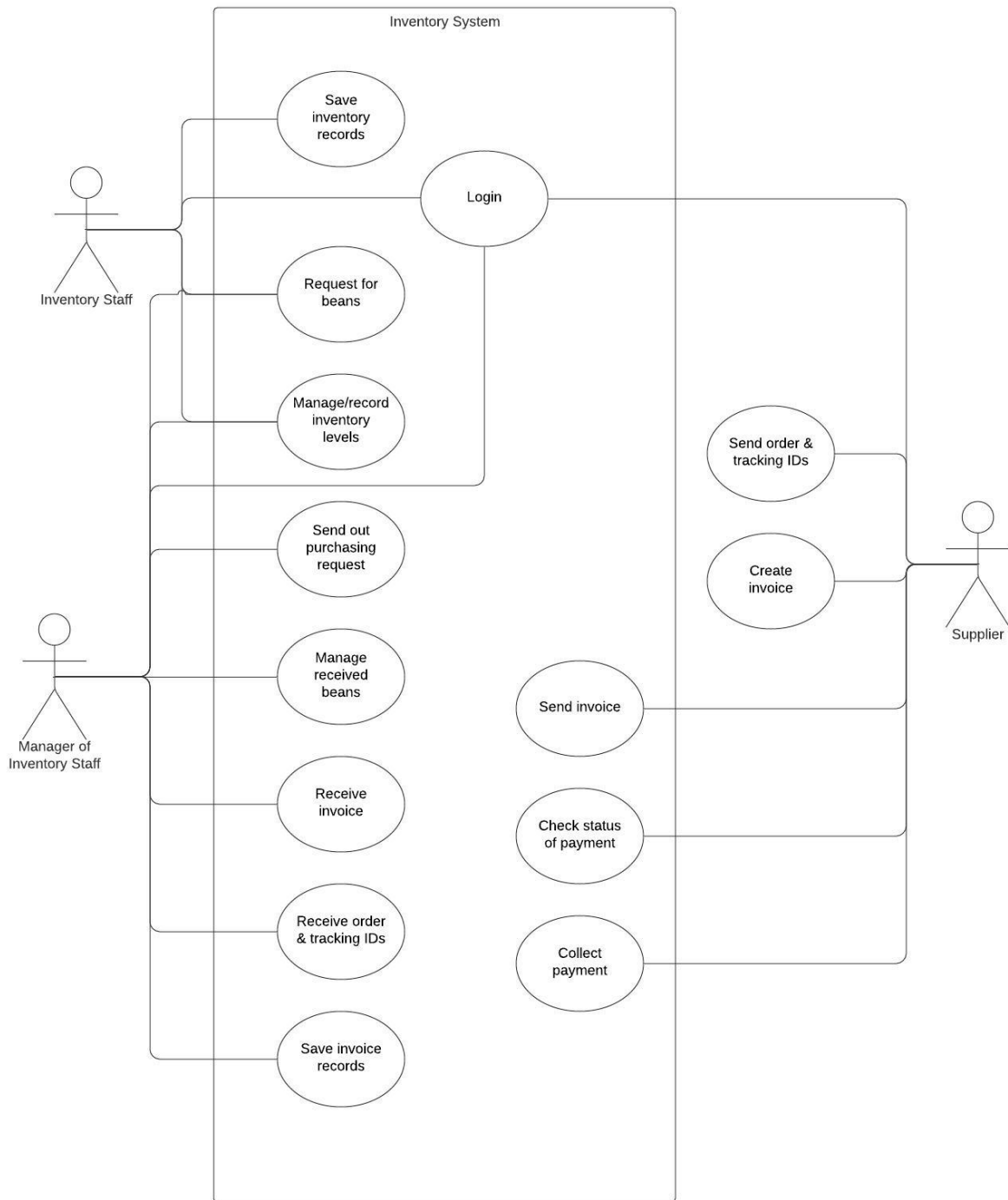
**Final Question:** Do you have further information you would like to share with us for this future system? If so, can we interview you?

- No

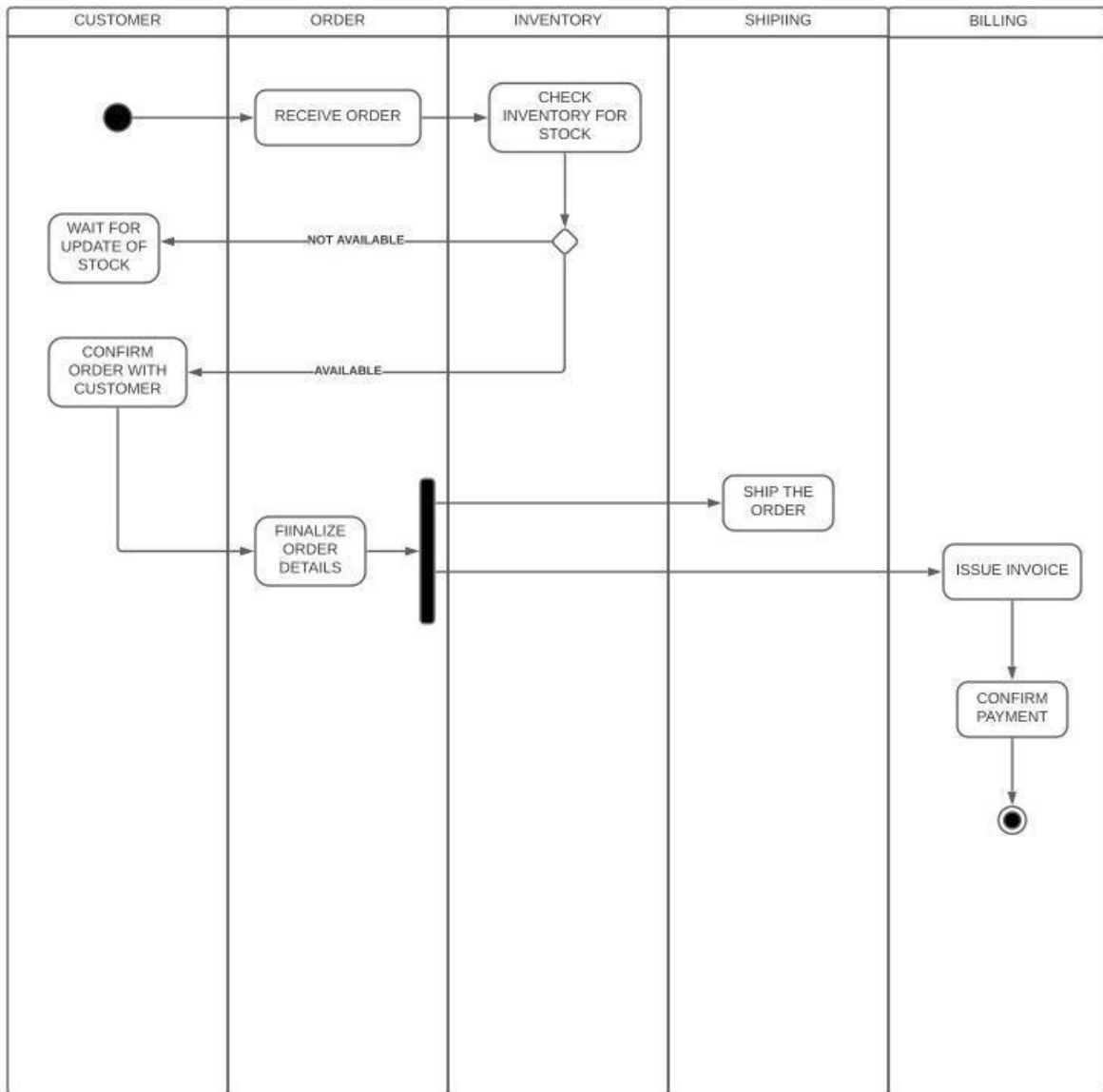
## Use Case Diagram - Customer System



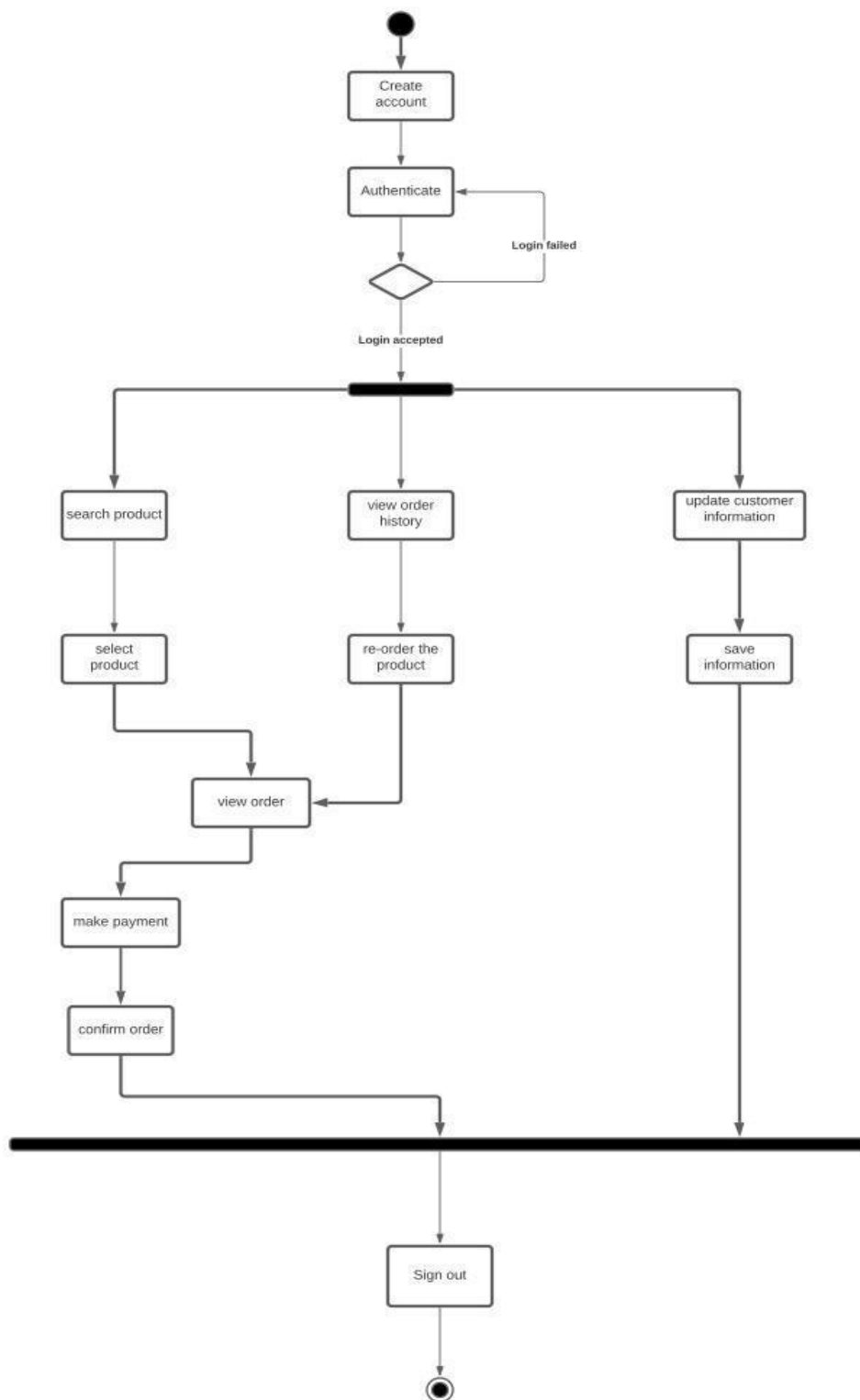
## Use Case Diagram - Inventory System



## Activity Diagram – General Overview of System



## Activity Diagram – Customer Interaction





## **Activity Diagram – Inventory Staff and Supplier Interaction**

