
SOFTWARE REQUIREMENTS SPECIFICATION

for

Whole Knockoffs Grocery Store

March 23, 2020

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1 Introduction

1.1 Purpose

This document provides detailed requirements about the product our team is creating for the customer. This document is intended for the customers and the software team designing as a reference on the desired behaviors and requirements of the program.

1.2 Scope

The Whole Knockoff Grocery Store (WKGS) program is intended to be a system to allow the Whole Knockoff grocery store to manage employees, track inventory, sell groceries online (using both delivery and in-store pickup), and give discounts to loyal shoppers. The WKGS website will allow customers to quickly see what is available to purchase at the grocery store using a storefront. The customer can select items that they wish to purchase for delivery or in-store pickup. After adding groceries to their virtual shopping cart, the customer can select if they would like the groceries delivered or available for in-store pickup. The customer can then purchase these groceries through the online portal. The website will also act as an employee hub where employees can be assigned work schedules and hours worked can be tracked. The system should also handle the inventory management for the entire store. The inventory should be able to communicate with the store's point of sale systems and website so that correct inventory is maintained when items are purchased. This will allow the store owners to know what items are in-stock and which items might need to be re-ordered.

1.3 Definitions, acronyms, and abbreviations

WKGS: Whole Knockoff Grocery Store

POS: Point of Sale system - Cash registers that are used to scan and sell groceries in-store

1.4 References

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Do we need this?

1.5 Overview

In section 2, the product will be given an overall description. Section 3 will describe in detail each of the features and their corresponding requirements.

2 Overall Description

2.1 Product Perspective

This subsection of the SRS should put the product into perspective with other related products. If the product is independent and totally self-contained, it should be so stated here. If the SRS defines a product that is a component of a larger system, as frequently occurs, then this subsection should relate the requirements of that larger system to functionality of the software and should identify interfaces between that system and the software. A block diagram showing the major components of the larger system, interconnections, and external inter-faces can be helpful. This subsection should also describe how the software operates inside various constraints. For example, these constraints could include a)

- b) User interfaces;
- c) Hardware interfaces;
- d) Software interfaces;
- e) Communications interfaces;
- f) Memory;
- g) Operations;
- h) Site adaptation requirements.

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2.2 Product Functions

This subsection of the SRS should provide a summary of the major functions that the software will perform. For example, an SRS for an accounting program may use this part to address customer account maintenance, customer statement, and invoice preparation without mentioning the vast amount of detail that each of those functions requires. Sometimes the function summary that is necessary for this part can be taken directly from the section of the higher-level specification (if one exists) that allocates particular functions to the software product. Note that for the sake of clarity

- a) The functions should be organized in a way that makes the list of functions understandable to the customer or to anyone else reading the document for the first time.

- b) Textual or graphical methods can be used to show the different functions and their relationships. Such a diagram is not intended to show a design of a product, but simply shows the logical relationships among variables.

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2.3 User Classes and Characteristics

This subsection of the SRS should describe those general characteristics of the intended users of the product including educational level, experience, and technical expertise. It should not be used to state specific requirements, but rather should provide the reasons why certain specific requirements are later specified in Section 3 of the SRS.

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2.4 Constraints

This subsection of the SRS should provide a general description of any other items that will limit the developer's options. These include

- a)Regulatory policies;
- b)Hardware limitations (e.g., signal timing requirements);
- c)Interfaces to other applications;
- d)Parallel operation;
- e)Audit functions;
- f)Control functions;
- g)Higher-order language requirements;
- h)Signal handshake protocols (e.g., XON-XOFF, ACK-NACK);
- i)Reliability requirements;
- j)Criticality of the application;
- k)Safety and security considerations.

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2.5 Assumptions and Dependencies

This subsection of the SRS should list each of the factors that affect the requirements stated in the SRS. These factors are not design constraints on the software but are, rather, any changes to them that can affect the requirements in the SRS. For example, an assumption may be that a specific operating system will be available on the hardware designated for the software product. If, in fact, the operating system is not available, the SRS would then have to change accordingly.

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3 Specific requirements

3.1 External Interface Requirements

3.1.1 User Interfaces

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3.1.2 Hardware Interfaces

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3.1.3 Software Interfaces

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3.1.4 Communications Interfaces

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3.2 System Features

3.2.1 Online checkout

3.2.2 Online checkout

This section is incomplete

3.2.2.1 Introduction/Purpose of feature

The checkout feature allows users to pay for their item(s) currently in the Cart list to complete their order. Depending on type of users, the feature should preload required user's information for the checkout process including: home address for delivery, billing address, and payment method. Furthermore, the users can specify payment and delivery options on the checkout page.

3.2.2.2 Stimulus/Response sequence

Existing users/members: When the "Checkout" option is clicked, the system will direct the user to the checkout page. On the checkout page, certain user information should be preloaded to help ease the checkout process. The user will have the option to use saved payment information or a different payment method. In addition, the user can select different delivery options including: in-store pickup or home delivery. If a user chooses home delivery, the system will use the user's saved home address. If the user chooses in-store pickup by car, the system will request car model information. The user will need to click "Complete Order" to process the order. Guest users: When the "Checkout" option is clicked, the system will direct the user to the checkout page. On

the checkout page, the user would need to fill in all the required information needed for the checkout process. The user must select the payment method; the system will ask for billing address and payment information. In addition, the user can select different delivery options including: in-store pickup or home delivery. If a user chooses home delivery, the system will request a home address. If the user chooses in-store pickup by car, the system will request car model information. The user will need to click “Complete Order” to process the order.

3.2.2.3 Associated functional requirements

3.2.2.3.1 Functional requirement 3.1

ID: FR1

TITLE: Online checkout - Allow everyone to checkout online

DESC: The checkout feature should allow all users to pay for their item(s) currently in the Cart list to complete their order. Depending on type of users, the feature should preload and/or request required user’s information for the checkout process including home address for delivery, billing address, and payment method. Furthermore, the users can specify payment and delivery options on the checkout page.

RAT: In order for all users to pay for their online order.

DEP: None

ID and Name: FR1 Create a User new account

Created By	Thoai Mai	Date Created	03/15/2020
Primary Actor	User	Secondary Actor	Website
Description:	The checkout feature should let guest user complete online order with the required information, including payment and home delivery/in-store pickup options		
Trigger:	Guest user clicks on option “checkout”		
Preconditions	None		
Postconditions	Guest user successfully complete checkout for online orders, Payment received		
Normal Flow	Allow everyone to checkout online – Guest User Guest user selects checkout option Website checks for type of user <i>Note: prompt for account login? Direct for different req path?</i> Website established guest user Website validates accurate pricing with additional taxes for total price Website requests guest user the following information: name, payment information, billing address, option for home deliver or in-store pickup Guest user select “Place Order” option Website uses third party checkout system to validate payment transaction If payment is successfully validated and received, website acknowledges “Order Place” message		
Alternative Flow	None		
Exceptions	Payment did not successfully validate Guest user did not fill in the required information		
Priority	High		

Created By	Thoai Mai	Date Created	03/15/2020
Primary Actor	Member User	Secondary Actor	Website
Description:	The checkout feature should let member user complete online order with the required information, including payment and home delivery/in-store pickup options		
Trigger:	Member user clicks on option “checkout”		
Preconditions	Logged in as a member		
Postconditions	Member user successfully complete checkout for online orders, Payment received		
Normal Flow	Allow everyone to checkout online – Member User Member user selects checkout option Website checks for type of user Website established member user Website preloads member information: name and address Website validates accurate pricing with additional taxes for total price Website requests member user the following information: payment information, billing address, option for home deliver or in-store pickup <i>Note: should website keep payment information for members?</i> Guest user select “Place Order” option Website uses third party checkout system to validate payment transaction If payment is successfully validated and received, website acknowledges “Order Place” message		
Alternative Flow	None		
Exceptions	Payment did not successfully validate		
Priority	High		

3.2.3 Account Management System

This section is incomplete

3.2.3.1 Introduction/Purpose of feature

This feature allows users to create and edit settings for grocery store accounts. New users will use this feature to populate basic account information while setting up their account such as username and password. In addition, this feature allows existing users a convenient way to edit their password, change shipping addresses, manage stored payment information, and change other stored personal details. From the user management

profile, users will also be able to see past purchases and orders.

3.2.3.2 Stimulus/Response sequence

New users: When the “sign up” button is pressed, the system will direct the user to select a username and password to create their account. After the user fills appropriate values into these fields, the user will be able to sign in using the credentials selected. Existing users: When the “log in” button is pressed, the system will direct the user to enter their credentials to sign into the system. Logged-in users: When a user is logged-in and presses the “my account” button, the user will be brought to a page where they can edit their personal details

3.2.3.3 Associated functional requirements

3.2.3.3.1 Functional requirement 3.1

ID: FR2

TITLE: Create a new User account

DESC: A user should be able to register through the website. The user must provide user-name, password and e-mail address.

RAT: In order for a user to register an account

DEP: None

ID and Name: FR2 Create a User new account

Created By	Emmanuel .W	Date Created	03/13/13
Primary Actor	User	Secondary Actor	Website
Description:	A user should be able to register through the website. The user must provide a name, user-name, password and e-mail address.		
Trigger:	User Clicks on register		
Preconditions	None		
Postconditions	Account is created, User is Logged in		
Normal Flow	Create a User new account User Clicks on Register Enters name, user-name, password and e-mail address. Website confirms it is a unique entry and save the new user details Website Informs User of successful creation Website Logs user in		
Alternative Flow	None		
Exceptions	Email Address already exists in the system		
Priority	High		

3.2.3.3.2 Functional requirement 3.2

ID: FR3

TITLE: Create a new Staff account

DESC: An administrator should assign staff roles and permissions and an internal company email address

RAT: In order for a user/staff to register an account

DEP: None

3.2.3.3.3 Functional requirement 3.3

ID: FR4

TITLE: Login into Account

DESC: Given that a user/staff has created an account, then the user should be able to log in to his/her account.

RAT: In order to identify a user to shop online and use website/store's features or for staff to access admin platform

DEP: [FR2](#)

3.2.4 Inventory

This section is incomplete

3.2.4.1 Introduction/Purpose of feature

The inventory stores information about the type, quantity, price and price of all the items that the grocery store stocks. The inventory feature allows different privileges to manage the store items according to the type of users. This feature will create items summary purchased by day, month and year. The user can assign what items to be on-sale. The feature updates item inventory after each completed consumer purchase.

3.2.4.2 Stimulus/Response sequence

Inventory manager: Following options are available to an inventory manager user: add/remove/update items from store inventory, assign items to be on-sale, assign about to expired item to be removed, can sort the items by date of purchased. Existing users/members/guests: The users can only view the availability of store items on the store website.

3.2.4.3 Associated functional requirements

3.2.4.3.1 Functional requirement 3.1

ID: FR5

TITLE: Create a grocery item

DESC: An inventory Manager should be able to create a grocery item type, and should add the right classifications that apply to this grocery item.

RAT: In order for a Manager to register a new grocery item

DEP: None

3.2.4.3.2 Functional requirement 3.2

ID: FR6

TITLE: Add quantity of grocery item **DESC:** The quantity of an item in the database should be able to be increased. This allows the store to replenish their inventory when new shipments arrive. **RAT:** In order to maintain a correct inventory **DEP:** [FR5](#)

3.2.4.3.3 Functional requirement 3.3

ID: FR7

TITLE: Decrease quantity of grocery item **DESC:** The quantity of an item in the database should be able to be decreased. This allows the store to subtract from their inventory when they sell an item. **RAT:** In order to maintain a correct inventory **DEP:** [FR5](#)

3.2.4.3.4 Functional requirement 3.4

ID: FR8

TITLE: Remove grocery items **DESC:** An inventory manager should be able to remove grocery items and add a reason for the removal eg. when they are expired. **RAT:** In order to remove grocery items for reasons other than purchase **DEP:** [FR6](#)

3.2.5 Storefront System

This section is incomplete

3.2.5.1 Introduction/Purpose of feature

This feature allows customers on the website to see which items the grocery store has available to purchase as well as the item price and description. From the digital storefront, customers can also add different quantities of products to their shopping list and shopping cart. Products sold by the grocery store are divided into different categories to

allow customers to easily browse items of specific types. In addition, a search is available for customers to locate a specific item quickly.

3.2.5.2 Stimulus/Response sequence

On the Storefront homepage/category page: Listing of items available should be displayed for the selected category/ area of the website (e.g. promotions on the homepage and fruit while in the produce category). When a specific item is selected on the page, the customer is brought to that item's description page. From the description page, a quantity of that item can be selected to add to the shopping cart.

3.2.5.3 Associated functional requirements

3.2.5.3.1 Functional requirement 3.1

ID: FR9

TITLE: Storefront homepage

DESC: When the user enters the website URL, they shall be brought to a homepage. The homepage shall contain navigation buttons for the user.

RAT: So that a customer can navigate the website.

DEP: None

3.2.5.3.2 Functional requirement 3.2

ID: FR10

does this show out of stock items but not allow purchase or hide out of stock items?

TITLE: Display items in inventory

DESC: When a category is selected, the storefront shall display all items matching the selected category that are in inventory.

RAT: So that a customer can quickly find items.

DEP: [FR5](#)

3.2.5.3.3 Functional requirement 3.3

ID: FR11

TITLE: Search for available items

DESC: When a search term is entered in the searchbox, the storefront shall display all items matching the query.

RAT: So that a customer can quickly find items.

ID and Name: FR10 Display items in inventory

Created By	Matthew M.	Date Created	03/14/20
Primary Actor	Storefront	Secondary Actor	Inventory
Description:	A user should be able to register through the website. The user must provide a name, user-name, password and e-mail address.		
Trigger:	User selects category to filter by		
Preconditions	Items have category specified in the inventory		
Postconditions	The storefront displays only items that have the listed category		
Normal Flow	The customer selects a store category from the homepage of the website The website updates the list of displayed items with the selected category		
Alternative Flow	None		
Exceptions	No items with the selected category exist		
Priority	High		

DEP: [FR5](#)

3.2.5.3.4 Functional requirement 3.4**ID: FR12**

TITLE: Display item details

DESC: When the customer clicks on an item on the storefront, the item details are displayed. The details include a product description and price

RAT: So that a customer can know what they are buying

DEP: [FR10](#)

3.2.5.3.5 Functional requirement 3.5**ID: FR13**

TITLE: Display sale items to customers

DESC: When a customer logs-in to the website, the homepage shall display sale items for.

RAT: So that a customer can know what they are buying.

DEP: [FR4](#)

3.2.6 Shopping list/cart

This section is incomplete

3.2.6.1 Introduction/Purpose of feature

The shopping list/cart feature allows the user to manage their selected item(s). The feature includes information on items' price, availability, and location in the store. In addition, the user can change the quantity of item(s) to be purchased or remove item(s) from the shopping list/cart.

3.2.6.2 Stimulus/Response sequence

Existing users/members/guest: The users can edit item's quantity and remove item from shopping list/cart. When the users are satisfied with their selected items, they can click the "Checkout" option to begin the checkout process. Existing users/members: The users are allowed to save shopping lists to their account.

3.2.6.3 Associated functional requirements

3.2.6.3.1 Functional requirement 3.1

ID: FR14

TITLE: Fill your shopping cart

DESC: A user/member (must be logged in and have created an account) should be able to look through our online shopping catalog and select items to place in his/her shopping cart.

RAT: In order for a user to add items to their shopping cart from the catalog of items

DEP: Must be a member

ID and Name: FR14 Create your shopping cart

Created By	Howie Hill	Date Created	03/15/20
Primary Actor	User	Secondary Actor	Website
Description:	A user should be able to register login though the website, shop the catalog of online items, and add any in-stock items to his/her shopping cart.		
Trigger:	User clicks add item to shopping cart		
Preconditions	logged in as a registered user		
Postconditions	item/s in the shopping cart		
Normal Flow	Compose shopping cart User Clicks to search the catalog of online items Website shows the items Next to each of the items there is an "add to cart" button Button is clicked and the item is added to the cart now the user can search through all of the items that have been added to the cart and go through his/her catalog of items in the cart		
Alternative Flow	None		
Exceptions	Item is out of stock user is not registered/logged in		
Priority	High		

3.2.6.3.2 Functional requirement 3.2**ID: FR15**

TITLE: Buy items from the shopping cart

DESC: Proceed to checkout from the shopping cart and buy all items in the shopping cart or a portion of the items in the shopping cart

RAT: Allow user to buy items that have been placed in the shopping cart

DEP: none

3.2.7 Employee

This section is incomplete

3.2.7.1 Introduction/Purpose of feature

The employee feature allows the management of employees' time cards and tasks. Managers will be able to assign different tasks such as delivery, gather online orders, etc. In addition, managers should be able to view and edit employee scheduled work days. The system should track and display information about employee hours worked and display it to managers.

3.2.7.2 Stimulus/Response sequence

Managers: When users logged in as managers, they can assign tasks for employees daily. The manager should be able to view statistics about hours worked
Employees: When users logged in as managers, they are able to check-in/check-out on their time card. They will see the tasks assigned for them to be completed.

3.2.7.3 Associated functional requirements

3.2.7.3.1 Functional requirement 3.1

ID: FR16

TITLE: Employee login

DESC: All employees shall be able to log-in to the employee page.

RAT: So that employees view their schedules

DEP: none

3.2.7.3.2 Functional requirement 3.2

ID: FR17

TITLE: Add or remove employees

DESC: Managers and admins shall be able to add or remove employees from the company.

RAT: So that employees can know their position in the company

DEP: none

3.2.7.3.3 Functional requirement 3.3

ID: FR18

TITLE: Employee role

DESC: Employees must have a role such as manager, owner, cashier, etc... The employee role will dictate what features of the website to which the employee will have access.

RAT: So that managers can manage the company

DEP: [FR17](#)

3.2.7.3.4 Functional requirement 3.4

ID: FR19

TITLE: Manager assign work days

DESC: Managers must be able to assign work days to employees. The manager must be able to set which hours for every day of the week that that employee must work.

RAT: So that employees can know which days to work

DEP: [FR18](#)

3.2.7.3.5 Functional requirement 3.5

ID: FR20

TITLE: Employee view assignments

DESC: Employees must have a page where they can view their assigned schedule for the week. The schedule will show which days they will work and what hours they must work.

RAT: So that employees can know which days to work

DEP: [FR19](#)

3.2.7.3.6 Functional requirement 3.6

ID: FR21

TITLE: Employee clock-in/clock-out

DESC: Employees must have a page where they clock in or out for their work day. If an employee is not currently clocked in, they will be presented with an option to clock in. If an employee is clocked in, they must be presented with an option to clock out.

RAT: So that managers can know how long an employee worked

DEP: [FR17](#)

3.2.8 Delivery/Pickup System

This section is incomplete

3.2.8.1 Introduction/Purpose of feature

This feature will allow customers to select where they want to obtain their groceries purchased online. This system will assign an employee to collect the groceries that the customer purchased as well as a storage location if the groceries are for pickup or a driver if the groceries are for delivery.

3.2.8.2 Stimulus/Response sequence

Delivery: If the user selects delivery during checkout, the system will check if the user has an address on file. If the user does not have an address, the system will prompt them to add one. After confirming the customer address and the customer completes a delivery order, an employee will be notified using the website about which groceries have to be collected from the store. After the employee completes the grocery collection, a driver will be notified of where to pickup the groceries and the location to deliver the groceries.

Pickup: If the user selects pickup, the system will ask the customer what time they wish to pickup the groceries. After the order is completed, an employee will be assigned to collect the groceries and place the completed order in a designated spot. When the

employee is notified that the customer is ready to pickup the order, the employee will bring the groceries to the customer.

3.2.8.3 Associated functional requirements

3.2.8.3.1 A customer must select either delivery or pickup after entering payment information before completing a purchase.

3.2.8.3.2 The customer must have a delivery address listed if completing a delivery order.

3.2.8.3.3 The system must assign an employee to collect the groceries

3.2.8.3.4 The system must identify which groceries and quantity to the employee

Customer had discussed assigning routes to drivers? Is this necessary?

3.3 Performance requirements

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3.4 Design constraints

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3.5 Software quality attributes

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3.6 Other requirements

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4 Appendixes

4.1 Appendix A: User Stories

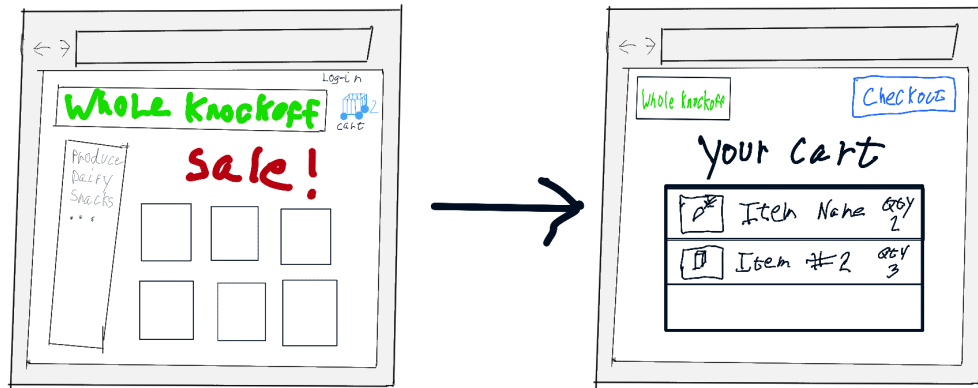
- Feature: Create a new account on online website
 - As a new consumer
 - I want to become a member
 - So that I can start shopping online with convenient and utilizing website/store's features and earn reward points
- Feature: Login into grocery's website
 - As a member
 - I want to order grocery online
 - So that I can pick-up my online order in-store to save time
- Feature: Create an online shopping list
 - As a member
 - I want to check for item's availability at the store
 - So that I can decide whether to go to the store
- Feature: Order grocery online to be delivered to resident
 - As a member or guest
 - I want to order grocery online and have it delivered to my home
 - So that I don't need to leave my house and save time
- Feature: Gathering summaries of consumer orders
 - As an Online Orders Manager
 - I want to see consumer orders in an easy to read organized format
 - So that I can assign online orders to store employees to complete the orders in a timely manner
- Feature: Options to add item into cart or shopping list

- As a member or guest
 - I want to have the options to decide if the item will be in the cart or shopping list
 - So that I can make the purchase at a later time
- Feature: Display Customer Shopping list to delivery/pickup employees
 - As a delivery/pickup employee
 - I want to see the customer's shopping list assigned to me
 - So that I can start shopping for the customer's order
- Feature: User Confirmation System
 - As a pickup employee
 - I want to see the customer's details
 - So that I can confirm the customer's identity and handover the pickup order
- Feature: Show Delivery Details and route to delivery employee
 - As a delivery employee
 - I want to see the customer address, contact details and best route to the address
 - So that I can deliver the order to the customer
- Feature: Display Customer Rewards
 - As a registered customer
 - I want to see the reward points accrued over time
 - So that I can claim the rewards and make purchases
- Feature: Self Checkout Manager
 - As the checkout system
 - I want to scan grocery items
 - So that I calculate prices, collect user payment and dispense a receipt
- Feature: See which items are in stock
 - As a customer
 - I want to see which items are in stock
 - So that I can know which items are available for me to buy
- Feature: Maintain accurate inventory

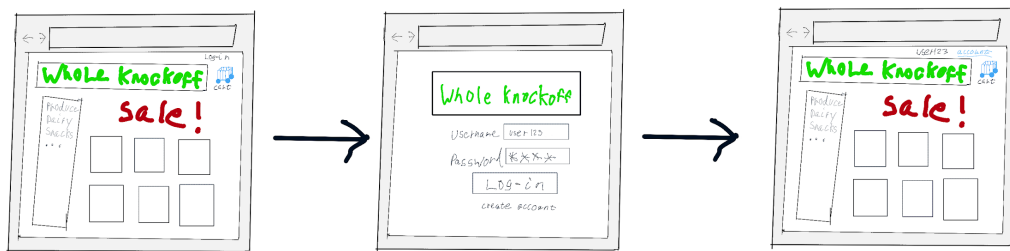
- As an inventory manager
 - I want the inventory system to keep track of the number of each item sold
 - So that an accurate inventory is maintained
- Feature: See available items to purchase
 - As a customer
 - I want to see a listing of available items
 - So that I can make decisions on which items to buy
- Feature: List available items by category
 - As a customer
 - I want to be able to sort available items by category
 - So that I can quickly find the items that I want
- Feature: Virtual shopping cart
 - As a customer
 - I want to be able to add and remove items from a virtual shopping cart
 - So that I can keep track of the items that I wish to purchase for delivery or pickup
- Feature: Pay online
 - As the store owner
 - I want to accept payment on the website for online and in-store orders
 - So that I can make a profit

4.2 Appendix B: Diagrams

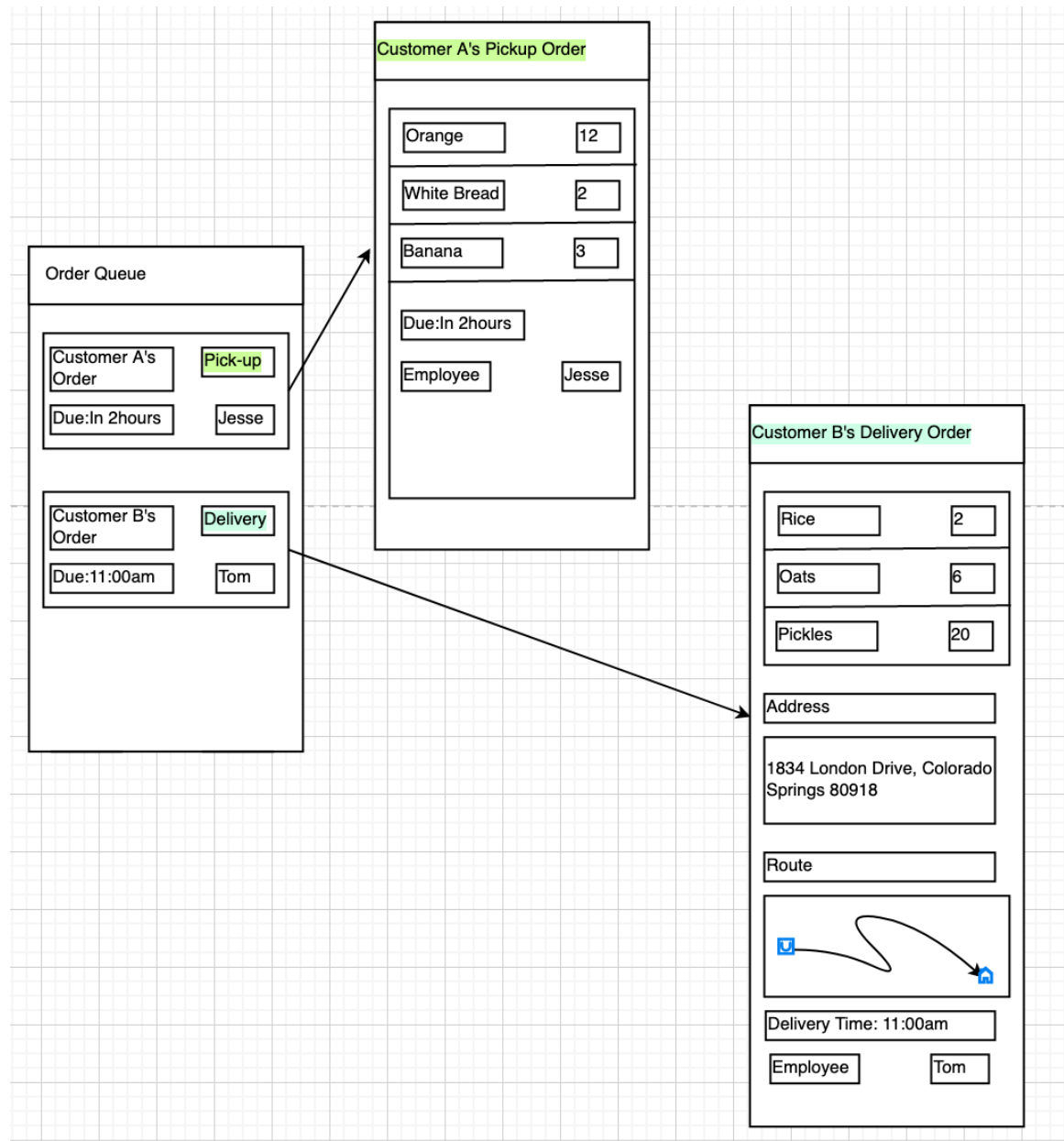
Shopping Cart:



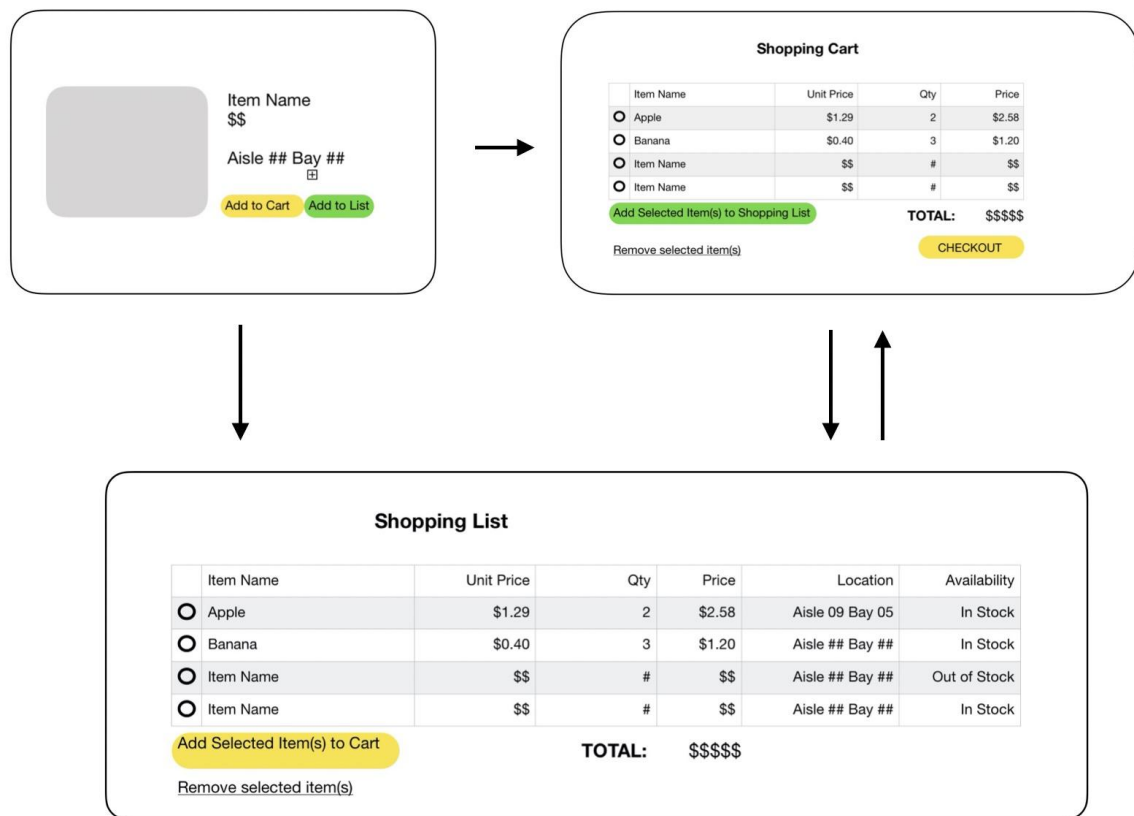
User Log-in:



Employee Order Queue:



Options to add item into cart or shopping list:



4.3 Appendix C:

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