Inventory Module

Jason buys ingredients from local grocery supply businesses for his recipes. One of Jason’s frequent customers has been diagnosed with celiac disease and has approached Jason to include gluten free items on his menu.

Jason has been warned by Food Health Inspectors that he must publish his ingredients and calorie counts on his menu.

As well, Jason wonders about food recalls and how would he know if an ingredient that he’s been using in his recipes has been recalled.

Jason would like a system that helps him organize his purchases, instead of having to look through a combination of online orders and paper receipts. He would like the ability to attach a copy or picture of the receipt to the purchase for tax purposes.

Please create a class diagram and sequence diagrams for the User Stories and Systems Use Case Specifications detailed below.

Use Case: Maintain Ingredients

User Story

As the owner of this business, I would like to record the ingredients that I use for easy information retrieval. I want to be able to quickly show my customers the ingredients that I use in each recipe.

Acceptance Criteria:

1. Must be able to record critical information about each ingredient.
2. Allow deletion of ingredients, in case the owner makes a mistake. Owner must be prompted to confirm and ingredient must not be involved in any purchase orders.
3. Must be able to easily retrieve ingredient information.
4. Must be able to retrieve a list of ingredients by ingredient type, so that owner can retrieve all bakery, meat, vegetable, condiments, etc. ingredients

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case Name | Create Ingredient Information | | |
| Triggering Event | A new Ingredient of interest to the business | | |
| Brief Description | Allows the Owner to record a new ingredient. | | |
| Actors | Owner | | |
| Related Use Cases |  | | |
| Preconditions | Owner has opened the Main Menu. | | |
| Post Conditions | Ingredient is saved to the database and now can be purchased or used in a recipe. | | |
| Flow of activities | Actor | | System |
|  |  | Requests to add a new ingredient | Displays a list of ingredient types and prompts for selection.  Display a list of unit of measures and prompts for selection  Prompts for ingredient name, description, and any precautions for use. |
|  |  | Enters name, description, and precautions for use.  Selects unit of measure  Selects ingredient type | name, description must be entered.  Unit of measure must be selected.  Ingredient type must be selected  Generates identifier  Data is valid  Prompts to save |
|  |  | Request to save | Saves the ingredient and returns to the main menu |
| Exception Conditions | * Owner chooses to cancel adding the ingredient | | |

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case Name | Create a recipe | | |
| Triggering Event | A new recipe of interest to the business | | |
| Brief Description | Allows the Owner to record a new recipe. | | |
| Actors | Owner | | |
| Related Use Cases |  | | |
| Preconditions | Owner has opened the Main Menu. | | |
| Post Conditions | recipe is saved to the database and now can be queried | | |
| Flow of activities | Actor | | System |
|  | 1. | Requests to add a new recipe | Prompts for recipe name, description and calorie count. |
|  | 2. | Enters name, description and calorie count | Verifies that name, description and calorie count have been entered  Generates a unique identifier for the recipe.  Display name, description, calorie count and unique identifier  Displays a list of ingredients sorted by ingredient type, along with unit of measure and a prompt for quantity used. |
|  |  | Selects ingredient and enters quantity used. | Verifies that quantity used was entered.  Adds ingredient to list of ingredients for the recipe.  Displays a list of ingredients sorted by ingredient type, along with unit of measure and a prompt for quantity used. |
|  |  | Repeats above step for all ingredients | Prompts to save recipe |
|  |  | Confirms | Saves recipe |
| Exception Conditions | * Owner chooses to cancel adding the recipe | | |

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case Name | Query recipes | | |
| Triggering Event | List of recipes or details of specific recipe required | | |
| Brief Description | Allows the Owner to query recipes | | |
| Actors | Owner | | |
| Related Use Cases |  | | |
| Preconditions | Owner has opened the Main Menu. | | |
| Post Conditions | Recipe information provided to the actor. | | |
| Flow of activities | Actor | | System |
|  | 1. | Requests to query recipes | Displays a list of recipes and prompts for selection |
|  | 2. | Selects recipe | Displays recipe identifier, name, description and calorie count.  Displays a list of ingredients used including quantity used. Displays a list of ingredients sorted by ingredient type |
| Exception Conditions | * Owner chooses to cancel query recipes | | |

Use Case: Maintain Purchase

User Story

As the owner of this business, I would like to record my purchases so that I can quickly see how much money I’ve spent, what I’ve ordered and from where.

Acceptance Criteria:

1. Must be able to record purchases by supplier.
2. Differentiate between scheduled (bought online) and emergency purchases (bought in store).
3. Must be able to query purchases by product and by product type (example bakery).

Use Case Descriptions

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case Name | Create Purchase | | |
| Triggering Event | Purchase of ingredients. | | |
| Brief Description | Allows the Owner to record a new purchase. | | |
| Actors | Owner | | |
| Related Use Cases |  | | |
| Preconditions | Owner has opened the Main Menu. | | |
| Post Conditions | Purchase is saved to the database and now can be queried. | | |
| Flow of activities | Actor | | System |
|  | 1. | Requests to add a new purchase | Displays a list of suppliers and prompts for selection. . Prompts for purchase date and selection of receipt file location. |
|  | 2. | Selects a supplier.  Enters purchase date and receipt file selected. | Verifies that a supplier was selected Verifies that date was entered and receipt selected.  Creates a unique identifier for the purchase. Prompts to enter purchase details. |
|  | loop | Chooses new detail | Displays a list of ingredients, sorted by ingredient type with units of measure and prompts for selection. Prompts for price, quantity ordered, and quantity received |
|  | 3. | Selects an ingredient and enters price and quantity. | Ingredient must be selected.  Price and quantity must be entered  Data is valid  Extended price is calculated (price \* quantity ordered)  Taxes are calculated and displayed  Purchase total is updated with the extended price + taxes  Purchase tax is updated with the tax amount  Displays purchase including totals, date and list of ingredients.  Prompts to add another ingredients |
|  | End | When all ingredients selected | Displays purchase including totals, date and list of ingredients.  Verifies that at least one ingredient has been selected.  Prompts to save purchase |
|  | 5. | Chooses to save | Saves the purchase and returns to the main menu |
| Exception Conditions | * Owner chooses to cancel adding the purchase | | |

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case Name | Query Purchases | | |
| Triggering Event | Owner requires a list of purchases for a date period listing Supplier, Products quantity purchased, price paid and the extended amount (price \* quantity) | | |
| Brief Description | Allows the Owner to retrieve purchases for a specified date range | | |
| Actors | Owner | | |
| Related Use Cases |  | | |
| Preconditions | Owner has opened the Main Menu. | | |
| Post Conditions | purchases are retrieved, totaled and displayed | | |
| Flow of activities | Actor | | System |
|  |  | Requests to query purchase (by date) transactions | Displays a calendar |
|  |  | Selects date range | Verifies that dates are selected  Retrieves purchases in the specified date range, calculating totals  Prompts to exit |
|  |  | Request to cancel | returns to the main menu |
| Exception Conditions |  | | |

Your tasks:

1. Create a class diagram to support the above case study and Systems Use Case Specifications
2. Create sequence diagrams for the above Systems Use Case Specifications.