**Product Requirements**

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# Brief Problem Statement

The goal of this development cycle is the creation of a Pizza Delivery System with the ability to take orders placed over the phone, send the order to the kitchen, fill ovens with food to cook, schedule and send the finalized orders out for delivery. The system records the customer information as name, location and phone number. It has the ability to change or cancel orders in progress. Data of the order is collected in a database to produce managerial reports of the completed orders from the day at any time. The system is easily modified to suit any size of menu, number of ovens, and number of employees in any given role. The initial delivery is for a simulation system that will be used for training operators.

# Stakeholders

Customers, shop owners, phone operators, managers, chefs, and delivery people.

# Users Profile

*Phone Operators* – Place order, modify or cancel order, forwards order to kitchen. Uses the Order Entry Display, and View Order Tracking Display. Should have basic knowledge of computer.

*Manager* – Change the menu, set ovens and employees at the start of the day, and view reports of completed orders. Uses the Manager Reports Display, and Editable text files for menu and system settings. Should have basic knowledge of computer.

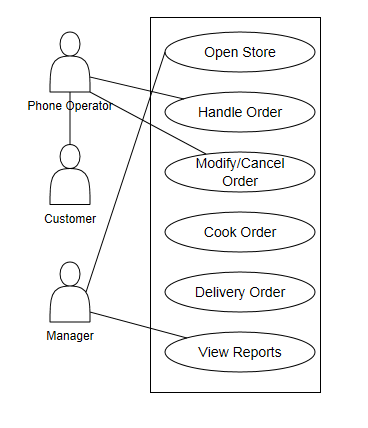
# System Requirements

The computer needs to have installed an Operating System and the Java run-time environment SE 1.6 in other to run the Pizza Delivery System.

# Feature Requirements (User Stories)

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| **No.** | **User Story Name** | **Description** | **Release** |
| 1 | **Open Store (Manager)** | **Configure Menu. Edit menu at start of the day: Menu will be stored in a plain-text file - easy to modify, add, or remove menu items.**  **Configure System. Edit number of cooks/ovens/delivery people at start of the day : Number of employees, and ovens will be stored in another plain-text file to be edited at managerial discretion.** | **R1** |
| 2 | **Handle Order**  **(Phone Operator)** | **Receive Phone call from customer. Specifies if is a new order or modifying/cancelling a current one.** | **R1** |
|  |  | **Place Order. The details of a new order are compiled into the correct format to begin processing it.** | **R1** |
| 3 | **Modify/Cancel Order**  **(Phone Operator)** | **Modify Order. The appropriate changes to the existing order are made. If a current item is changed or removed from the order, it will be removed from the oven and disposed of, if it still cooking.** | **R2** |
|  |  | **Cancel order. The chef in charge of the order is free to take a new order, and the current items in the order are removed from the oven if the items were still cooking.** | **R2** |
| 4 | **Cook order** | **Add order to chefs’ work queue. Notifies chef of new order to be prepared.**  **Chef is marked as busy while preparing the order, since each chef is limited to one order at a time.**  **Any preparation time is spent here, if applicable.**  **Any cooking time is spent here, if applicable.**  **Oven maintains time left to cook for orders and decrements that time.**  **Finished food moves to waiting area .System performs this action when food is done cooking.** | **R1** |
| 5 | **Order Delivery** | **Deliverers are notified of cooked pizzas they are responsible for delivering. Will be made more efficient later.**  **Deliverer drives to destination to deliver pizza Any delivery time is spent here, with respect to the destination specified.** | **R1/R2** |
| 6 | **View Reports**  **(Manager)** | **Compiles the data of all orders completed for the day.** | **R2** |

**Use Case Diagram**



**Use Case Descriptions**

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| **Use Case Number:** | **UC-01** |
| **Use Case Name:** | **Open Store** |
| **Overview:** | **Purpose: Set up the store so that is is ready to run for the day**  **Description: Sets menu for the day, assigns number of chefs, and starts the ovens** |
| **Actor(s):** | **Manager** |
| **Pre-conditions:** | **Beginning of the day, system on ready to login** |
| **Scenario Flow:** | **1. Manager adds items to menu for the day**  **2. Manager assigns chefs**  **3. Manager assigns ovens**  **4. Manager assign drivers for delivery** |
| **Post Condition:** | **Phone operator is ready to take calls** |

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| **Use Case Number:** | **UC-02** |
| **Use Case Name:** | **Handle Order** |
| **Overview:** | **Phone operator receives a phone call, taking the customer’s instructions to create a new order.** |
| **Actor(s):** | **Phone operator, customer** |
| **Pre-conditions:** | **1. Store is open**  **2. Menu has items**  **3. Store has at least one of each: Phone Operator, Chef, Delivery Person** |
| **Scenario Flow:** | **Main (success) Flow:**  **1. Phone operator receives phone call**  **2. Phone operator checks if customer is registered on the system**  **3. Phone operator validates if items in order are on menu**  **4. Phone operator places the order**  **5. Phone operator sends the order to the chef with list of items**  **6. Phone operator waits for next call** |
| **Alternate Flows:** | **If customer does not exist in the system.**  **Phone operator introduce the phone, name and location of the customer, to create a new customer**  **Then continue in the preview step 3** |
| **Post Condition:** | **Order is created and sent to an available chef, or placed in a queue if all chefs are busy.** |

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| **Use Case Number:** | **UC-03** |
| **Use Case Name:** | **Modify/Cancel Order** |
| **Overview:** | **Phone operator receives a phone call, taking the customer’s instructions to either change or cancel an existing order. The appropriate information is forwarded to the chefs if needed.** |
| **Actor(s):** | **Phone operator, customer** |
| **Pre-conditions:** | **1. An order should be created and in progress, but not already in the delivery queue.** |
| **Scenario Flow:** | **Main (success) Flow:**  **1. Phone operator receives phone call**  **2. Phone operator checks if the order is registered on the system**  **3. Phone operator check if is modify or cancel the order.**  **Modify order**  **a. Check if order is in queue, with a chef, or out for delivery**  **i. If in queue, make appropriate changes**  **ii. If with a chef, make chef throw out modified items immediately**  **and take the next order in line - customer’s modified order goes to the**  **back of the queue**  **iii. If out for delivery, notify customer that it cannot be changed**    **Cancel order**  **b. Check if order is in queue, with a chef, or out for delivery**  **i. If in queue, remove from queue**  **ii. If with a chef, make chef throw out the items in the order and**  **make himself available for the next order**  **iii. If out for delivery, notify customer that it cannot be cancelled**  **4. Phone operator waits for next call** |
| **Alternate Flows:** |  |
| **Post Condition:** | **Order is created and sent to an available chef, or placed in a queue if all chefs are busy.** |

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| **Use Case Number:** | **UC-04** |
| **Use Case Name:** | **Cook Order** |
| **Overview:** | **Purpose: To prepare and cook an order.**  **Description: The chef will take a queued order and prepare it. The chef will then put the order in the oven (if necessary), and then queue the order to be delivered.** |
| **Actor(s):** | **Chef, oven** |
| **Pre-conditions:** | **1. Order has been handled**  **2. Order has been queued to kitchen** |
| **Scenario Flow:** | **1. Chef takes waiting order item**  **2. Chef prepares order**  **3. Chef sends order to be cooked**  **4. Oven system takes order item that is waiting to be cooked**  **5. Oven cooks order**  **6. System sends order out for delivery when is done** |
| **Alternate Flows:** | **Alternative Flow #1 [replaces steps 3 onward]:**  **1. Chef sends order to delivered**  **Alternate Flow #2 [can happen at any step]:**  **1. Order cancellation notification received**  **2. Order is ceased.** |
| **Post Condition:** | **1. Pizza queued to be delivered** |

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| **Use Case Number:** | **UC-05** |
| **Use Case Name:** | **Order Delivery** |
| **Overview:** | **The food has been cooked and is ready to be delivered to the customer.** |
| **Actor(s):** | **Delivery person** |
| **Pre-conditions:** | **The food is ready and driver is ready for pickup. Multiple delivery to the same location would be placed on queue.** |
| **Scenario Flow:** | **Main (success) Flow:**  **1. Delivery person checks for the orders that are ready to be delivered**  **2. Delivery person picks one order and takes to customer**  **3. Delivery person reports when the order is delivered** |
| **Alternate Flows:** |  |
| **Post Condition:** | **All orders delivered must be updated in the manager report.** |

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| **Use Case Number:** | **UC-06** |
| **Use Case Name:** | **View Reports** |
| **Overview:** | **View all delivered orders** |
| **Actor(s):** | **Manager** |
| **Pre-conditions:** | **Use Case-04 must be in motion** |
| **Scenario Flow:** | **1. System totals the number of orders since the start of the day**  **2. System averages cost per order**  **3. System computes average and maximum time spent to prepare each order**  **4. System computes average and maximum time spent to cook each order**  **5. System computes average and maximum time spent waiting for each order to be picked up**  **6. System computes average and maximum time from order call-in to delivery per order**  **7. System displays results** |
| **Post Condition:** | **Manager has the report with all calculations** |

**Undelivered Requirements:**

**- Manager GUI is incomplete (does not enumerate the time for each specific stage) and does not properly display times.**

**Changes:**

***10/8/2012***- Updated the user’s profile and system requirements;

Organize and updated the user stories, the use case descriptions and the use case diagram,

All with new explanations and more clear ideas.

***11/3/2012*** - Updated the use case diagram as feedback requirements;

Modified the problem summary and users profile, according to the Release 2;

Separated the place order and modify/cancel order into two user stories, as requested;

Modified the flow scenario of uses cases 2 and 3, according to feedback and adjusted to release 2.

***11/6/2012*** - Added the undelivered requirements section.