**Environment**

**World**

* Access to the internet: The proposed system assumes that both employees and customers have access to the internet and can access the system through a web or mobile interface
* Employee training: The system assumes that the employees at the bakery will be trained on how to use the system effectively, including how to process orders, manage inventory, and communicate with customers
* Customer willingness to use the system: The system assumes that the bakery's customers will be willing to use the proposed system, including placing orders online and receiving notifications through email or SMS or through the system it self
* Menu upload: The system will only take either a csv or doc. file for uploading a full menu to the system. The document must follow a certain format the data is put in the file.
* Credible data input: System will assume the data input by either bakery or customer is accurate as system operations is depended on it.

**Requirements**

* User Authentication and Authorization: The system must authenticate and authorize both customers and employees to ensure only authorized users can access the system.
* New users/ bakeries system: there should be a sign-up page for both the customer and a new bakery.
* Customer Order Management: The system must allow customers to place orders for bakery items and enable them to track the status of their orders. The system must also notify customers about any issues with their orders and alerts for order completion.
* Employee Order Management: The system must provide an interface for employees to manage customer orders, update bakery item availability and pricing, and leave notifications on customer accounts. The system should also include features for managing orders, including tracking, updates, and notifications.
* Inventory Management: The system must allow the bakery to update and manage its inventory of bakery goods.
* Messaging system: The system must create a function where the users and employees are able to communicate.
* Integration: The system must be integrated with other systems used by the bakery, such as payment gateways, accounting software and emailing systems

**Eh**

* The actual goods that the system is selling are hidden from the system**.**

**Ev**

* The prices and order quantity are hidden from the environment and seen by the system.

**Interface**

**Specifications**

* Login/Authentications: Both employees and customers will have three tries to enter the correct email and the corresponding password or the system will terminate. Forget password retrieve option available when a given the corresponding username and answered security question.
* Sign up: a sign-up page for the new customers and new bakeries must be available. For new users, they must provide: Full Name, Email, Age, Address, phone number, Password, security question answer. For new bakeries, they must provide business name, owner, number of employees, address, and phone number, a menu for later in the inventory system.
* Customer order management: a backend database will be used to hold the corresponding order details. When placing an order users must have food section –unlimited amount, quantity amount. The system will display the estimate time the order will take in minutes. The total price of the order must be shown to the users. An order placed confirmations must be asked from the customers. Each order placed should have a receipt generated that should have the order info, bakery contact info, order number, customers info, time of placed order, and estimated time for order. Also, ordering there should be an option of saving unpaid orders which will be saved and not placed in the paid order dataset.
* Employee Order Management: The system will display the orders in a list format for the employees to see the queue of orders. The employees will have to notify the customers of their order being ready using the system. An order completion confirmation must be asked from the employees.
* Inventory Management: The system must include a database to manage the bakery menu of the available goods; the system will only take csv and doc. files to upload the inventory and menu for the bakery to the system. Also, a manual single-entry option to also be available. For both the documents and single entry the bakery will need to provide the menu Item number, Name, availability, quantity, and prices.
* Messaging system: there should be communication between the employee and the customers, and a string of texts can be sent to each other. Texting options should be available to both parties.
* Exterior system integration: emailing receipts should be an option using the provided the email of the customer. Also, there should be a gateway for external payment options for the order. The payment option will be able to direct the users to a payment system and the system will either return a true if paid and false if not paid the user will have the option of saving the order to come back too. Remember unpaid orders will not be worked on and the employees won’t see those orders.

**System**

**Program**

* Programming languages: The system could be developed using programming languages such as java or C++, and the use of SQL many be needed for the database.
* Database management systems: The system would require a database to store customer, order, and bakeries information. Database management systems such as Microsoft access, MySQL, PostgreSQL, or MongoDB could be used.
* Version control systems: To manage the source code for the system, version control systems such as Git could be used.
* JavaFX: Graphical user interface will be used to create the user interfaces. The following interfaces are required:
  + - Login page
    - Sign up page for Customers and business.
    - Bakeries selection page for the customers
    - Order system display page
    - Receipts display page.
    - Inventory management display page
    - Employee Order Management page
* Reading CVS/ Doc API many be needed
* Sending Emails API

**Machine**

* Windows running machine needed to run a system like this or to design a system on it
* A modern multi-core processor, such as an Intel Core i5
* The software can be developed using various Integrated Development Environments (IDEs), such as Eclipse or NetBeans
* A minimum of 8GB of RAM is recommended.
* A solid-state drive (SSD) with at least 256GB of storage is recommended.
* Users devices