**Semi Final Exam**

**Documentation for our application**

**Rationale**

We chose to use the theme “Order Processing System” because it feels like it perfectly represents our project requirements. This project aims to develop an automated order processing system to ease up taking orders, reducing human error, and to ensure timely deliveries. This will be done by using Stack operations and queue operations.

**Explanation of the Implemented Application and its features**

Our application simulates an order processing system and all its features

1. **Stack Operations**

* Push: Adds an order to the Customers order queue.
* Pop: Removes an order from the Customers order queue.
* Peek: View all orders from the Customers order queue container.

1. **Queue Operations**

* Enqueue: Adds the order from the Customers order queue to the Waiting orders queue.
* Dequeue: Removes order from the waiting order queue and shows the message “Served the next order in the queue”.
* Peek: View all orders that are in queue for the Waiting orders.

**Three Test cases for the chosen Application**

**Test Case 1:**

**Stack Operations**

**Step 1:**

Push ordered food and quantity then press push order.

**Step 2:**

Peek at the first order on the Customers order queue.

**Step 3:**

Pop the ordered food from the Customer’s Order container.

**Expected Results:**

* The stack should correctly Push orders, View orders, and Pop orders from the customer’s order.
* The stacks should be updated correctly with every other operation used.

**Test Case 2:**

**Queue Operations**

Step 1:

Enqueue a customers order to the waiting orders container.

Step 2:

Dequeue the first order from the waiting for orders container.

Step 3:

Peek the finished order at the view history.

**Expected Results:**

* The queue should correctly enqueue an order, remove orders, and be able to check recently finished order in queue.

**Test Case 3:**

**GUI interaction**

**Step 1:**

Use the drop-down menu to choose the type of food and quantity.

**Step 2:**

Use the buttons to push the orders and enqueue an order into the Waiting orders list.

**Step 3:**

Use the buttons to pop an order from the stack and dequeue an order from the waiting orders queue.

**Challenges Faced during Development**

1. Creating the GUI was a challenge for us due to our inexperience with the qt Designer and problems regarding its download.

2. The creation of the code was a bit challenging for us because it was really confusing at first, but we managed to go through with it.

3.Clearing The Orders - We don't know how but the dequeue did not function properly instead it duplicated what was supposed to be dequeued and we had to recode the function.

4.Errors with .pro file - We think it was because we downloaded the wrong format for qt studio creator and had to reinstall the whole thing.

5.The Pop Button is incorrect - We had trouble at first making the pop button function the way we want.

6.The Order Handling - The first code we did does not allow grouping multiple food items for a single customer

**Roles of Each Member and their contributions**

**Roosc Zano**

* GUI designer
* Designed the whole GUI used in the project and also contributed to development of the code.

**John Benedict De Chavez**

* Developer
* Created and thought of the code including the stack and queue operations needed to run the program.

**Mark Jihru R. Diokno**

* Tester
* Conducted testing of the project and checked for bugs and provided more feedback for further improvement of the project.

Screenshots of our progress

First design prototype:

A screenshot of a computer

Description automatically generated

A screenshot of a menu

Description automatically generated

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

Final build:

A screenshot of a computer

Description automatically generated

Final build code:

A computer screen shot of a computer screen

Description automatically generated

A screenshot of a computer

Description automatically generated

A screen shot of a computer code

Description automatically generated

A screen shot of a computer program

Description automatically generated

A screen shot of a computer code

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