

Some of the unit testing was already implemented inside the original code files along with comments describing the check that is performed. Please refer to the source code to see these. These tests ensured that our functions behaved as expected and only executed certain code based on values of certain parameters.

The graphical user interface and display tests were done visually. These tests include:

1. Verification that the forms are built correctly
2. Buttons, test, and lists were generated correctly
3. Button clicks linked to the proper functions
4. Windows close properly

State tests for the various data structures and GUIs were done by executing specific workflows on our system and visually determining that the proper actions had occurred. They are described below:

Our first step is to check the Manager GUI, shown below:

The screenshot shows the Manager GUI with four main sections: Inventory Items, Menu Items, Add to Inventory, and Add to Menu. The Inventory Items table has columns for Ingredient Name and Quantity. The Menu Items table has columns for Item Name and Price. The Add to Inventory section has fields for Name and Initial Stock, and a button labeled 'Add New Ingredient'. The Add to Menu section has fields for Name, Price, Ingredients (comma separ...), Cooking Time, and Freshness Time, and a button labeled 'Add New Menu Item'. A button labeled 'Get Inventory and Menu items' is located between the two tables.

In this GUI, we click “Get Inventory and Menu Items” to retrieve the current menu and inventory stock.

The screenshot shows the Manager GUI with the same layout as the previous one, but with data populated in the tables. The Inventory Items table lists various ingredients and their quantities. The Menu Items table lists various menu items and their prices. The Add to Inventory and Add to Menu sections remain empty.

Ingredient Name	Quantity
Bun	500
CheeseSlice	500
Patty	500
Lettuce	500
Turkey	500
Beef	500
Bacon	500
Tuna	500
Tomatoes	500
WheatBowTiePasta	500
Spice	500
ChocolateSprinkles	500
Oreos	500
WhipCream	500

Item Name	Price
Burger	11.0
TurkeySandwich	11.0
BaconBurger	12.0
TunaSandwich	10.0
BowTiePasta	10.0
HersheyCake	4.0
RoastBeef	13.0

We then go to the Customer GUI and click “Get Menu” to dynamically populate the list. We verify that the items are the same as shown in the Manager GUI. This is shown below:

The screenshot shows the Customer GUI with a menu of items on the left and an order list on the right. The menu items are: Burger, Turkey Sandwich, Bacon Burger, Tuna Sandwich, Bow Tie Pasta, Hershey Cake, and Roast Beef. The order list is titled "Your Order:" and has a "Table ID:" field set to 50. The order list table has columns: Name, Price, and Avg Wait Time. The table is currently empty. Below the table, there are fields for "Total Cost:", "approx wait ti...", and "approx wait ti...". At the bottom, there are buttons: "Get Menu", "Call Waiter", "Place Order FIFO", and "Place Order Group".

Name	Price	Avg Wait Time
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We then place an order via the Customer GUI. In our test case, we ordered Turkey Sandwich, Bow Tie Pasta, Burger, Tuna Sandwich, and Hershey Cake. The order and its confirmation message are shown below:

The screenshot shows the Customer GUI with the same menu items as before. The order list is now populated with the following items:

Name	Price	Avg Wait Time
TurkeySandwich	11.0	7
BowTiePasta	10.0	20
Burger	11.0	13
TunaSandwich	10.0	8
HersheyCake	4.0	5

Below the table, the "Total Cost:" field shows 46.0. A confirmation message box is displayed in the center, stating "You have succesfully placed your order!" with an "OK" button. The "Table ID:" field remains set to 50. The buttons at the bottom are the same as in the previous screenshot.

We then go back to the Manager GUI to verify that the proper amounts have been subtracted from the proper ingredients in the inventory, shown below:

The Manager GUI window displays two tables: 'Inventory Items' and 'Menu Items'. The 'Inventory Items' table lists ingredients and their quantities. The 'Menu Items' table lists menu items and their prices. To the right of the tables are two panels: 'Add to Inventory' and 'Add to Menu'. The 'Add to Inventory' panel has fields for 'Name' and 'Initial Stock', and an 'Add New Ingredient' button. The 'Add to Menu' panel has fields for 'Name', 'Price', 'Ingredients (comma separ...)', 'Cooking Time', and 'Freshness Time', and an 'Add New Menu Item' button. A 'Get Inventory and Menu items' button is located below the 'Add to Inventory' panel.

Ingredient Name	Quantity
Bun	499
CheeseSlice	497
Patty	499
Lettuce	497
Turkey	499
Beef	500
Bacon	500
Tuna	499
Tomatoes	498
WheatBowTiePasta	497
Spice	499
ChocolateSprinkles	500
Oreos	500
WhipCream	500

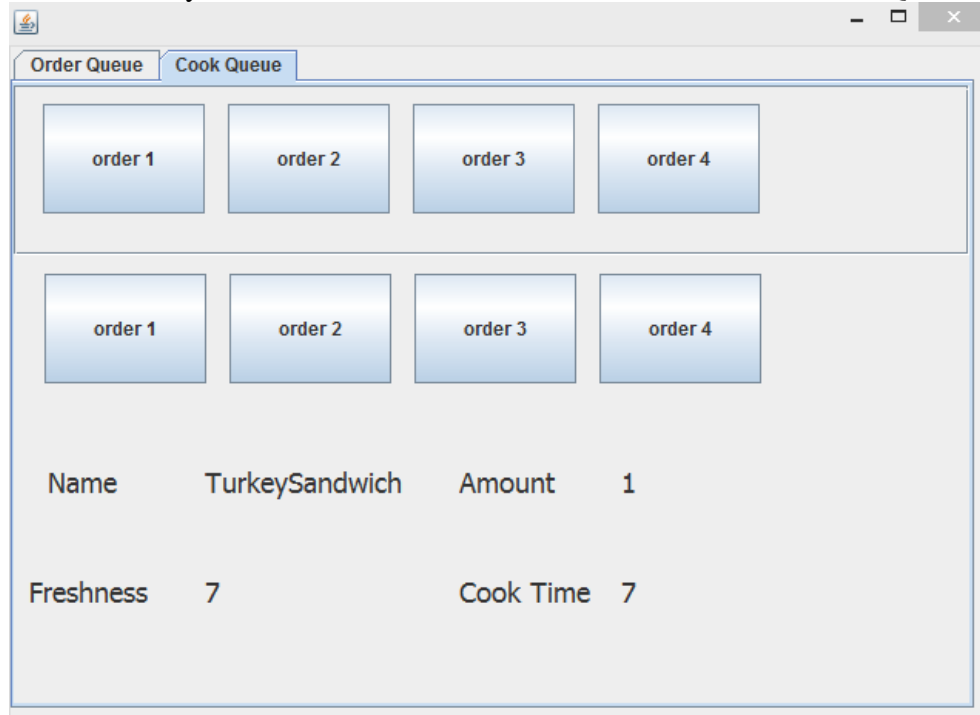
Item Name	Price
Burger	11.0
TurkeySandwich	11.0
BaconBurger	12.0
TunaSandwich	10.0
BowTiePasta	10.0
HersheyCake	4.0
RoastBeef	13.0

Next, we go to the Chef GUI to check that our customer's orders are in the Order Queue. This is shown below:

The Chef GUI window has two tabs: 'Order Queue' and 'Cook Queue'. Below the tabs are two rows of buttons labeled 'order 1' through 'order 5'. The 'Order Queue' tab is active, and the 'order 1' button is highlighted. Below the buttons is a table showing the details of the selected order.

Name	TurkeySandwich	Amount	1
Wait Time	7	Cook Time	7

After the orders have been verified, we select them to be cooked. Then, we go to the Chef GUI's Cook Queue tab to verify that the orders have been transferred from the Order Queue:



Finally, click these orders to signify that they are finished cooking. Then, we go to the Waiter GUI and check the Delivery queue to verify that the orders have appeared here for the Waiter to deliver to the customers.



This completes the workflow test of our system.