1 Document History

Revision	Author(s)	Date	Comments
1.0		07/26/2017	Initial Draft

1.1 Referenced Documentation

Tread On Me Flooring requires a new GUI-based point-of-sale (POS) application. This application must accept and display user inputs, as well as interface with a database to store and retrieve customer orders.

1.2 Contacts

Contact	Responsibility	Email

2 Overview

Sales staff will use the POS application to create new customers, orders for customers, and recall both customer and order information. The application also provides a method to enter new products into a product database.

3 Design

The following UML diagrams and GUI samples cover the programs general design. Each product has its own object that handles product naming and pricing. Orders have their own class, and consist of one or more order objects, as well as a customer ID. Customer objects contain all information required to identify a specific customer and orders belonging to each customer's account.

The GUI consists of three tabs, one for processing orders, another for adding products, and a final tab for adding and editing customers. To create an order, the user first selects a customer from the drop-down box on the orders tab. If the customer does not exist in the system, one must first be created using the customers tab. Selecting a customer on the orders tab causes the customer's information to be displayed in the Customer Details section. After selecting a customer, the user selects the required flooring type. As with customers, if the flooring type does not exist, it can be added to the system using the products tab. Once a product type is selected,

the user must enter the quantity required. Using the Add button, the product can be added to the order. A summary of the order is given in the Order summary section.

Orders for a particular customer can be displayed by first selecting the customer's name from the drop-down box, then clicking the Fetch Orders button. Likewise, all existing orders can be displayed by using the Fetch Orders button without a customer selected.

Creation of customers is a simple process using the Customers tab. A customer's information is entered into the relevant fields then the Add button is clicked. As the user types the customer's name, the system will perform a real-time search to display names similar to the customer's to help avoid double entries.

As with creating new customers, entering new products into the system is as simple as placing the product name and price into the respective fields on the Products tab and clicking Add. Products can also be modified using the modify text fields and button.

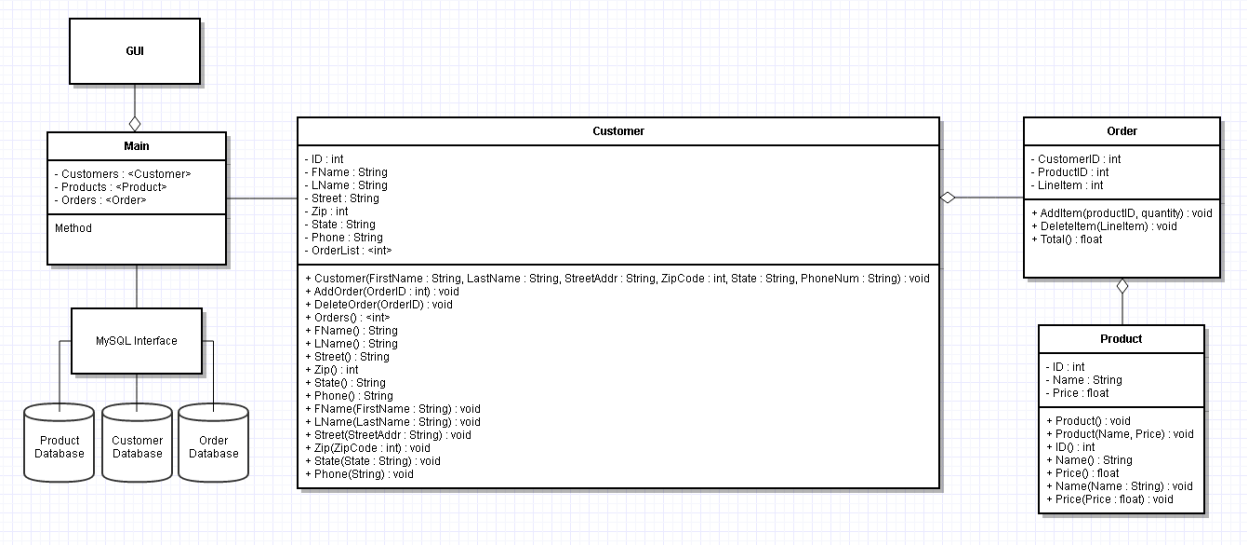

Figure 1 – Overall UML Diagram

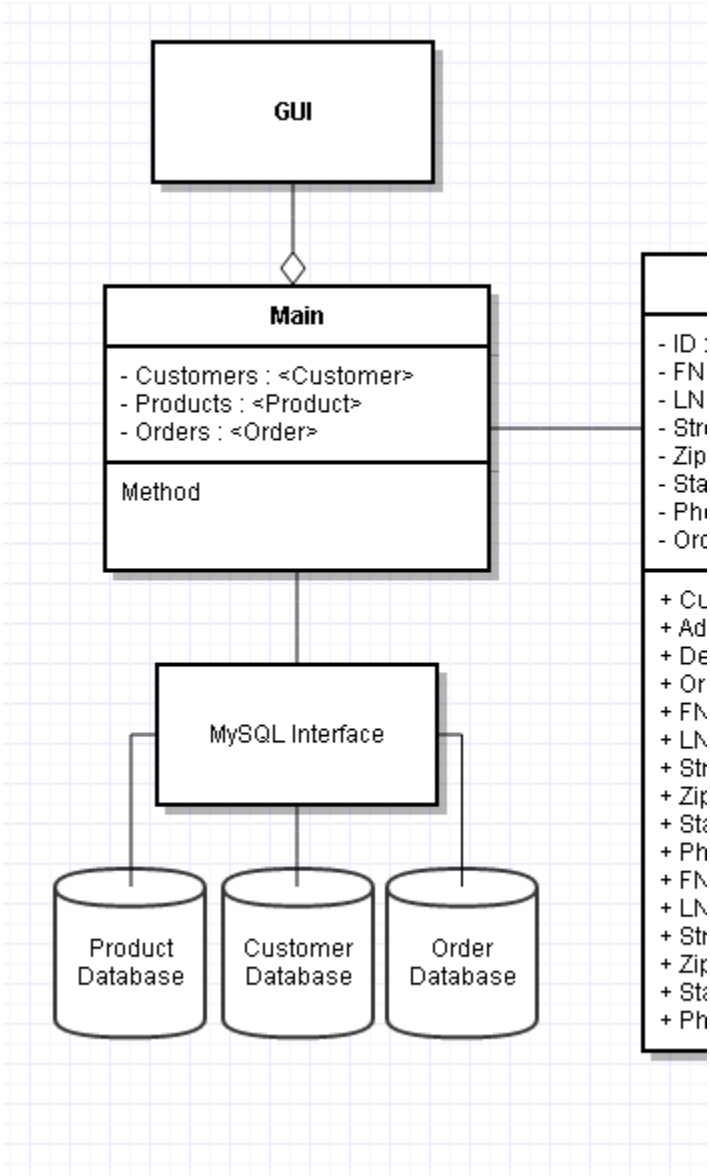

Figure 2 – Main, GUI, and SQL UML Diagram

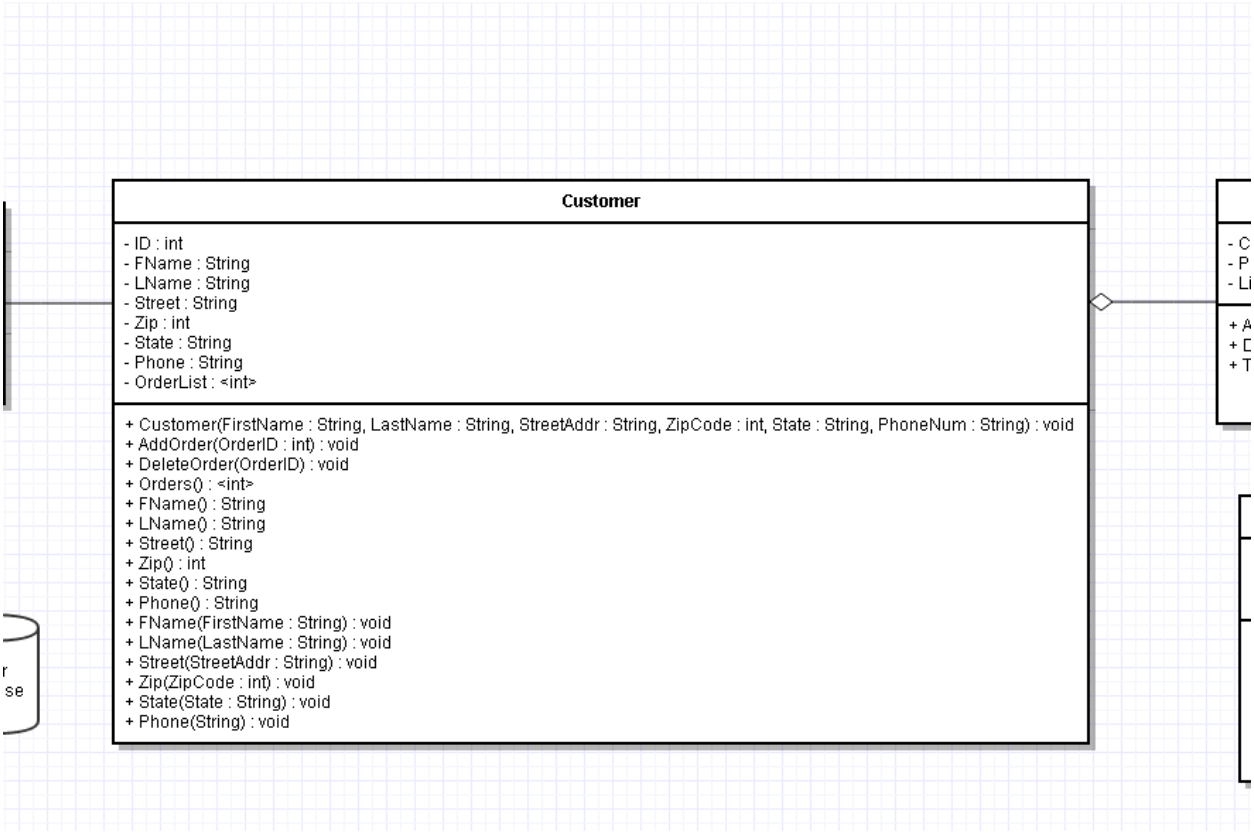

Figure 3 – Customer Class UML Diagram

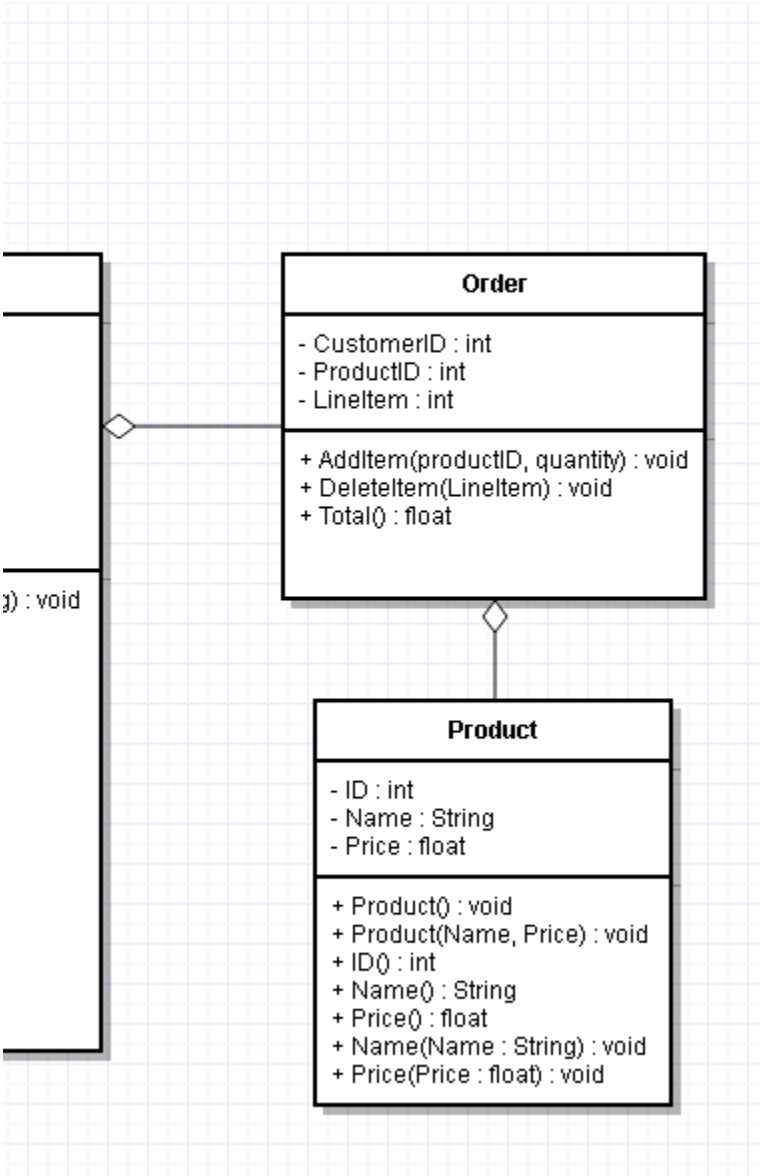

Figure 4 – Order and Product Class UML Diagram

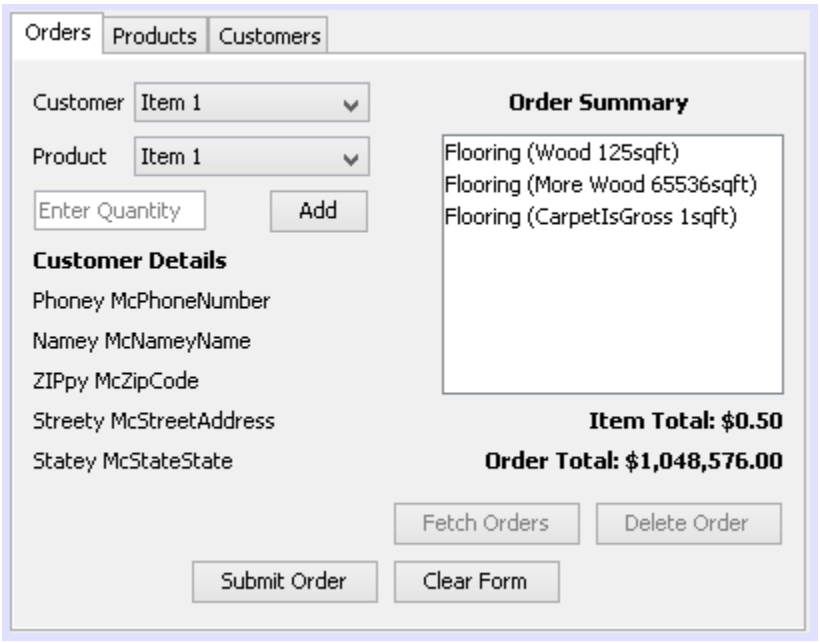

Figure 5 – Orders Section of GUI

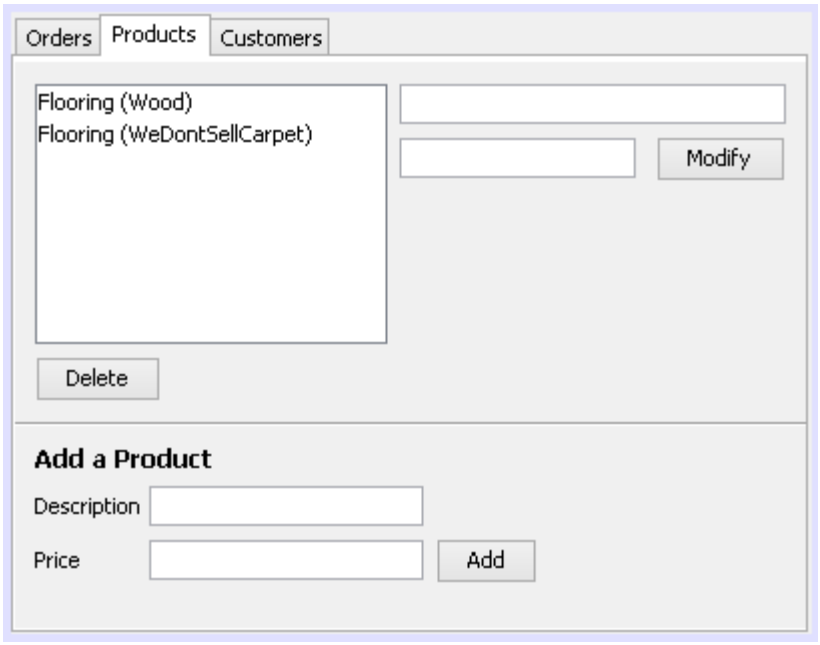

Figure 6 – Products Section of GUI

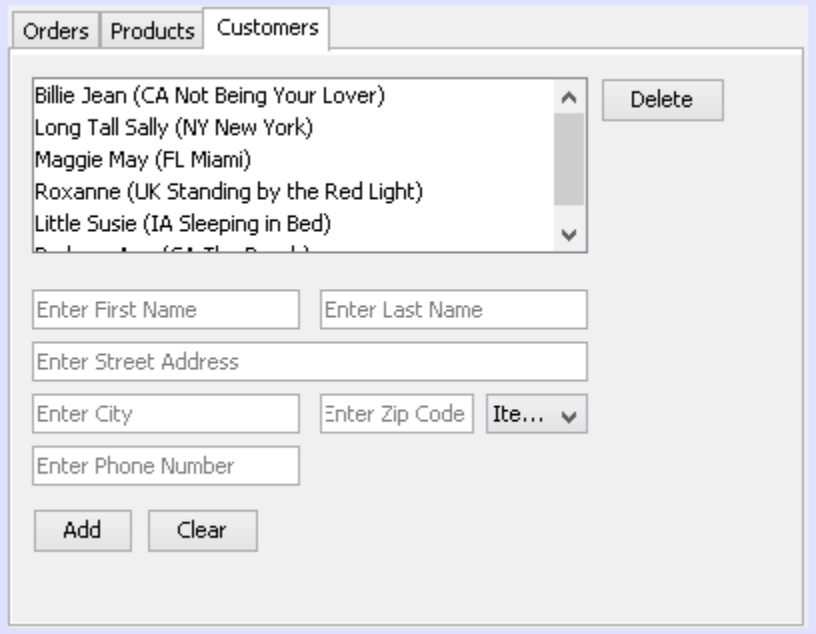

Figure 7 – Customers Section of GUI

4 Error Handling

There should be a few error messages as possible. This can be accomplished by first employing default text in text entry areas, as can be seen in Figure 7. These default text entries prompt the user as to the type of information needed in each text box, and appear in a text box when it is empty. The next method of avoiding error messages is to highlight incorrect or empty input fields in red, or another color. Specific error handling details depend on what is being processed, but generally consist of checking for errors only when buttons such as Add or Submit are clicked.

5 Test Plans

Each component and/or class will be tested independently before being tested while interacting with other components/classes. Where appropriate, input fields will be left empty or filled with incorrect data to ensure errors are properly handled. This method requires additional programming of test harnesses to test each component/class.

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