Final Project Report

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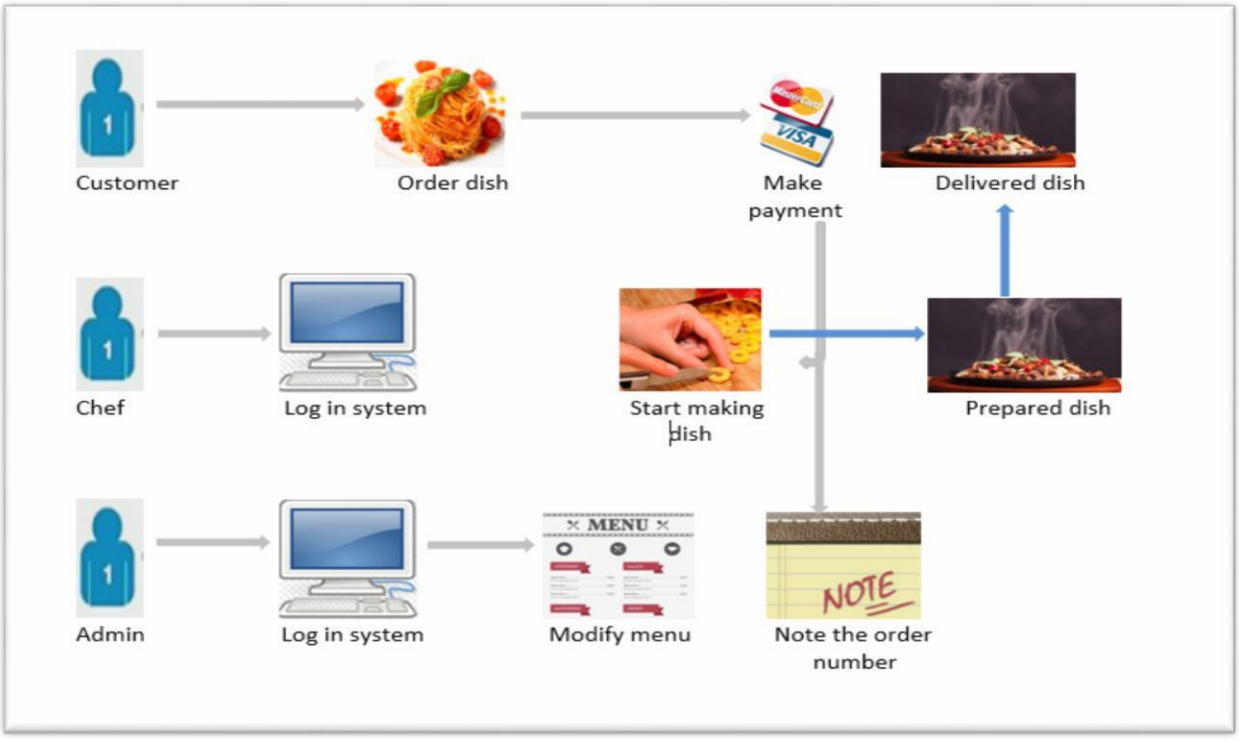
Title: Restro: A Restaurant menu application

Project Summary:

A website where the customer can order electronically what they want to eat. The order directly goes to the kitchen of the restaurant. The customers can see the status of the order placed and the estimated time of delivery.

Vision of the Project



Final Project Report

1. **List the features that were implemented (table with ID and title)**

Features that were implemented:

Use Case ID	Use Case Title
UC-01	Add new product to the menu
UC-02	Record Order ID
UC-03	Accept request assistance
UC-04	Add product from menu to cart
UC-05	Go to menu to add more products
UC-07	Increase quantity of product in cart
UC-09	Place order
UC-11	Pay bill
UC-12	View order status
UC-13	View time of order delivery
UC-14	Request for assistance
UC-15	Write review on product
UC-16	Write review on restaurant
UC-17	Update order status
UC-18	Update time of order delivery

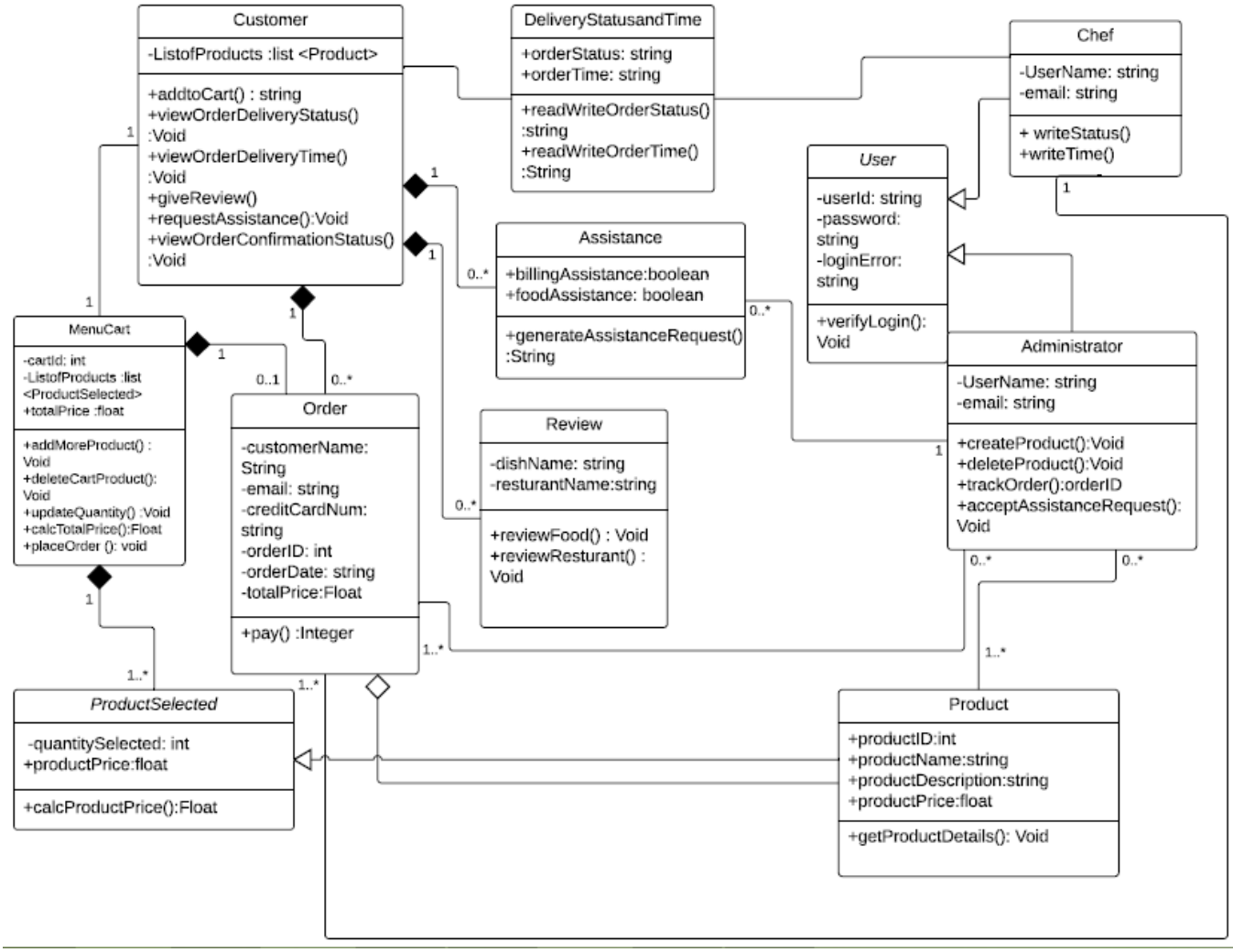
2. **List the features that were not implemented (table with ID and title)**

Use Case ID	Use Case Title
UC-08	Decrease quantity from cart

3. **Show your Part 2 class diagram and your final class diagram. What changed? Why? If it did not change much, then discuss how doing the design up front helped in the development**.

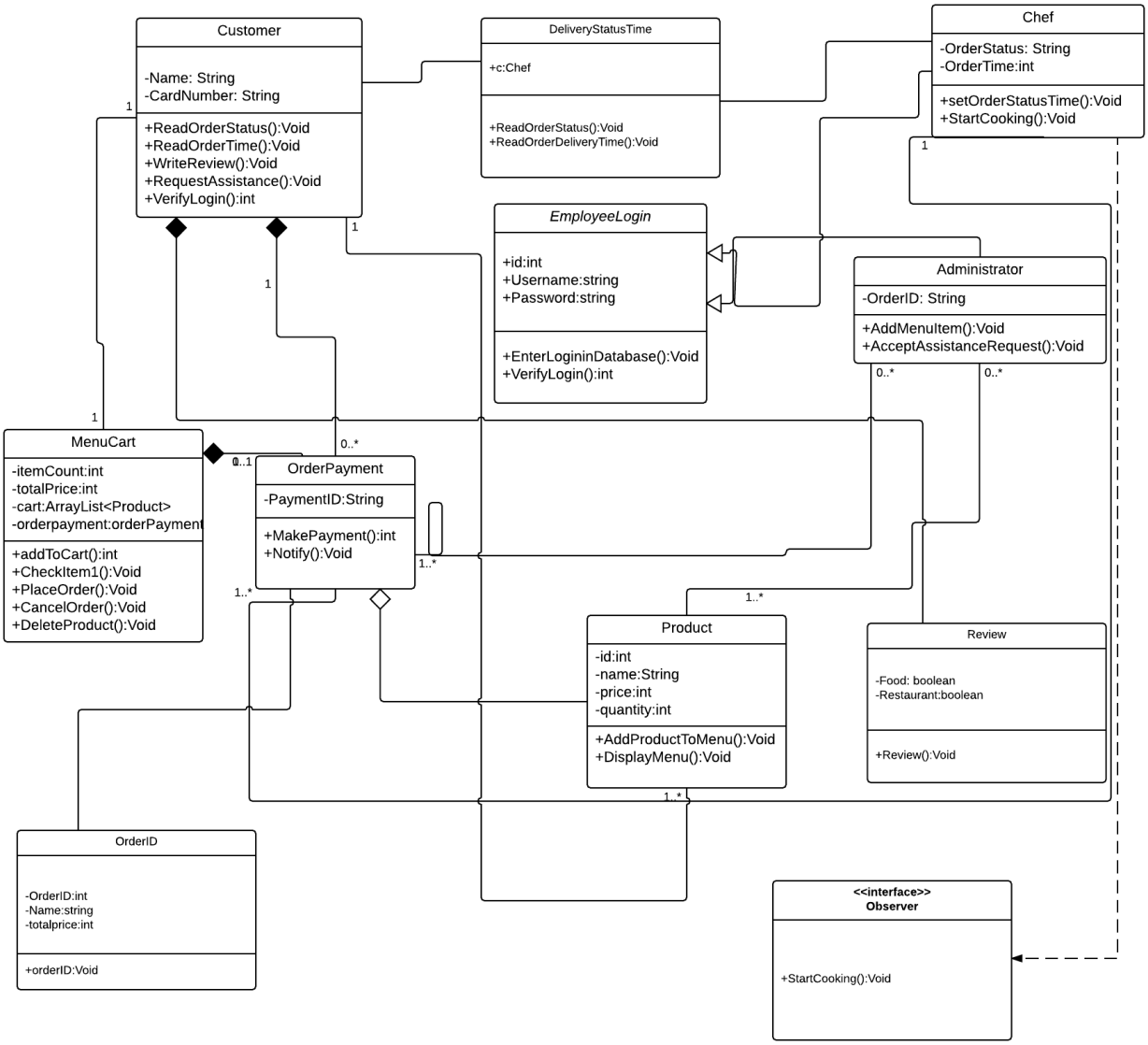
Original Class Diagram:

Final Project Report



<u>New class Diagram</u>:

Final Project Report

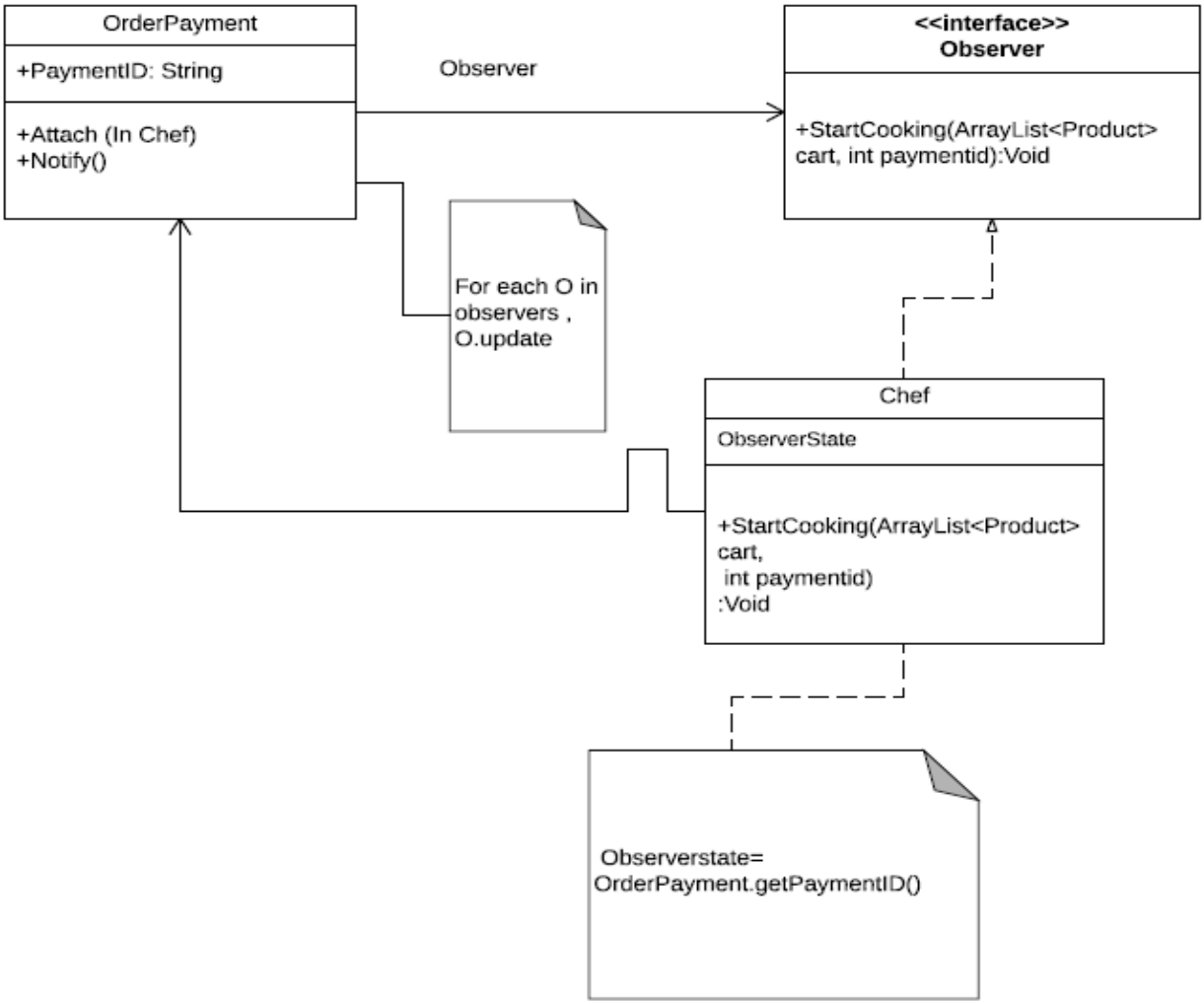


Although no new classes were added, most of the classes that were found to be redundant were removed and we were able to achieve the overall functionality with the remaining classes. While the Administrator, Chef, Customer, Product, Menu Cart were retained, we modified some of the attributes and methods in those classes. The classes that were removed were **ProductSelected**, **Review**, **Assistance**, **DeliverStatusandTime.** We were able to achieve the functionality defined by these classes either as methods in other classes or we didn't find the necessity of having these classes at all.

4. Did you make use of any design patterns in the implementation of your final prototype? If so, how? Show the classes from your class diagram that implement each design pattern (each design pattern as a separate image in the .PDF). If not, where could you make use of design patterns in your system? Show class diagram of how you could implement each design pattern and compare how it would change from your current class diagram.

Final Project Report

Observer Pattern Implementation:



We made use of the observer design pattern in implementation of our final prototype. Working: The OrderPayment class will generate a unique order ID each time the customer makes a payment. After generating the Id, it will notify the Chef with the ordered items and the order ID. The Chef, after getting this information will start cooking and inform the customer the approximate time it will take to finish the preparation.

There was another pattern that we wanted to implement but could not due to lack of time. We wanted to implement Façade and Adapter together to the Customer class to make it totally independent of the underlying class structure. Right now, we have not followed the Single Responsibility principle while implementing or customer class. Had we implemented the design pattern on it, the Single Responsibility Principle would have been

accurately followed.

The entire process of analysis and design has helped us understand some of the best practices in writing a clean and structured code. The design approach first helped us define a framework by giving an overview of the application that we were going to design. That gave us a firm direction to formulate our code and develop our ideas. The design pattern helped us incorporate some of the best practices in object oriented design to develop and optimize our code and cut down the time of completion of the overall project. All this made the final implementation clear and concise.

5. **What have you learned about the process of analysis and design now that you have stepped through the process to create, design and implement a system?**
   The entire process of analysis and design has helped us understand some of the best practices in writing a clean and structured code. The design approach first helped us define a framework by giving an overview of the application that we were going to design. That gave us a firm direction to formulate our code and develop our ideas. The design pattern helped us incorporate some of the best practices in object oriented design to develop and optimize our code. All this made the final implementation much and quicker and cleaner.