



National University of Technology

Computer Science Department

OOP Project Proposal

Food Ordering Kiosk

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ABSTRACT

This Restaurant Ordering kiosk project is developed to transform the old and traditional system that is mostly used by restaurants into a new and more efficient ordering system. The traditional ordering system brings inconvenience to both staff and customers as it requires a lot of manual work. The manual work done by the staff will cause some human errors such as giving the incorrect bill to the customers, ugly handwriting of the waiter, and incorrect sequence of the order. All these human errors will cause customer dissatisfaction with the restaurant. Therefore, this restaurant ordering system is designed and developed to help the restaurant to have better management. By having this ordering system, the time of placing an order has been reduced. The customers do not need to wait to be served when they eat in the restaurant. The customers will be more satisfied at this ordering Kiosk.

Introduction

Problem Statement

Nowadays, many restaurant using traditional restaurant ordering system to serve customers. In the traditional restaurant ordering system, the staff write down the foods that the customer order. The paper will then pass to the kitchen and the chef will start to cook. This has caused few inconveniences. The staff might make some errors while writing down the order. Sometimes, when the staff write in hurry will make the handwriting difficult to understand. The staff might lose the order paper and customers might also receive incorrect bill.

One of the problem that faced by restaurants that using traditional ordering system is the customers do not know the time for preparation for the food. Some of the customers might have next schedule after their lunch or dinner. They need to know the time preparation so that they can plan their schedule wisely. Especially when there is a lot of customers, the customers might think their order has been forgotten if their food still not yet be served in a long time. It will be good if there is an estimated time to prepare the food shown to the customers.

Moreover, it is difficult to update the latest information to the customers. The availability of the dishes is according to the ingredients that bought every day. When there is lack of ingredients, the chef is unable to prepare some of the dishes. Therefore, it is difficult to inform every customer when they want to order. The staff might forget to inform the customers. As they have many things to do. If the customers already order and feel excited to taste the dishes, but the staff inform them the dishes is unable to order due to lack of ingredients. This will cause the customer dissatisfaction towards the restaurant. The brand image of the restaurant will be affected.

Background:

People like to dine in at restaurant for their meals nowadays. There are a lot reasons why people prefer eating out. One of the reasons is they lazy to cook after work. People will feel tired after

more than 7 hours of work. Therefore, they do not have any energy to prepare their meals. In addition, university students have a lot of works to do, such as assignments, tutorials and take part in curriculum activities. It will be more convenient if they eat in restaurant compare to they cook themselves. As more and more people eat in the restaurant, the restaurant manager should make some changes to increase the speed of ordering.

Traditionally, the customers need to interact with the waiters to place order. The waiters write down the foods that the customer order. The paper will then pass to the kitchen and the chef will start to cook. The customers have faced a lot inconveniences with this traditional method. For example, waiting to get the food served, received incorrect bill and many more. All this inconvenience will cause the customers unsatisfied on the service of the restaurant.

The customers are demanding simplification tasks such as book movie tickets nowadays. Therefore, restaurant also should make changes. With the new changes, the customers can make their order through restaurant ordering system. The customers do not need to wait to be served usually at the peak hours. After they order themselves using the ordering system, they just need to wait for the food.

The concepts of Inheritance, Polymorphism, Association, Abstraction, Encapsulation, File handling, and Exception handling would be used in the project. In the project we are going to use both Is-A Relationship (is achieved as tea Is A hot drink or Juice is a Beverage etc.) and Has-A Relationship (is achieved as it is going to use in linking GUI with the classes like tea, coffee, burger, pizza, etc.

Aims and Objectives:

- To develop a system that will allow customers to place their order easily.
- To serve best service to our customers.
- Minimize human efforts and time of ordering.
- To design a user-friendly system that provides the latest information to customers.
- To develop a system that will minimize the number of employees at the back of counter.
- This system will be less probable to make mistake, since t's a machine.

Tools and Technology:

- We used Blue J software to build the project.
- This software is developed in core java language.
- The graphical user interface is developed using **J.swing** java Built-in library.

The libraries used in the project are as follows:

- **java. awt. event. ActionEvent**
- **java. util. ArrayList**
- **javax. swing**
- **java.io. ***
- **java. awt. Font**

Reference:

- **Objects first with Java 6th edition by David J. Barnes and Michael Kölling (for Swing Library)**
- <https://www.javatpoint.com/java-swing>
- https://www.youtube.com/watch?v=46T2wD3IuhM&list=PL9gnSGHSqcn01G3XjUbWzXHL8_EttOuKk&index=3
- <https://www.geeksforgeeks.org/interfaces-and-polymorphism-in-java/>