

RESTAURANT ORDER SYSTEM

A Project Work

Submitted in the fulfillment for the award of the degree of

BACHELOR OF ENGINEER

IN

INFORMATION SECURITY

Submitted by:

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DECLARATION

I, '**Akshit Mittal**', student of '**Bachelor of Engineering in Information Security**', **2020**, Department of Computer Science and Engineering, Apex Institute of Technology, Chandigarh University, Punjab, hereby declare that the work presented in this Project Work entitled '**Restaurant Order System**' is the outcome of our own bona fide work and is correct to the best of our knowledge and this work has been undertaken taking care of Engineering Ethics. It contains no material previously published or written by another person nor material which has been accepted for the award of any other degree or diploma of the university or other institute of higher learning, except where due acknowledgment has been made in the text.

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UID: 20BCS3682

Date: July 27th, 2021.

Place: Punjab

ABSTRACT

It is realized globally that, in the present market, it is very hard to begin a new small-scale business and live through the opposition from the well-established and settled owners. In the high-speed seasons of today, when everybody is pressed for time, most of individuals are touchy with regards to putting in a food request. The customers of today are not only attracted because placing an order online is very convenient but also because they have visibility into the items offered, price, and extremely simplified navigation for the order.

RESTAURANT ORDER SYSTEM is a software planned principally for use in the food conveyance industry. This framework will permit hotels and restaurants to expand the extent of business by diminishing the work cost included. The framework additionally permits to rapidly and effectively deal with an online menu that customers can peruse and use to put orders with only a couple clicks. Restaurants' employees then, at that point utilize these orders through a simple to explore graphical interface for effective handling.

The fundamental benefit of our framework is that it incredibly improves on the ordering process for both the customers and the restaurants and furthermore extraordinarily relieves the burden on the end of the day of the restaurant, as the whole interaction of taking orders is automated.

ACKNOWLEDGEMENT

While we were preparing for this project, various information that we discovered helped us in this project of '**Restaurant Order System**' and we're happy that we're ready with this project and comprehend numerous things. Through the arrangements of this C++ project was a gigantic learning experience and we learnt numerous individual characteristics during this interaction like duty, promptness, certainty, confidence and much more.

This is to acknowledge every one of those without whom this project would not have been reality. Right off the bat, I would wish to thank our supervisor, **Ms. Harmandeep Kaur** and our assistant professor **Er. Akwinder Kaur** who gave her enormous help, devoted her time towards the teachings of C and C++ and taught us to see how to make this project. Without her direction, our project would not have been finished.

The couple of things contained in it have been taken from the web. We might want to thank our **companions, 'Bhavya and Saksham'** likewise who upheld us constantly, cleared our questions, and to our **parents** who also played a big role in finalization of our project report. We're taking this opportunity to acknowledge their support and we wish that they keep supporting us like this in the future.

A project is a bridge between theoretical and practical learning and with this thinking we worked on the project and made it successful due to timely support and efforts of all who helped us. Once again, we would like to thank our **classmates and my friends** also for their encouragement and help in designing and making our project creative. We're in debt of all these. Only because of them we were able to create our project and make it good and enjoyable experience.

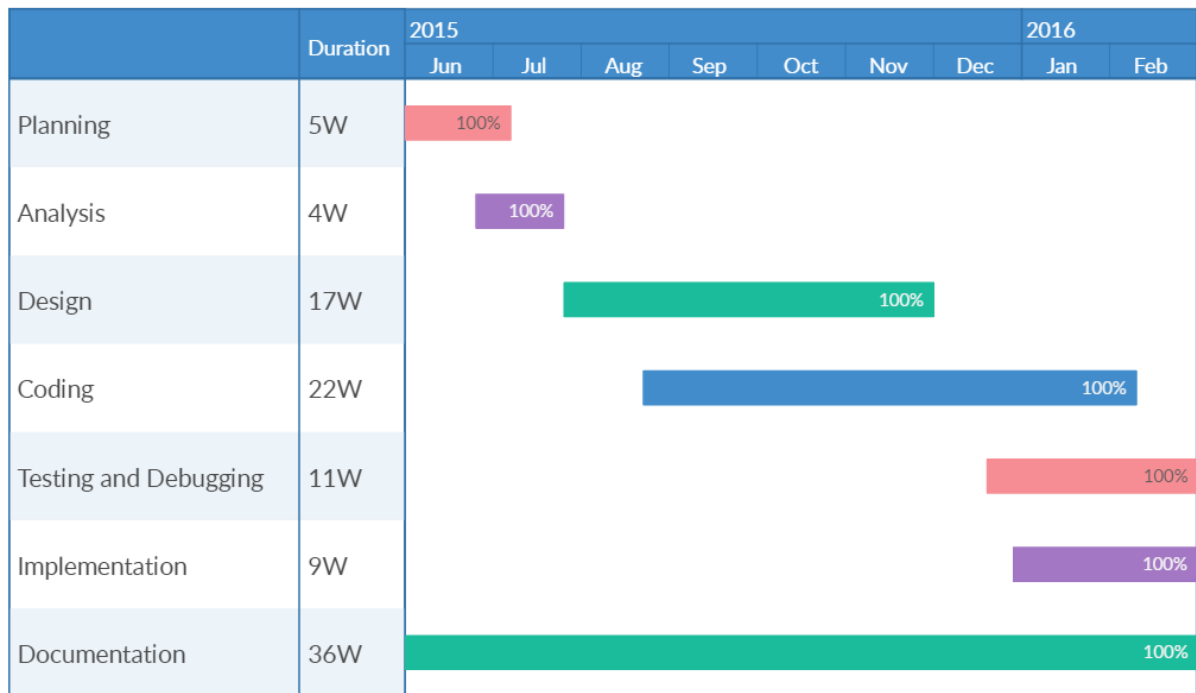
Thank You so much!

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GHANTT CHART

{ Just an example, exact ghannt chart will become today 12 a.m. }



INTRODUCTION

PROBLEM DEFINITION

Restaurant Order System is an application that will help cafes and restaurants to an upgrade and control their food items. For the servers, it is making life simpler in light of the fact that they don't need to go to the kitchen and provide the orders to the gourmet expert(chefs) without any problem. According to the administration perspective, the manager will be capable ready to control the restaurant by having every one of the reports close by and ready to see the records of every worker and request.

This application assists the eateries with doing all functionalities all the more precisely and quicker way. Restaurant Order System decreases manual works and works on the effectiveness of the restaurants. This application is helping food ordering, to keep up with the stock and incomes and there are a lot more functionalities, such as:

- To store records.
- Control orders and services.
- Billings.
- Helps Manager to control each part of the restaurant.

PROJECT OVERVIEW

The restaurant ordering system that I am proposing here incredibly improves on the ordering interaction for both the customer and the restaurant. The framework presents an intelligent and modern menu with all accessible alternatives in a simple to-utilize way. Customers can pick at least one thing to submit a request which will land in the Cart. Customers can view all the order details in the cart before checking out. Eventually at the end the customer will get a bill detail. Once the order is placed it is entered into the database and retrieved in pretty much real-time. This allows Restaurant Employees to quickly go through the orders as they are received and process all orders efficiently and effectively with minimal delays and confusion.

PROJECT SPECIFICATIONS

HARDWARE SPECIFICATIONS

- 60 MB of free-hand drive space
- 128 MB of RAM
- Operating System: Windows 10 (64 bit)

SOFTWARE SPECIFICATIONS

- Web Browser: Google Chrome
- Drivers: Visual Studio
- Integrated Development Environment: Visual Studio Code

LITERATURE SURVEY

SOURCES OF INFORMATION

We have been searched for numerous restaurants, to comprehend their cycle of keeping up with data set and the degree of proficiency they have in their framework and downsides of their existing frameworks. In the wake of searching numerous such focuses and stores we considered developing an application that will defeat the downsides of the current frameworks.

Primary sources:

Web Sites and Internet.

Searching of many restaurants.

Suggestions from friends.

Secondary sources:

Reference Materials.

EXISTING SYSTEM

Description:

Numerous Restaurants stores and keep up with their everyday exchanges physically. In any case, some of them are having automation frameworks that are assisting them with putting away the information. However, such restaurants are putting away data about the orders and the customer's data. They don't have the facility to store the data of feedbacks and most loved requests of clients throughout some timeframe.

Restaurants are having independent applications thus, at one time, they have the facility of numerous screens or numerous activities which is occurring at one time. So, they are putting away them and afterward, finally, the restaurants managers will ready to see the information of last day.

The software which restaurants are using is very costly and their maintenance is very high. The C++ program which we tried and get the information was called “Restaurant Ordering System”.

Restaurant Ordering System:

The main aim of our framework is that it incredibly improves on the ordering process for both the customers and the restaurants and furthermore extraordinarily relieves the burden on the end of the day of the restaurant, as the whole interaction of taking orders is automated.

The user interface is pretty plain, but it's intuitive and easy to navigate even without the Help feature. It contains command buttons for viewing main menu, along with buttons for viewing customer's orders. There are also fields of entering customers' data like customer's address, phone, e-mail, and business information. It's not required, but will certainly come in handy for taking advantage of the customer history and report features. Your order along with bill immediately appeared in the program's main screen. If you're looking for a way to enter and manage reservations, this is a good tool to have on-hand.

BENEFITS:

- ROS makes works easy and faster than current applications.
- Customers can interact with the manager and their food ordered easily.
- Easy to use for the customers as well as staff.
- All the data will be saved in the database. So, the administer can view all the data on time.
- This system reduces manual works.
- All the expenses per day will updated in the database daily.
- Also keeps the record of food items prepared and the sales of food and also the record of balance food.
- All the food order details like the order types (normal, home delivery, party order etc.) are stored daily.

LIMITATIONS:

- Application won't be able to send some notification about any report or any delivery system to owner or customer.
- In future, if this application used frontend and backend, it will require three different system which should be connected to one network for using application to its full functionality.
- User won't able to change the skin or any functionality of application.
- User can only get the reports of their orders and their bills in some formats only.
- Customers can't customize their food orders.
- There are no payment options such as PhonePe, GPay, Paytm, etc.

PROPOSED SYSTEM

The proposed framework helps from various perspectives. It assists with doing billing without any problem. Record maintenance likewise becomes simpler. They can monitor their acquisition of inventories, staff's details, customer feedback, deals of food varieties, and record details, and so forth. This code is provided with all the facilities to discover the most loved food of the clients, and the occasional food varieties or clients to add or adjust and erase their input and ideas. It helps in managing data of various types of orders like gathering orders, home delivery, or the normal orders. Overseeing information of everyday customers, overseeing information of staffs, overseeing information of day-by-day expenses. It kills the disadvantages of the current framework and furthermore incorporates some more highlights.

Advantages:

- The proposed system fulfils all the functions needed by the management regarding database entries, customer and payments details.
- System maintains all required information of the customer, vendor, purchase payment details, sales details.
- Also keeps the record of food things arranged and the deals of food and furthermore the record of adjusted food.
- Less utilization of manual work.
- System maintains backup of data base, import data, export data to avoid loss of data.
- System maintains detail of the stock.
- The system allows the user to calculate any sort of payment related calculations.
- Bills are also generated automatically.

FEASIBILITY STUDY

The feasibility study is a significant stage during the improvement of any project, it will likely decide if the venture is feasible or not. My capstone project is about building a Restaurant Order System, whose main aim is to improve on the ordering process for both the customers and the restaurants and furthermore extraordinarily relieves the burden on the end of the day of the restaurant, as the whole interaction of taking orders is automated.

First, the technical feasibility is to understand in case it is feasible to finish the task with the current available technologies. This project will utilize one programming language only i.e., C++ and systems in order to ensure a good user experience for the end user, as well as adopting good coding practices for the developer. The structure of the application will comprise a code for now but there is future scope that it will consist of frontend and backend. Our C++ Project will be carried out utilizing NodeJs, its purpose is to deal with database queries, verification, and to serve an API (application programming interface).

Second, the temporal feasibility is crucial to ensure that it is feasible to finish the task on time. There would be an improvement stage in which I would need to code the application with other functions and tools. Likewise, there will be a learning stage, during which, I'll have to find out about the advancements that I would use for this projects.

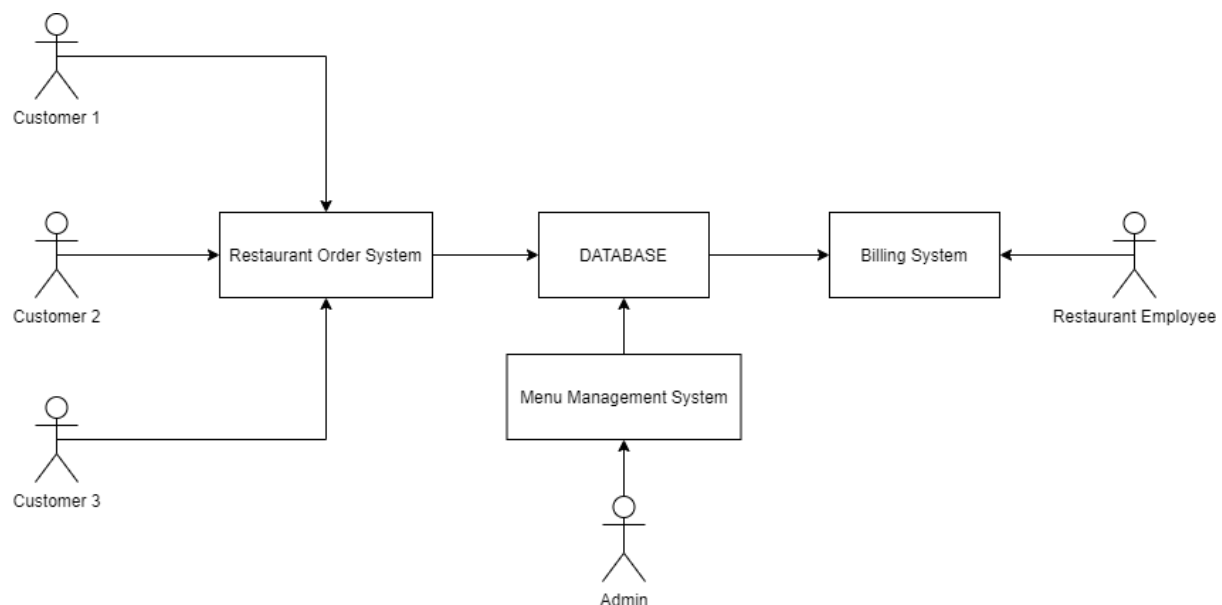
Third, economic feasibility is vital for realizing the budget required for the finishing of the project, and how much income it would be able to generate once released. The essential budget for this project is low because the technologies required for this project are free to utilize. Concerning IDE, I will utilize Visual Studio Code, which is perfect for C++ Project Development, it is a paid IDE but free for students.

The fundamental benefit of our framework is that it incredibly improves on the ordering process for both the customers and the restaurants and furthermore extraordinarily relieves the burden on the end of the day of the restaurant, as the whole interaction of taking orders is automated.

PROBLEM FORMULATION

The structure can be divided into 3 main logical components:

- **Restaurant Ordering System:** It provides the functionality for customers to place their order and supply necessary details.
- **Menu Management:** It allows the restaurants to control what can be ordered by the customers
- **Billing Management:** It is the final logical component which allows the restaurants to keep the track of all orders placed. This component takes care of order retrieving and displaying order information.



The heart of the entire ordering system is the Database. Currently the system is only available for small scale restaurants. For Large restaurants, performance considerations should be taken into account in terms of Hardware, Software capacity, Page load time and a lot more. Also, security vulnerabilities should be evaluated for large scale systems. In future this can also be available as a Mobile application and can be integrated with in store Touch Screen Order devices. We're also certain that if this system goes into actual use, many requests will arise for additional features which we had not previously considered, but would be useful to have. For this reason, we feel as though the application can be constantly evolving, which I consider a very good thing.

PRODUCT FUNCTION:

The Restaurant Order System application would have the following functions:

1. RESTAURANT ORDER SYSTEM

This module gives the usefulness to customers to put in their names and supply necessary details. Users of the system, to be specific restaurant customers, must be provided the following functionality:

- Enter their name.
- Enter their phone number.
- Enter their email address.
- Navigate the restaurant's menu.
- Select an item from the menu.
- Review an item to their current order.
- Review their current order.
- Remove an item/remove all items from their current order.
- Place an order.
- Receive confirmation bill at last.
- View order bill.

Out of all the functions outlines above, Name and email of the customer will be only used by the management every time the customer places an order. This will allow to simplify the overall user experience.

2. MENU MANAGEMENT SYSTEM

This module provides the functionality for the power user-Administrator only. It will not be available to any other users of the system like Restaurant Employees or Customers.

Using Graphical User Interface (not now), it will allow an Admin to manage the menu that is displayed to users of the Restaurant Order System:

- Add/update/delete food category to/from the menu.
- Add/update/delete food item to/from the menu.
- Update price for a given food item.
- Update additional information for a given food item.

Before customers can actually use this system, functionality provided by this component will have to be configured first. Once the initial configuration is done, this will be the least likely used component as menu updates are mostly seasonal and do not occur frequently.

3. BILLING SYSTEM

This is the simplest module out of all the three modules. It is designed to be used only by the restaurant employees, and provides the following functions:

- Retrieve new orders from the database.
- Display the orders in an easily readable, graphical way.

OBJECTIVES

The proposed project is aimed to carry out work to the development of restaurants for customers as well as staff. The proposed aim will be achieved by dividing the work into following objectives:

1. To understand and explore various types of restaurants ordering system.
2. To improve the ordering process for both customers and restaurants.
3. To understand and explore C and C++ programming.
4. To study and analyse conditional statements in C and C++ programming.
5. To design and develop the technique for long if-else statements programs which include switch and break.
6. To verify and validate the proposed system.

METHODOLOGY

The following methodology will be followed to achieve the objectives defined for proposed project work:

- Detailed study of the methods of managing a restaurant with computerized system.
- Studying food order data from the order input interface.
- Installation of Visual Studio and Visual studio code along with C/C++ IntelliSence and debugging will be done. Relative pros and cons will be identified.
- Different types of errors will be analysed to figure it out which technique is appropriate for particular type of code.
- Various parameters will be identified to evaluate the proposed system.
- Comparison of new implemented approach with exiting approaches will be done.

RESULTS AND DISCUSSION

After working on our project, we have come with the following results:

Beginning of the output:

As I mentioned before, it will collect users' name and store it for future use.

```
-----F I N E  F O O D  F A N T A S Y-----  
Please Enter Your Name: Bhavya Sehgal
```

Entering your name allows you to access the whole module.

It will display the main menu so that you can choose any one of the foods you want:

```
-----F I N E  F O O D  F A N T A S Y-----  
Please Enter Your Name: Bhavya Sehgal  
Hello Bhavya Sehgal  
What would you like to order?  
  
-----M E N U-----  
  
1) PIZZA  
2) BURGERS  
3) SLIDES  
4) SHAKES  
5) DRINKS  
  
Please Enter your Choice: 
```

Say, if you need a burger you need to enter '2' as per the menu then you can proceed further.

Fine Food Fantasy have been providing three types of burgers so it'll let you choose the burger you want to have:

```
-----F I N E  F O O D  F A N T A S Y-----  
  
Please Enter Your Name: Bhavya Sehgal  
Hello Bhavya Sehgal  
  
What would you like to order?  
  
-----M E N U-----  
  
1) PIZZA  
2) BURGERS  
3) SLIDES  
4) SHAKES  
5) DRINKS  
  
Please Enter your Choice: 2  
  
1 BBQ Burger Rs.180  
2 Steak Burger Rs.150  
3 Deluxe Zinger Burger Rs.160  
  
Please Enter which Burger you would like to have?  
█
```

Now, if you are with your friends or family, of course, you will order for them also.
This framework will then ask you the quantity of burgers you need.

```
-----F I N E  F O O D  F A N T A S Y-----  
  
Please Enter Your Name: Bhavya Sehgal  
Hello Bhavya Sehgal  
  
What would you like to order?  
  
-----M E N U-----  
  
1) PIZZA  
2) BURGERS  
3) SLIDES  
4) SHAKES  
5) DRINKS  
  
Please Enter your Choice: 2  
  
1 BBQ Burger Rs.180  
2 Steak Burger Rs.150  
3 Deluxe Zinger Burger Rs.160  
  
Please Enter which Burger you would like to have?  
3  
  
Please Enter Quantity: 3
```

Say, if you want three burgers:

Then your total bill will be displayed along with what you ordered.

```
-----Y O U R   O R D E R-----  
3 Deluxe Zinger Burger  
Your Total Bill is ---> Rs. 480  
  
Your Order Will be delivered in 25 Minutes  
  
Thank You so much for ordering from Fine Food Fantasy :)  
  
Would you like to order anything else? Y / N:█
```

Our framework will also ask you if you need anything else or not.

If you enter 'Y', it will take you to the main menu again.

```
-----F I N E   F O O D   F A N T A S Y-----  
  
Please Enter Your Name: Bhavya Sehgal  
Hello Bhavya Sehgal  
  
What would you like to order?  
  
-----M E N U-----  
  
1) PIZZA  
2) BURGERS  
3) SLIDES  
4) SHAKES  
5) DRINKS  
  
Please Enter your Choice: █
```

If you enter 'N', it will end up displaying your total bill only.

```
-----Y O U R   O R D E R-----  
3 Deluxe Zinger Burger  
Your Total Bill is ---> Rs. 480  
  
Your Order Will be delivered in 25 Minutes  
  
Thank You so much for ordering from Fine Food Fantasy :)  
  
Would you like to order anything else? Y / N:N  
C:\MY PROGRAMMING LANGUAGES\MY C++>
```

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