**Chapter 1**

1. **Introduction**

The restaurant ordering system allows the user to order the food themselves, provided with good and easy to use Graphical User Interface. System is designed to update all other modules almost instantly and is suitable for commercial use. And would be a convenient for restaurants, get information fast and accurately. Furthermore, there would be consistent operations and procedures to lighten the load for the staff and likewise, enhance customer service. Nowadays, machines replace the work intended for humans primarily to lessen man power and also to eliminate human error. During the latest decade there has been a quick development in companies’ use of information technology. This creates a great demand to centralize and has a well-developed internal organization to handle the administration support/service and to provide the organization to continuously improve its service level, flexibility and expertise to meet or exceed the customer’s expectation.

* 1. **Project Overview**

Ordering is a process of the customers specifying what they want, so that the order can be recorded by using a note, form, computer system and many others, followed by passing it to the relevant department for processing and finally delivery of the services or products to the customers based on the order. An ordering system is referred as a set of detail methods that is being used in handling the ordering process Food ordering can be computerized or done manually. A computerized ordering system or more often known as Ordering Management System (OMS) can be defined in several ways. An ordering management system is a computer software system used in a number of industries for order entry and processing. To discover information about this project, it is planned to having visits to the restaurant for observing the current ordering system. Besides that, browsing restaurant official websites is a must. Browsing through those websites can help to gather some information, such as, about the restaurants promotions, available foods and the prices. A research on food ordering system is considered to get better understanding about the system. This can be done by reading through the journals and articles. Nevertheless, reviewing up-to-date documentation such as restaurants menu and receipts will also be included in the plan.

* 1. **The Problem Domain**

**1.2.1 Statement of the Problem**

* The basic problem in the food service industry are not realizing efficiencies that would result from better applications of technology in their daily operations. Every restaurant has counter where you can place your order and then make the payment. So every restaurants needs an employee for taking the order and processing the payment food restaurant will be equipped with a user-friendly touch screen, a credit/debit card reader, and software for completing the process at the backend. For this system there will be a system administrator who will have the rights to enter the menu with their current prevailing prices. He/she can enter anytime in the system by a secured system password to change the menu contents by adding or deleting an item or changing its price.

Now when the customer enters the restaurant, he will place his order with the help of the touch screen using the intuitive graphical user interface, right from the selection of language till the payment confirmation. He will select from the food options according to his choice and the system will display the payment amount he has to make once he has finished with his order. He will have the option of paying the bill by cash, debit card or a credit card. The user will slide his card and the system will check for the validity of the card and the payment will be made. A receipt will be printed containing the order number and the order will be sent in the kitchen for processing.

**1.3 Objectives of the Project**

Objectives

The general objectives of the study is to develop a reliable, convenient and accurate Ordering System.

The study has the following specific objectives:

* To develop a system that will surely satisfied the customer service.
* To design a system able to accommodate huge amount of orders at a time.
* To evaluate its performance and acceptability in terms of security, user-friendliness, accuracy and reliability.
* To improve the communication between the client and the server and minimize the time of ordering.
* One of the main objectives of a restaurant to ensure customer satisfaction. Manual listing of orders by the waiters/waitresses may result to slow response in customer service. Hence, if the restaurant uses the proposed system, manipulation of orders to the customers be so easy and quick by just touching on the tablet and choosing the desired menu.
* To automatically compute the bill.
* The system will also automatically calculate and displays the final bill so the bills will ready to print without having any error because the information for that item is already inserted.

**SELECTING A PROJECT**

It is the responsibility of the group/individual to identify a suitable project. The project should comprise a substantial amount of individual work to satisfy the PEC that project objectives have been met as well as the time spent on the project is justified.

The group/individual will work on a topic of interest which may have originated from group/individual’s work place or maybe based on an organization’s requirement or maybe based on group/individual’s idea that an organization would like to try out. it is important when choosing a project to understand the way it will be assessed. A good first-class project involves a combination of sound background research, a solid implementation with substantial system functionality and a through evaluation of the project’s output in both absolute and relative terms. A crucial component (the most important single deliverable) is a the project study which should be well-structured and well presented, detailing the project’s background, objectives and achievements. The very best projects invariably cover some new ground, e.gby developing a complex application which does not yet exist, or by enhancing some existing application or method to improves its functionality performance etc.

Projects should involve the main activities associated with the design and implementation of a software engineering system: requirement analysis, specification, design, implementation, testing, evaluation, documentation and maintenance. At the end of the project the group/individual must be able to certify that he has met all the requirements that we are mentioned by the client and a client certification letter should be part of the project.

**PROJECT ADVISER**

Choosing an adviser is one crucial part of developing a system. Having said that, the group had a hard time arguing who fits the position and may eventually help us making this study into reality.

**GROUP COMPOSITION**

The researchers is composed of five (5) members that designated to different roles as a Project manager, Business analyst, System analyst, Document specialist and Lead programmer. Each role has its different responsibilities.

1. **Project manager -** is the person responsible for accomplishing the project objectives within the constraints of the project. He/she plans how to use the project resources, controls and monitors the time schedule, estimated cost of the project, the work progress, work completed and other project specific information.

He/she is also responsible for the outcome (success or failure) of the project.

1. **Business analyst -** is someone who analyzes the business flow to best fit the developed system in the business requirements.
2. **Document specialist -** creates documents that communicate ideas and information effectively using both writing and technology.
3. **System analyst -** is the person who selects and configures computer systems for an organization or business. His or her job typically begins with determining the intended purpose of the computers. This means the analyst must understand the general objective of the business, as well as what each individual user's job requires. Once the system analyst has determined the general and specific needs of the business, he can choose appropriate systems that will help accomplish the goals of the business.
4. **Lead programmer** **-** works closely with business analysts and team members to understand business requirements that drive the analysis and design of quality technical solutions. These solutions must be aligned with business and IT strategies and comply with the organization's architectural standards. Involved in the full systems life cycle and is responsible for designing, coding, testing, implementing, maintaining and supporting applications software that is delivered on time and within budget. Makes recommendations towards the development of new code or reuse of existing code.

What initiated the project . Could be:

The purpose of Initiation is to begin to define the overall parameters of a project and establish the appropriate project management and quality environment required to complete the Development of the Project initiated a pivotal starting point for the project establishing the project definition that will serve as the foundation for all future efforts. The completion of this process is marked by the Meeting of the group, in which the Project Manager presents the Project Charter Successful projects begin with a detailed project definition that is understood and accepted Current relevant institutional gaps.

1. Current relevant institutional gaps.

Using of the Tablet the order must be faster and less worry This will minimize the number of employees at the back of the counter .The system will help to reduce the cost of labor .The system will be less probable to make mistake, since its a Tablets. This will avoid long queues at the counter due to the speed of execution and number of optimum screens to accommodate the maximum throughput. The system will be available 24 hours.

1. Improvement/enhancements to the current running systems

The improvement of the system because you can order your food using a tablet and to avoid an error to make equipped with a user-friendly touch screen tablet minimize when the customer like to order he will place his order in helping of a tablet and selection of a payment , right from the selection of language till the payment confirmation. He will select from the food options according to his choice and the system will display the payment amount he has to make once he has finished with his order. He will have the option of paying the bill by cash, debit card or a credit card. The user will slide his card and the system will check for the validity of the card and the payment will be made. A receipt will be printed containing the order number and the order will be sent in the kitchen for processing.

**Background of the study**

Max's Restaurant's beginnings started in 1945, after World War II. Maximo Gimenez, a Stanford - educated teacher, befriended the American occupation troops stationed at Quezon City. Because of this friendship, the soldiers regularly visited Maximo's nearby home for a drink or two. Later on, the troops insisted that they pay for their drinks. This prompted Maximo to open a cafe; where the troops could enjoy food and drinks. The cafá initially served chicken, steak and drinks. Maximo's niece - Ruby, who managed the kitchen, created a special recipe for chicken that became an instant favorite for the GIs. Soon, the Filipino public heard about the delicious chicken - tender, juicy and crispy - and they came too! Max's Restaurant was born. Over the years, Max's Restaurant's popularity grew and became known as "the house that fried chicken built". It has expanded in Metro Manila, Southern and Northern Luzon, Cebu and California, USA. Looking towards the next millennium, Max's Restaurant has established itself as a household name, an institution, and a proud Filipino tradition. The second and third generations of the family continue to zealously uphold the standards and traditions set by Maximo and Ruby for all Max's Restaurants. Today Max's Restaurant has opened a window of business opportunity for dynamic individuals interested and willing to invest in the long standing tradition of quality which only a Max's Restaurant can offer. It opened its doors to franchising for the first time in the second quarter of 1998. This is the opportunity to join the thriving food service industry in the Philippines.

**1.4 Significance and Scope of the Project**

The significance is an integrations of different operation ordering, pricing & billing system the customer input orders directly into the tablet with communicates the customer order to the kitchen food and drink order data entry display running total of purchase on screen then directly the order in the system to be fasted the work using of a tablet. To provide better menu information for customer.

**Scope**

* The study has conducted at Max’s Restaurant in Sm North Edsa. The system will use Computerized Ordering System. The system view a notification that the order has been received based on the requirement of the system. Orders received will go to inventory system monitor the products. The system will have the database that stores all the order information of the customer.
* **Security Structure**
* Strong Username and Password
* Create a username that is at least 20 alphanumeric characters and combine it with symbols.
* The only symbols allowed are. (Dot), - (dash) or \_ (underscore).
* Must not begin with any symbols.
* Must not end with any symbols.
* Must not include consecutive symbols.
* Keep your user information private. Do not share it with anyone and do not leave it written down in plain sight.
* Make your password at least 20 characters in length.
* Password MUST include at least 1 UPPERCASE alphabetic character, 1 LOWERCASE alphabetic character and 1 numeric character. Use a combination of uppercase and lowercase letters (Aa–Zz), numbers (0–9), and symbols (@ # $ % ^ & \* ( ) \_ + | ~ - = ` { } [ ] : ; " < > ? , . /). The symbols that are NOT allowed are \ (back slash) or "(quotes).
* Use a password that is easy for you to remember but difficult for others to guess.
* System Back-up and System Restore
* The files can be saved on a USB flash drive, CDs, DVDs, or a hard drive.
* Open Backup and Restore by clicking the Start button , clicking Control Panel, clicking System and Maintenance, and then clicking Backup and Restore. In the left pane, click Create new, full backup.
* To restore your files, click Restore my files.
* To restore the files of all users, click Restore all users' files. If you're prompted for an administrator password or confirmation, type the password or provide confirmation.
* Access to the system
* Only the Administrator has an account on the system that can edit, modify, add, view menu and view reports. Waiters/waitresses also have an account that can only view menus to take the customer orders. While the employees in charge in the cashier can also access the system for payment. The manager can also view menus, view reports and monitor restaurant functions.
* Information about the order
* The proposed system is a software solution for users to easily add and take orders. When the new orders come in, some general information about the new order will be inputted such as item from the menu, the price of each item, table number, time and date. Restaurant order will be a good solution for faster communication between the client and the server.
* Safe, secured and reliable system
* The system is free from risk of possible file loss and will have backup files, so that the important data’s were safe. The system is also free from risk of being intercepted by unauthorized persons because before gaining access in the system, it is required to log onto the system by entering username and alphanumeric password.

**1.5 Documentation of Existence and Seriousness of the problem**

Once connected to the bank system will supply the card information to the bank database, will query the card validity and will supply the amount to be charged to the card. After the modem connects to the bank tablets screen display changes to (transmitting, authorizing, approved) in succession when user is paying with a credit card with remaining credit on it. System fails if above sequence does not take place even though user has swiped a card with a remaining credit on it.

1.5.1 Documentation of current system (if any)

Restaurant Ordering System focuses on managing the restaurant ordering, billing and monitoring of food. The system can only accept orders which are dine-in and take-out. Every order can accept different types of payments; like cash payment, credit card and coupon, Senior citizens discount will also accepted. Additional request in the list of the custom meals will be accepted, after a new order has been successfully placed, a list of the items will be sent to the kitchen for cooking and the total amount be sent on the cashier to print the bill.

1.5.2 Problem/s identified with the existing systems

* Security Structure
* System Back-up and System Restore
* Back-up and Recovery Structure
* Corruption of database or any other file
* Power failures/ loss
* Virus Threats
  + 1. Process models of existing system contribution to the problem

Max’s Restaurant Process

MAX’S Restaurant

Bill with the senior citizen discount (10%)

They give water for waiting the orders

They give time for preparing and getting orders

All credit cards are accepted

11-15 minutes of serving

Waiter

Repeating of orders

Waiting for the assistance

Endorse assistance

Figure 1.5.3.1

Process Model

This diagram shows the Process Model of the existing system.

1.5.4 Data models of these existing system

* Customer
* Customer

Customer ID

Customer LastName

Customer FirstName

Customer Address

Customer Contact No.

Transaction ID

Transaction User

Transaction Date

Transaction Detailed

Order ID

Order Date

Order Item

Order Price

Order Discount

Order Quantity

* Order
* Transaction
* Employee
* Employees

Employee ID

Employee Name

Employee LastName

Employee FirstName

Employee Address

Employee Contact No.

* Categories

Category ID

Category Name

Product ID

Product Name

Product Quality

Product Quantity

Supplies Stock

* Product

Figure 1.5.4.1

Data Model

This diagram shows the Data Model of the existing system.

* + 1. Data (or any form of statistics) that may be relevant to prove existence and seriousness of the identified problem
* It takes time to have an order
* The waiter forget an order of the customer
* Takes time to serve the order of the customer
  1. **Review of Existing Alternative**

1.6.1 Description of how users/clientele currently cope with the problem

This is a system wide testing when the prototype in put in the operational context. This testing reveals the inherent flaws in the system in terms of output performance measures like throughput and length of queue generated at the touch screens on which the trade off of the system is performed among the available choices in the preceding section.)

1.6.2 Assess the best available resources for addressing the problem

This will minimize the number of employees at the back of the counter.

The system will help to reduce the cost of labor.

1.6.3 Describe how you propose to take advantage of existing and current best practices in your project.

Store manager decides to add / delete an item from the menu. Store manager wants to put festive offers on some items because of which there is a change in the price of some of the items. Manager notices that some dishes are out of stock. Consequently he updates the menu so that those items are deleted temporarily deleted from the display presented to the user.