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# Pandemic Strategic Planning on Catering and Food Service Management

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**Abstract** - *A catering business provides gastronomic services at events and other venues. There is often a per-person charge for catering services. An agreement for catering services will usually outline the times for meal service, staff arrival, bar opening and closure, and rental pickup. A few of the numerous factors that can influence the cost of catering are the menu options, labor prices, service fees, and the cost of renting furniture or materials. The US catering industry has experienced exponential growth during the last ten years. Catered foodservice accounted for 11% of the food service business in 2017 with $12 billion in revenue. In response to the increasing demands of their clientele, caterers have expanded their service offerings and introduced new menu items. A caterer may provide their services for events such as dinner parties and banquets. These events may be held in a public area, a small restaurant, or someone's home. Some people may have a personal caterer that provides private catering services, depending on their needs. This paper explores a theoretical basis for future research on the transformation of the traditional catering industry by examining the current trend in the industry's development from the standpoint of the platform economy.*

***Key Words***: Catering, Food Service, Service Innovation, Platform Economy, Industry.

## 1.INTRODUCTION

The current revolution is centered around platforms, specifically the application of algorithms running on enormous databases in the cloud, whereas the industrial revolution was thought to be revolutionizing around factories[1]. We are undergoing an economic restructuring, as seen by the exceptional performance of these digital platforms. Platform firms' potential in this process may be comparable to that of Ford, General Motors, and General Electric in their early years. Farrel et al. [2] state that 'technological innovation is transforming economic exchange'. Ten years ago, the online marketplace was only utilized to link independent merchants and buyers for the limited exchange of real items. Nowadays, clients may buy any kind of product or service from merchants through an internet platform at any time. It is because The capacity of existing platforms to mobilize information and resources, as well as their ability to effectively and efficiently match them [3]. The platform itself does not create a product, but it can enable a supply and demand transaction between two or more parties.

The main features characterizing a meal category and its cost are the client typology, the packaging system, and the conservation system. Hospitals, businesses, and schools are examples of clients, and each has unique requirements. For instance, more stringent guidelines regarding the provenance of ingredients and cooking techniques must be followed when preparing meals for youngsters.

### 1.1 Objective

The objective of a Catering Management System is to optimize the entire catering process, from initial client interaction to event execution and post-event analysis, in order to provide exceptional service, streamline operations, and drive business growth. To develop a system that allows the users to login to our page a select the list of items they want to order and generate the total bill. Finally developing the application according to the requirement of the user.

### 1.2 Scope

The scope of a Catering Management System is quite comprehensive, as it covers a wide range of functions and processes involved in managing catering operations and events. The system is designed to cater to the needs of catering businesses, event planners, and related stakeholders. The scope typically includes:

**Event Planning and Scheduling:** Creating and managing event details, including date, time, location, and guest count. Allocating resources, such as staff, equipment, and transportation, based on event requirements.

**Food Safety and Compliance:** Ensuring compliance with food safety regulations and industry standards.

**Mobile Accessibility:** Providing mobile applications or responsive interfaces for users to manage operations on the go. Enabling real-time updates, communication, and access to critical information from mobile devices.

### 1.3 Application

A Catering Management System is applicable in various contexts and scenarios where catering services are involved. It offers significant benefits to catering businesses, event planners, and related stakeholders. Here are some of the key applicability areas:

**Catering Businesses:** A management system can help catering companies of all sizes, from small startups to established enterprises, streamline their operations [4]. It facilitates the efficient management of menus, orders, inventory, staff scheduling, and customer interactions.

**Hospitality Industry:** Hotels, resorts, and conference centers that provide catering services as part of their packages can utilize the system to improve their event management capabilities. The coordination of accommodation, event spaces, and catering services is ensured.

**Restaurants and Cafes:** Restaurants and cafes that offer catering services for off-site events can utilize the system to manage both their regular dining services and catering operations. It aids in tracking orders, guaranteeing timely deliveries, and maintaining consistency in food quality.

**Corporate Cafeterias:** The system helps manage employee daily food planning, ordering, and invoicing for businesses with on-site cafeterias. It improves the cafeteria's operations' efficiency and openness.

**Educational Institutions:** The system can be used by schools, colleges, and institutions that have catering services to organize student meals, special events, and cafeteria business.

## 2. PROPOSED METHODOLOGY

A catering company wants to streamline its order processing and billing system. They require a software application that allows their staff to manage menus, take orders, calculate bills, and generate invoices for various events and customers. The system should provide an intuitive user interface and facilitate efficient management of catering services.

### 2.1 Input

The user is first prompted to enter their name, location, and password to log in. After logging in, the user can select a meal (Breakfast, Lunch, or Dinner) from the drop-down menu. The user can then select an item from the menu for the selected meal. For each selected item, the user is asked to enter the quantity.

### 2.2 Output

Once the user selects the items and quantities and clicks the "Calculate Total" button, a bill is generated. The bill includes a breakdown of selected items, quantities, prices, and the total amount. The bill is displayed in a separate window titled "Bill".

## 3. SYSTEM ARCHITECTURE

The Swing Catering System is designed as a graphical user interface (GUI) application built using Java's Swing library. The system allows users to browse different meal options, select items from those meals, calculate the total cost of the selected items, and display the bill [5]. The architecture shown in figure 1 described as follows:

**User Interface (UI):** The UI serves as the frontend of the system, providing an interactive and user-friendly interface for users to interact with. Java's Swing library is used to create and manage the UI components.

**Main Frame Class:** The Swing Catering System class serves as the main frame of the application, extending the JFrame class. It sets up the overall layout and structure of the application's UI, including the main menu, combo boxes, buttons, and text areas. The class includes methods to initialize the menu, components, and perform user authentication.

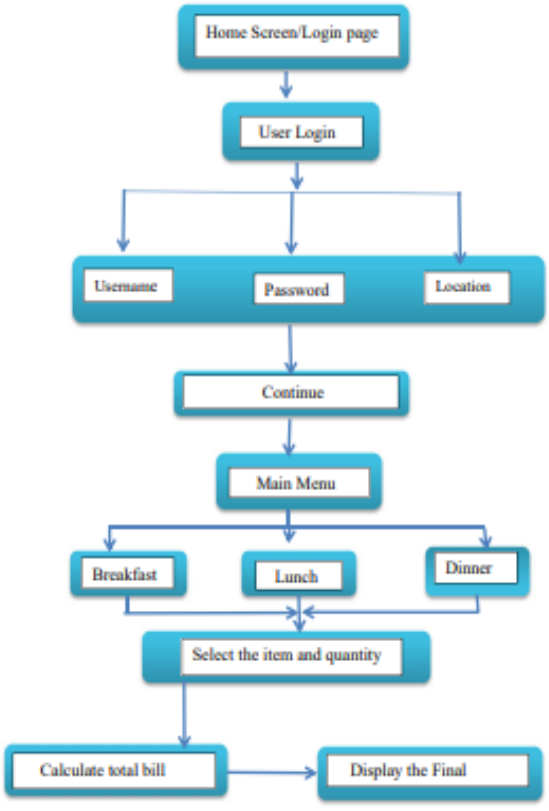



**Fig -1: Block Diagram of Catering System**

**Menu Data:** The menu data is represented using a Linked Hash Map to preserve insertion order. Different meal categories (Breakfast, Lunch, Dinner) each have associated menu items with their respective prices stored in nested maps.

**Authentication and Login:** Users are required to log in with a username and password shown in above figure 1. The system compares the entered credentials with the correct username and password values. If authentication is successful, the user is logged in and presented with the main menu.

**Main Menu:** The main menu is displayed after successful login. Users can select a meal from the combo box, which triggers the display of available items for that meal. An "Exit" option is available in the combo box to calculate the total and exit the application.

**Interaction Flow:** The system uses event listeners to handle user interactions, such as selecting meals, items, delivery date and calculating the total. Combo boxes, buttons, and text areas are updated dynamically based on user selections. **Calculating Total:** Users can select multiple items from a meal. The system calculates the total cost of the selected items and displays the break down in the text area.

**Displaying Bill:** After calculating the total, a new window ("Bill" frame) is opened to display the bill . The bill includes item names, quantities, prices, and the total amount.

**Exit and End**: The application can be excited by selecting the "Exit" option from the combo box. The system flow terminates at the "End" point.

Overall, the architecture follows a user-driven flow where the user interacts with the UI components, selects meals and items, calculates the bill, and receives the final cost breakdown.

The design is structured and modular, leveraging Java's Swinglibrary for GUI elements and event handling. It's important to note that this architecture is based on the provided code and represent a high level over view of how the different components interact in the application.

## 4. TOOLS AND TECHNOLOGIES

For the Catering management system, the following tools and technologies have been used:

**Java Programming Language** The goal of Java, a high-level, class-based, object-oriented programming language, is to enable programmers to create code once and execute it anywhere.

**Eclipse:** It is an integrated development environment (IDE) that is written mostly in Java and is primarily used for developing Java applications. It is one of the IDEs for Java that is most frequently used.

**Java JRE:** The class libraries and other resources required for a particular Java program to operate are provided by the Java Runtime Environment, or JRE, a layer of software that runs on top of the operating system software on a computer. The resultant application is run by a JVM instance that is built by the JRE after combining Java code produced with the JDK and the appropriate libraries.

**Java JVM:** Java Virtual Machine acts as a run-time engine to run Java applications The JVM is the one that actually invokes a Java program's main function. JVM is a part of JRE and Java applications are called WORA (Write Once Run Anywhere). This means a programmer can develop Java code on one system and can expect it to run on any other Java-enabled system without any adjustment.

**AWT (Abstract Window Toolkit):** The toolkit for creating GUI apps in Java is called AWT. In this code, layout and labeling are accomplished using AWT components like Grid Layout and JLabel.

**Layout Managers:** The Swing components are organized in a structured code using layout managers like Grid Layout and BorderLayout.

**JScrollPane:** The JTextArea component that displays the bill uses the JScrollPane component to offer scrolling capabilities.

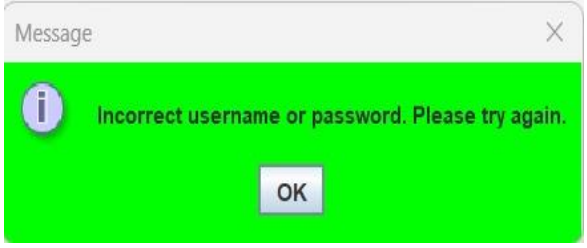
**Strings and Formatting:** The output of the bill is formatted using string formatting techniques to ensure accurate alignment and currency representation.

**Color Customization:** The UIManager is used to customize the background color of JOptionPane and other UI components. This provides a consistent and visually appealing.

## 5. RESULTS

### 5.1 Authentication


### 5.2 Verification



### 5.3 Continue for Proceeding Menu

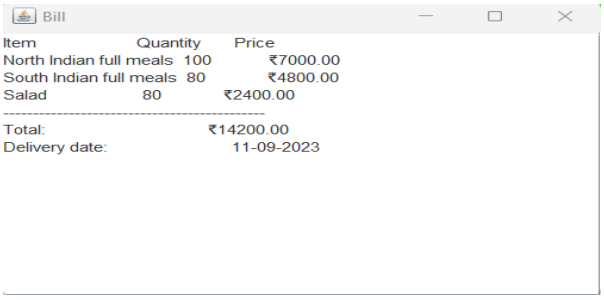

### 5.4 Selecting Meal



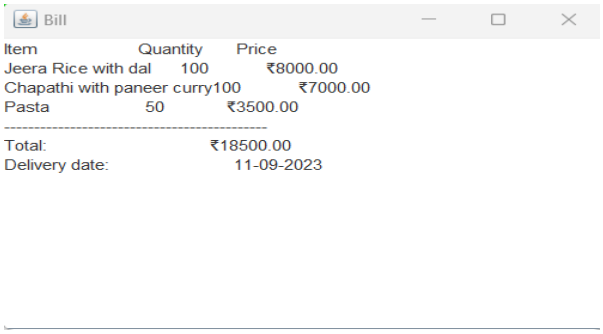
### 5.5 Selecting Meal Item


### 5.6 Breakfast Bill


### 5.7 Lunch Bill




### 5.8 Dinner Bill




## 6. CONCLUSION

Implementing a catering management system can significantly improve the efficiency and organization of catering businesses, reduce errors, enhance customer service, and ultimately contribute to business growth. The specific features and capabilities of such a system may vary depending on the software provider and the needs of the catering business. In pandemic Catering System Generate reports on sales, expenses, and other key performance indicators to help with business analysis and decision-making. Online Booking and Payment offer clients the ability to book catering services online and make payments through the system. Food Safety Compliance ensure compliance with food safety regulations and track food preparation and handling practices.

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