

TAPANDEAT: A MOBILE AND WEB- BASED RESTAURANT MANAGEMENT SYSTEM OF MANG MAC'S FOOD SHOP

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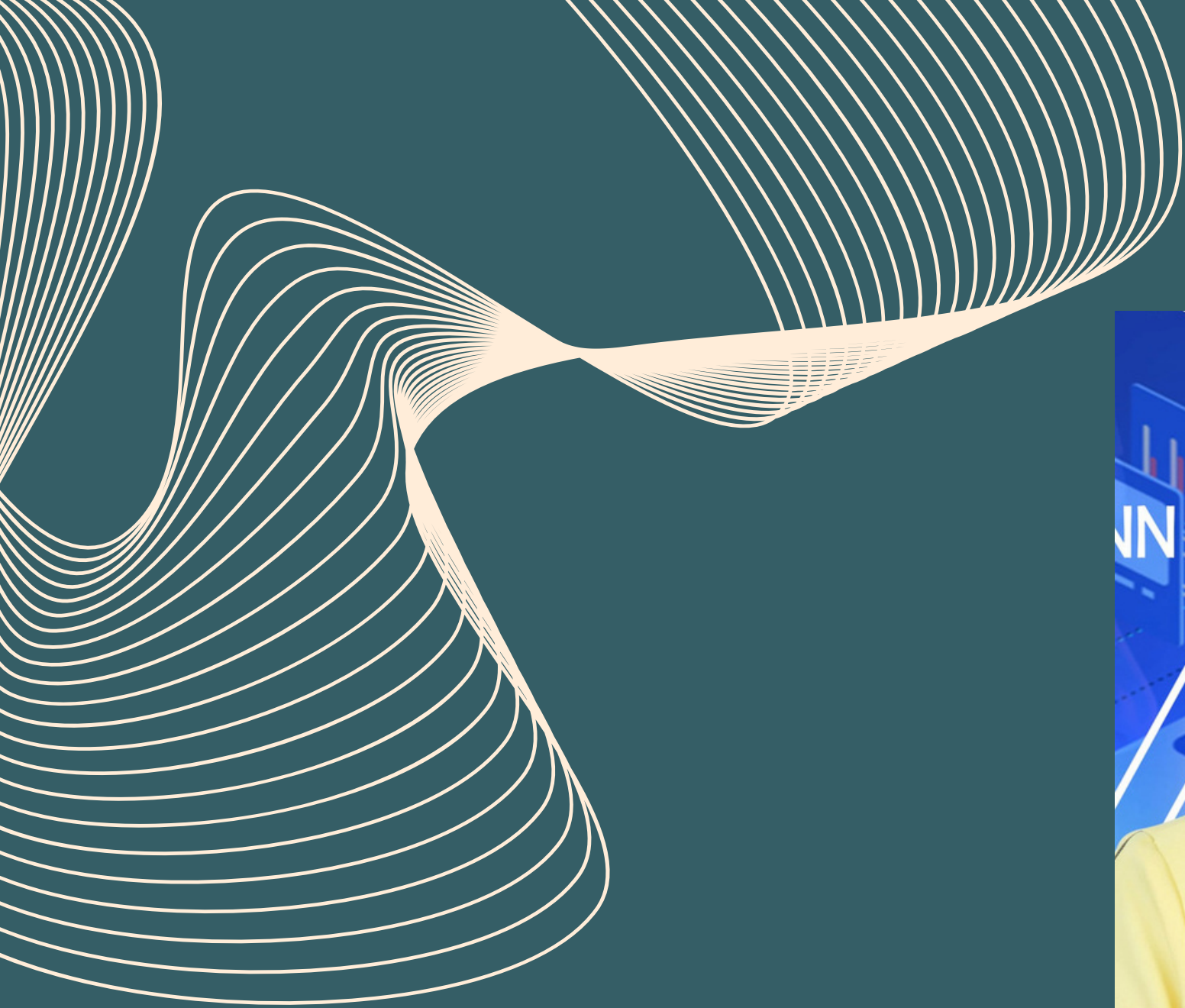
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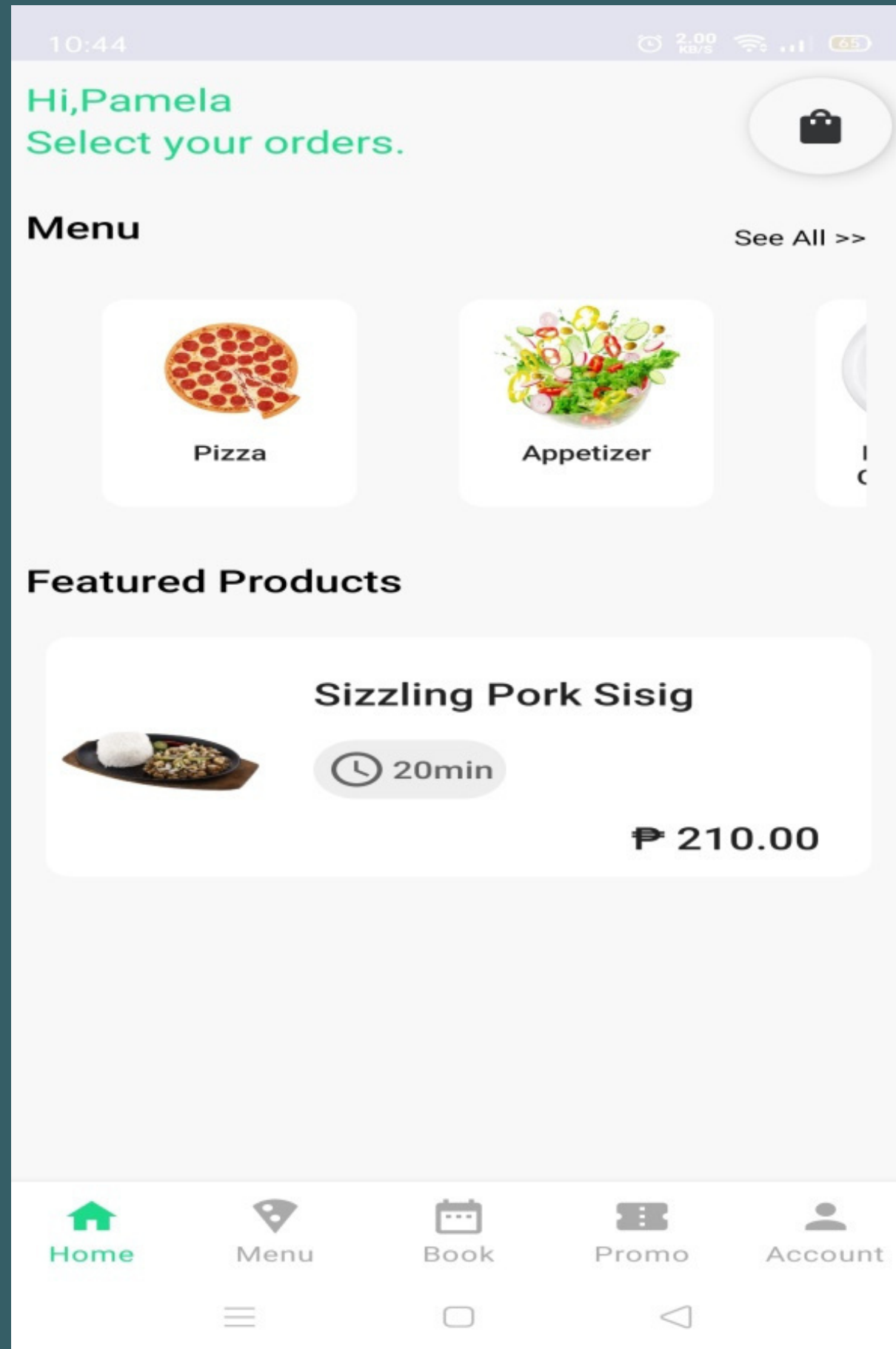


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What is TapAndEat?

TapAndEat is a mobile and web-based restaurant management system that will help to manage the Mang Macs Food Shop easily. This system has an ordering and reservation system, which helps the customers to order and reserve online. It also has an Inventory system in which the admin and staff can quickly monitor their stocks. The system also has a Point of Sale System that can easily take orders from the customer.

Review of Related Literature

According to Kuligowski, K. (2020) entitled “Small Business Guide to a Restaurant Management System”, A restaurant management system (RMS) is an essential tool for any new restaurant. These systems are designed to keep your restaurant running by tracking employees, inventory and sales. A typical RMS setup usually includes both software and hardware, such as a cash register, barcode scanner and receipt printer, depending on how your restaurant is organized. Most importantly, an RMS is a comprehensive tool that allows you to see your restaurant and its needs at a glance, which can simplify your workload on a day-to-day basis.

Review of Related Literature

Another notable work from Datta, S. (2018) entitled “A Complete Guide to Restaurant Management Systems”, A restaurant management system is a collective term for software that helps streamline food business operations. Namely, restaurants, bars, bakeries, cafes, cloud (dark, virtual, ghost) kitchens, food trucks or delivery businesses. It combines all things that are good about the traditional POS (Point of Sale) systems, with tools that manage your phone calls, take table reservations, streamline inventory management, handle billing, provide actionable analytics, and also help with marketing activities such as CRM, loyalty programs and building an online presence. It also works seamlessly with your existing restaurant technology systems (your accounting and employee management software) and uses open APIs that let you integrate with any third party tool.

Review of Related Literature

According to Yawale et. al. (2017), The system is implemented to reduce the manual work and enhances the accuracy of work in a restaurant. This system manages and maintains the record of customers and their order online. This Android App has been made in a user friendly interface. So that Customer can add and delete the food items easily. The menu card of different restaurant consists of various food varieties available in the restaurant. Through the place ordering menu, the customer can simply click and order the food. The messaging module tells the supplier to supply the particular food. Also tracking module track the order. The billing system prepares the bill according to the delivered food. This system entirely reduces the unnecessary time. Every order is associated with an individual seat at the table, and orders are built one customer at a time, just like on paper, but with greater accuracy. Items can also easily be shared by the whole table, moved or modified, and noted and the cost can be calculated in real time.

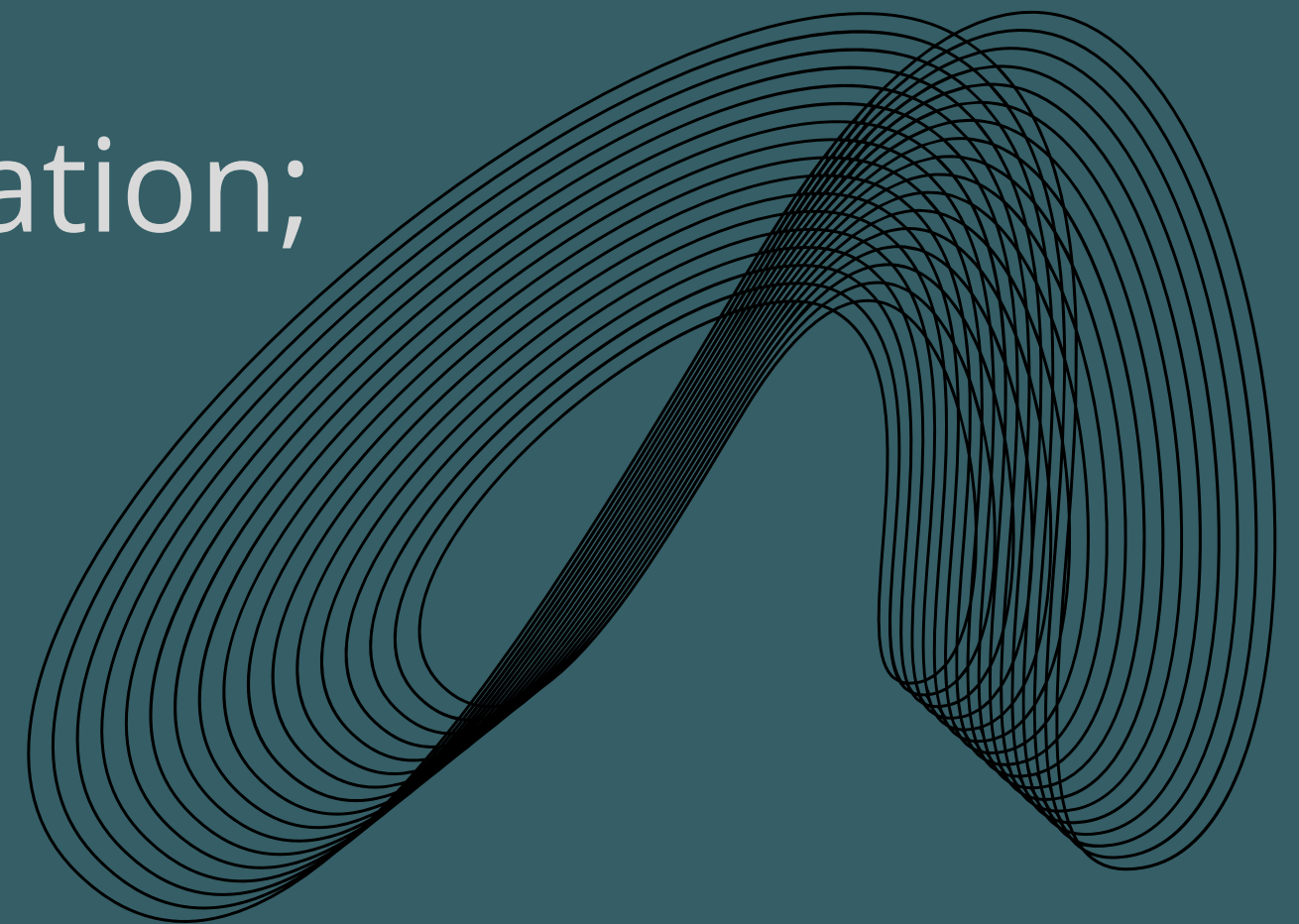
General advantage upon development of the proposed system

TapAndEat is a user-friendly application that helps the staff of Mang Macs Food Shop to efficiently manage the restaurant by providing them with an ordering and reservation system, inventory system, and point of sales system that will help them to standardize their service performance and lessen the problem they often encounter.

Objective no. 1

1. To identify the current procedures in managing Mang Macs restaurant in the following areas:

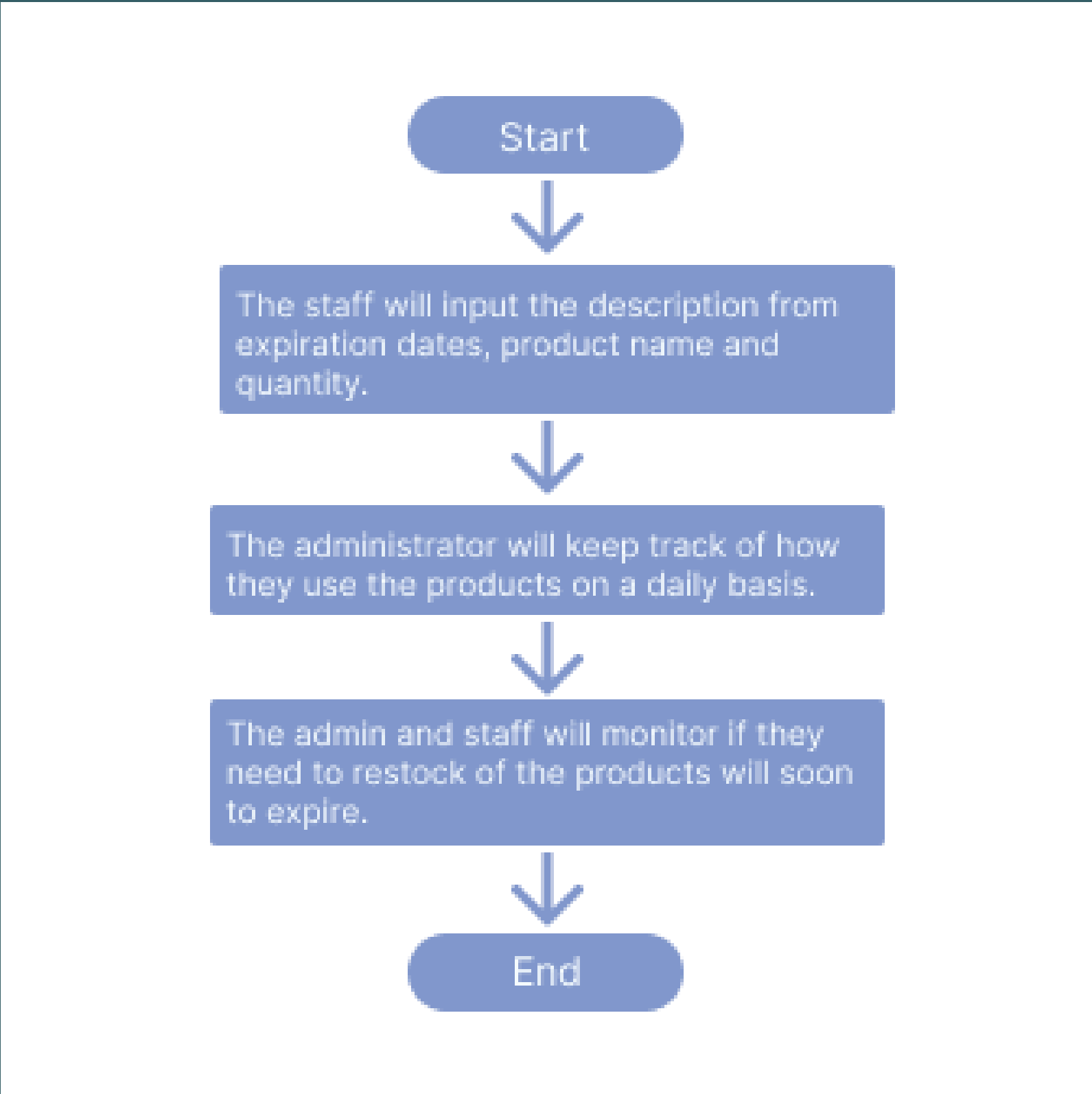
- a. Managing Staff;
- b. Ordering food and reservation;
- c. Inventories; and
- d. Point of Sale



A. Managing Staff

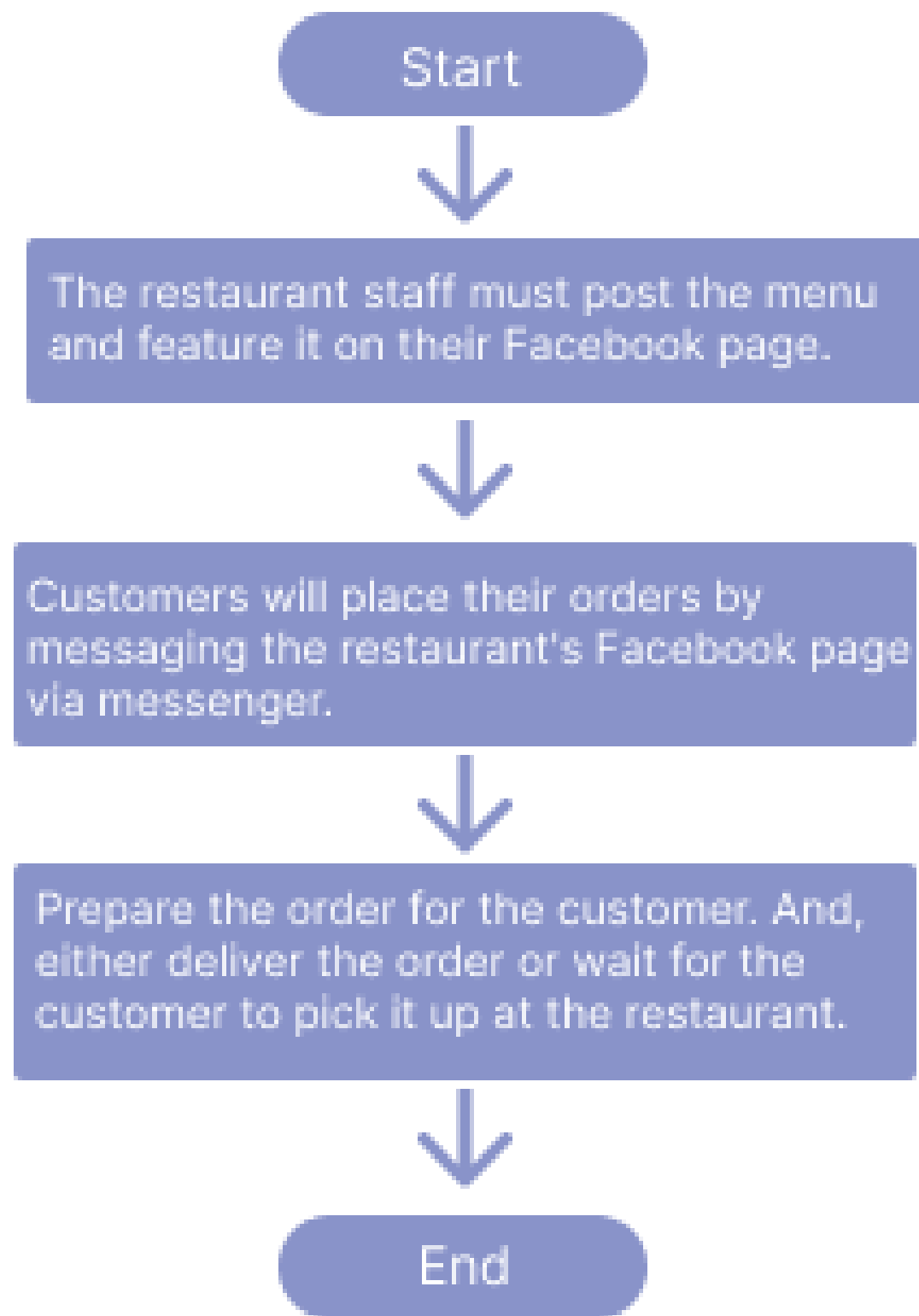
An employee record management system is an electronic application system with which the HR professionals capture and store employee records and track data for the smooth functioning of the organization (Wepdigital,2022).

The researchers gathered information for maintaining the records of the current personnel. The supervisor typically keeps all personal information of the restaurant employees in the traditional manner. Eac staff is responsible for dining, the kitchen, and order delivery. Furthermore, the supervisor regularly supervises each employee and ensure they don't fail in the smallest detail.



b. Ordering food and reservation

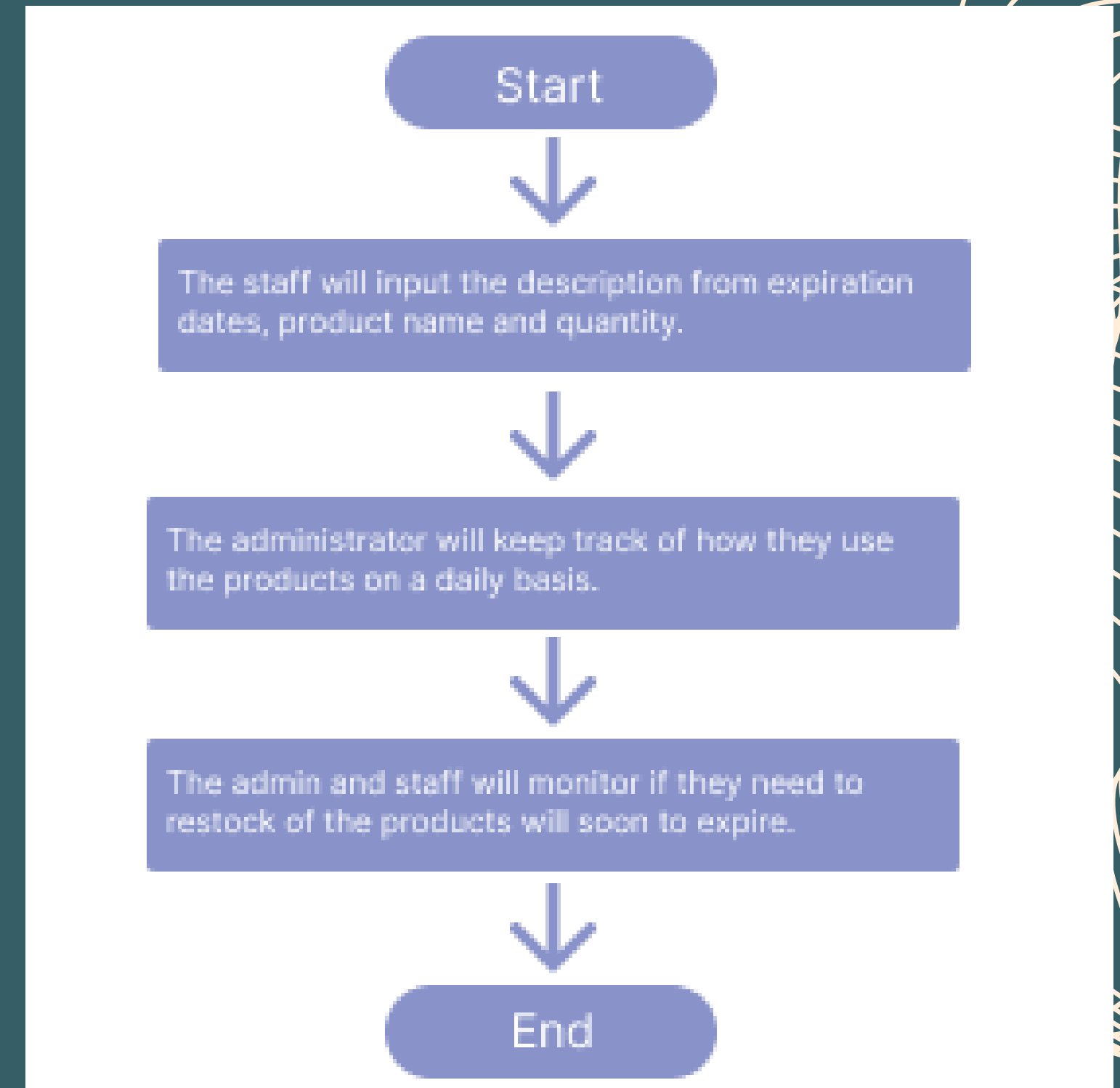
Based on Premier Food Safety (2016), Online food ordering is a process of ordering food from a local restaurant or food cooperative through a web page or mobile application. Much like ordering consumer goods online, many of these allow customers to keep accounts with them to make frequent ordering convenient. Furthermore, A table reservation is when a customer call or booking a table in advance, either online or over the phone, to ensure that a table will be available when they arrive. Table reservations can be restaurant's website or mobile application, and even through third-party sites (POSIST, n.d).



c. Inventories

Restaurant inventory is the process of tracking the ingredients coming in and out of restaurant. Inventory control traces the amount of product ordered and product expiration, everything that comes out of the kitchen and what is left over as sitting inventory afterward. Inventory tracking also includes who is in charge to the product (Jenkins 2021).

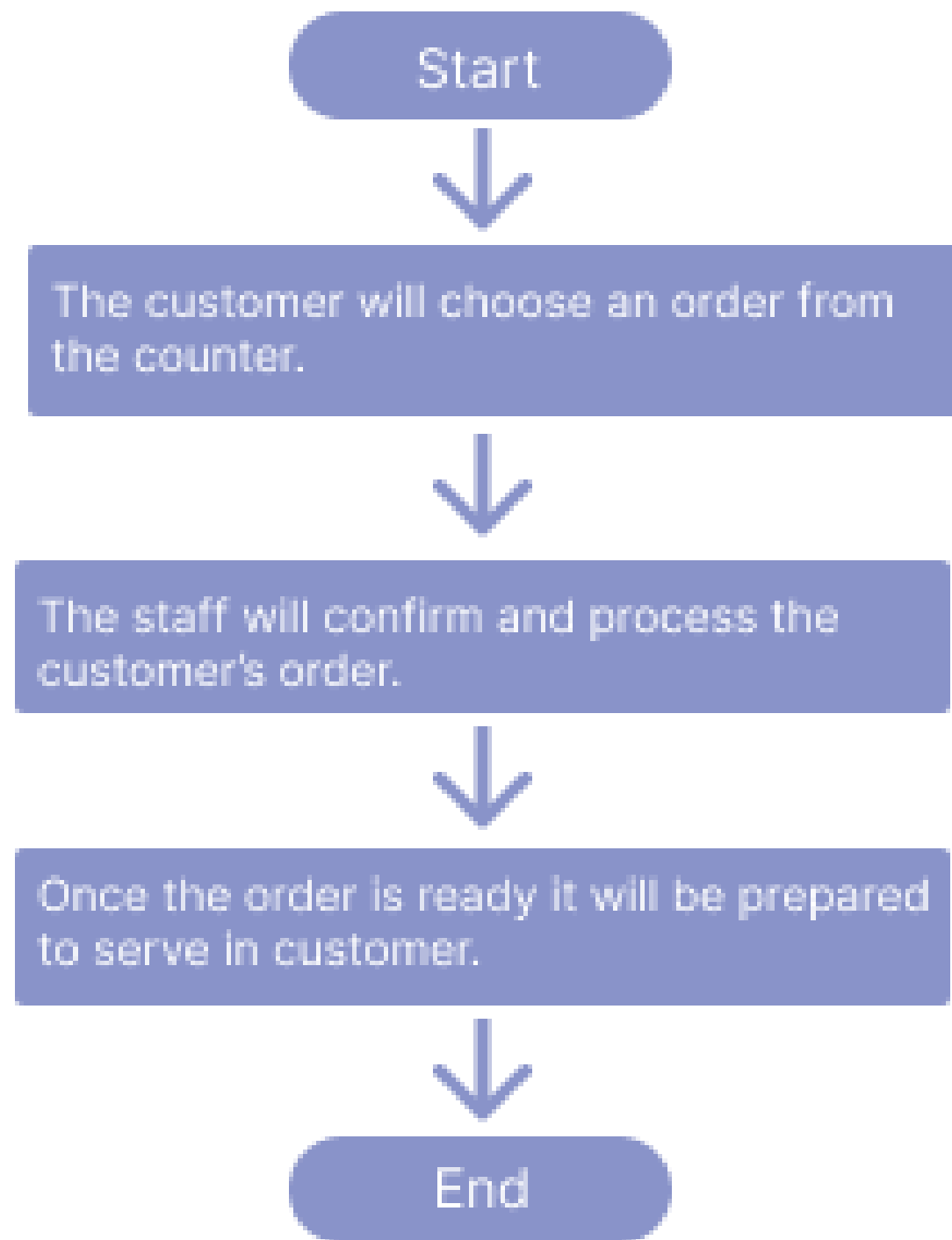
The restaurant performs the First in First out (FiFo) method. To make the inventory possible, the staff of Mang Macs are the one in charge of monitoring the stocks.



d. Point of Sale

In this phase, a customer executes the payment for goods or services and where sales taxes may become payable. A POS transaction may occur in person or online, with receipts generated in print or electronically. With this, the customer has a choice to pay electronically or in cash.

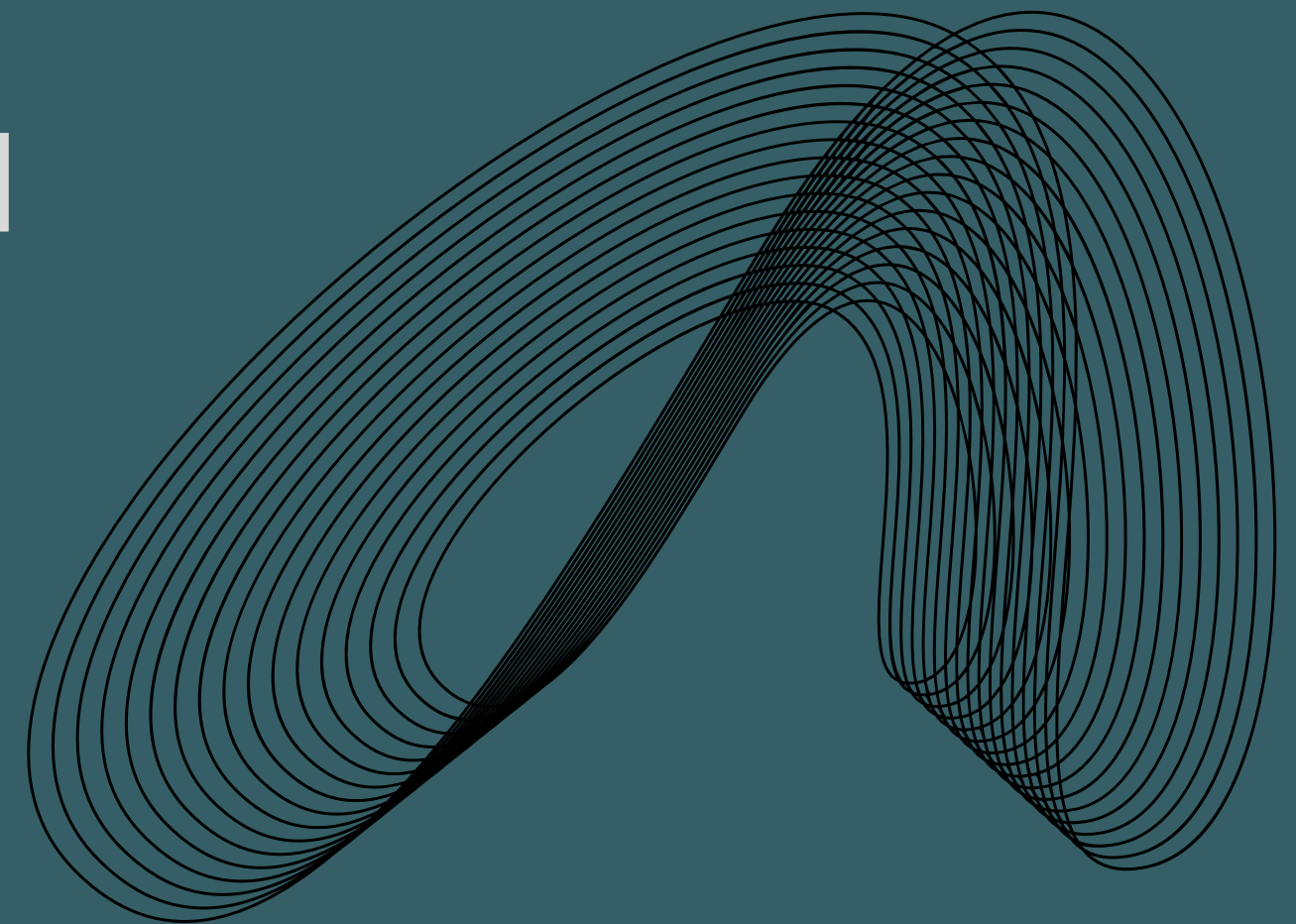
The total sales are automatically calculated for every purchase made online or in-store. POS will help the admin easily monitor whether their sales are increasing or not via the graph from the dashboard that displays the daily, weekly, monthly, and yearly sales of Mang Macs.



Objective no. 2

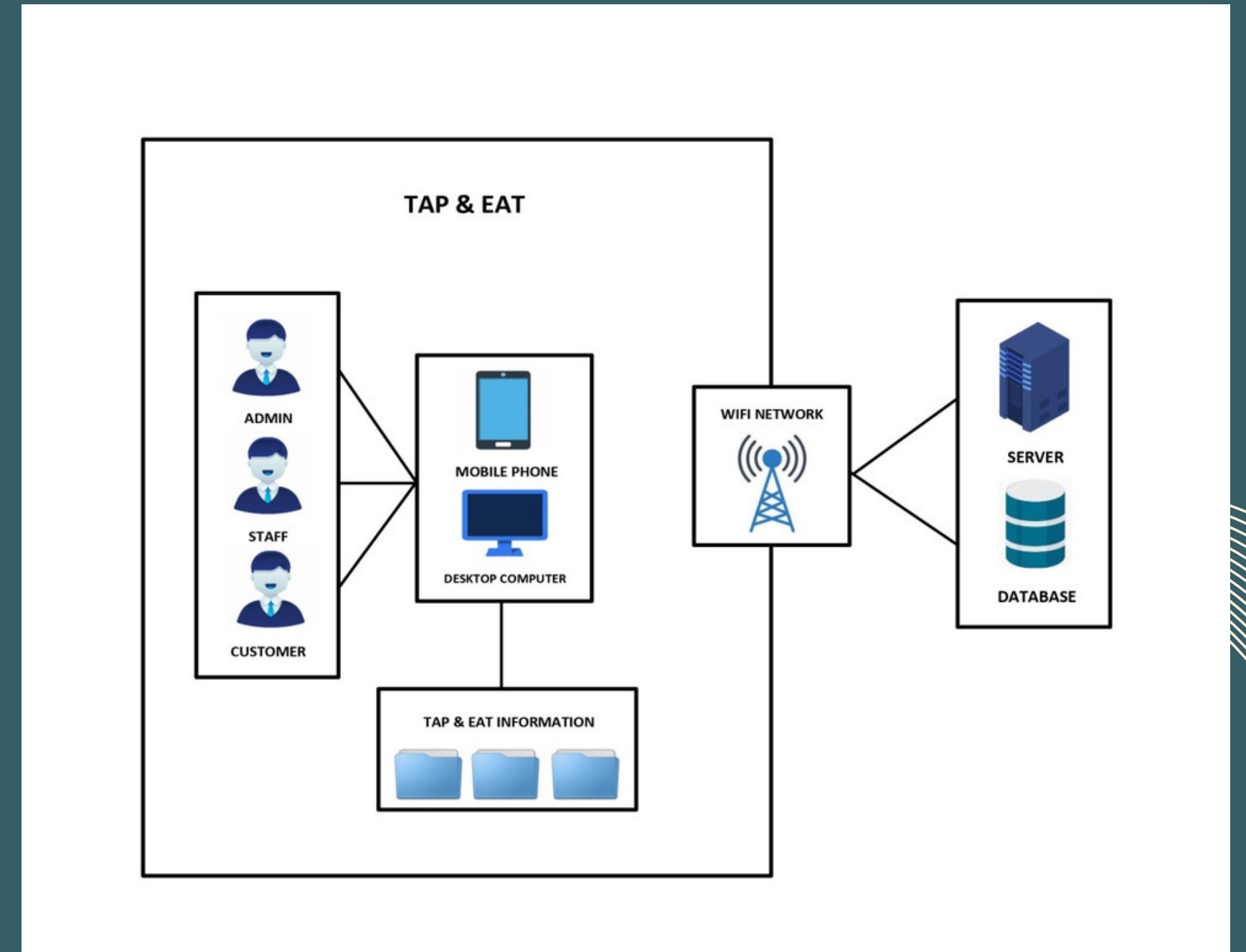
2. Identify the framework to be used in the development:

- a. Architectural framework;
- b. Content and features; and
- c. Users of the system



A. Architectural Framework

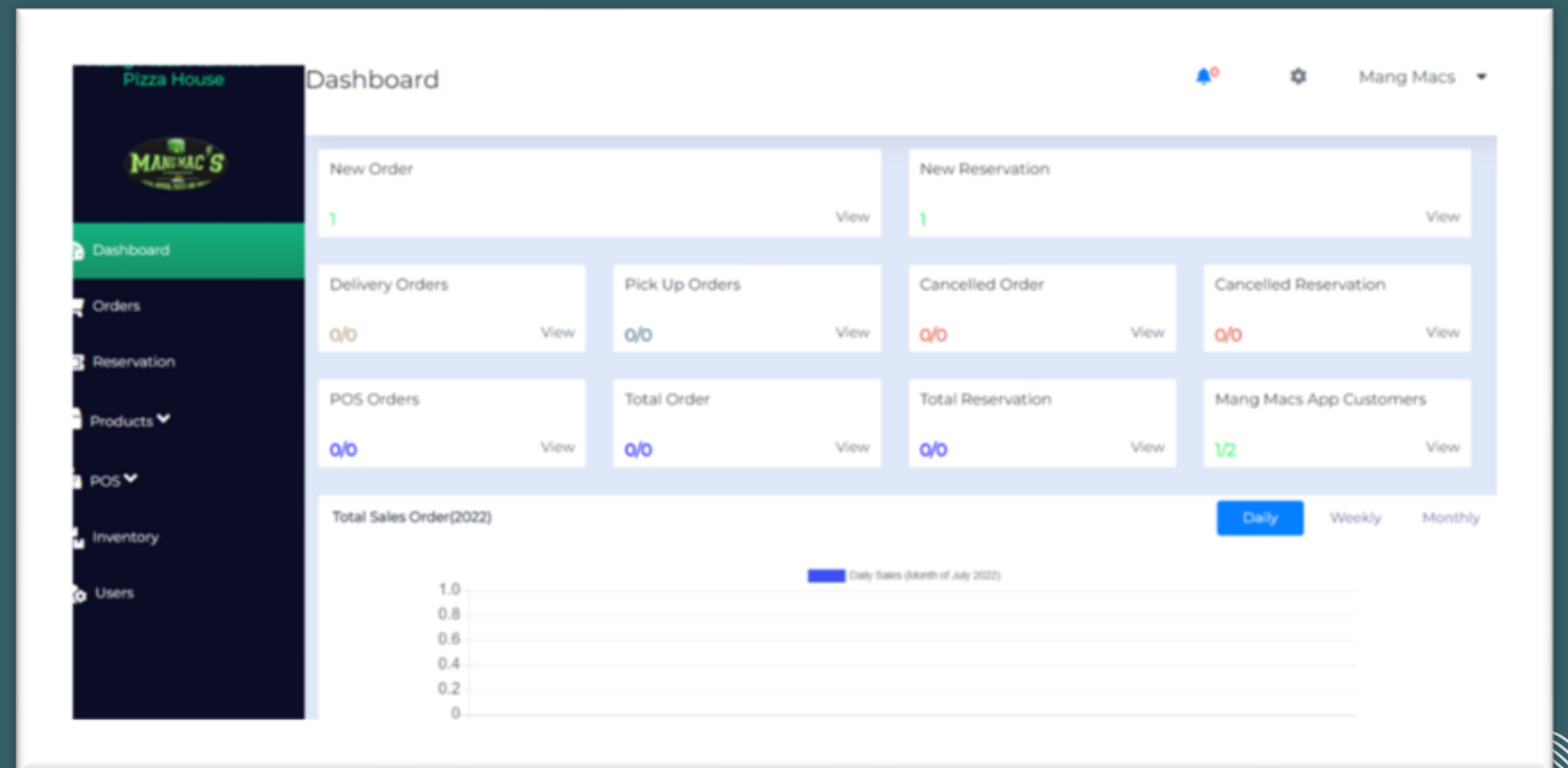
Figure 8 shows the framework of the proposed system. The admin and user will use their mobile phones or desktop computers to connect to a wireless network to retrieve TapAndEat information saved from a server and a database.



b. Content and features

DASHBOARD

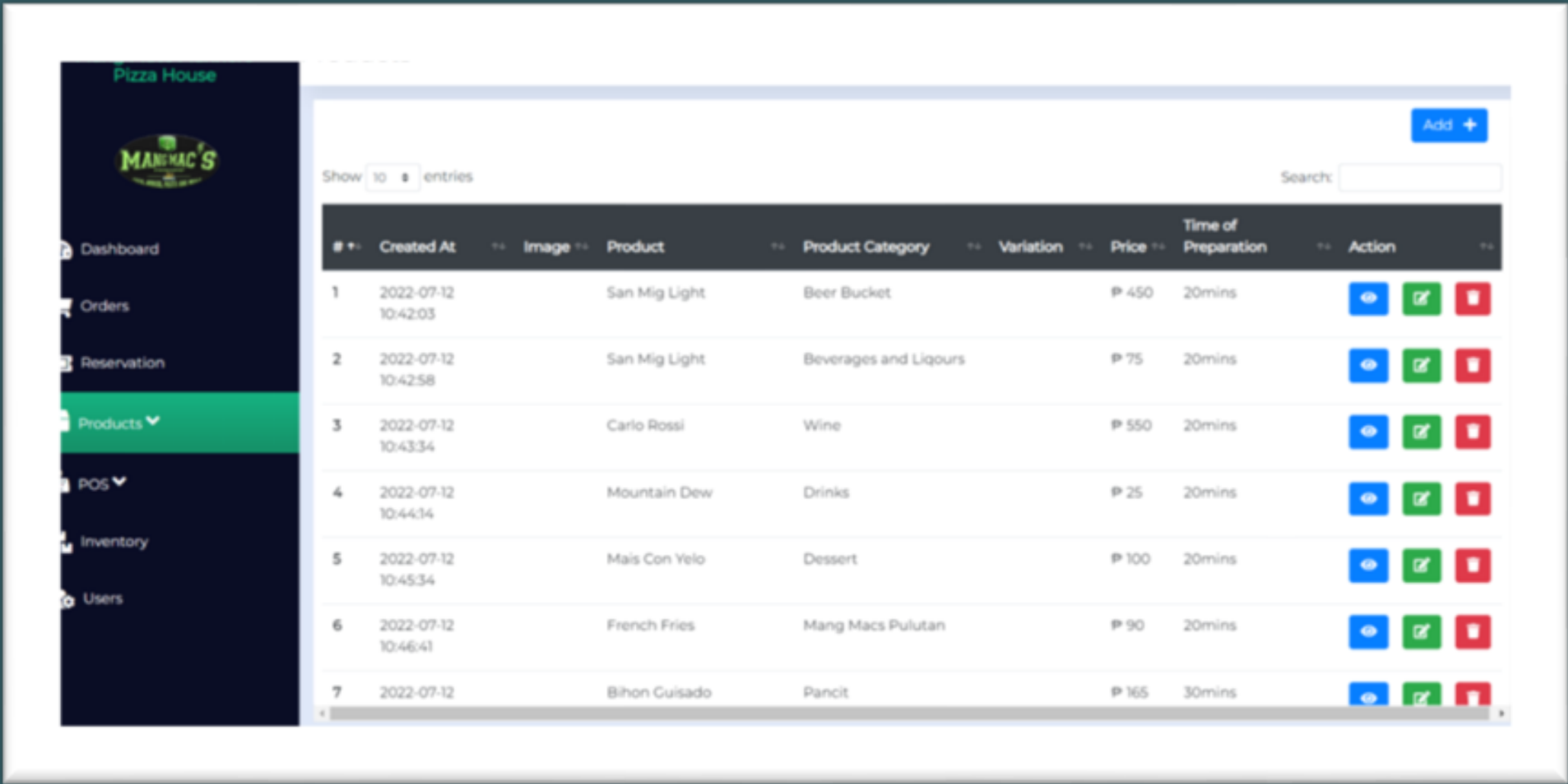
The admin can monitor the daily, weekly, monthly, and yearly sales through the result of displayed chart. The total number of sales, reservations, deliveries, and stock levels are also shown.



b. Content and features

PRODUCTS

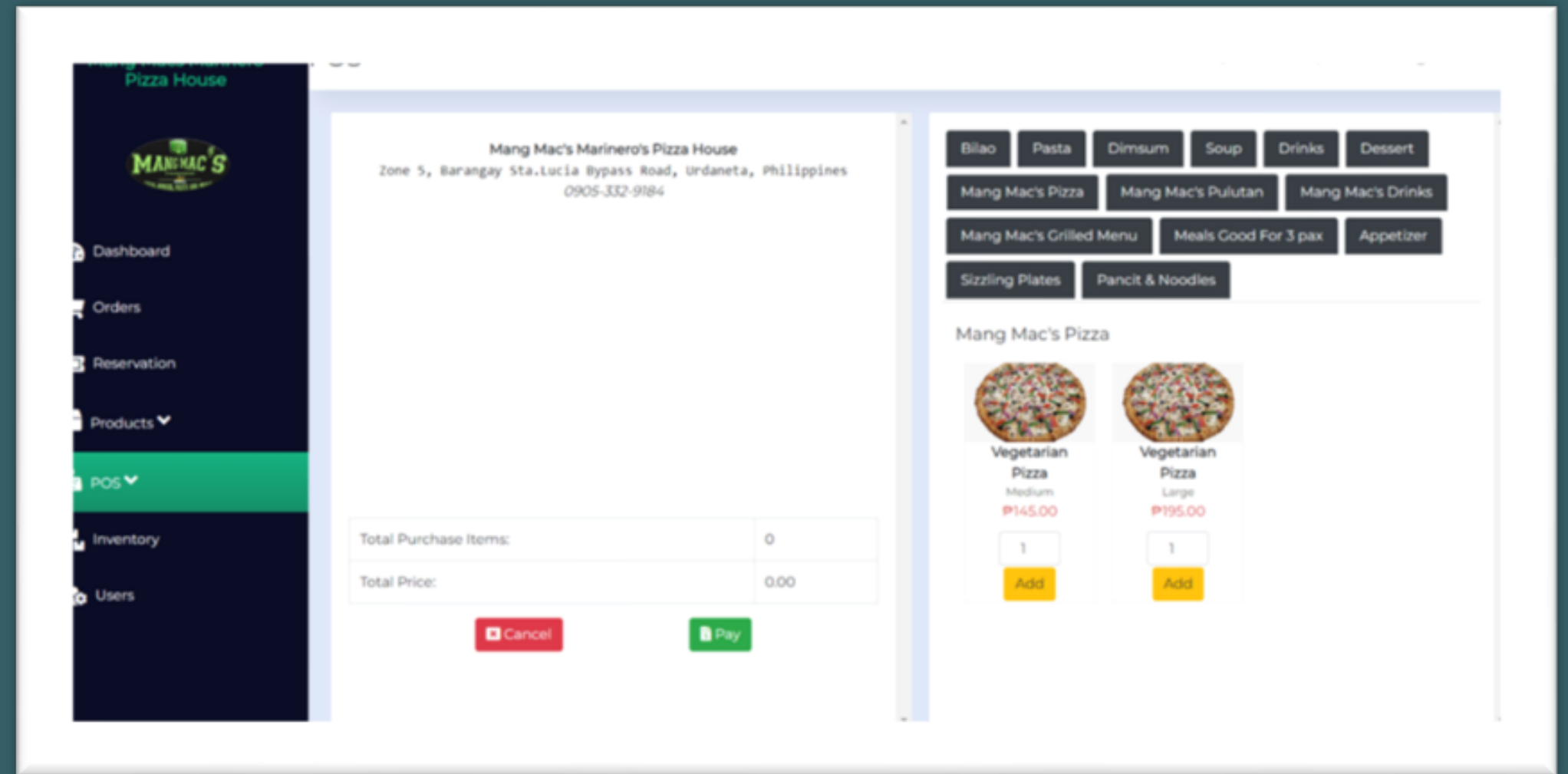
The admin can add a new product directly to the point of sale menu and food ordering system. The product details displayed on this page are; image, product name, product category, variation, price, and status. The admin can also delete and edit the product.



b. Content and features

POINT OF SALE

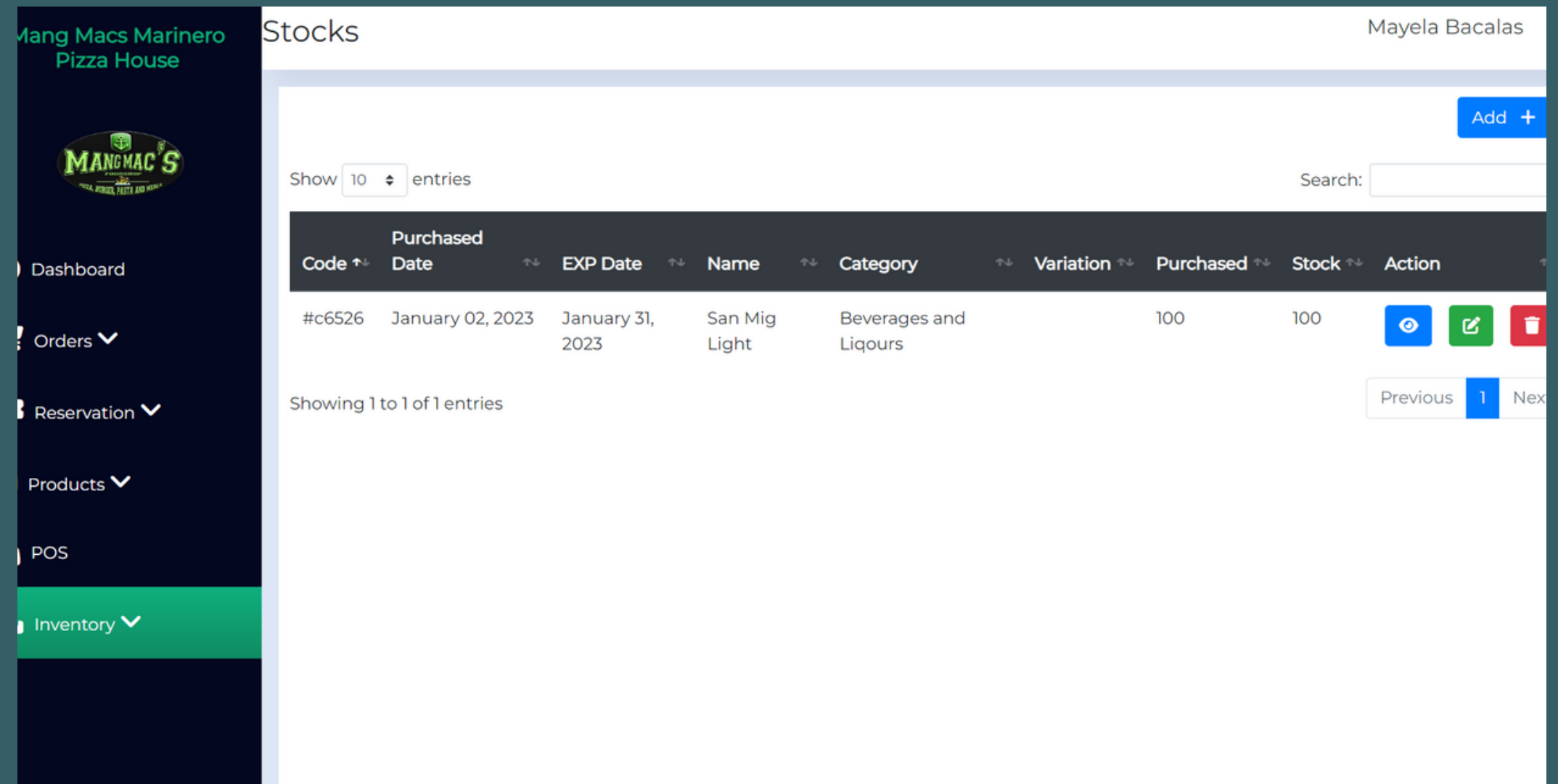
The system allows both the admin and the staff to control this page. They can punch customer orders and select a discount for them depending on the ID they show, whether it's a senior citizen or person with a disability. Product details are also displayed here: product category, product name and image, product quantity, and price.



b. Content and features

Inventory




The admin can monitor what supply comes in, its expiration date, and the quantity of the item. The staff can also control the stocks since one of their tasks is to store and reduce items. In addition, there will be a notification when the stocks are about to expire or run out. Stock details are also displayed here: product expiration, product name, quantity purchased, quantity in stock, quantity sold, product status, and staff in charge.



Mang Macs Marinero Pizza House

Stocks Mayela Bacalas

Show 10 entries Search:

Code	Purchased Date	EXP Date	Name	Category	Variation	Purchased	Stock	Action
#c6526	January 02, 2023	January 31, 2023	San Mig Light	Beverages and Liquors		100	100	  

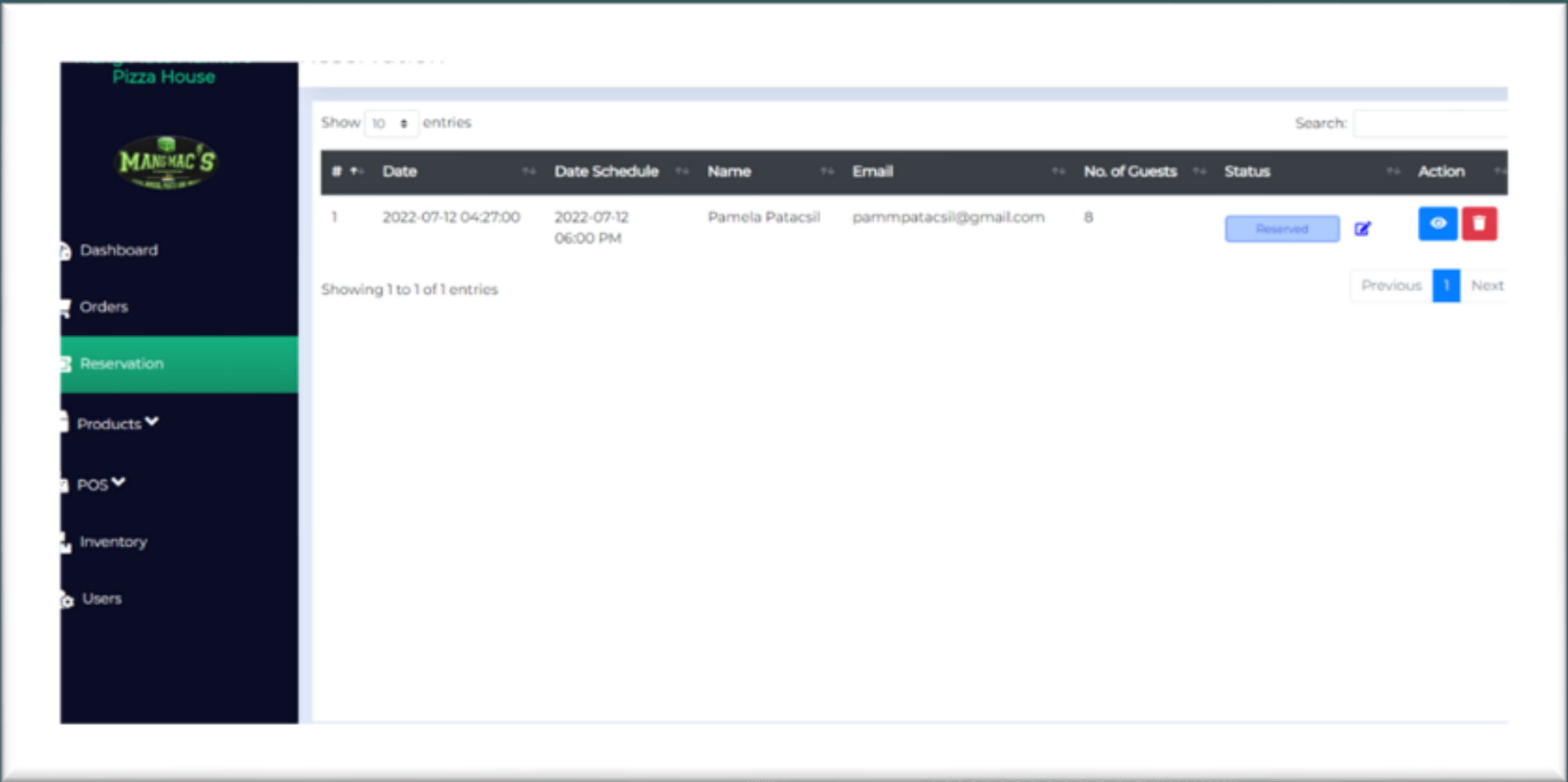
Showing 1 to 1 of 1 entries

Previous 1 Next

b. Content and features

RESERVATION

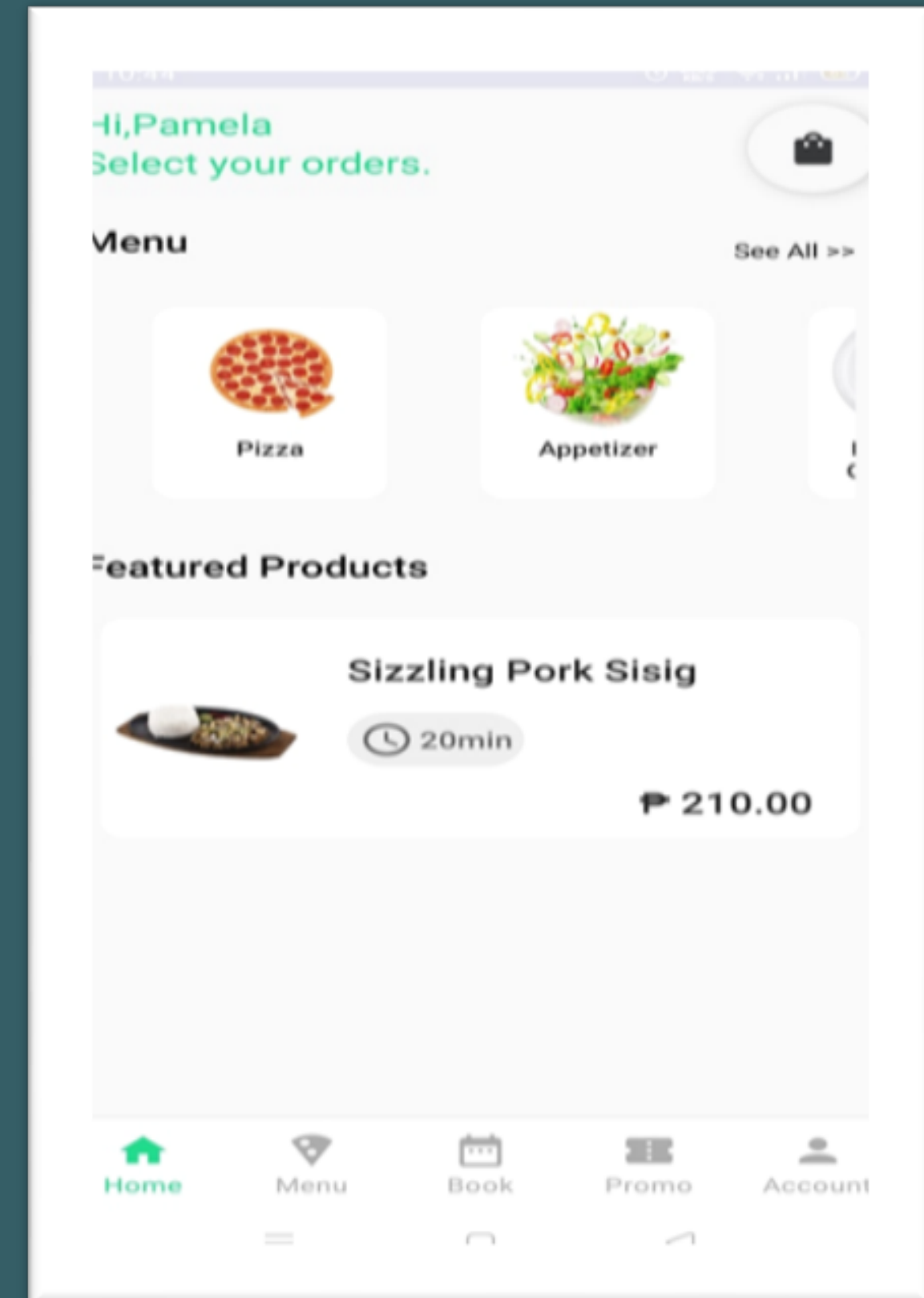
The admin and staff can monitor and accept reservation from customers that are booking online. Booking information are displayed here: date today, date schedule, name, email, number of guest, status, and action.



b. Content and features

HOME

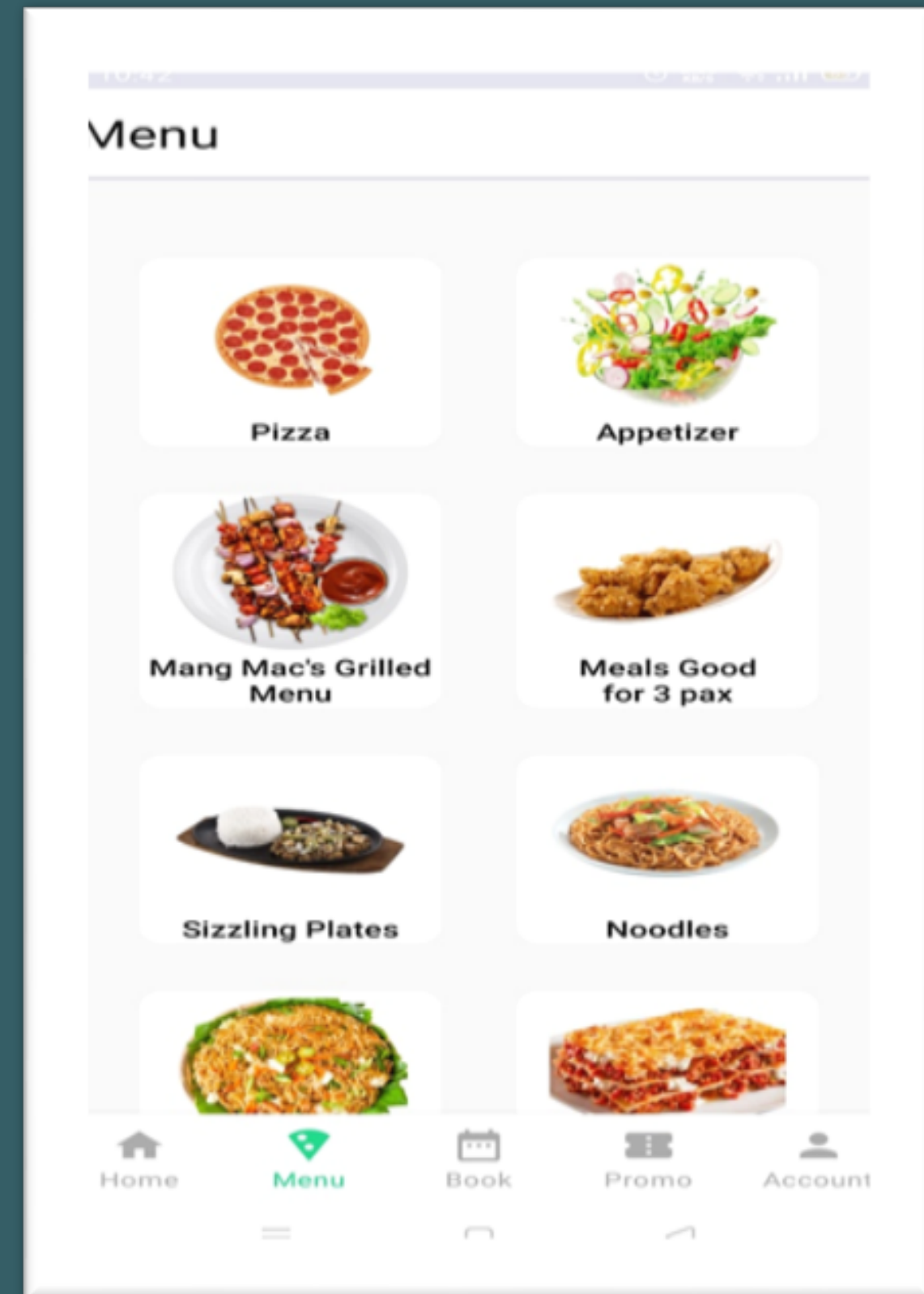
The system allows the customers to scroll and choose from the menu and popular dishes of Mang Macs. Aside from the home page, there are also navigations beside it, and these are; menu, book, and account.



b. Content and features

MENU

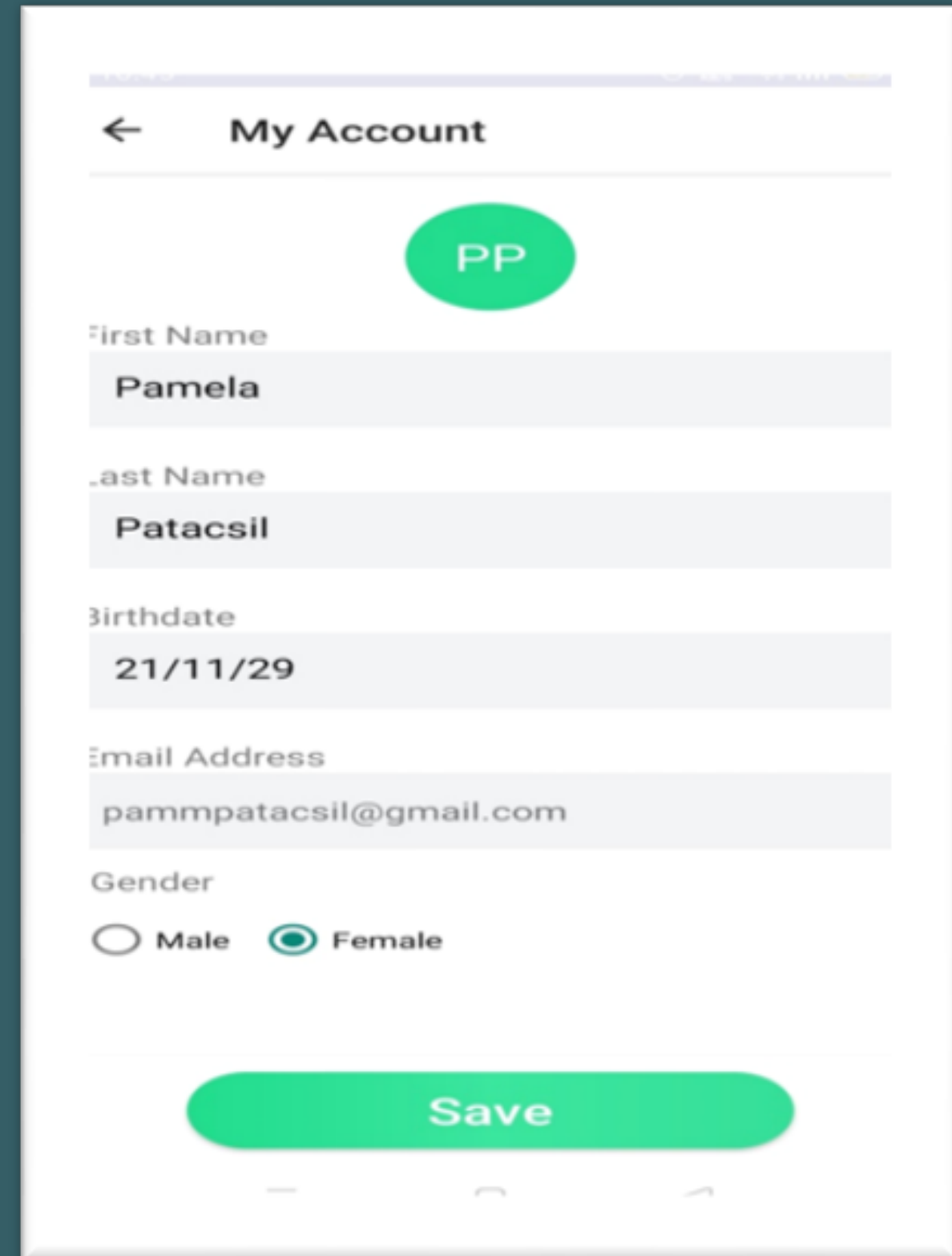
This page is where the customer selects the meal they want to order as well as the food quantity and a message box to customize their order.



b. Content and features

MY ACCOUNT

This page is where the customer input the necessary information to complete their profile. And to save and secure their data upon visiting the system application to place an order and make a reservation.



← My Account

PP

First Name
Pamela

Last Name
Patacsil

Birthdate
21/11/29

Email Address
pammpatacsil@gmail.com

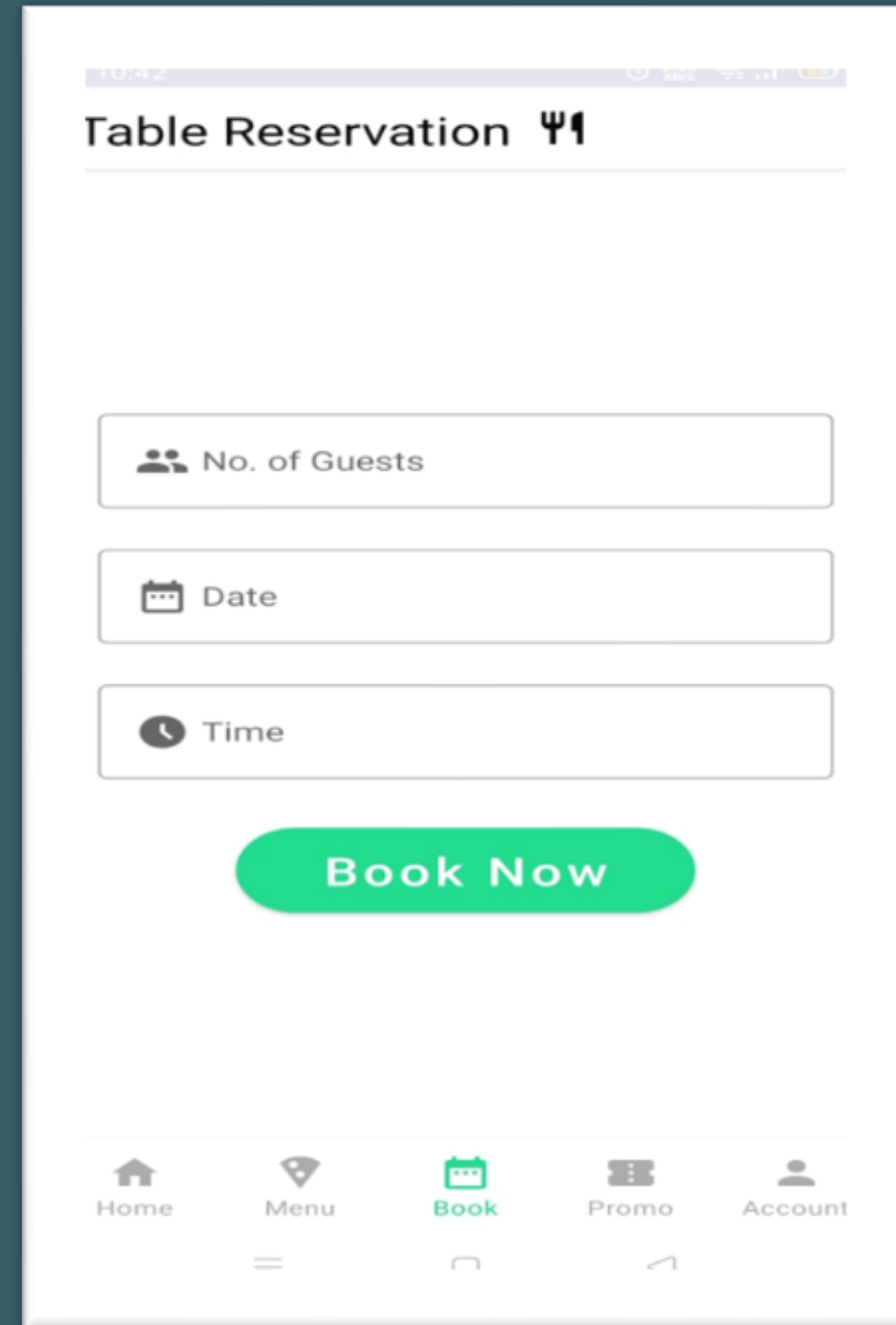
Gender
☐ Male ☒ Female

Save

b. Content and features

MY BOOKINGS

This page stores the booking history of a customer. It also allows them to review the details of their current reservation.



The image shows a mobile application interface for making a table reservation. At the top, there is a status bar with the time 10:42 and battery level 93%. Below this, the title "Table Reservation" is displayed with a fork and knife icon. The main form consists of three input fields: "No. of Guests" with a people icon, "Date" with a calendar icon, and "Time" with a clock icon. A prominent green "Book Now" button is located below these fields. At the bottom, there is a navigation bar with five icons: Home, Menu, Book (highlighted in green), Promo, and Account.

10:42 93%
Table Reservation 🍴

No. of Guests

Date

Time

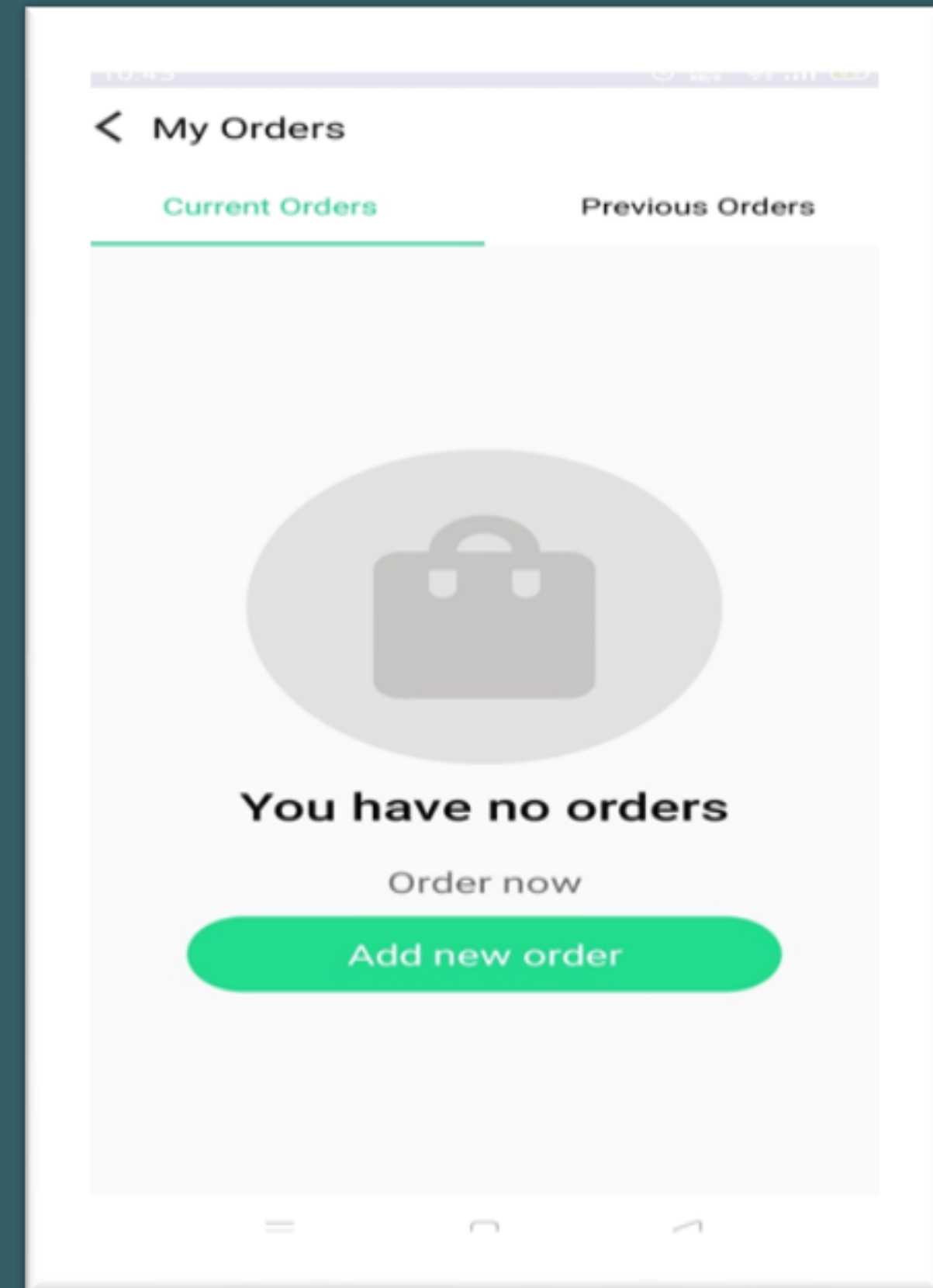
Book Now

Home Menu Book Promo Account

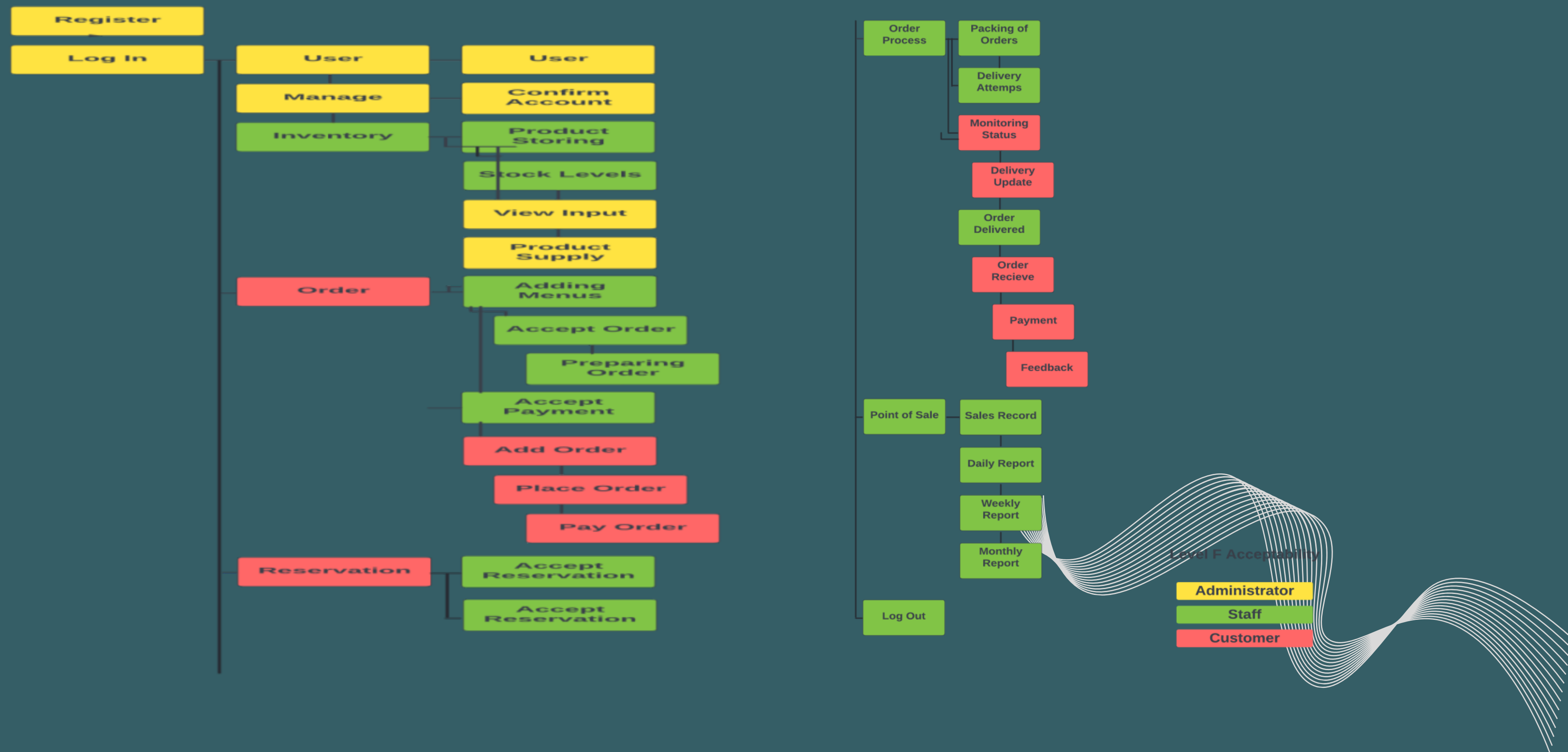
b. Content and features

MY ORDERS

This page stores the order history of a customer. It also allows them to review the details of their current orders.



C. USERS OF THE PROPOSED SYSTEM



Objective no. 3

3. To measure the level of user acceptability of the developed/proposed system/application

Table 13. *System Evaluation Summary*

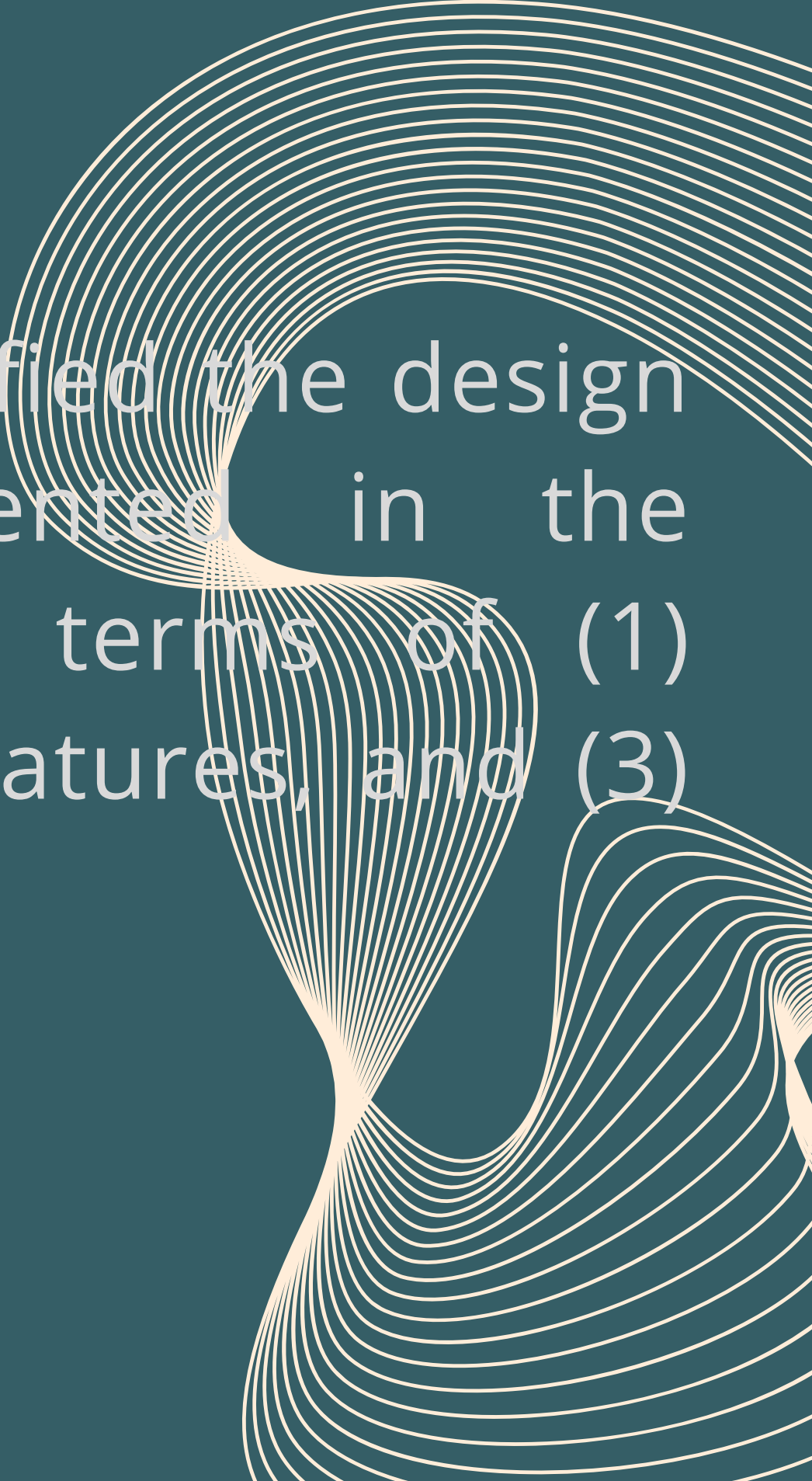
NON-FUNCTIONAL REQUIREMENT	WM	DE
1. Usability	4.7	HA
2. Reliability	4.62	HA
3. Security	4.77	HA
4. Performance	4.55	HA
5. Maintainability	4.7	HA
Weighted Mean	4.67	HA

General conclusions

The following conclusions are based on the findings of the research and are hereby formulated: Managing a restaurant business can be complicated due to other factors. Mang Macs Food Shop has been dealing a lot of problems lately. In order to lessen the difficulties the restaurateurs might encounter, the researchers found that in terms of (1) Managing staff, to standardize the service performance of Mang Macs's team, the system manages the staff's personal details. It allows them to log in and store data and eliminates times and manpower involvement thereby improving productivity and performance. In terms of (2) Ordering food and reservation, Mang Macs's staff are having trouble accepting multiple orders and reservations manually from customers through online. For this factor to be solved, the system allows the customers to create an account they will use to order quickly and book a reservation online. They can also pay online through gcash or cash on delivery. Regarding (3) Inventories, monitoring stocks is one of the restaurateurs' main problems. Mang Macs' team manually takes down the details of each supply, including the product expiration, quantity, and others, which leads to miscalculated supplies and shortages. To easily monitor inventory, TapAndEat allows the staff to input the product details, including the product name, expiration date, quantity, and purchased date. The system will also notify the team if there will be an expiring product within three days or if there is a running out of supplies. Lastly (4) Point of Sale, POS is the most important that a restaurant must have. Staff is taking orders, and manually computing customers' total purchases can slow their job; it can also lead to human errors and wrong calculation of sales. For it to be done correctly, the system allows the staff to automatically compute the total purchase of the customer by adding their orders; they can also delete and edit the quantity. In addition, every customer's purchase will directly add to daily sales, which makes the admin can easily monitor if the sales are increasing.

General Conclusions

To design a system, the researchers identified the design consideration that should be implemented in the development of the proposed study in terms of (1) architectural framework, (2) content and features, and (3) users of the system.



General Conclusions

To measure the level of user's acceptability of the proposed study, the researchers conducted an acceptability test. For the admin, staff, and customer acceptability, the system was tested on the following non-functional requirements. Security got the highest weighted mean which is 4.77 (highly acceptable), while Performance got 4.55 for the lowest weighted mean among the five statements of non-functional requirement. Moreover, the overall weighted mean of non-functional requirements is 4.67, which is highly acceptable.

General Conclusions

TapAndEat system is highly beneficial to the staff and the Mang Macs Food Shop customers. This platform offers the best online ordering and reservation system, inventory, and POS that the restaurant can easily manage. And to standardize the service performance of the staff. Throughout the study, the researchers learned how to quickly provide their client with the best way to deal with the everyday problems the restaurant might encounter with accurate and reliable information about the system.

Recommendations

Based on the findings and conclusions drawn, the following recommendations are hereby offered:

1. The system, including its database, should be well maintained and kept updated to improve the service performance of Mang Macs, and keep their customer satisfied by adding featured products and new promos to the mobile application of the system.
2. The system can take improvements in terms of payment options whereby credit card processing could be added and it must have gcash payment method to give customers more flexibility when making payments.
3. The admin(s) and staff should continue to manage the product inventory consistently designed to meet the customer's needs and increase profitability.

Acknowledgement

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Above all, to the Great Almighty, the author of knowledge and wisdom, for giving them guidance, faith, and his countless love.

Interview with client





THANK YOU!