Touchscreen-based Smart Table

Wadha Almutairi and Noura Mushi

Supervisor: Reem Assiri

Introduction & Background :

The restaurant industry has been adopting digital solutions to enhance the customer experience, particularly in the order and payment process. Traditional manual methods, such as pen and paper or handheld devices, can be prone to errors and inefficiencies.

Smart table technology, which utilizes digital devices, offers a more convenient, efficient, and personalized dining experience, while also providing benefits for restaurant owners, such as increased efficiency and data collection on customer behavior and preferences. Overall, the adoption of smart table technology represents a significant shift in the way people dine out.

Aims and Objectives:

1. Aims:
The primary aim of the project is to enhance the quality of customer service in restaurants while making the process more efficient, ensuring customer satisfaction.

2. Objectives:
The objectives for the customer-focused "Smart Table" application are as follows:
- Displaying the application on a screen for customers to use
- Integrating the Smart Table application with the staff application to streamline the ordering process
- Enabling customers to make online payments and review the quality of service
- Implementing an IR sensor to detect customer movements

The objectives for the staff-focused application are as follows:
- Integrating the chief interface with the waiter interface to list orders that are ready to serve
- Allowing the admin to create accounts for staff (chief, waiter) and edit or delete their information
- Enabling the admin to insert more tables and assign them to waiters.
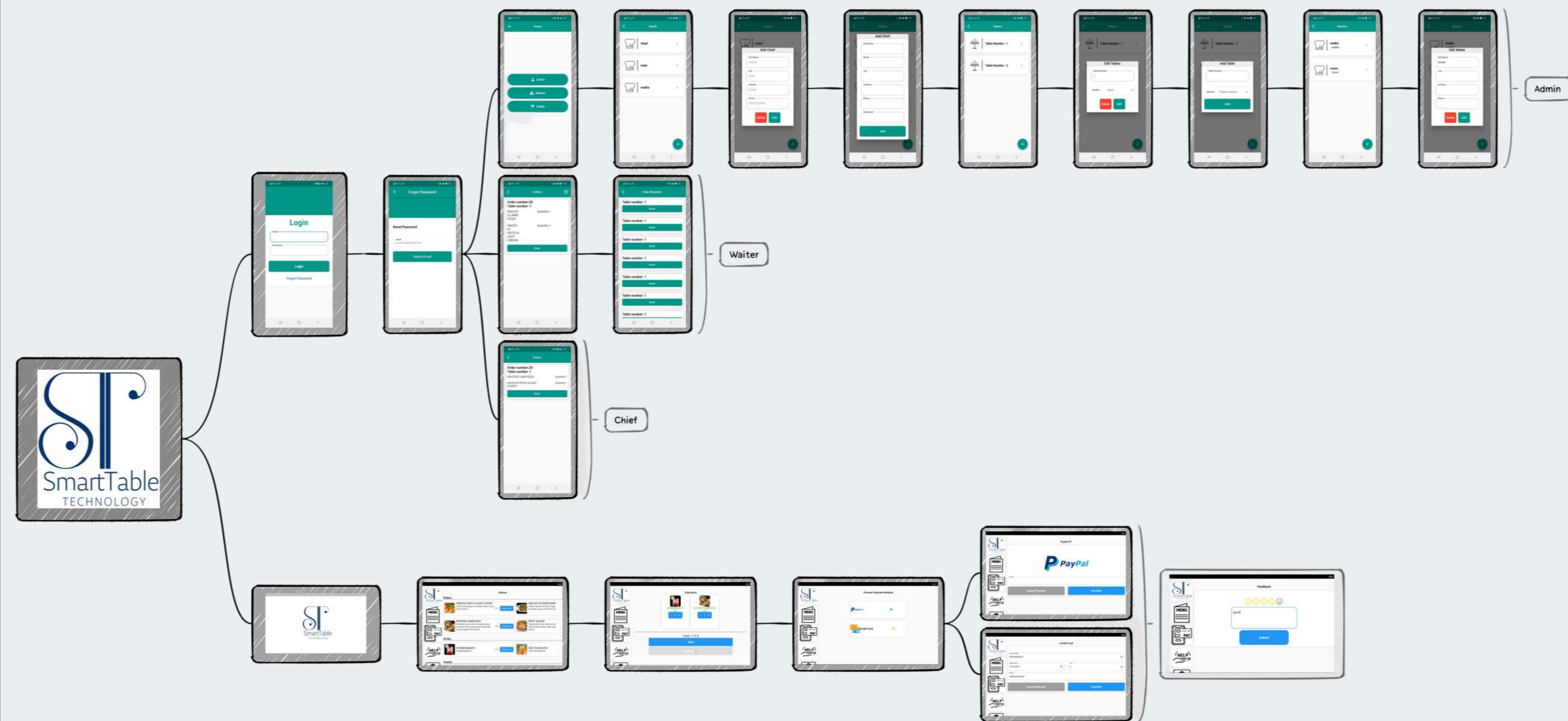
Method / Approach:
In this project, agile methodology will be used because it is flexible, the risk is lower and the ability to change and adapt easily in its steps, there are six phases to follow as shown in Figure 1.
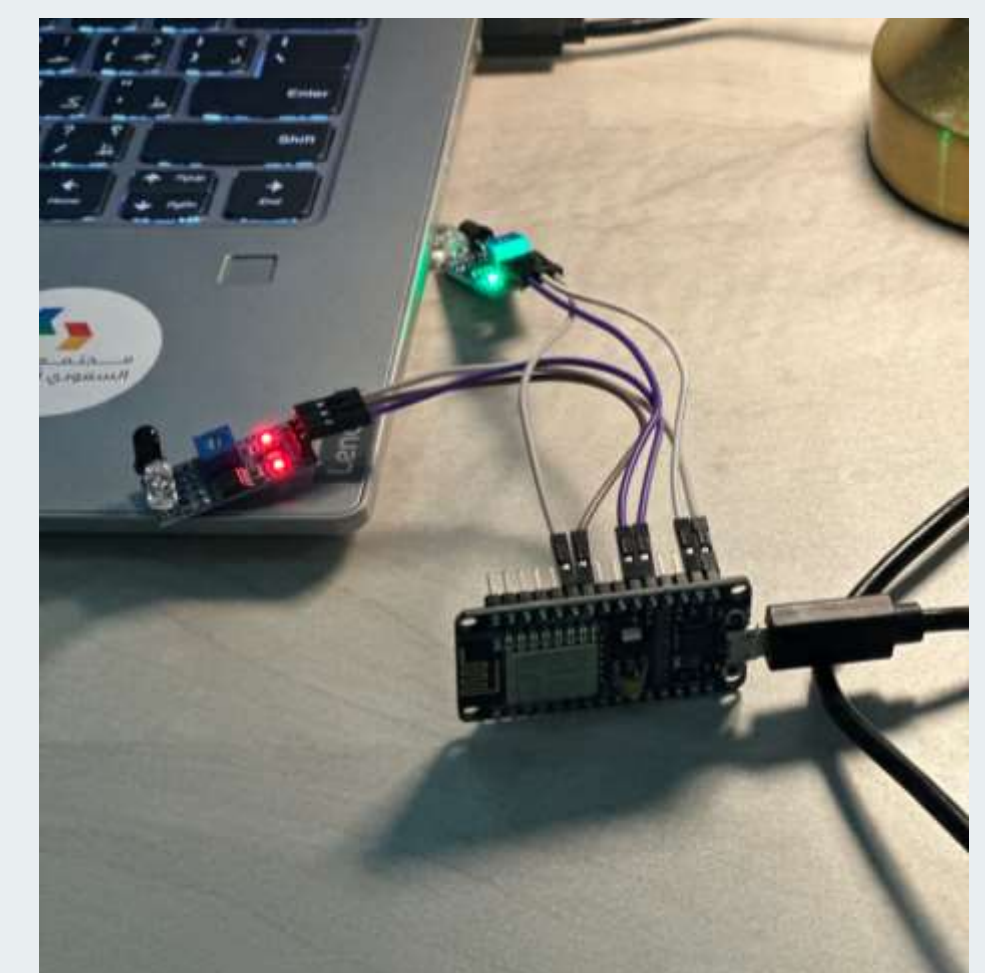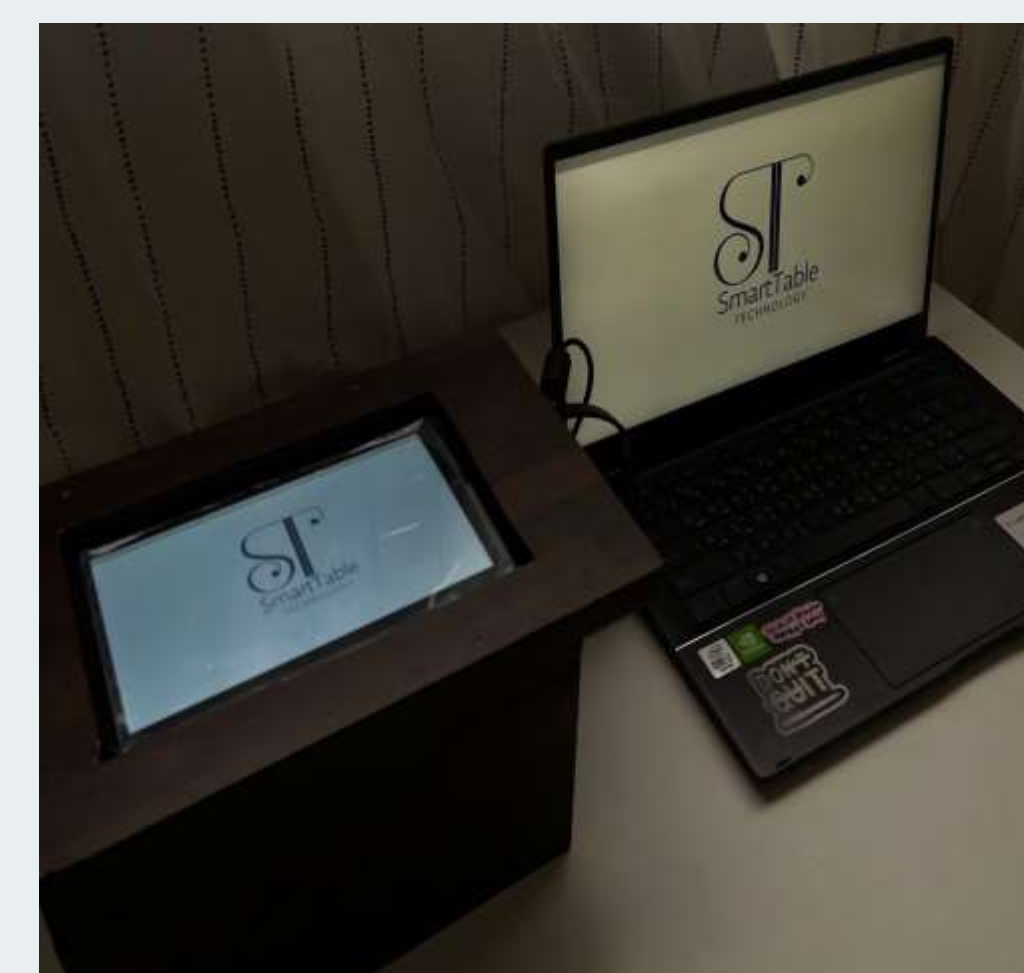

Figure 1: Methodology (1)

Results

Interfaces for each Application :

Hardware for Smart Table:

Toles:

Conclusion and future work:

The Smart Table project aims to improve its functionality and usability for customers by introducing several new features. These include enabling payment through Apple Pay, developing a wireless operating system with wireless charging capabilities, streamlining the payment process by generating electronic invoices, supporting Arabic language input and output, introducing a login system, and including entertainment interfaces such as games on the customer app. These features are intended to enhance the overall customer experience, improve efficiency, and increase revenue for restaurants using Smart Tables.

These developments aim to enhance the functionality of our Smart Tables and improve the overall customer experience, ensuring that we stay at the forefront of technological innovation. Smart tables in restaurants improve efficiency, customer experience, and revenue. They streamline operations, provide personalized service, and gather valuable data for business optimization.

References:

[1] V. Swaminathan, V. Veerachamy and A. Kumar, 2022. "What is Agile Methodology? Agile Software Development," [online] Zuci Systems. Available at: https://www.zucisystems.com/software-development/agile-methodology/ [Accessed 27 May 2023].

Acknowledgements: