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I confirm that I understand my coursework needs to be submitted online via Google Classroom under the relevant module page before the deadline for my assignment to be accepted and marked. I am fully aware that late submissions will be treated as non-submission and a mark of zero will be awarded.

Abstract

This section of the report introduces the project by explaining the challenges that restaurants face; the goal of this project is to provide a system that reduces the problems faced by the restaurants and leads to an increase in the profitability. To achieve the goal, the nature of the restaurant management system was studied, features were compared to other current systems, client requirements were specified, and questionnaires were designed to analyze end-user behaviors, attitudes, and opinions. This report also presents the depth of knowledge in this field, evaluation on the work that has been carried out so far as well as explains the plan on carrying out the further works, goals and milestones that are to be fulfilled.

Acknowledgements

I would like to express my sincere thanks to the supervisors, Mr. Mukesh Regmi and Mr. Bijay Luitel for their valuable feedback and continuous support throughout the preparation of the whole interim report. I would like to thank London Metropolitan University and Islington College for providing opportunities for this project. Moreover, I would like to express thanks to all the lecturers and tutors who made this project possible which helped lessen the gap between my theoretical and practical knowledge. To conclude, I am extremely obliged to grasp this opportunity to sincerely acknowledge all the staff and departments of Islington College for providing a stable learning environment immediately after the harsh pandemic caused by the outbreak of the coronavirus.

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1. Introduction

This part of the report introduces the project by defining the problems encountered by restaurants, and the aims and objectives to introduce a well-functioning system that will be able to solve the difficulties or minimize them and help maximize the profits. It will give a general idea on what the current scenario is, the problems in the field, and how the project will be designed to help reduce or resolve those problems. A web application and a mobile application will be created that will decrease the order time and manage the inventory.

A restaurant management system is a multi-faceted software that helps streamline your restaurant's operations and provides automation so that you can worry about what matters most — preparing great food. All types of food businesses ranging from restaurants, bakeries, bars, cafes, bistros, food trucks or delivery businesses are immensely helped by a restaurant management system. (LimeTray, 2019)

The purpose of developing this system is to minimize the order-taking time and incorporate the restaurants into the ever-expanding sector of information technology such that its users need to spend as little amount of time as order-taking and waiting time. The system will maintain the capability to notify the kitchen staff once the orders are placed.

a. Problem statement

When I interviewed with the client, went to a few restaurants, and researched the difficulties they were having, as well as completing a small survey, I discovered several problems that most restaurant businesses are having. The following are the most typical issues that may be found in most restaurants.

Expensive Hardware – There are convenient solutions for Point-of-Sale systems that are sold with the unnecessarily overpriced hardware; as a result, for any modern businesses intending to stick to a budget, more complicated programming and equipment arrangements are out of their reach.

Poor customer service – Clients are likely to return to a restaurant based on the service they receive, such as receiving quality customer service, such as delivering the food on time. However, the problem would arise if they were forced to wait for an unreasonable amount of time, resulting in the meal being cold, or if there was a mistake in the order or a request misstep.

Lack of proper management of orders and inventory – Managing orders and inventory is extremely difficult since inventory items are used to their utmost capacity daily, and the quantity of orders is large. In most restaurants, inventory management is handled by waiters, cashiers, or even the owners themselves. A simple system, on the other hand, could assist manage these tasks more efficiently while freeing up staff for other important tasks.

Confusion and errors – Because most restaurants' order-taking procedures are paper-based, errors due to handwriting are more likely to occur, as does a lack of communication.

Difficult Decision Making – Decision making is difficult as reports cannot be generated and there is limited statistical output in paper-based order taking.

b. Project as a solution

After identifying the issues, thought processes were done in order to determine how the project might minimize or eliminate the issues. The following are some of the solutions that RMS could provide to a restaurant.

Menu modification is simple – Using the RMS system a restaurant can quickly create an attractive and easily updatable menu with food category classification.

Swift Order Management — By facilitating direct communication between the kitchen staff and the customer, the order-taking process becomes smoother, less prone to errors, and more efficient.

Inventory Item Management — A well-managed inventory system with easy tracking of inventory items can be achieved by keeping accurate records of inventory items data.

Decision-Making and Marketing — The critical reports created by the systems, as well as well-managed inventory, can assist restaurant owners in making effective decisions and marketing policies.

Lessens labor costs and other expenses — Because the system is user-friendly, only a little amount of labor is necessary to operate it, and because inventory management is automated, labor costs can be reduced by only employing a small number of people in the restaurant.

Reports and analytics – The RMS may provide critical reports and analytics that will ensure the restaurant's flawless operation.

Helps reduce human errors — The system effectively minimizes miscommunication between the customer, waiter/server, and kitchen staff, allowing the owners to focus on more vital issues rather than trusting, supervising, and motivating the staff.

c. Aims and Objectives

The main aim of this project as well as the objectives of it are as follows.

I. The State Aim

The overall goal of this project is to increase a restaurant's profitability while also ensuring productivity and efficiency of work by developing a system that will assist the restaurant in managing inventory and order-taking, allowing the restaurant to provide high-quality service to its customers.

II. Objectives

The specific objectives that will be met in order to achieve/satisfy the project's state goal are as follows:

- To design a food menu that is easily adjustable and updatable.
- To offer customers with a mobile platform that serves as a menu.
- Enabling direct communication between the kitchen and the consumer that will enhance ineffective communication and reduce order taking response time.
- Develop analytics and data to aid in decision-making.

d. Deliverables

- Functioning web application and mobile application
- Literature Review
- List of functional and non-functional requirements
- Mock Screens

e. Structure of the report

This part of the report describes how the report is going to be presented.

Introduction - In the first part of the report i.e., Introduction, the subject of the report is introduced and the objectives behind this report are briefly discussed. This section also contains the description of current existing problems and how the project can work as a solution.

Background - The background section of the report reflects the understanding behind the subject of study. case studies of different existing systems, the requirements of the system being identified through clients, research and survey.

Works to Date

In this section of the report, the works that have been completed so far in accordance with the Gantt chart is shown. Considered Methodology, Modelling Diagrams, Technical Design Document and Risks' assessments is done.

Further Work

In this section of the report, the plans on how the further work is going to be done is presented. The yet-to achieve tasks and milestones have been mentioned as well.

2. Background/ Literature Review

This section of the report will contain the client's description and requirements, similar systems case studies, comparison of features. This section will provide a general idea of the writer's knowledge and depth of study of this field.

a. Client's Description and Requirements

Client's Name – "Eternity Grill"

Client's Description – The client for the project is "Eternity Grill". Located at Pepsicola of Kathmandu, Eternity Grill offers a wide array of fresh food. At eternity, eight staffs are managers, waiters, and cashiers excluding the sole owner of the restaurant Ms. Sakrita Bariya. Daily, Eternity Grill receives eighty orders including takeaways and deliveries. And, over six months, eternity received five complaints due to the poor behavior of the waiters. Eternity is looking for a system that could at least moderate the inventory and help them manage their huge number of orders.

Functional Requirements

1. The menu will have different food categories i.e., starters, main course, beverages etc.
2. Each food category has different food items with different prices.
3. The administrator should be able to manage menu items, staffs, orders and inventory.
4. The inventory staff should be able to manage inventory.
5. The waiter should be able to add, update and delete items in orders for each table.
6. The customer should be able to add, update, and delete orders for their table.
7. The system should send notifications to the kitchen staff and the cashier once an order is placed.

Non-Functional Requirements

- The system should make the order-taking process more efficient.
- To reduce errors in order taking and increase reliability & response time between the system and the staff.
- The system should make order taking easier by replacing pen and paper with a user-friendly system.
- The system should be user-friendly for staff members to be able to operate it smoothly, making their job easier and potentially affecting customer satisfaction.
- The system should respond quickly to avoid chaos order in the restaurant, such as an overflowing queue caused by delayed order taking.

b. Similar Projects

Project 1: Weblink Nepal's Restaurant Management Software

Weblink Nepal's Restaurant management software includes many features and functions that make running a restaurant business in Nepal more efficient. Weblink Nepal's Restaurant Management software helps to grow the restaurant's profit by complete control over Inventory, Billing, Ordering, Home Delivery, Kitchen Order Tracking etc. (Weblink Nepal, 2021)

The key features of this system are as follows:

- Kitchen order tickets
- Table Creation & Transfers
- Purchase Planning & Purchase Order Management.
- Easy & Fast Billing
- Cashier & home delivery & Many More.

Project 2: Swastik Restaurant ERP

Swastik Restaurant – POS – is a Touch Enabled – desktop-based Restaurant Management Software which is designed to provide restaurants all the features and tools which is required for smooth order, Billing, Operation, Accounting and Management. The Highly customized and User-friendly Software is ideal for any restaurant type including fine dining restaurants, fast food chains, cafes, bars, etc. (Hitech solutions and services pvt. ltd., 2021)

Figure 1: Swastik Restaurant ERP

The key features of this system are as follows:

- Table Management
- Operation Mode
- Menu Management
- Item Modifiers (Composition)
- Point of Sales

- Waiter Order Module (Tablet Version)
- Membership Management
- Kitchen Ticket (Preparation) Printing
- SMS Module

Project 3: Delta Tech's restaurant management system

Delta Tech's restaurant management system is a web-based restaurant point-of-sale (POS) system for the food, beverage and hospitality industry. It is designed to save time and increase your restaurant's revenue by making the process of restaurant management easier. (Delta Tech, 2021)

Key Features:

- Online reservation and ordering
- Employee Management
- Menu Management
- Inventory Control

Features' comparison of existing projects with this project

Features	Project 1: Weblink Nepal's Restaurant Management Software	Project 2: Swastik Restaurant ERP	Project 3: Delta Tech's restaurant management system	This Project
Scan and Order	✗	✗	✗	☑
Push notifications to kitchen	✗	✗	✗	☑
Online Reservation and Ordering	☑	☑	✗	✗
Order notes	✗	✗	✗	☑

Table 1: Features' comparison of existing projects with this project

Conclusion

As the project I am building has unique features like scan and order and push notifications system, this project is different than the current existing projects or systems in the market. Moreover, this system doesn't require a separate POS hardware which is expensive. However, this project doesn't support online reservation and ordering.

Thus, this project is a simple and cost-effective system, and is different than the existing systems.

Questionnaire

A questionnaire is a research instrument consisting of a series of questions for the purpose of gathering information from respondents. Questionnaires can be thought of as a kind of written interview. They can be carried out face to face, by telephone, computer, or post. Questionnaires can be an effective means of measuring the behavior, attitudes, preferences, opinions and, intentions of relatively large numbers of subjects more cheaply and quickly than other methods. (McLeod, 2018)

Thus, a small set of questionnaires was prepared to collect opinions of the end user regarding the features of the system. Findings

3. Works to Date

In this section of the report, the works that have been completed till date have been mentioned. Methodology consideration, modelling diagrams, technical design and the mock screens have been described and presented.

a. Considered Methodologies

There are different methodologies of software development. Three of the methodologies with their advantages and disadvantages have been described below.

Waterfall Method

Waterfall Model is a sequential model that divides software development into pre-defined phases. Each phase must be completed before the next phase can begin with no overlap between the phases. Each phase is designed for performing specific activity during the SDLC phase. It was introduced in 1970 by Winston Royce. (Tutorials Point, 2021)

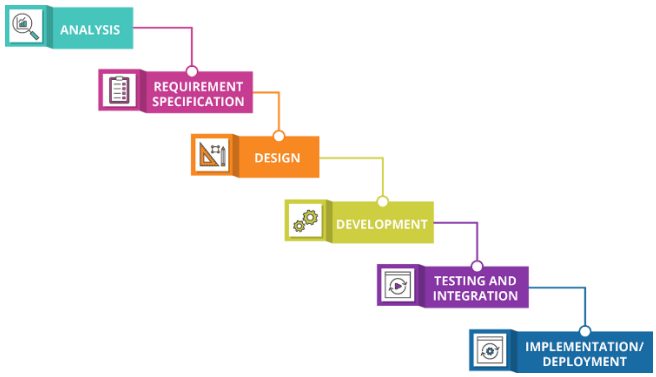


Figure 2: Waterfall Method

Advantages:

- Well-defined phases.
- Clearly defined milestones.
- Easy to organize tasks.

Disadvantages:

- No deliverable software is produced until late during the life cycle.
- High amounts of risk and uncertainty.
- Not a good model for complex and object-oriented projects.
- Poor model for long and ongoing projects.

Lean Methodology

Lean development is born out of the lean manufacturing principles by Toyota. It focuses on minimizing wastage and increasing productivity. With the guiding principles, developers avoid non-productive activities while delivering quality in their tasks. (Nikolaieva, 2021)

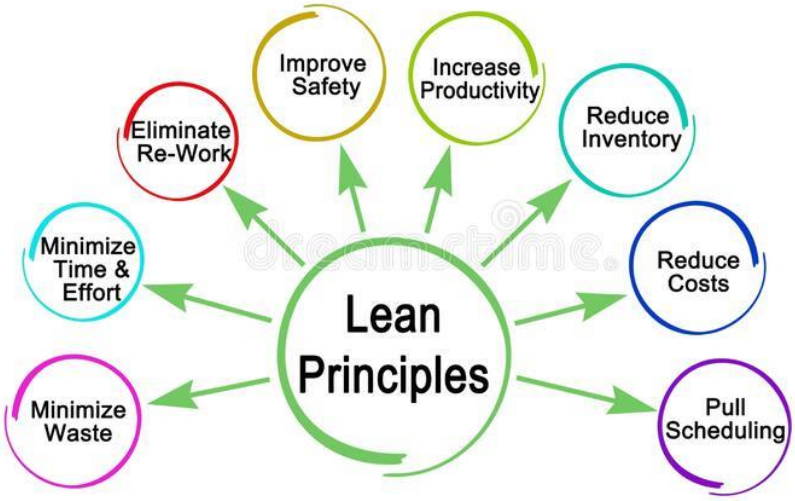


Figure 3: Lean Methodology

Advantages:

- With lean principles, the entire cost of development is minimized.
- Because lean development encourages efficiency, the software's time to market is shortened.
- Increased motivation among team members when more decision-making authority is given to them.

Disadvantages:

- To be effective with lean development, a team of highly skilled developers is required, which isn't easy to come by.
- The obligations can overwhelm less-skilled developers, causing them to lose focus on the project.
- A lot of paperwork is required, which puts a lot of pressure on the business analyst.

Scrum Methodology

Scrum is an agile development methodology used in the development of Software based on an iterative and incremental processes. Scrum is adaptable, fast, flexible and effective agile framework that is designed to deliver value to the customer throughout the development of the project. The primary objective of Scrum is to satisfy the customer's need through an environment of transparency in communication, collective responsibility and continuous progress. (Digite, 2021)

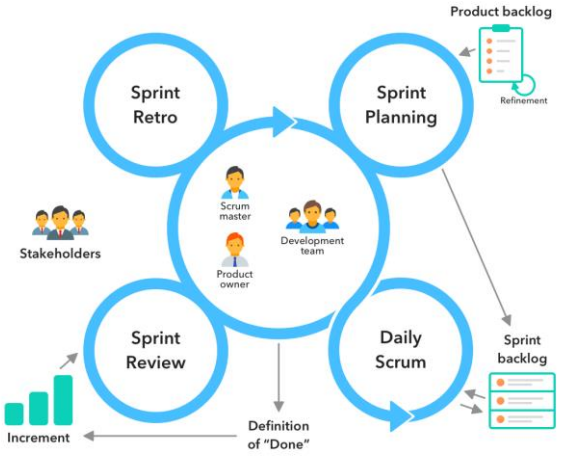


Figure 4: Scrum Methodology

Features:

- Focuses on smaller scale.
- Rapid learning cycles.
- Reduction of risks and timely prediction.
- Faster delivery times.

Selected Methodology

Scrum Methodology

Scrum, a widely practiced methodology focuses on pursuing and fulfilling small objectives of a project which will ultimately help on the fulfillment of the whole project in an efficient manner. Scrum follows agile manifesto and the key principles of it.

In agile methodology, the client is not just involved in the project in the initial process of software development in order to gather the requirements rather the client participates in the software development process continuously by participating, interacting and delivering what they really need.

Why scrum as the methodology for this project?

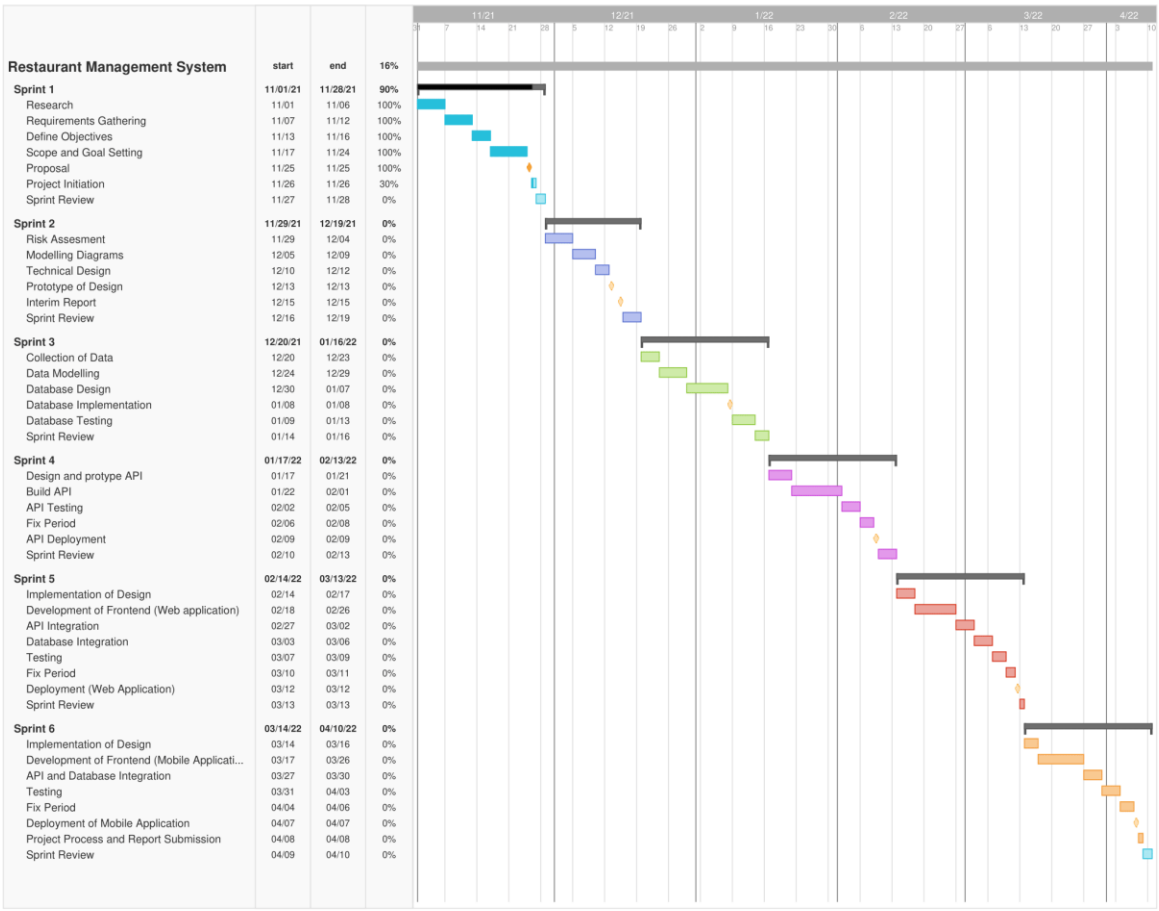
- It is easy to understand as it has less complicated structure.
- It is ideal for a difficult project with changing requirements.
- Deliverable products at shorter durations are gained.
- It is the most practiced modern methodology suitable for every projects.
- Problems and defects are detected quicker.

Following the principles of scrum methodology, the project will be undertaken following the below mentioned scrum phases:

1. **Initiate** – In this phase, the vision of the project and the stakeholders are identified, epics are developed, product backlog is created, and release planning is conducted.
2. **Plan and Estimate** – In this phase task planning and estimation is done. They include creating, approving, estimating and committing user stories, creating sprint backlog.
3. **Implementation** – In this phase, execution of the tasks is done. These activities include creating deliverables, conducting daily standup sessions, and maintaining the Product Backlog at regular intervals.
4. **Review and Retrospect** – In this phase, the work that has been done is reviewed and methods to complete the deliverables are constantly improved.
5. **Release** – In this phase, the outcomes and deliverables are released, and the documentations are prepared.

b. Gantt Chart

A Gantt chart, commonly used in project management, is one of the most popular and useful ways of showing activities (tasks or events) displayed against time. On the left of the chart is a list of the activities and along the top is a suitable time scale. Each activity is represented by a bar; the position and length of the bar reflects the start date, duration and end date of the activity. (Gantt, 2021)



Restaurant Management System	start	end	16%
Sprint 1	**11/01/21**	**11/28/21**	**90%**
Research	11/01	11/06	100%
Requirements Gathering	11/07	11/12	100%
Define Objectives	11/13	11/16	100%
Scope and Goal Setting	11/17	11/24	100%
Proposal	11/25	11/25	100%
Project Initiation	11/26	11/26	30%
Sprint Review	11/27	11/28	0%
Sprint 2	**11/29/21**	**12/19/21**	**0%**
Risk Assesment	11/29	12/04	0%
Modelling Diagrams	12/05	12/09	0%
Technical Design	12/10	12/12	0%
Prototype of Design	12/13	12/13	0%
Interim Report	12/15	12/15	0%
Sprint Review	12/16	12/19	0%
Sprint 3	**12/20/21**	**01/16/22**	**0%**
Collection of Data	12/20	12/23	0%
Data Modelling	12/24	12/29	0%
Database Design	12/30	01/07	0%
Database Implementation	01/08	01/08	0%
Database Testing	01/09	01/13	0%
Sprint Review	01/14	01/16	0%
Sprint 4	**01/17/22**	**02/13/22**	**0%**
Design and protype API	01/17	01/21	0%
Build API	01/22	02/01	0%
API Testing	02/02	02/05	0%
Fix Period	02/06	02/08	0%
API Deployment	02/09	02/09	0%
Sprint Review	02/10	02/13	0%
Sprint 5	**02/14/22**	**03/13/22**	**0%**
Implementation of Design	02/14	02/17	0%
Development of Frontend (Web application)	02/18	02/26	0%
API Integration	02/27	03/02	0%
Database Integration	03/03	03/06	0%
Testing	03/07	03/09	0%
Fix Period	03/10	03/11	0%
Deployment (Web Application)	03/12	03/12	0%
Sprint Review	03/13	03/13	0%
Sprint 6	**03/14/22**	**04/10/22**	**0%**
Implementation of Design	03/14	03/16	0%
Development of Frontend (Mobile Applicati...	03/17	03/26	0%
API and Database Integration	03/27	03/30	0%
Testing	03/31	04/03	0%
Fix Period	04/04	04/06	0%
Deployment of Mobile Application	04/07	04/07	0%
Project Process and Report Submission	04/08	04/08	0%
Sprint Review	04/09	04/10	0%

Figure 5: Project Gantt Chart

The Gantt chart's updated date, duration, percentage of work that has been completed so far have been shown in a tabular form below.

Updated Tasks

Tasks/ Milestones	Start Date	End Date	Duration (Days)	Percentage of work completed
Research	November 01, 2021	November 06, 2021	6 days	100%
Requirements Gathering	November 07, 2021	November 12, 2021	5 days	100%
Define Objectives	November 13, 2021	November 16, 2021	3 days	100%
Scope and goal setting	November 17, 2021	November 24, 2021	8 days	100%
Milestone: Proposal	November 25, 2021	November 25, 2021	N/A	100%
Project Initiation	November 26, 2021	November 26, 2021	1 day	100%
First Sprint Review	November 27, 2021	November 28, 2021	2 days	100%
Risk Assessment	November 29, 2021	December 04, 2021	6 days	100%
Modelling Diagrams	December 05, 2021	December 09, 2021	5 days	100%
Technical Design	December 10, 2021	December 12, 2021	3 days	100%
Milestone: Prototype of Design	December 13, 2021	December 13, 2021	N/A	100%
Milestone: Interim Report	December 15, 2021	December 15, 2021	N/A	100%
Second Sprint Review	December 16, 2021	December 19, 2021	4 days	0%

Table 2: Tasks, milestones, date, duration, and the percentage of work completed so far

Total Project Progress: 30%

Milestones Achieved: 3

Unachieved Milestones: 4

c. Work Breakdown Structure

Work breakdown structure (WBS) in project management is a method for completing a complex, multi-step project. It's a way to divide and conquer large projects to get things done faster and more efficiently.

The goal of a WBS is to make a large project more manageable. Breaking it down into smaller chunks means work can be done simultaneously by different team members, leading to better team productivity and easier project management. (Wrike, 2021)

For dividing the project's tasks mentioned in the Gantt chart, the following work breakdown structure has been made.

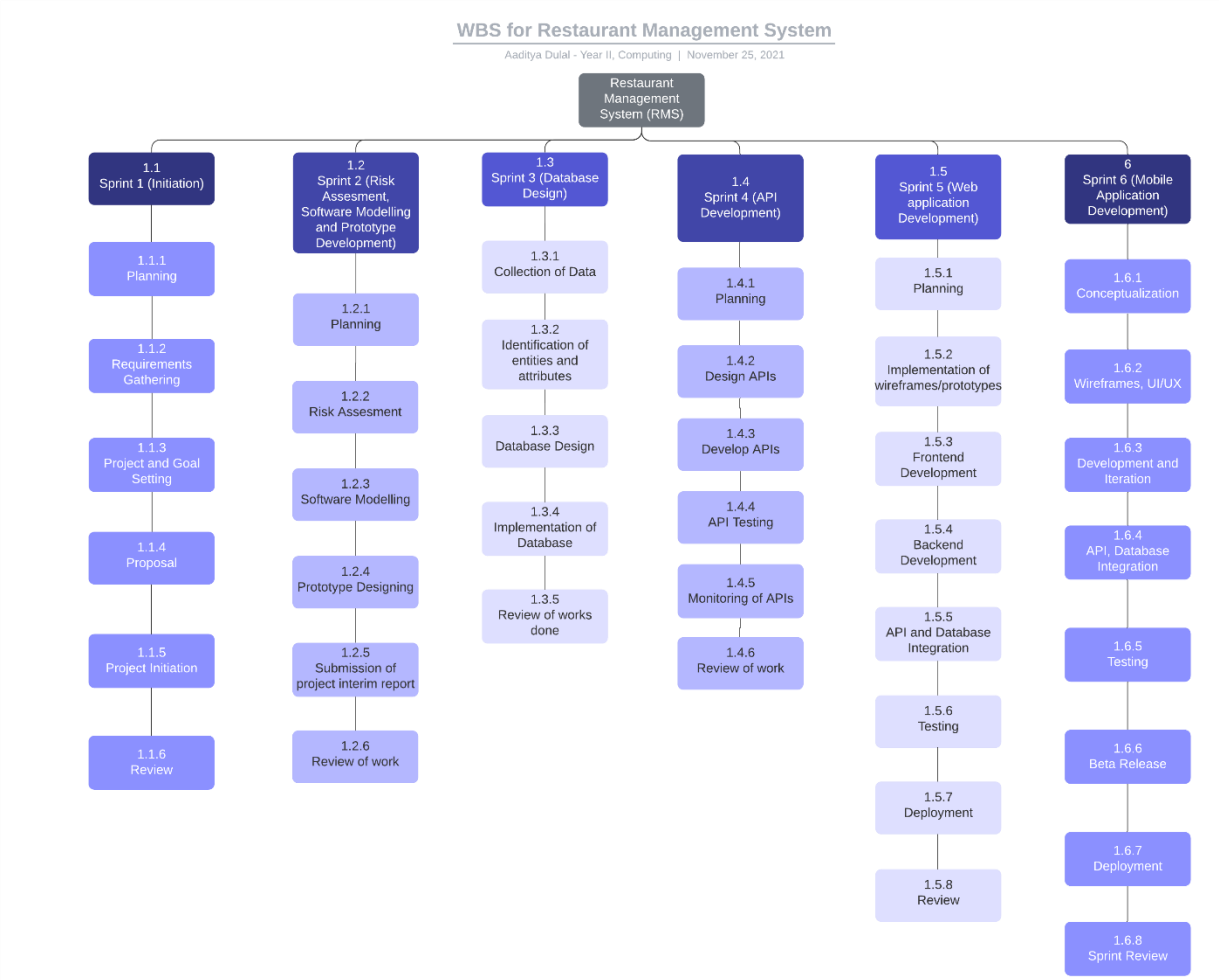


Figure 6: Work Breakdown Structure (WBS)

d. Risk Assessment

Software risk assessment is a process of identifying, analyzing, and prioritizing risks. In general, there are large, medium, and small software projects that each of them can be influenced by a risk. Therefore, it needs a unique assessment process of the possible risks that may cause failure or loss of the project if they occur. (Abdullahi Mohamud Sharif, 2021)

Thus, the risks, their possibility of occurrence, potential impact on the project, difficulty of solving, overall threats and the contingency plans to minimize those risks are presented in a tabular form below.

Risk Description	Potential Impact on Project	Likelihood of occurrence	Difficulty of timely anticipation	Overall Threat	Contingency Plans
Meeting Deadlines	High	High	High	High	If I do not meet the deadlines strictly, I won't be able to progress to the next stage and complete the project on time.
Attitude/Effort towards the project	High	Low	Low	High	If I do not build a good attitude towards the project and put my best efforts, I cannot deliver a good product at the end of the product.
Broken Authentication	High	High	High	High	Adequate token handling, strong passwords, and proper session handling
Missing Validations	High	High	High	High	Error and exceptional handling, testing
Software Choice	High	Low	Medium	Low	Choosing the software / framework which I have adequate knowledge and experience in and can fulfill the

					project goals need to be chosen.
System Failure	High	High	High	High	Excellent Error Handling, Bug fixes, adequate testing of the system is required.
Bugs	High	High	High	High	Proper testing and regular monitoring of system is required to minimize and eliminate bugs

Table 3: Risks, their levels, and the contingency plans

e. Modelling Diagrams

Software models are the ways of expressing a software design. In almost all of the cases, UML diagrams are used to model a software design.

A Unified Modeling Language (UML) diagram provides a visual representation of an aspect of a system. UML diagrams illustrate the quantifiable aspects of a system that can be described visually, such as relationships, behavior, structure, and functionality. For example, a class diagram describes the structure of the system or the details of an implementation, while a sequence diagram shows the interaction between objects over time. (IBM, 2016)

Use Case Diagram for Web Application

Figure 7: Use Case Diagram (Web Application)

High Level Description

High level description shows the interaction between actors and system and provides the outcomes of each use case. The high-level description for all the use cases of the Restaurant Management System's web application are as follows.

Use Case Name: View Menu

Actors Involved: Customer

Description: The customer scans the table's code and views the menu which includes food and their categories.

Use Case Name: Place Order

Actors Involved: Customer

Description: The customer adds food items as per their wish and places order.

Use Case Name: Cancel/Update Order

Actors Involved: Customer, Kitchen Staff, Cashier

Description: The customer can cancel/update the order for a limited period i.e., until the food preparation starts.

Use Case Name: Login/Logout

Actors Involved: Cashier, Kitchen Staff, Administrator

Description: The staffs can authenticate in the web applications to perform their designated operations.

Use Case Name: View Order

Actors Involved: Cashier/Kitchen Staff

Description: The cashier can view what items the customer has ordered. The Kitchen Staff can view the items ordered by the customer as well.

Use Case Name: Complete Order

Actors Involved: Cashier

Description: The cashier completes the order once the customer leaves the restaurant.

Use Case Name: Add inventory items

Actors Involved: Inventory Staff, Administrator

Description: The inventory staff and the admin can add items in the inventory.

Use Case Name: Update/Delete inventory items

Actors Involved: Inventory Staff, Administrator

Description: The inventory staff and the admin can add remove items from the inventory.

Use Case Name: View Reports

Actors Involved: Administrator

Description: The administrator can view different reports generated by the system.

Use Case Name: Add menu items

Actors Involved: Administrator

Description: The administrator can add menu items in the menu.

Use Case Name: Update/Delete menu items

Actors Involved: Administrator

Description: The administrator can update and delete menu items in the menu

Use Case Name: Register Staff

Actors Involved: Administrator

Description: The administrator can register different staffs in the system.

Use Case Name: Confirm Order

Actors Involved: Kitchen Staff

Description: The Kitchen Staff confirms the order once it is placed

Use Case Name: Generate Report

Actors Involved: System

Description: The system generates different reports as per the requirement

Use Case Name: Send notifications

Actors Involved: System

Description: The system sends notifications to the Kitchen Staff once the orders are placed and the notification is sent to the cashier once the waiter confirms the order.

Use Case Diagram for mobile application

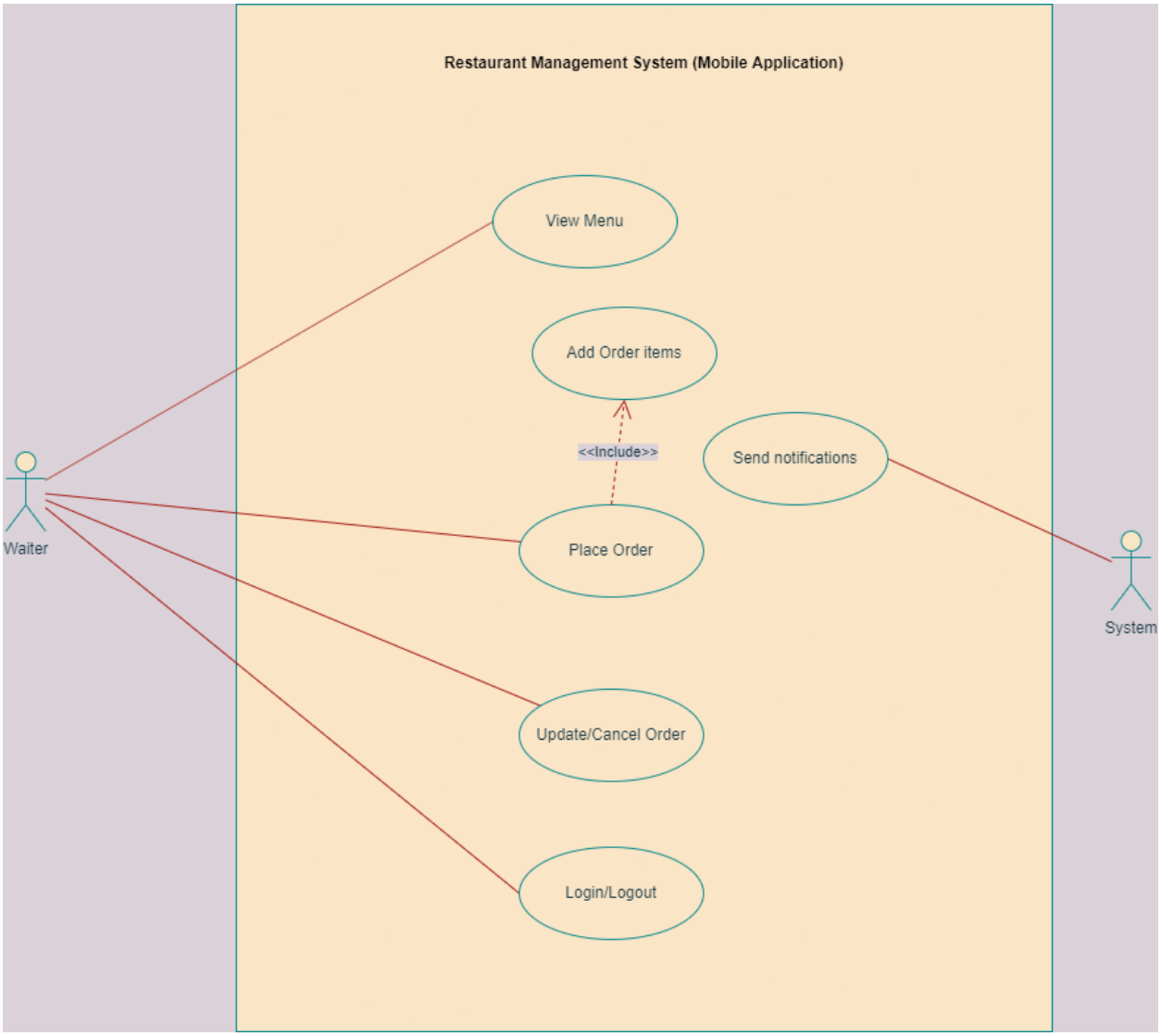


Figure 8: Use Case Diagram (Mobile Application)

High Level Description

Use Case Name: View Menu

Actors Involved: Waiter

Description: The waiter can view the menu and show it to the customers

Use Case Name: Place Order

Actors Involved: Waiter

Description: The waiter adds items in the order as per the customer's wish and places order.

Use Case Name: Cancel/Update Order

Actors Involved: Waiter

Description: The waiter can cancel/update the order for a limited period i.e., until the food preparation starts.

Use Case Name: Login/Logout

Actors Involved: Waiter

Description: The waiter can authenticate in the mobile application to perform their designated operations.

Use Case Name: Send notifications

Actors Involved: System

Description: The system sends notifications to the Kitchen Staff once the orders are placed and the notification is sent to the cashier once the waiter confirms and places the order.

Initial Entity Relationship Diagram

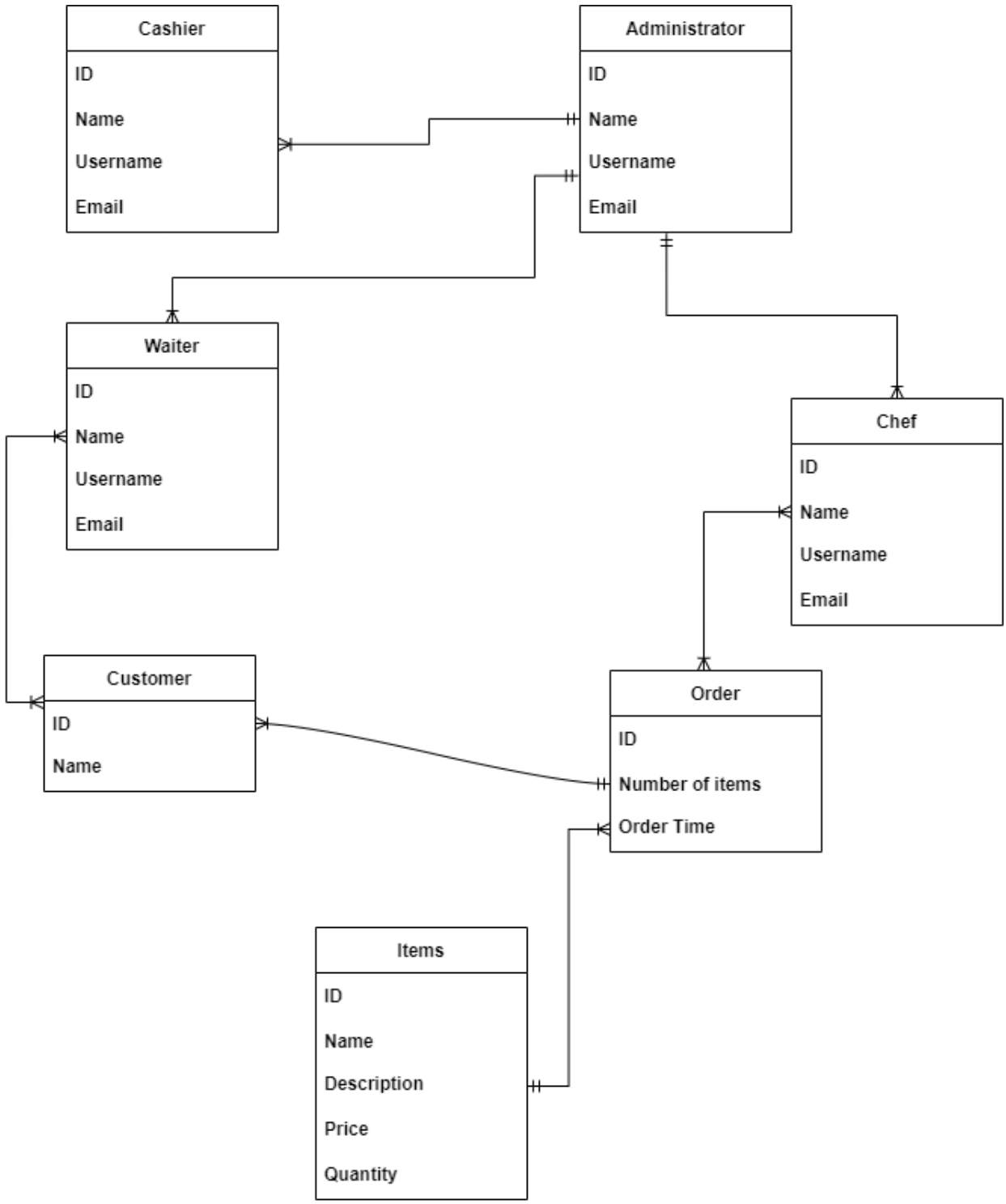


Figure 9: Initial Entity Relationship Diagram (ERD)

f. Technical Design Document

The goal of this design is to describe the use, platform and environment this project requires.

Web Interface

A simple interface will be provided to the client where the tasks can be executed using a web browser.

Mobile Interface

A simple interface will be provided to the client where the tasks can be executed using a smartphone.

Platform

Web Application: The web application will be independent of the platforms like Windows, Linux, MacOS or any other Unix Platform.

Mobile Application: The mobile application will be platform independent as it will run on both iOS and android applications with a single codebase.

Independent of existing software installations

The system is not dependent upon any other software or vendor. This means that the system can be installed in any infrastructure/location.

Technology

The system is implemented on the following technologies.

Python, FastAPI, HTML, CSS **(Web Application)**

Dart, Flutter **(Mobile Application)**

g. Mock Screens / Prototype

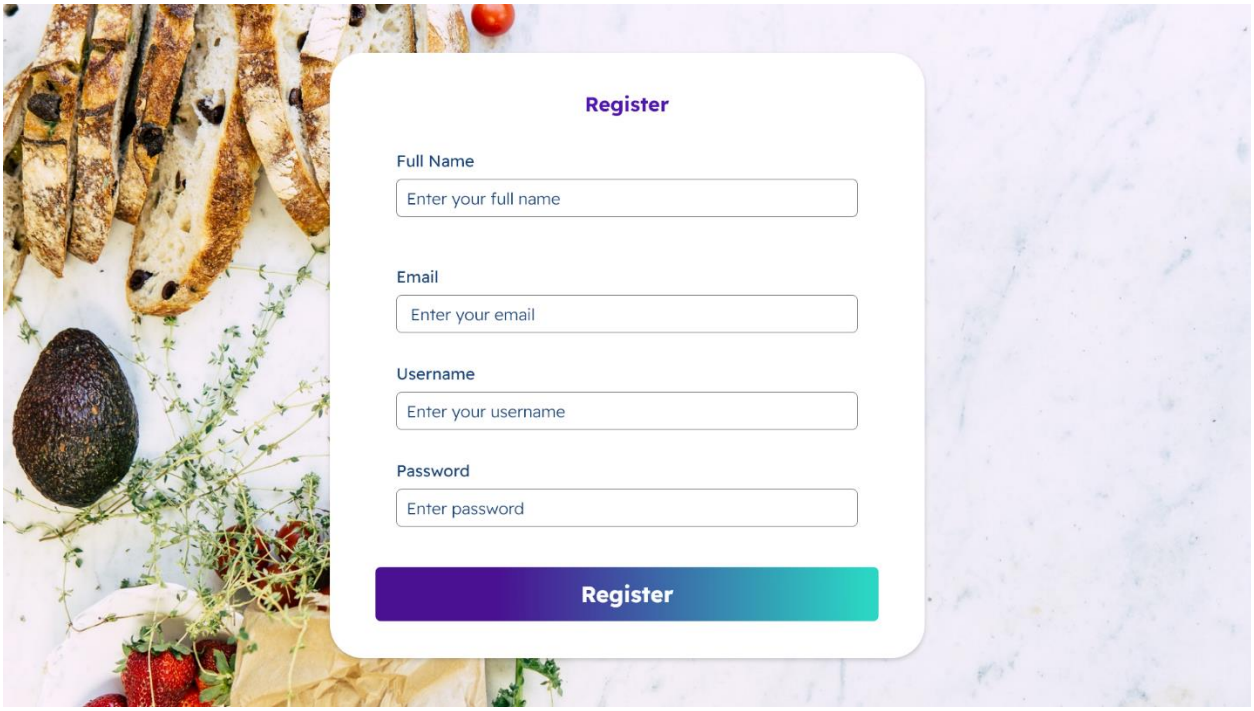


Figure 10: Prototype for "Register UI"

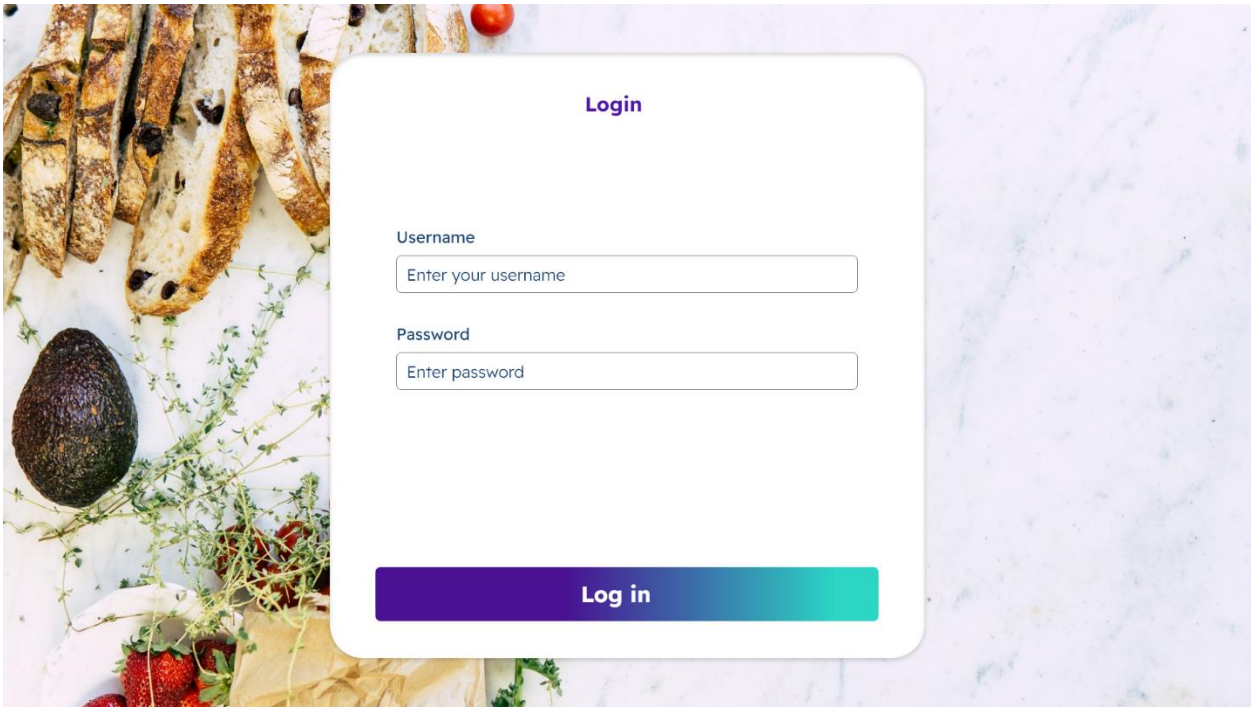


Figure 11: Prototype for "Login UI"

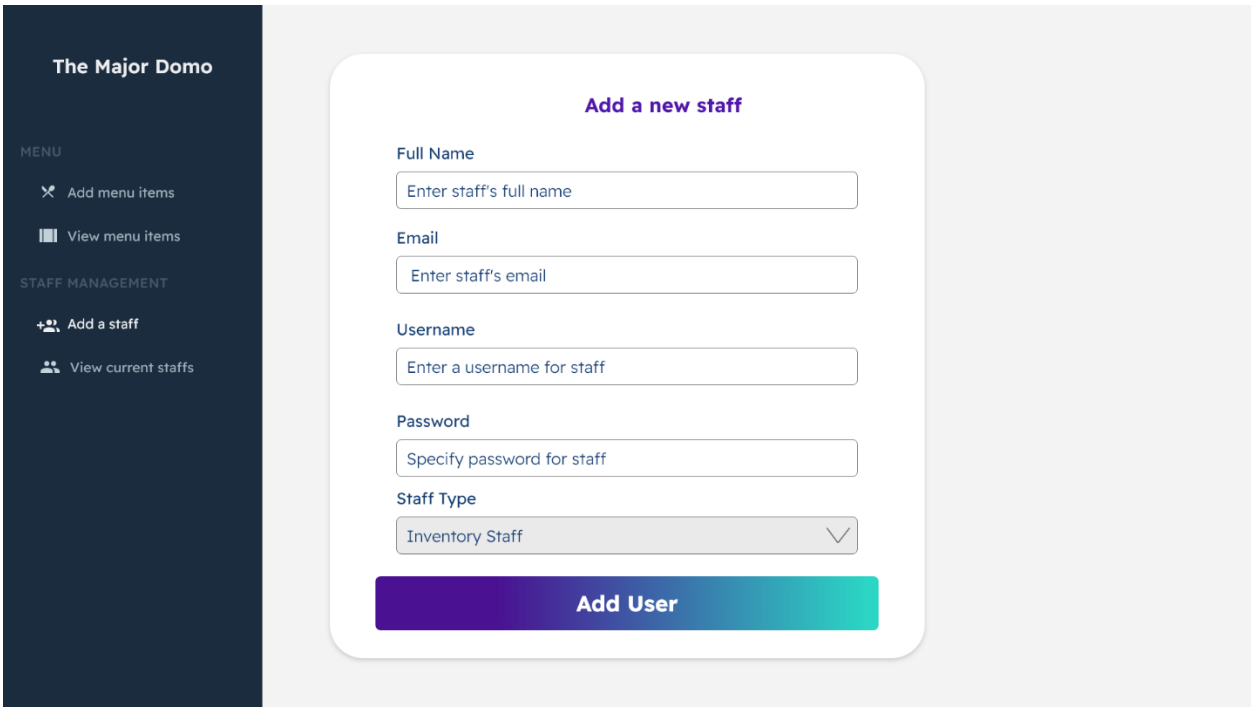


Figure 12: Prototype for "Add Staff UI"

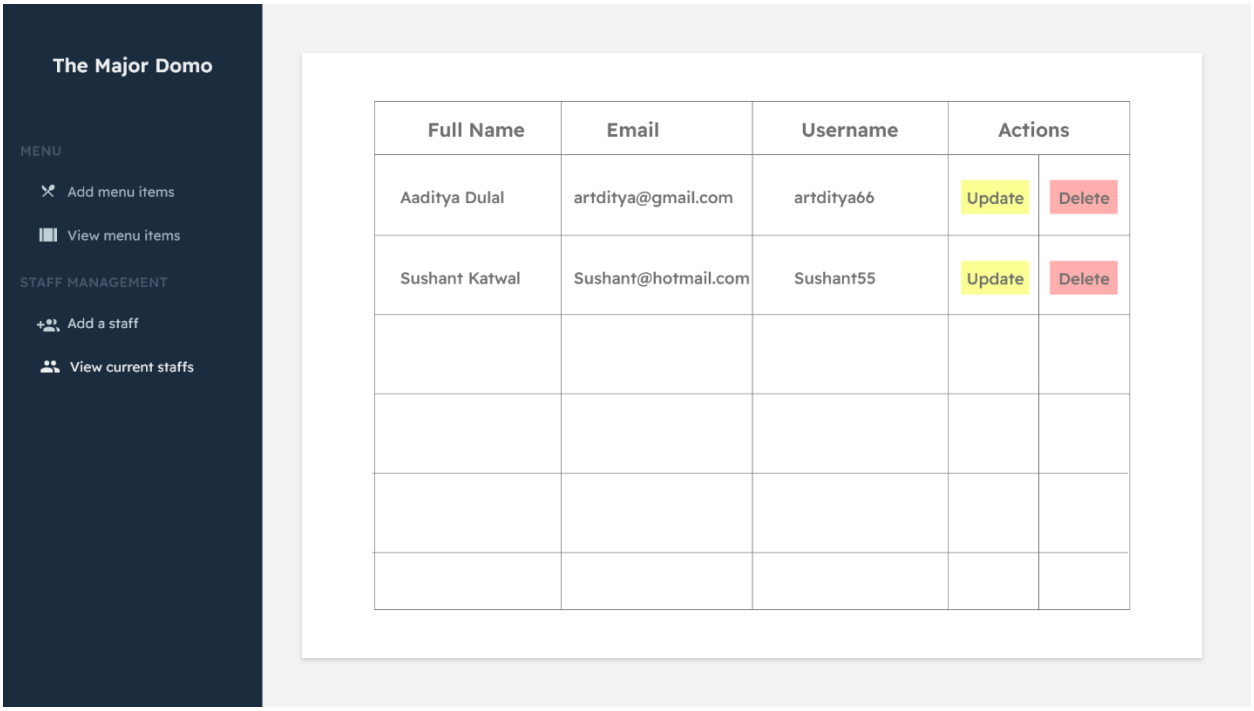


Figure 13: Prototype for "View Staffs" UI

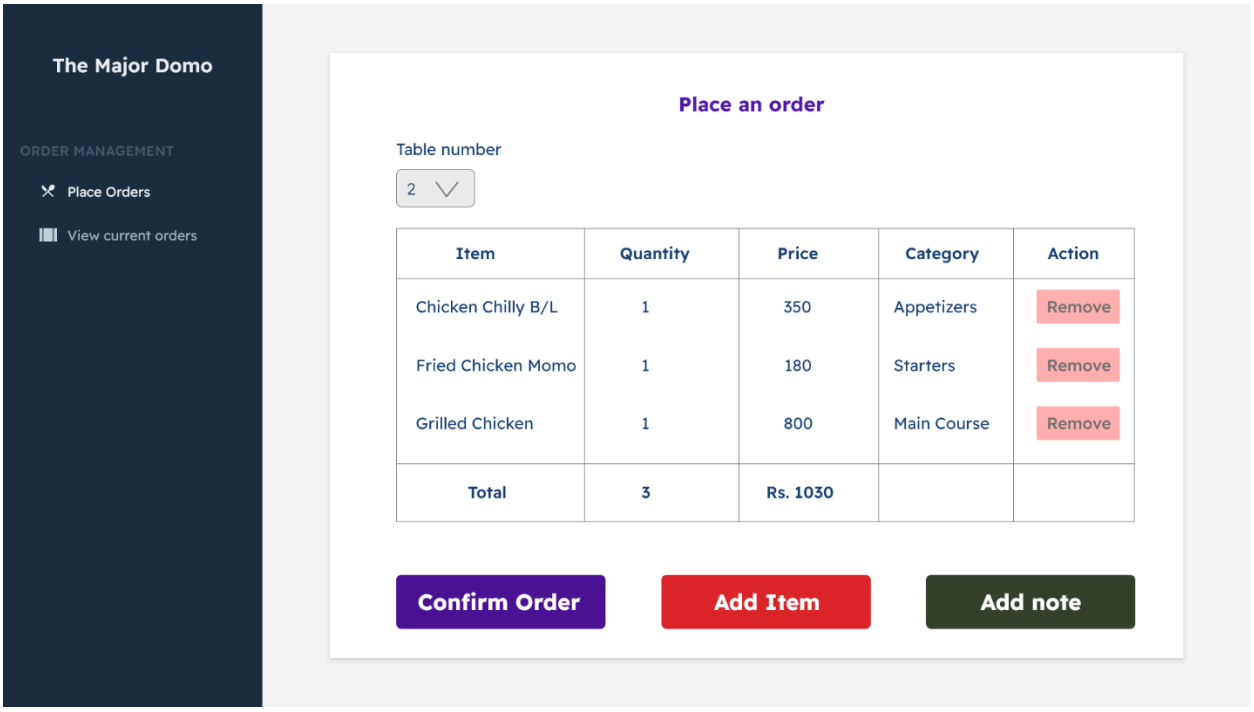


Figure 14: Prototype for "Add Orders UI"

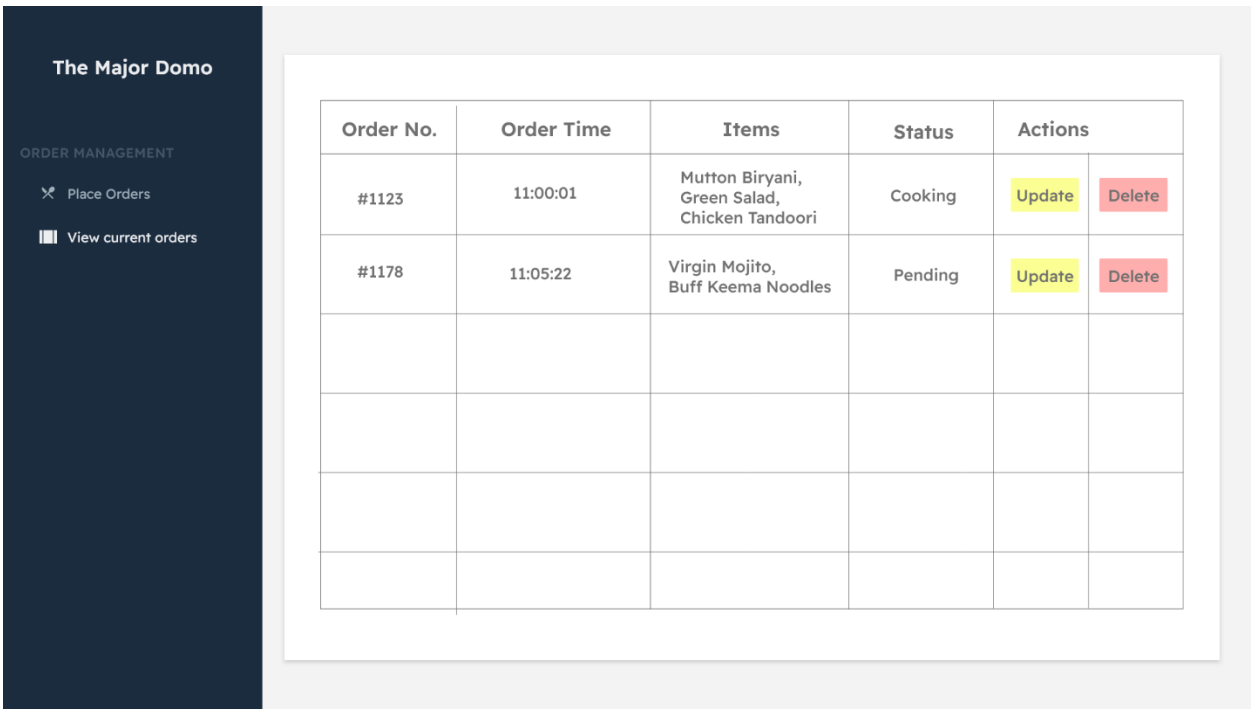


Figure 15: Prototype for "View Orders UI"

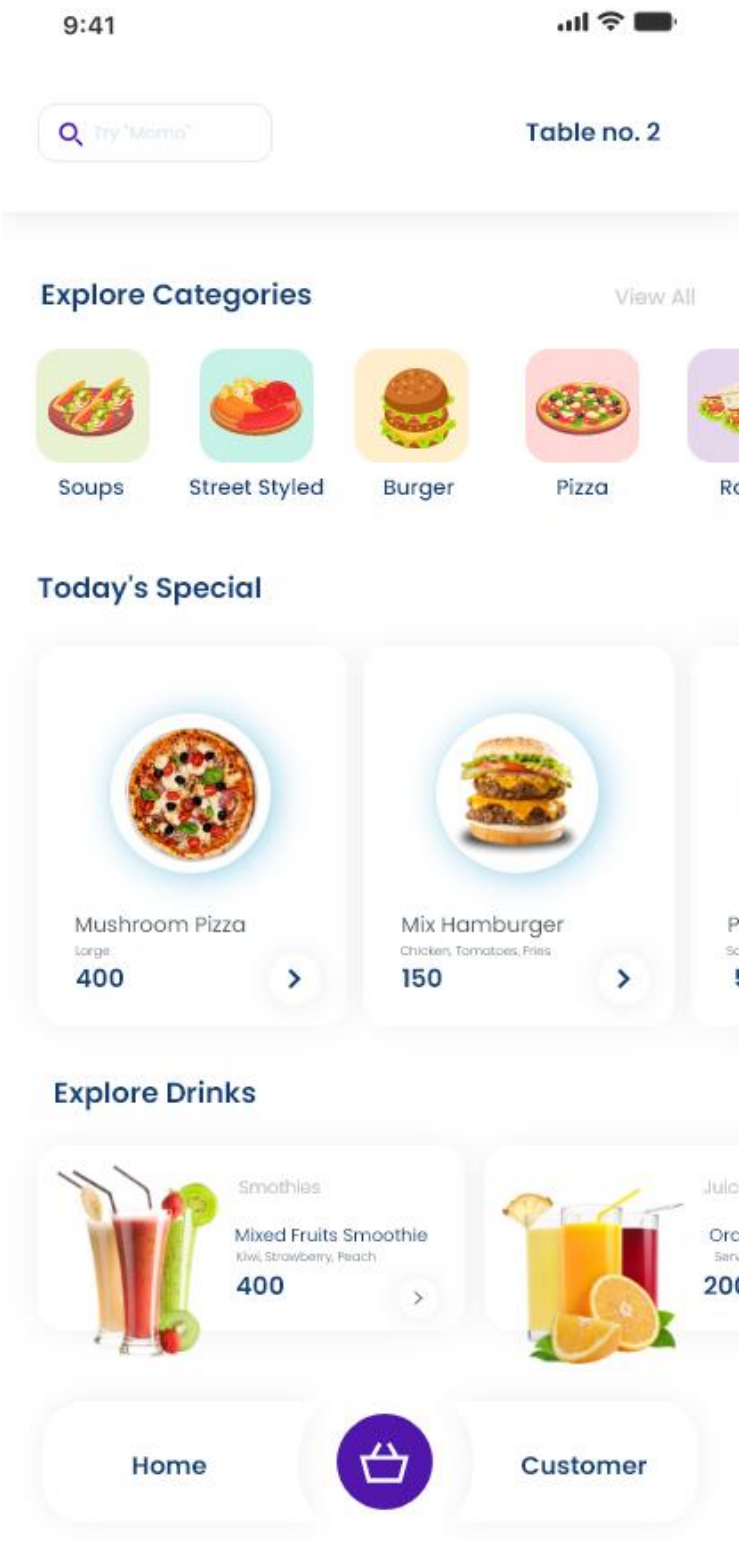


Figure 16: Prototype for "View Menu UI for mobile app"

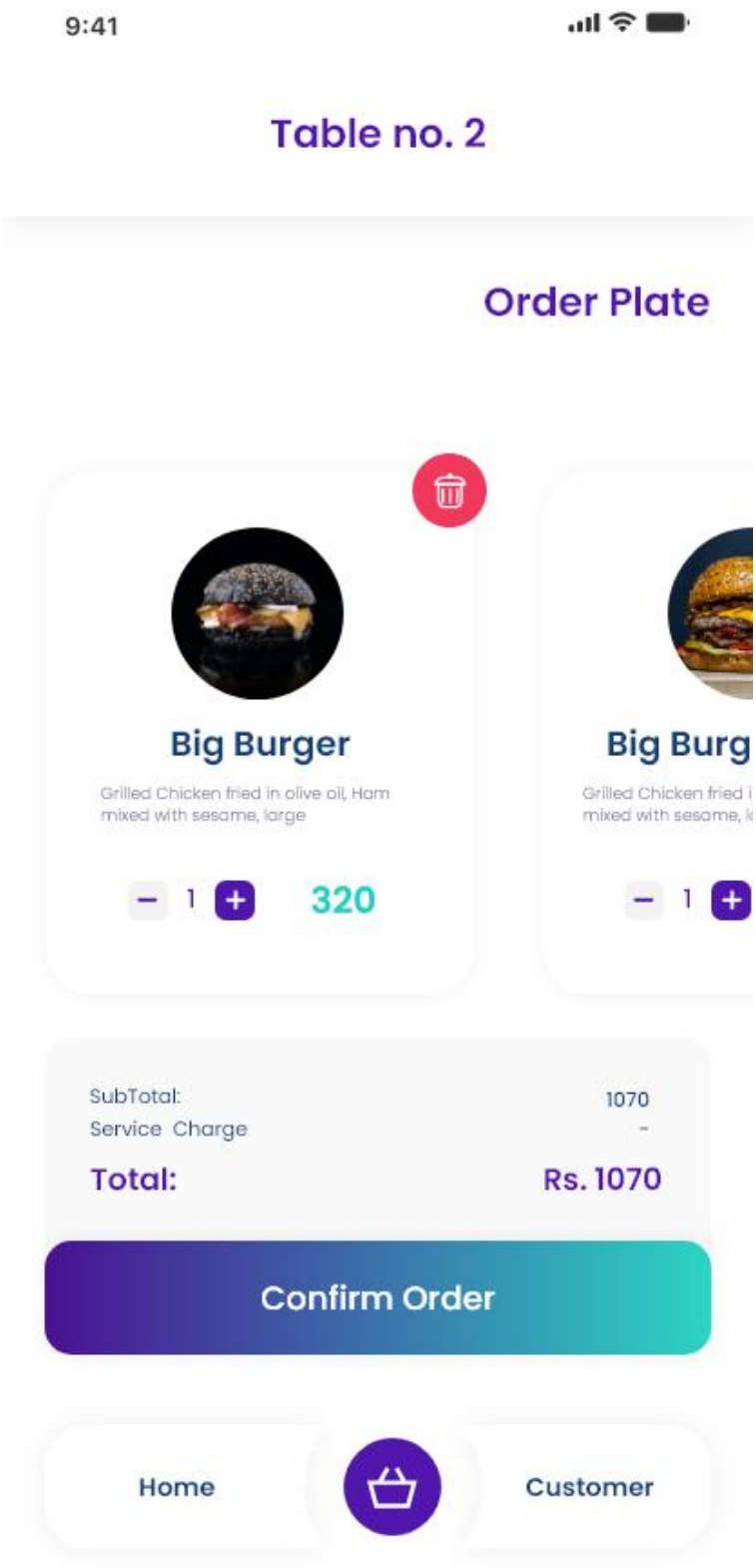


Figure 17: Prototype for "Place Order UI for mobile app"

h. Evaluation

This section of the report gives the details of the project's closure. The system designed or developed till date has covered all the functional requirements.

During the development of the project, the initial Gantt chart required no adjustments. However, due to the underestimation of the time to implement some important and required features, the lower priority requirements had to be discarded.

The tasks that have been completed and milestones that have been achieved so far are as follows:

- Research and Planning
- Project Proposal
- Requirements Collection from clients
- Similar systems study and comparison
- Questionnaire
- Risk Assessment
- Use Case Diagram and High-Level Description
- Initial Entity Relationship Diagram (ERD)
- Wireframes/Prototypes of Web Application and Mobile Application

4. Further Work

a. Works Completed

This section of the report mentions the works and tasks that have been achieved so far. Below mentioned are the further works and unachieved milestones of the project:

- Complete UML diagrams
- Database Design and Implementation
- API building, testing and deployment
- Development of frontend of Web Application and Mobile Application
- API and Database Integration to web application and Mobile Application

b. Reflection – What could be done differently

Even though the client's desired features are being taken into consideration and being achieved, and the initial development of the project is a major success, the project could have been more disciplined and followed more precisely. Furthermore, some of the features are somewhat unrealistic.

At the conclusion of the project, the writer believes that the research had not been completed in the best possible way, and that essential factors that could have enhanced the system's implementation, such as interviews with restaurant owners and user questionnaires, had been neglected.

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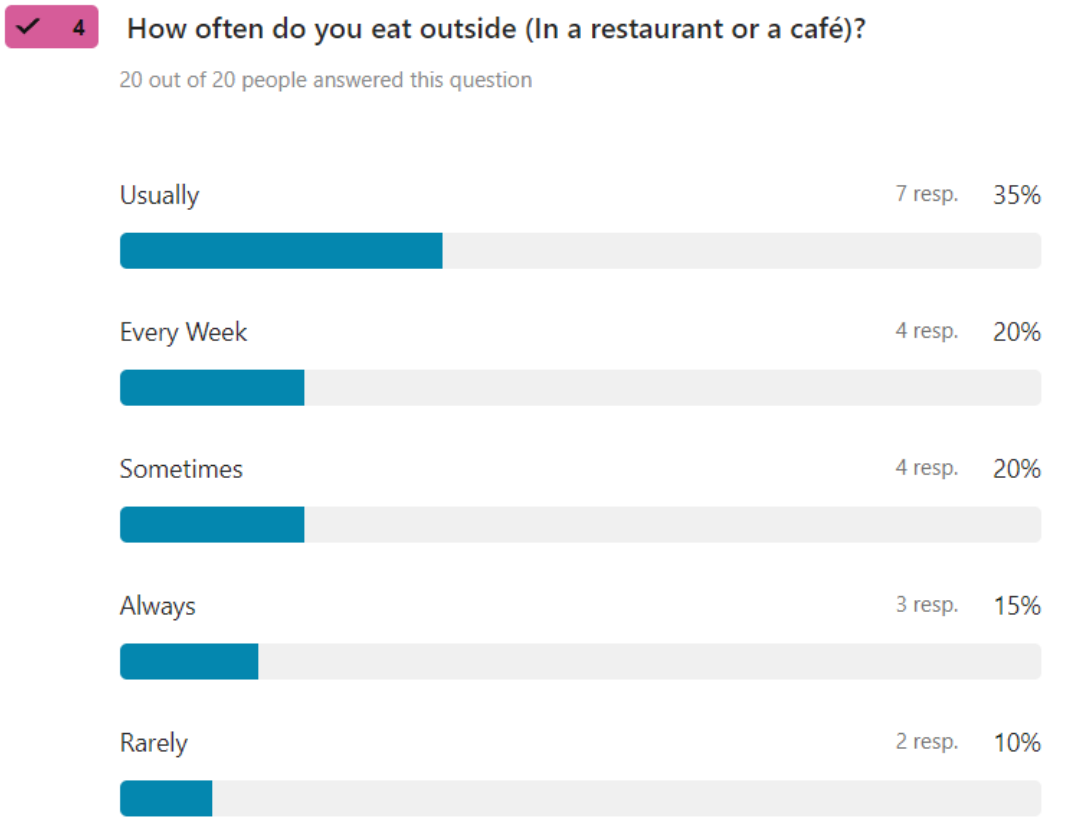
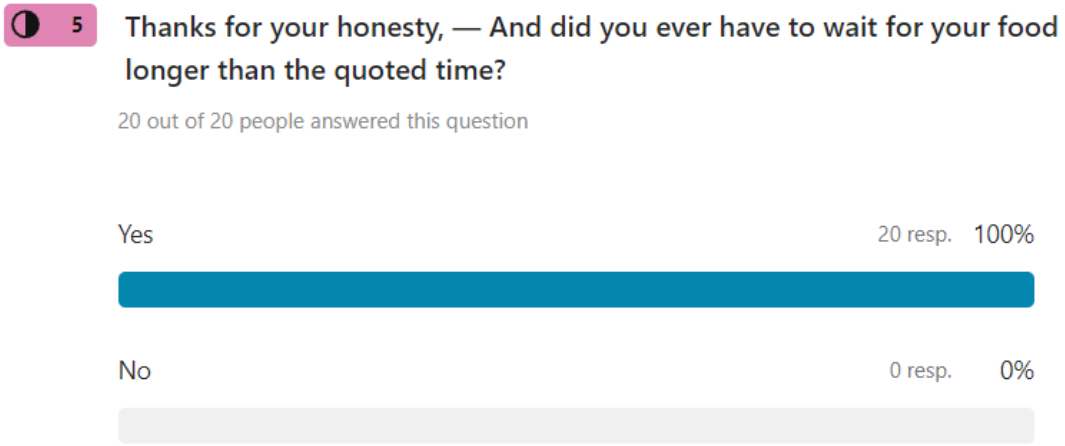
Appendix

Questionnaire Findings

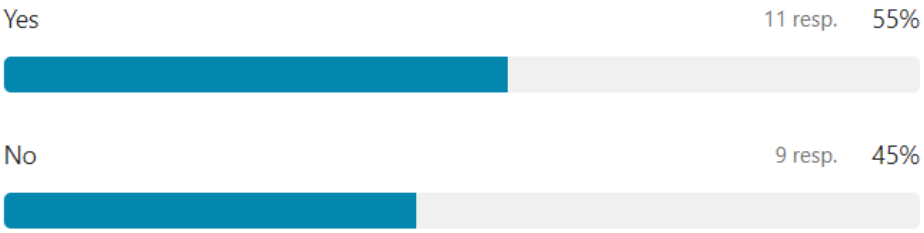
Link to the online Questionnaire: Click me





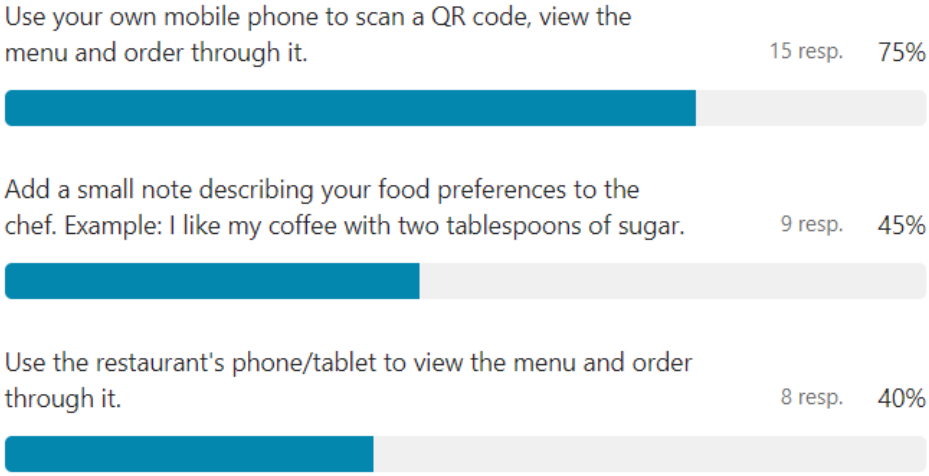
✓ 7 **Okay, — And did you ever have your order mistaken due to the waiter's fault?**

20 out of 20 people answered this question



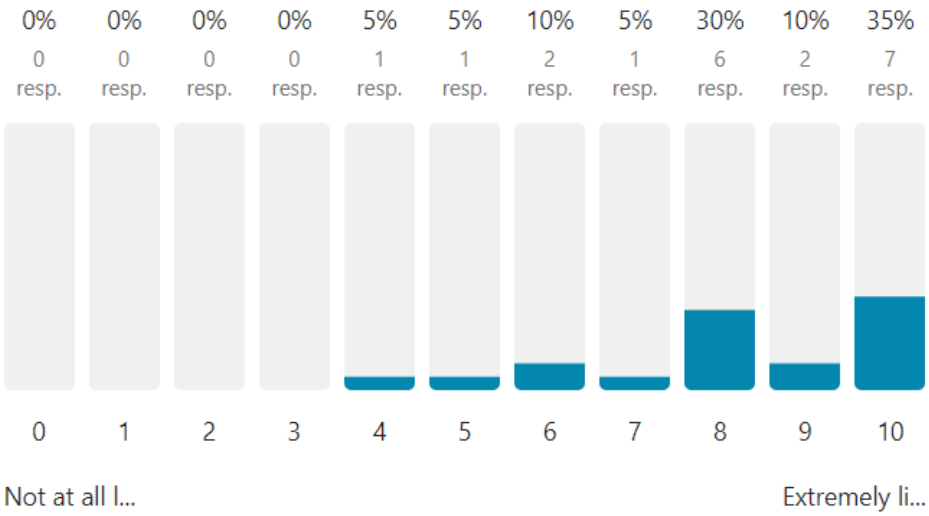
✓ 8 **Check the features you would like to see in a restaurant's ordering system.**

20 out of 20 people answered this question (with multiple choice)



9 **How likely are you to recommend a restaurant with this system and features to someone you know?** Avg. 8.2

20 out of 20 people answered this question



10 **Got it. What's the main reason you wouldn't recommend it?**

1 out of 20 people answered this question

having such services is likely to be more expensive and most people would not even dare to visit

2 days ago

★ 11 **Rate the usefulness of this system/project.**

Avg. 4.5

20 out of 20 people answered this question