1. **1. INTRODUCTION**
   1. **1.1 Purpose**

The purpose of this Software Design Document is providing the details of project titled as “Integrating Digital Queue Line Order Screens into Phone Application Express”.

The target audience is restaurants and café. We aim to minimize the loss of time in restaurants and it enables us to reduce the number of people with whom the customer communicates to almost zero, e.g., waiters.

The purpose of Express project is to reduce the time needed for giving an order from queue to restaurants and eliminating any possible health risks which can spread by interaction with people and restaurant menus which like COVID-19, Influenza, Sars etc. Technology of QR will be allow us to reach that goal by simply scanning QR code on the designated areas such as restaurant tables or anywhere close to the restaurant which user wants to order from. It will also help to restaurant side as reducing time for taking orders and reducing resources by using menus etc.

**1.2 Scope**

The Software Design Descriptions will include the general description and features of the project design constraints overall system and data architecture and describes the detailed structure of the components. The Express is an application that aims to minimize the loss of time in restaurants. Express will be accessible as a website which will make it usable from any device that has consistent network connection.

**1.3 Glossary**

|  |  |
| --- | --- |
| SDD | Software Design Description |
| SRS | Software Requirements Specification |
| Customers | Customers who want to eat something |
| Admin | Admin who confirming orders |
| QR | QR code for to look menu |

**1.4 Overview of Document**

The remaining chapters and their contents are listed below. The remaining segments is the architectural design which explains the development phase and follows as necessary software and hardware architectures and interfaces.

**2. Design Considerations**

## 2.1 Application Design Approach

### 2.1.1 Class Diagram

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### 2.2.2 View and Edit the profile

Users will be able to set their profile pictures, names, dishes they like, from their profiles. Users will be able to set their profile pictures, names of dishes they like from their profiles. They will be able to add a secondary email address. So they can recover their accounts even if they forget the email they signed up for.

After users log in to their accounts, they can see the food their friends ate or the restaurants their friends have gone.

### 2.2.3 Make Reservation

After users log in to the system, they can make a reservation from the restaurant. They can choose the time and food they want. If they think they can't reach the meal time, they can delay the meal time.

With the application we made to make a reservation from the restaurant, you can access the restaurant's menu by scanning the qr code.

In order for them to make a reservation, they should select empty a table and the food they want to eat should be in the restaurant. If these conditions are met, they can make a reservation.

### 2.2.4 Cancel Reservation

If users want to cancel their reservation, they must cancel their reservations at least half an hour in advance, otherwise no refund will be made.

Users can easily cancel their reservations from the menu in our application.

### 2.2.5 Admin Add, Delete, Update Library

The admin user has the authority to add and delete users and add and delete restaurants. It can use this authority when a member complains or acts improperly.

**Diagram

Description automatically generated3. USE CASE**

*Express – Flow Chart Diagram*

**3.1 UI DESIGN**

UI design is responsible to visualize all the algorithms to the user end side. While doing that it has to be clear and understandable for being easy to use. Since our projects main goal is reducing time on waiting in line, it has to be quick, responsive and pure to eliminate any unneccessary time taken from application. For doing that we are going to keep UI pretty pure and lighting fast. Depending our scheme for UI layers, with a person decent ethernet connection, it will not going to take more than 30 second to give an order or take a line. UI layers will be designed as single layer to connected each other for make things easy to users.

**3.2 DATABASE**

Database will hold all of the information needed for proccess. It will hold user information in its own table to make available logging in, registering etc; with that information, there will be no any other users which has same username or e-mail to prevent harmfull acts. In other table there will be informations for units which can be restaurant menus, banks queue, hospital lines etc. This table will hold all the needed information to digitalize queue lines into our application and unit end terminals. On the terminal table, there will be informations which taken from users and needed to displayed to terminal side which like restaurant workers, bank workers, doctors in hospital etc. Report table will hold any needed information, crash analytics, suggestions, problems, reports to display for us for further updates and devolopments.

**3.3 TERMINAL**

Terminal is the web application to display needed information from client to workers like orders, so workers can start to preparing users orders as soon as possible. Web application will be simple to not require any thing except monitor and ethernet connection. It will be easy to use which has only 2 buttons. In order to make thing easy, we do not want to take unneccasary time from workers. With that terminal, it will be really easy to display orders in timeline and give feedback to users whether order is ready or not.

**3.4 SERVER**

Server side will run all time process with database information. It will create chain communicate between database, users and workers with their phones and terminals. It will send push notification to user phone to notify them about queue.

**4. ENVIRONMENT**

**4.1 Modelling Environment**

The environment of Express will be developed by React Native and maybe will contain certain tools from Redux and Hooks. Environment design of Express is containing to all kind of users, so we do not need to adult contents. It can be IOS/Android operating system which can be entered on a phone or on web site.

**5. REFERENCES**

[1] IEEE Recommended Practice for Software Design Description

[2] IEEE Recommended Practice for Software Requirements Specifications.