

INFS3202

Design Document

Menu Scan Order



Submitted by

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Overview

In this modern era, business owners, especially restaurants/cafes/shops, have to keep up with the rise of technology. There are a lot of innovative things to do and this Software as a Service (SaaS) web application could be one of the solution for that. This document will describe the development process, outline, and goals of the **MenuScanOrder**. **MenuScanOrder** is designed for business owners to digitize their paper based menu through a QR-generated menu. The goal of this platform is to bring a faster, innovative, modern, efficient, and effective way for customers to see and order.

The target audience of this project is business owners. With the help of a QR based menu and seamless order system, it also helps the workers to have more priority things to do rather than serving the menu book to the customers. Customers would see the menu without having to wait to be served and order instantly. The platform would offer an responsive easy-to-use web application starting from the registration until the generation of the QR including the ordering and management.

The application will be focused on a responsive web-based application for now with an upcoming plan on mobile-based apps. It will be developed using the **CodeIgniter** framework which is based on **MVC**. The reason behind using this is to have maintainability, scalability, modularity, and secured development which is the benefit of using the MVC framework. The framework would also be supported by **MySQL** as the database system.

Key Features

- **Digital Menu Creation**
It allows business owners such as restaurants/cafes/coffee shops to digitize their menus easily. This feature will allow them to create a menu consisting of their products and categories that include the image, description, and also price.
- **Secure Login / Logout**
Despite all the important features that can be used, users do not need to worry about their security and privacy. The platform has a safe authorization for the admin to login and log out of their account.
- **QR Code Generation**
This is one of the main features that are presented by **MenuScanOrder**. It allows the users to share their menu differently in QR based on their table. Users can input their business table beforehand.

- **Seamless Ordering**

Customers can easily look at the menu by scanning the QR code generated by the platform on their table. Other than that, customers can also make their order through their mobile phone by scanning the same QR code and it is linked to their table.

- **Order Management**

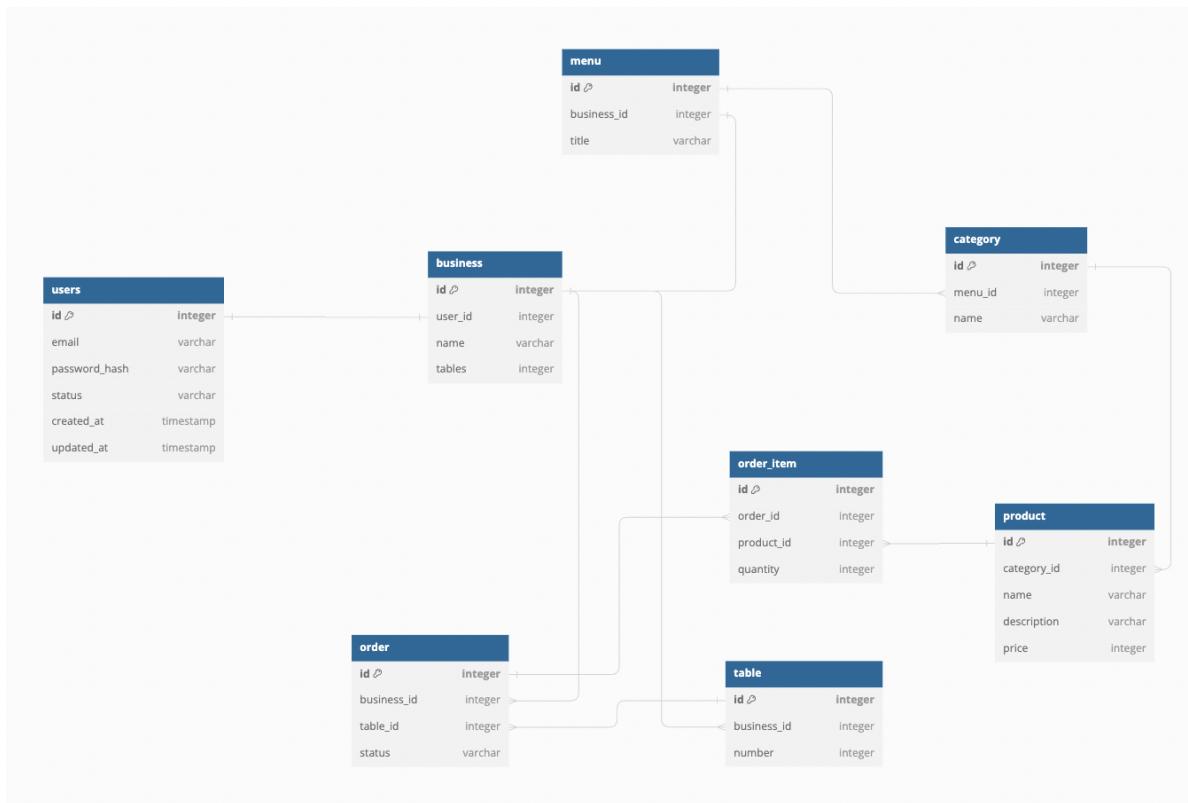
Business staff can easily manage and monitor the orders on each table. Staff can also mark the orders that are completed easily.

- **Registration**

Business owners can easily register their accounts on the platform website and sign up through Google

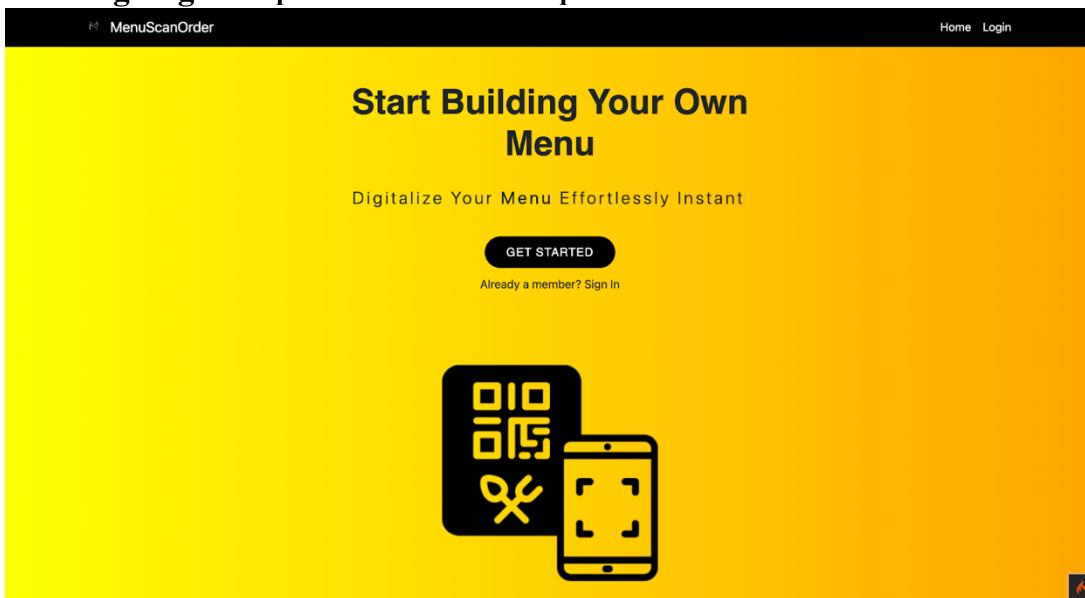
Database Design

The database is made to let each register (business owner) have one business with one menu. Business owners can make more than one category in their menu and more than one product in a category. The orders are also created in relation to the table, items, and also the business.



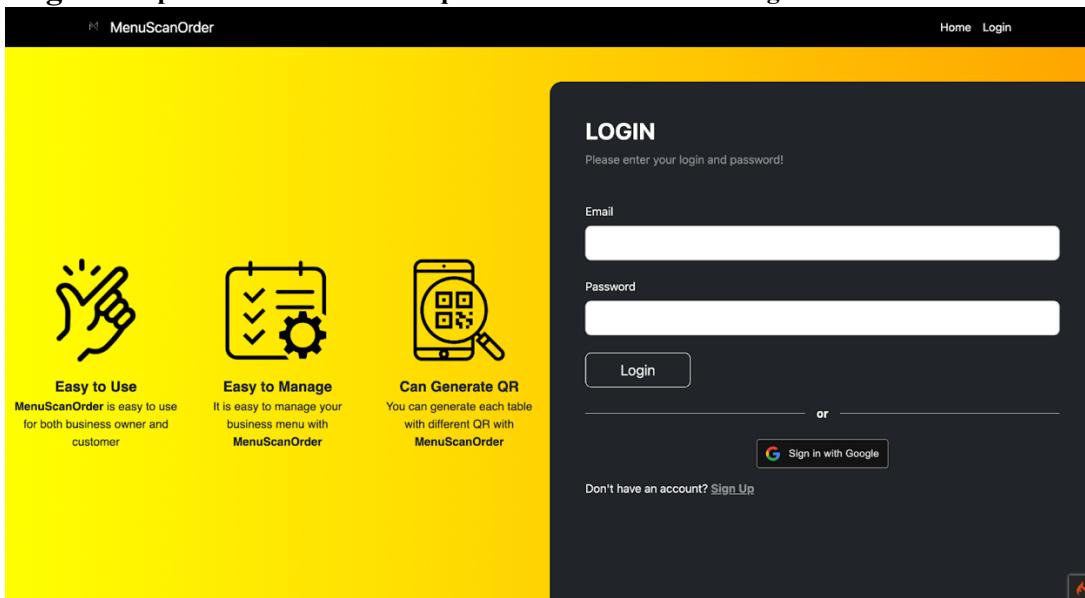
Mockups

Landing Page - <https://infs3202-1307026f.uqcloud.net/menuscanorder/>



The landing page features a yellow header with the title "MenuScanOrder". Below the header is a large orange section containing the main heading "Start Building Your Own Menu" and a subtext "Digitalize Your Menu Effortlessly Instant". A "GET STARTED" button is centered, with a "Sign In" link below it. To the right of the text area is a graphic showing a smartphone displaying a QR code, with a pair of scissors icon overlaid, suggesting the process of generating or cutting a QR code.

Login - <https://infs3202-1307026f.uqcloud.net/menuscanorder/login>



The login page has a dark header with the title "MenuScanOrder" and navigation links "Home" and "Login". The main content area is divided into two sections: a yellow sidebar on the left and a dark login form on the right. The sidebar contains three icons with text descriptions: "Easy to Use" (hand icon), "Easy to Manage" (checklist icon), and "Can Generate QR" (smartphone with QR code icon). The dark form is titled "LOGIN" and includes fields for "Email" and "Password", a "Login" button, and a "Sign in with Google" button. A "Sign Up" link is also present at the bottom of the form.

Register - <https://inf3202-1307026f.uqlcloud.net/menuscanorder/register>

The screenshot shows a registration form titled "REGISTER". It asks for email, password, and confirmation. There's also a "Next" button and a "Sign up with Google" option.

REGISTER
Please enter your email and password

Email

Password

Confirm Password

Next

or

Sign up with Google

Easy to Use
MenuScanOrder is easy to use for both business owner and customer

Easy to Manage
It is easy to manage your business menu with MenuScanOrder

Can Generate QR
You can generate each table with different QR with MenuScanOrder

<https://inf3202-1307026f.uqlcloud.net/menuscanorder/register-business>

The screenshot shows a registration form titled "REGISTER". It asks for business name and tables. There are "Back" and "Submit" buttons.

REGISTER
Please enter your business name and tables

Business Name

Tables

Back **Submit**

Easy to Use
MenuScanOrder is easy to use for both business owner and customer

Easy to Manage
It is easy to manage your business menu with MenuScanOrder

Can Generate QR
You can generate each table with different QR with MenuScanOrder

Digital Menu Creation - <https://infs3202-1307026f.uqcloud.net/menuscanorder/register-menu>

MenuScanOrder

Home Menu Table Sign Out

User Subscription

Product ID	Image	Name	Categories	Price	Actions
1		wchen	Restu Restaurant	wchen@example.com	View Edit Delete
2		wchen	Restu Restaurant	janesmith@example.com	View Edit Delete

Previous 1 2 3 Next



QR Code Generator - <https://infs3202-1307026f.uqcloud.net/menuscanorder/tables>

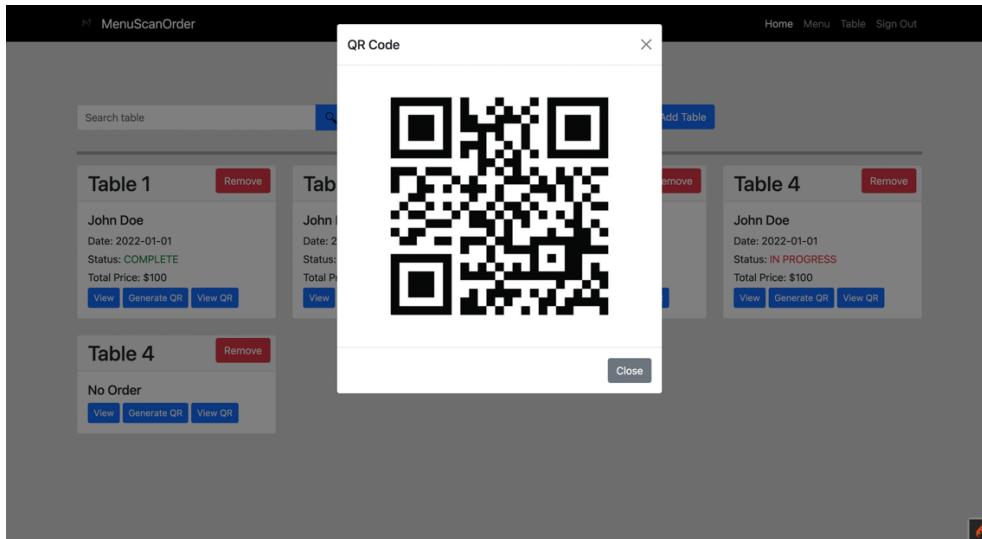
MenuScanOrder

Home Menu Table Sign Out

Tables Order

Table ID	Remove
Table 1	Remove
John Doe	
Date: 2022-01-01	
Status: COMPLETE	
Total Price: \$100	
View Generate QR View QR	
Table 2	Remove
John Doe	
Date: 2022-01-01	
Status: COMPLETE	
Total Price: \$100	
View Generate QR View QR	
Table 3	Remove
John Doe	
Date: 2022-01-01	
Status: IN PROGRESS	
Total Price: \$100	
View Generate QR View QR	
Table 4	Remove
John Doe	
Date: 2022-01-01	
Status: IN PROGRESS	
Total Price: \$100	
View Generate QR View QR	
Table 4	Remove
No Order	
View Generate QR View QR	





Seamless Ordering - <https://infs3202-1307026f.uqcloud.net/menuscanorder/menu>

A screenshot of the Restu Restaurant menu page. The top navigation bar includes links for "Dessert", "Pasta", "Main", "Salad", and "Condiments". Below this, a section titled "MAIN" features three images of Nasi Goreng. Each item has a title ("Nasi Goreng"), a description ("A stir fried rice with Indonesian taste"), a price ("\$15.00"), and a quantity selector with minus, zero, and plus buttons. A "DRINKS" section is partially visible at the bottom.

The screenshot shows the Restu Restaurant mobile application interface. At the top, there's a navigation bar with links for Dessert, Pasta, Main, Salad, and Condiments. Below this is a section titled "MAIN" featuring two plates of Nasi Goreng. Each dish has a description: "A stir fried rice with Indonesian taste" and a price of "\$15.00". Below each description is a quantity selector with buttons for minus, zero, and plus. To the right of the dishes is a modal window titled "Your Order" for "Table: 1". The modal contains a form for entering a customer name and a table for selecting items. The table has columns for Item, Quantity, and Price. It lists "Item 1" (\$20), "Item 2" (\$30), and a total of "Total" (\$50) for a quantity of 4. At the bottom of the modal are "Close" and "Place Order" buttons.

This screenshot shows the Order Management screen of the application. It displays four tables: Table 1, Table 2, Table 3, and Table 4. Table 1 shows an order for John Doe from January 1, 2022, with a total price of \$100. Table 4 shows an order for John Doe from January 1, 2022, with a total price of \$100 and a status of "IN PROGRESS". A central modal window titled "Receipt" is open, showing the receipt details for Order #2342. The receipt includes the date (2024-11-20), table number (Table: 1), customer (John Doe), and a summary table with items, quantities, and prices. The total is \$50. At the bottom of the receipt modal are "Close" and "Complete" buttons.

Admin Panel - <https://infs3202-1307026f.uqlcloud.net/menuscanorder/admin>

The screenshot shows the Admin Panel's User Subscription management page. At the top, there's a search bar and filter icons. Below is a table with columns for User ID, Username, Business Name, Email, Status, and Actions. Two users are listed: user ID 1 (wchen) and user ID 2 (janesmith). Both users have an active status and are associated with "Restu Restaurant" and "Baronang Cafe" respectively. Each user row has "View", "Edit", and "Make Inactive" buttons. At the bottom of the table are navigation buttons for "Previous", "1", "2", "3", and "Next".

Technology Research

There are some interesting libraries found for generating the QR throughout the development. To decide which library to use for the QR generator, it is picked based on some considerations. Those considerations are raised for the ease of compatibility in the development process. Below are the comparisons between the three libraries:

Feature	chillerlan/qr-code (PHP)	JS Library (QRCode.js)	endroid/php-qrcode
Documentation	The documentation that explained the uses are well documented with a lot of examples.	Enough documentation with examples of usage.	Documentations are also pretty well documented together with the examples of using it.
Ease of Use	Generally straightforward to use, especially for developers familiar with PHP. Offers flexibility and customization options.	Easy to implement, suitable for developers with JavaScript experience. Provides options for customization.	User-friendly, with clear functions and parameters. Suitable with the PHP
Integrated in PHP	PHP integration available, making it convenient for PHP-based projects.	Not integrated directly in PHP, but can be utilised in PHP projects through JavaScript.	Directly usable in PHP, also making it convenient for PHP-based project
Pricing	Free and open-source	Free and open-source	Free and open-source
Requirements	PHP 8.2+	-	PHP 7.2+

After a thorough consideration, the development will be using the **endroid/php-qrcode**. The installation is pretty easy using the **Composer**. The usage has also been explained very clearly with a good example on how it generates a QR. There are also some examples provided on the internet which are very helpful for the development.

Timeline

The project would be divided into 4 stages which are Planning, Design, Implementation, and Testing and Deployment. The stages are chosen in order to develop a well-structured application with a consideration of time for the developers. The estimated launching time for the application is around in Week 12 of the semester.

- **Planning**

In this phase, the development are more focused on initial research, determining the requirements, gathering information about the technology, and initial mock-up.

- **Design**

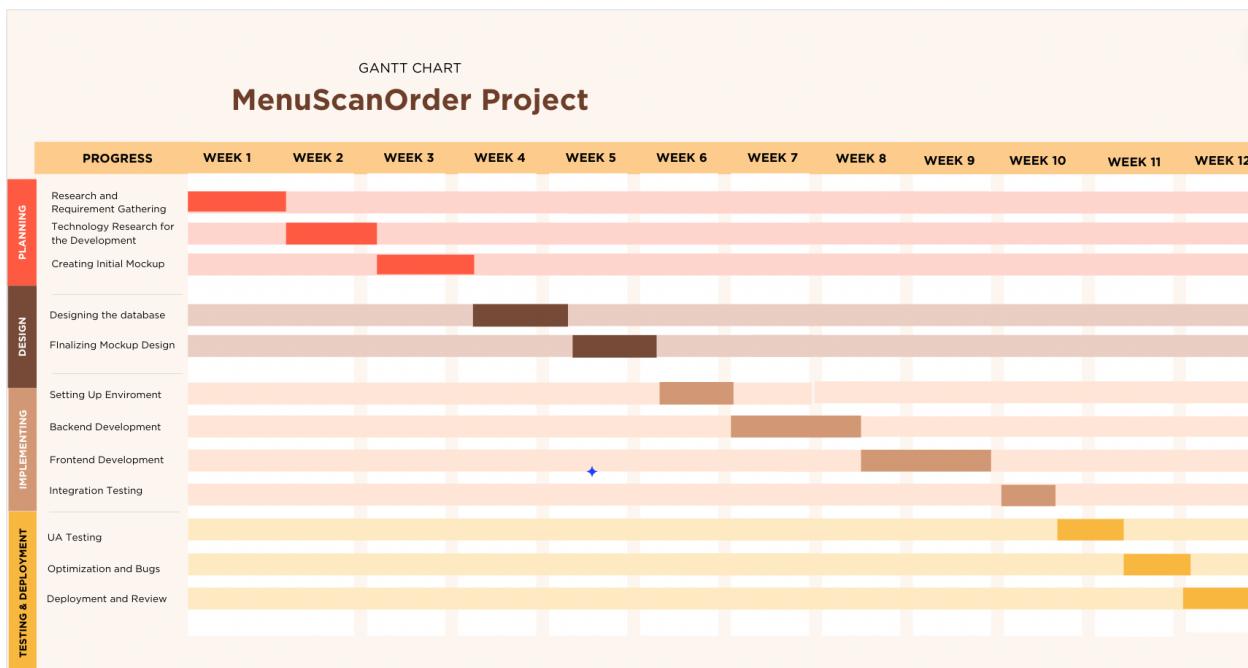
Design phase are mostly focused on picking up the database and mock-up design.

- **Implementation**

In the implementation phase, the developers would be working on the frontend and backend development for the project. This would take the longest time for the project.

- **Testing & Deployment**

The last phase are needed to ensure the application are working well without any bugs and user are satisfied with the application.



Reference

1. Endroid QR Code. <https://github.com/endroid/qr-code>
2. Chillerlan QR Code. <https://www.twilio.com/en-us/blog/create-qr-code-in-php>,
<https://github.com/chillerlan/php-qrcode>
3. QRcode.js <https://github.com/davidshimjs/qrcodejs>

4. Nasi Goreng Image <https://en.wikipedia.org/wiki/File:Nasi-Goreng.jpg>
5. Bootstrap Documentation <https://getbootstrap.com/docs/5.0/>
6. Login Inspiration <https://mdbootstrap.com/docs/standard/extended/login/>

Use of GenAI and other tools:

ChatGPT is used to help me solve some CSS/HTML problems

Copilot Chat is also used in this development to help me fix some bugs / problems encountered.

Canva is used for some images in the website and making the timeline template.