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# Project Overview

# Project Name: Reservation Manager

## Purpose:

To provide a web application that allows users to easily book reservations for meals while enabling businesses to manage their bookings efficiently.

## Background of the project

Navigating the bustling environment of the University of Zimbabwe can be a challenge especially when it comes to securing meals for the day scholar students that stay around campus. With a diverse student body and a vibrant campus life, the demand for efficient booking solutions has never been more pressing. Students often find themselves juggling classes, assignments and social engagements, leaving little time to seek out dining options that meet their needs. The frustration of long queues and limited availability adds to the stress of campus life.

On the flipside of this equation are the small and medium-sized businesses operating near the university. These enterprises play a vital role in enriching the campus experience by providing students with food at their convenience. However, many struggle to effectively connect with their target audience due to a lack of visibility and streamlined booking processes. As a result, they are left with long inefficient queues and frustrated customers, hence they miss out on potential customers and revenue and eventually lose the ones they have.

The Reservation Manager application seeks to bridge this gap by creating a seamless interface that connects students with local businesses. By offering an intuitive platform for booking reservations for meals, students can enjoy the convenience of planning their schedules without the hassle of uncertainty and frustration. Simultaneously, businesses can manage their bookings more efficiently, ensuring they meet customer demand while optimizing their resources. It’s not just about convenience, it’s about fostering a community where students can easily access the services they need and where local businesses can thrive.

## Key Features

### User Features

#### User Registration Profile Management:

* Users can create accounts using email or phone number.
* Profile management with options to save preferences, payment methods, and booking history.

#### Search Filter Options:

* Users can search for available reservations by date, time, location, cuisine/type of meal and price.
* Advanced filters for special requirements like dietary restrictions.

#### Booking Interface:

* The booking interface shows different food categories and available meals.
* Users can select the number meals and view real-time availability.
* Ability to book recurring reservations (e.g., daily dinner, weekly lunch).

#### Payment Integration:

* Secure payment gateway for online payments, on-site (e.g., Ecocash, InnBucks, et cetera). NB Online Payment currently unavailable on the first version.
* Options for users to pay in advance (e.g., one can pay for an entire month’s meals at the beginning of that month), or cash on pick or delivery.

#### Notifications:

* Instant booking confirmation via email/SMS.
* Reminders for upcoming meals.
* Notifications for new meals.

#### Reviews Ratings:

* Users can leave reviews and rate their experiences after dining.

#### Cancellation Rescheduling:

* Easy cancellation and rescheduling options with clear policies displayed (e.g., Users are only allowed to cancel at least 3 hours before the scheduled hour, otherwise you are stuck with your reservation.

### Business Features

#### Business Registration Profile Management:

* Businesses can register and create profiles with details about their services, menus, pricing, and availability.

#### Reservation Management Dashboard:

* A comprehensive dashboard to view all reservations, cancellations, and customer feedback.
* Real-time updates on bookings and occupancy levels. (e.g., rate levels based on average weekly bookings.

#### Analytics Reporting:

* Insights into booking trends, peak times, and customer demographics.
* Reports on revenue generated from reservations.

#### Customizable Booking Rules:

* Businesses can set rules for booking (e.g., minimum notice period, maximum group size).
* Options for special promotions or discounts.

### Admin Features

#### User Management:

* Admins can manage user accounts, including bans or restrictions if necessary.

#### Business Verification:

* Process for verifying businesses before they can accept reservations.

#### Content Management System (CMS):

* Admins can manage content on the website (e.g., FAQs, blog posts, terms of service).

#### System Monitoring:

* Tools to monitor system performance, user activity, and security.

## Technical Requirements

### Technology Stack

#### Frontend:

* React.js for a dynamic user interface.

#### Backend:

* Node.js with Express.js for building the API.
* Database: Microsoft SQL for data storage.

#### Authentication:

* JWT (JSON Web Tokens) for secure authentication.

#### Payment Processing:

* Currently unavailable.

## User Experience Design

#### Responsive Design:

* Ensure the web app is mobile-friendly and works across different Android devices.

## Target Audience Identification:

* Students, Businesses

## Future Enhancements

#### Partnership with Other Businesses

* Collaborate with local restaurants and venues to promote the platform.

#### AI-Powered Recommendations:

* Use machine learning algorithms to provide personalized meal preferences based on user behavior.

#### Mobile Application:

* Develop a mobile app for iOS too.

#### Loyalty Programs:

* Implement loyalty programs to encourage repeat bookings.

#### Payment method Integration:

* Enable users to pay for meals using credit card, Ecocash, innbucks and other payment methods.

#### AI Recommendations:

* Use machine learning algorithms to suggest personalized dining experiences based on user preferences.