



Group Members

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PRG 371 PROJECT

Belgium Campus iTVersity

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Introduction

Miss Rachel, the owner of Delicious-Catering, is well-known in Gauteng for her unique meals and professional venue services where the events are baptisms, weddings, year-end functions, birthdays, and parties. Nevertheless, the ongoing pandemic has disrupted her ability to take direct bookings from clients, affecting her business operations. To overcome this challenge, she intends to implement an online booking system that simplifies the booking and confirmation process. The system should be easy for clients to use while improving operational efficiency for her business.

1. Problem Statement

The pandemic has made it challenging for Miss Rachel to accept direct bookings, posing a significant challenge to her catering business. To adapt, she requires an efficient and automated online booking system. This system should enable clients to book events, confirm their reservations, and communicate any changes seamlessly. Additionally, it must provide Miss Rachel with a simple way to track and manage all bookings.

2. Business Requirements

- ❖ Enable Miss Rachel to manage her bookings efficiently, including:
 - Viewing all bookings whether confirmed and non-confirmed.
 - Managing client updates and sending feedback notifications.
- ❖ Advance the client experience by:
 - Allowing online booking and menu updates.
 - Sending real-time feedback notifications for booking confirmations or any other updates.
- ❖ Generate unique booking numbers for tracking purposes.
- ❖ Apply a discount policy for bookings exceeding 40 people.

3. System Requirements

- ❖ Client Registration:
 - Login details, personal details, contact details, and address details.
 - On the login details Confirm secure login with a username and password.
- ❖ Booking Features:
 - Event details
 - Type of Event
 - Event date,
 - Time
 - venue details

- Menu
 - Food menu selection (adults' meals, kids' meals, drinks, desserts).
 - Decoration preferences.
 - Contact details and address details
 - Most importantly check date availability before confirming a booking.
 - Lastly generating the booking number every successful booking
- ❖ Notifications:
 - Notifying clients about booking confirmations.
 - Notifying Miss Rachel about client updates or any other changes.
 - ❖ Administration:
 - Dashboard for Miss Rachel to view and manage all bookings and event details
 - Track payment confirmations.
 - ❖ Payment Handling:
 - Allow 50% payment of the total amount for booking confirmation.
 - Applying discounts automatically for bookings with over 40 adults.
 - Displaying cancellation fees

4. System Design

We are using the MVC design pattern for the design and development of the system.

4.1. Client Layer (Frontend)

A user-friendly interface for clients to register, book, and manage their bookings. The system should be accessible via web browsers.

4.2. Business Logic Layer

This layer handles the availability checks, booking management, and the logic for data exchange between the user interface and the data layer.

4.3. Data Layer:

This layer handles the database processing which is more focused on ensuring data persistence for future use and querying when needed. As the database of choice for this system is PostgreSQL DB, the communication between the system and the database is via the PostgreSQL database driver version 42.2.23.

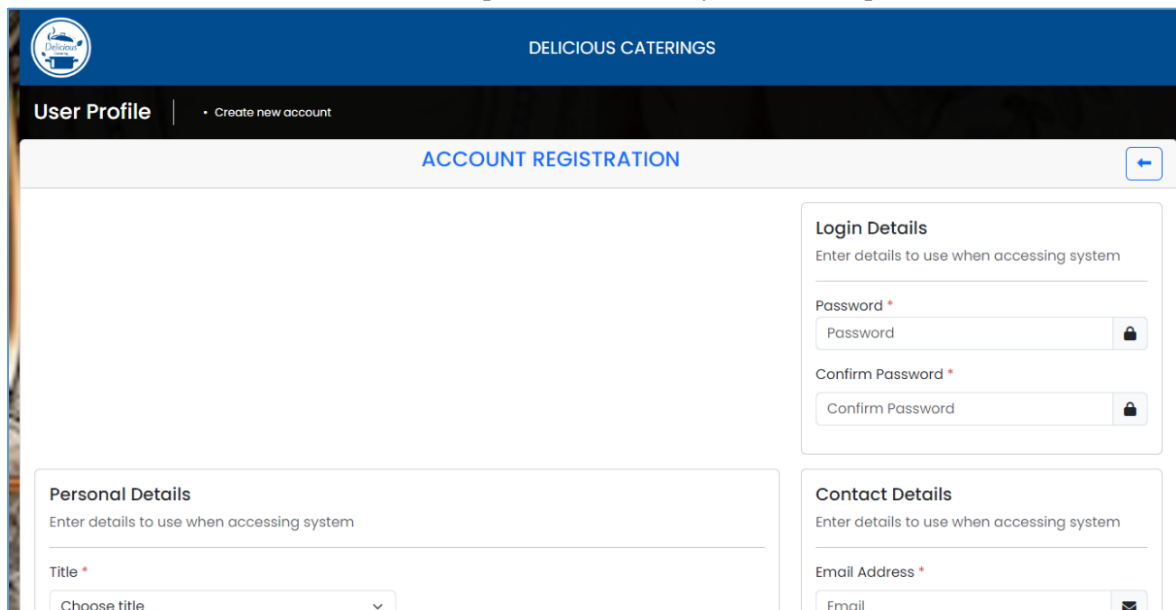
Stores client details, booking records, payment status, and menu options.

4.4. Client System Features

4.4.1. Account Registration

For the client to be able to make a booking, they need to first create an account on the system. All the mandatory fields marked with, and asterisk must be captured by the client to ensure enough information if stored for future use when making a booking.

Some of the key information includes full name, surname, contact information, and login credentials. The built-in validations to ensure that required or mandatory fields are captured at all times.



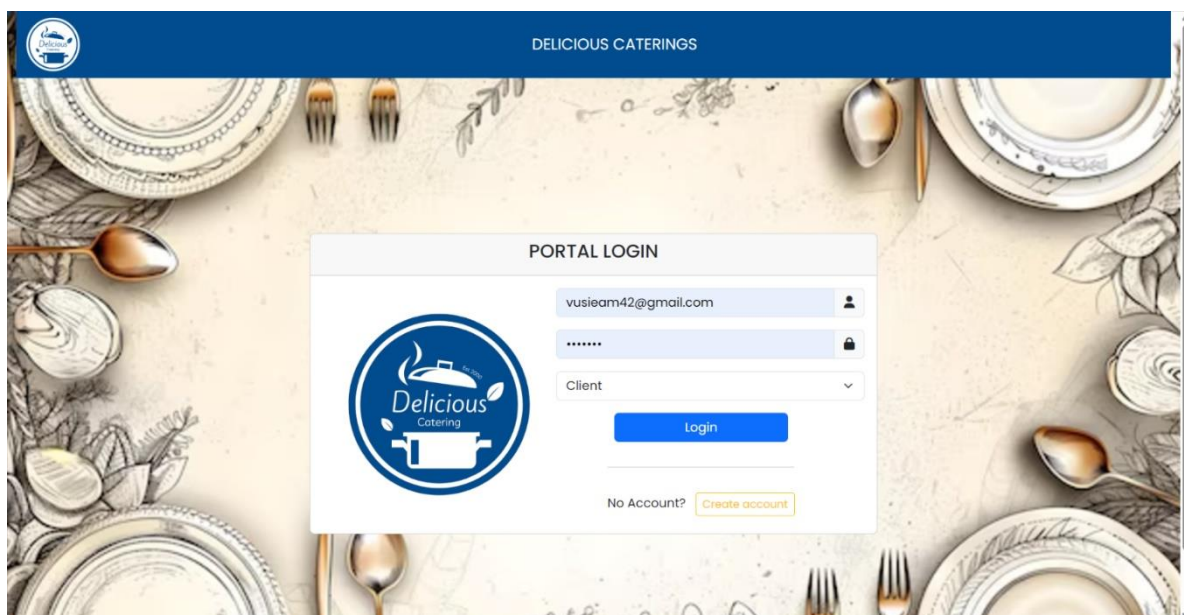
The screenshot shows the 'ACCOUNT REGISTRATION' page for 'DELICIOUS CATERINGS'. The page has a dark blue header with the company logo and name. Below the header, there's a 'User Profile' section with a 'Create new account' link. The main content area is titled 'ACCOUNT REGISTRATION' and contains three form sections: 'Personal Details', 'Login Details', and 'Contact Details'. The 'Personal Details' section includes a 'Title' dropdown menu. The 'Login Details' section includes 'Password' and 'Confirm Password' fields. The 'Contact Details' section includes an 'Email Address' field. A blue back arrow icon is located in the top right corner of the registration form area.

4.4.2. Login

The client uses this section to gain entry into the system's core functions which include making bookings and viewing historical bookings.

The client can use a combination of the fields below to login into the system:

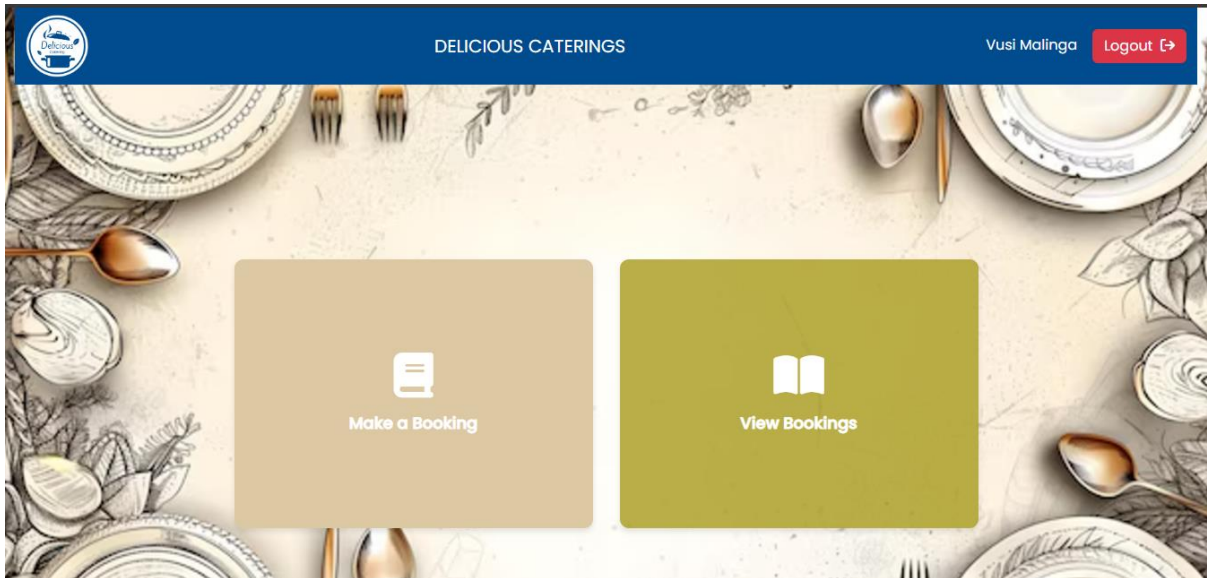
- Contact information: Cell number, Telephone number or Email address
- Password captured during account registration.
- They must select "Client" on the dropdown.



The screenshot shows the 'PORTAL LOGIN' page for 'DELICIOUS CATERINGS'. The page has a dark blue header with the company logo and name. The background features a decorative illustration of plates, forks, and spoons. The login form is centered and includes the 'Delicious Catering' logo, a text input field for the email address (pre-filled with 'vusieam42@gmail.com'), a password field, a dropdown menu for the user role (set to 'Client'), a blue 'Login' button, and a link to 'Create account' for users without an account.

4.4.3. Client Dashboard

The client is presented with two options on the dashboard to either make a booking or view historical bookings. This is to make it easy for the client to keep track of the status of the bookings as it goes through various stages.



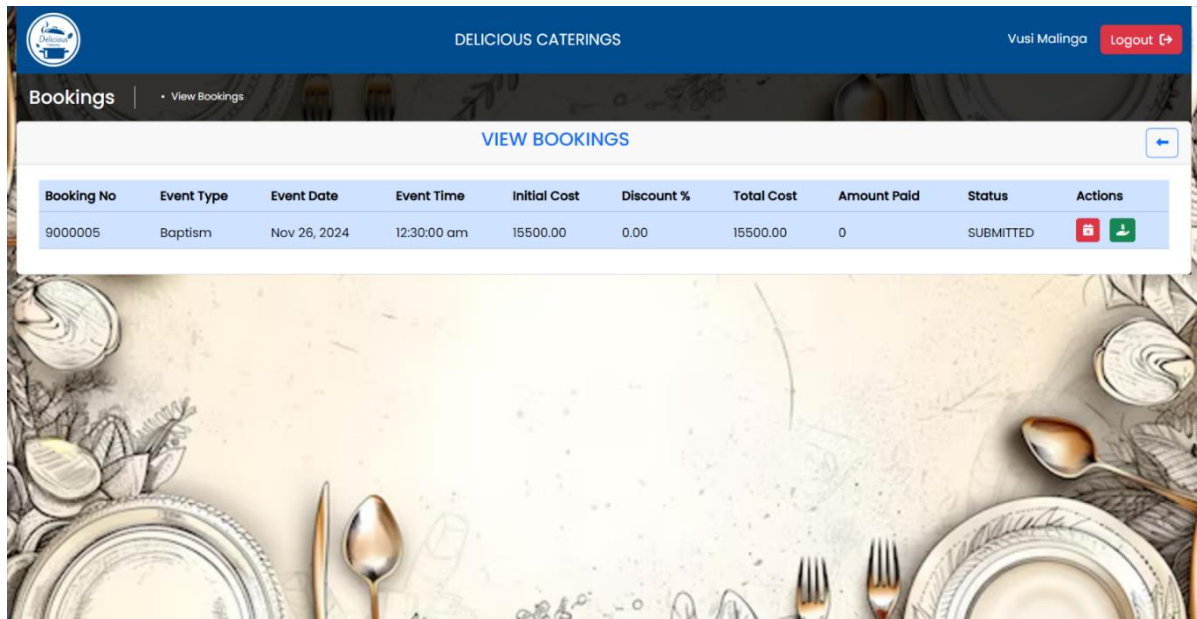
4.4.4. Make Booking

A client uses this part of the system to book an event. In this section, the client/customer must capture all mandatory fields to provide Ms Rachel with enough details to make an informed decision about the booking.

The screenshot displays the 'CREATE A BOOKING' form within the 'DELICIOUS CATERINGS' system. The header is dark blue with the logo, company name, and user 'Andre Nienaber' with a 'Logout' button. Below the header, there's a breadcrumb trail 'Bookings > Bookings an event'. The form itself is titled 'CREATE A BOOKING' and is divided into two main sections: 'Event Details' and 'Contact Details'. The 'Event Details' section includes fields for 'Type of Event' (a dropdown menu), 'Event Date' (with a calendar icon), 'Event Time' (with a clock icon), 'Number of People attending event' (two input fields with up/down arrows), and a checkbox for 'Decoration needed (provide theme details below)'. The 'Contact Details' section includes fields for 'Email Address', 'Mobile Number', and 'Telephone Number', each with a corresponding icon (envelope, mobile phone, and telephone handset respectively). All mandatory fields are marked with an asterisk (*).

4.4.5. View Bookings

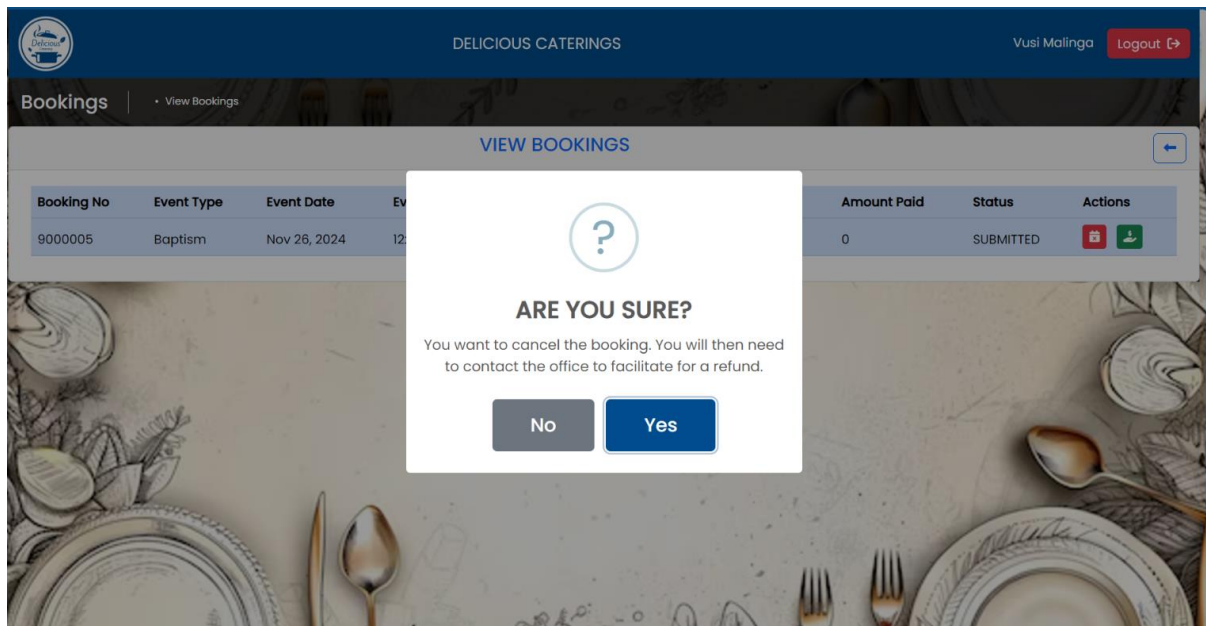
Once a client or customer has created a booking request, they can view all the bookings linked to their account on this part of the system.



The client can use the buttons visible next to each booking record to either cancel the booking or pay outstanding fees.

4.4.5.1. Cancel Booking

When the client clicks the button with a bin icon/image a prompt message dialog appears notifying the client of the action they are about to do.



4.4.5.2. Pay outstanding fees

When the user clicks on the icon with a paying hand, a screen appears where they can manually capture payments and submit them to the system. The system receives this information and does the necessary calculations to determine if the client is still owing or has paid in full.

The screenshot shows a 'Payment Form' modal window overlaid on the 'Bookings' page. The modal contains the following fields:

- Payment Date:** A date input field with a placeholder 'yyyy/mm/dd' and a calendar icon.
- Payment Amount:** A text input field with a currency icon.
- Payment description:** A large text area for notes.
- Pay:** A blue button at the bottom.

The background shows the 'Bookings' table with the following data:

Booking No	Event Type	Event Date	Event Time	Initial Cost	Discount %	Total Cost	Amount Paid	Status	Actions
9000005	Baptism	Nov 26, 2024	12:30:00 am	15500.00	0.00	15500.00	0	SUBMITTED	[Icon] [Icon]

4.4.6. Logout

The user/client can exist the system from any page by simply clicking the logout button located at the top right corner of the system window.

The screenshot shows the top navigation bar of the 'DELICIEUX CATERINGS' system. The 'Logout' button is highlighted with a red box. The background shows the 'Bookings' table with the following data:

Booking No	Event Type	Event Date	Event Time	Initial Cost	Discount %	Total Cost	Amount Paid	Status	Actions
9000005	Baptism	Nov 26, 2024	12:30:00 am	15500.00	0.00	15500.00	0	SUBMITTED	[Icon] [Icon]

4.5. Administrator Features

Miss Rachel as the administrator of the system accesses the admin portal to review and make decisions on the bookings received.

4.5.1. Login

As the administrator of the system, Ms Rachel can log in using her credentials and ensure that she selects “Administrator” under the dropdown on the login page.

4.5.1.1. Dashboard/View Bookings

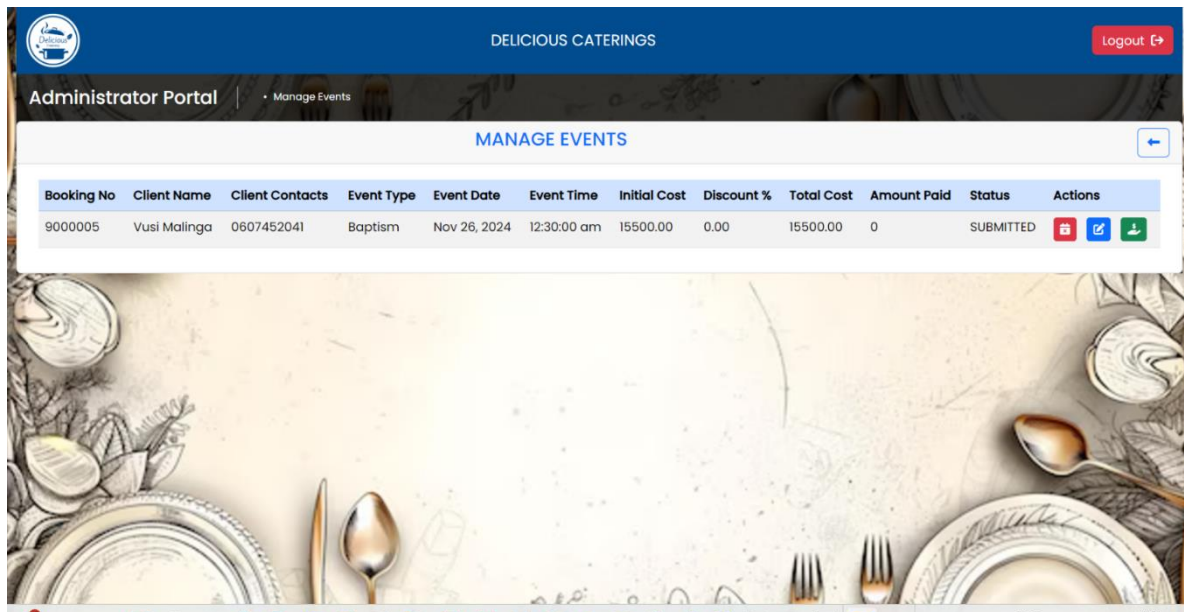
On successful login, Ms Rachel will be redirected to the dashboard or view bookings page where she will be able to all the bookings made each day.




As the business rule, only one booking is made in a day and clients cannot double book her on a specific day.

The information presented to Ms Rachel on this page is basically:

- Client details and contact information.
- Booking number
- Cost of the booking

From this screen Ms Rachel is to be able to manage her daily business routine and decide on bookings she would like to accept or decline.



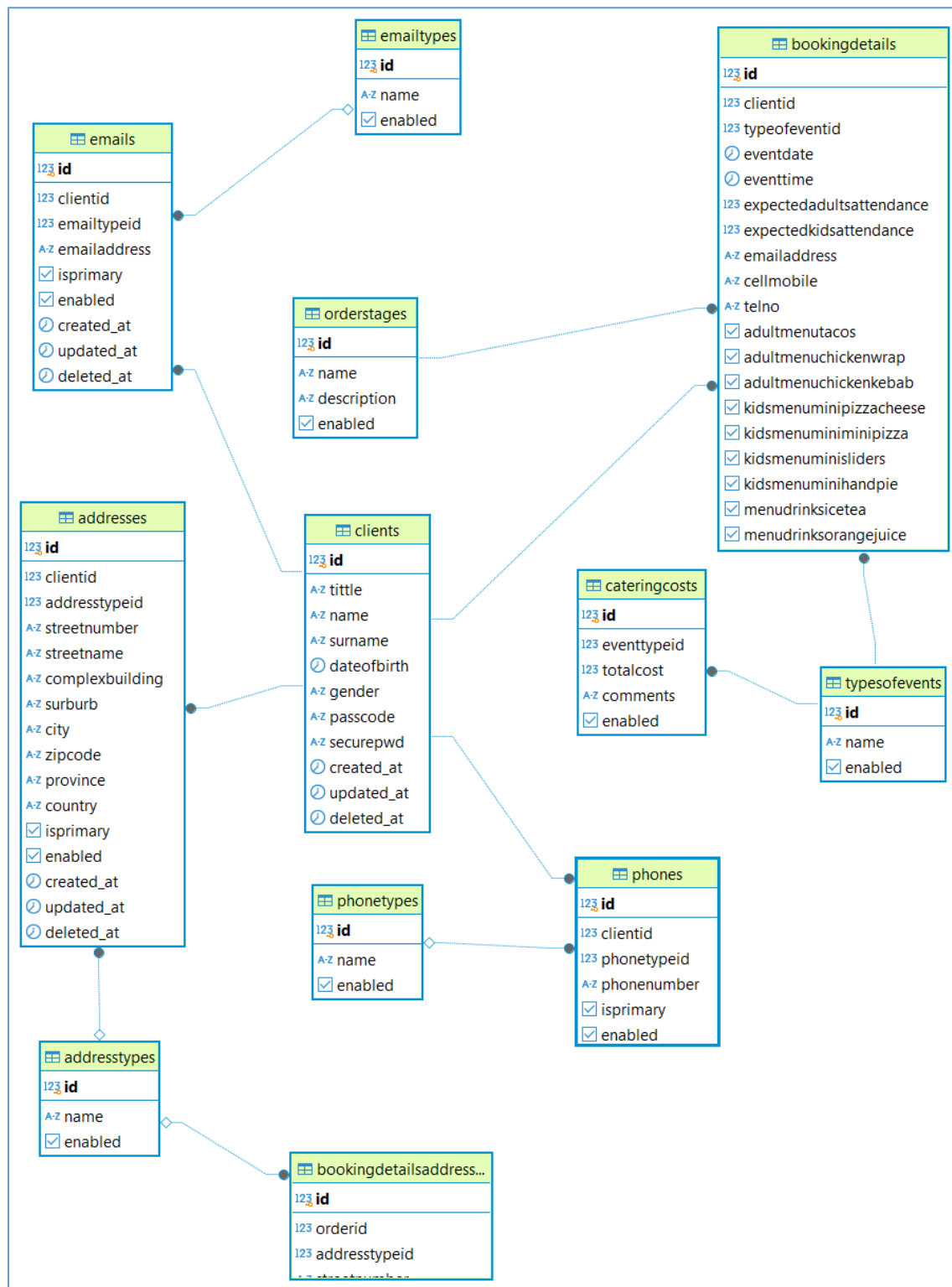
Booking No	Client Name	Client Contacts	Event Type	Event Date	Event Time	Initial Cost	Discount %	Total Cost	Amount Paid	Status	Actions
9000005	Vusi Malinga	0607452041	Baptism	Nov 26, 2024	12:30:00 am	15500.00	0.00	15500.00	0	SUBMITTED	  

5. Project structure

The project is a web application developed on NetBeans using java language. The backend is linked to a Postgres SQL Database engine that is used to store the information captured on the system.

The Web project scaffolding is as below:

- **DeliciousCatering:** main project
 - **Web pages:** this is where the UI screens and designs are located.
 - **www:** where the styling and front-end scripting language or logic is stored.
 - **Source Packages:** This is where the Java code is located.
 - **Data:** where the database connectivity and calls are stored.
 - **Controllers:** the middleware between the UI and the database functions. Responsible for ensuring communication and translating data from forms and data from the database.
 - **Models:** Where the data objects that determine what is sent to the database and what is captured and displayed on the UI is located.
- **Database:** the database design diagram is as below:
- **GitHub Code base:** <https://github.com/Squard3Technologies/DeliciousCatering.git>



6. Running The Project

6.1. Database Installation

- Download PostgreSQL from [PostgreSQL: Downloads](#)
- Install Postgres
- Get the Database script from the Project files under the 'Db' in the file "Database.sql"
- **Database name:** deliciouscatering
- **Database user:** prgadmin
- **Database password:** Pass123

6.2. Configure IDE

- Open Apache NetBeans
- Open the project from NetBeans
- Click on services