

ISLAMIC UNIVERSITY OF TECHNOLOGY



Event Essence

CSE 4410: Database Management System II
Project (Proposal)

Team Sharp#

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1 Brief Overview of the Project

The primary goal of the Event Management System project is to streamline day-to-day business operations related to event planning and execution. The proposed system will be built on a PostgreSQL Database platform and will offer a range of functionalities to facilitate the efficient organization of events in hotel venues. This includes handling room reservations, event registrations, cancellations, and various other event-related operations.

PL/SQL Procedures and Functions

The heart of the system lies in the implementation of PL/SQL procedures and functions, which will power a variety of queries and operations necessary for event management tasks. These include but are not limited to:

- Event creation and modification queries.
- Room reservation and availability checks.
- Attendee registration and information retrieval.
- Cancellation and refund processes.

By implementing this comprehensive Event Management System, we aim to elevate its event planning capabilities, providing a centralized solution for efficient, user-friendly, and data-driven event management. The integration of PostgreSQL's database platform and the utilization of PL/SQL procedures and functions will ensure a robust system capable of meeting the evolving needs.

2 Features

Hotel Management

- Add a new hotel with detailed information such as address, phone, and available event room types.
- Find a hotel based on its address and retrieve its unique hotel ID.
- Display comprehensive information about a hotel given its ID.

Event Room Management

- Add event rooms (Small Hall, Medium Hall, Large Hall) to a specific hotel based on the hotel ID.
- Display event room information for all hotels in a particular state, including total capacity per room type.

Reservation and Cancellation

- Make an event reservation with parameters like Hotel ID, guest's name, start date, end date, and event type.
- Find an event reservation based on a person's name, date, and hotel ID.
- Cancel an event reservation (mark as canceled without deletion).
- Show all canceled events with detailed information.

Event Modification

- Change an event date based on the reservation ID if availability exists.
- Change an event room type based on the reservation ID if availability exists during the reservation's date interval.

Event Queries

- Show specific events of a given type across all hotels with details about the hotel address and event date.
- Show events associated with a specific person based on their name.

Financial Reports

- Generate a Total Monthly Income Report, displaying total income by month, event type, and service type, including discounts.
- Generate an Event Invoice based on the reservation ID, detailing room rates, services rendered, discounts, and the total amount to be paid.

Service Management

- Add services to an event based on the reservation ID, specifying the service and date.
- Generate a Reservation Services Report, displaying all services for a given reservation ID, along with the number of attendees.
- Show Specific Service Report, inputting a service name and displaying information on all reservations with that service.

Income Reports

- Generate a Services Income Report for a specific hotel, calculating and displaying income from all services in all reservations.
- Generate an Income by State Report, inputting a specific state and printing total income from all events, including discounts.

3 Tools and Technology

The development of the Event Management System will leverage a carefully selected set of tools and technologies to ensure robustness, scalability, and an intuitive user experience.

Frontend

The frontend of the system will be developed using **EJS (Embedded JavaScript)**, a templating language for JavaScript.

Backend

The backend of the system will be powered by **Node.js**, a server-side JavaScript runtime. To complement Node.js, we will utilize **ExpressJS**, a minimal and flexible Node.js web application framework.

Database

The underlying database for the Event Management System will be **PostgreSQL**, a highly reliable and scalable relational database management system.

Others

Version Control

Git, a distributed version control system, will be employed to track changes, manage collaboration among developers, and ensure the integrity of the codebase.

Documentation

LaTeX will be used for overall documentation of the project

4 ER Diagram

