Event Management Database Project

Showcasing SQL, Database Management & Development Skills

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Client Background

Elegant Events Management is a rapidly growing event services company

Specialization: Weddings, Corporate Events, Private Parties

Operations: Oversee venue management, catering coordination, and staffing across multiple locations

Business Problem:

Different teams solely use Excel to track important business operations leading to inefficiencies and costly errors as demand grows:

- Double bookings & scheduling conflicts due to manual data entry.
- Inventory mismatches causing shortages during events.
- Staffing gaps from disorganized scheduling.
- Limited financial insight, making it hard to track revenue per event.
- Scalability challenges, making multi-venue management challenging.

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Solution: A Scalable Relational Database

To address inefficiencies, the company hired a **freelance data expert** to design and implement a structured database system, marking their first step toward **digital transformation**.

Fact-Finding & Stakeholder Insights:

To fully understand the company's pain points and current workflow, interviews were conducted with key stakeholders:

- **Event Coordinators**: How are bookings and customer details tracked?
- **Operations Team**: How is inventory managed across venues?
- **HR & Staffing**: How are employees assigned to events?
- **Finance:** How are event costs and revenue calculated?

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Database Design & ERD Development

Using stakeholder insights, an **Entity-Relationship Diagram (ERD)** was created to map core business data entities and relationships, ensuring accuracy without duplication or inconsistencies.

Key Tables:

Customers- Stores client details, contact information, and assigned bookings

Venues- Tracks event locations, capacities, and assigned bookings

Catering- Manages menu offerings and event-specific food services

Inventory- Maintains stock levels for tables, chairs, decorations and audio equipment

Employees- Stores staff details, contact information, pay rate, availability and much more

Events- Centralizes event details, linking customers, venues, catering, inventory and employees

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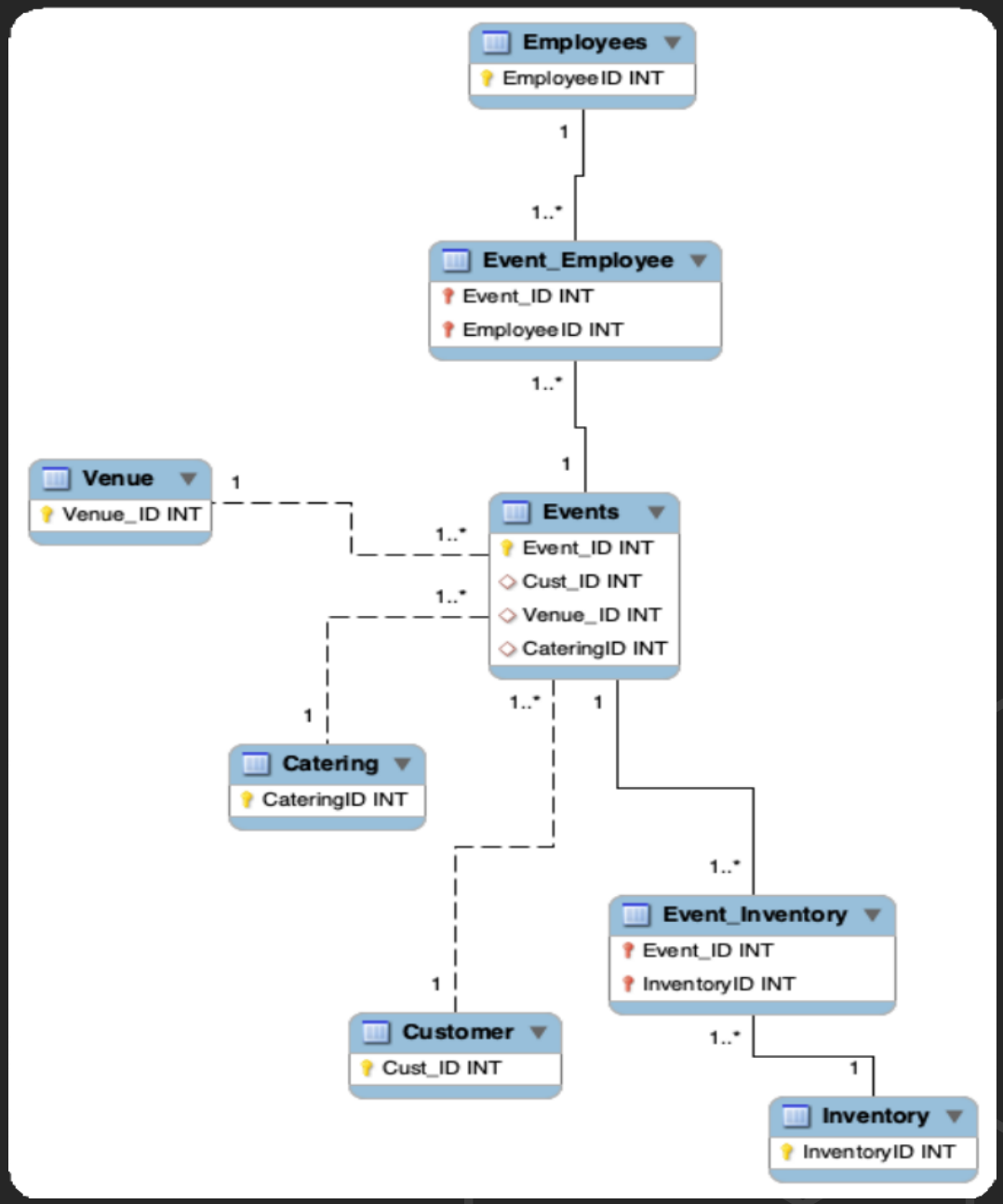
Database Design & ERD Development



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Database Schema Overview

With all necessary information gathered, we designed the SQL database schema to ensure efficient data management, eliminate duplication, and maintain referential integrity, keeping these key principles in mind:

- Structured schema defining table relationships.
- Data integrity enforced through constraints & normalization.
- Sample data added to reflect real-world event scenarios and stress test.

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Sample SQL Code

```sql
-- Create Events table
CREATE TABLE Events (
    Event_ID INT PRIMARY KEY,
    Event_Date DATE,
    Event_Type VARCHAR(150),
    Cust_ID INT,
    Venue_ID INT,
    CateringID INT,
    FOREIGN KEY (Cust_ID) REFERENCES Customer(Cust_ID) ON DELETE RESTRICT,
    FOREIGN KEY (Venue_ID) REFERENCES Venue(Venue_ID) ON DELETE RESTRICT,
    FOREIGN KEY (CateringID) REFERENCES Catering(CateringID) ON DELETE SET NULL
);
```

```sql
-- Create Employees table
CREATE TABLE Employees (
    EmployeeID INT PRIMARY KEY,
    Emp_Name VARCHAR(500),
    Emp_Number VARCHAR(40),
    Emp_Email VARCHAR(500),
    Emp_Availability VARCHAR(500)
);
```

```sql
-- Create Customer table
CREATE TABLE Customer (
    Cust_ID INT PRIMARY KEY,
    Cust_Name VARCHAR(500),
    Cust_Number VARCHAR(40),
    Cust_Email VARCHAR(500),
    Cust_Type VARCHAR(100)
);
```

See full SQL code here: LINK

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Business Questions & Queries

With the database now in place, we can efficiently answer key business questions that drive event management and decision-making.

Sample Questions:

Highest spending customer

Employee cost per event

Event profitability

Total employee expenses across events

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Sample SQL Code

Highest spending customer

SQL Query:

```sql
-- Which Customer Spent the most?
SELECT c.Cust_Name, ROUND(SUM(e.Total_Price)) AS Total_Spent
FROM Customer c
JOIN Events e ON c.Cust_ID = e.Cust_ID
GROUP BY c.Cust_Name
ORDER BY Total_Spent DESC
LIMIT 5;
```

Output:

Cust_Name	Total_Spent
Charlie Green	7000
Grace Johnson	6000
Hannah Lee	5500
John Doe	5000
Eve Adams	4500

See full SQL code here: LINK

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Business Impact

Efficiency Gains

Reduction in scheduling errors.

Faster Reporting

Revenue and staffing reports that took hours in Excel now generate in minutes.

Scalability

The company now has a structured data system ready for future cloud integration.

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Upcoming Improvements

With a solid database process now in place, Elegant Events Management is now exploring:

Cloud Migration
Remote access & enhanced security.

Automated Dashboards
Power BI/Tableau integration.

AI-Powered Insights Predictive analytics for event trends.

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Final Thoughts

While Excel can handle many of these tasks, it has several drawbacks when managing large-scale event operations:

Manual Errors
Increased risks of double bookings & inventory mismatches.

Limited Scalability
Struggles with large datasets.

Lack of Automation
Requires manual updates.

Limited Data Integrity
No enforced relationships between records.

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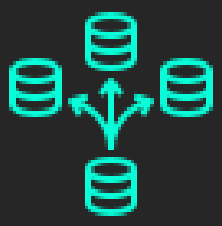
Why a Relational Database?

A relational database provides:

Automated workflows via triggers and stored procedures.



Scalability to handle large events and multiple venues.

Improved data integrity through constraints and relationships. Faster reporting with optimized queries.

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Beyond Databases

A database boosts efficiency, but **it's not a one-size-fits-all solution**. Companies need to do their due diligence to find what **best fits their needs and budget**.

Many SaaS platforms offer **built-in event management tools**, making them ideal for businesses with standard workflows. However, those requiring custom workflows, automation, and tighter data control may benefit more from a custom database..

That said, **no single platform will cover every core function.** A mix-and-match tech stack may be the best approach for an end-to-end coverage.

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Conclusion

Through **stakeholder interviews**, **ERD design**, and a **structured relational database**, Elegant Events Management has transformed its data operations, paving the way for efficiency, automation, and scalable growth.

01 Better decision-making with accurate data.

02 Eliminated inefficiencies in bookings, staffing, and inventory.

03 Future-ready for business expansion.

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Thank You!

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