Ahsanullah University of Science and Technology (AUST)
Department of Computer Science and Engineering

Project Proposal: Restaurant Management System

Course No.: CSE4126

Course Title: Distributed Database Systems Lab

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Submitted To-

Ms. Zarin Tasnim Shejuti

&

Ms. Sanzana Karim Lora

Submitted By-

Member 1
ID: 190204004: Md. Abu Hanjala

Member 2
ID: 190204005: M Saymon Islam Iftikar

Lab Group: A1
Year: 4th
Semester: 1st
Department: CSE

Restaurant Management System

Motivation:

A distributed database is one that is split up into different locations, with each containing a subset of the data. Numerous benefits, including improved availability, scalability, and dependability, come with this strategy. Although maintaining a distributed database might be difficult because it calls for assuring data consistency and resolving conflicts between many sites, it is necessary.

Distributed databases also need specialized hardware and software infrastructure to facilitate synchronization and communication among several sites.

Global Schema:

- **Menu**: (item_id, name, description, price, category)
- **Customers**: (customer_id, name, contact, address, phone, Gender).
- **Orders**: (customer ID, menu items ordered, and the total cost).
- **Feedback: (**fid, item_id, msg, points**)**
- **Tables:** (table_id, seats, status)
- **Reservation: (**Rid, reserve_date, customer_id,table_id,guests,**)**
- **Placed_Order: (**place_id, total_amount, customer_id, address, email**)**

Fragmentation Schema:

Menu1 = SL $_{price>250}$ (Menu1)

Menu2 = SL $_{price<=250}$ (Menu2)

Customer1 = PJ $_{customer\_id, name, address, gender}$ (Customer1)

Customer2 = PJ $_{customer\_id, phone, email, gender}$ (Customer2)

Order1 = SL $_{total<500}$ (Order1)

Order2 = SL $_{total>=500}$ (Order2)

Table1 = SL $_{status='Available'}$ (Table1)

Table2 = SL $_{status='Unavailable'}$ (Table1)

Feedback1 = PJ $_{fid, item\_id}$ (Feedback1)

Feedback2 = PJ $_{fid, msg, points}$ (Feedback2)

Allocation Schema:

Site:1

- Customer1
- MeuItems1
- Feedback1
- Tables1
- Orders1
- Reservation

Site:2

- Customer2
- MeuItems2
- Feedback2
- Tables2
- Orders2
- Placed_Order

Conclusion:

In conclusion, successful restaurant management is essential for any institution to be successful. Restaurant management must include employee motivation since it can enhance performance, foster a great work atmosphere, and assist retain people. The accuracy and efficiency of restaurant operations can be increased by establishing a trustworthy and secure database system from a distributed database perspective.

Managers may make quick choices by using key information, like as customer orders and inventory, being readily available in real-time from any place with the aid of a distributed database. Furthermore, it can aid in preventing data loss as a result of hardware malfunctions or natural calamities, guaranteeing that crucial data is constantly accessible.

Overall, using a solid distributed database system in conjunction with efficient management techniques can assist restaurant owners and managers in succeeding in the fiercely competitive market of today.