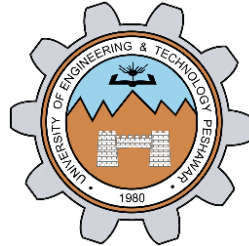# KEY MILESTONE 1: CONCEPTUAL SCHEMA

KAZ KITCHEN RESERVATION SYSTEM

Spring 2025

CSE-403L Database Management System Lab

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KAZ KITCHEN RESERVATION SYSTEM

INTRODUCTION

The KAZ Kitchen Reservation System is a database-driven application designed to efficiently streamline and manage table reservations for a restaurant. The primary objective of this project is to digitize the reservation process, replacing traditional manual methods with a reliable and structured system that ensures accuracy, reduces overbooking, and enhances customer experience.

This system enables customers to create accounts, book tables based on availability, and, optionally, request special services, such as decorations. It ensures that each table is reserved for a specific time slot, avoids double bookings, and provides flexibility in managing cancellations.

ENTITY DESCRIPTION

|	
CUSTOMER	A person who creates an account to reserve a table. Example: Khizra.
RESERVATION	The transaction associated with a customer booking a table, time slot, and service on a specific date. Example: Khizra books Table 5 for 4 guests on May 27, 2025, from 7 PM to 9 PM.
TABLE	A physical dining spot available in the restaurant, each having a specific seating capacity. Example: Table 5, which can seat 4 people.
TIME_SLOT	A predefined time interval during which a reservation can be made. Example: A slot from 7:00 PM to 9:00 PM.
SERVICE	An optional service a customer may select during the reservation, like decoration. Example: "Anniversary Decoration" service with candlelight setup.
CANCELLATION	The record of a reservation being cancelled. Example: Khizra cancels her decorated dinner reservation.

BUSINESS RULES

1. A CUSTOMER may make many RESERVATIONs. Each RESERVATION must be made by exactly one CUSTOMER.

2. Each RESERVATION must be for exactly one TABLE and exactly one TIME_SLOT. A TABLE may be associated with multiple RESERVATIONs over different time slots but may not be double-booked

for the same TIME_SLOT. A TABLE may not be associated with any reservation (e.g., new or unused tables).

3. A RESERVATION may optionally include one SERVICE. However, each SERVICE may be associated with many RESERVATIONS.

4. A RESERVATION may be CANCELLED. However, each RESERVATION can either be in a confirmed or cancelled state, not both. Each CANCELLATION must relate to exactly one RESERVATION.

5. A TABLE has a fixed capacity, and each RESERVATION must ensure that the number of guests does not exceed the TABLE's capacity.

ENTITY RELATIONSHIP DIAGRAM (ERD)

Figure 1: ERD of Restaurant Reservation System
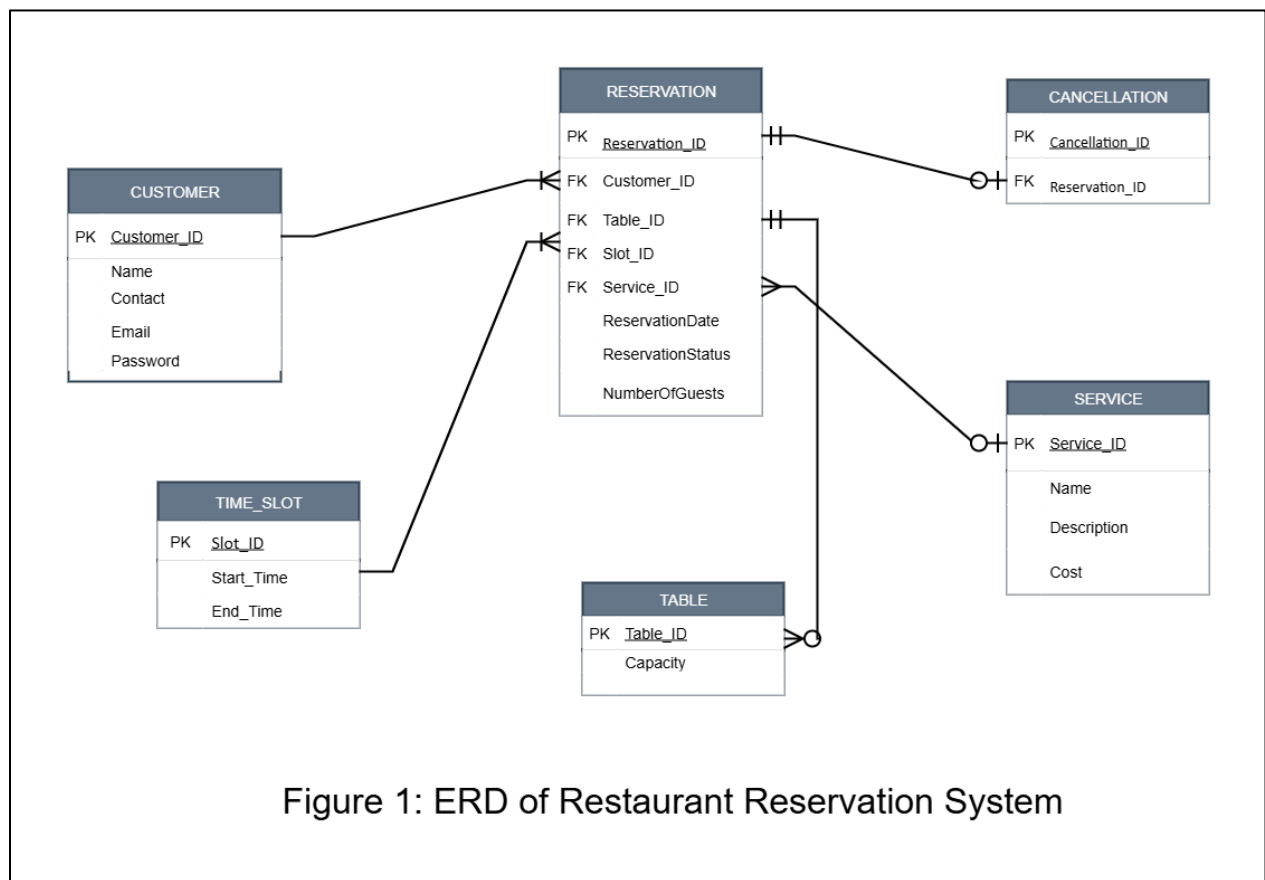
ENHANCED ENTITY RELATIONSHIP DIAGRAM (EERD)
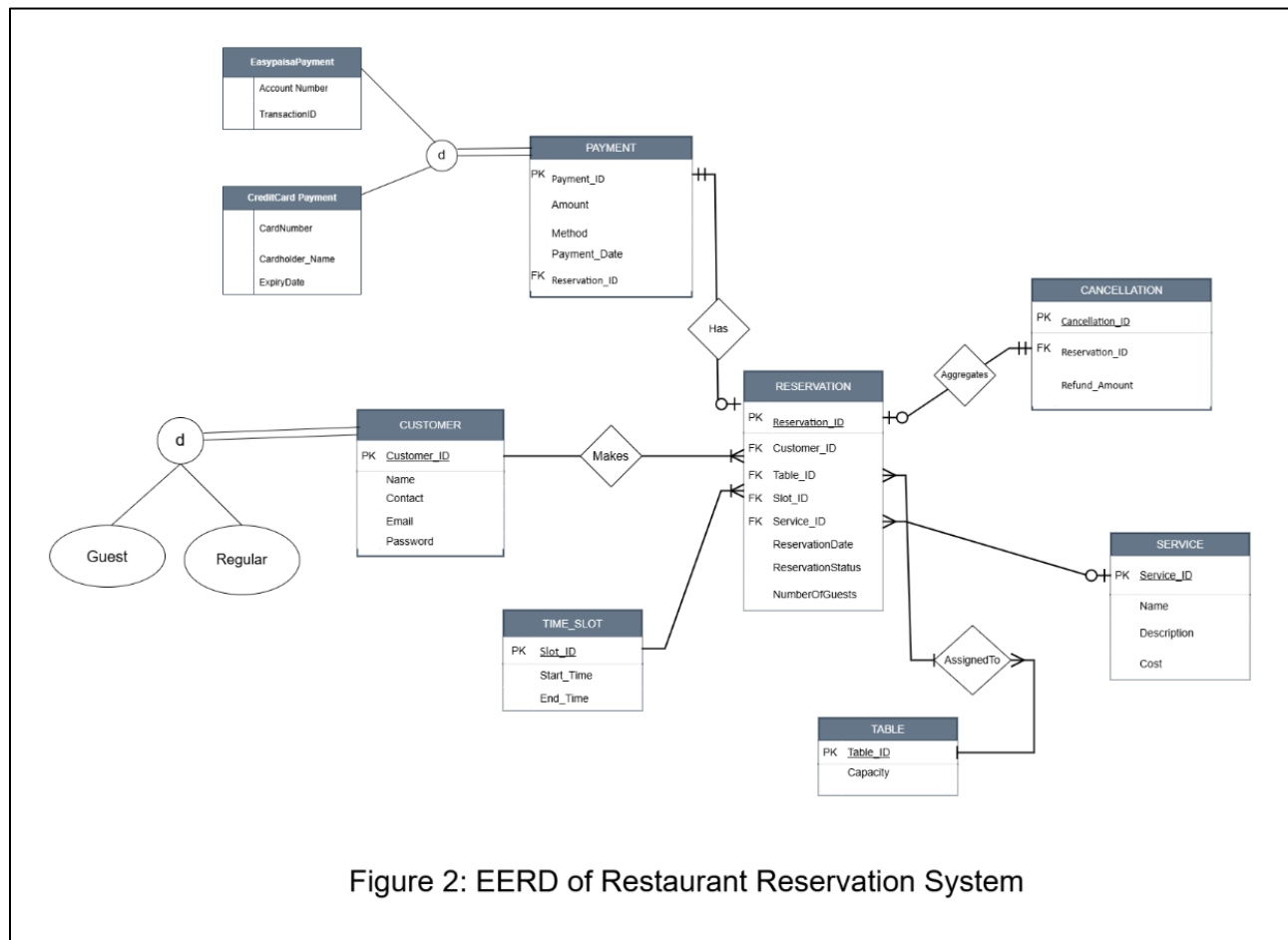

Figure 2: EERD of Restaurant Reservation System

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[3]   "How to Design a Database for Online Restaurant Reservation and Food Delivery," *GeeksforGeeks*, Mar. 12, 2024. https://www.geeksforgeeks.org/how-to-design-a-database-for-online-restaurant-reservation-and-food-delivery/

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