COMP2411 Group Project - Banquet Management System (BMS)

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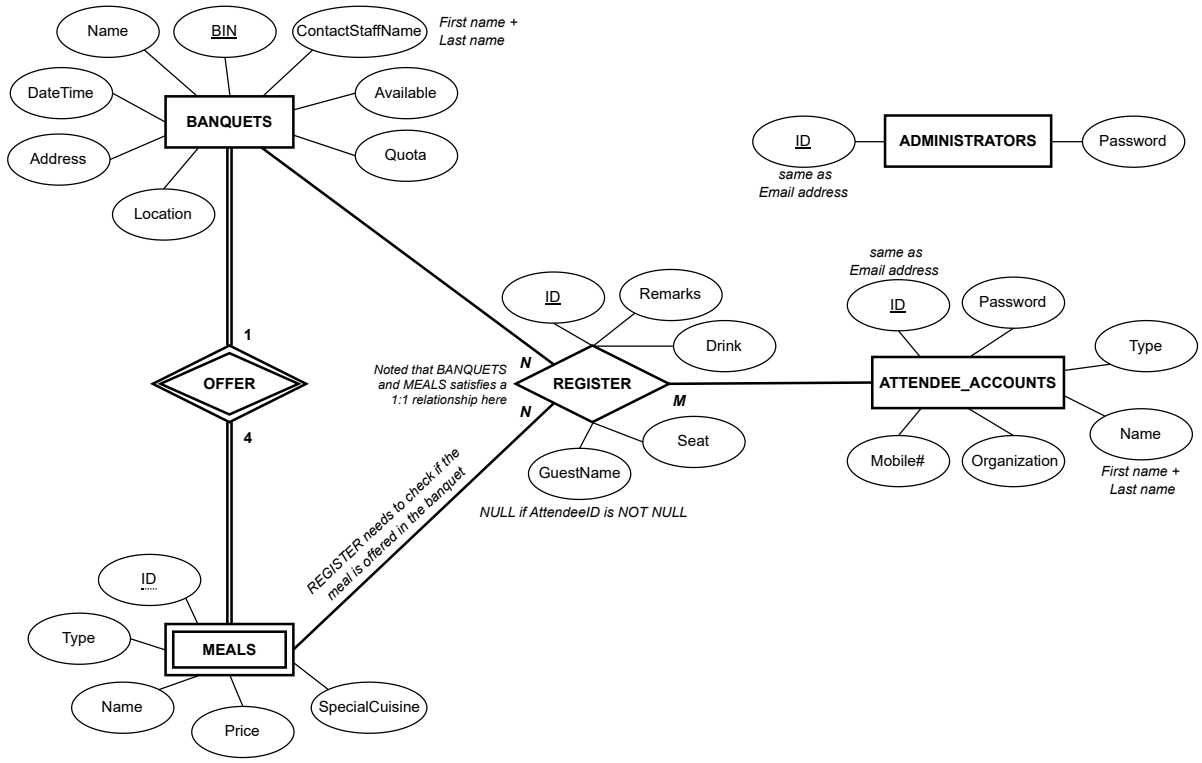
FIRST STAGE REPORT

I. ER DIAGRAM

Below is the ER diagram of our BMS database. We created entities to represent objects. Here are some important notes:

- Generally, the name of the entity is the object it represents, for example, BANQUETS represents *banquets*, MEALS represents *meals*, ATTENDEE_ACCOUNTS represents *attendee accounts*, and ADMINISTRATORS represents *administrators*.
- There are some *notes* next to the attributes or arrows. For example, "*First name + Last name*" appears next to the attribute Name, indicating that the first name and the last name are combined into a single attribute.
- In our BMS, we assume attendees could choose any meal from the meal list, if the banquet offers it and permits choices, which explained that why there are two relationships connecting BANQUETS and MEALS.
- Numbers (1) and unknowns (*N, M*) are placed next to the relationships to indicate the cardinality constraint.



II. RELATIONAL SCHEMA[1]

Below is the relational schema of our BMS database. We created tables to represent entities, and the table names are identical to the entity it represents. For the relationships, some are converted to attributes and included within tables, while others are in new tables. Notes are listed as footnotes[something like this], and please check them carefully.

Tables:

BANQUETS (BIN, Name, DateTime, Address, Location, ContactStaffName, Available, Quota)

MEALS[2] (BIN, ID, Name, Type, Price, SpecialCuisine)

ATTENDEE_ACCOUNTS (ID[3], Password, Name, Address, Type, Mobile#, Organization)

REGISTRATIONS[4] (ID[5], AttendeeID, GuestName[6], BIN, MealID, Drink[7], Seat)

ADMINISTRATORS[8] (ID[9], Password)

Foreign key referencing:

MEALS (BIN) References **BANQUETS** (BIN)

REGISTRATIONS (AttendeeID) References **ATTENDEE_ACCOUNTS** (ID)

REGISTRATIONS (BIN) References **BANQUETS** (BIN)

REGISTRATIONS (BIN, MealID) References **MEALS** (BIN, ID)

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[1] In the textbook *Fundamentals of Database Systems*, the relational schema doesn't include data types. Therefore, we will also omit data types from our relational schema.

[2] MEALS is a weak entity, a pair (BIN, MealID) identifies a meal. Noted, drinks are included in MEALS.

[3] ID = Email, which is a **must** according to the project instruction.

[4] REGISTRATION is the table created from the relationship REGISTER.

[5] We create a new primary key ID for this table. We don't use (AttendeeID, GuestName, BIN, MealID) as the primary key because AttendeeID and GuestName can be NULL (in the context of guest reservations).

[6] GuestName is for guest reservation. It is the name of the guest if the registration is a guest reservation, or it's NULL.

[7] Drink is an enum type, in MySQL, this can be directly declared as an enum type.

[8] Once an administrator logs in the BMS system, she/he would have access to ALL banquets.

[9] ID = Email, consistent with the attribute ID in ATTENDEE_ACCOUNTS.

III. PROJECT PLAN

Sub-task	Finish before
Find which host programming language, SQL dialect and DBMS to use * We already decided to use MySQL. The tests also costs time.	Nov 5
Code BMS	Nov 18
Test BMS	Nov 20
Finish the user guide	Nov 24
Finish the video demonstration	Nov 26
Analysis report, Contribution-of-work form, Peer-evaluation form	Nov 29
Submit the whole project to BLACKBOARD	Nov 30