

University of Puerto Rico, Mayagüez Campus

CIIC4060 – Introduction to Database Systems

Fall 2021

Term Project – Backend System for Google Calendar-Style Service

Phase I – Conceptual Design

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Description of relations and entities:

**User:**

- userID: primary key, integer value that differentiates users.
- firstName: varchar value, first name of the user.
- lastName: varchar value, last name of the user.
- email: varchar value, email address of the user, used for login.
- password: varchar value, password decided by user, used for login.
- roleID: int value, foreign key used to relate the user to his role (student, staff, etc.)

**UserUnavailability:**

- userUnavailabilityID: primary key, int value, used to differentiate different busy schedule of users.
- userID: int value, foreign key used to relate user to the UserUnavailability schedule.
- startDateTime: timestamp value, gives the starting time and date when the user is unavailable.
- endDateTime: timestamp value, gives the ending time and date when the user is unavailable.

**UserRole:**

- userID: primary key, int value, used to differentiate the different roles available.
- userName: varchar value, used to assign the role (student, professor, staff, etc.) of the user. This is done to determine permissions during the implementation.

**Reservation:**

- reservationID: primary key, int value, used to differentiate reservations done.
- hostID: int value, foreign key with the user id of the user that created the reservation.
- roomID: int value, foreign key to from the room that is going to be used in the space.
- startDateTime: timestamp value, gives the time and date when the reservation starts.
- endDateTime: timestamp value, gives the time and date when the reservation ends.

**Invitation:**

- invitationID: primary key, int value, used to differentiate the invitations made.
- inviteeID: int value, foreign key from the user that was invited to the reservation.
- reservationID: int value, foreign key from the reservation that sends out the invitation.

**Room:**

- roomID: primary key, int value, used to differentiate rooms.
- roomNumber: int value, physical room number assigned to that room.
- roomCapacity: int value, gives the maximum number of invitees that can be in a reservation in that room.
- buildingID: int value, foreign key that relates the room to the building its located in.
- typeID: int value, foreign key that relates the room to its type of room (lab, study, etc.)

**RoomType:**

- roomTypeID: primary key, int value, used to differentiate the different types of room.
- roomTypeName: varchar value, gives the type of room (lab, study room, etc.) used to describe the uses of that room.

**Building:**

- buildingID: primary key, int value, used to differentiate the buildings in UPRM.
- buildingName: varchar value, physical name to the building located in UPRM (Stefani, Luccheti, etc.)

**RoomUnavailability:**

- roomUnavailabilityID: primary key, int value, used to differentiate the different times when the room is not available.
- roomID: foreign key, int value, used to relate the classroom to its hours when its not available.
- startDateTime: timestamp value, gives the starting time and date when room is not available.
- endDateTime: timestamp value, gives the ending time and date when the room is not available.