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:

-userRoleID: primary key, int value, used to differentiate the different roles available.

-userRoleName: 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 starting time and date when the reservation starts.

-endDateTime: timestamp value, gives the ending 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 the invitation is sending out.

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 types.

-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 classroom is not available.

-endDateTime: timestamp value, gives the ending time and date when the classroom is not available.