NetIds: dgroves2, jacobdr4, nuox3

# Relational Schema

User (
    userUsername: VARCHAR(20) [PK],
    userPassword: VARCHAR(20),
    userFirstName: VARCHAR(20),
    userLastName: VARCHAR(20),
    userGender: VARCHAR(10),
    userAge: INT,
    userWeight: FLOAT,
    userHeight: FLOAT
)

GymSession (
    sessionID: INT [PK],
    userUsername: VARCHAR(20) [FK to User.userUsername],
    routineID: INT [FK to Routine.routineID],
    sessionDate: DATE,
    sessionStartTime: TIME,
    sessionEndTime: TIME,
    currentWeight: FLOAT
)

Contains (
    sessionID: INT [PK, FK to GymSession.sessionID],
    exerciseID: INT [PK, FK to Exercises.exerciseID],
    sessionExerciseReps: INT
    sessionExerciseSets: INT
    sessionExerciseWeight: INT
)

Exercises (
    exerciseID: INT [PK],
    exerciseName: VARCHAR(20),
    exerciseBodyPart: VARCHAR(20),
    exerciseEquipment: VARCHAR(20),
    exerciseGIFURL: VARCHAR(30))

Routine (
    routineID: INT [PK],
    routineName: VARCHAR(20)
)

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Includes (
    routineID: INT [PK, FK to Routine.routineID],
    exerciseID: INT [PK, FK to Exercises.exerciseID],
    routineExerciseSets: INT,
    routineExerciseReps: INT
)

Achieves (
    userUsername: VARCHAR(20) [PK, FK to User.userUsername]
    achievementTitle: VARCHAR(20) [PK, FK to Achievements.achievementTitle]
    userAchievementDate: DATE
)

Achievements (
    achievementTitle: VARCHAR(20) [PK]
    achievementDescription: VARCHAR(100)
)

Records (
    userUsername: VARCHAR(20) [PK, FK to User.userUsername]
    exerciseID: INT [PK, FK to Exercises.exerciseID]
    prWeight: INT
)

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# Description

The database should store information about User, GymSession, Exercises, Routine, Achievements, Records, Contains, Includes, and Achieves.

User are uniquely defined by their userUsername. Other User attributes are userPassword, userFirstName, userLastName, userGender, userAge, userWeight, and userHeight.

GymSession is uniquely defined by the sessionID. Other GymSession attributes are userUsername, routineID, sessionDate, sessionStartTime, sessionEndTime, and currentWeight.

Exercises is uniquely defined by the exerciseID. Other Exercises attributes are exerciseName, exerciseBodyPart, exerciseEquipment, and exerciseGIFUrl.

Routine is uniquely defined by the routineID. Other Routine attribute is routineName.

Achievements is uniquely defined by the achievementTitle. Other Achievements attributes is achievementDescription.

Records is uniquely defined by userUsername and exerciseID. Other Records attribute is prWeight.

Contains is uniquely defined by sessionID and exerciseID. Other Contains attributes are sessionExerciseReps, sessionExerciseSets, and sessionExerciseWeight.

Includes is uniquely defined by routineID and exerciseID. Other Includes attributes are routineExerciseSets and routineExerciseReps.

Achieves is uniquely defined by userUsername and achievementTitle. Other Achieves attribute is userAchievementDate.

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# Relationship

A User may participate in multiple GymSessions, and each GymSession can be participated in by only one User. (We are assuming we are not doing group workouts and a User can use the app for more than one workout)

A GymSession can contain multiple Exercises, and each Exercise can be contained in multiple GymSession. (In a session you can do both dumbbell flys and bench, and a bench exercise can be in a session on Thursday and Monday)

Every time a GymSession contains an Exercise, we want to store for how many sets, repetitions, and for how much weight. (Assuming they did the same weight for all sets)

A GymSession is an instance of at most one Routine, and each Routine can be instanced by many workouts. (We can have preset Routines in the app which multiple workouts can be based upon, yet we can also just have a workout without a preset Routine - setting FK to None)

A Routine can include multiple Exercises, and each Exercise can be included in multiple Routines. (In a routine you can do both dumbbell flys and bench, and a bench exercise can be in a routine for legs and cardio)

Every time a Routine includes an Exercise, we want to store how many sets and reps for the exercise.

A User can record multiple Exercises, and an Exercise can be recorded by multiple Users. Every time a User records a Exercise, we want to store the personal record of the exercise, specifically the attribute “prWeight.”

A User can achieve multiple Achievements, and each Achievement can be achieved by multiple Users. (A user can have the achievement for both working out 3 days a week and hitting a bench of 200, and multiple people can achieve 200 bench press achievements)

Every time a User achieves a Achievement, we want to store the date the customer achieved the achievement, specifically the attribute “userAchievementDate.”

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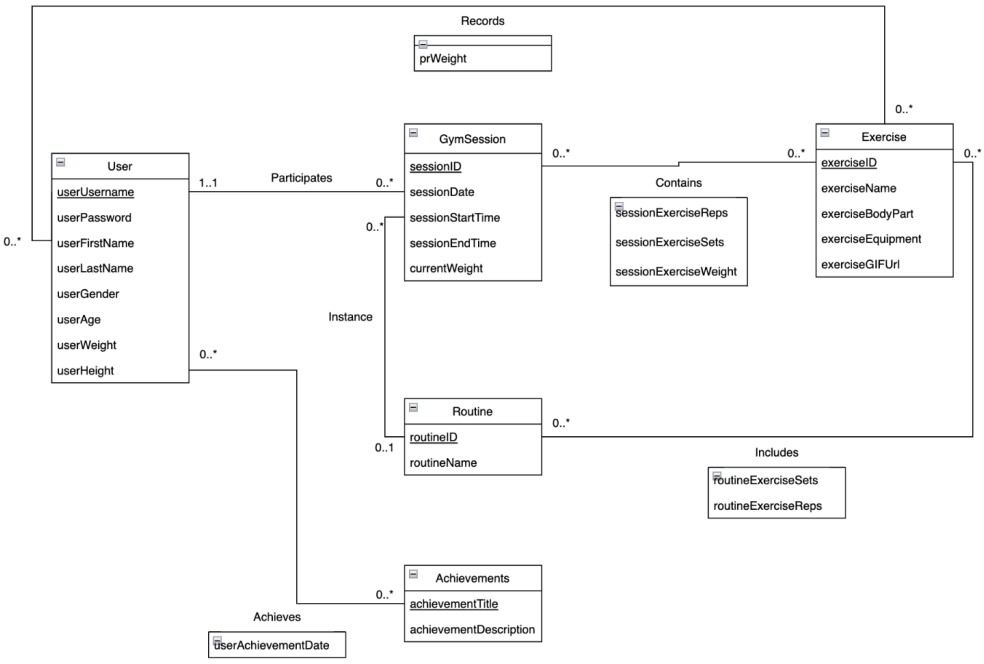


Assumptions:

1) During a workout exercise, the user will use the same weight for all sets.

2) No two achievements will have the same title.

3) User height will be in inches.

4) User weight will be in pounds.