Department of Computer Science and Engineering
University of Notre Dame

CSE 40746 - Advanced Database Projects
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Final Project

Group 4 - Updated Design

Benjamin Egloff, Thomas Deiser, Jason Brammer

Schema:

Users(ID, name, email**)**

Exercises(ID, name, region, muscle, preferability, preparation, execution, comments, utility, mechanics, force **)**

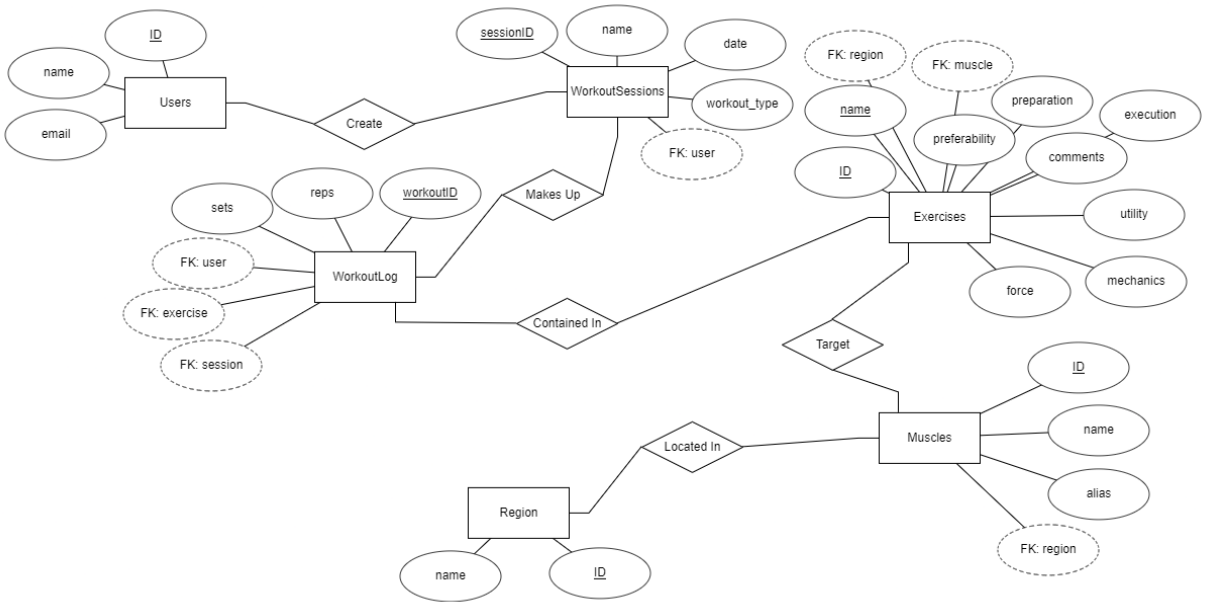
WorkoutSessions(sessionID, name, date, workout_type, user **)**

WorkoutLog(workoutID, user, exercise, session, reps, sets **)**

Muscles(ID, name, alias, region **)**

Regions(ID, name **)**

ER Diagram:



After further discussion and observation of our database, we decided to add in a few more tables to give us a total of six tables. These represent users, exercises, the workout log, individual workout sessions, muscles, and regions. We decided to expand and give muscles and regions their own tables for quickly connecting exercises and their targeted muscles. At a top level, the Users, Exercises, and WorkoutSessions tables are abstractions to make the WorkoutLog table more streamlined and compatible with the normal forms. Abstracting the database in such a way allows the workout log to be quite easy to manage, as all foreign keys must be satisfied to create

an entry. The users table simply records a user id, the users name, and their email. We will also work on incorporating a password at some point. The exercises table records an id for each exercise, the targeted muscle and region as foreign keys, the type of force used in this exercise (push/pull/upper/lower), mechanics and utilities used, the preferability of the exercise, along with comments about the exercise and preparations and execution instructions on how to complete the exercise. The workout sessions table contains a sessionID, a foreign key user, the name of the workout, the date, and the type of workout (push/pull/upper/lower). Finally, the workout log stores an exercise ID, user, exercise, and session IDs as foreign keys, and the number of sets and reps completed.