Databases & Web Services Project 2023

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ER Diagram explanation

Health and Fitness Tracker that creates a web service that helps users track their fitness goals, diet, and exercise routines. Store health data in a database and provide recommendations and historic progress. Our ER diagram starts off with eleven entity sets and each with four plus relationship sets All connected via the ISA hierarchies and relationship sets. Our first entity set is our (User) with relationship of username, UserID, Name, age, password, gender, and email along with a relationship with gender and address. The Users address connects to another entity which is the (Location) which has a City, State, Zipcode and locationID. Along with the location the user also connects to a membershipID where There are three entities (BasicMembership), (ProMembership) and (Pro+Membership). where the first one is the BasicMembership with a fee, Contract, Goodybag and Date. Then it's connected with an ISA hierarchy to the next entity with is the ProMembership with Drinks, Shower, Onlinecourse and Massagechair. Then the ISA hierarchy connects to the last entity with is the Pro+Membership with a Spa, Steam and Stone saunas and a Personal trainer. With each user also comes a gender that connects the user to the new entity which is the (BodyMeasurement) with attributes like BodyMassIndex, height, weight, BodyMeasurementID and last the BodyFatIndex. Alongside each user we have a (Workout) entity with ExcerciseCategory, ExercisePlan, Duration and ExerciseLevel. Workout also has two ISA hierarchies first one connects to two entities (Cardio) and (WeightTraining). The cardio entity has CaloriesBurnt, AerobicClass, Running and CardioMachines. The WeightTraining entity has Sets, Max and Min reps, Max and Min Weights. The second ISA hierarchy connects workout with the

difficulty which is two entities (Beginner) and (Advanced). The Beginner entity has SaftyTips, CoachSuperVision and Instructions. The Advanced entity has PersonalRecordChart, Targets, AdvancedTechnique and PreRequisties.

The weight training names are connected with the beginner and advanced level with a 1 to 1 relation. As each weight training exercise most probably has a beginner level and an advanced level. That concludes Our developing ER chart.