

ER Diagram
Fitness Tracker

The Entities:

- User – One account per user. The attributes are:
 - ID- Because our entities are searchable, our tracker will provide special ID which would only be assigned to the one user.
 - Name – The User's name for their login
 - Password – The User's password for their login
- Weight – Linked from the *User* entity through the *Tracking Weights* relationship, this is a weak entity because it cannot be uniquely identified since there could be users with the same weight. The attributes for this entity are:
 - Weight – Collects the users Weight
 - Date – Collects the Date the users took their weight on
 - Time – Collects the Time the users took their weight on
- Workout – Linked from the *User* entity through the *Works out* relationship, this entity uses the users special ID to help identify the user and their workouts. The attributes for this entity are:
 - Date – Collects the Date the users worked out on
 - Time – Collects the Time the users worked out on
 - ID – Because our entities are searchable, the users will have a special ID which will be used to access their workouts
 - Type of Workout – Collects the data of the Type of Workouts the user has completed
 - Length – Collects the data of how long the users worked out for
 - Strength – Collects the data of how intense the user's workout was

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CSCI 466 Section 1

Today's Date: 01/19/2021

Due Date: 01/22/2021

Assignment 1

- Meals – Linked from the *User* entity through the *Eats* relationship, this is a weak entity because it cannot be a set meal for every user. Each user will have different meals which they will be recording through their ID.

The attributes for this entity are:

- ID - Because our entities are searchable, the users will have a special ID which will be used to access/record their meals
 - Date - Collects the Date the had their meal
 - Time - Collects the Time the had their meal
- Food/Beverage – Linked from the *Meals* entity through the *Carries* relationship, this is a combined entity of both food and beverage because both these entities have the same attributes. They are:
 - Name – Collects the Name of the food or beverage the user had that day
 - Grams – Collects the quantity of the Grams per serving the user had, whether food or beverage.
 - Calories – Collects the quantity of the Calories per serving the user had, whether food or beverage.
- Micro – Linked from *Food/Beverages* entity through the *Carries* relationship, this is an entity that deals with all the Micronutrients the user had. The attributes for this entity are:
 - Name – Collects the Name of the food/beverage the user had to help recognize the micronutrient which the user had.
 - Daily – Advices the user to have their daily dose of Micronutrients to help keep them fit.

The Relationships:

- Tracking Weights – Linked from User to Weight, this is a relationship that helps us in keeping track of the user and his weight.
 - The Cardinality:
 - User – Only one user can be linked to weights due to being a weak entity. Therefore, the data range will be (1,1).
 - Weight – Although weights is a weak entity, it can still record the user's weight more than once. Therefore, the data range will be (1, m).
- Works Out – Linked from User to Workout, this is a relationship that helps us in keeping track of the user and his workouts.
 - The Cardinality:
 - User – Only one user can be linked to the set of workouts. Therefore, the data range will be (1,1).
 - Workout – Although one user can be linked to a set of workouts, they can still record the workouts done more than once. Therefore, the data range will be (1, m).
- Eats – Linked from User to Meals, this is a relationship that helps us in keeping track of the user and his meals.
 - The Cardinality:
 - User – Only one user can record their meals they have eaten. Therefore, the data range will be (1,1).
 - Meals – Although one user can record their meals, they can still record their meals more than once. Therefore, the data range will be (1, m).
- Carries – Linked from Meals to Food/Beverages, this is a relationship that helps us understand what the meal carries within itself.
 - The Cardinality:

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- Meals – The meals the user intakes can include both food and/or beverages. Therefore, the data range will be (1, m).
 - Food/Beverages – Can be included in meals more than once. Therefore, the data range will be (1, m).
- The Intersectional Data:
 - Quantity – Data telling us how much quantity is in the meal the user is intaking.
- Carries – Linked from Food/Beverages to Micro, this is a relationship that helps us understand the meals that carries Micronutrients within itself.
 - The Cardinality:
 - Food/Beverages – The meals that can carry a ton of Micronutrients for the user to intake. Therefore, the data range will be (1, m).
 - Micro – Can be included in meals more than once. Therefore, the data range will be (1, m).
 - The Intersectional Data:
 - Quantity – Data telling us how much quantity Micronutrients are in the meal the user is intaking.