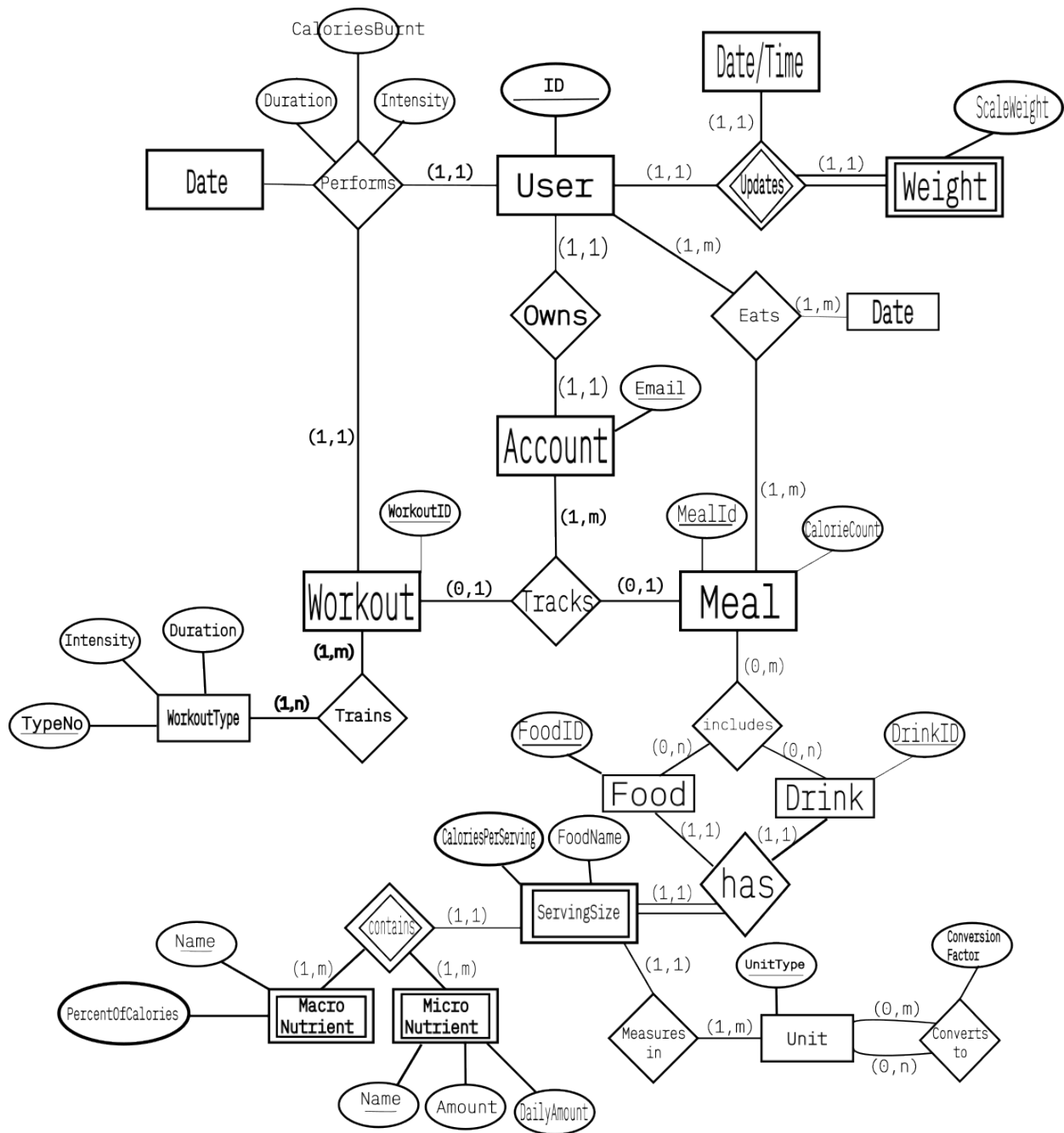


Matt Warner



1 Entities & Attributes

- **User**
 - ID (*Identifier*). - Unique identification number used as a surrogate key to identify a user.
 - PhoneNumber - The user's phone number.
 - Name - The user's legal name.
 - Age - The user's age.
 - DateOfBirth - The user's DOB.
 - City - Location of the user.
- **Weight (Weak Entity)**
 - ScaleWeight - Weight of the user.
- **Account**
 - Email (*Identifier*). The user's email address. Serves as a natural key to identify accounts.
 - Username - Identity of the user.
 - CreationDate - The date in which the account was created.
- **Meal**
 - MealID (*identifier*) - surrogate key used to identify a meal.
 - CalorieCount - Amount of calories present in a meal.
- **Food**
 - FoodID *Identifier* - Surrogate key used to identify a food item.
 - Name - The name of the food.
- **Drink**
 - DrinkID (*Identifier*) - Surrogate key used to identify a drink item.
 - Name - The name of the drink.
- **ServingSize (Weak entity)** - Serving size depends on the existence of Food or Drink.
 - FoodName - The name of the food (or drink).
 - CaloriesPerServing - The amount of calories present. This data is tracked in order to...
- **Unit**
 - UnitType (*Identifier*) - Natural key that is the type of unit (since unit names are unique).
- **MacroNutrient**
 - Name (*identifier*) - The name of the macronutrient. Since all names are unique, this works as a natural key to identify a macronutrient.
- **MicroNutrient**
 - Name (*identifier*) - The name of the micronutrient. Since all names are unique, this works as a natural key to identify a micronutrient.
- **Workout**
 - WorkoutID (*identifier*) - Unique ID given to a workout to identify it.
- **WorkoutType**

-
- TypeNo (*identifier*) - Surrogate key used to identify a WorkoutType.
 - Type - Specific type of workout that describes WorkoutType.
 - Duration - Amount of time taken to complete the workout.
 - Intensity - The level of intensity for the type of workout.

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2 Relationships & Cardinality

- *performs* (binary)

- User *performs* Workout

one-to-one - If we know the **User**, and we know the **Date**, it must belong to a single instance of a **workout**. Additionally, if we know the **Workout** and the **date**, then there can only be **one user** associated with that workout at that specific date.

- *owns* (binary)

- User *owns* Account

one-to-one - Only one account can be owned by a **User**. And only one **User** can *own* a given account Account.

- *Updates* (binary)

- User *updates* Weight

one-to-one - A user can update one instance of his/her weight at a specific **Time**.

- *Tracks* (ternary)

- Account *tracks* Meal (**one-to-many**) - An Account can track many meals. But a meal can be tracked by one Account
 - Account *tracks* Workout. (one-to-many) Same logic applied here.

- *includes* (ternary)

- Meal *includes* Food
 - Meal *includes* Drink

- *Trains* (binary)

- Workout *Trains* WorkoutType

- *contains* (ternary)

- ServingSize *contains* Macronutrient
 - ServingSize *contains* micronutrient

- *has* (ternary)

- Food *has* ServingSize
 - Drink *has* ServingSize

- *eats* (binary)

- User *eats* Meal

- *Measures in* (binary)

- ServingSize *Measures in* Unit