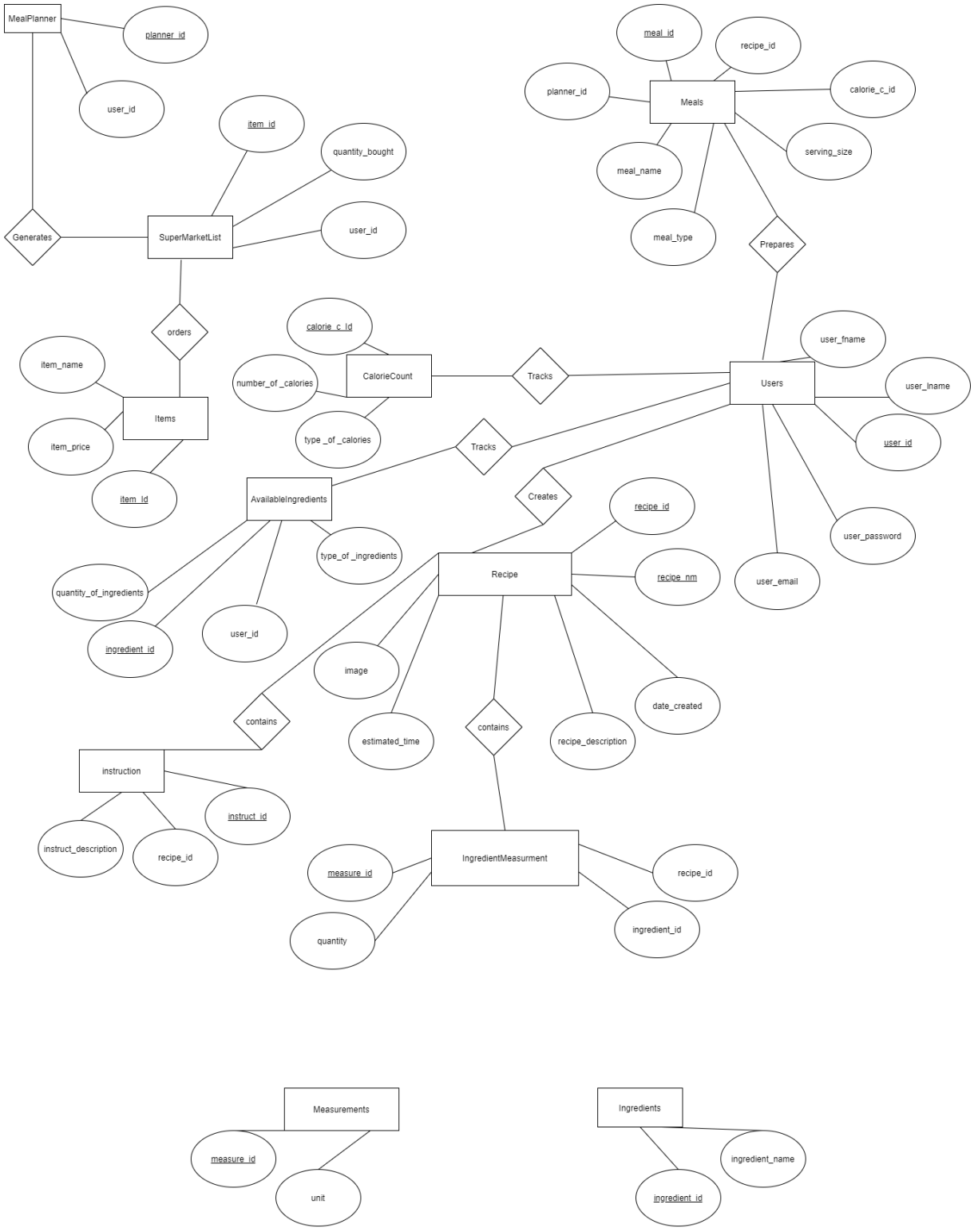

ENTITY RELATION DIAGRAM FOR THE MEAL PLANNER SYSTEM

2. Tables Included in the Meal Planner ER Diagram

- **MealPlanner**(planner_id,user_id)
- **Meals** (meal_id,planner_id,
  meal_name,meal_type,serving_size,calorie_c_id,recipe_id)
- **Users** (user_id, user_fname , user_lname,user_password,user_email)
- **Recipe** (recipe_id, recipe_nm, date_created ,estimated_time, recipe_description,
  image)
- **Ingredients**(ingredient_id,ingredient_name)
- **AvailableIngredients** (user_id,ingredient_id, quantity_of_ingredients)
- **CalorieCount** (calorie_c_Id,number_of_calories , type_of_calories)
- **SuperMarketList**(user_id,item_id, quantity_bought)
- **Item**(item_id,item_name,item_price)
- **Measurements**(measure_id, unit)
- **instruction**(instruct_id,instruct_description,recipe_id)

All of these tables are in Boyce-Codd normal form. We ensured the values were atomic, there were no transitive or partial dependencies and there were no prime attributes being dependent on a non-prime attribute. We chose Boyce-Codd because we wanted to have it in the highest form possible, and that was the highest form allowed based on instructions

Assumptions:

1. A user would need to have access to a user account to enter the system there a user must sign up to be registered in the system.

2. Based on the Meal Planner a supermarket list would come in handy when dealing with items that are needed to be purchased to create the recipe.

3. The Meals prepared by the meal planner fall within one of the categories : Breakfast , Lunch and Dinner.

4. The means by which a user would enter the system would be of an online format therefore an entity was created to visualize this process.

5.The Recipe would have a specific identification number for each individual recipe as well as servings , recipe description and the image of the recipe

6. The available ingredients would require identification because specific ingredients are used to create unique recipes as well as the amount of ingredients used and the type used also.

7. The Calorie Count would have a specific identification number based on the calorie in take assigned to each recipe as well as the amount of calories and the type of calories that would be assigned to each recipe.

Data Dictionary

Tables

Meal Planner - This table collect and displays a specific user's meal plan for the week

Meals - This table collects and stores the different meal options

SupermarketList - This table stores the item_id attribute which is used to figure out the specific items needed along with the user_id so we know who it is needed for and the the quantity_bought attribute which is used to tell how much of the item we need

Items - This table is used to store information about an item such as the item name and the price

CalorieCount - This table keeps track of the amount and type of calories the user in a user meal plan

Users - This table stores various information of a user such as their name, email address and password

Recipe - This table contains recipe information along with the date it was created

instruction - This table contains information about the instructions that are used to prepare the recipes

IngredientMeasurement - This table contains the quantity and the specific ingredients used to prepare the meal plan

Measurements - This table is a list of predefined measurements

Ingredients - This table contains the label and specification of the ingredients to be used in the meal plan

Meal Planner

Field Name	Datatype	Field Length	Constraint	Description
Planner_id	Integer		Primary Key	Planner's ID#
User_id			Foreign Key	User's ID#

CalorieCount

Field Name	Datatype	Field Length	Constraint	Description

Calorie_c_id	Integer		Primary Key	Calorie Count's ID#
Number_of_calories	Integer		Not Null	Number of calories
Type_of_calories	Varchar	255	Not Null	Type of calories

Recipe

Field Name	Datatype	Field Length	Constraint	Description
Recipe_id	Integer		Primary Key	Recipe's ID#
Recipe_nm	Varchar	255	Not Null	Recipe's name
Date_created	Date		Not Null	Date the recipe was created
Estimatedtime	Time		Not Null	Estimated time the recipe would take to prepare
Recipe_description	Varchar	255	Not Null	Recipe's description
Image	Varchar	255	Not Null	Image of the recipe

Ingredients

Field Name	Datatype	Field Length	Constraint	Description
Ingredient_id	Integer		Primary Key	Ingredient's ID#
Ingredient_name	Varchar	255	Unique Key	Ingredient's name

Instruction

Field Name	Datatype	Field Length	Constraint	Description
Instruction_id	Integer		Primary Key	Instruction's ID#
Instruct_description	Varchar	255	Not Null	Instruction's description
Recipe_id	Integer		Foreign Key	Recipe's ID#

Measurements

Field Name	Datatype	Field Length	Constraint	Description
Measure_id	Integer		Primary Key	Measurement's ID#

Unit	Varchar	15	Not Null	Unit of measurement

IngredientMeasurement

Field Name	Datatype	Field Length	Constraint	Description
Recipe_id	Integer		Primary Key, Foreign Key	Recipe's ID#
Ingredient_id	Integer		Primary Key, Foreign Key	Ingredient's ID#
Measure_id	Integer		Foreign Key	Measurement's ID#
Quantity	Float	2	Not Null	Quantity of measurement

AvailableIngredients

Field Name	Datatype	Field Length	Constraint	Description

User_id	Integer		Primary Key, Foreign Key	User's ID#
Ingredient_id	Integer		Primary Key, Foreign Key	Ingredient's ID#

Meals

Field Name	Datatype	Field Length	Constraint	Description
Meal_id	Integer		Primary Key	Meal's ID#
Planner_id	Integer		Primary Key, Foreign Key	Planner's ID#
Meal_name	Varchar	255	Not Null	Meal's name
Meal_type	Varchar	255	Not Null	Meal's Type
Servingsize	Integer		Not Null	Serving size of the meal
Calorie_c_id	Integer		Foreign Key	CalorieCount's ID#
Recipe_id	Integer		Foreign Key	Recipe's ID#

Functional Dependencies

planner_id → user_id

item_id → quantity_bought, user_id, item_price, item_name

meal_id → recipe_id, calorie_c_id, serving_size, meal_type, meal_name, planner_id

calorie_c_id → number_of_calories, type_of_calories

user_id → user_fname, user_lname, user_password, user_email

ingredient_id → quantity_of_ingredients, user_id, type_of_ingredient, ingredient_name

recipe_id,recipe_nm → date_created, recipe_description, estimated_time, image

instruct_id → recipe_id, instruct_description

measure_id → quantity, recipe_id, ingredient_id, unit