Group 3

Team Name: Undercooked

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Main Domain: Recipe

Backup Domain: Movie

Project Description:

For this project, we aim to apply the domain knowledge through a web application. This web application will be created with either JavaScript or Python. This front-end information will be connected to the database using MySQL.

Phase 2 Update:

The ER model was created with a total of six entities; User, Recipe, Recipe Category, Recipe Ingredient, Item, and Item_Aisle. The User entity contains four attributes. Of these four attributes, the Username is the key attribute. The Recipe entity contains ten attributes and two weak entities. Of these ten attributes, the Recipe name and Author are the key attributes while the Author is also a foreign key from the User. The Recipe Category and Recipe Ingredient entities are weak entities to Recipe and are dependent on its key attributes. The Item entity contains five attributes and one weak entity. Of the five attributes, Item Name and Purchase Date are key attributes. Item_Aisle is a weak entity dependent on the key attributes from the Item entity. All entities were connected by many to many relationships, and one other attribute, quantity, was put on the "Made Of" relationship between Item and Recipe.

The reduction to tables was done in two steps. First, we took the model entities with their attributes and created tables from them. Then we took the relationships with their own attributes and the key attributes of the entities they were linking to make tables from them.

Phase 3 Update:

During the beginning of phase 3, a few changes were made to the ER model. The ER model is now finalized with a total of five entities; Chefs, Recipe, Recipe Category, Item, and Item_Aisle. User entity is replaced by Chef to avoid confusion with SQL keywords, otherwise, everything stays the same. The attribute Domain was removed from the Recipe entity and Recipe now has a total of nine attributes. Recipe Name is no longer a key attribute, so the Recipe entity has narrowed it down to one key attribute and it is called Recipe ID. Chefs and Recipes are put on "Creates" relationships. The Recipe Category entity contains one key attribute which is the category name. Recipe and Recipe Category are put on "Part of" relationships. Item has two attributes which are Item ID and Item Name. Of these two attributes, Item ID is the key attribute. Item is also connected with Recipe with the relationship of "Made of" and one other attribute, quantity. Similarly, Item has another "Owns" relationship with Chefs. Through this relationship, it has attributes: Purchase Date, Expiration Date, Quantity Bought, and Current Quantity. Lastly, Item_Aisle has two attributes: Aisle ID and Aisle Name. Of these two attributes, Aisle ID is the key attribute. Item_Aisle has the relationship of "Stored in" with Item.

The reduction to tables was done in the same way as the previous phase. Tables are created for each model entity followed by their own attributes. Tables for relationships between entities are also linked by their key attributes.

Samples of SQL statements used to create tables:

1. create table chefs

```
(
        username            varchar(32)    not null
                     Constraint user_pk
                            primary key,
        password            varchar(32)    not null
        creation_date       date           not null
        creation_time       time           not null
        last_access_date    date           not null
        last_access_time    time           not null
);
```

2. create table item

```
(
        Item_id      integer        not null
        Item_name    varchar(64)    not null
);
```

3. create table owns

```
(
        purchase_date       date           not null
        expiration_date     date
        quantity_bought     integer        not null
        current_quantity    integer
        username            varchar(32)    not null
                constraint username
                        references chefs
                        on update cascade on delete cascade
        Item_id             integer        not null
                Constraint item_id
                        references item
                        On update cascade on delete cascade
);
```

4. create table recipe

```
(
        recipe_id           integer        not null,
        recipe_name         varchar(64)    not null,
        description         text,
        servings            integer,
        cook_time           integer,
        date_made           date           not null,
        time_made           time           not null,
        difficulty      varchar(32) default 'Medium' :: character varying    not null,
        rating              integer,
        steps               text           not null
);
```

Samples of queries for populating the data

1.

Item_id	Item_name
100000	Winter squash
100001	Mexican seasoning
100002	Mixed spice
100003	Honey
100004	Butter

2.

Aisle_id	Aisle_name
100000	A-C
100001	D-F
100002	G-I
100003	J-L
100004	M-O

3.

Username	Password	Creation date	Creation time	Last_access date	Last_access time
Jennifer	princess	1955-02-04	12:20:00	1955-02-04	12:20:00
Nicholas	123123	1999-11-24	01:05:00	2000-01-10	11:50:00
Alex	abcabc	2000-03-16	12:24:00	2000-03-17	02:32:00
Benson	321321	2000-09-14	10:20:00	2001-02-21	06:45:00
Superman	9145	2015-02-04	12:20:00	2020-02-04	12:20:00

The description of how the data was loaded into the database:

Instead of plugging in the data individually into the database, we decided to use a program to generate data that we will be importing into the database. We built a program using Python which reads into a file and splits all the data into a dictionary. This eases up on identifying which attributes are we filling up. For example, for the chef's table, the database stores Username, Password, Creation date, Creation time, Last access date, and Last access time. We decided to use "rockyou.txt" which is a text file filled with passwords. Since we do not restrict input for username and password for Chefs, we split the passwords from "rockyou.txt" and use one split for username and other for password. As for the date and time, we used Python built-in function (random) to create a randomized date and time for Creation and Last Access. As for the Recipe and Item data, we used a similar approach and read in the data from the given link in the Recipe Domain write-up.