Revised: Database Design

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Database Changes

After reviewing the feedback suggested by my peer and my professor, I have elected to stay with using PostgreSQL and a relational database to hold my data. PostgreSQL will allow me to produce the tables that I need and store the information that is required. The API that I will be using for extra information from Edamam is compatible with PostgreSQL as well. I will add a description to my allergen table as suggested, which will assist users, such as my grandparents persona, searching for a grandchild to understand the allergen better.

For my stretch features, I will need to add a table that will hold the saved query information and will use the saved search Id for the primary key but will have the user id and the allergen id to be able to be matched with the foodallergen table when needed to be able to reproduce the results of the query that the user will select from a list that will appear on their user profile. There will be a one-to-many relationship here because the user will have the ability to save numerous searches.

Another stretch feature that I will be looking to add is for the user to be able to save the allergens that they are avoiding. To do this, I will add a table that will hold the saved information under the SavedAllergenID as a primary key. I will then have the userid and the allergenId to be able to pull the data. There will be a one-to-many relationship between the user and the allergens as the user may have multiple allergens. There will also be a possible one-to-many relationship between the user and the number of saved allergen profiles because they may wish to save different allergen profiles.

The SavedAllergenID and the SavedSearchID will be integers and serve as the primary key for their respective tables. I will be evaluating the potential of consolidating the Food and FoodAllergen table for performance reasons. If I make this change, I will further evaluate any

changes that I will need to make to adjust for the stretch features using those tables to pull information.

Database Technology Choice

The database structure that I have chosen to use for my web application is a relational database store through the use of PostgreSQL. The tables that will be used are set up to have one to many relationships through the use of linking tables. Users will select or input the allergens that they are eliminating as well as the food item that that they are inquiring about. Information for the foods and their ingredients will be pulled in through the Edamam API. The Edamam API uses NPL, which is compatible with PostgreSQL.

Database Tables and Relationships

The first table will hold the user's information and the user will be assigned an IndividalID. The IndividualID will serve as the primary key for the Individual table. There will also be an allergen table which will store the allergens available for search and their names stored. The primary key for this table will be the AllergenID which will be assigned when the allergens are established in the database. The food table will be set up similarly where the food will have a FoodID assigned to it as well as its name which will be stored in the table. There will then be a linking table between the Individual and the Allergen table named IndividualAllergen where the IndividualD and AllergenID will serve as foreign keys. In the FoodAllergen linking table, the foreign keys will be the AllergenID and the FoodID. This allows for the tables to be normalized by setting up one to many relationships instead of many to many relationships.

In the database, the IndividualID, AllergenID, and FoodID will be INT datatypes. In the individual table, the first name, last name, and email address will be stored as a varchar datatype.

In the food and allergen tables, the food name, and allergen type will be stored as varchar as well.

User Usage

If a user would like to find out if there is a wheat contained in Tyson Chicken Nuggets. The user will sign in, and select wheat from the list of allergens, and then enter Tyson Chicken nuggets and submit the search. The database will be queried and will return that Tyson Chicken Nuggets does contain wheat.