**Initial Database Design**

For my web application, The Flavor Locator, I will be utilizing SQL for my database design. The stored recipes, from online and from user submissions, will need to have shared data between collections. The search function will need to have access to search parameters which will allow users to obtain multiple recipes that contain similar ingredients. This will make the searching feature more viable and useful in terms of the application. SQL databases offer a multitude of tools that will optimize performance, such as indexing, query optimization, and caching. These commonly used features are integral for ensuring that the application can handle the volume of data that will be entered into the database. SQL databases are known to handle data relationships by using a series of tables, and can support complex data modeling, which includes one-to-one, one-to-many, and many-to-many relationships simultaneously. Scalability as well as data validation aspects will allow for data consistency, which will be particularly useful. Utilizing SQL as the database for my web application will allow for accurate data relations and provide a strong and reliable foundation for managing the structured data.

**Probable Collections and Sample Structure**

**User Information**

This section will store user information in the database for the user and other users to view.

Username

Email

Recipes Submitted

User Ratings

**User Recipe Submissions/Posts**

This section will categorize the information needed to catalog the user submitted recipes and store the proper information necessary.

Username: string

Ingredients: string

Cooking Skill Level (optional entry) : string

Photo (optional) : string (reference URL to stored image on database)

Time Required to Prepare

Necessary Cooking Apparatuses : string

User Ratings

**All Recipes**

This section will categorize all recipes submitted as well as basic recipes stored on the application itself.

Ingredients: string

Cooking Skill Level (optional entry)

Photo (optional) : string (reference URL to stored image on database)

Time Required to Prepare

Necessary Cooking Apparatuses: string

User Ratings

**Purpose, Implementation, Interactions**

User Information: The purpose of this section is to allow someone to create a profile and utilize it to share recipes with other users.

User Recipe Submissions/Posts: This section will allow for a user to submit recipes to the platform and to also rate other recipes submitted by other users.

All Recipes: This particular section will be integral to the web application. It will contain all submitted recipes as well as other recipes that are gathered from the internet.