
Business Requirements

ID	Requirement	Topic Area	Actor	Priority
BR-001	Ingredients must be able to include sponsor links	Advertising	All	Medium
BR-002	Collect user data for later processing	Reporting	Admin	Medium
BR-003	Replication factor of 3 for data consistency	Database	Admin	High

User Requirements

ID	Requirement	Topic Area	Actor	Priority
UR-001	User can search ingredients by category	Interface	User	High
UR-002	User can search ingredients by query	Interface	User	High
UR-003	User can enter dietary restrictions	Interface	User	Medium
UR-004	User can enter an optimal price range	Interface	User	Medium
UR-005	User can select importance value of dietary restriction	Interface	User	Medium
UR-006	User can generate recipe list at any point	Interface	User	Medium
UR-007	User can remove an ingredient from their list	Functionality	User	Medium

Non-Functional Requirements

ID	Requirement	Topic Area	Actor	Priority
NFR-001	Show 10 recipes upon search	Interface	User	Low
NFR-002	Return at least 3 hits in under one second	Media	User	Medium
NFR-003	Less than one second load time for inital website	Website	All	High
NFR-004	Recent database results cached locally	Database	User	Low
NFR-005	Set partition size for Database	Database	Admin	Low

Use Case Document

User ID	Requirement
UR-001	The user can select an ingredient from a category
UR-002	The user can select an ingredient from a search function
UR-003	The user can filter options based on dietary preference
UR-004	The user can filter options based on price of ingredients
UR-005	The user can makr a dietary preference as mandatory or prefered
UR-006	The user can delete ingredients from their list
UR-007	The user can generate recipes based on current ingredient selection

Database: We will be using Cassandra DB so that we can easily delegate multi-factor replication and partition management. We will be hosting our database using Amazon S3 which easily integrates a Cassandra deployment.

Data Persistance: We will have a static list of recipe names with ingredients lists which will persist. We will query the database and MapReduce based on the ingredients provided by the user to provide a list of the 10 best matches. We will have a separate partition of data persistance allocated for user ingredients data.

Class Diagram