

SSE 691

**Database Design in Software
Engineering**

Project #2

by

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Topics Covered	Topic Examples
Relational Database Design	<ul style="list-style-type: none">• Table Tests• Table Structures• Table Keys• Field Specifications

1. Project Status Review

For this project, progress will continue on the design of the database for the Recipe App as established in the previous project. In the previous project, the mission statement and mission objectives were defined for the database. The subjects (Table 1) and the preliminary and calculated fields (Table 2) were also identified based on interview sessions with the development manager and users/clients of the application. Moving forward, the goals for this project will be:

- To establish tables by identifying database subjects
- To associate tables and fields to subjects and characteristics, respectively
- To identify and designate the primary key(s)
- To establish field specifications for every table field

Table 1: Subjects List

Subjects List	
• Cupboard	• Grocery Lists
• Ingredients	• Meal Plan
• Recipes	• Menus
• Ingredient List	

Table 2: Preliminary & Calculated Field Lists

Preliminary Field List		Calculated Field List
<ul style="list-style-type: none"> • Cupboard Item • Quantity Remaining • Cupboard Item UoM • Expiration Date • Ingredient Name • Nutritional Value • Ingredient UoM • Shelf Life • Recipe Name • Picture • Popularity Rating • Preparation Time • Preparation Steps • Cooking Time • Cooking Instructions • Number of Servings • Serving UoM • Recipe Notes 	<ul style="list-style-type: none"> • Ingredient List Item • Ingredient Quantity • Ingredient List Item UoM • Grocery List Name • Grocery List Item • Quantity Desired • Quantity Desired UoM • Date • Breakfast Recipe • Lunch Recipe • Dinner Recipe • Menu Name • Menu Item • Menu Item Type (Appetizer / Entrée / Dessert / Drink) • Price • Menu Item Popularity Rating • Order Frequency 	<ul style="list-style-type: none"> • Availability • Expiration Status • Total Time • Total Nutritional Value • Total Calories
UoM = Units of Measurement		

2. Table Structures

This section will focus on the overall structure of the tables by:

- Defining a Preliminary Table List
- Transforming the Preliminary Table List into the Final Table List
- Associating the fields from the Preliminary Field List with tables in the Final Table List
- Refining the field names based on the Elements of the Ideal Field
- Refining the table structures using the Elements of the Ideal Table
- Identifying subset tables

2.1 Preliminary Table List

When composing the preliminary table list, the first step is to review the Preliminary Field List for implied subjects. The subjects identified are the first items added to the Preliminary Table List. The results of identifying implied subjects from the Preliminary Field List are shown in Table 3.

Table 3: First Preliminary Table List after identifying implied subjects

Preliminary Table List
<ul style="list-style-type: none">• Cupboard Items• Ingredients• Recipes• Ingredient List Items• Grocery List Items• Meal Plan• Menus

The next step is to merge the List of Subjects that was created during the initial interviews with users and management with the first draft of the Preliminary Table List. This step provides the opportunity for removing and resolving duplicates. Those results are shown in Table 4.

Table 4: Second Preliminary Table List after resolving duplicates

List of Subjects	Preliminary Table List	New Preliminary Table List
<ul style="list-style-type: none"> • Cupboard¹ • Ingredients • Recipes • Ingredient List² • Grocery Lists³ • Meal Plan • Menus 	<ul style="list-style-type: none"> • Cupboard Items • Ingredients • Recipes • Ingredient List Items • Grocery List Items • Meal Plan • Menus 	<ul style="list-style-type: none"> • Cupboard Items • Ingredients • Recipes • Ingredient List Items • Grocery Lists • Grocery List Items • Meal Plan • Menus

1. While a Cupboard is a container for Cupboard Items, in this context, the two elements represent the same thing. In this case, the default behavior is to keep the name from the Preliminary Table List.
2. From the context of the Recipe App, the Ingredient List and Ingredient List Items subjects represent the same thing. The Ingredient List will be solely related to specific recipes, however, the Ingredient List Items subject will relate in the same way that a single Ingredient List would. So, to decrease complexity in the table structures, the Ingredient List can be removed in this case.
3. The Grocery Lists and Grocery List Items subjects do not represent the same thing. The Grocery Lists subject will be used to track and maintain different grocery lists and not the items on the grocery lists. The items that compose the grocery list will be maintained by the Grocery List Items subject with a relation to *Grocery Lists*.

The final step in creating the Preliminary Table List requires that the mission objectives be reviewed for any subjects that do not yet exist in the table list. For convenience, the previously defined mission objectives along with the subsequent results of the analysis are shown in Table 5. Newly identified subjects are highlighted in yellow while pre-existing subjects are highlighted in green.

Table 5: Preliminary Table List after reviewing mission objective for missing subjects

Mission Objectives	New Preliminary Table List
<ul style="list-style-type: none"> • Maintain user preferences as sensitive information. • Maintain login information as sensitive information. • Maintain recipe data. • Maintain menu data. • Maintain meal plan data. • Track ingredient inventory. • Maintain grocery lists. 	<ul style="list-style-type: none"> • Users • Preferences • Cupboard Items • Ingredients • Recipes • Ingredient List Items • Grocery Lists • Grocery List Items • Meal Plan • Menus

2.2 Final Table List

When creating the first draft of the Final Table List, each table's type defaults to a data type since it has yet to be established how the tables relate to one another and how the business rules will impact those relationships. So in order to alleviate those questions for the time being, the type for each table must be set to data type. The Final Table List is presented in the table below.

Table 6: Final Table List for the Recipe App

Final Table List		
Name	Type	Description
Users	data	The user identification data established during user account creation. This data is critical for determining user preferences and access rights to features of the application.
User Preferences	data	The feature preferences that help define the user-specific experience of the application. This data helps to create custom user experiences based on the desires of each individual user.
Cupboard Items	data	The inventory of the individual ingredients contained in the cupboard. This data helps track and maintain the available ingredients required by recipes and grocery lists.
Ingredients	data	The specification of individual ingredients used by recipes. This data is critical for creating recipes and tracking and maintaining cupboard inventory.
Recipes	data	The individual recipes saved by the user. This data is critical for maintaining and tracking recipe collections, menus, and meal plans.
Ingredient List Items	data	The individual ingredients required by recipes. This data is critical for ensuring the proper display of ingredients and their quantities for recipes.
Grocery Lists	data	The specification of individual grocery lists created by the user. This data is critical for tracking and maintaining multiple grocery lists.
Grocery List Items	data	The individual ingredient items that compose a grocery list. This data is critical for ensuring the proper display of ingredients and their quantities on grocery lists.
Meal Plan	data	The planned recipes that are to be prepared on a given date. This data is critical for tracking and maintaining meal specifics for the meal plan feature.
Menus	data	The recipe listings offered by an eatery. This data is critical for tracking and maintaining multiple menus.

2.3 Associating Fields with Tables

Based upon the results of the previous analysis techniques, it was revealed that the Users and User Preferences tables were inadvertently missing. Resultantly, using the same techniques previously discussed, those tables and its characteristics were added to the Preliminary Field List for the new Users and User Preferences subjects, respectively. The results are presented in the table below with changes highlighted in yellow.

Table 7: Initial Table Structures

Table	Preliminary Field List
Users	<ul style="list-style-type: none"> User Name E-mail Address Home Address Phone Number
User Preferences	<ul style="list-style-type: none"> User Name Preference Name Preference Value
Cupboard Items	<ul style="list-style-type: none"> User Name Cupboard Item Cupboard Item UoM Quantity Remaining Expiration Date
Ingredients	<ul style="list-style-type: none"> Ingredient Name Nutritional Value Ingredient UoM Shelf Life
Recipes	<ul style="list-style-type: none"> User Name Recipe Name Picture Popularity Rating Preparation Time Preparation Steps Cooking Time Cooking Instructions Number of Servings Serving UoM Recipe Notes

Table	Preliminary Field List
Ingredient List Items	<ul style="list-style-type: none"> • Recipe Name • Ingredient List Item • Ingredient Quantity • Ingredient List Item UoM
Grocery Lists	<ul style="list-style-type: none"> • User Name • Grocery List Name
Grocery List Items	<ul style="list-style-type: none"> • Grocery List Name • Grocery List Item • Quantity Desired • Quantity Desired UoM
Meal Plan	<ul style="list-style-type: none"> • User Name • Date • Breakfast Recipe • Lunch Recipe • Dinner Recipe
Menus	<ul style="list-style-type: none"> • User Name • Menu Item • Menu Item Type (Appetizer / Entrée / Dessert / Drink) • Price • Menu Item Popularity Rating • Order Frequency

2.4 Refining the Fields

Now that the fields are associated with tables, the field names need to be refined according to the Elements of the Ideal Field as presented in the *Database Design for Mere Mortals* text.

2.4.1 Table Tests

The best way to reveal anomalies with the tables and their fields is to load the tables with test data. This technique typically reveals inconsistencies in field names and/or tables structures. The results of the test are presented below.

Users			
User Name	E-mail Address	Home Address ¹	Phone Number ^{1,2}
user_name	abc@domain.com	123 American Way	(123) 456-7890
user2_name	xyz@domain.com	987 American Way	(987) 654-3210

1. Technically, this field is a multipart field, but this is considered acceptable for this project.

2. 'Phone Number' field should be renamed to 'User Phone Number' to provide better indication of its purpose.

User Preferences		
User Name	Preference Name	Preference Value
user_name	FontSize	12
user_name	Font	Arial
user_name	GroceryListBackgroundColor	990000
user_name	GroceryListForegroundColor	FFFFFF

Cupboard Items				
User Name	Cupboard Item	Cupboard Item UoM	Quantity Remaining	Expiration Date
user_name	Sugar	pound	1.5	
user_name	Ketchup	ounce	4	06/24/2016

Ingredients			
Ingredient Name ¹	Nutritional Value	Ingredient UoM	Shelf Life
Sugar	4	gram	
BrandMart Honey Oats Cereal	110	cup	30

1. This multipart field can be broken down further to include information for the ingredient brand.

Recipes										
User Name	Recipe Name	Picture ¹	Popularity Rating	Preparation Time	Preparation Steps	Cooking Time	Cooking Instructions	Number of Servings ²	Serving UoM ³	Recipe Notes
user_name	Fave #1	fave1.jpg	5	20	First, mix eggs and water with...	45	Start by greasing a pan...	1	??	On my oven, this cooked best by...

1. This field should be renamed to 'Recipe Image' to give a better indication of its purpose.

2. This field should be renamed to 'Serving Amount' to give a better indication of its purpose.

3. Once test data is entered, it is immediately discovered that the 'Serving UoM' field will not be used.

Ingredient List Items			
Recipe Name	Ingredient List Item	Ingredient Quantity	Ingredient List Item UoM
Fave #1	Water	2	ounce
Fave #1	Egg	2	unit
Fave #1	Salt	1	teaspoon

Grocery Lists ¹	
User Name	Grocery List Name
user_name	Discount Foods
user_name	Health Foods
user_name	Brand Mart Specials
user2_name	Health Foods

1. There needs to be a field that stores the last saved timestamp of the grocery list.

Grocery List Items			
Grocery List Name	Grocery List Item	Quantity Desired	Quantity Desired UoM
Discount Foods	Regular Potato Chips	8	cup
Health Foods	Dry Roasted Sunflower Seed Kernels	1	cup
BrandMart Specials	1% Milk	1	gallon

Meal Plan				
User Name	Date	Breakfast Recipe ¹	Lunch Recipe ¹	Dinner Recipe ¹
user_name	06/01/16	Breakfast Fave #1	Lunch Fave #1	Dinner Fave #1
user_name	06/02/16	Breakfast Fave #1		Dinner Fave #1

1. In order to support more flexible options, the Breakfast/Lunch/Dinner Recipe fields should be removed in favor of a single field for the meal type and the meal recipe.

Menus						
User Name	Menu Name ¹	Menu Item	Menu Item Type	Price	Menu Item Popularity Rating	Order Frequency
user_name	Everyday	Recipe #1	Drink	0.99	5	10
user_name	Everyday	Recipe #2	Appetizer	3.99	4	8

Menus						
User Name	Menu Name ¹	Menu Item	Menu Item Type	Price	Menu Item Popularity Rating	Order Frequency
user_name	Everyday	Recipe #3	Entrée	9.99	5	12
user2_name	Summer	Drink #1	Drink	2.49	3	6
user2_name	Summer	Seafood #1	Seafood	12.99	5	22

1. Each menu needs a name to differentiate between multiple menus.

2.5 Refined Table Structures

Using the analysis and results from the table tests and after conforming the table's names to the Elements of the Ideal Field, the table structures were refined to yield the Final Table List as seen in the table below. Any changes from the initial table structures (Table 7) have been highlighted in yellow.

Table 8: Refined Table Structures

Table	New Field List
Users	<ul style="list-style-type: none"> User Name E-mail Address Home Address User Phone Number
User Preferences	<ul style="list-style-type: none"> User Name Preference Name Preference Value
Cupboard Items	<ul style="list-style-type: none"> User Name Cupboard Item Cupboard Item UoM Quantity Remaining Expiration Date
Ingredients	<ul style="list-style-type: none"> Ingredient Brand Ingredient Name Nutritional Value Ingredient UoM Shelf Life

Table	New Field List
Recipes	<ul style="list-style-type: none"> • User Name • Recipe Name • Recipe Image • Popularity Rating • Preparation Time • Preparation Steps • Cooking Time • Cooking Instructions • Serving Amount • Serving UoM • Recipe Notes
Ingredient List Items	<ul style="list-style-type: none"> • Recipe Name • Ingredient List Item • Ingredient Quantity • Ingredient List Item UoM
Grocery Lists	<ul style="list-style-type: none"> • User Name • Grocery List Name • Grocery List Save Date
Grocery List Items	<ul style="list-style-type: none"> • Grocery List Name • Grocery List Item • Quantity Desired • Quantity Desired UoM
Meal Plan	<ul style="list-style-type: none"> • User Name • Date • Meal Type • Meal Recipe • Breakfast Recipe • Lunch Recipe • Dinner Recipe
Menus	<ul style="list-style-type: none"> • User Name • Menu Name • Menu Item • Menu Item Type (Appetizer / Entrée / Dessert / Drink) • Price • Menu Item Popularity Rating • Order Frequency

3. Table Keys

With the table structures solidified, the focus can start to shift to the relationships between the tables. A step in establishing those relationships is to define the table keys. The keys are what “bind” tables together forming the relationships while also maintaining table-level integrity.

Without these keys, there would be no way to know, for example, which ingredients go with which recipe. There are four types of database keys: candidate, primary, foreign, and non-keys. The following sections will focus on candidate, primary, and non-keys. Foreign keys will be discussed in the next project.

3.1 Identifying Candidate Keys

The first type of key that will be established is the candidate key. This type of key is a field or set of fields that uniquely identifies a single instance of the table’s subject. Each table must have at least one candidate key as they will serve as the choices when defining a table’s primary key(s). Similar to fields and tables, there are criteria known as the Elements of a Candidate Key presented in the text that helps to determine which fields can be candidate keys. Table tests will once again be used to help visualize if fields meet the criteria of a candidate key. Keys that satisfy the candidate key criteria will be marked with CK (Candidate Key) or CCK (Composite Candidate Key) and tables that have no fields that meet the criteria will use artificial keys. The results of the table tests (and their analysis) are presented in the following section.

3.1.1 Table Tests

Users			
User Name (CK)	E-mail Address (CK)	Home Address	User Phone Number
user_name	abc@domain.com	123 American Way	(123) 456-7890
user2_name	xyz@domain.com	987 American Way	(987) 654-3210
user3_name	123@domain2.com	987 American Way	(987) 654-3210

Often times, login systems use the email address of the user as the unique identifier due to the limitations and restrictions that are applied to usernames by email providers. Given that the email addresses can be assumed to be unique, the User Name and Email Address fields can be candidate keys since both fields will be unique to the system. The Home Address and User Phone Number fields are not candidates due to the fact that they could contain the same values (as seen in the test data above).

User Preferences		
User Name (CK)	Preference Name	Preference Value
user_name	FontSize	12
user_name	Font	Arial
user_name	GroceryListBackgroundColor	990000

User Preferences		
User Name (CK)	Preference Name	Preference Value
user_name	GroceryListForegroundColor	FFFFFF

The User Preferences table is a subset of the Users table and must share the same primary key with its specific user. So, the candidate key can simply be the field that is ultimately chosen in Users table.

Cupboard Items				
User Name (CCK)	Cupboard Item (CCK)	Cupboard Item UoM	Quantity Remaining	Expiration Date
user_name	Sugar	pound	1.5	
user_name	Ketchup	ounce	4	06/24/2016

For the Cupboard Items table, the User Name field can be combined with the Cupboard Item field to create a composite candidate key. The other fields do not fulfill the criteria for candidate keys.

Ingredients				
Ingredient Brand	Ingredient Name	Nutritional Value	Ingredient UoM	Shelf Life
Brand A	Sugar	4	gram	
BrandMart	Biscuit	180	unit	10
	Biscuit	220	unit	5

Based on the test data for the Ingredients table, none of the fields fulfill the criteria specified for candidate keys. The Ingredient Name, Nutritional Value, Ingredient UoM and Shelf Life fields can all contain duplicate data while the Ingredient Brand can contain null values (indicating homemade ingredients). In this case, an artificial candidate key will be created in the form of a field named, **Ingredient ID**.

Recipes									
User Name (CCK)	Recipe Name (CCK)	Recipe Image	Popularity Rating	Preparation Time	Preparation Steps	Cooking Time	Cooking Instructions	Serving Amount	Recipe Notes
user_name	Fave #1	fave1.jpg	5	20	First, mix eggs and water with...	45	Start by greasing a pan...	1	On my oven, this cooked best by...
user_name	Fave #2	fave1.jpg	5	20	First, mix eggs and water with...	45	Start by greasing a pan...	1	
user2_name	Fave #1	fave1.jpg		20	First, mix eggs and water with...	45	Start by greasing a pan...	1	On my oven, this cooked best by...

For Recipes, the composite key created from the User Name and Recipe Name fields satisfy the criteria for a candidate key. However, to simplify the association, an artificial candidate key named **Recipe ID** will be created to avoid scenarios of dealing with keys created from long Recipe Name values. The remaining fields cannot be candidate keys because they can all contain duplicate or null data.

Ingredient List Items			
Recipe Name	Ingredient List Item	Ingredient Quantity	Ingredient List Item UoM
Fave #1	Water	2	ounce
Fave #1	Egg	2	unit
Fave #1	Salt	1	teaspoon

The Ingredient List Items table is a subset of the Recipes table and must therefore share a primary key for table level integrity. Since a composite key is being considered for the Recipes table, it would slightly increase the complexity to have a composite key as the primary association between two tables. In this type of scenario, the ideal solution is to create an artificial candidate key in both tables which will cause the Recipe Name field to be replaced by the newly created artificial key field in the Recipes table.

Grocery Lists		
User Name	Grocery List Name	Grocery List Save Date
user_name	Discount Foods	01/03/2016,09:53
user_name	Health Foods	04/12/2016,12:01
user_name	Discount Foods	06/09/2016,16:23
user2_name	Health Foods	04/12/2016,12:01

The Grocery Lists table does not have any viable candidate keys as all fields fail to satisfy the criteria for candidate keys. Based on the test data, a potential composite candidate key could be created from all of the fields taken together, but upon further review it is determined that the Grocery List Name and Grocery List Save Date fields could often change which violates the candidate key criteria. Since the User Name field by itself is not a candidate key, the only apparent solution is to create an artificial candidate key that will need to be added to this table as a field named, **Grocery List ID**.

Grocery List Items			
Grocery List Name	Grocery List Item	Quantity Desired	Quantity Desired UoM
Discount Foods	Regular Potato Chips	8	cup
Health Foods	Dry Roasted Sunflower Seed Kernels	1	cup
BrandMart Specials	1% Milk	1	gallon

The Grocery List Items table is a subset of the Grocery Lists table and must maintain a relationship through a primary key. However, since it was previously determined that the Grocery List Name field could often change, it can be deduced that this does not create good table level integrity. In this case, the Grocery List Name field should be replaced by the artificial candidate key field that will be created for the Grocery Lists table.

Meal Plan			
User Name	Date	Meal Type	Meal Recipe
user_name	06/01/16	Breakfast	Breakfast Fave #1
user_name	06/01/16	Lunch	Lunch Fave #1
user_name	06/01/16	Dinner	Dinner Fave #1
user_name	06/01/16	Dinner	Side Fave #1
user2_name	06/02/16	Brunch	Brunch Fave #1
user2_name	06/03/16	Dinner	Dinner Fave #1

None of the fields – either as a single or composite key – satisfy the criteria for a simple or composite candidate key. To resolve this issue, an artificial candidate key will be created and named **Meal Plan ID**.

Menus						
User Name	Menu Name	Menu Item	Menu Item Type	Price	Menu Item Popularity Rating	Order Frequency
user_name	Everyday	Drink #1	Drink	0.99	5	10
user_name	Everyday	Appetizer #2	Appetizer	3.99	4	8
user_name	Everyday	Recipe #3	Entrée	9.99	5	12
user_name	Everyday	Drink #1	Entrée Drink	0.99	5	10
user2_name	Summer	Drink #1	Drink	2.49	3	6
user2_name	Summer	Seafood #1	Seafood	12.99	5	22

Initially, it appears that a composite candidate key could be created with the User Name, Menu Name, Menu Item, and Menu Item Type fields. However, further scrutiny reveals that all except the User Name fields could change values, voiding the possibility of such a composite key. Since the User Name field by itself does not satisfy the candidate key criteria, the best solution will be to create an artificial candidate key named, **Menu ID**.

3.2 Designating the Primary Keys

The same criteria that governs the designation of candidate keys from fields, governs the designation of primary keys from candidate keys. Using the candidate keys identified in the previous section, the primary (and alternate) keys are identified and assigned as seen in Table 9. For convenience, links to the field specifications of each field is also included in the table.

Table 9: Recipe App table structures with key designations

Table	Field List
Users	<ul style="list-style-type: none"> • User Name (PK) • E-mail Address (AK) • Home Address • User Phone Number
User Preferences	<ul style="list-style-type: none"> • User Name (PK) • Preference Name • Preference Value
Cupboard Items	<ul style="list-style-type: none"> • User Name (CPK) • Cupboard Item (CPK) • Cupboard Item UoM • Quantity Remaining • Expiration Date
Ingredients	<ul style="list-style-type: none"> • Ingredient ID (PK) • Ingredient Brand • Ingredient Name • Nutritional Value • Ingredient UoM • Shelf Life
Recipes	<ul style="list-style-type: none"> • Recipe ID (PK) • User Name (CAK) • Recipe Name (CAK) • Recipe Image • Popularity Rating • Preparation Time • Preparation Steps • Cooking Time • Cooking Instructions • Serving Amount • Recipe Notes

Table	Field List
Ingredient List Items	<ul style="list-style-type: none"> • <u>Recipe ID</u> (PK) • <u>Recipe Name</u> • <u>Ingredient List Item</u> • <u>Ingredient Quantity</u> • <u>Ingredient List Item UoM</u>
Grocery Lists	<ul style="list-style-type: none"> • <u>Grocery List ID</u> (PK) • <u>User Name</u> • <u>Grocery List Name</u> • <u>Grocery List Save Date</u>
Grocery List Items	<ul style="list-style-type: none"> • <u>Grocery List ID</u> (PK) • <u>Grocery List Name</u> • <u>Grocery List Item</u> • <u>Quantity Desired</u> • <u>Quantity Desired UoM</u>
Meal Plan	<ul style="list-style-type: none"> • <u>Meal Plan ID</u> (PK) • <u>User Name</u> • <u>Date</u> • <u>Meal Type</u> • <u>Meal Recipe</u>
Menus	<ul style="list-style-type: none"> • <u>Menu ID</u> (PK) • <u>User Name</u> • <u>Menu Name</u> • <u>Menu Item</u> • <u>Menu Item Type</u> • <u>Price</u> • <u>Menu Item Popularity Rating</u> • <u>Order Frequency</u>

4. Field Specifications

This section provides the field specifications – based upon the template presented in the text – for every field listed in the Final Table List defined in section 3 (Table 9). For convenience, replica field specifications include a link back to its generic field specification.

4.1 Generic Field Specifications

The field specifications in this section are the generic specifications that will be used when defining replica field specifications throughout. For brevity, the replica field specifications provide the ‘General Elements’ section plus only any differences from the generic specification that may exist in the ‘Physical’ and/or ‘Logical Elements’ sections. Any differences in the ‘Physical’ and/or ‘Logical Elements’ sections will be highlighted in yellow.

GENERIC FIELD SPECIFICATIONS							
General Elements							
Field Name: App User				Specification Type: <input type="checkbox"/> Unique <input checked="" type="checkbox"/> Generic <input type="checkbox"/> Replica			
Parent Table: N/A				Source Specification: N/A			
Label: User							
Shared By: N/A							
Alias(es): User ID							
Description: The unique identifier of a single system user. This field is critical for supporting multiple users and customizing the experience to the individual user.							
Physical Elements							
Data Type: Character				Character Support:			
Length: 50				<input checked="" type="checkbox"/> Letters (A-Z) <input checked="" type="checkbox"/> Keyboard (. , / \$ # %)			
Decimal Places: N/A				<input checked="" type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (© Σ π ™ ∞)			
Input Mask: N/A							
Display Format: Display as entered.							
Logical Elements							
Key Type:		<input checked="" type="checkbox"/> Non <input type="checkbox"/> Foreign		<input type="checkbox"/> Primary <input type="checkbox"/> Alternate		Edit Rule:	
Key Structure:		<input type="checkbox"/> Simple		<input type="checkbox"/> Composite		<input type="checkbox"/> Enter Now, Edits Allowed	
Uniqueness:		<input checked="" type="checkbox"/> Non-Unique		<input type="checkbox"/> Unique		<input checked="" type="checkbox"/> Enter Now, Edits Not Allowed	
Null Support:		<input type="checkbox"/> Nulls Allowed		<input checked="" type="checkbox"/> No Nulls		<input type="checkbox"/> Enter Later, Edits Allowed	
Values Entered By:		<input type="checkbox"/> User		<input checked="" type="checkbox"/> System		<input type="checkbox"/> Enter Later, Edits Not Allowed	
Required Value:		<input type="checkbox"/> No		<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> Not Determined At This Time	
Default Value: N/A, must be a unique identifier.							
Range of Values: Any 50-character string composed of upper/lower alphanumeric characters and/or keyboard characters.							
Comparisons Allows:							
Same Field	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input checked="" type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Value Expression	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input checked="" type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

Generic Field Specifications									
General Elements									
Field Name: Ingredient Reference				Specification Type: <input type="checkbox"/> Unique <input checked="" type="checkbox"/> Generic <input type="checkbox"/> Replica					
Parent Table: N/A				Source Specification: N/A					
Label: Ingredient ID									
Shared By: N/A									
Alias(es): IngId									
Description: The system reference to a single item of food that can be associated with other system items for the purposes of providing useful features of the system.									
Physical Elements									
Data Type: Character					Character Support: <input checked="" type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (. , / \$ # %) <input checked="" type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (© ∑ π ™ ∞)				
Length: 25									
Decimal Places: N/A									
Input Mask: l#####									
Display Format: Display as entered.									
Logical Elements									
Key Type:			<input checked="" type="checkbox"/> Non		<input type="checkbox"/> Primary		Edit Rule: <input type="checkbox"/> Enter Now, Edits Allowed <input checked="" type="checkbox"/> Enter Now, Edits Not Allowed <input type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time		
			<input type="checkbox"/> Foreign		<input type="checkbox"/> Alternate				
Key Structure:			<input type="checkbox"/> Simple		<input type="checkbox"/> Composite				
Uniqueness:			<input checked="" type="checkbox"/> Non-Unique		<input type="checkbox"/> Unique				
Null Support:			<input type="checkbox"/> Nulls Allowed		<input checked="" type="checkbox"/> No Nulls				
Values Entered By:			<input type="checkbox"/> User		<input checked="" type="checkbox"/> System				
Required Value:			<input type="checkbox"/> No		<input checked="" type="checkbox"/> Yes				
Default Value: N/A, must be a unique identifier.									
Range of Values: l0 – l999999999999999999999999									
Comparisons Allows:									
Same Field	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input checked="" type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤		
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤		
Value Expression	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input checked="" type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤		
Operations Allowed:									
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation			
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation			
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation			

GENERIC FIELD SPECIFICATIONS							
General Elements							
Field Name: Unit of Measure				Specification Type: <input type="checkbox"/> Unique <input checked="" type="checkbox"/> Generic <input type="checkbox"/> Replica			
Parent Table: N/A				Source Specification: N/A			
Label: UoM							
Shared By: N/A							
Alias(es): UoM							
Description: The unit of measure for specific ingredients. This field is critical for tracking and maintaining ingredient inventory.							
Physical Elements							
Data Type: Character				Character Support: <input checked="" type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (. , / \$ # %) <input type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (© ∑ π ™ ∞)			
Length: 25							
Decimal Places: N/A							
Input Mask: N/A							
Display Format: All lower case.							
Logical Elements							
Key Type:			<input checked="" type="checkbox"/> Non	<input type="checkbox"/> Primary	Edit Rule: <input checked="" type="checkbox"/> Enter Now, Edits Allowed <input type="checkbox"/> Enter Now, Edits Not Allowed <input type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time		
			<input type="checkbox"/> Foreign	<input type="checkbox"/> Alternate			
Key Structure:			<input type="checkbox"/> Simple	<input type="checkbox"/> Composite			
Uniqueness:			<input checked="" type="checkbox"/> Non-Unique	<input type="checkbox"/> Unique			
Null Support:			<input type="checkbox"/> Nulls Allowed	<input checked="" type="checkbox"/> No Nulls			
Values Entered By:			<input type="checkbox"/> User	<input checked="" type="checkbox"/> System			
Required Value:			<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes			
Default Value: unit							
Range of Values: unit, gram, cup, quart, liter, pound, etc. (shortened for brevity)							
Comparisons Allows:							
Same Field	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input checked="" type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Value Expression	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input checked="" type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

GENERIC FIELD SPECIFICATIONS							
General Elements							
Field Name: Quantity				Specification Type: <input type="checkbox"/> Unique <input checked="" type="checkbox"/> Generic <input type="checkbox"/> Replica			
Parent Table: N/A				Source Specification: N/A			
Label: Amount							
Shared By: N/A							
Alias(es): N/A							
Description: The actual number of units for a specific ingredient. This field is critical for tracking and maintaining ingredient inventory.							
Physical Elements							
Data Type: Exact Numeric				Character Support: <input type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (. , / \$ # %) <input checked="" type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (© Σ π ™ ∞)			
Length: 25							
Decimal Places: 2							
Input Mask: #####.##							
Display Format: Display as entered.							
Logical Elements							
Key Type:		<input checked="" type="checkbox"/> Non		<input type="checkbox"/> Primary		Edit Rule: <input type="checkbox"/> Enter Now, Edits Allowed <input type="checkbox"/> Enter Now, Edits Not Allowed <input checked="" type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time	
		<input type="checkbox"/> Foreign		<input type="checkbox"/> Alternate			
Key Structure:		<input type="checkbox"/> Simple		<input type="checkbox"/> Composite			
Uniqueness:		<input checked="" type="checkbox"/> Non-Unique		<input type="checkbox"/> Unique			
Null Support:		<input type="checkbox"/> Nulls Allowed		<input checked="" type="checkbox"/> No Nulls			
Values Entered By:		<input type="checkbox"/> User		<input checked="" type="checkbox"/> System			
Required Value:		<input type="checkbox"/> No		<input checked="" type="checkbox"/> Yes			
Default Value: 0							
Range of Values: 0 – 99999999999999999999.99							
Comparisons Allows:							
Same Field	<input checked="" type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Value Expression	<input checked="" type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

GENERIC FIELD SPECIFICATIONS							
General Elements							
Field Name: Calendar Date				Specification Type: <input type="checkbox"/> Unique <input checked="" type="checkbox"/> Generic <input type="checkbox"/> Replica			
Parent Table: N/A				Source Specification: N/A			
Label: Date							
Shared By: N/A							
Alias(es): CalDate							
Description: The calendar date associated with a specific event or item.							
Physical Elements							
Data Type: DateTime				Character Support: <input type="checkbox"/> Letters (A-Z) <input checked="" type="checkbox"/> Keyboard (. , / \$ # %) <input checked="" type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (© ∑ π ™ ∞)			
Length: 10							
Decimal Places: N/A							
Input Mask: mm-dd-yyyy							
Display Format: Set by preferences.							
Logical Elements							
Key Type:		<input checked="" type="checkbox"/> Non		<input type="checkbox"/> Primary		Edit Rule: <input type="checkbox"/> Enter Now, Edits Allowed <input type="checkbox"/> Enter Now, Edits Not Allowed <input checked="" type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time	
		<input type="checkbox"/> Foreign		<input type="checkbox"/> Alternate			
Key Structure:		<input type="checkbox"/> Simple		<input type="checkbox"/> Composite			
Uniqueness:		<input checked="" type="checkbox"/> Non-Unique		<input type="checkbox"/> Unique			
Null Support:		<input checked="" type="checkbox"/> Nulls Allowed		<input type="checkbox"/> No Nulls			
Values Entered By:		<input type="checkbox"/> User		<input checked="" type="checkbox"/> System			
Required Value:		<input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes			
Default Value: Blank							
Range of Values: yyyy = 1900-9999, mm = 1-12, dd = 1-31							
Comparisons Allows:							
Same Field	<input checked="" type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Value Expression	<input checked="" type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

GENERIC FIELD SPECIFICATIONS							
General Elements							
Field Name: Identifier				Specification Type: <input type="checkbox"/> Unique <input checked="" type="checkbox"/> Generic <input type="checkbox"/> Replica			
Parent Table: N/A				Source Specification: N/A			
Label: N/A							
Shared By: N/A							
Alias(es): Id							
Description: The general identification string of a system element. This helps to differentiate between similar items.							
Physical Elements							
Data Type: Character				Character Support:			
Length: 50				<input checked="" type="checkbox"/> Letters (A-Z) <input checked="" type="checkbox"/> Keyboard (. , / \$ # %)			
Decimal Places: N/A				<input checked="" type="checkbox"/> Numbers (0-9) <input checked="" type="checkbox"/> Special (© ∑ π ™ ∞)			
Input Mask: N/A							
Display Format: Display as entered.							
Logical Elements							
Key Type:			<input checked="" type="checkbox"/> Non <input type="checkbox"/> Primary			Edit Rule:	
			<input type="checkbox"/> Foreign <input type="checkbox"/> Alternate			<input checked="" type="checkbox"/> Enter Now, Edits Allowed	
Key Structure:			<input type="checkbox"/> Simple <input type="checkbox"/> Composite			<input type="checkbox"/> Enter Now, Edits Not Allowed	
Uniqueness:			<input checked="" type="checkbox"/> Non-Unique <input type="checkbox"/> Unique			<input type="checkbox"/> Enter Later, Edits Allowed	
Null Support:			<input type="checkbox"/> Nulls Allowed <input checked="" type="checkbox"/> No Nulls			<input type="checkbox"/> Enter Later, Edits Not Allowed	
Values Entered By:			<input type="checkbox"/> User <input checked="" type="checkbox"/> System			<input type="checkbox"/> Not Determined At This Time	
Required Value:			<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes				
Default Value: N/A, must have a value.							
Range of Values: Any string up to 50 characters.							
Comparisons Allows:							
Same Field	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input checked="" type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Value Expression	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input checked="" type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

Generic Field Specifications									
General Elements									
Field Name: Recipe Reference				Specification Type: <input type="checkbox"/> Unique <input checked="" type="checkbox"/> Generic <input type="checkbox"/> Replica					
Parent Table: N/A				Source Specification: N/A					
Label: Recipe ID									
Shared By: N/A									
Alias(es): Recipeld									
Description: The system reference to a recipe that can be associated with other system items for the purposes of providing useful features of the system.									
Physical Elements									
Data Type: Character					Character Support: <input checked="" type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (. , / \$ # %) <input checked="" type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (© ∑ π ™ ∞)				
Length: 25									
Decimal Places: N/A									
Input Mask: R#####									
Display Format: Display as entered.									
Logical Elements									
Key Type:			<input checked="" type="checkbox"/> Non		<input type="checkbox"/> Primary		Edit Rule: <input type="checkbox"/> Enter Now, Edits Allowed <input checked="" type="checkbox"/> Enter Now, Edits Not Allowed <input type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time		
			<input type="checkbox"/> Foreign		<input type="checkbox"/> Alternate				
Key Structure:			<input type="checkbox"/> Simple		<input type="checkbox"/> Composite				
Uniqueness:			<input checked="" type="checkbox"/> Non-Unique		<input type="checkbox"/> Unique				
Null Support:			<input type="checkbox"/> Nulls Allowed		<input checked="" type="checkbox"/> No Nulls				
Values Entered By:			<input type="checkbox"/> User		<input checked="" type="checkbox"/> System				
Required Value:			<input type="checkbox"/> No		<input checked="" type="checkbox"/> Yes				
Default Value: N/A, must be a unique identifier.									
Range of Values: R0 – R9999999999999999999999999999999									
Comparisons Allows:									
Same Field	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input checked="" type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤		
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤		
Value Expression	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input checked="" type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤		
Operations Allowed:									
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation			
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation			
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation			

GENERIC FIELD SPECIFICATIONS							
General Elements							
Field Name: Popularity				Specification Type: <input type="checkbox"/> Unique <input checked="" type="checkbox"/> Generic <input type="checkbox"/> Replica			
Parent Table: N/A				Source Specification: N/A			
Label: N/A							
Shared By: N/A							
Alias(es): N/A							
Description: The popularity rating of a recipe based on a five-star ranking. This is critical for the fulfillment of system features related to social media and menus.							
Physical Elements							
Data Type: Exact Numeric				Character Support: <input type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (. , / \$ # %) <input checked="" type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (© ∑ π ™ ∞)			
Length: 1							
Decimal Places: N/A							
Input Mask: #							
Display Format: #*							
Logical Elements							
Key Type:		<input checked="" type="checkbox"/> Non	<input type="checkbox"/> Primary	Edit Rule: <input type="checkbox"/> Enter Now, Edits Allowed <input type="checkbox"/> Enter Now, Edits Not Allowed <input checked="" type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time			
		<input type="checkbox"/> Foreign	<input type="checkbox"/> Alternate				
Key Structure:		<input type="checkbox"/> Simple	<input type="checkbox"/> Composite				
Uniqueness:		<input checked="" type="checkbox"/> Non-Unique	<input type="checkbox"/> Unique				
Null Support:		<input checked="" type="checkbox"/> Nulls Allowed	<input type="checkbox"/> No Nulls				
Values Entered By:		<input type="checkbox"/> User	<input checked="" type="checkbox"/> System				
Required Value:		<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes				
Default Value: Blank							
Range of Values: 1-5							
Comparisons Allows:							
Same Field	<input checked="" type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Value Expression	<input checked="" type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

GENERIC FIELD SPECIFICATIONS							
General Elements							
Field Name: Minutes				Specification Type: <input type="checkbox"/> Unique <input checked="" type="checkbox"/> Generic <input type="checkbox"/> Replica			
Parent Table: N/A				Source Specification: N/A			
Label: Time							
Shared By: N/A							
Alias(es): Mins							
Description: The amount of time required to accomplish recipe-related tasks specified in whole minutes.							
Physical Elements							
Data Type: Exact Numeric				Character Support:			
Length: 4				<input type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (. , / \$ # %)			
Decimal Places: 0				<input checked="" type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (© ∑ π ™ ∞)			
Input Mask: #####							
Display Format: Display as entered.							
Logical Elements							
Key Type:		<input checked="" type="checkbox"/> Non		<input type="checkbox"/> Primary		Edit Rule:	
		<input type="checkbox"/> Foreign		<input type="checkbox"/> Alternate			
Key Structure:		<input type="checkbox"/> Simple		<input type="checkbox"/> Composite			
Uniqueness:		<input checked="" type="checkbox"/> Non-Unique		<input type="checkbox"/> Unique			
Null Support:		<input checked="" type="checkbox"/> Nulls Allowed		<input type="checkbox"/> No Nulls			
Values Entered By:		<input type="checkbox"/> User		<input checked="" type="checkbox"/> System			
Required Value:		<input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes		<input type="checkbox"/> Enter Now, Edits Allowed <input type="checkbox"/> Enter Now, Edits Not Allowed <input checked="" type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time	
Default Value: Blank							
Range of Values: 0-9999							
Comparisons Allows:							
Same Field	<input checked="" type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Value Expression	<input checked="" type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

GENERIC FIELD SPECIFICATIONS							
General Elements							
Field Name: Paragraph				Specification Type: <input type="checkbox"/> Unique <input checked="" type="checkbox"/> Generic <input type="checkbox"/> Replica			
Parent Table: N/A				Source Specification: N/A			
Label: N/A							
Shared By: N/A							
Alias(es): N/A							
Description: The general text that describes the process for accomplishing recipe-related tasks.							
Physical Elements							
Data Type: Character				Character Support: <input checked="" type="checkbox"/> Letters (A-Z) <input checked="" type="checkbox"/> Keyboard (. , / \$ # %) <input checked="" type="checkbox"/> Numbers (0-9) <input checked="" type="checkbox"/> Special (© ∑ π ™ ∞)			
Length: 1500							
Decimal Places: N/A							
Input Mask: N/A							
Display Format: Display as entered.							
Logical Elements							
Key Type:		<input checked="" type="checkbox"/> Non		<input type="checkbox"/> Primary		Edit Rule: <input type="checkbox"/> Enter Now, Edits Allowed <input type="checkbox"/> Enter Now, Edits Not Allowed <input checked="" type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time	
		<input type="checkbox"/> Foreign		<input type="checkbox"/> Alternate			
Key Structure:		<input type="checkbox"/> Simple		<input type="checkbox"/> Composite			
Uniqueness:		<input checked="" type="checkbox"/> Non-Unique		<input type="checkbox"/> Unique			
Null Support:		<input checked="" type="checkbox"/> Nulls Allowed		<input type="checkbox"/> No Nulls			
Values Entered By:		<input type="checkbox"/> User		<input checked="" type="checkbox"/> System			
Required Value:		<input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes			
Default Value: Blank							
Range of Values: Anything up to 1500 characters.							
Comparisons Allows:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

Generic Field Specifications							
General Elements							
Field Name: Grocery List Reference			Specification Type: <input type="checkbox"/> Unique <input checked="" type="checkbox"/> Generic <input type="checkbox"/> Replica				
Parent Table: N/A			Source Specification: N/A				
Label: Grocery List ID							
Shared By: N/A							
Alias(es): N/A							
Description: The system reference to a grocery list that can be associated with other system items for the purposes of providing useful features of the system.							
Physical Elements							
Data Type: Character				Character Support: <input checked="" type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (. , / \$ # %) <input checked="" type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (© ∑ π ™ ∞)			
Length: 25							
Decimal Places: N/A							
Input Mask: GL#####							
Display Format: Display as entered.							
Logical Elements							
Key Type: <input type="checkbox"/> Non <input checked="" type="checkbox"/> Primary <input type="checkbox"/> Foreign <input type="checkbox"/> Alternate Key Structure: <input checked="" type="checkbox"/> Simple <input type="checkbox"/> Composite Uniqueness: <input type="checkbox"/> Non-Unique <input checked="" type="checkbox"/> Unique Null Support: <input type="checkbox"/> Nulls Allowed <input checked="" type="checkbox"/> No Nulls Values Entered By: <input type="checkbox"/> User <input checked="" type="checkbox"/> System Required Value: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes						Edit Rule: <input type="checkbox"/> Enter Now, Edits Allowed <input checked="" type="checkbox"/> Enter Now, Edits Not Allowed <input type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time	
Default Value: N/A, must be a unique identifier.							
Range of Values: GL0 – GL99999999999999999999999999999999							
Comparisons Allows:							
Same Field	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input checked="" type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Value Expression	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input checked="" type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

4.2 ‘Users’ Field Specifications

USERS FIELD SPECIFICATIONS							
General Elements							
Field Name: User Name				Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica			
Parent Table: Users				Source Specification: App User			
Label:							
Shared By: User Preferences, Cupboard Items, Recipes, Grocery Lists, Meal Plan, Menus							
Alias(es):							
Description:							
Logical Elements							
Key Type:		<input type="checkbox"/> Non		<input checked="" type="checkbox"/> Primary		Edit Rule: <input type="checkbox"/> Enter Now, Edits Allowed <input type="checkbox"/> Enter Now, Edits Not Allowed <input type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time	
		<input type="checkbox"/> Foreign		<input type="checkbox"/> Alternate			
Key Structure:		<input checked="" type="checkbox"/> Simple		<input type="checkbox"/> Composite			
Uniqueness:		<input type="checkbox"/> Non-Unique		<input checked="" type="checkbox"/> Unique			
Null Support:		<input type="checkbox"/> Nulls Allowed		<input type="checkbox"/> No Nulls			
Values Entered By:		<input type="checkbox"/> User		<input type="checkbox"/> System			
Required Value:		<input type="checkbox"/> No		<input type="checkbox"/> Yes			
Default Value:							
Range of Values:							
Comparisons Allows:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

USERS FIELD SPECIFICATIONS							
General Elements							
Field Name: E-mail Address				Specification Type: <input checked="" type="checkbox"/> Unique <input type="checkbox"/> Generic <input type="checkbox"/> Replica			
Parent Table: Users				Source Specification: N/A			
Label: E-mail							
Shared By: N/A							
Alias(es): User E-mail							
Description: The e-mail address associated with the user account. This allows for electronic correspondence between the user community.							
Physical Elements							
Data Type: Character				Character Support: <input checked="" type="checkbox"/> Letters (A-Z) <input checked="" type="checkbox"/> Keyboard (. , / \$ # %) <input checked="" type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (© ∑ π ™ ∞)			
Length: 100							
Decimal Places: N/A							
Input Mask: N/A							
Display Format: Display as entered.							
Logical Elements							
Key Type:			<input type="checkbox"/> Non <input type="checkbox"/> Primary <input type="checkbox"/> Foreign <input checked="" type="checkbox"/> Alternate		Edit Rule: <input checked="" type="checkbox"/> Enter Now, Edits Allowed <input type="checkbox"/> Enter Now, Edits Not Allowed <input type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time		
Key Structure:			<input checked="" type="checkbox"/> Simple <input type="checkbox"/> Composite				
Uniqueness:			<input type="checkbox"/> Non-Unique <input checked="" type="checkbox"/> Unique				
Null Support:			<input type="checkbox"/> Nulls Allowed <input checked="" type="checkbox"/> No Nulls				
Values Entered By:			<input type="checkbox"/> User <input checked="" type="checkbox"/> System				
Required Value:			<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes				
Default Value: N/A, must be a unique identifier.							
Range of Values: Any 100-character string composed of upper/lower alphanumeric characters and/or keyboard characters.							
Comparisons Allows:							
Same Field	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Value Expression	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

USERS FIELD SPECIFICATIONS							
General Elements							
Field Name: Home Address				Specification Type: <input checked="" type="checkbox"/> Unique <input type="checkbox"/> Generic <input type="checkbox"/> Replica			
Parent Table: Users				Source Specification: N/A			
Label: Home Address							
Shared By: N/A							
Alias(es): Residence							
Description: The physical address of the user's main residence that is critical for proximity services.							
Physical Elements							
Data Type: Character				Character Support: <input checked="" type="checkbox"/> Letters (A-Z) <input checked="" type="checkbox"/> Keyboard (. , / \$ # %) <input checked="" type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (© ∑ π ™ ∞)			
Length: 100							
Decimal Places: N/A							
Input Mask: N/A							
Display Format: Street, City, State, Zip							
Logical Elements							
Key Type:		<input checked="" type="checkbox"/> Non		<input type="checkbox"/> Primary		Edit Rule: <input type="checkbox"/> Enter Now, Edits Allowed <input type="checkbox"/> Enter Now, Edits Not Allowed <input checked="" type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time	
		<input type="checkbox"/> Foreign		<input type="checkbox"/> Alternate			
Key Structure:		<input type="checkbox"/> Simple		<input type="checkbox"/> Composite			
Uniqueness:		<input checked="" type="checkbox"/> Non-Unique		<input type="checkbox"/> Unique			
Null Support:		<input checked="" type="checkbox"/> Nulls Allowed		<input type="checkbox"/> No Nulls			
Values Entered By:		<input type="checkbox"/> User		<input checked="" type="checkbox"/> System			
Required Value:		<input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes			
Default Value: Blank							
Range of Values: Any 100-character string composed of upper/lower alphanumeric characters and hyphens.							
Comparisons Allows:							
Same Field	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Value Expression	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

USERS FIELD SPECIFICATIONS							
General Elements							
Field Name: User Phone Number				Specification Type: <input checked="" type="checkbox"/> Unique <input type="checkbox"/> Generic <input type="checkbox"/> Replica			
Parent Table: Users				Source Specification: N/A			
Label: Phone							
Shared By: N/A							
Alias(es): User Phone							
Description: The phone number at which the user wishes to receive any phone correspondence.							
Physical Elements							
Data Type: Character				Character Support: <input type="checkbox"/> Letters (A-Z) <input checked="" type="checkbox"/> Keyboard (. , / \$ # %) <input checked="" type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (© ∑ π ™ ∞)			
Length: 10							
Decimal Places: N/A							
Input Mask: ###-###-####							
Display Format: (###) ###-####							
Logical Elements							
Key Type:		<input checked="" type="checkbox"/> Non		<input type="checkbox"/> Primary		Edit Rule: <input type="checkbox"/> Enter Now, Edits Allowed <input type="checkbox"/> Enter Now, Edits Not Allowed <input checked="" type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time	
		<input type="checkbox"/> Foreign		<input type="checkbox"/> Alternate			
Key Structure:		<input type="checkbox"/> Simple		<input type="checkbox"/> Composite			
Uniqueness:		<input checked="" type="checkbox"/> Non-Unique		<input type="checkbox"/> Unique			
Null Support:		<input checked="" type="checkbox"/> Nulls Allowed		<input type="checkbox"/> No Nulls			
Values Entered By:		<input type="checkbox"/> User		<input checked="" type="checkbox"/> System			
Required Value:		<input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes			
Default Value: Blank							
Range of Values: 000-000-0000 to 999-999-9999							
Comparisons Allows:							
Same Field	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Value Expression	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

4.3 ‘User Preferences’ Field Specifications

USER PREFERENCES FIELD SPECIFICATIONS							
General Elements							
Field Name: User Name				Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica			
Parent Table: User Preferences				Source Specification: App User			
Label:							
Shared By: Users							
Alias(es): PrefUser							
Description: The system user whose user experience is defined by this preference value.							
Logical Elements							
Key Type:		<input type="checkbox"/> Non		<input checked="" type="checkbox"/> Primary		Edit Rule:	
		<input type="checkbox"/> Foreign		<input type="checkbox"/> Alternate		<input type="checkbox"/> Enter Now, Edits Allowed	
Key Structure:		<input checked="" type="checkbox"/> Simple		<input type="checkbox"/> Composite		<input type="checkbox"/> Enter Now, Edits Not Allowed	
Uniqueness:		<input type="checkbox"/> Non-Unique		<input type="checkbox"/> Unique		<input type="checkbox"/> Enter Later, Edits Allowed	
Null Support:		<input type="checkbox"/> Nulls Allowed		<input type="checkbox"/> No Nulls		<input type="checkbox"/> Enter Later, Edits Not Allowed	
Values Entered By:		<input type="checkbox"/> User		<input type="checkbox"/> System		<input type="checkbox"/> Not Determined At This Time	
Required Value:		<input type="checkbox"/> No		<input type="checkbox"/> Yes			
Default Value:							
Range of Values:							
Comparisons Allows:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

USER PREFERENCES FIELD SPECIFICATIONS							
General Elements							
Field Name: Preference Name				Specification Type: <input checked="" type="checkbox"/> Unique <input type="checkbox"/> Generic <input type="checkbox"/> Replica			
Parent Table: User Preferences				Source Specification: N/A			
Label: Preference							
Shared By: N/A							
Alias(es): PrefName							
Description: The identifier of a system preference that helps to define the customizable user experience.							
Physical Elements							
Data Type: Character				Character Support: <input checked="" type="checkbox"/> Letters (A-Z) <input checked="" type="checkbox"/> Keyboard (. , / \$ # %) <input checked="" type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (© ∑ π ™ ∞)			
Length: N/A							
Decimal Places: N/A							
Input Mask: N/A							
Display Format: Display as entered.							
Logical Elements							
Key Type:			<input checked="" type="checkbox"/> Non <input type="checkbox"/> Primary <input type="checkbox"/> Foreign <input type="checkbox"/> Alternate			Edit Rule: <input checked="" type="checkbox"/> Enter Now, Edits Allowed <input type="checkbox"/> Enter Now, Edits Not Allowed <input type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time	
Key Structure:			<input type="checkbox"/> Simple <input type="checkbox"/> Composite				
Uniqueness:			<input checked="" type="checkbox"/> Non-Unique <input type="checkbox"/> Unique				
Null Support:			<input type="checkbox"/> Nulls Allowed <input checked="" type="checkbox"/> No Nulls				
Values Entered By:			<input type="checkbox"/> User <input checked="" type="checkbox"/> System				
Required Value:			<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes				
Default Value: N/A							
Range of Values: N/A							
Comparisons Allows:							
Same Field	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Value Expression	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

USER PREFERENCES FIELD SPECIFICATIONS							
General Elements							
Field Name: Preference Value				Specification Type: <input checked="" type="checkbox"/> Unique <input type="checkbox"/> Generic <input type="checkbox"/> Replica			
Parent Table: User Preferences				Source Specification: N/A			
Label: N/A							
Shared By: N/A							
Alias(es): PrefValue							
Description: The value of a system preference that helps to define the customizable user experience.							
Physical Elements							
Data Type: Character				Character Support: <input checked="" type="checkbox"/> Letters (A-Z) <input checked="" type="checkbox"/> Keyboard (. , / \$ # %) <input checked="" type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (© ∑ π ™ ∞)			
Length: N/A							
Decimal Places: N/A							
Input Mask: N/A							
Display Format: N/A							
Logical Elements							
Key Type:		<input checked="" type="checkbox"/> Non		<input type="checkbox"/> Primary		Edit Rule: <input type="checkbox"/> Enter Now, Edits Allowed <input type="checkbox"/> Enter Now, Edits Not Allowed <input checked="" type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time	
		<input type="checkbox"/> Foreign		<input type="checkbox"/> Alternate			
Key Structure:		<input type="checkbox"/> Simple		<input type="checkbox"/> Composite			
Uniqueness:		<input checked="" type="checkbox"/> Non-Unique		<input type="checkbox"/> Unique			
Null Support:		<input checked="" type="checkbox"/> Nulls Allowed		<input type="checkbox"/> No Nulls			
Values Entered By:		<input type="checkbox"/> User		<input checked="" type="checkbox"/> System			
Required Value:		<input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes			
Default Value: Null							
Range of Values: N/A							
Comparisons Allows:							
Same Field	<input checked="" type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Other Fields	<input checked="" type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Value Expression	<input checked="" type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

4.4 ‘Cupboard Items’ Field Specifications

CUPBOARD ITEMS FIELD SPECIFICATIONS							
General Elements							
Field Name: User Name				Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica			
Parent Table: Cupboard Items				Source Specification: App User			
Label: Cupboard Owner							
Shared By:							
Alias(es): Cupboard User							
Description: This field indicates the owner and primary user of the cupboard items.							
Logical Elements							
Key Type:		<input type="checkbox"/> Non		<input checked="" type="checkbox"/> Primary		Edit Rule:	
		<input type="checkbox"/> Foreign		<input type="checkbox"/> Alternate		<input type="checkbox"/> Enter Now, Edits Allowed	
Key Structure:		<input type="checkbox"/> Simple		<input checked="" type="checkbox"/> Composite		<input type="checkbox"/> Enter Now, Edits Not Allowed	
Uniqueness:		<input type="checkbox"/> Non-Unique		<input type="checkbox"/> Unique		<input type="checkbox"/> Enter Later, Edits Allowed	
Null Support:		<input type="checkbox"/> Nulls Allowed		<input type="checkbox"/> No Nulls		<input type="checkbox"/> Enter Later, Edits Not Allowed	
Values Entered By:		<input type="checkbox"/> User		<input type="checkbox"/> System		<input type="checkbox"/> Not Determined At This Time	
Required Value:		<input type="checkbox"/> No		<input type="checkbox"/> Yes			
Default Value:							
Range of Values:							
Comparisons Allows:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

CUPBOARD ITEMS FIELD SPECIFICATIONS							
General Elements							
Field Name: Cupboard Item				Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica			
Parent Table: Cupboard Items				Source Specification : Ingredient Reference			
Label: Cupboard Ingredient ID							
Shared By:							
Alias(es):							
Description: The reference to the ingredient that is tracked and maintained by the cupboard items collection.							
Logical Elements							
Key Type:		<input type="checkbox"/> Non		<input checked="" type="checkbox"/> Primary		Edit Rule:	
		<input type="checkbox"/> Foreign		<input type="checkbox"/> Alternate		<input type="checkbox"/> Enter Now, Edits Allowed	
Key Structure:		<input type="checkbox"/> Simple		<input checked="" type="checkbox"/> Composite		<input type="checkbox"/> Enter Now, Edits Not Allowed	
Uniqueness:		<input type="checkbox"/> Non-Unique		<input type="checkbox"/> Unique		<input type="checkbox"/> Enter Later, Edits Allowed	
Null Support:		<input type="checkbox"/> Nulls Allowed		<input type="checkbox"/> No Nulls		<input type="checkbox"/> Enter Later, Edits Not Allowed	
Values Entered By:		<input type="checkbox"/> User		<input type="checkbox"/> System		<input type="checkbox"/> Not Determined At This Time	
Required Value:		<input type="checkbox"/> No		<input type="checkbox"/> Yes			
Default Value:							
Range of Values:							
Comparisons Allows:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

CUPBOARD ITEMS FIELD SPECIFICATIONS

General Elements

Field Name: Cupboard Item UoM	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica
Parent Table: Cupboard Items	Source Specification: Unit of Measure
Label: N/A	
Shared By: N/A	
Alias(es): Cupboard Ingredient UoM	
Description: The unit of measure for a specific ingredient that is within the cupboard ingredient collection.	

CUPBOARD ITEMS FIELD SPECIFICATIONS

General Elements

Field Name: Quantity Remaining	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica
Parent Table: Cupboard Items	Source Specification: Quantity
Label: Amount Remaining	
Shared By: N/A	
Alias(es): N/A	
Description: The amount of specific ingredients that are remaining within the cupboard ingredient collection.	

CUPBOARD ITEMS FIELD SPECIFICATIONS

General Elements

Field Name: Expiration Date	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica
Parent Table: Cupboard Items	Source Specification: Calendar Date
Label: Expiration	
Shared By: N/A	
Alias(es): Expiration	
Description: The date on which the specified ingredient will expire. This is critical for determining which ingredients are available for consumption and which need to be added to the grocery list.	

4.5 'Ingredients' Field Specifications

INGREDIENTS FIELD SPECIFICATIONS							
General Elements							
Field Name: Ingredient ID				Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica			
Parent Table: Ingredients				Source Specification: Ingredient Reference			
Label: Ingredient ID							
Shared By:							
Alias(es):							
Description: The unique identifier associated with an ingredient. This is critical for differentiating between ingredients maintained by the system.							
Logical Elements							
Key Type:		<input type="checkbox"/> Non		<input checked="" type="checkbox"/> Primary		Edit Rule:	
		<input type="checkbox"/> Foreign		<input type="checkbox"/> Alternate		<input type="checkbox"/> Enter Now, Edits Allowed	
Key Structure:		<input checked="" type="checkbox"/> Simple		<input type="checkbox"/> Composite		<input type="checkbox"/> Enter Now, Edits Not Allowed	
Uniqueness:		<input type="checkbox"/> Non-Unique		<input checked="" type="checkbox"/> Unique		<input type="checkbox"/> Enter Later, Edits Allowed	
Null Support:		<input type="checkbox"/> Nulls Allowed		<input type="checkbox"/> No Nulls		<input type="checkbox"/> Enter Later, Edits Not Allowed	
Values Entered By:		<input type="checkbox"/> User		<input type="checkbox"/> System		<input type="checkbox"/> Not Determined At This Time	
Required Value:		<input type="checkbox"/> No		<input type="checkbox"/> Yes			
Default Value:							
Range of Values:							
Comparisons Allows:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

INGREDIENTS FIELD SPECIFICATIONS			
General Elements			
Field Name: Ingredient Brand		Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica	
Parent Table: Ingredients		Source Specification: Identifier	
Label: Brand			
Shared By:			
Alias(es): IngBrand			
Description: The name of the company/corporation that is responsible for producing the ingredient.			
Logical Elements			
Key Type:		Edit Rule:	
<input type="checkbox"/> Non <input type="checkbox"/> Primary		<input type="checkbox"/> Enter Now, Edits Allowed	
<input type="checkbox"/> Foreign <input type="checkbox"/> Alternate		<input type="checkbox"/> Enter Now, Edits Not Allowed	
Key Structure: <input type="checkbox"/> Simple <input type="checkbox"/> Composite		<input checked="" type="checkbox"/> Enter Later, Edits Allowed	
Uniqueness: <input type="checkbox"/> Non-Unique <input type="checkbox"/> Unique		<input type="checkbox"/> Enter Later, Edits Not Allowed	
Null Support: <input checked="" type="checkbox"/> Nulls Allowed <input type="checkbox"/> No Nulls		<input type="checkbox"/> Not Determined At This Time	
Values Entered By: <input type="checkbox"/> User <input type="checkbox"/> System			
Required Value: <input type="checkbox"/> No <input type="checkbox"/> Yes			
Default Value: Blank			
Range of Values:			
Comparisons Allows:			
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> > <input type="checkbox"/> ≥ <input type="checkbox"/> ≠ <input type="checkbox"/> < <input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> > <input type="checkbox"/> ≥ <input type="checkbox"/> ≠ <input type="checkbox"/> < <input type="checkbox"/> ≤
Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> > <input type="checkbox"/> ≥ <input type="checkbox"/> ≠ <input type="checkbox"/> < <input type="checkbox"/> ≤
Operations Allowed:			
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> - <input type="checkbox"/> X <input type="checkbox"/> ÷ <input type="checkbox"/> Concatenation
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> - <input type="checkbox"/> X <input type="checkbox"/> ÷ <input type="checkbox"/> Concatenation
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> - <input type="checkbox"/> X <input type="checkbox"/> ÷ <input type="checkbox"/> Concatenation

INGREDIENTS FIELD SPECIFICATIONS			
General Elements			
Field Name: Ingredient Name		Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica	
Parent Table: Ingredients		Source Specification: Identifier	
Label: Name			
Shared By:			
Alias(es):			
Description: The general identifier of the ingredient which is used to differentiate between ingredients.			

INGREDIENTS FIELD SPECIFICATIONS							
General Elements							
Field Name: Nutritional Value				Specification Type: <input checked="" type="checkbox"/> Unique <input type="checkbox"/> Generic <input type="checkbox"/> Replica			
Parent Table: Ingredients				Source Specification: N/A			
Label: Calories							
Shared By: N/A							
Alias(es): NutritionVal							
Description: The amount of calories contained within an ingredient. This information is utilized by multiple system features.							
Physical Elements							
Data Type: Exact Numeric				Character Support: <input type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (. , / \$ # %) <input checked="" type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (© ∑ π ™ ∞)			
Length: 6							
Decimal Places: 0							
Input Mask: #####							
Display Format: Display as entered.							
Logical Elements							
Key Type:		<input checked="" type="checkbox"/> Non		<input type="checkbox"/> Primary		Edit Rule: <input type="checkbox"/> Enter Now, Edits Allowed <input type="checkbox"/> Enter Now, Edits Not Allowed <input checked="" type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time	
		<input type="checkbox"/> Foreign		<input type="checkbox"/> Alternate			
Key Structure:		<input type="checkbox"/> Simple		<input type="checkbox"/> Composite			
Uniqueness:		<input checked="" type="checkbox"/> Non-Unique		<input type="checkbox"/> Unique			
Null Support:		<input type="checkbox"/> Nulls Allowed		<input checked="" type="checkbox"/> No Nulls			
Values Entered By:		<input type="checkbox"/> User		<input checked="" type="checkbox"/> System			
Required Value:		<input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes			
Default Value: 0							
Range of Values: 0-999999							
Comparisons Allows:							
Same Field	<input checked="" type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Value Expression	<input checked="" type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

INGREDIENTS FIELD SPECIFICATIONS	
General Elements	
Field Name: Ingredient UoM	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica
Parent Table: Ingredients	Source Specification: Unit of Measure
Label: N/A	
Shared By:	
Alias(es): IngUoM	
Description: The default unit of measure associated with an ingredient. This information is useful for describing and determining ingredient inventory.	

INGREDIENTS FIELD SPECIFICATIONS							
General Elements							
Field Name: Shelf Life				Specification Type: <input checked="" type="checkbox"/> Unique <input type="checkbox"/> Generic <input type="checkbox"/> Replica			
Parent Table: Ingredients				Source Specification: N/A			
Label: Shelf Life							
Shared By: N/A							
Alias(es): N/A							
Description: The number of days allowed for an ingredient to sit on the shelf before expiring. This is critical for maintaining and tracking cupboard ingredient inventory.							
Physical Elements							
Data Type: Exact Numeric				Character Support: <input type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (. , / \$ # %) <input checked="" type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (© ∑ π ™ ∞)			
Length: 6							
Decimal Places: 0							
Input Mask: #####							
Display Format: Display as entered.							
Logical Elements							
Key Type:		<input checked="" type="checkbox"/> Non		<input type="checkbox"/> Primary		Edit Rule: <input type="checkbox"/> Enter Now, Edits Allowed <input type="checkbox"/> Enter Now, Edits Not Allowed <input checked="" type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time	
		<input type="checkbox"/> Foreign		<input type="checkbox"/> Alternate			
Key Structure:		<input type="checkbox"/> Simple		<input type="checkbox"/> Composite			
Uniqueness:		<input checked="" type="checkbox"/> Non-Unique		<input type="checkbox"/> Unique			
Null Support:		<input checked="" type="checkbox"/> Nulls Allowed		<input type="checkbox"/> No Nulls			
Values Entered By:		<input type="checkbox"/> User		<input checked="" type="checkbox"/> System			
Required Value:		<input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes			
Default Value: Blank							
Range of Values: 1-999999							
Comparisons Allows:							
Same Field	<input checked="" type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Value Expression	<input checked="" type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

4.6 'Recipes' Field Specifications

RECIPES FIELD SPECIFICATIONS							
General Elements							
Field Name: Recipe ID				Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica			
Parent Table: Recipes				Source Specification: Recipe Reference			
Label:							
Shared By: Ingredient List Items							
Alias(es):							
Description: The unique identifier associated with an recipe. This is critical for differentiating between recipes maintained by the system.							
Logical Elements							
Key Type:		<input type="checkbox"/> Non		<input checked="" type="checkbox"/> Primary		Edit Rule:	
		<input type="checkbox"/> Foreign		<input type="checkbox"/> Alternate		<input type="checkbox"/> Enter Now, Edits Allowed	
Key Structure:		<input checked="" type="checkbox"/> Simple		<input type="checkbox"/> Composite		<input type="checkbox"/> Enter Now, Edits Not Allowed	
Uniqueness:		<input type="checkbox"/> Non-Unique		<input checked="" type="checkbox"/> Unique		<input type="checkbox"/> Enter Later, Edits Allowed	
Null Support:		<input type="checkbox"/> Nulls Allowed		<input type="checkbox"/> No Nulls		<input type="checkbox"/> Enter Later, Edits Not Allowed	
Values Entered By:		<input type="checkbox"/> User		<input type="checkbox"/> System		<input type="checkbox"/> Not Determined At This Time	
Required Value:		<input type="checkbox"/> No		<input type="checkbox"/> Yes			
Default Value:							
Range of Values:							
Comparisons Allows:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

RECIPES FIELD SPECIFICATIONS							
General Elements							
Field Name: User Name				Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica			
Parent Table: Recipes				Source Specification: App User			
Label: Recipe User							
Shared By:							
Alias(es): RecipeUser							
Description: This field indicates the owner/creator of the recipe.							
Logical Elements							
Key Type:		<input type="checkbox"/> Non	<input type="checkbox"/> Primary	Edit Rule: <input type="checkbox"/> Enter Now, Edits Allowed <input type="checkbox"/> Enter Now, Edits Not Allowed <input type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time			
		<input type="checkbox"/> Foreign	<input checked="" type="checkbox"/> Alternate				
Key Structure:		<input type="checkbox"/> Simple	<input checked="" type="checkbox"/> Composite				
Uniqueness:		<input type="checkbox"/> Non-Unique	<input type="checkbox"/> Unique				
Null Support:		<input type="checkbox"/> Nulls Allowed	<input type="checkbox"/> No Nulls				
Values Entered By:		<input type="checkbox"/> User	<input type="checkbox"/> System				
Required Value:		<input type="checkbox"/> No	<input type="checkbox"/> Yes				
Default Value:							
Range of Values:							
Comparisons Allows:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

RECIPES FIELD SPECIFICATIONS							
General Elements							
Field Name: Recipe Name				Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica			
Parent Table: Recipes				Source Specification: Identifier			
Label: Recipe Name							
Shared By:							
Alias(es): RecName							
Description: The general identifier associated with the recipe. This helps to differentiate recipes.							
Logical Elements							
Key Type:		<input type="checkbox"/> Non		<input type="checkbox"/> Primary		Edit Rule: <input type="checkbox"/> Enter Now, Edits Allowed <input type="checkbox"/> Enter Now, Edits Not Allowed <input type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time	
		<input type="checkbox"/> Foreign		<input checked="" type="checkbox"/> Alternate			
Key Structure:		<input type="checkbox"/> Simple		<input checked="" type="checkbox"/> Composite			
Uniqueness:		<input type="checkbox"/> Non-Unique		<input type="checkbox"/> Unique			
Null Support:		<input type="checkbox"/> Nulls Allowed		<input type="checkbox"/> No Nulls			
Values Entered By:		<input type="checkbox"/> User		<input type="checkbox"/> System			
Required Value:		<input type="checkbox"/> No		<input type="checkbox"/> Yes			
Default Value:							
Range of Values:							
Comparisons Allows:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

RECIPES FIELD SPECIFICATIONS							
General Elements							
Field Name: Recipe Image				Specification Type: <input checked="" type="checkbox"/> Unique <input type="checkbox"/> Generic <input type="checkbox"/> Replica			
Parent Table: Recipes				Source Specification: N/A			
Label: N/A							
Shared By: N/A							
Alias(es): Image							
Description: The binary file that is used to display an image with the recipe.							
Physical Elements							
Data Type: Binary				Character Support:			
Length: 3 MB				<input type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (. , / \$ # %)			
Decimal Places: N/A				<input type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (© ∑ π ™ ∞)			
Input Mask: N/A							
Display Format: Display the full image.							
Logical Elements							
Key Type:			<input checked="" type="checkbox"/> Non <input type="checkbox"/> Primary			Edit Rule:	
			<input type="checkbox"/> Foreign <input type="checkbox"/> Alternate			<input type="checkbox"/> Enter Now, Edits Allowed	
Key Structure:			<input type="checkbox"/> Simple <input type="checkbox"/> Composite			<input type="checkbox"/> Enter Now, Edits Not Allowed	
Uniqueness:			<input checked="" type="checkbox"/> Non-Unique <input type="checkbox"/> Unique			<input checked="" type="checkbox"/> Enter Later, Edits Allowed	
Null Support:			<input checked="" type="checkbox"/> Nulls Allowed <input type="checkbox"/> No Nulls			<input type="checkbox"/> Enter Later, Edits Not Allowed	
Values Entered By:			<input type="checkbox"/> User <input checked="" type="checkbox"/> System			<input type="checkbox"/> Not Determined At This Time	
Required Value:			<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes				
Default Value: NULL							
Range of Values: N/A							
Comparisons Allows:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

RECIPES FIELD SPECIFICATIONS	
General Elements	
Field Name: Popularity Rating	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica
Parent Table: Recipes	Source Specification: Popularity
Label: Popularity	
Shared By:	
Alias(es):	
Description:	

RECIPES FIELD SPECIFICATIONS	
General Elements	
Field Name: Preparation Time	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica
Parent Table: Recipes	Source Specification: Minutes
Label: Prep Time	
Shared By: N/A	
Alias(es): PrepTime	
Description: The amount of time, in minutes, that it takes to prepare the recipe for cooking.	

RECIPES FIELD SPECIFICATIONS	
General Elements	
Field Name: Preparation Steps	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica
Parent Table: Recipes	Source Specification: Paragraph
Label: Preparation Instructions	
Shared By:	
Alias(es): PrepSteps	
Description: The text that explains the steps necessary to prepare the recipe for cooking.	

RECIPES FIELD SPECIFICATIONS	
General Elements	
Field Name: Cooking Time	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica
Parent Table: Recipes	Source Specification: Minutes
Label: Cook Time	
Shared By:	
Alias(es): CookTime	
Description: The amount of time, in minutes, that is required to cook the recipe.	

RECIPES FIELD SPECIFICATIONS							
General Elements							
Field Name: Cooking Instructions				Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica			
Parent Table: Recipes				Source Specification: Paragraph			
Label: Cooking Steps							
Shared By:							
Alias(es): CookSteps							
Description: The text that explains the steps necessary to cook the recipe.							
Logical Elements							
Key Type:		<input type="checkbox"/> Non	<input type="checkbox"/> Primary	Edit Rule:			
		<input type="checkbox"/> Foreign	<input type="checkbox"/> Alternate	<input checked="" type="checkbox"/> Enter Now, Edits Allowed			
Key Structure:		<input type="checkbox"/> Simple	<input type="checkbox"/> Composite	<input type="checkbox"/> Enter Now, Edits Not Allowed			
Uniqueness:		<input type="checkbox"/> Non-Unique	<input type="checkbox"/> Unique	<input type="checkbox"/> Enter Later, Edits Allowed			
Null Support:		<input type="checkbox"/> Nulls Allowed	<input checked="" type="checkbox"/> No Nulls	<input type="checkbox"/> Enter Later, Edits Not Allowed			
Values Entered By:		<input type="checkbox"/> User	<input type="checkbox"/> System	<input type="checkbox"/> Not Determined At This Time			
Required Value:		<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes				
Default Value: N/A, must contain the cooking instructions.							
Range of Values:							
Comparisons Allows:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

RECIPES FIELD SPECIFICATIONS							
General Elements							
Field Name: Serving Amount				Specification Type: <input checked="" type="checkbox"/> Unique <input type="checkbox"/> Generic <input type="checkbox"/> Replica			
Parent Table: Recipes				Source Specification: N/A			
Label: Servings							
Shared By: N/A							
Alias(es): Servings							
Description: The desired number of servings that the user wishes to prepare. This is critical for determining the proper amount of ingredients that should be displayed with the recipe.							
Physical Elements							
Data Type: Exact Numeric				Character Support: <input type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (. , / \$ # %) <input checked="" type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (© ∑ π ™ ∞)			
Length: 5							
Decimal Places: 2							
Input Mask: ###.##							
Display Format: For whole serving amounts, display only the integer portion (###), otherwise display as entered (###.##).							
Logical Elements							
Key Type:		<input checked="" type="checkbox"/> Non		<input type="checkbox"/> Primary		Edit Rule: <input type="checkbox"/> Enter Now, Edits Allowed <input type="checkbox"/> Enter Now, Edits Not Allowed <input checked="" type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time	
		<input type="checkbox"/> Foreign		<input type="checkbox"/> Alternate			
Key Structure:		<input type="checkbox"/> Simple		<input type="checkbox"/> Composite			
Uniqueness:		<input checked="" type="checkbox"/> Non-Unique		<input type="checkbox"/> Unique			
Null Support:		<input type="checkbox"/> Nulls Allowed		<input checked="" type="checkbox"/> No Nulls			
Values Entered By:		<input type="checkbox"/> User		<input checked="" type="checkbox"/> System			
Required Value:		<input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes			
Default Value: 1							
Range of Values: 0.25-999.99							
Comparisons Allows:							
Same Field	<input checked="" type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Value Expression	<input checked="" type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

RECIPES FIELD SPECIFICATIONS	
General Elements	
Field Name: Recipe Notes	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica
Parent Table: Recipes	Source Specification : Paragraph
Label: Notes	
Shared By:	
Alias(es):	
Description: The text containing any user notes that have been saved as a part of the recipe.	

4.7 'Ingredient List Items' Field Specifications

INGREDIENT LIST ITEMS FIELD SPECIFICATIONS							
General Elements							
Field Name: Recipe ID				Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica			
Parent Table: Ingredient List Items				Source Specification: Recipe Reference			
Label:							
Shared By: Recipes							
Alias(es):							
Description: The system recipe ID that the ingredient belongs to.							
Logical Elements							
Key Type:		<input type="checkbox"/> Non		<input checked="" type="checkbox"/> Primary		Edit Rule:	
		<input type="checkbox"/> Foreign		<input type="checkbox"/> Alternate		<input type="checkbox"/> Enter Now, Edits Allowed	
Key Structure:		<input checked="" type="checkbox"/> Simple		<input type="checkbox"/> Composite		<input type="checkbox"/> Enter Now, Edits Not Allowed	
Uniqueness:		<input type="checkbox"/> Non-Unique		<input type="checkbox"/> Unique		<input type="checkbox"/> Enter Later, Edits Allowed	
Null Support:		<input type="checkbox"/> Nulls Allowed		<input type="checkbox"/> No Nulls		<input type="checkbox"/> Enter Later, Edits Not Allowed	
Values Entered By:		<input type="checkbox"/> User		<input type="checkbox"/> System		<input type="checkbox"/> Not Determined At This Time	
Required Value:		<input type="checkbox"/> No		<input type="checkbox"/> Yes			
Default Value:							
Range of Values:							
Comparisons Allows:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

INGREDIENT LIST ITEMS FIELD SPECIFICATIONS	
General Elements	
Field Name: Ingredient List Item	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica
Parent Table: Ingredient List Items	Source Specification : Ingredient Reference
Label:	
Shared By:	
Alias(es):	
Description: The reference to the ingredient that is tracked and maintained as a part of the recipe.	

INGREDIENT LIST ITEMS FIELD SPECIFICATIONS							
General Elements							
Field Name: Ingredient Quantity				Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica			
Parent Table: Ingredient List Items				Source Specification: Quantity			
Label: N/A							
Shared By:							
Alias(es):							
Description: The amount of ingredients required to prepare and cook the recipe.							
Logical Elements							
Key Type:		<input type="checkbox"/> Non	<input type="checkbox"/> Primary	Edit Rule:			
		<input type="checkbox"/> Foreign	<input type="checkbox"/> Alternate	<input checked="" type="checkbox"/> Enter Now, Edits Allowed			
Key Structure:		<input type="checkbox"/> Simple	<input type="checkbox"/> Composite	<input type="checkbox"/> Enter Now, Edits Not Allowed			
Uniqueness:		<input type="checkbox"/> Non-Unique	<input type="checkbox"/> Unique	<input type="checkbox"/> Enter Later, Edits Allowed			
Null Support:		<input type="checkbox"/> Nulls Allowed	<input type="checkbox"/> No Nulls	<input type="checkbox"/> Enter Later, Edits Not Allowed			
Values Entered By:		<input type="checkbox"/> User	<input type="checkbox"/> System	<input type="checkbox"/> Not Determined At This Time			
Required Value:		<input type="checkbox"/> No	<input type="checkbox"/> Yes				
Default Value:							
Range of Values:							
Comparisons Allows:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

INGREDIENT LIST ITEMS FIELD SPECIFICATIONS	
General Elements	
Field Name: Ingredient List Item UoM	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica
Parent Table: Ingredient List Items	Source Specification: Unit of Measure
Label: Ingredient UoM	
Shared By:	
Alias(es): IngUoM	
Description: The unit of measure for this recipe ingredient. This information is necessary for determining if enough ingredients exist within the cupboard collection to prepare/cook the recipe.	

4.8 ‘Grocery Lists’ Field Specifications

GROCERY LISTS FIELD SPECIFICATIONS	
General Elements	
Field Name: Grocery List ID	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica
Parent Table: Grocery Lists	Source Specification: Grocery List Reference
Label:	
Shared By: Grocery List Items	
Alias(es):	
Description:	

GROCERY LISTS FIELD SPECIFICATIONS	
General Elements	
Field Name: User Name	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica
Parent Table: Grocery Lists	Source Specification: App User
Label: Grocery List User	
Shared By: Users	
Alias(es): GrocListUser	
Description: This field indicates the owner/creator of the grocery list.	

GROCERY LISTS FIELD SPECIFICATIONS	
General Elements	
Field Name: Grocery List Name	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica
Parent Table: Grocery Lists	Source Specification: Identifier
Label: Grocery List Name	
Shared By:	
Alias(es): GrocListName	
Description: The general identifier of the grocery list which is used to differentiate between grocery lists.	

GROCERY LISTS FIELD SPECIFICATIONS

General Elements

Field Name: Grocery List Save Date	Specification Type: <input checked="" type="checkbox"/> Unique <input type="checkbox"/> Generic <input type="checkbox"/> Replica
Parent Table: Grocery Lists	Source Specification: N/A
Label: Last Saved On	
Shared By: N/A	
Alias(es): LastSavedDate	
Description: The timestamp that references the exact time that the grocery list was last saved by the user.	

Physical Elements

Data Type: DateTime	Character Support: <input checked="" type="checkbox"/> Letters (A-Z) <input checked="" type="checkbox"/> Keyboard (. , / \$ # %) <input checked="" type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (© ∑ π ™ ∞)
Length: 25	
Decimal Places: N/A	
Input Mask: mm-dd-yyyy, hh:mm	
Display Format: mm-dd-yyyy, hh:mm period (AM/PM)	

Logical Elements

Key Type:	<input checked="" type="checkbox"/> Non	<input type="checkbox"/> Primary	Edit Rule: <input checked="" type="checkbox"/> Enter Now, Edits Allowed <input type="checkbox"/> Enter Now, Edits Not Allowed <input type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time				
	<input type="checkbox"/> Foreign	<input type="checkbox"/> Alternate					
Key Structure:	<input type="checkbox"/> Simple	<input type="checkbox"/> Composite					
Uniqueness:	<input checked="" type="checkbox"/> Non-Unique	<input type="checkbox"/> Unique					
Null Support:	<input type="checkbox"/> Nulls Allowed	<input checked="" type="checkbox"/> No Nulls					
Values Entered By:	<input type="checkbox"/> User	<input checked="" type="checkbox"/> System					
Required Value:	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes					
Default Value: N/A, must contain an actual value.							
Range of Values: yyyy = 1900-9999, mm = 1-12, dd = 1-31, hh = 00-23, mm = 00-59							
Comparisons Allows:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

4.9 ‘Grocery List Items’ Field Specifications

GROCERY LIST ITEMS FIELD SPECIFICATIONS	
General Elements	
Field Name: Grocery List ID	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica
Parent Table: Grocery List Items	Source Specification: Grocery List Reference
Label:	
Shared By: Grocery Lists	
Alias(es):	
Description: The grocery list that the ingredient belongs to.	

GROCERY LIST ITEMS FIELD SPECIFICATIONS	
General Elements	
Field Name: Grocery List Item	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica
Parent Table: Grocery List Items	Source Specification: Ingredient Reference
Label:	
Shared By:	
Alias(es): N/A	
Description: The reference to the ingredient ID that is a part of the grocery list.	

GROCERY LIST ITEMS FIELD SPECIFICATIONS			
General Elements			
Field Name: Quantity Desired		Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica	
Parent Table: Grocery List Items		Source Specification: Quantity	
Label: Amount Needed			
Shared By:			
Alias(es):			
Description: The desired amount of ingredients that the user wishes to acquire from the grocery store.			
Logical Elements			
Key Type:		Edit Rule:	
<input type="checkbox"/> Non <input type="checkbox"/> Primary		<input type="checkbox"/> Enter Now, Edits Allowed	
<input type="checkbox"/> Foreign <input type="checkbox"/> Alternate		<input type="checkbox"/> Enter Now, Edits Not Allowed	
Key Structure: <input type="checkbox"/> Simple <input type="checkbox"/> Composite		<input type="checkbox"/> Enter Later, Edits Allowed	
Uniqueness: <input type="checkbox"/> Non-Unique <input type="checkbox"/> Unique		<input type="checkbox"/> Enter Later, Edits Not Allowed	
Null Support: <input type="checkbox"/> Nulls Allowed <input type="checkbox"/> No Nulls		<input type="checkbox"/> Not Determined At This Time	
Values Entered By: <input type="checkbox"/> User <input type="checkbox"/> System			
Required Value: <input type="checkbox"/> No <input type="checkbox"/> Yes			
Default Value: 1			
Range of Values: Click here to enter text.			
Comparisons Allows:			
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> > <input type="checkbox"/> ≥ <input type="checkbox"/> ≠ <input type="checkbox"/> < <input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> > <input type="checkbox"/> ≥ <input type="checkbox"/> ≠ <input type="checkbox"/> < <input type="checkbox"/> ≤
Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> > <input type="checkbox"/> ≥ <input type="checkbox"/> ≠ <input type="checkbox"/> < <input type="checkbox"/> ≤
Operations Allowed:			
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> - <input type="checkbox"/> X <input type="checkbox"/> ÷ <input type="checkbox"/> Concatenation
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> - <input type="checkbox"/> X <input type="checkbox"/> ÷ <input type="checkbox"/> Concatenation
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> - <input type="checkbox"/> X <input type="checkbox"/> ÷ <input type="checkbox"/> Concatenation

GROCERY LIST ITEMS FIELD SPECIFICATIONS	
General Elements	
Field Name: Quantity Desired UoM	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica
Parent Table: Grocery List Items	Source Specification: Unit of Measure
Label: N/A	
Shared By:	
Alias(es): N/A	
Description:	

4.10 'Meal Plan' Field Specifications

MEAL PLAN FIELD SPECIFICATIONS							
General Elements							
Field Name: Meal Plan ID				Specification Type: <input checked="" type="checkbox"/> Unique <input type="checkbox"/> Generic <input type="checkbox"/> Replica			
Parent Table: Meal Plan				Source Specification: N/A			
Label: Meal Plan ID							
Shared By: N/A							
Alias(es): N/A							
Description: The reference to the unique system ID of the meal plan.							
Physical Elements							
Data Type: Character				Character Support: <input checked="" type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (. , / \$ # %) <input checked="" type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (© ∑ π ™ ∞)			
Length: 25							
Decimal Places: N/A							
Input Mask: MP#####							
Display Format: Display as entered.							
Logical Elements							
Key Type: <input type="checkbox"/> Non <input checked="" type="checkbox"/> Primary <input type="checkbox"/> Foreign <input type="checkbox"/> Alternate Key Structure: <input checked="" type="checkbox"/> Simple <input type="checkbox"/> Composite Uniqueness: <input type="checkbox"/> Non-Unique <input checked="" type="checkbox"/> Unique Null Support: <input type="checkbox"/> Nulls Allowed <input checked="" type="checkbox"/> No Nulls Values Entered By: <input type="checkbox"/> User <input checked="" type="checkbox"/> System Required Value: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes						Edit Rule: <input type="checkbox"/> Enter Now, Edits Allowed <input checked="" type="checkbox"/> Enter Now, Edits Not Allowed <input type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time	
Default Value: N/A, must be a unique identifier.							
Range of Values: MP0 – MP999999999999999999999999							
Comparisons Allows:							
Same Field	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input checked="" type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Value Expression	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input checked="" type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

MEAL PLAN FIELD SPECIFICATIONS	
General Elements	
Field Name: User Name	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica
Parent Table: Meal Plan	Source Specification: App User
Label: Meal Plan User	
Shared By: Users	
Alias(es): MealPlanUser	
Description: This field indicates the owner/creator of the meal plan.	

MEAL PLAN FIELD SPECIFICATIONS							
General Elements							
Field Name: Date				Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica			
Parent Table: Meal Plan				Source Specification : Calendar Date			
Label:							
Shared By:							
Alias(es): N/A							
Description: The date for which this meal plan should be displayed.							
Logical Elements							
Key Type:		<input type="checkbox"/> Non	<input type="checkbox"/> Primary	Edit Rule:			
		<input type="checkbox"/> Foreign	<input type="checkbox"/> Alternate	<input checked="" type="checkbox"/> Enter Now, Edits Allowed			
Key Structure:		<input type="checkbox"/> Simple	<input type="checkbox"/> Composite	<input type="checkbox"/> Enter Now, Edits Not Allowed			
Uniqueness:		<input type="checkbox"/> Non-Unique	<input type="checkbox"/> Unique	<input type="checkbox"/> Enter Later, Edits Allowed			
Null Support:		<input type="checkbox"/> Nulls Allowed	<input checked="" type="checkbox"/> No Nulls	<input type="checkbox"/> Enter Later, Edits Not Allowed			
Values Entered By:		<input type="checkbox"/> User	<input type="checkbox"/> System	<input type="checkbox"/> Not Determined At This Time			
Required Value:		<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes				
Default Value: N/A, will contain a valid value.							
Range of Values:							
Comparisons Allows:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

MEAL PLAN FIELD SPECIFICATIONS							
General Elements							
Field Name: Meal Type				Specification Type: <input checked="" type="checkbox"/> Unique <input type="checkbox"/> Generic <input type="checkbox"/> Replica			
Parent Table: Meal Plan				Source Specification: N/A			
Label: N/A							
Shared By: N/A							
Alias(es): N/A							
Description: The name for the meal description associated with the specific meal plan.							
Physical Elements							
Data Type: Character				Character Support: <input checked="" type="checkbox"/> Letters (A-Z) <input checked="" type="checkbox"/> Keyboard (. , / \$ # %) <input checked="" type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (© ∑ π ™ ∞)			
Length: 25							
Decimal Places: N/A							
Input Mask: N/A							
Display Format: N/A							
Logical Elements							
Key Type:		<input checked="" type="checkbox"/> Non		<input type="checkbox"/> Primary		Edit Rule: <input checked="" type="checkbox"/> Enter Now, Edits Allowed <input type="checkbox"/> Enter Now, Edits Not Allowed <input type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time	
		<input type="checkbox"/> Foreign		<input type="checkbox"/> Alternate			
Key Structure:		<input type="checkbox"/> Simple		<input type="checkbox"/> Composite			
Uniqueness:		<input checked="" type="checkbox"/> Non-Unique		<input type="checkbox"/> Unique			
Null Support:		<input type="checkbox"/> Nulls Allowed		<input checked="" type="checkbox"/> No Nulls			
Values Entered By:		<input type="checkbox"/> User		<input checked="" type="checkbox"/> System			
Required Value:		<input type="checkbox"/> No		<input checked="" type="checkbox"/> Yes			
Default Value: Dinner							
Range of Values: Breakfast, Brunch, Lunch, Dinner, Snack, Post-Workout, Pre-Workout							
Comparisons Allows:							
Same Field	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input checked="" type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Value Expression	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input checked="" type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

MEAL PLAN FIELD SPECIFICATIONS	
General Elements	
Field Name: Meal Recipe	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica
Parent Table: Meal Plan	Source Specification: Recipe Reference
Label: Meal Plan Recipe	
Shared By:	
Alias(es): N/A	
Description: The reference to the recipe ID that is associated with the meal plan.	

4.11 'Menus' Field Specifications

MENUS FIELD SPECIFICATIONS									
General Elements									
Field Name: Menu ID				Specification Type: <input checked="" type="checkbox"/> Unique <input type="checkbox"/> Generic <input type="checkbox"/> Replica					
Parent Table: Menus				Source Specification: N/A					
Label: Menu ID									
Shared By: N/A									
Alias(es): N/A									
Description: The reference to the unique system identifier for the menu.									
Physical Elements									
Data Type: Character					Character Support: <input checked="" type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (. , / \$ # %) <input checked="" type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (© ∑ π ™ ∞)				
Length: 25									
Decimal Places: N/A									
Input Mask: M#####									
Display Format: Display as entered.									
Logical Elements									
Key Type:			<input type="checkbox"/> Non		<input checked="" type="checkbox"/> Primary		Edit Rule: <input type="checkbox"/> Enter Now, Edits Allowed <input checked="" type="checkbox"/> Enter Now, Edits Not Allowed <input type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time		
			<input type="checkbox"/> Foreign		<input type="checkbox"/> Alternate				
Key Structure:			<input checked="" type="checkbox"/> Simple		<input type="checkbox"/> Composite				
Uniqueness:			<input type="checkbox"/> Non-Unique		<input checked="" type="checkbox"/> Unique				
Null Support:			<input type="checkbox"/> Nulls Allowed		<input checked="" type="checkbox"/> No Nulls				
Values Entered By:			<input type="checkbox"/> User		<input checked="" type="checkbox"/> System				
Required Value:			<input type="checkbox"/> No		<input checked="" type="checkbox"/> Yes				
Default Value: N/A, must be a unique identifier.									
Range of Values: M0 – M99999999999999999999999999999999									
Comparisons Allows:									
Same Field	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input checked="" type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤		
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤		
Value Expression	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input checked="" type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤		
Operations Allowed:									
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation			
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation			
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation			

MENUS FIELD SPECIFICATIONS	
General Elements	
Field Name: User Name	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica
Parent Table: Menus	Source Specification: App User
Label: Menu Owner	
Shared By: Users	
Alias(es): MenuUser	
Description: This field indicates the owner/creator of the menu.	

MENUS FIELD SPECIFICATIONS	
General Elements	
Field Name: Menu Name	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica
Parent Table: Menus	Source Specification: Identifier
Label: Menu	
Shared By:	
Alias(es): N/A	
Description: The general identification string of a menu.	

MENUS FIELD SPECIFICATIONS	
General Elements	
Field Name: Menu Item	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica
Parent Table: Menus	Source Specification: Recipe Reference
Label: Menu Recipe	
Shared By:	
Alias(es): N/A	
Description: The reference to the system identifier for the recipe ID associated with the menu.	

MENUS FIELD SPECIFICATIONS							
General Elements							
Field Name: Menu Item Type				Specification Type: <input checked="" type="checkbox"/> Unique <input type="checkbox"/> Generic <input type="checkbox"/> Replica			
Parent Table: Menus				Source Specification: N/A			
Label: N/A							
Shared By: N/A							
Alias(es): N/A							
Description: The name for the menu section associated with the specific menu.							
Physical Elements							
Data Type: Character				Character Support:			
Length: 25				<input checked="" type="checkbox"/> Letters (A-Z) <input checked="" type="checkbox"/> Keyboard (. , / \$ # %)			
Decimal Places: N/A				<input checked="" type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (© ∑ π ™ ∞)			
Input Mask: N/A							
Display Format: N/A							
Logical Elements							
Key Type:		<input checked="" type="checkbox"/> Non		<input type="checkbox"/> Primary		Edit Rule: <input checked="" type="checkbox"/> Enter Now, Edits Allowed <input type="checkbox"/> Enter Now, Edits Not Allowed <input type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time	
		<input type="checkbox"/> Foreign		<input type="checkbox"/> Alternate			
Key Structure:		<input type="checkbox"/> Simple		<input type="checkbox"/> Composite			
Uniqueness:		<input checked="" type="checkbox"/> Non-Unique		<input type="checkbox"/> Unique			
Null Support:		<input type="checkbox"/> Nulls Allowed		<input checked="" type="checkbox"/> No Nulls			
Values Entered By:		<input type="checkbox"/> User		<input checked="" type="checkbox"/> System			
Required Value:		<input type="checkbox"/> No		<input checked="" type="checkbox"/> Yes			
Default Value: N/A, must specify a recipe type.							
Range of Values: Any string up to 25 characters.							
Comparisons Allows:							
Same Field	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input checked="" type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Value Expression	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input checked="" type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

MENUS FIELD SPECIFICATIONS							
General Elements							
Field Name: Price				Specification Type: <input checked="" type="checkbox"/> Unique <input type="checkbox"/> Generic <input type="checkbox"/> Replica			
Parent Table: Menus				Source Specification: N/A			
Label: Price							
Shared By: N/A							
Alias(es): N/A							
Description: The price associated with the recipe on the menu.							
Physical Elements							
Data Type: Exact Numeric				Character Support: <input type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (. , / \$ # %) <input checked="" type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (© ∑ π ™ ∞)			
Length: 10							
Decimal Places: 2							
Input Mask: #####.##							
Display Format: \$1,234,567.89							
Logical Elements							
Key Type:		<input checked="" type="checkbox"/> Non		<input type="checkbox"/> Primary		Edit Rule: <input type="checkbox"/> Enter Now, Edits Allowed <input type="checkbox"/> Enter Now, Edits Not Allowed <input checked="" type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time	
		<input type="checkbox"/> Foreign		<input type="checkbox"/> Alternate			
Key Structure:		<input type="checkbox"/> Simple		<input type="checkbox"/> Composite			
Uniqueness:		<input checked="" type="checkbox"/> Non-Unique		<input type="checkbox"/> Unique			
Null Support:		<input checked="" type="checkbox"/> Nulls Allowed		<input type="checkbox"/> No Nulls			
Values Entered By:		<input type="checkbox"/> User		<input checked="" type="checkbox"/> System			
Required Value:		<input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes			
Default Value: 0.00							
Range of Values: 0.00 – 9999999.99							
Comparisons Allows:							
Same Field	<input checked="" type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Value Expression	<input checked="" type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

MENUS FIELD SPECIFICATIONS	
General Elements	
Field Name: Menu Item Popularity Rating	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica
Parent Table: Menus	Source Specification: Popularity
Label:	
Shared By:	
Alias(es):	
Description: The popularity rating of the recipe on this menu based on a five-star ranking.	

MENUS FIELD SPECIFICATIONS							
General Elements							
Field Name: Order Frequency				Specification Type: <input checked="" type="checkbox"/> Unique <input type="checkbox"/> Generic <input type="checkbox"/> Replica			
Parent Table: Menus				Source Specification: N/A			
Label: N/A							
Shared By: N/A							
Alias(es): N/A							
Description: The frequency per day at which the recipe on the menu has been ordered by customers.							
Physical Elements							
Data Type: Exact Numeric				Character Support: <input type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (. , / \$ # %) <input checked="" type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (© ∑ π ™ ∞)			
Length: 6							
Decimal Places: 2							
Input Mask: ###.##							
Display Format: 123.45 / day							
Logical Elements							
Key Type:		<input checked="" type="checkbox"/> Non		<input type="checkbox"/> Primary		Edit Rule: <input type="checkbox"/> Enter Now, Edits Allowed <input type="checkbox"/> Enter Now, Edits Not Allowed <input checked="" type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time	
		<input type="checkbox"/> Foreign		<input type="checkbox"/> Alternate			
Key Structure:		<input type="checkbox"/> Simple		<input type="checkbox"/> Composite			
Uniqueness:		<input checked="" type="checkbox"/> Non-Unique		<input type="checkbox"/> Unique			
Null Support:		<input checked="" type="checkbox"/> Nulls Allowed		<input type="checkbox"/> No Nulls			
Values Entered By:		<input type="checkbox"/> User		<input checked="" type="checkbox"/> System			
Required Value:		<input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes			
Default Value: Blank							
Range of Values: 0 – 999.99							
Comparisons Allows:							
Same Field	<input checked="" type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Value Expression	<input checked="" type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> ≥	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
Value Expressions	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> X	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

Non-Direct Activity Report

Date	Duration (minutes)	Specific Task / Activity
29-May-2016	231	Work on project #2
30-May-2016	180	Work on project #2
31-May-2016	96	Work on project #2
4-Jun-2016	243	Work on project #2
5-Jun-2016	187	Work on project #2
6-Jun-2016	94	Work on project #2
8-Jun-2016	198	Work on project #2
9-Jun-2016	41	Work on project #2
11-Jun-2016	504	Work on project #2
12-Jun-2016	417	Work on project #2
13-Jun-2016	122	Work on project #2
Sum for Report #1	2063	/ 1575 (1.75 weeks @ 900/wk)
Sum for Report #2	2313	/ 1350 (1.5 weeks @ 900/wk)
Sum for Report #3		/ 1575 (1.75 weeks @ 900/wk)
Sum for Class	4376	/ 4500 (5 weeks @ 900/wk)