**Data Dictionaries**

**Description data dictionary**

|  |  |  |  |
| --- | --- | --- | --- |
| **Entity name** | **Description** | **Aliases** | **Occurrence** |
| VirtualFridge | Store the food items of the user | Fridge | Virtual fridge page – each user has a virtual fridge |
| FoodItem | Describe details regarding an item of food | Food, product, item | In the virtual fridge, in a recipe |
| User | Store login details of the person using the application | Person, chef | Throughout the application - to use the application a ‘User’ must be defined |
| Profile | Store general details of a user |  | Profile page |
| Recipe | Describe and store recipes | Meal | Recipes page, profile page, virtual fridge page |
| SavedRecipe | Store recipes saved by the user |  | Profile page |
| Comment | Store comments made by users regarding a recipe |  | Recipes page |

**Relationships data dictionary**

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| --- | --- | --- | --- | --- |
| **Entity name** | **Multiplicity** | **Relationship** | **Multiplicity** | **Entity name** |
| VirtualFridge | 1..\* | Stores | 0..\* | FoodItem |
| User | 1..\* | Has | 1..1 | VirtualFridge |
| User | 1..\* | Has | 1..1 | Profile |
| User | 1..\* | Makes | 0..\* | Comment |
| Recipe | 1..\* | Contains | 1..\* | FoodItem |

**Attributes data dictionary**

No attributes are multi-valued

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Entity name** | **Attributes** | **Data type and length** | **Description** | **Nulls** |
| VirtualFridge | **fridgeID (PK)**  *foodID (FK)*  quantity | int(6) fixed  int(7) fixed  int(3) variable | Uniquely identify a virtual fridge  Id of the food item in the fridge  Quantity of a food item | No  No  No |
| FoodItem | **foodID (PK)**  name  calories  image  isVegan  isVegetarian  isPescatarian | int(7) fixed  varchar(50)  int(5) variable  varbinary(max)  boolean  boolean  boolean | Uniquely identify a food item  Name of the food  Number of calories of the food  Image of the food  If the food is suitable for vegans  If the food is suitable for vegetarians  If the food is suitable for a pescatarian | No  No  Yes  Yes  No  No  No |
| User | **username (PK)**  *fridgeID (FK)*  fName  lName  email  isVegan  isVegetarian  isPescatarian | varchar(20)  int(6) fixed  varchar(30)  varchar(30) varchar(50)  boolean  boolean  boolean | Uniquely identify a user  ID of the users VirtualFridge  Users first name  Users last name  Users email  Indicator if the user is a vegan  Indicator if the user is a vegetarian  Indicator if the user is a pescatarian | No  No  No  No  No  No  No  No |
| Profile | **profileID (PK)**  *username (FK)*  followersCount  publishedRecipesCount | int(6) fixed  varchar(20)  int(6) variable  int(6) variable | Uniquely identify a profile  User the profile belongs to  Number of followers the user has  Number of recipes the user has published | No  No  No  No |
| Recipe | **recipeID (PK)**  *username (FK)*  name  image  ingredients  instructions  viewCount  likeCount | int(7) fixed  varchar(20)  varchar(50)  varbinary(max)  varchar(max)  varchar(max)  int(7) variable  int(7) variable | Uniquely identify a recipe  User who created the recipe  Name of the meal  Image of the recipe  Ingredients required to make the meal  Instructions on how to make the meal  Amount the recipe has been viewed  Number of likes the recipe has | No  No  No  Yes  No  No  No  No |
| Comment | **commentID (PK)**  *recipeID (FK)*  *username (FK)*  commentContent | int(7) fixed  int(7) fixed  varchar(20)  varchar(200) | Uniquely identify a comment  ID of the recipe the comment was made on  Username of user who made the comment  The actual comment that was made | No  No  No  No |
| SavedRecipes | **recipeID (PK)**  **username (PK)** | int(7) fixed  varchar(20) | ID of the saved recipe  Username of user who saved the recipe | No  No |

**Global logical data model**

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| --- |
| **VirtualFridge** (fridgeID, foodID, quantity)  **Primary Key:** fridgeID  **Foreign Key:** foodID **references** FoodItem(foodID) |
| **FoodItem** (foodID,name,calories**,** image**,** isVegan**,** isVegetarian**,** isPescatarian)  **Primary Key:** foodID |
| **User** (username, fridgeID,fName**,** lName**,** email**,** isVegan**,** isVegetarian**,** isPescatarian)  **Primary Key:** username  **Foreign Key:** fridgeID **references** VirtualFridge(fridgeID) |
| **Profile** (profileID, username**,** followersCount**,** publishedRecipesCount)  **Primary Key:** profileID  **Foreign Key:** username **references** User(username) |
| **Recipe** (recipeID,username (FK)**,** name**,** image**,** ingredients**,** instructions**,** viewCount**,** likeCount)  **Primary Key:** recipeID  **Foreign Key:** username **references** User(username) |
| **Comment** (commentID, recipeID, username, commentContent)  **Primary Key:** commentID  **Foreign Key:** recipeID **references** Recipe (recipeID) |
| **SavedRecipes** (recipeID, username)  **Composite Primary Key:** recipeID, username  **Foreign Key:** recipeID **references** Recipe (recipeID)  **Foreign Key:** username **references** User(username) |

**Physical table structure**

**VirtualFridge**( fridgeID Fridge\_Identification NOT NULL AUTO\_INCREMENT,

foodID Food\_Identification NOT NULL,

quantity Food\_Quantity NOT NULL)

**Primary key:** fridgeID

**Foreign key** foodID References **FoodItem**(foodID) ON DELETE CASCADE

|  |  |
| --- | --- |
| **Domain** | **Data type and length** |
| Fridge\_Identification | Fixed length integer, length 6 |
| Food\_Identification | Fixed length integer, length 7 |
| Quantity | Variable length integer, max length 3 |

**FoodItem** ( foodID Food\_Identification NOT NULL AUTO\_INCREMENT,

name Food\_Name NOT NULL,

calories Food\_Calories NULL,

image Food\_Image NULL

isVegan Food\_Vegan NOT NULL,

isVegetarian Food\_Vegetarian NOT NULL,

isPescatarian Food\_Pescatarian NOT NULL)

**Primary Key:** foodID

|  |  |
| --- | --- |
| **Domain** | **Data type and length** |
| Food\_Identification | Fixed length integer, length 7 |
| Food\_Name | Variable length character, max length 50 |
| Food\_Calories | Variable length integer, max length 5 |
| Recipe\_Image | Variable length BLOB, max length |
| Food\_Vegan | Boolean |
| Food\_Vegetarian | Boolean |
| Food\_Pescatarian | Boolean |

**User** ( username Username NOT NULL,

fridgeID Fridge\_Identification NOT NULL,

fName First\_Name NOT NULL,

lName Last\_Name NOT NULL,

email Email\_Address NOT NULL,

isVegan User\_Vegan NOT NULL,

isVegetarian User\_Vegetarian NOT NULL,

isPescatarian User\_Pescatarian NOT NULL)

**Primary Key:** username

**Foreign Key:** fridgeID **references** VirtualFridge(fridgeID) ON DELETE CASCADE

|  |  |
| --- | --- |
| **Domain** | **Data type and length** |
| Username | Variable length character, max length 20 |
| Fridge\_Identification | Fixed length integer, length 6 |
| First\_Name | Variable length character, max length 30 |
| Last\_Name | Variable length character, max length 30 |
| Email\_Address | Variable length character, max length 50 |
| User\_Vegan | Boolean |
| User\_Vegetarian | Boolean |
| User\_Pescatarian | Boolean |

**Profile** ( profileID Profile\_Identification NOT NULL AUTO\_INCREMENT,

username Username NOT NULL,

followersCount Number\_Of\_Followers NOT NULL,

publishedRecipesCount Number\_Of\_Published\_Recipes NOT NULL)

**Primary Key:** profileID

**Foreign Key:** username **references** User(username) ON DELETE CASCADE

|  |  |
| --- | --- |
| **Domain** | **Data type and length** |
| Profile\_Identification | Fixed length integer, length 6 |
| Fridge\_Identification | Fixed length integer, length 6 |
| Username | Variable length character, max length 20 |
| Number\_Of\_Followers | Variable length integer, max length 6 |
| Number\_Of\_Published\_Recipes | Variable length integer, max length 6 |

**Recipe** (recipeID Recipe\_Identification NOT NULL AUTO\_INCREMENT,

username Username NOT NULL,

nameRecipe\_Name NOT NULL,

image Recipe\_Image NULL,

ingredients Recipe\_Ingredients NOT NULL,

instructions Recipe\_Instructions NOT NULL,

viewCount Recipe\_Views NOT NULL,

likeCount Recipe\_Likes NOT NULL)

**Primary Key:** recipeID

**Foreign Key:** username **references** User(username) ON UPDATE CASCADE ON DELETE CASCADE

|  |  |
| --- | --- |
| **Domain** | **Data type and length** |
| Recipe\_Identification | Fixed length integer, length 6 |
| Username | Variable length character, max length 20 |
| Recipe\_Name | Variable length character, max length 50 |
| Recipe\_Image | Variable length BLOB, max length |
| Recipe\_Ingredients | Variable length character, max length |
| Recipe\_Instructions | Variable length character, max length |
| Recipe\_Views | Variable length integer, max length 6 |
| Recipe\_Likes | Variable length integer, max length 6 |

**Comment** (commentID Comment\_Identification NOT NULL AUTO\_INCREMENT,

recipeID Recipe\_Identification NOT NULL,

username Username NOT NULL,

commentContent Comment’s\_Content NOT NULL,)

**Primary Key:** commentID

**Foreign Key:** recipeID **references** Recipe (recipeID) ON DELETE CASCADE

|  |  |
| --- | --- |
| **Domain** | **Data type and length** |
| Comment\_Identification | Fixed length integer, length 7 |
| Recipe\_Identification | Fixed length integer, length 7 |
| Username | Variable length character, max length 20 |
| Comment’s\_Content | Variable length character, max length 200 |

**SavedRecipes** (recipeID Recipe\_Identification NOT NULL,

username Username NOT NULL)

**Composite Primary Key:** recipeID, username

**Foreign Key:** recipeID **references** Recipe (recipeID)

**Foreign Key:** username **references** User(username) ON UPDATE CASCADE ON DELETE CASCADE

|  |  |
| --- | --- |
| **Domain** | **Data type and length** |
| Recipe\_Identification | Fixed length integer, length 7 |
| Username | Variable length character, max length 20 |

**Business rules**

**User**

* The password must be greater than 6 characters, contain an uppercase character a, number and a special character – this will be validated using a regex pattern in the implementation stage
* The first and last names must be a sequence of letters only - this will be validated using a regex pattern in the implementation stage
* The email address must be in the format of a valid email address – this will be validated by making the text field input type an email address in Android Studio which will ensure that the input is a valid email address format

**Virtual Fridge**

* User should be unable to input a quantity <=0 for a food item in the virtual fridge – use if statement to validate input in implementation
* User should be unable to input a quantity greater than 999 for a food item in the virtual fridge - use if statement to validate input in implementation