**International School**

**Capstone Project 2**

CMU-SE 451

**Proposal**

**Version 1.4**

**Date: 22nd May, 2021**

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**PROJECT INFORMATION**

|  |  |  |  |
| --- | --- | --- | --- |
| **Project acronym** | FC | | |
| **Project Title** |  | | |
| **Start Date** | 01 Mar, 2021 | **End Date** | 25 May, 2021 |
| **Lead Institution** | International School, Duy Tan University | | |
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REVISION HISTORY

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Version** | **Date** | **Comments** | **Author** | **Approval** |
| 1.0 | 02/03/2021 | Initial Release | C2SE.18 team |  |
| 1.1 | 12/03/2021 | Update for sprint 1 | Trung, Tran Quoc |  |
| 1.2 | 10/04/2021 | Update for sprint 2 | Trung, Tran Quoc |  |
| 1.3 | 13/05/2021 | Update for sprint 3 | Trung, Tran Quoc |  |
| 1.4 | 22/05/2021 | Final | Vinh, Huynh Dac |  |
|  |  |  |  |  |

**Document Approval**

The following signatures are required for approval of this document

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| **Mentor** | Dang Viet Hung | Date: |
| **Scrum Master** | Huynh Dac Vinh | Date: |
| **Product Owner** | Tran Quoc Trung | Date: |
| **Team Member** | Ton That Minh Huy | Date: |
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# **Introduction:**

## Purpose:

Place information system’s database design document describes the structure of the database and file structure of the system. The database Design document will introduce all attributes of the System that will help developers and testers base on this design to implement and test.

## Goal:

To create the most accurate database for the system.

## Scope:

* This Database Design Document provides the basic for the Food Care Database design.
* It defines the Database which will support the “Food Care” Data Model.
* “Food Care” uses the No-SQL as MongoDB to store the data. Each Schema could be a table or be a field in the other table

## Definitions, Acronyms and Abbreviations:

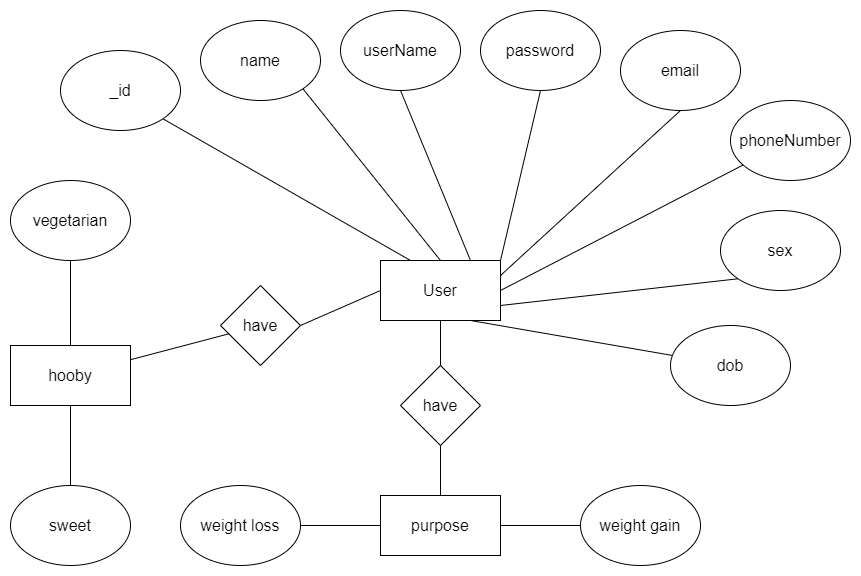
|  |  |  |
| --- | --- | --- |
| **Abbreviations** | **Description** | **Comment** |
| PK | Primary | Use to indicate a file is a Primary key in a schema |
| FC | FoodCare – Diet Building System | Project title |
| R | Randomized | Randomized |
| CT | Current\_Timestamp | On update Current\_Timestamp |

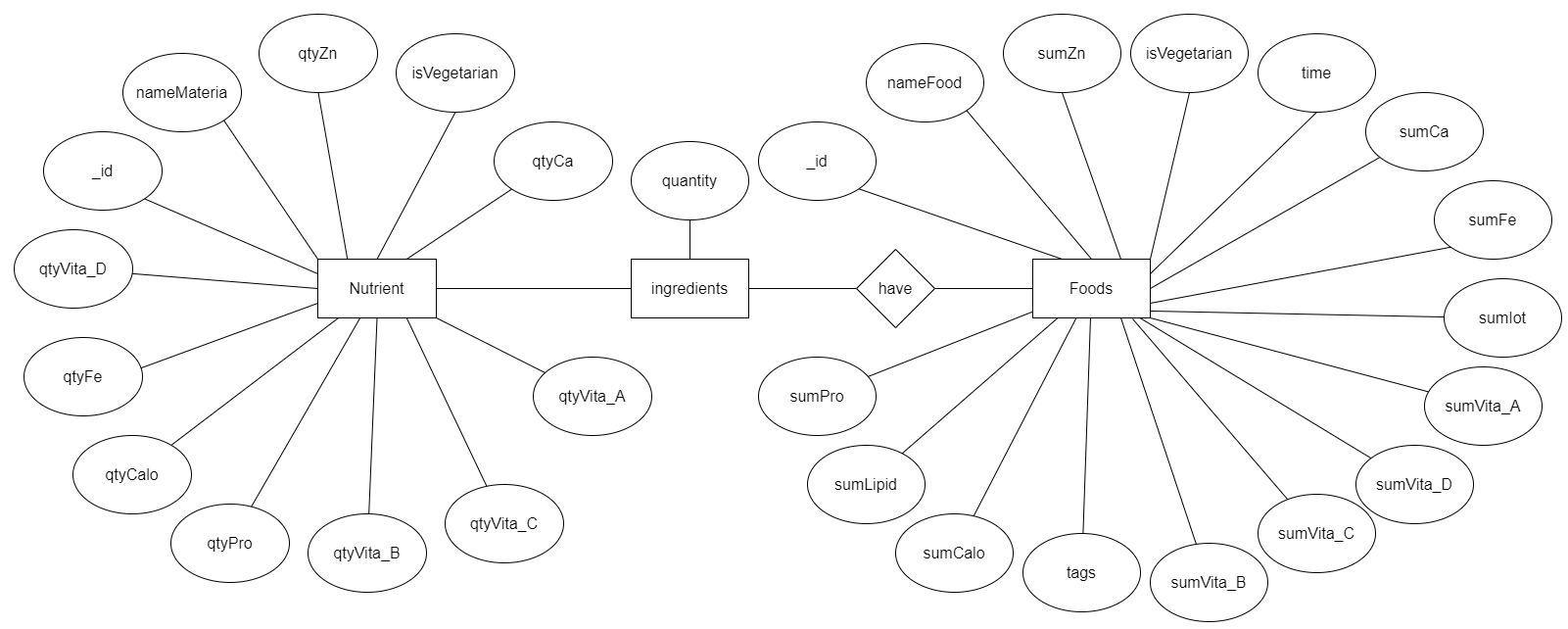
# **Database Design for Sprint 1:**

## Schema Overview:

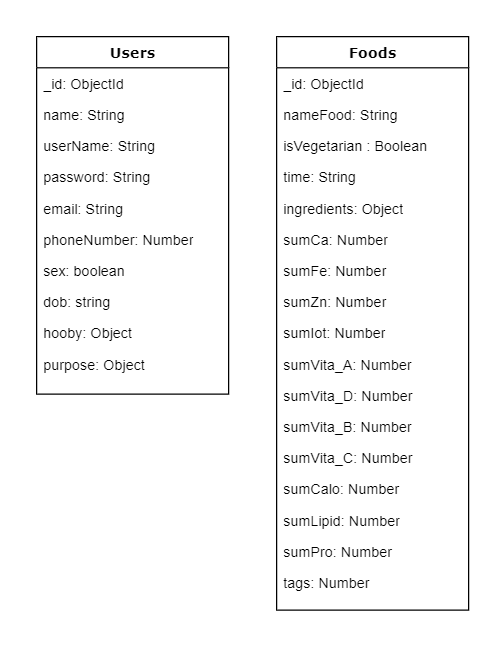
|  |  |  |
| --- | --- | --- |
| **No** | **Schema name** | **Short Description** |
| 1 | users | This table contains the information about users |
| 2 | foods | This table contains the information about the listed foods on the system |
| 3 | nutrients | This table contains the nutrient information of each ingredient |
| 4 | menus | This table contains the menu information of each user |

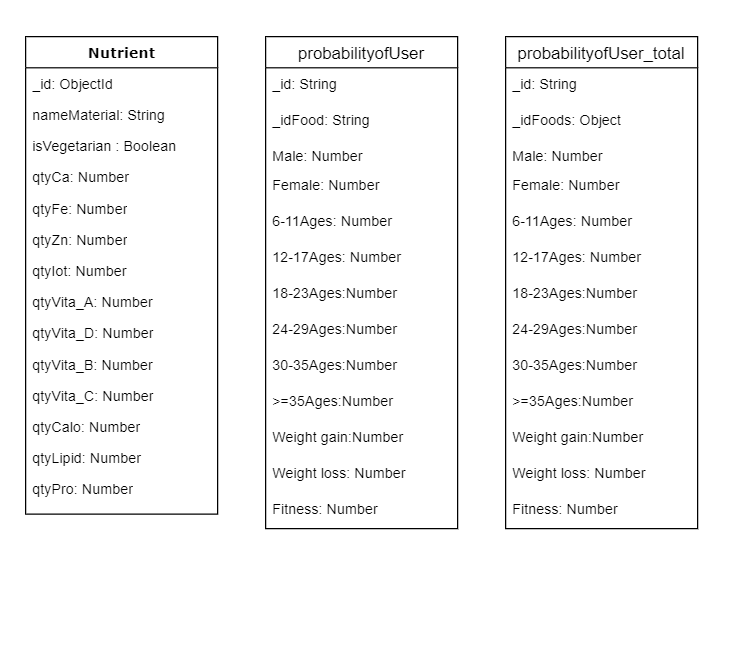
## Entity Relationship Diagram:



****

## Table Diagram:



****

## Detail

### Users:

**This includes the attribute:**

**users**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attributes** | **Datatype** | **Null** | **Key** | **Default** | **Extra** |
| \_id | string | not | PK |  | R |
| name | string |  |  |  |  |
| userName | string |  |  |  |  |
| Password | string | not |  |  |  |
| email | string | not |  |  |  |
| phoneNumber | string |  |  |  |  |
| sex | boolean |  |  |  |  |
| dob | string |  |  |  |  |
| hooby | number |  |  |  |  |
| purpose | object |  |  |  |  |

### Foods

**This includes the attribute:**

**Foods**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attributes** | **Datatype** | **Null** | **Key** | **Default** | **Extra** |
| \_id | string | not | PK |  | R |
| nameFood | string | not |  |  |  |
| isVegetarian | boolean |  |  |  |  |
| Time | string |  |  |  |  |
| ingredients | object |  |  |  |  |
| sumCa | number |  |  |  |  |
| sumFe | number |  |  |  |  |
| sumZn | number |  |  |  |  |
| sumIot | number |  |  |  |  |
| sumVita\_A | number |  |  |  |  |
| sumVita\_D | number |  |  |  |  |
| sumVita\_B | string |  |  |  |  |
| sumVita\_C | number |  |  |  |  |
| sumCalo | number |  |  |  |  |
| sumLipid | number |  |  |  |  |
| sumPro | number |  |  |  |  |
| tags | number |  |  |  |  |

**Nutrient**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attributes** | **Datatype** | **Null** | **Key** | **Default** | **Extra** |
| \_\_id | string | not | PK |  | R |
| nameMaterial | string | not |  |  |  |
| isVegetarian | boolean |  |  |  |  |
| Time | string |  |  |  |  |
| ingredients | object |  |  |  |  |
| qtyCa | number |  |  |  |  |
| qtyFe | number |  |  |  |  |
| qtyZn | number |  |  |  |  |
| qtyIot | number |  |  |  |  |
| qtyVita\_A | number |  |  |  |  |
| qtyVita\_D | number |  |  |  |  |
| qtyVita\_B | string |  |  |  |  |
| qtyVita\_C | number |  |  |  |  |
| qtyCalo | number |  |  |  |  |
| qtyLipid | number |  |  |  |  |
| qtyPro | number |  |  |  |  |

### probabilityofUser

**This includes the attribute:**

**probabilityofUser**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attributes** | **Datatype** | **Null** | **Key** | **Default** | **Extra** |
| \_id | string | not | PK |  | R |
| \_idFood | string | not |  |  |  |
| Male | number | not |  |  |  |
| Female | number | not |  |  |  |
| 6-11Ages | number | not |  |  |  |
| 12-17Ages | number | not |  |  |  |
| 18-23Ages | number | not |  |  |  |
| 24-29Ages | number | not |  |  |  |
| 30-35Ages | number | not |  |  |  |
| >=35Ages | number | not |  |  |  |
| Weight gain | number | not |  |  |  |
| Weight loss | number | not |  |  |  |
| Fitness | number | not |  |  |  |

**probabilityofUser\_total**

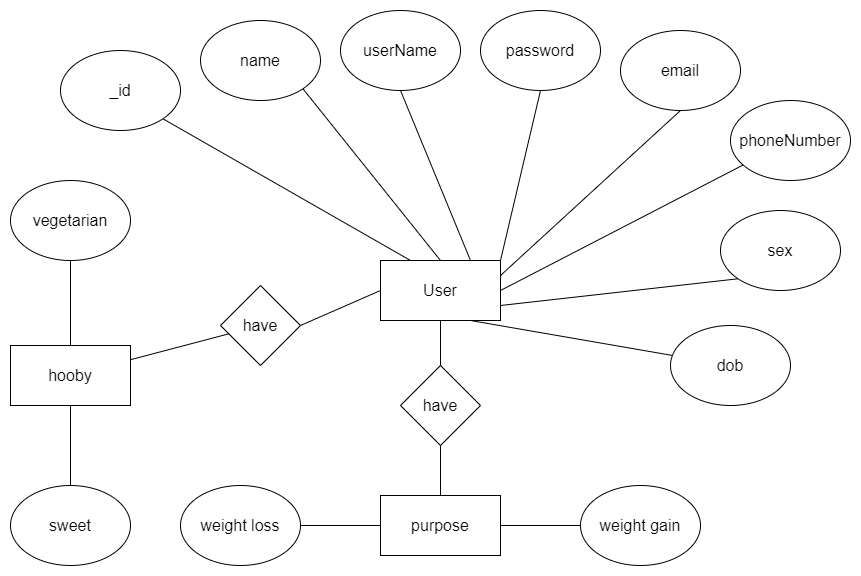
|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attributes** | **Datatype** | **Null** | **Key** | **Default** | **Extra** |
| \_id | string | not | PK |  | R |
| \_idFood | string | not |  |  |  |
| Male | number | not |  |  |  |
| Female | number | not |  |  |  |
| 6-11Ages | number | not |  |  |  |
| 12-17Ages | number | not |  |  |  |
| 18-23Ages | number | not |  |  |  |
| 24-29Ages | number | not |  |  |  |
| 30-35Ages | number | not |  |  |  |
| >=35Ages | number | not |  |  |  |
| Weight gain | number | not |  |  |  |
| Weight loss | number | not |  |  |  |
| Fitness | number | not |  |  |  |

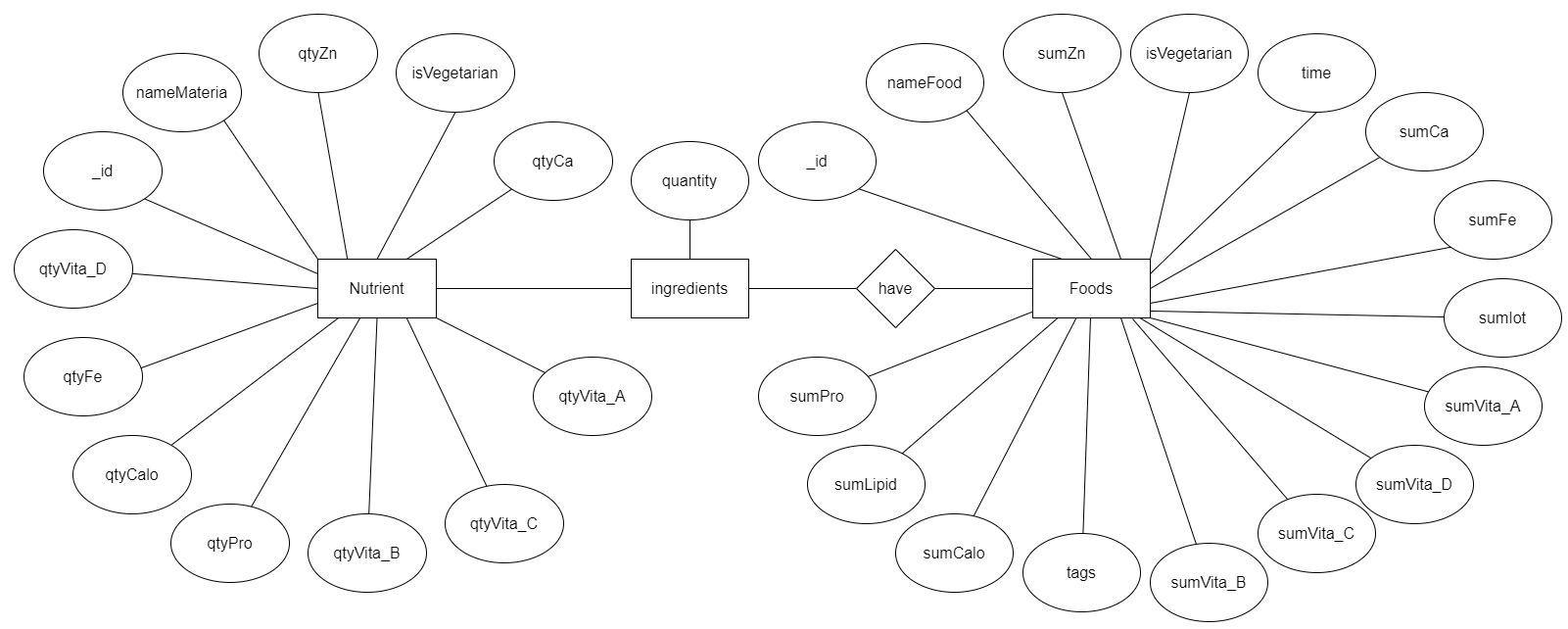
# **Database Design for Sprint 2:**

## Schema Overview:

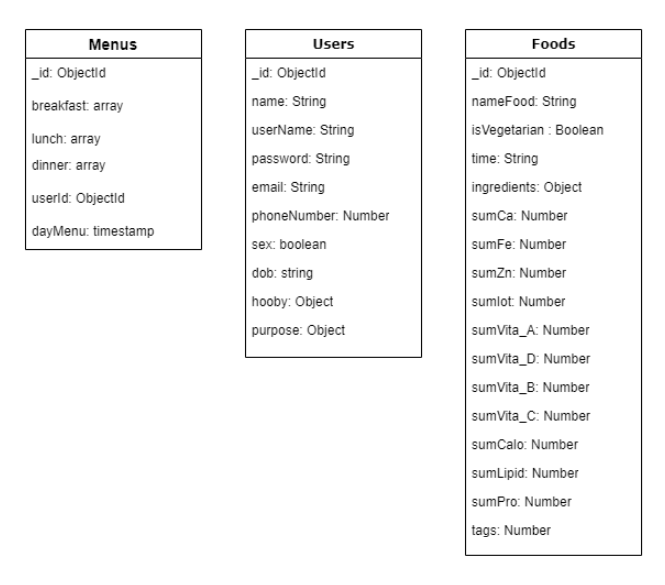
|  |  |  |
| --- | --- | --- |
| **No** | **Schema name** | **Short Description** |
| 1 | users | This table contains the information about users |
| 2 | foods | This table contains the information about the listed foods on the system |
| 3 | nutrients | This table contains the nutrient information of each ingredient |
| 4 | menus | This table contains the menu information of each user |

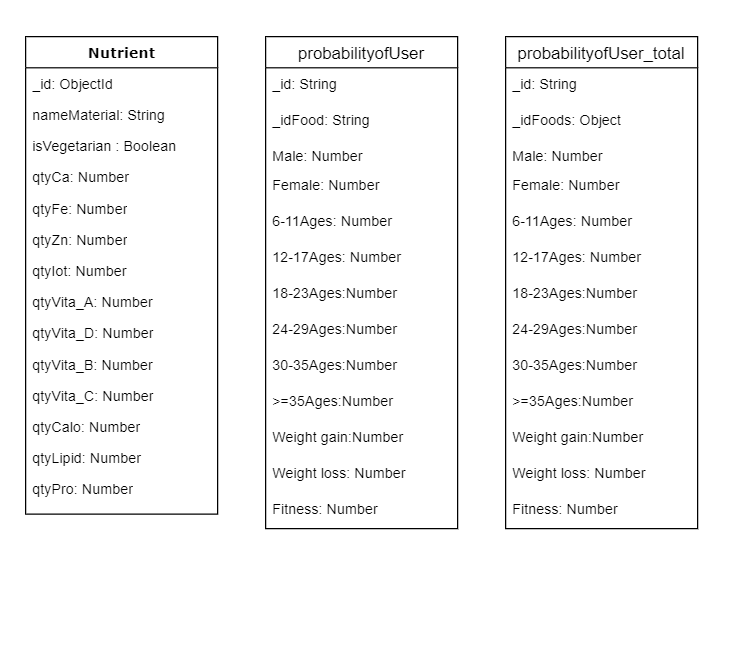
## Entity Relationship Diagram:



****

## Table Diagram:



****

## Detail

### Users:

**This includes the attribute:**

**users**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attributes** | **Datatype** | **Null** | **Key** | **Default** | **Extra** |
| \_id | string | not | PK |  | R |
| name | string |  |  |  |  |
| userName | string |  |  |  |  |
| Password | string | not |  |  |  |
| email | string | not |  |  |  |
| phoneNumber | string |  |  |  |  |
| sex | boolean |  |  |  |  |
| dob | string |  |  |  |  |
| hooby | number |  |  |  |  |
| purpose | object |  |  |  |  |

### Foods

**This includes the attribute:**

**Foods**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attributes** | **Datatype** | **Null** | **Key** | **Default** | **Extra** |
| \_id | string | not | PK |  | R |
| nameFood | string | not |  |  |  |
| isVegetarian | boolean |  |  |  |  |
| Time | string |  |  |  |  |
| ingredients | object |  |  |  |  |
| sumCa | number |  |  |  |  |
| sumFe | number |  |  |  |  |
| sumZn | number |  |  |  |  |
| sumIot | number |  |  |  |  |
| sumVita\_A | number |  |  |  |  |
| sumVita\_D | number |  |  |  |  |
| sumVita\_B | string |  |  |  |  |
| sumVita\_C | number |  |  |  |  |
| sumCalo | number |  |  |  |  |
| sumLipid | number |  |  |  |  |
| sumPro | number |  |  |  |  |
| tags | number |  |  |  |  |

**Nutrient**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attributes** | **Datatype** | **Null** | **Key** | **Default** | **Extra** |
| \_\_id | string | not | PK |  | R |
| nameMaterial | string | not |  |  |  |
| isVegetarian | boolean |  |  |  |  |
| Time | string |  |  |  |  |
| ingredients | object |  |  |  |  |
| qtyCa | number |  |  |  |  |
| qtyFe | number |  |  |  |  |
| qtyZn | number |  |  |  |  |
| qtyIot | number |  |  |  |  |
| qtyVita\_A | number |  |  |  |  |
| qtyVita\_D | number |  |  |  |  |
| qtyVita\_B | string |  |  |  |  |
| qtyVita\_C | number |  |  |  |  |
| qtyCalo | number |  |  |  |  |
| qtyLipid | number |  |  |  |  |
| qtyPro | number |  |  |  |  |

### ProbabilityofUser

**This includes the attribute:**

**probabilityofUser**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attributes** | **Datatype** | **Null** | **Key** | **Default** | **Extra** |
| \_id | string | not | PK |  | R |
| \_idFood | string | not |  |  |  |
| Male | number | not |  |  |  |
| Female | number | not |  |  |  |
| 6-11Ages | number | not |  |  |  |
| 12-17Ages | number | not |  |  |  |
| 18-23Ages | number | not |  |  |  |
| 24-29Ages | number | not |  |  |  |
| 30-35Ages | number | not |  |  |  |
| >=35Ages | number | not |  |  |  |
| Weight gain | number | not |  |  |  |
| Weight loss | number | not |  |  |  |
| Fitness | number | not |  |  |  |

**probabilityofUser\_total**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attributes** | **Datatype** | **Null** | **Key** | **Default** | **Extra** |
| \_id | string | not | PK |  | R |
| \_idFood | string | not |  |  |  |
| Male | number | not |  |  |  |
| Female | number | not |  |  |  |
| 6-11Ages | number | not |  |  |  |
| 12-17Ages | number | not |  |  |  |
| 18-23Ages | number | not |  |  |  |
| 24-29Ages | number | not |  |  |  |
| 30-35Ages | number | not |  |  |  |
| >=35Ages | number | not |  |  |  |
| Weight gain | number | not |  |  |  |
| Weight loss | number | not |  |  |  |
| Fitness | number | not |  |  |  |

### Menus

**This includes the attribute:**

**Menu**

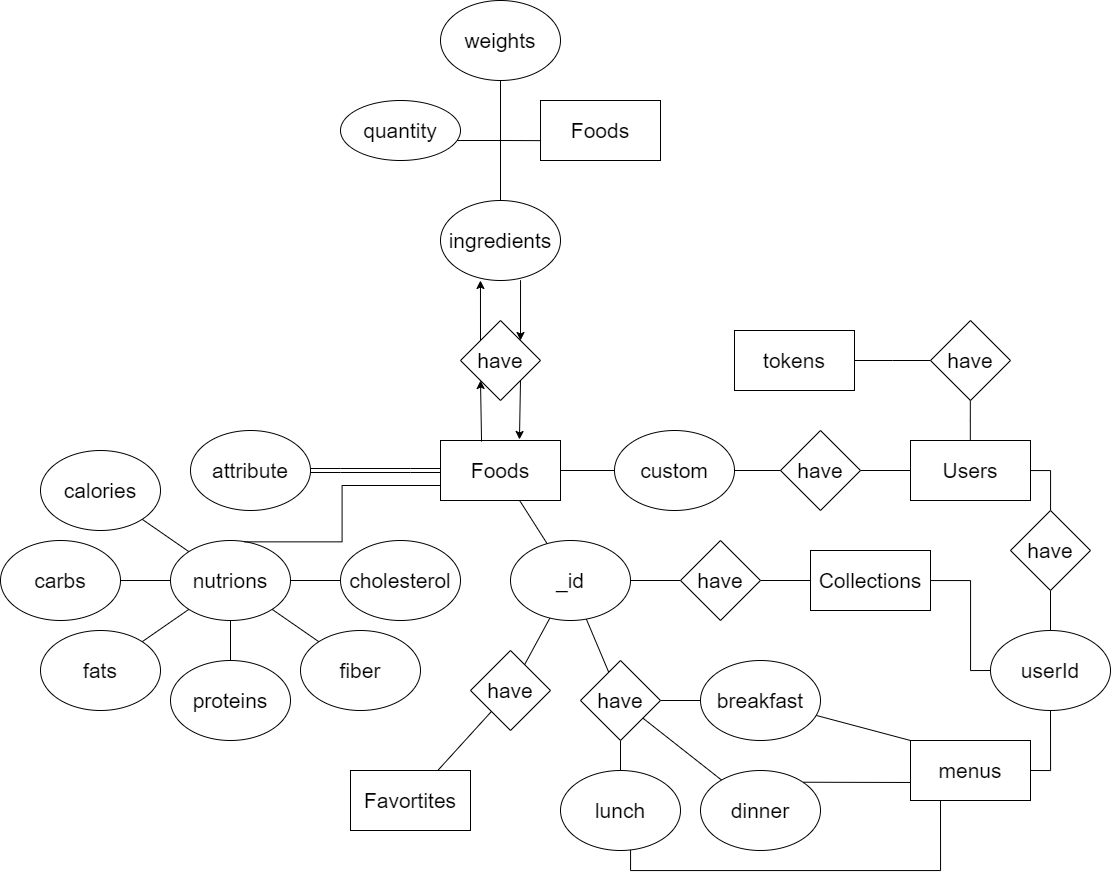
|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attributes** | **Datatype** | **Null** | **Key** | **Default** | **Extra** |
| \_ id | ObjectId | not | PK |  | R |
| \_breakfast | Array | not |  |  |  |
| lunch | Array | not |  |  |  |
| dinner | Array | not |  |  |  |
| userId | String | not |  |  |  |
| Date | Date | not |  |  |  |

# **Database Design for Sprint 3:**

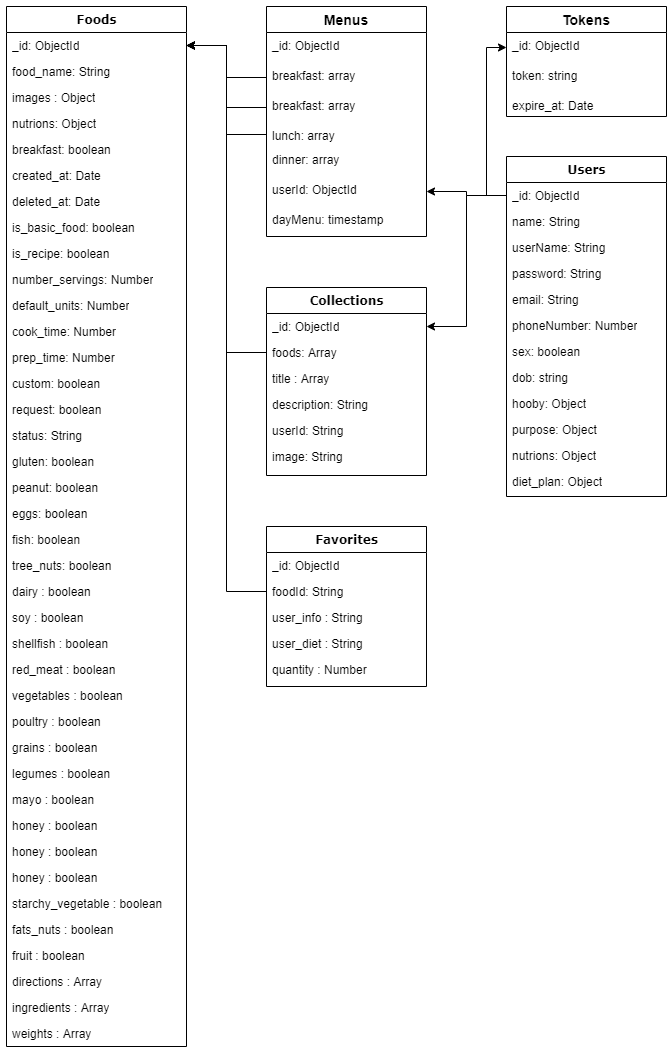
## Schema Overview:

|  |  |  |
| --- | --- | --- |
| **No** | **Schema name** | **Short Description** |
| 1 | users | This table contains the information about users |
| 2 | foods | This table contains the information about the listed foods on the system |
| 3 | menus | This table contains the menu information of each user |
| 4 | tokens | This table contains tokens for login verification |
| 5 | collections | This table contains the food collections of the users |

## Entity Relationship Diagram:

****

## Table Diagram:



## Detail

### Users:

**This includes the attribute:**

**users**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attributes** | **Datatype** | **Null** | **Key** | **Default** | **Extra** |
| \_id | string | not | PK |  | R |
| name | string |  |  |  |  |
| userName | string |  |  |  |  |
| Password | string | not |  |  |  |
| email | string | not |  |  |  |
| phoneNumber | string |  |  |  |  |
| sex | boolean |  |  |  |  |
| dob | string |  |  |  |  |
| hooby | number |  |  |  |  |
| purpose | object |  |  |  |  |

### Foods

**This includes the attribute:**

**Foods**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attributes** | **Datatype** | **Null** | **Key** | **Default** | **Extra** |
| \_id | ObjectId | not | PK |  | R |
| id | number | not |  |  |  |
| food\_name | string |  |  |  |  |
| images | object |  |  |  |  |
| nutrions | object |  |  |  |  |
| breakfast | boolean |  |  |  |  |
| created\_at | Date |  |  |  |  |
| deleted\_at | Date |  |  |  |  |
| is\_basic\_food | boolean |  |  |  |  |
| is\_recipe | boolean |  |  |  |  |
| number\_servings | number |  |  |  |  |
| default\_units | number |  |  |  |  |
| cook\_time | number |  |  |  |  |
| prep\_time | number |  |  |  |  |
| custom | boolean |  |  |  |  |
| request | boolean |  |  |  |  |
| status | string |  |  |  |  |
| gluten | boolean |  |  |  |  |
| peanut | boolean |  |  |  |  |
| eggs | boolean |  |  |  |  |
| fish | boolean |  |  |  |  |
| tree\_nuts | boolean |  |  |  |  |
| dairy | boolean |  |  |  |  |
| soy | boolean |  |  |  |  |
| shellfish | boolean |  |  |  |  |
| red\_meat | boolean |  |  |  |  |
| vegetables | boolean |  |  |  |  |
| poultry | boolean |  |  |  |  |
| grains | boolean |  |  |  |  |
| legumes | boolean |  |  |  |  |
| mayo | boolean |  |  |  |  |
| honey | boolean |  |  |  |  |
| starchy\_vegetables | boolean |  |  |  |  |
| fats\_nuts | boolean |  |  |  |  |
| fruit | boolean |  |  |  |  |
| directions | Array |  |  |  |  |
| ingredients | Array |  |  |  |  |
| weights | Array |  |  |  |  |

### Tokens

**This includes the attribute:**

**Tokens**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attributes** | **Datatype** | **Null** | **Key** | **Default** | **Extra** |
| \_id | ObjectId | not | PK |  | R |
| token | string | not |  |  |  |
| expire\_at | Date | not |  |  |  |

### Collections

**This includes the attribute:**

**Collections**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attributes** | **Datatype** | **Null** | **Key** | **Default** | **Extra** |
| \_ id | ObjectId | not | PK |  | R |
| foods | Array | not |  |  |  |
| title | Array | not |  |  |  |
| description | Array | not |  |  |  |
| userId | String | not |  |  |  |
| image | String | not |  |  |  |

### Favorites

**This includes the attribute:**

**Favorites**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attributes** | **Datatype** | **Null** | **Key** | **Default** | **Extra** |
| \_ id | ObjectId | not | PK |  | R |
| foodId | String | not |  |  |  |
| user\_info | String | not |  |  |  |
| user\_diet | String | not |  |  |  |
| quantity | number | not |  |  |  |

### Menus

**This includes the attribute:**

**Menu**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attributes** | **Datatype** | **Null** | **Key** | **Default** | **Extra** |
| \_ id | ObjectId | not | PK |  | R |
| breakfast | Array | not |  |  |  |
| lunch | Array | not |  |  |  |
| dinner | Array | not |  |  |  |
| userId | String | not |  |  |  |