

# Delight -Eat Fresh Live Healthy

A Healthy Food For A Wealthy Mood!

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## Professor

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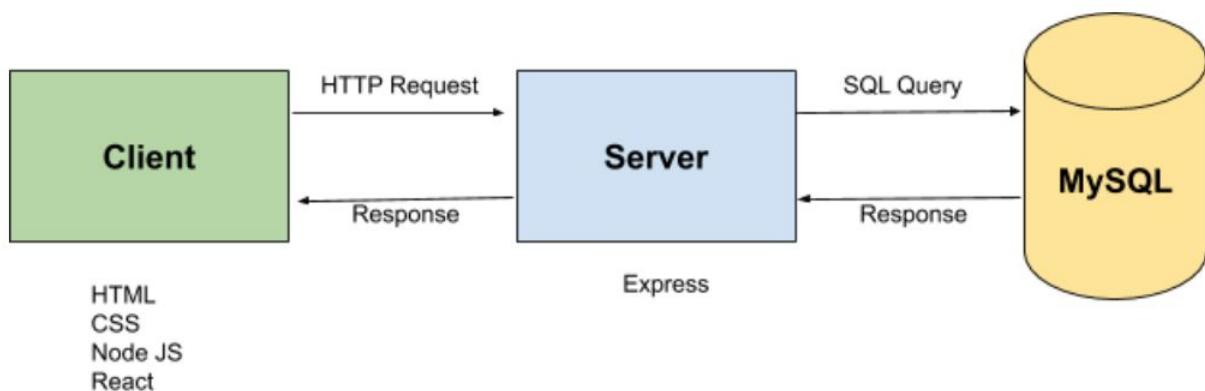
Julia Chin

## Overview

Our team will be creating a website to help people find recipes for maintaining a healthy diet. Researchers have found that Americans eat out very often as opposed to cooking food at home. Hence, obesity is a problem in America. According to Vox, foods at restaurants have 20 to 40 percent more calories than home-cooked food. Our team wants to introduce a platform where people can choose their diets and be provided with recipes that suit their diets. With our platform, people will be able to learn how to eat right. Our stakeholders are people who are looking to learn how to maintain a healthy diet. This platform is important because it provides resources to guide people to living a healthy lifestyle.

## System Environment

### Structure Diagram (3-tier Architecture)



## Hardware and Software Used

- Mac OSX
- Node.js

## RDBMS

- MySQL Community Server 8.0.17

## Application Languages/Frameworks

- Node.js, React, Express, HTML, CSS, Javascript, SQL

## Functional Requirements

### 1. Signup

- The website will provide a form for users to fill in their information. The form requires first name, last name, email address, password and confirm password.
- The system will check whether the information that is provided by the user existing in the database (**READ operation**).
- If the user does not already exist and the password requirements are met, the system will create a new user entry into the database (**CREATE operation**)

### 2. Dashboard

- When the user logs in successfully, he/she will be redirected to the dashboard.
- The dashboard should show all the recipes uploaded by every user (**READ operation**)
- The dashboard should display the user's full name in the top right corner (**READ operation**)

### 2. Manage Account.

- Users will be able to change their information. This includes their names and passwords, but not their email addresses (**UPDATE operation**).

### 3. Upload Recipe

- Users will be able to upload recipes which include attributes like the recipe name, ingredients, instructions, video URL, and picture URL (**CREATE operation**).
- The system will check whether the ingredients already exist in the database (**READ operation**)
- If the ingredient does not already exist, the system will add the ingredient to the database (**CREATE operation**)

### 4. Uploaded Recipes Page

- Users will be able to view the recipes they uploaded (**READ operation**)
- Users will be able to edit the recipes they uploaded (**UPDATE operation**)

- Users will be able to delete the recipes they uploaded (**DELETE operation**)

#### 5. View Recipe

- Users will be able to have access to an instructional video, a picture of the meal, and a step-by-step guide on how to make the meal (**READ operation**).
- Users will be able to see whether they have liked, disliked, and/or favorited a recipe (**READ operation**).

#### 6. Favorites List

- Users will be able to save recipes to their Favorites list (**CREATE operation**).
- Users will be able to remove recipes from their Favorites list (**DELETE operation**).
- Users will be able to access their Favorites list (**READ operation**).

#### 7. Leave Rating

- Users will be able to rate a recipe by liking/disliking (**CREATE operation**).
- Users can deselect their likes/dislikes (**DELETE operation**).

#### 8. Liked Recipes List

- Users will be able to view the recipes they liked (**READ operation**).

## Nonfunctional Requirements

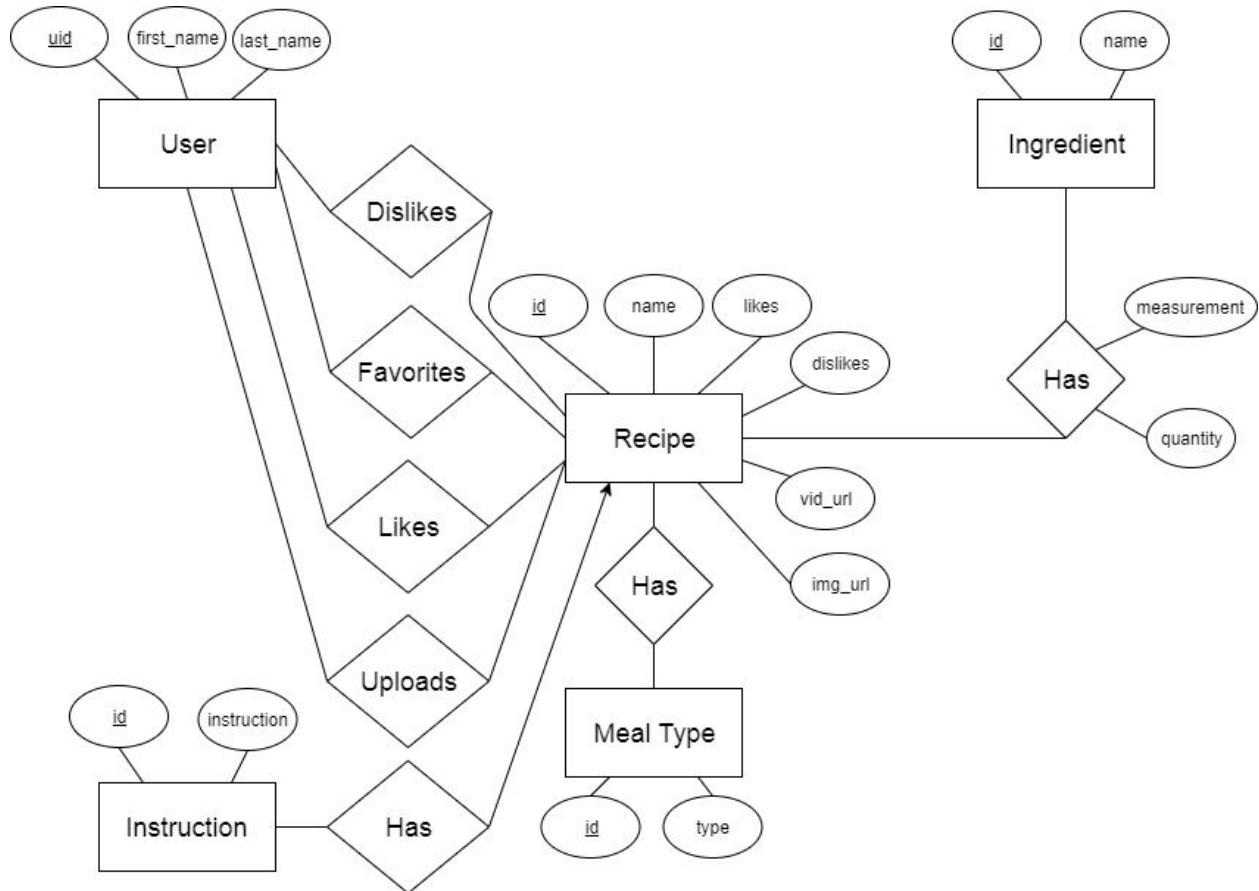
- Usability
  - The graphical user interface shall be Bootstrap-based and built using HTML, CSS, and JavaScript.
  - The page will have web responsive functionality i.e can be viewed using different device and will still work properly.
  - Users will be able to understand clearly and easily how to use the website.
  - The website is designed to be user-friendly for everyone.
- Implementation
  - The website shall use React for the front end and Express for the back end. Express will take care of the server side rendering while React takes care of the client side rendering. Server side rendering is

necessary to prevent sensitive code from being exposed to the client (e.g., the database config file, and authentication code).

- React will deal with the front end UI. The application will take advantage of its responsiveness to users.
  - The website will be injected with MySQL database which is provided by Oracle to read and write the data.
  - The database will keep track of users' information; such as name, preference, and other more.
  - The website will be hosted on the server.
  - The website will recommend users the type of food based on his/her preference.
- 
- Design
    - Sketch shall be used for prototyping.
    - The design will be clean, clear and colorful.
- 
- Security && Reliability
    - User data will be protected by credentials.
    - User passwords shall be encrypted with 256-bit AES. Should an attacker gain access to the database, the users' passwords will not be compromised.
    - For access control, only the creators of the website shall have the ability to manage the database and edit the site. Users shall only have the ability to navigate the website.
    - The website should be running with no errors. All errors should be handled by throwing exceptions.
    - The website server should be down in a small period of time during the maintenance.
- 
- Performance
    - Retrieving data from the database should be under five seconds under the stable internet connection.
    - The website should be updated instantly whenever the user makes changes.

- Users will be able to find all items that are related to their searches.

## Entity Relationship Model



## Entity Sets

### 1. User

Attributes: uid (primary key), first\_name, last\_name

The primary key for this set is username, which means the username must be unique. Password is stored safely with an encryption. This entity set stores the record and the information of the user.

### 2. Food Allergy

Attributes: id (primary key), name

This set has name as primary key because each food allergy has to be unique. This entity set stores all kinds of food allergies.

### 3. Ingredients

Attributes: id (primary key), name

Name is the primary key of this set so that we can distinguish it from other ingredients. This entity set stores many kinds of ingredients.

### 4. Recipe

Attributes: id (primary key), name, likes, dislikes, vid\_url, pic\_url

Each recipe will be determined with a timestamp as the primary key.

This entity set stores the record of the recipe; such as name, likes, dislikes and video link.

### 5. Meal Type

Attributes: id (primary key), name

This entity set stores the type of the food (breakfast, lunch, and dinner).

### 6. Instruction

Attributes: id (primary key), instruction

This entity set stores the instructions for the recipes.

## Relationships

1. Has (between Instruction and Recipe) This relationship has the record of an instruction for each recipe. It keeps track of the instruction by using the instruction id.
2. Has (between Ingredients and Recipe) This relationship allows us to access the ingredients which are related to the specific recipe.
3. Has (between Recipe and Meal Type) This relationship determines the meal type of the recipe. It can be breakfast, lunch or dinner.
4. Favorites (between User and Recipe) Each user can have many favorite recipes, and this relationship keeps track by using username.
5. Likes (between User and Recipe) This relationship linked user and recipe together in order to determine which recipe is liked by the user.

6. Dislikes (between User and Recipe) This relationship linked user and recipe together in order to determine which recipe is disliked by the user.
7. Uploads (between User and Recipe) Each user can upload their personal recipes, and this relationship keeps track by using username.

## Schema & Table Screenshots

*Bolded keys are the primary keys*

1. ingredient (**id**, name)

<b>id</b>	name
1	All Purpose Flour
2	Almonds
3	Bad Byron's Butt Rub
4	Bagel Chips
5	Brandy
6	Bread
7	Butter Melted
8	Buttermilk
9	Casein
10	Cayenne
11	Cheese
12	Cheese Crackers
13	Corn Starch
14	Cottage Cheese
15	Cream

2. instruction (**id**, instruction)

```
***** 1. row *****
    id: 23
instruction: In a large bowl place the scooped avocado pulp and lime juice, toss to coat
    order: 1
    recipe_id: 14
***** 2. row *****
    id: 24
instruction: Drain, and reserve the lime juice, after all of the avocados have been coated
    order: 2
    recipe_id: 14
***** 3. row *****
    id: 25
instruction: Using a potato masher add the salt, cumin, and cayenne and mash
    order: 3
    recipe_id: 14
***** 4. row *****
    id: 26
instruction: Then, fold in the onions, tomatoes, cilantro, and garlic
    order: 4
    recipe_id: 14
***** 5. row *****
    id: 27
instruction: Add 1 tablespoon of the reserved lime juice
    order: 5
    recipe_id: 14
***** 6. row *****
    id: 28
instruction: Let sit at room temperature for 1 hour and then serve
    order: 6
    recipe_id: 14
***** 7. row *****
    id: 131
instruction: Second stepdfas
    order: 2
    recipe_id: 37
***** 8. row *****
    id: 132
instruction: Clean the potatoes and use a vegetable peeler to remove the skin.
    order: 1
    recipe_id: 38
***** 9. row *****
    id: 133
instruction: Cut the potatoes up into small cubes and place into a saucepan.
    order: 2
    recipe_id: 38
***** 10. row *****
    id: 134
instruction: Fill with cold water and place over medium-high heat to bring to the boil.
    order: 3
    recipe_id: 38
***** 11. row *****
    id: 135
instruction: Boil the potatoes for 20-30 minutes or until very tender and nearly falling apart.
    order: 4
    recipe_id: 38
***** 12. row *****
    id: 136
instruction: Drain the water using a colander and place the potatoes back into the saucepan.
    order: 5
    recipe_id: 38
***** 13. row *****
    id: 137
instruction: Keep on the heat until there is no longer large amounts of steam.
```

```
***** 14. row *****
    id: 138
instruction: Remove from the heat and start to mash the potatoes using a potato masher.
    order: 7
    recipe_id: 38
***** 15. row *****
    id: 139
instruction: Season with salt and pepper and gradually start adding the butter in small amounts.
    order: 8
    recipe_id: 38
***** 16. row *****
```

### 3. meal\_type(id, type)

id	name
1	breakfast
2	desert
3	dinner
4	lunch
5	snack
6	supper

### 4. recipe(id, name, likes, dislikes, vid\_url, img\_url)

```
***** 1. row *****
    id: 14
    name: Guacamole
    likes: 4
    dislikes: 2
    vid_url: https://www.youtube.com/watch?v=-mHfm9FGmGI
    img_url: https://firebasestorage.googleapis.com/v0/b/delight-a0af7.appspot.com/o/403cfb6-21c9-4c9f-b94f-ce769987c4ab?alt=media&token=7cied382-fadd-457f-bafa-c25e2de4c3e2
***** 2. row *****
    id: 37
    name: Test
    likes: 1
    dislikes: 2
    vid_url: fdfa
    img_url: https://firebasestorage.googleapis.com/v0/b/delight-a0af7.appspot.com/o/52e5d4b8-8a93-40f8-bcb0-ec2149f92220?alt=media&token=33414973-dc82-467f-8610-9d82d7e3c69b
***** 3. row *****
    id: 38
    name: Mashed Potatoes
    likes: 3
    dislikes: 1
    vid_url: https://www.youtube.com/watch?v=Hbxj1FaPzOM
    img_url: https://firebasestorage.googleapis.com/v0/b/delight-a0af7.appspot.com/o/Screen%20Shot%202019-12-03%20at%2012.47.59%20PM.png?alt=media&token=5229dc73-48bd-4019-85e4-d9cf35862e3f
***** 4. row *****
    id: 39
    name: Macaroni and Cheese
    likes: 2
    dislikes: 1
    vid_url: https://www.youtube.com/watch?v=YxVZuuxXxk
    img_url: https://firebasestorage.googleapis.com/v0/b/delight-a0af7.appspot.com/o/Screen%20Shot%202019-12-03%20at%2012.41.10%20PM.png?alt=media&token=02301fd2-b1dd-4c06-b8e3-c15dcf04df5b
***** 5. row *****
    id: 40
    name: Pancakes
    likes: 2
    dislikes: 1
    vid_url: https://www.youtube.com/watch?v=fLd00Bx4tOk
    img_url: https://firebasestorage.googleapis.com/v0/b/delight-a0af7.appspot.com/o/Screen%20Shot%202019-12-03%20at%202.15.37%20PM.png?alt=media&token=db8d5737-b595-4df9-8ea2-fd36d7d230db
***** 6. row *****
    id: 41
    name: Avocado Tuna Salad
    likes: 1
    dislikes: 1
    vid_url: https://www.youtube.com/watch?v=bMYzSFeJHxc
    img_url: https://firebasestorage.googleapis.com/v0/b/delight-a0af7.appspot.com/o/f404f20d-82c9-48d5-9e78-9178ff0cd8be?alt=media&token=e6d7ed36-9034-41b9-a30f-33a82fb3e671
***** 7. row *****
    id: 43
    name: Scrambled Eggs
    likes: 0
    dislikes: 0
    vid_url: https://www.youtube.com/watch?v=PUP7U5vTMM0
    img_url: https://firebasestorage.googleapis.com/v0/b/delight-a0af7.appspot.com/o/8c715843-da92-47e1-acc9-d955fec1aaef3?alt=media&token=3c9cc1be-fce9-4567-8221-655bf5a23fb0
***** 8. row *****
    id: 44
    name: Bacon
    likes: 0
    dislikes: 0
    vid_url: https://www.youtube.com/watch?v=JXoDP2WTi0
    img_url: https://firebasestorage.googleapis.com/v0/b/delight-a0af7.appspot.com/o/ff3dc7e8-bdf3-4af8-a08c-04229c33ebe7?alt=media&token=953961f4-3129-4058-9e31-774e7ef74aaa
***** 9. row *****
    id: 45
    name: Pancakes
    likes: 1
    dislikes: 0
    vid_url: https://www.youtube.com/watch?v=BP17D20F2mE
    img_url: https://firebasestorage.googleapis.com/v0/b/delight-a0af7.appspot.com/o/0709e0bd-d307-457f-9cc0-9ad39cc73a55?alt=media&token=00c10bcc-0ca6-4424-a6f9-f9c73dfdad2a
```

```
*****10. row *****
id: 50
name: sdaf
likes: 0
dislikes: 0
vid_url: fdasaf
img_url: https://firebasestorage.googleapis.com/v0/b/delight-a0af7.appspot.com/o/8c40bac4-bb54-491f-8af2-9b359d8f127b?alt=media&token=651e620f-21cb-4dc6-9ba8-152a7a5a2488
*****
*****11. row *****
id: 51
name: fdsafdf
likes: 0
dislikes: 0
vid_url: fdssaf
img_url: https://firebasestorage.googleapis.com/v0/b/delight-a0af7.appspot.com/o/7032fea7-6739-4284-b289-06e5fbff2263d?alt=media&token=5352e2be-f907-4316-946a-f9c6ecc782ee
*****
*****12. row *****
id: 52
name: Lasagna
likes: 0
dislikes: 0
vid_url: https://www.youtube.com/watch?v=GcNeRccLgDw
img_url: https://firebasestorage.googleapis.com/v0/b/delight-a0af7.appspot.com/o/97346410-fb49-4330-a1c1-1fb27b1f1b02?alt=media&token=dbb1dff6-c5d5-4ae5-8f49-bf993e9b2117
*****
*****13. row *****
id: 53
name: Italian Cream Cake
likes: 0
dislikes: 0
vid_url: https://www.youtube.com/watch?v=2hQRv9omQ9Y
img_url: https://firebasestorage.googleapis.com/v0/b/delight-a0af7.appspot.com/o/0048cadb-e45c-4874-8246-e79501983169?alt=media&token=effb4a67-6ed3-4a0e-b163-7b7336beb3e9
*****
*****14. row *****
id: 54
name: Rosemary-Roasted Chicken
likes: 0
dislikes: 0
vid_url: https://www.youtube.com/watch?v=-iFPi66tHsY
img_url: https://firebasestorage.googleapis.com/v0/b/delight-a0af7.appspot.com/o/59d582f3-14d8-4d8e-bd26-80aab4ac7b99?alt=media&token=85b2ac59-0711-4461-9203-051d53f4aac3
*****
*****15. row *****
id: 55
name: Chicken Scampi Pasta
likes: 0
dislikes: 0
vid_url: https://www.youtube.com/watch?v=q2n-0GUUM4_4
img_url: https://firebasestorage.googleapis.com/v0/b/delight-a0af7.appspot.com/o/c9441c26-7627-4d07-bc59-2067b8e7a0ea?alt=media&token=c2e27462-a062-4b07-ad37-eea9d544af3a
15 rows in set (0.13 sec)
```

## 5. recipe\_ingredient\_junction\_table(**uid**, **ingredient\_id**, measurement, quantity)

<b>recipe_id</b>	<b>ingredient_id</b>	<b>quantity</b>	<b>measurement</b>
14	44	3	HASS
14	45	1	LIME
14	46	1	TEASPOON
14	47	1	TEASPOON
14	48	1	TEASPOON
14	49	2	ROMA
14	50	1	CLOVE
37	42	63	OZ
37	43	90	KG
37	80	1	OZ
38	61	1	CUP
38	63	1	TABLESPOON
38	64	1	TABLESPOON
38	66	2	LB
38	67	1	CUP
..	..	..	..

## 6. recipe\_meal\_type\_junction\_table(**recipe\_id**, **meal\_type\_id**)

recipe_id	meal_type_id
14	1
37	1
40	1
43	1
44	1
45	1
50	1
51	1
52	1
53	2
14	3
39	3
43	3
44	3
52	3

7. user(**uid**, first\_name, last\_name)

uid	first_name	last_name
58xNJvrXy6gv0FvMxhsyqvaRwhc2	Harshit	Agrawal
9BAqi1tAR3VUyGrRzB3vByw5COf1	Test	Name
ChevqqQeQvcLWvWqJ0rqcc1yGGH2	Ishie	Eswar
DfLTsNGQnwRNxhJcD7dsZde26VH2	Test	Account
LNhIUXRFWzOpU9EH0m1DcGAuMGf2	Test	Test
OLPhTPzhJ1NAp8ddqdIwfZWTGfo1	Test	2
PJP0sKz95yRXLlkpznjWy1w1c1k2	Dominic	Pham
PYkk4GP8jMuRyqw3iqnb033	Jerome	Enri
RJA13xiMVabQ1Alt6dC6Hj7WwAw2	Shafie	Mukhrae
TL3TtFCXEEeuCqALxEtiskMmlQ12	Winnie	The Pooh
Ur0imWPeb5pbDMsPZgo5pSdUeKWE2	Robert	Son
WreHVBoIfgVpkysNgh0SBCrel502	Mike	Wu
Z71v82tliJUtQ91hAvHtSF359dF3	Jesus	Christ
aA31NNz5NNZiPH7cdxC0zvPoSAD2	Huykeng	Lim
ni6vXJkXbmYVvjKdNASaspzU78u2		

8. user\_recipe\_junction\_table\_dislikes(**uid**, **recipe\_id**)

uid	recipe_id
TL3TtFCXEEeuCqALxEtiskMmlQ12	14
Ur0imWPe5pbDMsPZgo5pSdUeKWE2	14
WreHVBoIfgVpkysNgh0SBCrel502	14
RJA13xiMVabQ1Alt6dC6Hj7WwAw2	37
WreHVBoIfgVpkysNgh0SBCrel502	37
Z71v82tliJUtQ91hAvHtSF359dF3	37
58xNJvrXy6gvOFvMxhsyqvaRwhc2	38
WreHVBoIfgVpkysNgh0SBCrel502	38
TL3TtFCXEEeuCqALxEtiskMmlQ12	39
WreHVBoIfgVpkysNgh0SBCrel502	39
Ur0imWPe5pbDMsPZgo5pSdUeKWE2	40
WreHVBoIfgVpkysNgh0SBCrel502	41
aA31NNz5NNZiPH7cdxC0zvPoSAD2	41
WreHVBoIfgVpkysNgh0SBCrel502	51
WreHVBoIfgVpkysNgh0SBCrel502	52

#### 9. user\_recipe\_junction\_tableFavorites(**uid, recipe\_id**)

uid	recipe_id
58xNJvrXy6gvOFvMxhsyqvaRwhc2	14
9BAqi1tAR3VUyGrRzB3vByw5COf1	14
Z71v82tliJUtQ91hAvHtSF359dF3	14
9BAqi1tAR3VUyGrRzB3vByw5COf1	37
Ur0imWPe5pbDMsPZgo5pSdUeKWE2	38
Z71v82tliJUtQ91hAvHtSF359dF3	38
58xNJvrXy6gvOFvMxhsyqvaRwhc2	39
Z71v82tliJUtQ91hAvHtSF359dF3	39
RJA13xiMVabQ1Alt6dC6Hj7WwAw2	40
aA31NNz5NNZiPH7cdxC0zvPoSAD2	40
Z71v82tliJUtQ91hAvHtSF359dF3	41
RJA13xiMVabQ1Alt6dC6Hj7WwAw2	43
Ur0imWPe5pbDMsPZgo5pSdUeKWE2	43
aA31NNz5NNZiPH7cdxC0zvPoSAD2	43
Z71v82tliJUtQ91hAvHtSF359dF3	45

#### 10. user\_recipe\_junction\_tableLikes(**uid, recipe\_id**)

uid	recipe_id
58xNJvrXy6gv0FvMxhsyqvaRwhc2	14
PJPOsKz95yRXLlkpznjWy1w1c1k2	14
Z71v82tliJUtQ91hAvHtSF359dF3	14
ni6vXJkXbmYVvjKdNASaspzU78u2	14
aA31NNz5NNZiPH7cdxC0zvPoSAD2	37
PJPOsKz95yRXLlkpznjWy1w1c1k2	38
Ur0imWPe5pbDMsPZgo5pSdUeKWE2	38
ni6vXJkXbmYVvjKdNASaspzU78u2	38
58xNJvrXy6gv0FvMxhsyqvaRwhc2	39
Z71v82tliJUtQ91hAvHtSF359dF3	39
RJA13xiMVabQ1Alt6dC6Hj7WwAw2	40
aA31NNz5NNZiPH7cdxC0zvPoSAD2	40
RJA13xiMVabQ1Alt6dC6Hj7WwAw2	41
RJA13xiMVabQ1Alt6dC6Hj7WwAw2	43
Ur0imWPe5pbDMsPZgo5pSdUeKWE2	43

### 11. user\_recipe\_junction\_table\_uploads(**uid, recipe\_id**)

uid	recipe_id
PJPOsKz95yRXLlkpznjWy1w1c1k2	14
9BAqi1tAR3VUyGrRzB3vByw5C0f1	37
ni6vXJkXbmYVvjKdNASaspzU78u2	38
ni6vXJkXbmYVvjKdNASaspzU78u2	39
ni6vXJkXbmYVvjKdNASaspzU78u2	40
ni6vXJkXbmYVvjKdNASaspzU78u2	41
Z71v82tliJUtQ91hAvHtSF359dF3	43
PYkk4GPsWpb8jmMuRyqw3iqnb033	44
TL3TtFCXEeuCqALxEtiskMmlQ12	45
Z71v82tliJUtQ91hAvHtSF359dF3	50
Z71v82tliJUtQ91hAvHtSF359dF3	51
Ur0imWPe5pbDMsPZgo5pSdUeKWE2	52
RJA13xiMVabQ1Alt6dC6Hj7WwAw2	53
58xNJvrXy6gv0FvMxhsyqvaRwhc2	54
aA31NNz5NNZiPH7cdxC0zvPoSAD2	55

## Normalization

User

User (**uid, first\_name, last\_name**)

Let A=uid, B=first\_name, C=last\_name

Functional Dependency: A  $\rightarrow$  BC

A  $\rightarrow$  BC is a nontrivial functional dependency and A is a superkey. Hence the User table is in BCNF.

Food Allergy

Food Allergy (**id, name**)

Let A=id, B=name

Functional Dependency: A  $\rightarrow$  B

A  $\rightarrow$  B is a nontrivial functional dependency and A is a superkey. Hence the Food Allergy table is in BCNF.

### Ingredients

Ingredients (**id**, name)

Let A=id, B=name

Functional Dependency: A  $\rightarrow$  B

A  $\rightarrow$  B is a nontrivial functional dependency and A is a superkey. Hence the Ingredients table is in BCNF.

### Recipe

Recipe (**id**, name, dislikes, likes, vid\_url, pic\_url)

Let A=id, B=name, C=dislikes, D=likes, E=vid\_url, F=pic\_url

Functional Dependency: A  $\rightarrow$  BCDEF

A  $\rightarrow$  BCDEF is a nontrivial functional dependency and A is a superkey. Hence the Recipe table is in BCNF.

### Meal Type

Meal Type (**id**, name)

Let A=id, B=name

Functional Dependency: A  $\rightarrow$  B

A  $\rightarrow$  B is a nontrivial functional dependency and A is a superkey. Hence the Meal Type table is in BCNF.

### Instruction

Instruction (**id**, instruction)

Let A=id, B=name

Functional Dependency: A  $\rightarrow$  B

A  $\rightarrow$  B is a nontrivial functional dependency and A is a superkey. Hence the Instruction table is in BCNF

## GUI Screenshots

- Login page



### Log In to Delight

Email

Password

[Forgot Password?](#) [Sign Up](#)



### Create an account

First name

Last name

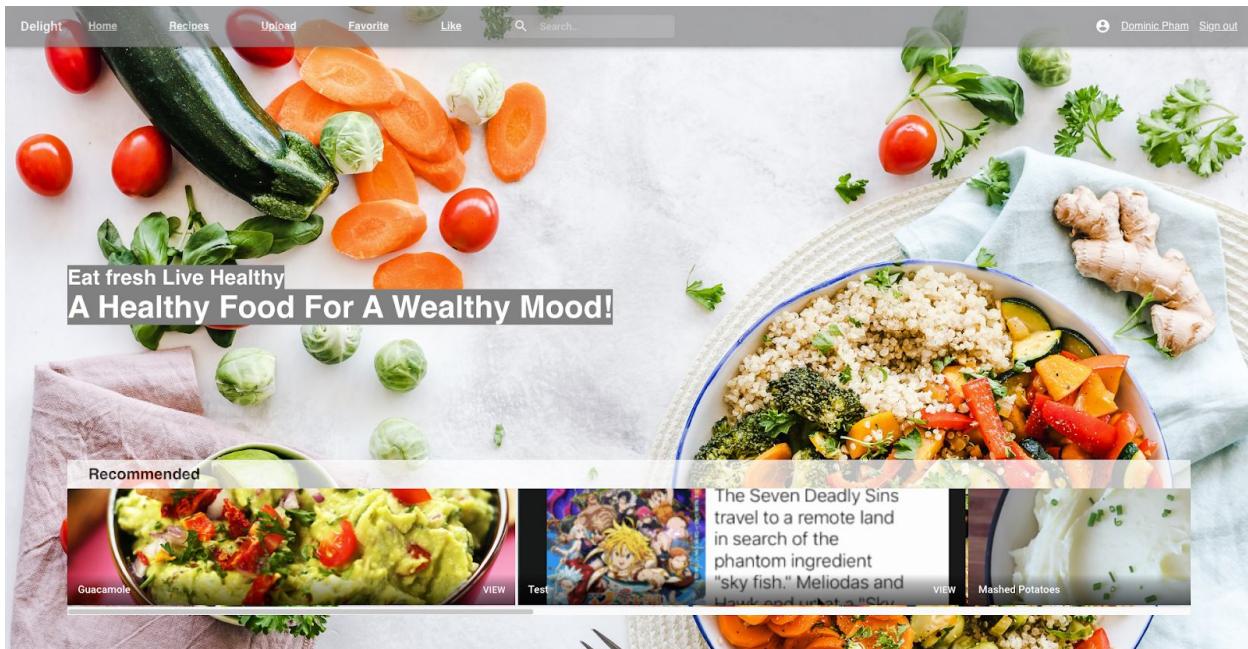
Email

Password

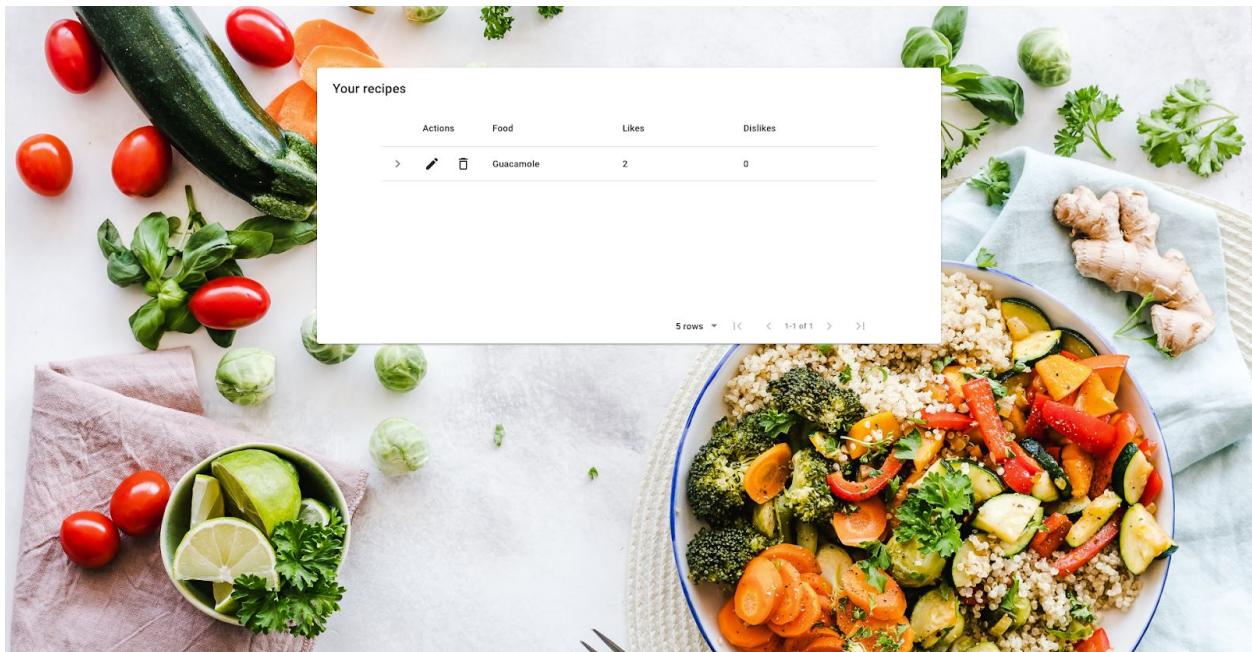
Confirm password

[Back to Login](#)

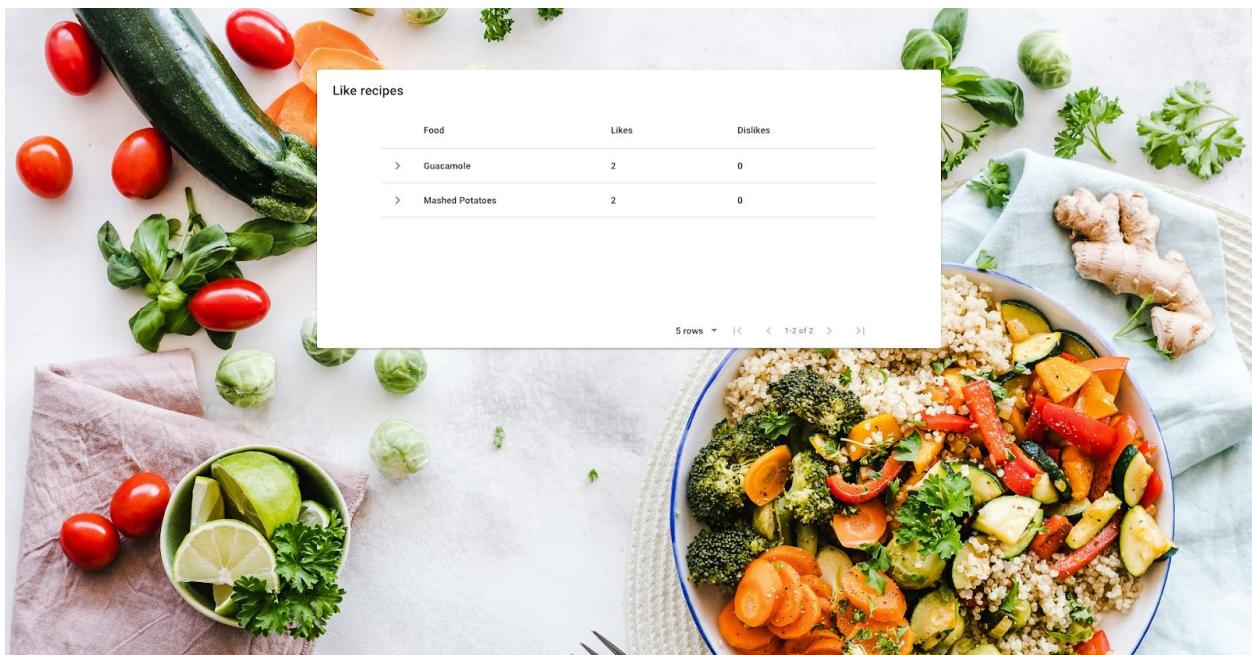
- Dashboard



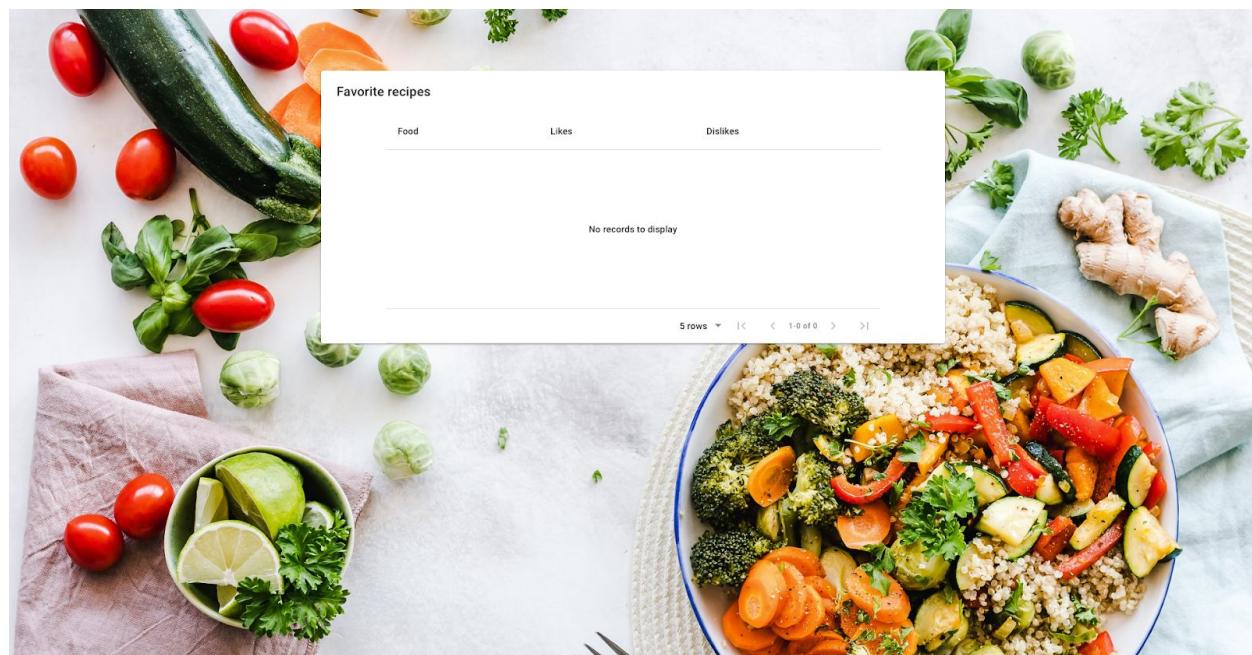
- Personal Recipe page



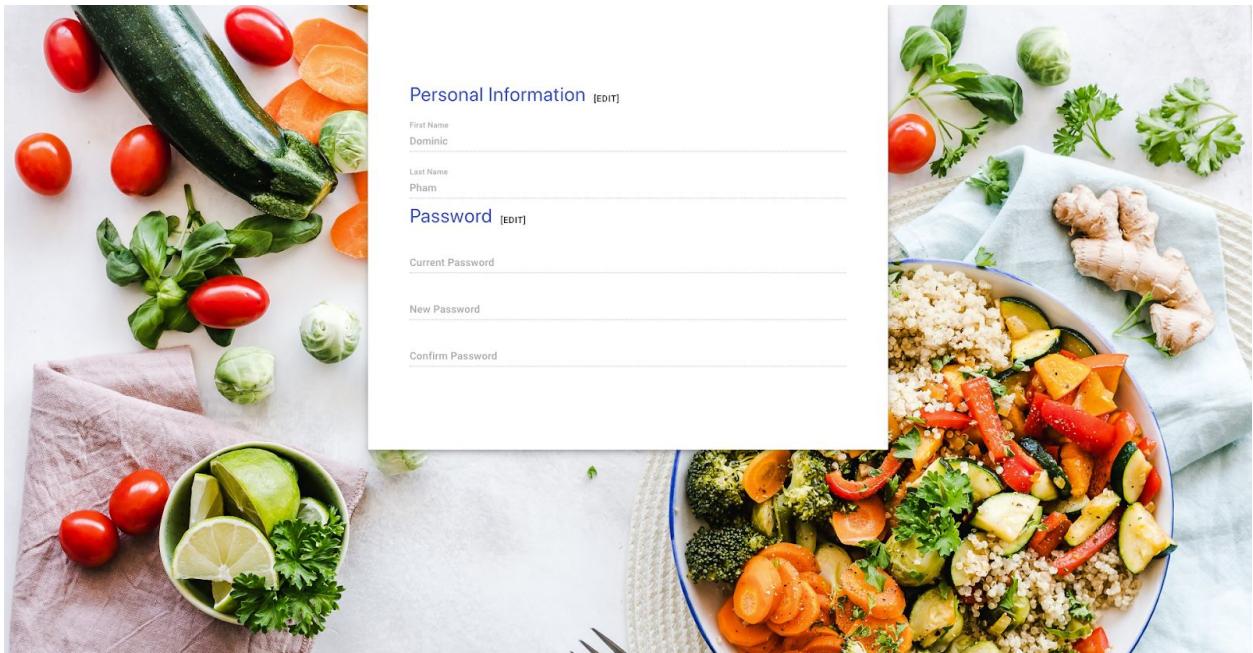
- Like page



- Favorite page



- Profile page



- Forgot password page



### Forgot Password

Please enter your email address and we will send you an email about how to reset your password.

Email

[RESET PASSWORD](#)

[Back to Login](#)

- Upload page

The screenshot shows a web-based application for creating a new recipe. The interface includes a header with navigation links like Delight, Home, Recipes, Upload, Favorite, Like, and a search bar. A user profile for 'Kimleng Hor' is visible with a sign-out link. The main content area features a banner image of various vegetables and fruits.

## Create a new recipe

**Recipe name:**  
Type in your recipe name

**MealType:**

BREAKFAST	LUNCH	DINNER	DESSERT	SNACK	SUPPER
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**Ingredients:**

Actions	Name	Amount	Measurement
	Soy sauce	63	oz
	Sugar	90	kg

5 rows | < < 1-2 of 2 > >|

**Instructions:**

Actions	Steps
	First step
	Second step

5 rows | < < 1-2 of 2 > >|

**Tutorial Link:**  
Type in the video link

**Upload image:**

No file chosen

## How to run the application

1. Import env file for both root and client directory. The file must be renamed as .env.
2. Do “npm install” for both root and client directory.
3. Start the RDS database by doing “npm start” in the root directory. It will be listening on port 3001.
4. Start the project by doing “npm start” in the client directory. It will be listening on port 3000.

## Conclusion

- Kimleng Hor: I have learned a lot during developing this web application. There are 3 technologies that this class has taught me, and I believe that it will help me in my career life. First of all, I can say that I have mastered Github. I understand how to commit, revert and contribute my codes with my teammates. I know how to create a pull request and request for reviewing. Before this class, I don't have a chance to work with a team that is using Github. I am glad to join this class for my last semester. Secondly, my knowledge with React is getting better. I am doing mobile development, and I don't really touch web application. This class gives me an opportunity to work on React for frontend. I understand clearly about the structure and steps of how to create a React application. I know how to use Material UI for our design and how to write proper and clean code for connecting with backend. Lastly, the most important part is designing tables. To have great design, my team worked really hard to come up with proper tables. We spent most of the time discussing and designing together in Student Union.
- Dominic: I have learned a lot while developing our application, especially in the server and database parts of the 3-tier architecture. I learned how to properly set up a project using this type of architecture. Before, I would just jumble everything on the client side, which is a bad practice both security-wise and maintenance-wise. With this project, I made sure to separate the server and client parts to make each part easier to maintain. This allowed my teammates and I to work independently of each other without a lot of project conflicts. With this project, I also learned the importance of good database design and the importance of an ERD. Before, I

thought drawing the ERD was just a waste of time. In this project, I found myself referring to the ERD to make just about every type of query. Overall, this project is something I am proud of and something I would be willing to show prospective employers.

- Julia Chin: Working on our application has allowed me to learn a lot about database management as well as web development. Coming into the class, I had no experience with database management and little experience with web development. However, after working the the ER diagram, structure diagram and schema, I became more knowledgeable about database systems and 3 tier architecture. In this project, I was also working front end development with API implement for the very first time. Although I needed to learn Material UI from scratch, my efforts were worth the outcome. The UI of our application looks beautiful. Seeing the UI makes the effort and time I put into developing the UI rewarding. In all, this project has been a great opportunity to develop my software engineering skills.

## Future Improvement

In the future, we plan to push our product to the market and make a campaign for people to eat healthy. We have already talked about a business plan in the next two years. We want to create a platform which users can order foods with a payment plan. Why do we want to do that? We found that people cannot find time to cook and most of them tend to eat outside which is not healthy. Also, sometimes, they bought ingredients more than enough for cooking and end up throwing some of them away. This will harm our environment. So, we want to help people to personalize recipes that fit with their diet and health, and they can order from our website. With this platform, they can eat fresh and live healthy. "Delight - A Healthy Food For A Wealthy Mood!"

## Bibliography

Barclay, Eliza, et al. "It's Easy to Become Obese in America. These 7 Charts Explain Why." Vox, Vox, 9 Aug. 2018, [www.vox.com/2016/8/31/12368](http://www.vox.com/2016/8/31/12368)



246/obesity-america-2018-charts.