VR kitchen

Team Zero



Team Graph

Content

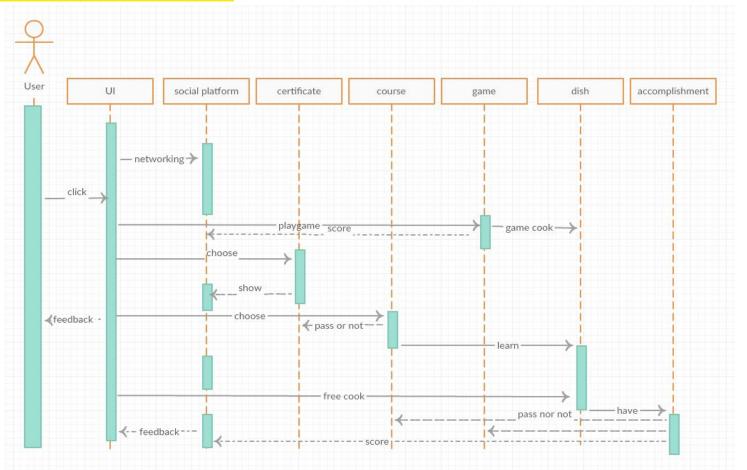
- Objectives and Features
- Sequential Diagram & Use Case
- Certificate
- Game mode
- Cooking process
- Social platform

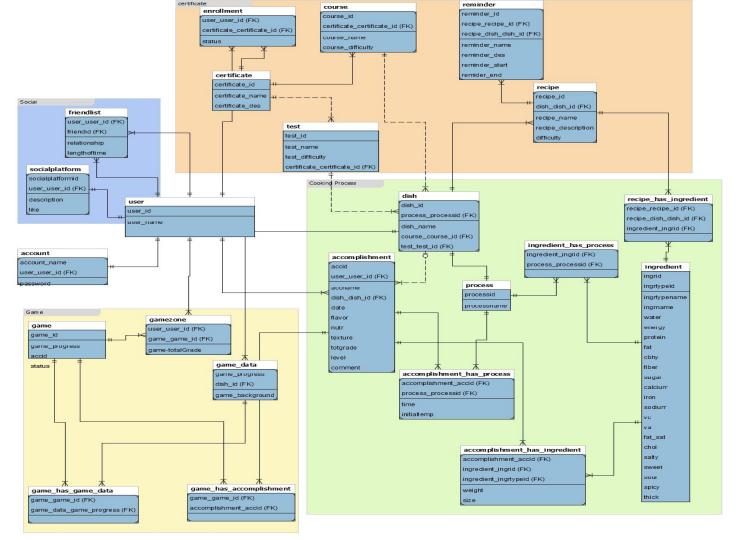
Objective

- Save material cost and avoid accidental injury
- help/train non-professional cooking amateur
- Providing professional certificate for job hunting
- Design a game mode for spare time entertainment
- Give cook lovers a platform to get new friends



Sequential Diagram





User

Overview

9RKitchen

Team Zero

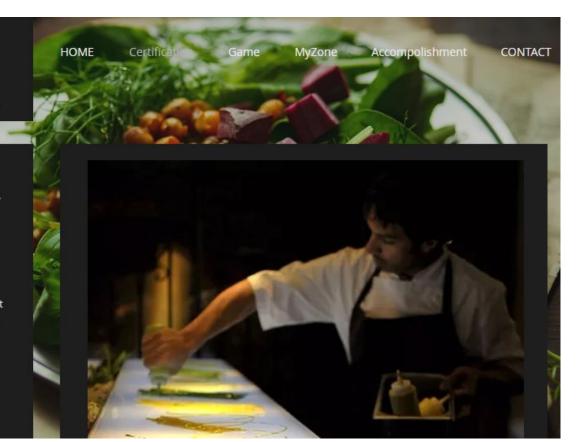
Professor: Dr. Chaiyaporn Mutsalklisana

For those who love cook..

One can not think well, love well , sleep well, if one has not dined well -Virginia Woolf

Part of the secret of success in life is to eat what you like and let the food fight it out inside

-Mark Twain



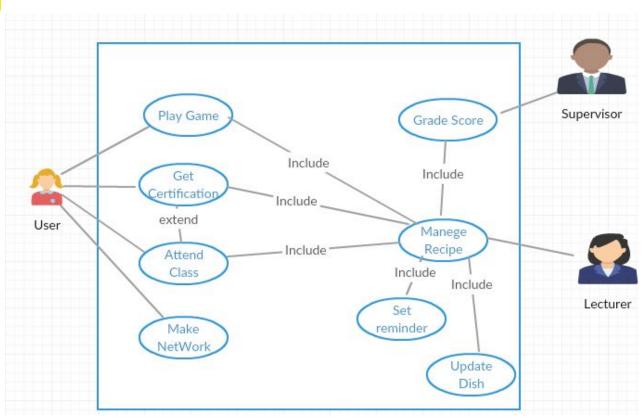
How it works



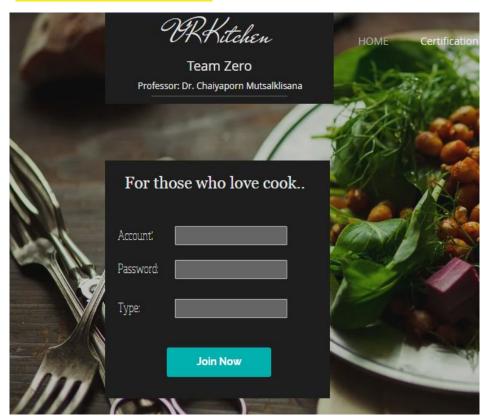
HOME Certification Game MyZone Accomplishment Social

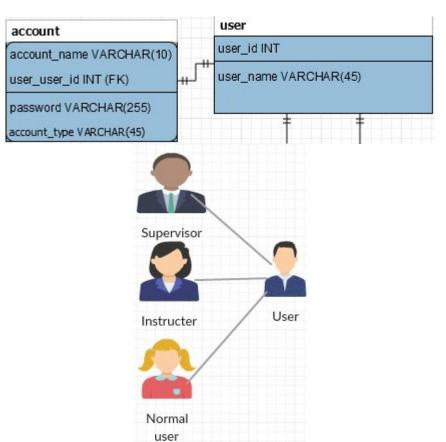
Button	Functions	Related Tables
Home	Log in/Sign up,User profile	Account,User
Certification	Learn and Test	Course,Recipe,Dish,Process.
Game	Have fun with cook	Gamedata, Dish, Process
Myzone	See what you have done	Gamezone/Enrollment,
Accomplishment	Store the grade for you	Accomplishment,Test,Dish
Social	Connect with others	Friend-List,Social platform

Use Case

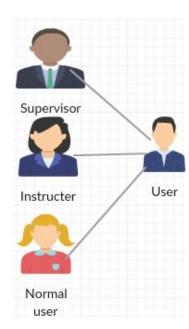


Account-Type





Privilege (Instructor)



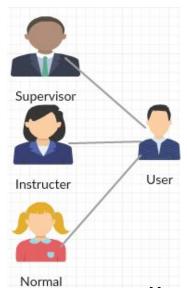
```
#I'm mad since they never paid my lecture salary!
DROP SCHEMA IF EXISTS `mydb`;
```

Error Code: 1044. Access denied for user "InstructorTY" @ localhost to database 'mydb'

The duty of **Instructors** is supporting class and manage the dish,recipe and suggestions(reminder).

```
#Create a Instructor that is in charge of the dish, reminder, recipe
drop user 'InstructorTY'@'localhost';
Create User 'InstructorTY'@'localhost'identified By'Teaching';
Grant Select, insert, update, delete on `mydb`.recipe to 'InstructorTY'@'localhost';
Grant Select, insert, update, delete on `mydb`.reminder to 'InstructorTY'@'localhost';
FLUSH PRIVILEGES;
Grant Select, insert, update, delete on `mydb`.dish to 'InstructorTY'@'localhost';
FLUSH PRIVILEGES;
show grants for 'InstructorTY'@'localhost';
```

Privilege (User)



user

```
#Create a Student and let him have the right to choose game, course and dish and view his or his
#friends' information in vrkitchen
Drop User 'StudentJM'@'localhost';
Create User 'StudentJM'@'localhost'identified By'JMLearning';
Grant update on `mydb`.account to 'StudentJM'@'%';
Grant Select, insert, update, delete on `mydb`.user to 'StudentJM'@'localhost';
Grant Select, insert, delete on `mydb`.friendlist to 'StudentJM'@'localhost';

Grant select(course_id, course_name, course_difficulty) on `mydb`.course to 'StudentJM'@'localhost';
Grant select(certificate_id, certificate_name) on `mydb`.certificate to 'StudentJM'@'localhost';
Grant select(game_id) on `mydb`.game to 'StudentJM'@'localhost';
Grant Select on `mydb`.accomplishment to 'StudentJM'@'localhost';
Grant Select on `mydb`.gamezone to 'StudentJM'@'localhost';
Grant Select on `mydb`.gamezone to 'StudentJM'@'localhost';
Grant Select on `mydb`.gamezone to 'StudentJM'@'localhost';
GRANT USAGE ON *.*TO 'StudentJM'@'localhost'
GRANT SELECT (certificate_name, certificate_id...
GRANT SELECT (certificate_name, certificate_id...
GRANT SELECT (certificate_name, certificate_id...
```

User is allowed to change their personal information and view other table.

GRANT USAGE ON *.* TO 'StudentJM'@'localhost'

GRANT SELECT (certificate_name, certificate_id...

GRANT SELECT ON `mydb`.`accomplishment`...

GRANT SELECT, INSERT, UPDATE, DELETE ON ...

GRANT SELECT, INSERT, DELETE ON `mydb`.`...

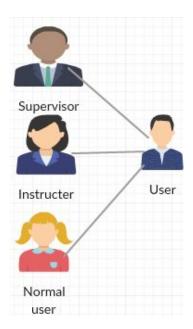
GRANT SELECT ON `mydb`.`gamezone` TO 'St...

GRANT SELECT (course_difficulty, course_name...

GRANT SELECT (game_id) ON `mydb`.`game`...

GRANT SELECT ON `mydb`.`enrollment` TO 'St...

Privilege (Supervisor)



Supervisor has rights to do whatever he like...

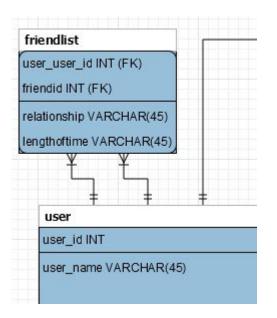
```
#Create a Supervisor and let him have the right to all table in vrkitchen
select Host,User from mysql.user;
Drop User 'SupervisorHHQ'@'localhost';
Create User 'SupervisorHHQ'@'localhost' identified By 'hqhandsome';
grant all on `mydb`.* to 'SupervisorHHQ'@'localhost';
grant create,show view on `mydb` to 'SupervisorHHQ'@'localhost';
show grants for 'SupervisorHHQ'@'localhost';
```

```
GRANT USAGE ON *.* TO 'SupervisorHHQ'@'localhost'

GRANT ALL PRIVILEGES ON `mydb`.* TO 'SupervisorHHQ'@'localhost'

GRANT CREATE, SHOW VIEW ON `mydb`.`mydb` TO 'SupervisorHHQ'@'localhost'
```

Make Friends



```
#find all friends for Haoqi
DROP PROCEDURE IF EXISTS showFriend;
DELIMITER //

CREATE PROCEDURE showFriend(
IN imput varchar(45))

BEGIN
select user_name from user

where user_id=all(select friendid
from friendlist
where user_id=

(select user_id from user where user_name=imput));
END//
DELIMITER;
CALL showProduct('Haoqi');
```



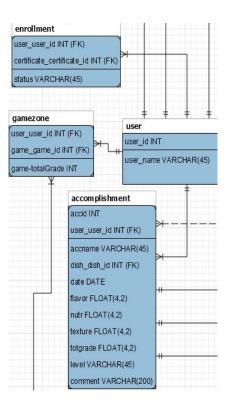


Personal Zone



```
#User's accomplishment
  DROP PROCEDURE IF EXISTS showProduct;
  DELIMITER //
CREATE PROCEDURE showProduct(
LIN imput varchar(45))
■ BEGIN
 SELECT user_name, dish_name
 FROM user u
  inner join
  accomplishment a on u.user_id=a.user_user_id
  left JOIN
  dish d on a.dish dish id=d.dish id
  WHERE user name=imput;
 -END//
  DELIMITER ;
  CALL showProduct('Haoqi');
```

user_name	dish_name
Haoqi	kung pao chicken
Haoqi	NULL
Haoqi	HULL



Certificate

What do you want to learn?







SELECT
certificate_name, certificate_des
FROM
certificate;

certificate_name	certificate_des
Chinese food Lv1	beginner of Chinese food
Chinese food Lv2	general of Chinese food
Chinese food Lv3	Master of Chinese food
French meal Lv1	beginner of French meal
French meal Lv2	general of French meal
French meal Lv3	Master of French meal
Thai food Lv1	beginner of Thai food
Thai food Lv2	general of Thai food
Thai food Lv3	Master of Thai food

Certifications

- · Executive Chef (aka Group Ch)
- Head Chef (aka Executive Chef, Chef de Cuisine) -
- · Sous Chef (aka Second Chef) -
- Chef de Partie (aka Station Chef, Line Chef, Line Cook) -
- · Commis Chef -
- Kitchen Porter (aka Kitchen Assistant or Kitchenhand) -
- Dishwasher (aka Escuelerie)

Executive Chef

Required Course ID:6200

Dish Design and Management

ID:5100 Object-Orientated Cook

ID: 7390 Fancy Chinese Cook

ID:6000 Coop-Learning and Chef Ethic

Enrollment of certificate

```
SELECT
user_name, status, certificate_name
FROM
enrollment
INNER JOIN
user ON user.user_id = enrollment.user_user_id
INNER JOIN
certificate ON enrollment.certificate_certificate_id = certificate.certificate_id
ORDER BY user_name;
```

user_name	status	certificate_name
Haoqi	pass	Chinese I
Haoqi	studying	Chinese II
Jiaming	studying	Chinese I
Luoxiao	pass	Chinese III
Tianyu	pass	Chinese I
Yile	studying	Chinese III
Yile	pass	Chinese I

SELECT
user_name, COUNT(certificate_name) numbers
FROM
enrollment
INNER JOIN
user ON user.user_id = enrollment.user_user_id
INNER JOIN
certificate ON enrollment.certificate_certificate_id = certificate.certificate_id
GROUP BY user_name;

user_name	numbers
Haoqi	2
Jiaming	1
Luoxiao	1
Tianyu	1
Yile	2

How to find the course you like?

```
You like spicy? ———
```

```
SELECT
    dish_name, course_name
FROM
    dish
        INNER JOIN
    course ON course.course_id = dish.course_course_id
WHERE
    dish_name LIKE '%spicy%';
```



dish_name	course_name
spicy beef	Chinese Lv2
spicy chicken	Chinese Lv2
sweet spicy beef	Chinese Lv2

What to do during the cooking process?



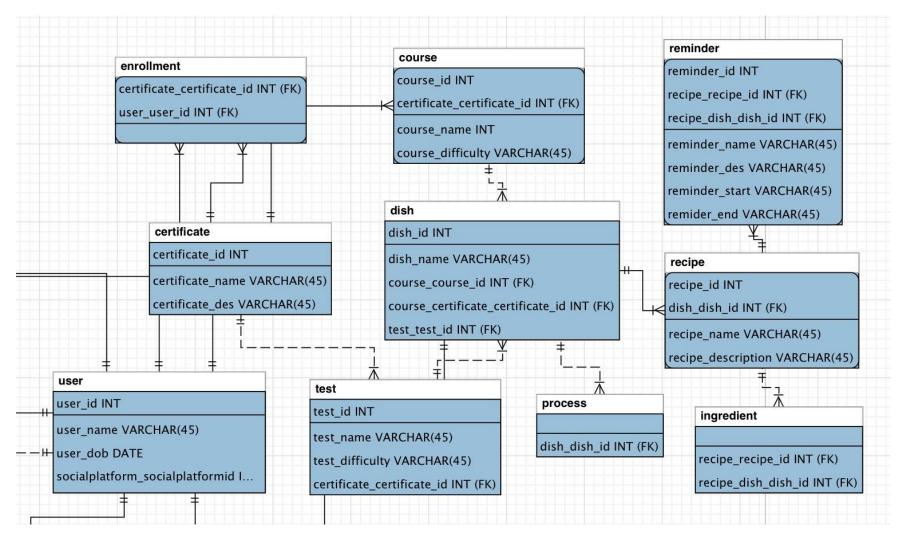
or



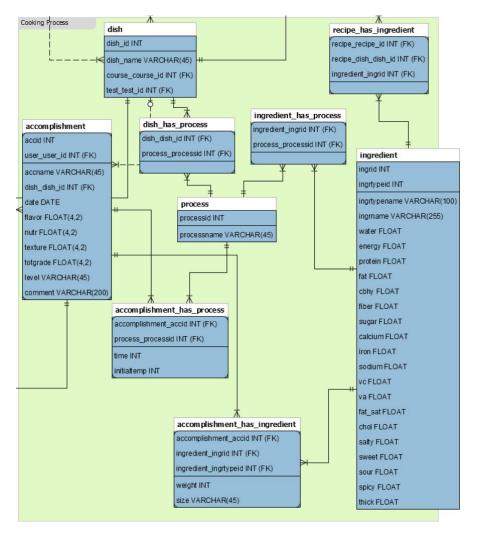
SELECT
sequence, reminder_start, reminder_des
FROM
reminder
inner join recipe on recipe.recipe_id=reminder.recipe_recipe_id
where recipe_name='kung pao'

ORDER BY sequence;

sequence	reminder_start	reminder_des
1	After oil is heated enough	It is time to put chichken into the pan
2	When the chicken is boiled	It is time to add soy
3	Before served	It is time to add salt!!



Cooking process



4 entities:

Ingredient Accomplishment Process Dish

Relationship:

One ingredient can be a part of 1 to many accomplishments, one accomplishment consists 1 to many ingredients, that is M:N relationship.

One ingredient can be cooked by 1 to many cooking process, one cooking process can cook 1 to many ingredients.

One accomplishment can be cooked by one to many processes, one process can cook one to many accomplishments.

Dish can be made by 1 to many processes, one process can cook one to many dishes.

It can evaluate the flavor, nutrition and texture of your accomplishment respectively.

If it is too salty, or not salty at all?

What is the intensity of sweetness?

Spicy? Sour? Oliy? I can give you the answer.

```
SUM(salty * weight) / SUM(weight)
         INTO accsalty FROM
             accomplishment has ingredient ahi
                 INNER JOIN
             ingredient i ON ahi.ingredient ingrid = i.ingrid
        WHERE
             accomplishment accid = accompid
         GROUP BY accomplishment accid;
        SELECT
             SUM(sweet * weight) / SUM(weight)
         INTO accsweet FROM
             accomplishment has ingredient ahi
                 INNER JOIN
             ingredient i ON ahi.ingredient ingrid = i.ingrid
        WHERE
             accomplishment accid = accompid
         GROUP BY accomplishment accid;
if (accsalty>=0 AND accsalty<= 100) then
    set saltyscore = 0; set saltycom='no salt,';
elseif (accsalty>100 AND accsalty<=300) then
    set saltyscore =0.05*accsalty-5; set saltycom='not enought salt,';
elseif (accsalty>300 AND accsalty<=700) then
    set saltyscore=10; set saltycom='perfectly salty!';
elseif (accsalty>700 AND accsalty<=1000) then
    set saltyscore=(-1/30)*(accsalty-1000); set saltycom='a little oversalty,';
else
   set saltyscore=0; set saltycom='tooooooo salty!';
end if:
```

SELECT

Nutrition evaluation:

Protein, fat, vitamin A, vitamin C, carbohydrate,

Sugar, calcium, iron, sodium, cholesterol.

Did you cook a healthy dish just now?

```
SELECT
    SUM(weight * Fat) / SUM(weight)
INTO accfat FROM
    accomplishment has ingredient ahi
        INNER JOIN
    ingredient i ON ahi.ingredient ingrid = i.ingrid
WHERE
    accomplishment accid = accompid
GROUP BY accomplishment accid;
SELECT
    SUM(weight * fat sat) / SUM(weight)
INTO accsat fat FROM
    accomplishment has ingredient ahi
        INNER JOIN
    ingredient i ON ahi.ingredient ingrid = i.ingrid
WHERE
    accomplishment accid = accompid
GROUP BY accomplishment accid;
```

```
set nutrgrade=5.710-0.0538*accfat-0.423*accsat_fat-0.00398*accchole-0.00254*accsodium
-0.0300*acccarbhy+0.561*accfiber-0.0245*accsugar+0.123*accprotein+0.00562*accvma
+0.0137*accvmc+0.0685*acccal-0.0186*acciron;

if (nutrgrade>=0 AND nutrgrade<=2) then
    set nutrlevel='E';set nutrcomment='unhealthy.';
elseif (nutrgrade>2 AND nutrgrade<=4) then
    set nutrlevel='D';set nutrcomment='not very healthy.';
elseif (nutrgrade>4 AND nutrgrade<=6) then
    set nutrlevel='C'; set nutrcomment='fairly healthy.';
elseif (nutrgrade>6 AND nutrgrade<=8) then
    set nutrlevel='B';set nutrcomment='healthy.';
else
    set nutrlevel='A';set nutrcomment='very healthy!';
END if;</pre>
```

Last but not least, an important thing is:

Did the ingredient well cooked just now?

Texture score can give you the answer.

Levels are from totally raw to carbon.

Factors: cooking method, temperature, size, ingredient type, and cooking time.

```
SELECT
     AVG(CASE processname
         WHEN 'boil' THEN 1.5
         WHEN 'steam' THEN 1
         WHEN 'bake' THEN 2
         WHEN 'fry' THEN 3
         WHEN 'grill' THEN 3
         FLSE 0
     END)
 INTO p FROM
     accomplishment a
         INNER JOIN
     accomplishment has process ahp ON a.accid = ahp.accomplishment accid
         INNER JOIN
     process p ON ahp.process processid = p.processid
 WHERE
     a.accid = accompid
GROUP BY accid;
SET iniscore=(initemp/100)*p*t*s*0.3*acctime;
TF
    iniscore>=0 AND iniscore<=10 THEN
   SET texgrade=0; SET texcomment='raw';
    ELSETE iniscore>10 AND iniscore<=25 THEN
    SET texgrade=(8/15)*(iniscore-10); SET texcomment='not rare but undercooked';
    ELSEIF iniscore>25 AND iniscore<=30 THEN
   SET texgrade=(2/5)*(iniscore-5); SET texcomment='wellcooked!';
    ELSEIF iniscore>30 AND iniscore<=35 THEN
    SET texcomment='Slightly overcooked';
    ELSETE iniscore>35 AND iniscore<50 THEN
   SET texgrade=(-8/15)*iniscore+(80/3); SET texcomment='charcoal';
    FLSE
   SET texgrade=0; SET texcomment='Please practice more!';
END IF:
```

Three evaluation standard: Flavor, nutrition and texture. 10 points are the full points.

50% flavor, 35% texture and 15% nutrition.

o-2 E level: Please practice more!

2-4 D level: Not very good...

4-6 C level: fairly good.

6-8 B level: Pretty good!

8-10 A level: Excellent!

```
CALL gradeflavor(accompid,@flagrade,@flalevel,@flacomment);
CALL gradenutr(accompid,@nutrgrade,@nutrlevel,@nutrcomment);
CALL gradetexture(accompid,@texgrade,@texlevel,@texcomment);
SET grade= 0.5*@flagrade+0.15*@nutrgrade+0.35*@texgrade;
IF grade>=0 AND grade<=2 THEN
    SET totlevel='E'; SET ovacomment='Bad accomplishment.';
ELSEIF grade>2 AND grade<=4 THEN
    SET totlevel='D'; SET ovacomment='Not very good.';
ELSEIF grade>4 AND grade<=6 THEN
    SET totlevel='C'; SET ovacomment='fairly good.';
ELSEIF grade>6 AND grade<=8 THEN
    SET totlevel='D'; SET ovacomment='Pretty good.';
ELSE
    SET totlevel='A'; SET ovacomment='Excellent!';
END IF:
SET totcomment=concat(ovacomment, '',@flacomment, '',@nutrcomment, '',@texcomment);
```

The flow of cooking

- Add accomplishment into system, including the cooking method, the cooking time and initial temperature. A unique ID will be given.
- Add ingredients into your accomplishment. Please remember insert the weight and size of the ingredients.
- Calculation begins. Your flavor grade, nutrition grade and texture grade will be given.
- Finally, a total evaluation will be given including the final score, level and comment.
- Please practice more!

```
CALL addacc(1, 'mydish', 'fry', 2, 150, @id);
CALL addingr(21, 'CHICKEN, BROILERS OR FRYERS, BACK, MEAT ONLY, RAW', 200, 'M');
CALL addingr(21, 'SALT, TABLE', 5, 'S');
CALL addingr(21, 'SAUCE, CHS, DRY, PDR', 20, 'M');
CALL addingr(21, 'ORANGES, RAW, ALL COMM VAR', 100, 'S');
CALL addingr(21, 'TOMATOES, RED, RIPE, RAW, YEAR RND AVERAGE', 50, 'S');
CALL addingr(21, 'GRAVY, BROWN INST, DRY', 50, 'S');
CALL addingr(21, 'LIME JUICE, RAW', 50, 'S');
CALL addingr(21, 'MELONS, CASABA, RAWE', 50, 'S');
   CALL gradeflavor(11,@grade,@level,@comment);
   SELECT @grade, @level, @comment;
   CALL gradenutr(3,@grade,@level,@comment);
   SELECT @grade, @level, @comment;
   SELECT * FROM accomplishment;
   CALL gradetexture(6,@score,@level,@comment);
   SELECT * FROM accomplishment;
   CALL totgrade(22);
```

Views

Establish a view for all accomplishments that have been finished.

Including name, date, all scores, comments and level for the accomplishments.

Select any user that you want to check their accomplishments.

```
CREATE VIEW accinfo AS
    SELECT
        accid, user id, accname, date, flavor, nutr, texture,
        level, comment, ingrname, ingrtypename, weight, size,
        processname, time, initial temp
    FROM user u
            INNER JOIN
        accomplishment a ON u.user id = a.user user id
            INNER JOIN
        accomplishment has process ahp ON a.accid = ahp.accomplishment accid
        process p ON ahp.process processid = p.processid
            INNER JOIN
        accomplishment has ingredient ahi ON a.accid = ahi.accomplishment accid
            INNER JOIN
        ingredient i ON i.ingrid = ahi.ingredient ingrid
    ORDER BY accid:
```

accid	user	accname	date	flavor	nutr	texture	level	comment	ingrname	ingrtypena	weight	size	proces	time	initialtemp
1	1	game1	2016-01-01	7.70	5.80	4.27	D	Pretty good, not enought salt, perfectly s	LINGCOD.RAW	seafood	100	S	boil	5	100
1	1	game 1	2016-01-01	7.70	5.80	4.27	D	Pretty good, not enought salt, perfectly s	BREADFRUIT SEEDS, RAW	nut	50	S	boil	5	100
1	1	game 1	2016-01-01	7.70	5.80	4.27	D	Pretty good, not enought salt, perfectly s	LETTUCE.BUTTERHEAD	vegetable	100	M	boil	5	100
1	1	game 1	2016-01-01	7.70	5.80	4.27	D	Pretty good, not enought salt, perfectly s	APPLES.RAW.WO/SKN	fruit	200	S	boil	5	100
1	1	game 1	2016-01-01	7.70	5.80	4.27	D	Pretty good, not enought salt, perfectly s	SALT.TABLE	Spice	3	S	boil	5	100
1	1	game 1	2016-01-01	7.70	5.80	4.27	D	Pretty good, not enought salt, perfectly s	LAMB.VAR MEATS&BY-P	lamb	120	S	boil	5	100
2	3	game2	2017-12-01	2.45	5.50	0.00	D	Not very good, no salt, slightly oversweet	CEREALS RTE, OUAKER	mainfood	200	M	frv	10	150
2	3	game2	2017-12-01	2.45	5.50	0.00	D	Not very good, no salt, slightly oversweet	SAUCE.CHILI.PEPPERS	sauce	20	S	frv	10	150
2	3	game2	2017-12-01	2.45	5.50	0.00	D	Not very good, no salt, slightly oversweet	SALAD DRSNG. 1000 ISL	oil	10	S	frv	10	150
2	3	game2	2017-12-01	2.45	5.50	0.00	D	Not very good, no salt, slightly oversweet	EGG.WHOLE.RAW.FRO	Milk eaa	100	L	frv	10	150
3	2	mvcook3	2016-01-02	7.97	7.47	8.94	Α	Excellent! not enought salt. perfectly swee	SALT, TABLE	Spice	2	S	bake	8	170
3	2	mvcook3	2016-01-02	7.97	7.47	8.94	A	Excellent! not enought salt, perfectly swee	MONKFISH,RAW	seafood	100	L	bake	8	170

Triggers

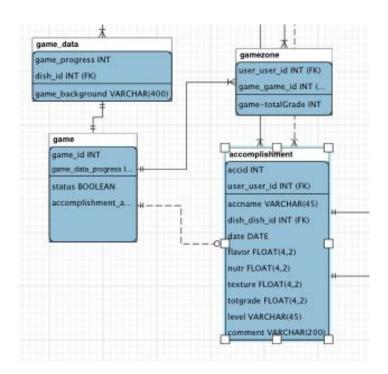
For documenting the history of accomplishment inserting and updating, two triggers are designed.

After an unique accomplishment ID is established, trigger will add the documentation that an accomplishment has been created into log.

When scores and comments are added, the trigger will add the documentation that the accomplishment has been finished into log.

```
CREATE TRIGGER 'mydb'.'accomplishment AFTER INSERT'
AFTER INSERT ON `accomplishment`
FOR EACH ROW
BEGIN
INSERT INTO acclog
    SET action = 'insert',
     accid = new.accid,
        accname = new.accname,
        changedate = NOW();
END
CREATE TRIGGER `mydb`.`accomplishment AFTER UPDATE`
AFTER UPDATE ON `accomplishment`
FOR FACH ROW
BEGIN
    INSERT INTO acclog
    SET action = 'update',
     accid = OLD.accid,
        accname = OLD.accname,
        totgrade=NEW.totgrade,
        level=NEW.level,
        changedate = NOW();
END
```

Game Zone



3 entities:

gamezone Game Progress Game_data

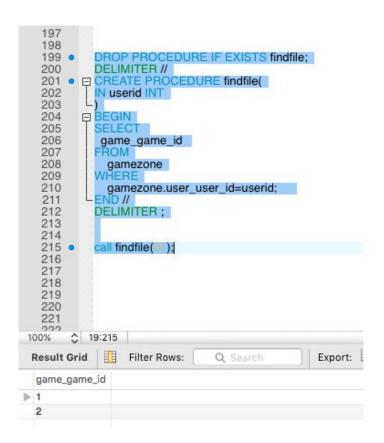
Relationship:

One gamezone can contains all the game file of a user and a vip user can have multiple game file(game)

A game(files) holds the progress of each user and each progress has a accomplishment and a background

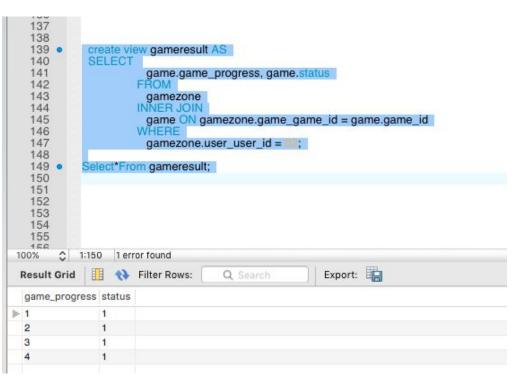
We need to find out the game file that link to a certain user account

In the example user 1 is a vip so he can have two game account



A user should be able to view all the status of his game.

The status is actually a boolean and 1 represent the user pass it.

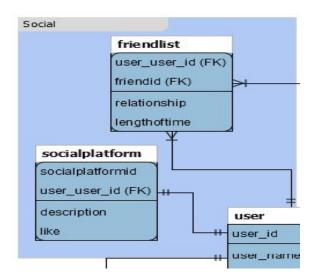


If a user choose a file, we need to know find out his progress then we need to find out which dish is link to that progress and find out which dish and background is link to it.

This user is a normal user, so he only have one game account.

```
Limit to 50000 rows
       CREATE PROCEDURE showgamedata(
         IN userid INT
170
171
       BEGIN
172
         SELECT
173
           dish id. game background
174
         FROM
175
           game data
176
177
           game_data.game_progress = (
178
179
                game progress
 180
 181
182
                    game.game progress, game.status
183
 184
                    gamezone
 185
                    game ON gamezone.game_game_id = game.game_id
 186
 187
 188
                    gamezone.user_user_id = userid)
 189
                   AS result
 190
              WHERE
 191
192
             ORDER BY game progress DESC
193
             LIMIT (0.1):
194
        LEND //
195
         DELIMITER:
196
197
         call showgamedata(2);
     ♠ 22:198
                                               Export:
               Filter Rows:
                             Q Search
dish_id game_background
      powerful man are always lonely
 Result 42
```

Social Networking



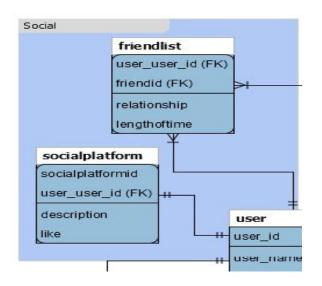
Search for User by name or id

```
# search for user by id
SELECT
    *
FROM
    user
WHERE
    user_id=3;
```

user_id	user_name
3	Yile

```
# search for user by name
SELECT
   *
FROM
    user
WHERE
    user_name LIKE '%ki%';
```

	user_id	user_name
•	13	kiki
	14	kikiko
	15	kiku



View popular User

```
user.user_id,
user.user_name,
socialplatform.description,
socialplatform.like
FROM
    socialplatform
        INNER JOIN
    user ON user.user_id = socialplatform.user_user_id
WHERE
    socialplatform.like > 1000
ORDER BY socialplatform.like DESC;
```

	user_id	user_name	description	like
١	12	Tim	poplular star	10002
	1	Haoqi	cute	10000
	19	shuichi	233	7777
	2	Jiamina	hahaha	2333
	3	Yile	best person in the world	1231
	7	student2	I am the king of the world	1201

View user's certificate

```
certificate_name status
Chinese I pass
```

```
user_user_id (FK) ++-
# view user's certificated passed
                                                               description
SELECT
                                                              like
                                                                                  # user id
    certificate_name, enrollment.status
FROM
    enrollment
        INNER JOIN
    user ON user.user_id = enrollment.user_user_id
        INNER JOIN
    certificate ON certificate.certificate id = enrollment.certificate_certificate id
WHERE
    enrollment.status = 'pass'
        AND user.user id = 3;
```

```
certificate
                                                          enrollment
                                                         user user id (FK)
                                                         certificate certificate id (FK)
                                                         status
                                                              certificate
                                                             certificate id
                                                             certificate_name
Social
                                                             certificate des
               friendlist
               user user id (FK)
                                                                                    test
               friendid (FK)
                                                                                    test_i
               relationship
                                                                                    test r
               lengthoftime
                                                                                    test_c
                                                                                    certific
   socialplatform
  socialplatformid
                               user_name
```

Reference

Front-end design part refers from wix.com.

Ingredients nutrition refers from U.S. National Food Administration Data.

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