

Sai Wunna Tun

P00209992_Sai_Wunaa_Tun_Backend_Web_Development

 Backend

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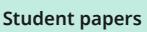
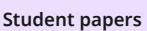
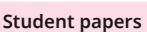
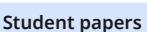
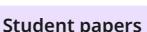
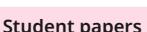
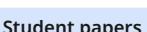
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Task 1 – Setup Database

Creating Database for Project food_fusion_community

Databases

The screenshot shows a user interface for creating a new database. At the top left is a 'Create database' button with a green icon. Below it is a text input field containing the name 'food_fusion_community'. Underneath the input field is a dropdown menu set to 'utf8mb4_general_ci'. At the bottom right of the interface is a 'Create' button.

Fig 1.1 Creating Database

Creating users Table

The screenshot shows a user interface for creating a new table. At the top left is a 'Create new table' button with a blue icon. Below it is a 'Table name' input field containing 'users'. Underneath is a 'Number of columns' input field containing '4'. At the bottom right of the interface is a 'Create' button.

Fig 1.2 Creating users table

Server: 127.0.0.1 » Database: food_fusion_community

Table name: users

Add 1 column(s) Go

Name	Type	Length/Values	Default	Collation
id	INT		None	
name	VARCHAR	255	None	
email	VARCHAR	255	None	
password_hash	VARCHAR	255	None	
bio	TEXT		None	
profile_url	VARCHAR	255	None	
failed_attempts	INT		As defined:	
lock_until	DATETIME		None	
created_at	DATETIME		None	
updated_at	DATETIME		None	

Table comments: Collation: Storage Engine: InnoDB

PARTITION definition:

Partition by: (Expression or column list)

Partitions:

Preview SQL Save

Console

Fig 1.3 Inserting users table columns

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	id	int(11)		No	None			AUTO_INCREMENT
2	name	varchar(255)	utf8mb4_general_ci	No	None			
3	email	varchar(255)	utf8mb4_general_ci	No	None			
4	password_hash	varchar(255)	utf8mb4_general_ci	No	None			
5	bio	text	utf8mb4_general_ci	No	None			
6	profile_url	varchar(255)	utf8mb4_general_ci	No	None			
7	failed_attempts	int(11)		No	0			
8	lock_until	datetime		No	None			
9	created_at	datetime		No	None			
10	updated_at	datetime		No	None			

Fig 1.4 users table structure

Creating cuisines Table

Table name:	cuisines																												
Add	1	column(s)	Go																										
<table border="1"> <thead> <tr> <th>Name</th> <th>Type</th> <th>Length/Values</th> <th>Default</th> <th>Collation</th> </tr> </thead> <tbody> <tr> <td>id</td> <td>INT</td> <td></td> <td>None</td> <td></td> </tr> <tr> <td>name</td> <td>VARCHAR</td> <td>255</td> <td>None</td> <td></td> </tr> <tr> <td></td> <td>INT</td> <td></td> <td>None</td> <td></td> </tr> <tr> <td></td> <td>INT</td> <td></td> <td>None</td> <td></td> </tr> </tbody> </table>					Name	Type	Length/Values	Default	Collation	id	INT		None		name	VARCHAR	255	None			INT		None			INT		None	
Name	Type	Length/Values	Default	Collation																									
id	INT		None																										
name	VARCHAR	255	None																										
	INT		None																										
	INT		None																										

Fig 1.5 Creating cuisines Table

Table structure		Relation view							
#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id	int(11)		No	None			AUTO_INCREMENT	Change
2	name	varchar(255)	utf8mb4_general_ci	No	None				Change

Fig 1.6 cuisines Table Structure

Run SQL query/queries on table food_fusion_community.cuisines: [?](#)

```
1 INSERT INTO cuisines (name) VALUES
2 ('Italian'),
3 ('Chinese'),
4 ('Indian'),
5 ('Japanese'),
6 ('Burmese'),
7 ('Thai'),
8 ('American'),
9 ('French'),
10 ('Mexican'),
11 ('Mediterranean'),
12 ('Middle Eastern'),
13 ('Korean'),
14 ('African'),
15 ('Spanish'),
16 ('Other'),
17 ('British');
18
```

Fig 1.7 Inserting data into cuisines Table

	Edit	Copy	Delete	id	name
<input type="checkbox"/>	Edit	Copy	Delete	1	Italian
<input type="checkbox"/>	Edit	Copy	Delete	2	Chinese
<input type="checkbox"/>	Edit	Copy	Delete	3	Indian
<input type="checkbox"/>	Edit	Copy	Delete	4	Japanese
<input type="checkbox"/>	Edit	Copy	Delete	5	Burmese
<input type="checkbox"/>	Edit	Copy	Delete	6	Thai
<input type="checkbox"/>	Edit	Copy	Delete	7	American
<input type="checkbox"/>	Edit	Copy	Delete	8	French
<input type="checkbox"/>	Edit	Copy	Delete	9	Mexican
<input type="checkbox"/>	Edit	Copy	Delete	10	Mediterranean
<input type="checkbox"/>	Edit	Copy	Delete	11	Middle Eastern
<input type="checkbox"/>	Edit	Copy	Delete	12	Korean
<input type="checkbox"/>	Edit	Copy	Delete	13	African
<input type="checkbox"/>	Edit	Copy	Delete	14	Spanish
<input type="checkbox"/>	Edit	Copy	Delete	15	Other
<input type="checkbox"/>	Edit	Copy	Delete	16	British

Fig 1.8 cuisines Table Data

Creating tags Table

Table name: tags

Add 1 column(s) Go

Name	Type	Length/Values	Default	Collation
id	INT		None	
name	VARCHAR	255	None	
	INT		None	
	INT		None	

Fig 1.9 Creating tags Table

Table structure Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1 id	int(11)			No	None		AUTO_INCREMENT	Change
<input type="checkbox"/>	2 name	varchar(255)	utf8mb4_general_ci		No	None			Change

Fig 1.10 tags Table Structure

Run SQL query/queries on table **food_fusion_community.tags**: 

```
1 INSERT INTO tags (name) VALUES
2 ('Vegan'),
3 ('Vegetarian'),
4 ('Gluten-Free'),
5 ('Keto'),
6 ('Halal'),
7 ('Breakfast'),
8 ('Lunch'),
9 ('Dinner'),
10 ('Snack'),
11 ('Dessert'),
12 ('Grilled'),
13 ('Baked'),
14 ('Fried'),
15 ('Steamed'),
16 ('Raw'),
17 ('Quick & Easy'),
18 ('Festive'),
19 ('Comfort Food'),
20 ('Healthy'),
21 ('Spicy');
22 |
```

Fig 1.11 Inserting Data into tags Table

	 Edit	 Copy	 Delete	id	name
				1	Vegan
				2	Vegetarian
				3	Gluten-Free
				4	Keto
				5	Halal
				6	Breakfast
				7	Lunch
				8	Dinner
				9	Snack
				10	Dessert
				11	Grilled
				12	Baked
				13	Fried
				14	Steamed
				15	Raw
				16	Quick & Easy
				17	Festive
				18	Comfort Food
				19	Healthy
				20	Spicy

Fig 1.12 tags Table Data

Creating resources Table

Table name: resources

Add 1 column(s) Go

Name	Type	Length/Values	Default	Collation
id	INT		None	
title	VARCHAR	255	None	
content	TEXT		None	
image_url	VARCHAR	255	None	
file_url	VARCHAR	255	None	
type	ENUM	'Culinary', 'Education'	None	
created_at	DATETIME		None	

Fig 1.13 Creating resources Table

[Table structure](#) [Relation view](#)

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id	int(11)			No	None		AUTO_INCREMENT	
2	title	varchar(255)	utf8mb4_general_ci		No	None			
3	content	text	utf8mb4_general_ci		No	None			
4	image_url	varchar(255)	utf8mb4_general_ci		No	None			
5	file_url	varchar(255)	utf8mb4_general_ci		No	None			
6	type	enum('Culinary', 'Educational')	utf8mb4_general_ci		No	None			
7	created_at	datetime			No	None			

Fig 1.14 resources Table Structure

Creating recipes Table

Server: 127.0.0.1 » Database: food_fusion_community

Table name: recipes

Add 1 column(s) Go

Name	Type	Length/Values	Default	Collation
id	INT		None	
user_id	INT		None	
cuisine_id	INT		None	
title	VARCHAR	255	None	
description	VARCHAR	255	None	
cook_time	FLOAT		None	
difficulty	ENUM	'Easy','Medium','Harc'	None	
vegan	TINYINT		None	
servings	INT		None	
Ingredients	JSON		None	
steps	JSON		None	
notes	TEXT		None	
image_url	VARCHAR	255	None	
created_at	DATETIME		None	
updated_at	DATETIME		None	

Table comments:

Collation:

Storage Engine: InnoDB

PARTITION definition:

Partition by: (Expression or column list)

Partitions:

Preview SQL Save

Console

Fig 1.15 Creating recipes Table

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id	int(11)			No	None		AUTO_INCREMENT	
2	user_id	int(11)			No	None			
3	cuisine_id	int(11)			No	None			
4	title	varchar(255)	utf8mb4_general_ci		No	None			
5	description	varchar(255)	utf8mb4_general_ci		No	None			
6	cook_time	float			No	None			
7	difficulty	enum('Easy', 'Medium', 'Hard')	utf8mb4_general_ci		No	None			
8	vegan	tinyint(4)			No	None			
9	servings	int(11)			No	None			
10	ingredients	longtext	utf8mb4_bin		No	None			
11	steps	longtext	utf8mb4_bin		No	None			
12	notes	text	utf8mb4_general_ci		No	None			
13	image_url	varchar(255)	utf8mb4_general_ci		No	None			
14	created_at	datetime			No	None			
15	updated_at	datetime			No	None			

Fig 1.16 recipes Table Structure

Actions		Constraint properties		Column	Foreign key constraint (INNODB)		
					Database	Table	Column
	recipes_ibfk_1			user_id		food_fusion_ibfk_1	users id
	Drop	ON DELETE	CASCADE		+ Add column		
		ON UPDATE	RESTRICT				
	recipes_ibfk_2			cuisine_id		food_fusion_ibfk_2	cuisines id
	Drop	ON DELETE	RESTRICT		+ Add column		
		ON UPDATE	RESTRICT				
	Constraint name						
	ON DELETE	RESTRICT			+ Add column		
	ON UPDATE	RESTRICT					
+ Add constraint							

Fig 1.17 Relation View of recipes Table

Creating recipe_tags Table

Table name:

Add column(s)

Name	Type	Length/Values	Default	Collation
<input type="text" value="id"/>	<input type="text" value="INT"/>	<input type="text"/>	<input type="text" value="None"/>	<input type="text"/>
Pick from Central Columns				
<input type="text" value="recipe_id"/>	<input type="text" value="INT"/>	<input type="text"/>	<input type="text" value="None"/>	<input type="text"/>
Pick from Central Columns				
<input type="text" value="tag_id"/>	<input type="text" value="INT"/>	<input type="text"/>	<input type="text" value="None"/>	<input type="text"/>
Pick from Central Columns				
<input type="text"/>	<input type="text" value="INT"/>	<input type="text"/>	<input type="text" value="None"/>	<input type="text"/>
Pick from Central Columns				

Fig 1.18 Creating recipe_tags Table

Table structure Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1 <input type="text" value="id"/>	<input type="text" value="int(11)"/>	<input type="text"/>	<input type="text" value="No"/>	<input type="text" value="None"/>	<input type="text" value="AUTO_INCREMENT"/>	<input type="text"/>	<input type="text"/>	<input type="text"/> Change <input type="text"/> Drop
<input type="checkbox"/>	2 <input type="text" value="recipe_id"/>	<input type="text" value="int(11)"/>	<input type="text"/>	<input type="text" value="No"/>	<input type="text" value="None"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/> Change <input type="text"/> Drop
<input type="checkbox"/>	3 <input type="text" value="tag_id"/>	<input type="text" value="int(11)"/>	<input type="text"/>	<input type="text" value="No"/>	<input type="text" value="None"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/> Change <input type="text"/> Drop

Fig 1.19 Structure of recipe_tags Table

Foreign key constraints

Actions	Constraint properties	Column	Foreign key constraint (INNODB)
<input type="radio"/> Drop	ON DELETE CASCADE	<input type="text" value="recipe_id"/>	Database: food_fusion_com Table: recipes Column: id
<input type="radio"/> Drop	ON UPDATE RESTRICT	<input type="text"/>	<input type="text"/>
<input type="radio"/> Drop	ON DELETE RESTRICT	<input type="text" value="tag_id"/>	Database: food_fusion_com Table: tags Column: id
<input type="radio"/> Drop	ON UPDATE RESTRICT	<input type="text"/>	<input type="text"/>
<input type="text"/> Constraint name ON DELETE RESTRICT <input type="text"/> ON UPDATE RESTRICT <input type="text"/>			
<input type="text"/> + Add constraint			

Fig 1.20 Relational View of recipe_tags Table

Creating recipe_ratings Table

Table name:	recipe_ratings	Add	1	column(s)	<input type="button" value="Go"/>
Name	Type	Length/Values	Default	Collation	
id	INT		None		
recipe_id	INT		None		
user_id	INT		None		
rating	INT		None		
created_at	DATETIME		None		

Pick from Central Columns

Fig 1.21 Creating recipe_ratings Table

Table structure		Relation view																																																		
<p>Foreign key constraints</p> <table border="1"> <thead> <tr> <th colspan="2">Actions</th> <th colspan="2">Constraint properties</th> <th>Column</th> <th>Foreign key constraint (INNODB)</th> </tr> <tr> <th colspan="2"></th> <th colspan="2"></th> <th>Database</th> <th>Table</th> <th>Column</th> </tr> </thead> <tbody> <tr> <td><input checked="" type="checkbox"/> Drop</td> <td>ON DELETE CASCADE</td> <td><input type="checkbox"/> recipe_id</td> <td><input type="checkbox"/> food_fusion_com</td> <td><input type="checkbox"/> recipes</td> <td><input type="checkbox"/> id</td> </tr> <tr> <td colspan="2">ON UPDATE RESTRICT</td> <td colspan="2"><input type="checkbox"/> + Add column</td> <td colspan="2"></td> </tr> <tr> <td><input checked="" type="checkbox"/> Drop</td> <td>ON DELETE CASCADE</td> <td><input type="checkbox"/> user_id</td> <td><input type="checkbox"/> food_fusion_com</td> <td><input type="checkbox"/> users</td> <td><input type="checkbox"/> id</td> </tr> <tr> <td colspan="2">ON UPDATE RESTRICT</td> <td colspan="2"><input type="checkbox"/> + Add column</td> <td colspan="2"></td> </tr> <tr> <td colspan="2"> <input type="checkbox"/> Constraint name ON DELETE RESTRICT ON UPDATE RESTRICT </td> <td colspan="2"><input type="checkbox"/> + Add column</td> <td><input type="checkbox"/> food_fusion_com</td> <td><input type="checkbox"/> </td> </tr> <tr> <td colspan="2"> <input type="checkbox"/> + Add constraint </td> <td colspan="2"></td> <td><input type="checkbox"/> </td> <td><input type="checkbox"/> </td> </tr> </tbody> </table>				Actions		Constraint properties		Column	Foreign key constraint (INNODB)					Database	Table	Column	<input checked="" type="checkbox"/> Drop	ON DELETE CASCADE	<input type="checkbox"/> recipe_id	<input type="checkbox"/> food_fusion_com	<input type="checkbox"/> recipes	<input type="checkbox"/> id	ON UPDATE RESTRICT		<input type="checkbox"/> + Add column				<input checked="" type="checkbox"/> Drop	ON DELETE CASCADE	<input type="checkbox"/> user_id	<input type="checkbox"/> food_fusion_com	<input type="checkbox"/> users	<input type="checkbox"/> id	ON UPDATE RESTRICT		<input type="checkbox"/> + Add column				<input type="checkbox"/> Constraint name ON DELETE RESTRICT ON UPDATE RESTRICT		<input type="checkbox"/> + Add column		<input type="checkbox"/> food_fusion_com	<input type="checkbox"/>	<input type="checkbox"/> + Add constraint				<input type="checkbox"/>	<input type="checkbox"/>
Actions		Constraint properties		Column	Foreign key constraint (INNODB)																																															
				Database	Table	Column																																														
<input checked="" type="checkbox"/> Drop	ON DELETE CASCADE	<input type="checkbox"/> recipe_id	<input type="checkbox"/> food_fusion_com	<input type="checkbox"/> recipes	<input type="checkbox"/> id																																															
ON UPDATE RESTRICT		<input type="checkbox"/> + Add column																																																		
<input checked="" type="checkbox"/> Drop	ON DELETE CASCADE	<input type="checkbox"/> user_id	<input type="checkbox"/> food_fusion_com	<input type="checkbox"/> users	<input type="checkbox"/> id																																															
ON UPDATE RESTRICT		<input type="checkbox"/> + Add column																																																		
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<input type="checkbox"/> + Add constraint				<input type="checkbox"/>	<input type="checkbox"/>																																															

Fig 1.22 Relational View of recipe_ratings Table

The screenshot shows the 'Table structure' view in MySQL Workbench. The table 'recipe_ratings' has the following columns:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id 🍔	int(11)			No	None		AUTO_INCREMENT	Change >Delete
2	recipe_id 🔑	int(11)			No	None			Change Delete
3	user_id 🔑	int(11)			No	None			Change Delete
4	rating	int(11)			No	None			Change Delete
5	created_at	datetime			No	None			Change Delete

Fig 1.23 Structure of `recipe_ratings` Table

Creating `recipe_comments` Table

The screenshot shows the creation of the 'recipe_comments' table. The table structure is defined as follows:

Name	Type	Length/Values	Default	Collation
<code>id</code>	INT		None	
<code>recipe_id</code>	INT		None	
<code>user_id</code>	INT		None	
<code>comment</code>	TEXT		None	
<code>created_at</code>	DATETIME		None	

Fig 1.24 Creating `recipe_comments` Table

Foreign key constraints

Actions	Constraint properties	Column	Foreign key constraint (INNODB)			
			Database	Table	Column	
Drop	ON DELETE CASCADE ON UPDATE RESTRICT	recipe_id	food_fusion_com	recipes	id	
Drop	ON DELETE CASCADE ON UPDATE RESTRICT	user_id	food_fusion_com	users	id	
<input type="text"/> Constraint name ON DELETE RESTRICT ON UPDATE RESTRICT						
+ Add column						

+ Add constraint

Fig 1.25 Relational View of recipe_comments Table

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id	int(11)			No	None		AUTO_INCREMENT	Chan
2	recipe_id	int(11)			No	None			Chan
3	user_id	int(11)			No	None			Chan
4	comment	text	utf8mb4_general_ci		No	None			Chan
5	created_at	datetime			No	None			Chan

Fig 1.26 recipe_comments Table Structure

Creating favorite_recipes Table

Table name: favorite_recipes

Add 1 column(s) Go

Name	Type	Length/Values	Default	Collation
id	INT		None	
user_id	INT		None	
recipe_id	INT		None	
created_at	DATETIME		None	

Fig 1.27 Creating favorite_recipes Table

Foreign key constraints

Actions	Constraint properties	Column	Foreign key constraint (INNODB)
		Database	Table
Drop	ON DELETE CASCADE ON UPDATE RESTRICT	recipe_id	food_fusion_com recipes
Drop	ON DELETE CASCADE ON UPDATE RESTRICT	user_id	food_fusion_com users
+ Add constraint	Constraint name ON DELETE RESTRICT ON UPDATE RESTRICT		food_fusion_com

+ Add constraint

Fig 1.28 Relational View of favorite_recipes Table

Table structure Relation view

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id	int(11)			No	None		AUTO_INCREMENT	Change D
2	user_id	int(11)			No	None			Change D
3	recipe_id	int(11)			No	None			Change D
4	created_at	datetime			No	None			Change D

Fig 1.29 Structure of favorite_recipes Table

5

Creating community_posts Table

Table name:

Add column(s)

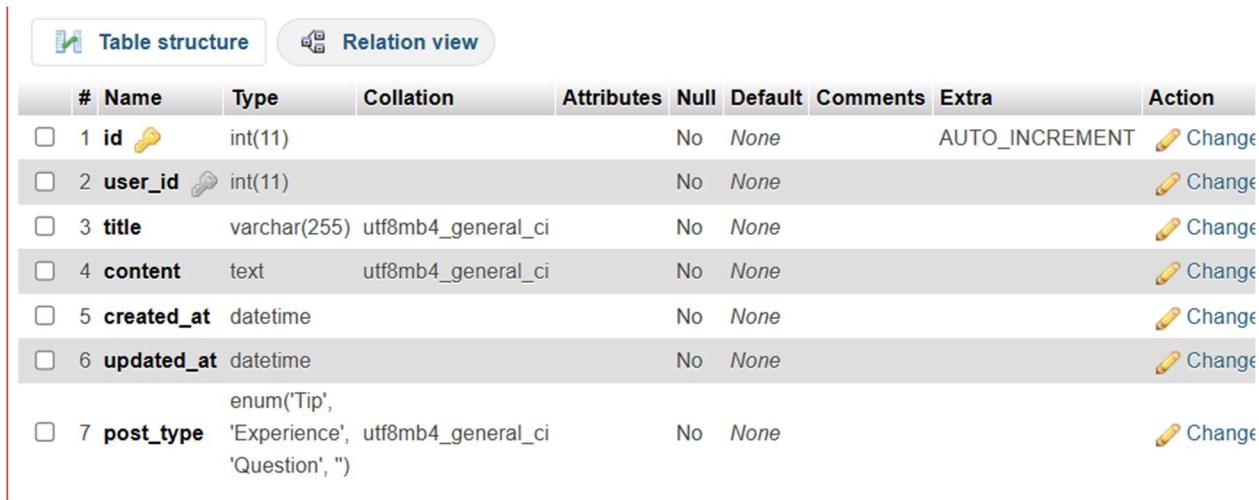
Name	Type	Length/Values	Default	Collation
<input type="text" value="id"/>	<input type="text" value="INT"/>	<input type="text"/>	<input type="text" value="None"/>	<input type="text"/>
Pick from Central Columns				
<input type="text" value="user_id"/>	<input type="text" value="INT"/>	<input type="text"/>	<input type="text" value="None"/>	<input type="text"/>
Pick from Central Columns				
<input type="text" value="title"/>	<input type="text" value="VARCHAR"/>	<input type="text" value="255"/>	<input type="text" value="None"/>	<input type="text"/>
Pick from Central Columns				
<input type="text" value="content"/>	<input type="text" value="TEXT"/>	<input type="text"/>	<input type="text" value="None"/>	<input type="text"/>
Pick from Central Columns				
<input type="text" value="created_at"/>	<input type="text" value="DATETIME"/>	<input type="text"/>	<input type="text" value="None"/>	<input type="text"/>
Pick from Central Columns				
<input type="text" value="updated_at"/>	<input type="text" value="DATETIME"/>	<input type="text"/>	<input type="text" value="None"/>	<input type="text"/>
Pick from Central Columns				
<input type="text" value="post_type"/>	<input type="text" value="ENUM"/>	<input type="text" value="'Tip','Experience','Quo'"/>	<input type="text" value="None"/>	<input type="text"/>
<input type="checkbox"/> Console <input type="checkbox"/> Central Columns Edit ENUM/SET values				

Fig 1.30 Creating community_posts Table

Foreign key constraints

Actions	Constraint properties	Column	Foreign key constraint (INNODB)			
			Database	Table	Column	
<input checked="" type="radio"/> Drop	ON DELETE <input type="text" value="CASCADE"/>	<input type="text" value="user_id"/>	<input type="text" value="food_fusion_com"/>	<input type="text" value="users"/>	<input type="text" value="id"/>	<input type="text"/>
	ON UPDATE <input type="text" value="RESTRICT"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
+ Add column						
Constraint name <input type="text"/>						
ON DELETE <input type="text" value="RESTRICT"/>	<input type="text"/>	<input type="text" value="food_fusion_com"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
ON UPDATE <input type="text" value="RESTRICT"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
+ Add constraint						

Fig 1.31 Relational View of community_posts Table

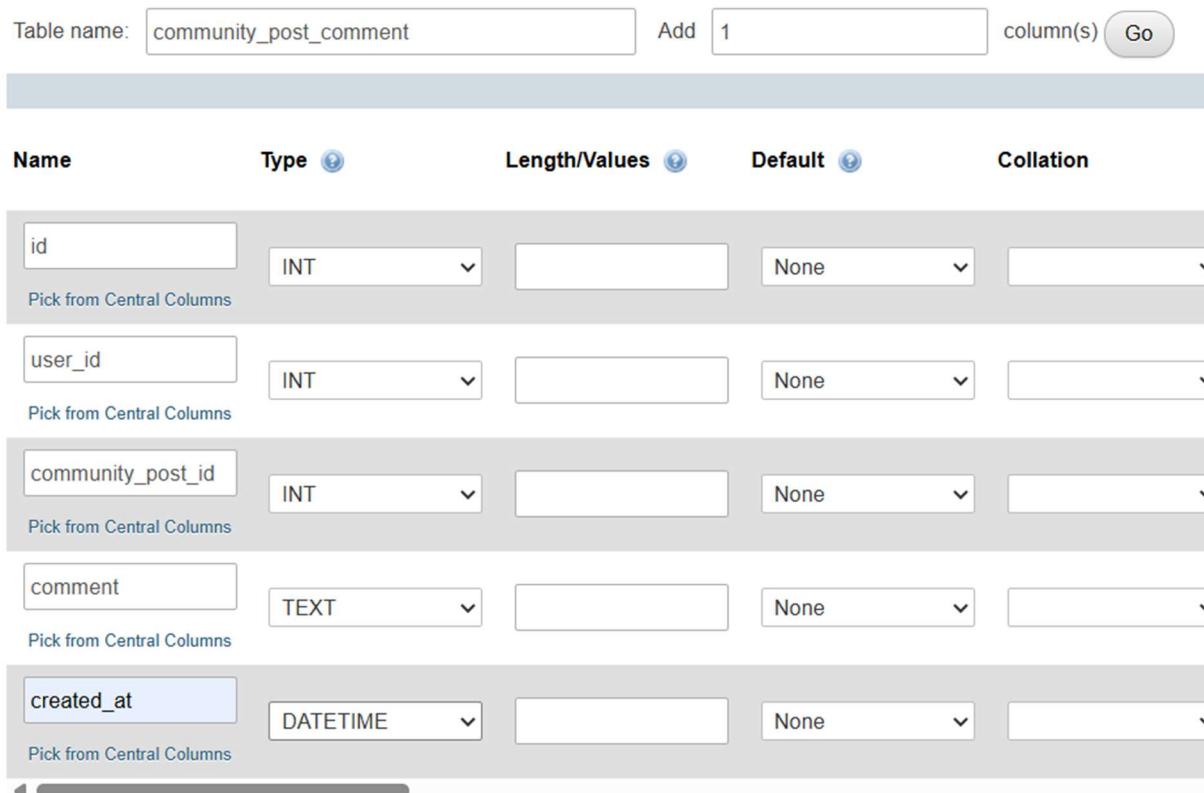


The screenshot shows the 'Table structure' view in MySQL Workbench. The table 'community_posts' has the following columns:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id	int(11)			No	None		AUTO_INCREMENT	Change
2	user_id	int(11)			No	None			Change
3	title	varchar(255)	utf8mb4_general_ci		No	None			Change
4	content	text	utf8mb4_general_ci		No	None			Change
5	created_at	datetime			No	None			Change
6	updated_at	datetime			No	None			Change
7	post_type	enum('Tip', 'Experience', 'Question')	utf8mb4_general_ci		No	None			Change

Fig 1.32 Structure of community_posts Table

Creating community_post_comment Table



The screenshot shows the creation of a new table 'community_post_comment'. The table structure is defined as follows:

Name	Type	Length/Values	Default	Collation
id	INT		None	
user_id	INT		None	
community_post_id	INT		None	
comment	TEXT		None	
created_at	DATETIME		None	

Fig 1.33 Creating community_post_comment Table

The screenshot shows the 'Foreign key constraints' section of MySQL Workbench. It lists two foreign key constraints:

- community_post_comment_1**: Points from **user_id** in the **community_post_comment** table to **id** in the **users** table. The constraint is set to **CASCADE** on delete and **RESTRICT** on update.
- community_post_comment_2**: Points from **community_post_id** in the **community_post_comment** table to **id** in the **community_post** table. The constraint is set to **CASCADE** on delete and **RESTRICT** on update.

Below these, there is a section for adding a new constraint with fields for **Constraint name**, **ON DELETE**, and **ON UPDATE**.

Fig 1.34 Relational View of community_post_comment Table

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	id ⚡	int(11)			No	None		AUTO_INCREMENT
2	user_id 🔑	int(11)			No	None		
3	community_post_id 🔑	int(11)			No	None		
4	comment	text	utf8mb4_general_ci		No	None		
5	created_at	datetime			No	None		

Fig 1.35 Structure of community_post_comment Table

Creating community_post_react Table

Table name:

Add column(s)

Name	Type	Length/Values	Default	Collation
<input type="text" value="id"/>	<input type="text" value="INT"/>	<input type="text"/>	<input type="text" value="None"/>	<input type="text"/>
Pick from Central Columns				
<input type="text" value="user_id"/>	<input type="text" value="INT"/>	<input type="text"/>	<input type="text" value="None"/>	<input type="text"/>
Pick from Central Columns				
<input type="text" value="community_post_id"/>	<input type="text" value="INT"/>	<input type="text"/>	<input type="text" value="None"/>	<input type="text"/>
Pick from Central Columns				
<input type="text"/>	<input type="text" value="INT"/>	<input type="text"/>	<input type="text" value="None"/>	<input type="text"/>
Pick from Central Columns				

Fig 1.36 Creating community_post_react Table

Foreign key constraints

Actions	Constraint properties	Column	Foreign key constraint (INNODB)		
			Database	Table	Column
<input type="button" value="Drop"/>	ON DELETE CASCADE	<input type="text" value="user_id"/>	<input type="text" value="food_fusion_com"/>	<input type="text" value="users"/>	<input type="text" value="id"/>
<input type="button" value="+ Add column"/>					
<input type="button" value="ON UPDATE RESTRICT"/>					
<input type="button" value="Drop"/>	ON DELETE CASCADE	<input type="text" value="community_post_id"/>	<input type="text" value="food_fusion_com"/>	<input type="text" value="community_post"/>	<input type="text" value="id"/>
<input type="button" value="+ Add column"/>					
<input type="button" value="ON UPDATE RESTRICT"/>					
<input type="text" value="Constraint name"/>					
<input type="button" value="ON DELETE RESTRICT"/>		<input type="text"/>	<input type="text" value="food_fusion_com"/>	<input type="text"/>	<input type="text"/>
<input type="button" value="+ Add column"/>					
<input type="button" value="ON UPDATE RESTRICT"/>					
<input type="button" value="+ Add constraint"/>					

Fig 1.37 Relational View of community_post_react Table

The screenshot shows the 'Table structure' view for the 'community_post_react' table. The table has three columns:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id	int(11)			No	None		AUTO_INCREMENT	
2	user_id	int(11)			No	None			
3	community_post_id	int(11)			No	None			

Fig 1.38 Structure of community_post_react Table

Creating contact_messages Table

The screenshot shows the process of creating the 'contact_messages' table. The table name is specified as 'contact_messages'. The 'Add' button is set to 1 column(s) and the 'Go' button is visible.

Name	Type	Length/Values	Default	Collation
id	INT		None	
name	VARCHAR	255	None	
email	VARCHAR	255	None	
subject	VARCHAR	255	None	
message	TEXT		None	
created_at	DATETIME		None	

Fig 1.39 Creating contact_messages Table

The screenshot shows the 'Table structure' view in MySQL Workbench. The table 'contact_messages' has six columns: id, name, email, subject, message, and created_at. The 'id' column is defined as int(11) with a primary key icon, and it has an AUTO_INCREMENT attribute. The other five columns are defined as varchar(255) or text with utf8mb4_general_ci collation.

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id	int(11)			No	<i>None</i>		AUTO_INCREMENT	
2	name	varchar(255)	utf8mb4_general_ci		No	<i>None</i>			
3	email	varchar(255)	utf8mb4_general_ci		No	<i>None</i>			
4	subject	varchar(255)	utf8mb4_general_ci		No	<i>None</i>			
5	message	text	utf8mb4_general_ci		No	<i>None</i>			
6	created_at	datetime			No	<i>None</i>			

Fig 1.40 Structure of contact_messages Table

Task 2 – Login and Registration

Secure Registration and Login System

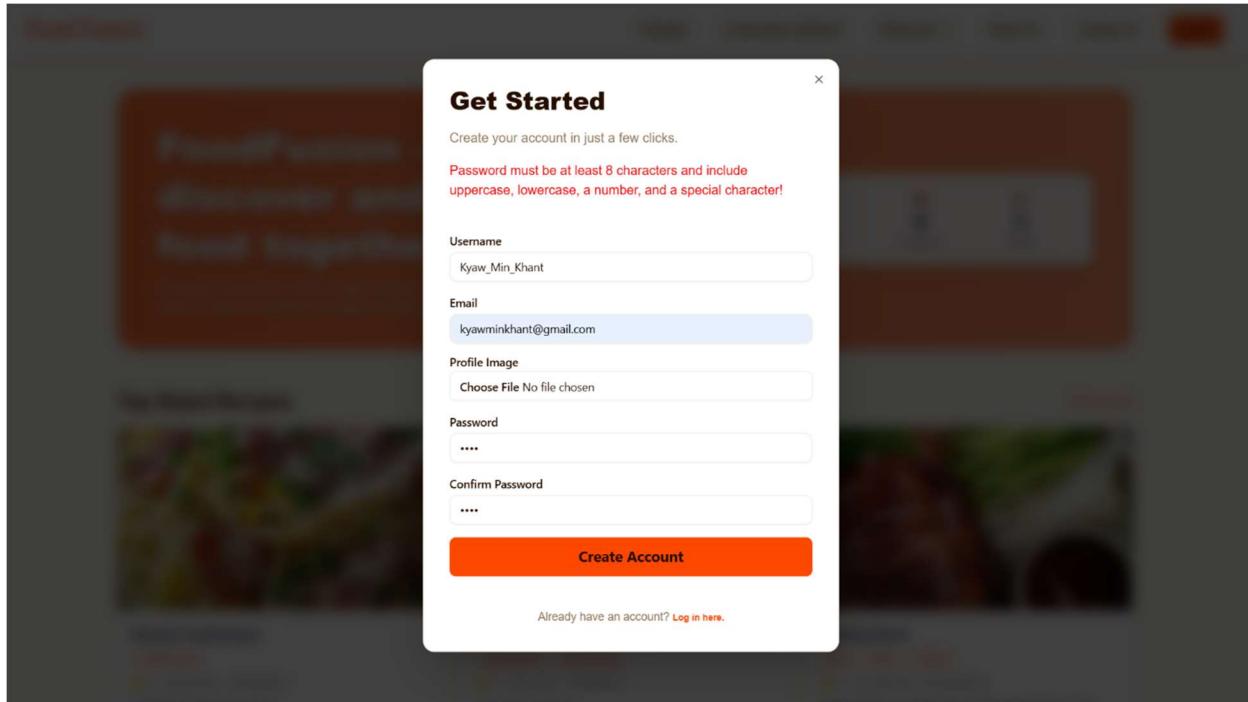


Fig 2.1 Enter week password which is text only shows error message

```
14     function register()
15     {
16         $profileImage = 'uploads/profiles/' . $newFileName;
17     }
18
19     $hashedPassword = password_hash($password, PASSWORD_DEFAULT);
20
21     if ($this->user->findUserByEmail($email)) {
22         http_response_code(409);
23         echo json_encode([
24             'error' => "This email is already in use. Please try Logging In!",
25         ]);
26     }
27
28     $userId = $this->user->insertUser($name, $email, $hashedPassword, $profileImage);
29
30     $_SESSION['userId'] = $userId;
31     $user = [
32         'id' => $userId,
33         'name' => $name,
34         'email' => $email,
35         'profile_url' => $profileImage,
36     ];
37     echo json_encode([
38         'success' => true,
39         'message' => "Registration Success!",
40         'data' => $user,
41     ]);
42     } catch (Exception $e) {
43         http_response_code(500);
44         echo json_encode(['error' => 'Unexpected Error Occured: ' . $e->getMessage()]);
45     }
46 }
```

Fig 2.2 Password Hash function is Implemented on line 67

```

24
25     public function insertUser($name, $email, $password, $profile, $bio = null)
26     {
27         $this->conn = Connection::connect();
28
29         $sql = "INSERT INTO users (name, email, password_hash, bio, profile_url, created_at, updated_at) VALUES (:un, :em, :pa, :bi, :pu, NOW(), NOW())";
30         $this->stmt = $this->conn->prepare($sql);
31         $this->stmt->bindParam(":un", $name);
32         $this->stmt->bindParam(":em", $email);
33         $this->stmt->bindParam(":pa", $password);
34         $this->stmt->bindParam(":bi", $bio);
35         $this->stmt->bindParam(":pu", $profile);
36
37         if ($this->stmt->execute()) {
38             $userId = $this->conn->lastInsertId();
39             return $userId;
40         }
41
42         return false;
}

```

Fig 2.3 Function that Inserts User Information to Database using PDO Statements

	<input type="button" value="← T →"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	id	name	email	password_hash	bio	profile_url	failed_attempts	lock_until	created_at	updated_at
					13	Kyaw_Min_Khant	kyawminkhant@gmail.com	\$2y\$10\$519PzWADKT0N66UrrSBx.wgMyNj6hDn1cwUFg5Jyl2...	NULL	NULL	0	NULL	2025-10-13 14:35:44	2025-10-13 14:35:44

Fig 2.3 Successfully Registered Account Information were Stored Safely in Database

\$

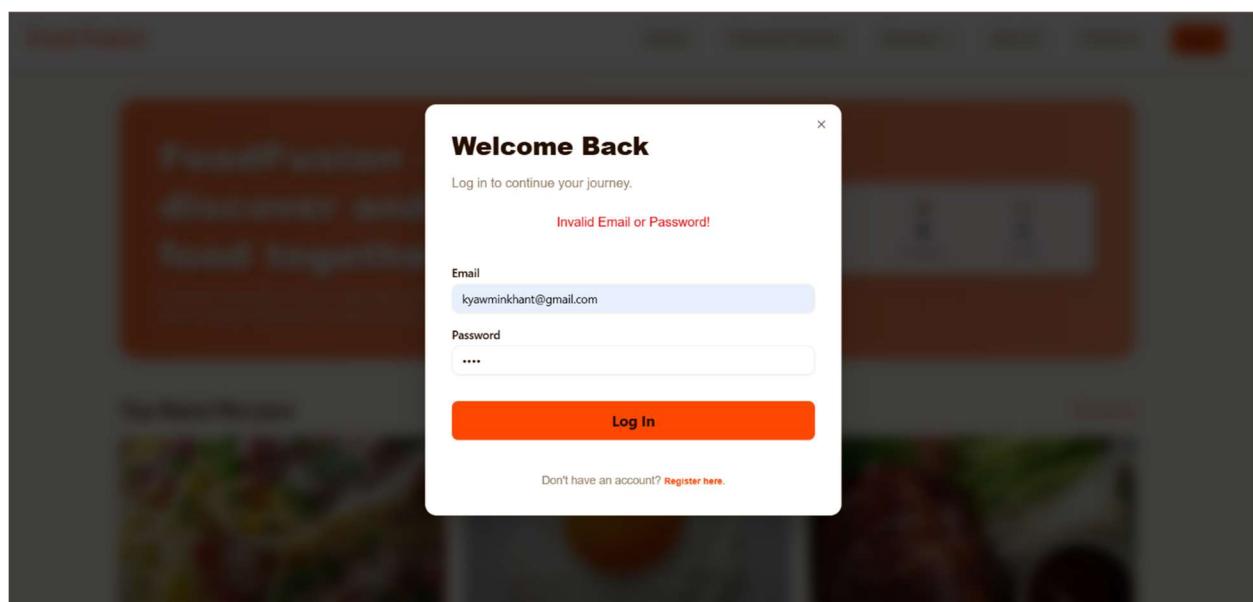


Fig 2.4 Error Message is Shown When Entering Incorrect Password

```

44
45     public function fetchUser($email)
46     {
47         $this->conn = Connection::connect();
48         $sql = "SELECT * FROM users WHERE email = :em";
49         $this->stmt = $this->conn->prepare($sql);
50         $this->stmt->bindParam("em", $email);
51
52         if ($this->stmt->execute()) {
53             $row = $this->stmt->fetch(PDO::FETCH_ASSOC);
54             return $row;
55
56         }
57     }

```

Fig 2.5 Function that Fetches User Information

```
148     function login()
182
183         // --- Step 2: Verify password ---
184         if (password_verify($password, $row['password_hash'])) {
148     function login()
219         // just increment failed attempts
220         $this->user->updateFailedAttempts($row['id'], $failedAttempts);
221         http_response_code(409);
222         echo json_encode(['error' => 'Invalid Email or Password!']);
223         return;
224     }
```

Fig 2.6 Function that Verify Password Safely

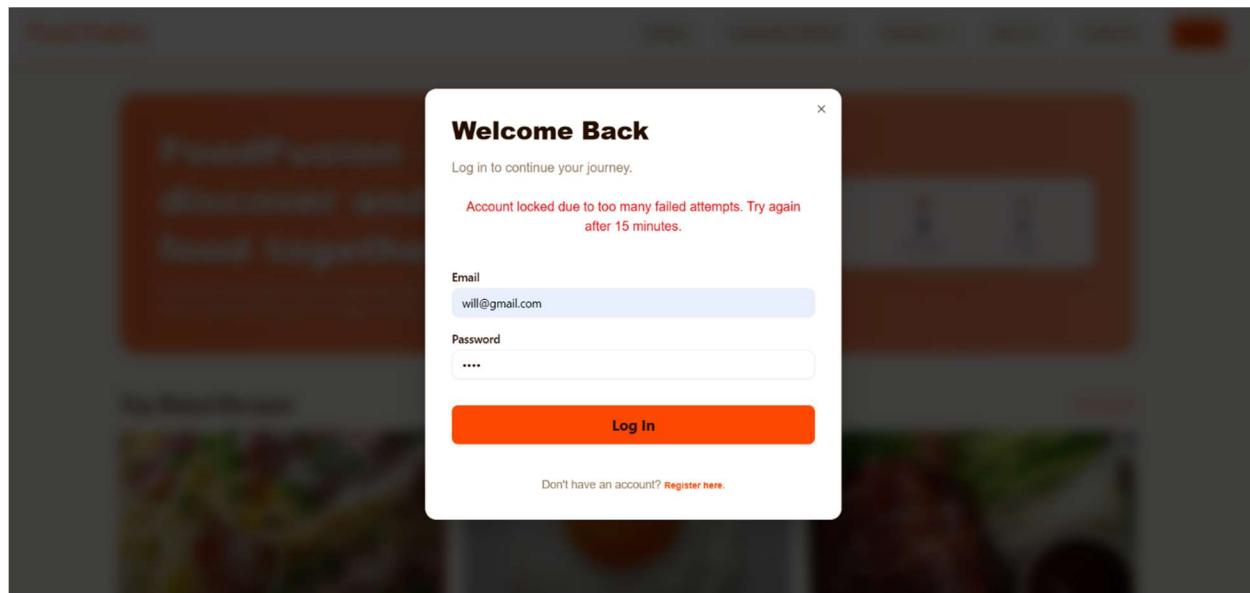


Fig 2.7 User Account is Locked Temporarily After 5 Failed Attempts

	<input type="button" value="Edit"/> <input type="button" value="Copy"/> <input type="button" value="Delete"/>	<input type="checkbox"/>	<input type="text" value="id"/>	<input type="text" value="name"/>	<input type="text" value="email"/>	<input type="text" value="password_hash"/>	<input type="text" value="bio"/>	<input type="text" value="profile_url"/>	<input type="text" value="failed_attempts"/>	<input type="text" value="lock_until"/>	<input type="text" value="created_at"/>
			8	Will	will@gmail.com	\$2y\$10\$4fs2L8V5iSLRZnmWayQwLeioukkNwaoFFT2dgBORH/Z...	I'm Will OG Will I	uploads/profiles/68d6a723150074.76910054.jpg	5	2025-09-17 13:57:34	2025-10-13 19:59:43

Fig 2.8 Failed Attempts Count and lock_until time is Stored In Database

```
148     function login()
149     {
150         try {
151             $data = json_decode(file_get_contents("php://input"), true);
152
153             if (empty($data['email']) || empty($data['password'])) {
154                 http_response_code(400);
155                 echo json_encode(['error' => 'Please enter all fields!']);
156                 return;
157             }
158
159             $email = $data['email'];
160             $password = $data['password'];
161
162             $row = $this->user->fetchUser($email);
163
164             if (!$row) {
165                 http_response_code(400);
166                 echo json_encode(['error' => 'Invalid Email or Password!']);
167                 return;
168             }
169
170             // --- Step 1: Check if account is locked ---
171             $lockUntil = $row['lock_until']; // timestamp from DB
172             $currentTime = time();
173             $remainingSeconds = strtotime($lockUntil) - $currentTime;
174             $remainingMinutes = floor($remainingSeconds / 60);
175
176             if ($lockUntil && strtotime($lockUntil) > $currentTime) {
177                 http_response_code(403);
178                 echo json_encode([
179                     'error' => 'Account temporarily locked. Try again after '
180                 ]);
181             }
182         }
183     }
```

Fig 2.9 Log in Function - 1

```
183
184 // --- Step 2: Verify password ---
185 if (password_verify($password, $row['password_hash'])) {
186     // Successful login → reset failed attempts
187     $this->user->resetFailedAttempts($row['id']);
188
189     $_SESSION['userId'] = $row['id'];
190
191     echo json_encode([
192         'success' => true,
193         'message' => "Login Success!",
194         'data' => [
195             'id' => $row['id'],
196             'name' => $row['name'],
197             'email' => $row['email'],
198             'profile_url' => $row['profile_url'],
199             'bio' => $row['bio']
200         ]
201     ]);
202     return;
203 }
204
205 // --- Step 3: Password is wrong → increment failed attempts ---
206 $failedAttempts = $row['failed_attempts'] + 1;
207 $lockTimeMinutes = 15; // block for 15 minutes
208 $maxAttempts = 5;
209
210 if ($failedAttempts >= $maxAttempts) {
211     $lockUntilTime = date('Y-m-d H:i:s', strtotime("+$lockTimeMinutes"));
212     $this->user->lockAccount($row['id'], $lockUntilTime);
213     $this->user->updateFailedAttempts($row['id'], $failedAttempts);
214
215     http_response_code(403);
216 }
```

Fig 2.10 Log in Function - 2

```
215
216     http_response_code(403);
217     echo json_encode([
218         'error' => "Account locked due to too many failed attempts"
219     ]);
220     return;
221 } else {
222     // just increment failed attempts
223     $this->user->updateFailedAttempts($row['id'], $failedAttempts);
224     http_response_code(409);
225     echo json_encode(['error' => 'Invalid Email or Password!']);
226     return;
227 } catch (Exception $e) {
228     http_response_code(500);
229     echo json_encode(['error' => 'Unexpected Error Occurred: ' . $e->
230 }
231 }
```

Fig 2.11 Log in Function - 3

13

Task 3 – Create Specific Web Pages

Task 4 – Additionality

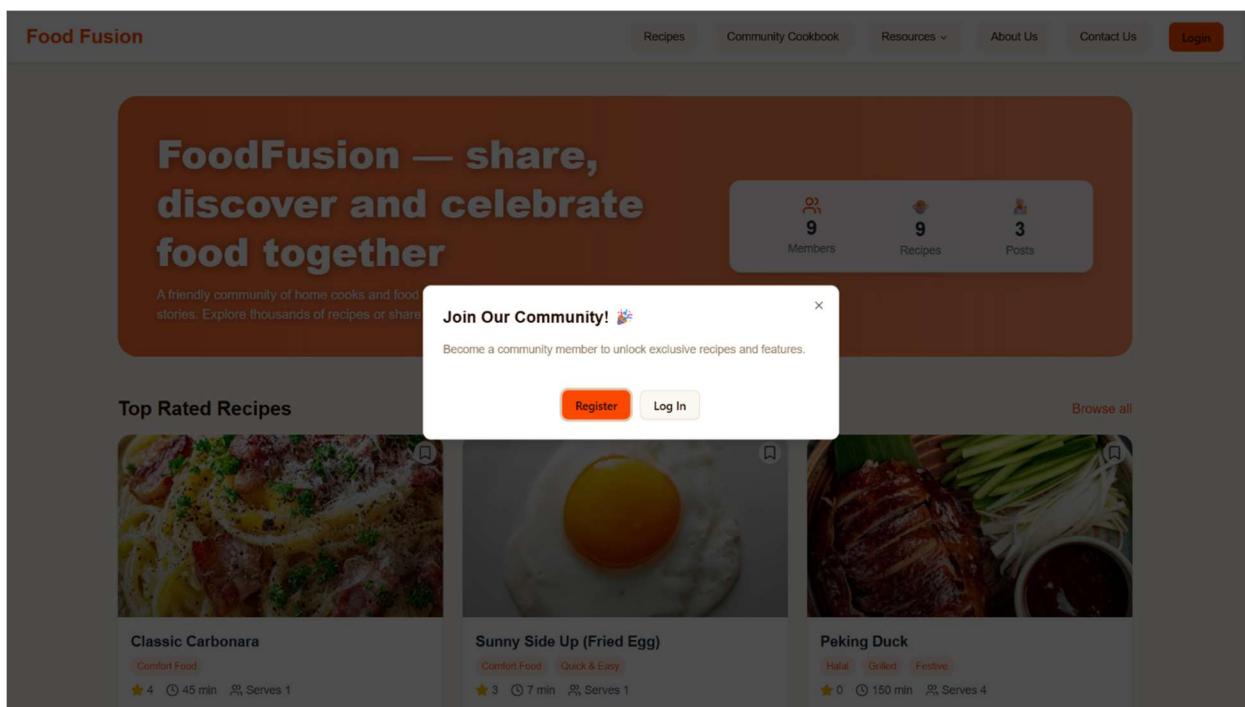


Fig 4.1 Register and Log in Pop Up (Sign Up Now Pop Up)

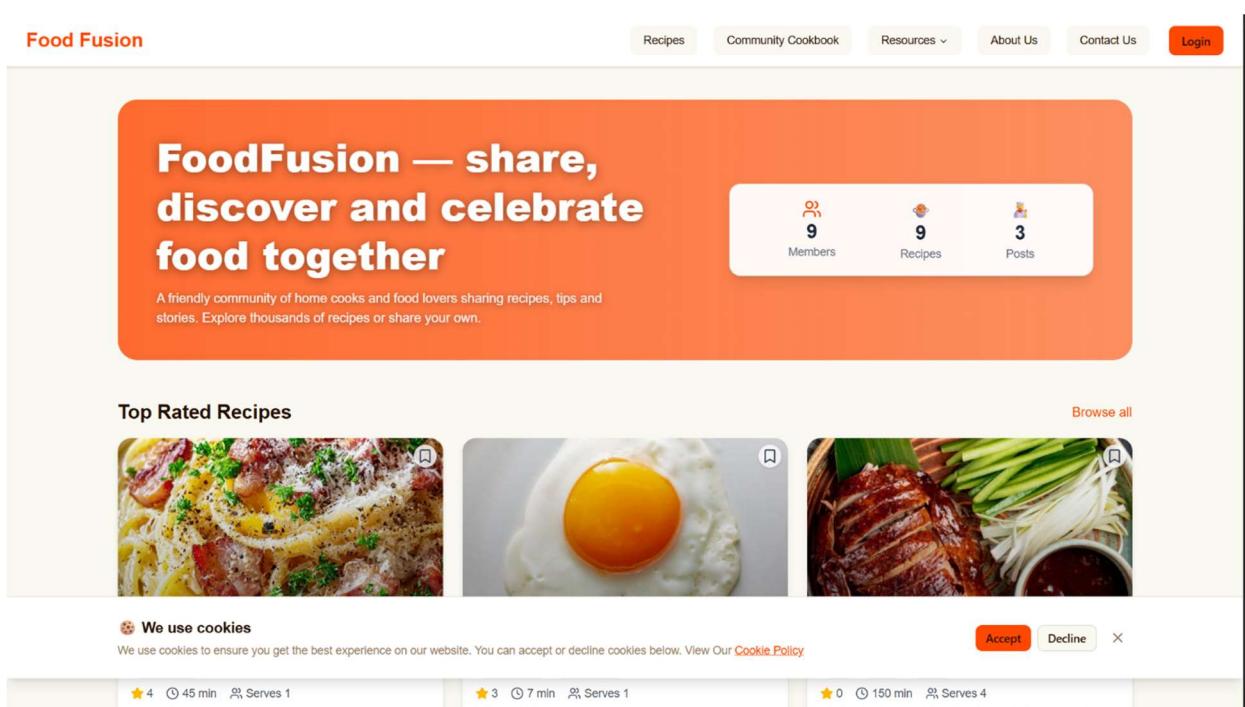


Fig 4.2 Cookie Acceptance Modal Pop Up

The screenshot shows the Food Fusion website with a navigation bar at the top featuring links for Recipes, Community Cookbook, Resources, About Us, Contact Us, and a Login button. The main content area is titled "Cookie Policy". It includes a welcome message, sections on "What Are Cookies?", "How We Use Cookies" (listing Essential, Performance, Functional, and Marketing cookies), "Managing Cookies" (noting browser control), "Contact Us" (with a link to contact us), and a note about controlling cookies through browser settings.

Fig 4.3 Cookie Policy Page

The screenshot shows the Food Fusion website with a navigation bar at the top featuring links for Recipes, Community Cookbook, Resources, About Us, Contact Us, and a Login button. The main content area is titled "Privacy Policy". It includes a welcome message, sections on "Information We Collect" (listing account information, content submitted, and usage data), "How We Use Your Information" (listing service improvement, personalization, and communication), "Cookies" (noting cookie use for experience enhancement), and "Data Protection" (mentioning security measures). A note at the bottom states: "We implement appropriate security measures to protect your data. However, no method of transmission over the Internet or electronic communication is 100% secure."

Fig 4.4 Privacy Policy Page

The screenshot shows the Food Fusion application interface with developer tools open. The cookies table in the Application tab of the developer tools shows the following data:

Name	Value	Domain	Path	Expires ...	Size	HttpOnly	Secure	SameSite	Partitio...	Cross S...	Priority
_stripe_mid	36e5b619-4e37-4a69-b0ca-d060d46555cd8e0e55	localhost	/	2026-0...	54		Strict				Medium
cookiesAccepted	true	localhost	/	2026-1...	19		Lax				Medium
g_state	(*!l*:0)	localhost	/	2025-1...	16		✓	None			Medium
PHPSESSID	Seh67q7t3ijbp4p3s9pmsa5of	localhost	/	Session	35						Medium

The 'cookiesAccepted' cookie has a value of 'true', indicating the user accepted the cookie.

Fig 4.5 Cookie Acceptance is Saved as true When User Clicked Accept

The screenshot shows the Food Fusion application interface with developer tools open. The cookies table in the Application tab of the developer tools shows the following data:

Name	Value	Domain	Path	Expires ...	Size	HttpOnly	Secure	SameSite	Partitio...	Cross S...	Priority
_stripe_mid	36e5b619-4e37-4a69-b0ca-d060d46555cd8e0e55	localhost	/	2026-0...	54		Strict				Medium
cookiesAccepted	false	localhost	/	2026-1...	20		Lax				Medium
g_state	(*!l*:0)	localhost	/	2025-1...	16		✓	None			Medium
PHPSESSID	Seh67q7t3ijbp4p3s9pmsa5of	localhost	/	Session	35						Medium

The 'cookiesAccepted' cookie has a value of 'false', indicating the user declined or closed the modal.

Fig 4.5 Cookie Acceptance is Saved as false When User Clicked Decline or Close the Modal

```
6 const COOKIE_NAME = "cookiesAccepted";
7 const COOKIE_MAX_AGE = 60 * 60 * 24 * 365; // 1 year |
8
9 // Utility to get cookie value
10 function getCookie(name: string) {
11   const matches = document.cookie.match(
12     new RegExp(
13       `(?:^| )${name.replace(/([.$?*{}()[]\\\/\^\+])/g, "\$1")}(=[^;]*)`
14     )
15   );
16   return matches ? decodeURIComponent(matches[1]) : undefined;
17 }
18
19 // Utility to set cookie
20 function setCookie(name: string, value: string, maxAgeSeconds: number) {
21   document.cookie = `${name}=${encodeURIComponent(
22     value
23   )}; max-age=${maxAgeSeconds}; path=/; SameSite=Lax`;
24 }
25
26 export default function AcceptCookieModal() {
27   const [showModal, setShowModal] = useState(false);
28   const [animate, setAnimate] = useState(false);
29
30   useEffect(() => {
31     const cookie = getCookie(COOKIE_NAME);
32     if (!cookie) {
33       setShowModal(true);
34       // Small delay to trigger transition
35       setTimeout(() => setAnimate(true), 10);
36     }
37   }, []);
38 }
```

Fig 4.6 Cookie Acceptance Function – 1

```
39 const handleClose = (accepted: boolean) => {
40   // Set the cookie if accepted or declined
41   setCookie(COOKIE_NAME, accepted ? "true" : "false", COOKIE_MAX_AGE);
42
43   // Trigger the sinking animation
44   setAnimate(false);
45
46   // Remove modal after animation completes
47   setTimeout(() => setShowModal(false), 400);
48 };
49
50 if (!showModal) return null;
```

Fig 4.7 Cookie Acceptance Function – 2

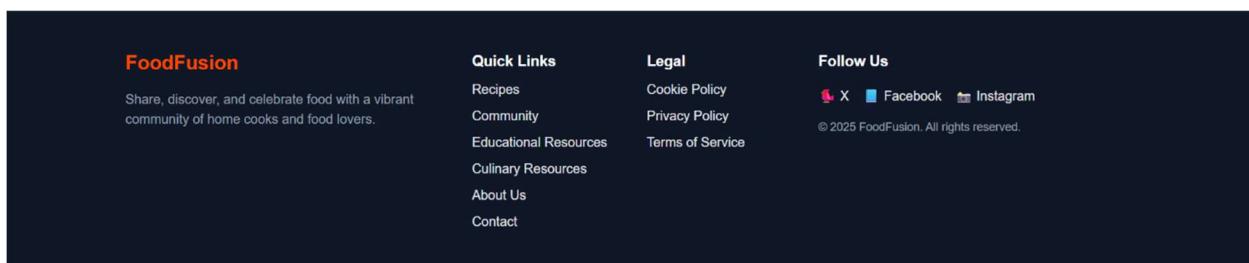


Fig 4.8 Integration with Social Media Link in Footer



Fig 4.9 Integration with Social Media Link when User Click Share Button for Recipe

Task 5 – Reflection

a) Screenshots and Diagrams

i) Screenshots of All Web Pages

The screenshot shows the FoodFusion website homepage. At the top, there's a banner with the text "FoodFusion — share, discover and celebrate food together". Below the banner, there are three statistics: 9 Members, 9 Recipes, and 3 Posts. The main content area is divided into several sections:

- Top Rated Recipes:** Features three recipes: "Classic Carbonara" (Comfort Food, Quick & Easy), "Sunny Side Up (Fried Egg)" (Comfort Food, Quick & Easy), and "Peking Duck" (Hotel, Gated, Feature).
- Join the FoodFusion community:** A section encouraging users to share their favorite recipes and join discussions.
- Most Saved Recipes:** Shows three more recipes: "Sunny Side Up (Fried Egg)", "Chicken Katsu (Fried Chicken)", and "Peking Duck".
- Trending Recipes:** Displays the same three trending recipes as the "Most Saved" section.
- Community highlights:** A section featuring user-generated content like "Cooking Tip", "Experience my cooking jour...", and "How to make Pasta tastier?".

At the bottom of the page, there's a footer with links to "FoodFusion" (described as a vibrant community of home cooks and food lovers), "Quick Links" (Recipes, Community, Educational Resources, Culinary Resources, About Us, Contact), "Legal" (Cookie Policy, Privacy Policy, Terms of Service), and "Follow Us" (links to X, Facebook, and Instagram). The footer also includes a copyright notice: "© 2025 FoodFusion. All rights reserved."

Fig 5a.1 Index Page (Home Page)

Food Fusion

[Recipes](#)[Community Cookbook](#)[Resources](#) ▾[About Us](#)[Contact Us](#)[Login](#)

What to Cook?

Search recipes...

Cuisine

Tag

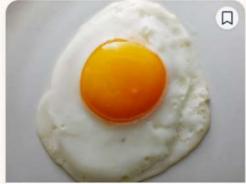
Difficulty

View All

Share Your Recipe

[Peking Duck](#)[Halal](#) [Grilled](#) [Festive](#)[★ 0](#) [🕒 150 min](#) [🍴 Serves 4](#)
Peking Duck is a traditional Chinese dish known for its crispy skin, tender meat, a... [Nay Chi \(Your Noona\)](#)
Oct 9 2025[Stir-Fried Garlic Bok Choy...](#)[Vegetarian](#) [Vegan](#) [Fried](#) [+2 more](#)[★ 0](#) [🕒 15 min](#) [🍴 Serves 2](#)
A quick and healthy Chinese stir-fry featuring tender bok choy, crispy tofu, a... [Nay Chi \(Your Noona\)](#)
Oct 9 2025[Beef Wellington](#)[★ 0](#) [🕒 70 min](#) [🍴 Serves 3](#)

A show-stopping centerpiece dish featuring a tender beef fillet encased in ...

 [Gorden](#)
Oct 9 2025[Chocolate Avocado Mousse](#)[Vegan](#)[★ 0](#) [🕒 40 min](#) [🍴 Serves 3](#)
A rich and creamy chocolate dessert made entirely from plant-based... [Gorden](#)
Oct 9 2025[Chicken Miso Ramen](#)[Halal](#)[★ 0](#) [🕒 35 min](#) [🍴 Serves 2](#)
A warm and savory Japanese noodle soup featuring tender chicken, umami-ri... [Will](#)
Oct 9 2025[Pizza](#)[Baked](#) [Snack](#) [Vegan](#)[★ 0](#) [🕒 45 min](#) [🍴 Serves 3](#)
You can make pizza. [Will](#)
Sep 23 2025[Sunny Side Up \(Fried Egg\)](#)[Comfort Food](#) [Quick & Easy](#)[★ 3](#) [🕒 7 min](#) [🍴 Serves 1](#)
This egg is the best. [Nay Chi \(Your Noona\)](#)
Sep 21 2025[Chicken Katsu \(Fried Chicken\)](#)[Lunch](#) [Dinner](#) [Snack](#) [+1 more](#)[★ 0](#) [🕒 45 min](#) [🍴 Serves 2](#)
This is the easiest friend chicken version. [Will](#)
Sep 20 2025< Previous 1 2 Next >**FoodFusion**

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Fig 5a.2 Recipes Collection Page

The screenshot shows the Food Fusion website's community cookbook section. At the top, there is a navigation bar with links for Recipes, Community Cookbook, Resources, About Us, Contact Us, and Login. The main title "Community Cookbook" is centered on a large orange header. Below the header is a search bar labeled "Search posts..." and a button "+ Add Post". A navigation menu below the search bar includes "All", "Tips", "Experiences", and "Questions". Three posts are displayed: 1) A "Cooking Tip" by user "Will" from Oct 4 2025, which has 2 comments and 2 likes. 2) An "Experience" titled "Experience of my cooking jour..." by user "Will" from Oct 4 2025, which has 1 comment and 1 like. 3) A "Question" titled "How to make Pasta tastier?" by user "Will" from Oct 8 2025, which has 0 comments and 1 like. The footer contains sections for "FoodFusion", "Quick Links" (Recipes, Community, Educational Resources, Culinary Resources, About Us, Contact), "Legal" (Cookie Policy, Privacy Policy, Terms of Service), and "Follow Us" (links to X, Facebook, Instagram). It also includes a copyright notice: "© 2025 FoodFusion. All rights reserved."

Fig 5a.3 Community Cookbook Page

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Educational Resources



Gas Stove Safety: Essential Do's and Don'ts

Gas stoves require careful handling to ensure safety in the kitchen. This guide outlines essential practices such as proper ventilation, regular maintenance, and safe usage tips to prevent accidents and enhance cooking efficiency.

[Download](#)



Electrical Safety in the Kitchen

Kitchen environments pose unique electrical hazards. This resource offers safety precautions to avoid electrical shocks and fires, including guidelines on appliance usage, outlet safety, and emergency preparedness.

[Download](#)



Sustainable Kitchen Practices: Reducing Waste

Adopting sustainable practices in the kitchen can significantly reduce environmental impact. This guide provides tips on minimizing food waste, choosing eco-friendly products, and implementing energy-efficient cooking methods.

[Download](#)



Reusable Kitchen Products: Benefits and Alternatives

Transitioning to reusable kitchen products helps reduce single-use plastic waste. This resource discusses the environmental and economic benefits of using items like cloth napkins, reusable containers, and eco-friendly cleaning tools.

[Download](#)



The Role of pH and Acidity in Cooking

Acidity affects color, texture, and flavor. Learn why adding lemon juice can brighten vegetables, why pickling preserves food, and how controlling pH can transform sauces, marinades, and dough.

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Fig 5a.4 Educational Resources Page

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Culinary Resources



Classic French Omelette

Making a French omelette is about precision, patience, and a touch of finesse. Unlike the fluffy American diner omelette, the French version is soft, tender, and slightly custardy inside — almost melting in your mouth. Here's how to master it like a chef...

[Download ↴](#)



Sourdough Bread Basics

Sourdough baking is more than just making bread — it's a blend of science, patience, and intuition. Unlike ordinary bakes that rely on commercial yeast, sourdough uses a living culture of wild yeast and lactic acid bacteria to naturally ferment the dough, creating bread that's deeply flavorful, aromatic, and easier to digest. Let's start making...

[Download ↴](#)



Perfect Pasta Guide

The perfect, step-by-step fresh pasta recipe and video will teach you how to make six silky smooth pasta in about 1 hour (well, within 1 hour).

Fresh pasta is one of life's greatest pleasures. Use this versatile dough to make fettuccini, homemade lasagna noodles, carbonara, pappardelle pasta and more.

[Download ↴](#)



How to Season a Carbon Steel Wok

Embarking on your wok journey? Proper seasoning is crucial to develop a natural nonstick surface and enhance the wok's longevity. Begin by thoroughly cleaning the wok to remove any factory oils, then apply a thin layer of oil and heat it until it smokes. This process polymerizes the oil, creating a protective layer. Regular use and maintenance will deepen the seasoning...

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Practicing Your Knife Skills Safely

Mastering knife skills is fundamental to efficient and safe cooking. Start by familiarizing yourself with the different types of knives and their specific uses. Practice fundamental cuts like julienne, dice, and chiffonade on vegetables to build confidence and precision. Always use a stable cutting surface, keep your fingers tucked, and ensure your knives are sharp. Regular practice will...

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Prepping Meals the Smart Way

Effective meal prep is the cornerstone of a streamlined kitchen routine. Begin by portioning out ingredients for individual meals or meals that can be combined to create multiple dishes. Batch cook staples like grains, proteins, and vegetables, then store them in airtight containers. This approach reduces daily cooking time, minimizes food waste, and ensures you have healthy...

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Building Flavor From Scratch

Developing depth in your dishes starts with building layers of flavor. Begin by roasting aromatics such as onions, garlic, and ginger to release their natural oils and enhance their flavor. Incorporate herbs, spices, and acids at various stages of cooking to create a balanced profile. Taste as you go, adjusting seasoning to achieve harmony. This method transforms simple ingredients...

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Storing Fresh Ingredients Properly

Proper storage is essential to maintain the freshness and nutritional value of your ingredients. Store perishable items like leafy greens and herbs in breathable containers or wrap them in damp paper towels to prolong shelf life. Keep fruits and vegetables separate, as some emit ethylene gas that can accelerate ripening. Regularly check your pantry and refrigerator for expiration dates.

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Fig 5a.5 Culinary Resources Page

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Welcome to FoodFusion
Connecting culinary enthusiasts worldwide to share, explore, and celebrate food.

[Explore Recipes](#)

Our Vision & Mission

At FoodFusion, we aim to inspire creativity in the kitchen and build a passionate, inclusive food community. Our mission is to make cooking fun, accessible, and sustainable for everyone.

Our Vision
To create a global network of culinary enthusiasts sharing knowledge, recipes, and inspiration. We strive to:

- Encourage creativity and experimentation in cooking.
- Connect food lovers across cultures and backgrounds.
- Promote sustainable and healthy eating habits.
- Provide a platform for sharing tips, experiences, and recipes.

Our Mission
Empowering people to cook creatively, eat sustainably, and enjoy a vibrant culinary lifestyle. Our focus includes:

- Providing easy-to-follow and diverse recipes for all skill levels.
- Sharing sustainable cooking practices to reduce waste.
- Fostering a supportive and inclusive food community.
- Encouraging home cooks to explore global cuisines.

Our Core Values

Community
Fostering a supportive space for food enthusiasts.

Sustainability
Promoting eco-friendly and sustainable cooking practices.

Passion
Celebrating creativity and love for cooking in every recipe.

Meet the Team

Alice
Founder & Culinary Enthusiast
Alice started FoodFusion to connect passionate home cooks around the world and inspire creativity in the kitchen.

Bob
Recipe Curator
Bob ensures every recipe is accurate, delicious, and easy to follow for our community members.

Charlie
Community Manager
Charlie keeps our food-loving community engaged and helps members share tips, experiences, and questions.

Dana
Content Creator
Dana creates inspiring content, from blog posts to videos, making cooking fun and accessible for everyone.

Share Your Culinary Journey
Join our community and share your recipes, tips, and experiences with passionate food lovers worldwide.

[Share Your Recipe](#)

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Fig 5a.6 About Us Page

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Contact Form

Fill out the form below, and we'll get back to you within 1–3 business days.

Contact Information

[Email](#)support@foodfusion.com[Phone](#)[+1 \(800\) 555-0123](tel:+1(800)555-0123)[Socials](#)

Frequently Asked Questions

Here are some quick answers to questions we often receive. Don't see what you're looking for? Send us a message and we'll be happy to help.

[How long does it take to get a response?](#)[Can I collaborate or partner with FoodFusion?](#)[How can I submit my recipe?](#)[Is FoodFusion free to use?](#)**FoodFusion**

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Fig 5a.7 Contact Us Page

Cookie Policy

Welcome to FoodFusion! This Cookie Policy explains how we use cookies and similar technologies when you visit our website. By using our site, you agree to the use of cookies as described in this policy.

What Are Cookies?

Cookies are small text files that are stored on your device when you visit a website. They help websites remember information about your visit, which can make your experience better and more personalized.

How We Use Cookies

- Essential cookies:** Required for the website to function properly (e.g., login sessions, security).
- Performance cookies:** Help us understand how visitors use the site to improve functionality and speed.
- Functional cookies:** Remember your preferences and provide a better user experience (e.g., language selection).
- Marketing cookies:** Help us deliver relevant content and offers.

Managing Cookies

You can control cookies through your browser settings. You can choose to block or delete cookies, but please note that some parts of the website may not function properly if cookies are disabled.

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Fig 5a.8 Cookie Policy Page

Privacy Policy

At FoodFusion, your privacy is important to us. This Privacy Policy explains how we collect, use, and protect your information when you use our website.

Information We Collect

- Account information like name, email, and password.
- Content you submit, such as recipes and posts.
- Usage data including cookies and browsing activity.

How We Use Your Information

- To provide and improve our services.
- To personalize your experience on FoodFusion.
- To communicate updates, promotions, and important notices.

Cookies

We use cookies to enhance your experience, analyze site usage, and provide personalized content. You can choose to disable cookies in your browser settings.

Data Protection

We implement appropriate security measures to protect your data. However, no method of transmission over the internet is completely secure.

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If you have questions about this Privacy Policy, you can contact us at support@foodfusion.com.

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Fig 5a.9 Privacy Policy Page

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Will
will@gmail.com
What's Up Homie! I'm Will. OG Will !
4.3 ★★★★☆
Total Recipes: 4

[Edit Profile](#) [Logout](#)

Recipe Cards

[+ Post New Recipe](#) [Your Recipes](#) [Saved Recipes](#)



Chicken Miso Ramen
Halal
★ 0 ⏳ 35 min 🍲 Serves 2
A warm and savory Japanese noodle soup featuring tender chicken, umami-rich miso broth, and chewy ramen noodles topped with a soft...
Will Sep 9 2025



Pizza
Baked Snack Vegan
★ 0 ⏳ 45 min 🍲 Serves 3
You can make pizza.
Will Sep 23 2025



Chicken Katsu (Fried Chicken)
Lunch Dinner Snack +1 more
★ 0 ⏳ 45 min 🍲 Serves 2
This is the easiest friend chicken version.
Will Sep 20 2025



Classic Carbonara
Comfort Food
★ 4 ⏳ 45 min 🍲 Serves 1
Creamy Pasta for your taste.
Will Sep 20 2025

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Fig 5a.10 Profile Page

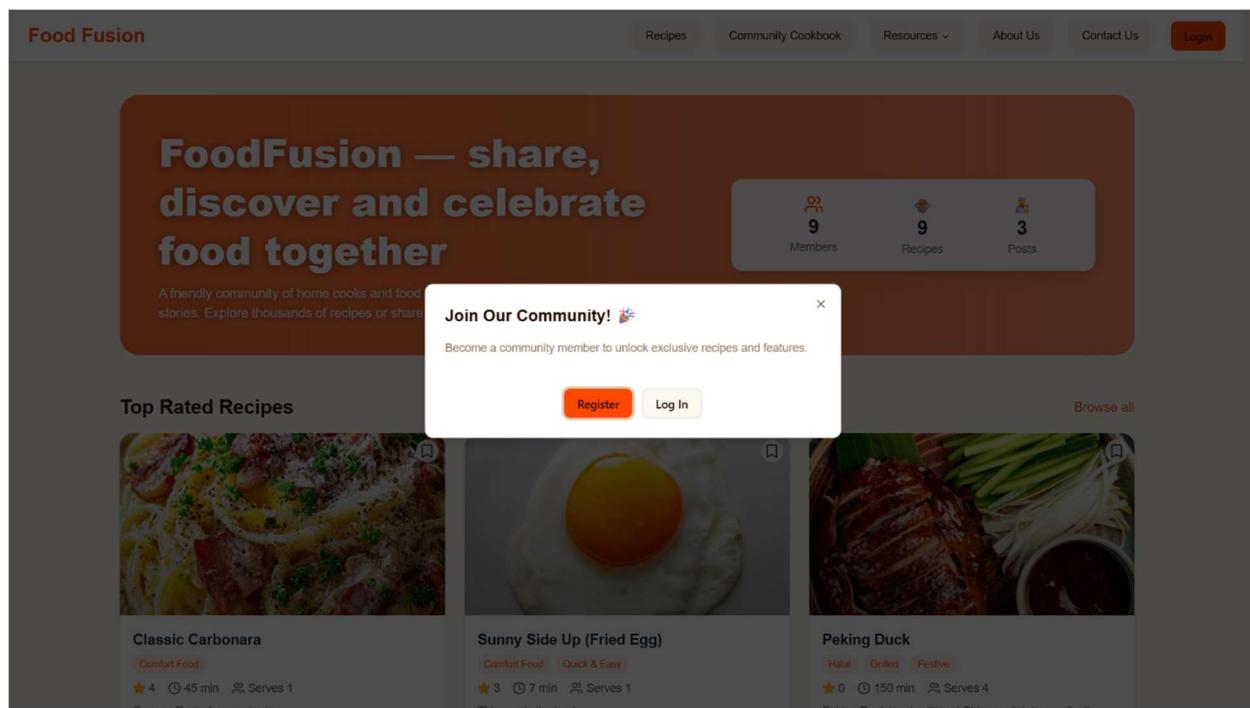


Fig 5a.11 Community Welcome Modal Pop Up

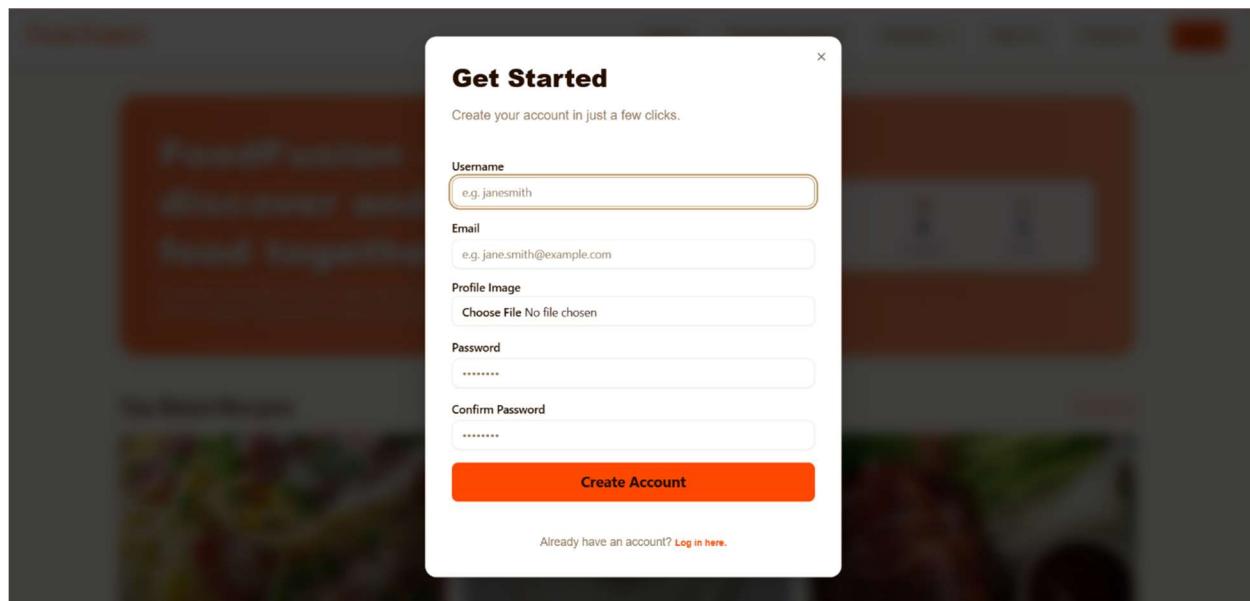


Fig 5a.12 Register Modal

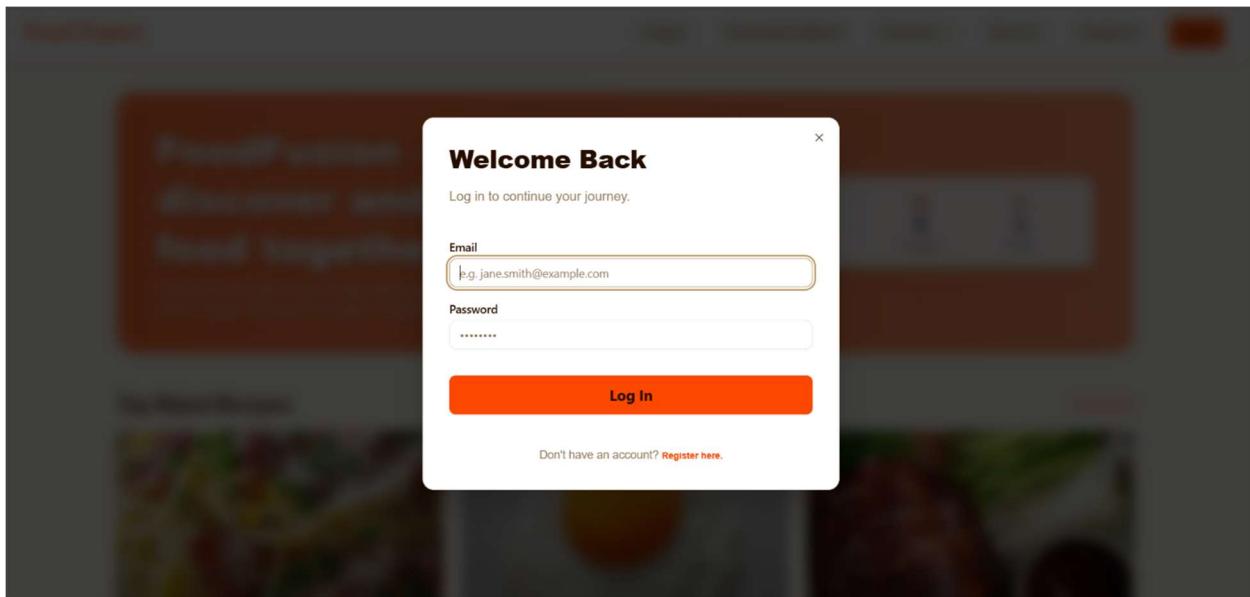


Fig 5a.13 Login Modal

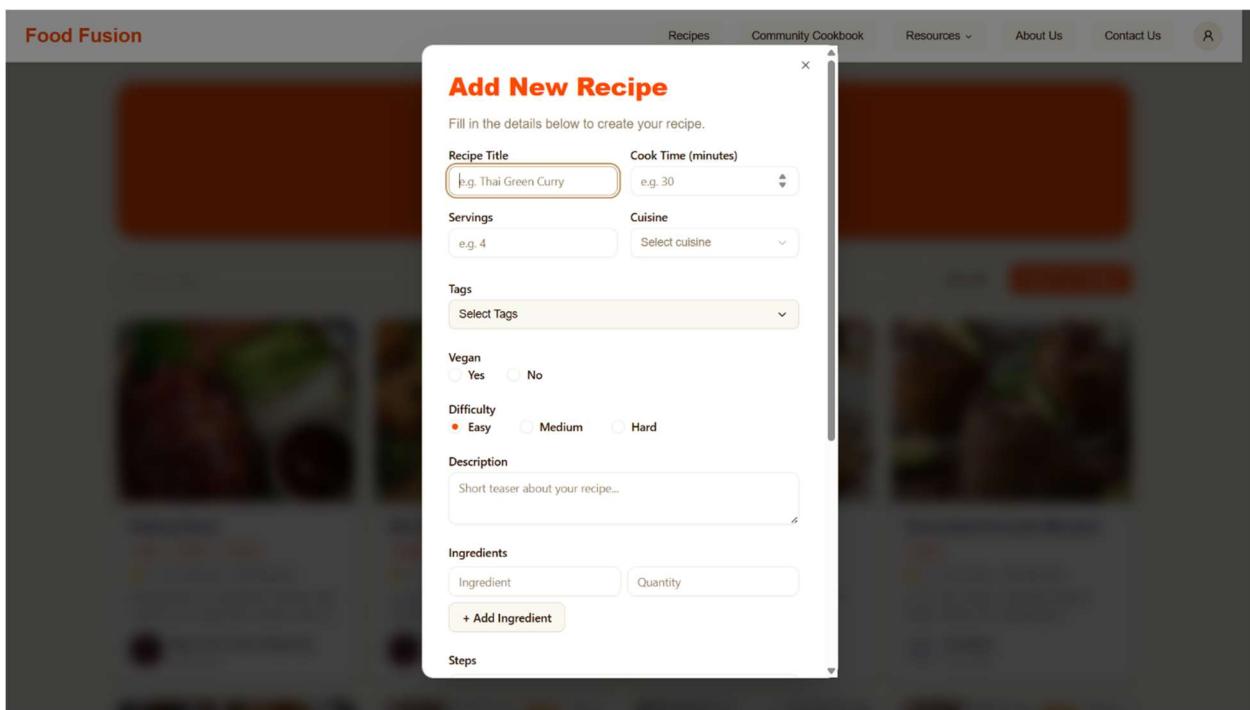


Fig 5a.14 Add Recipe Modal – 1

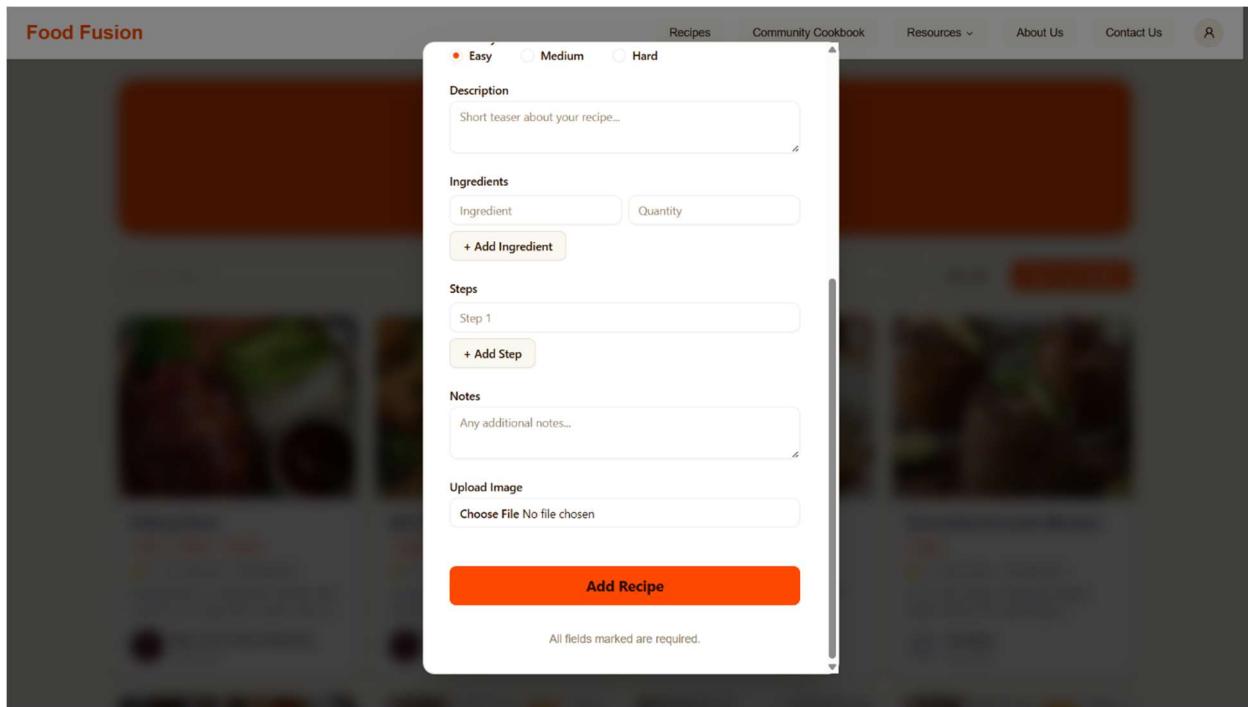


Fig 5a.15 Add Recipe Modal – 2

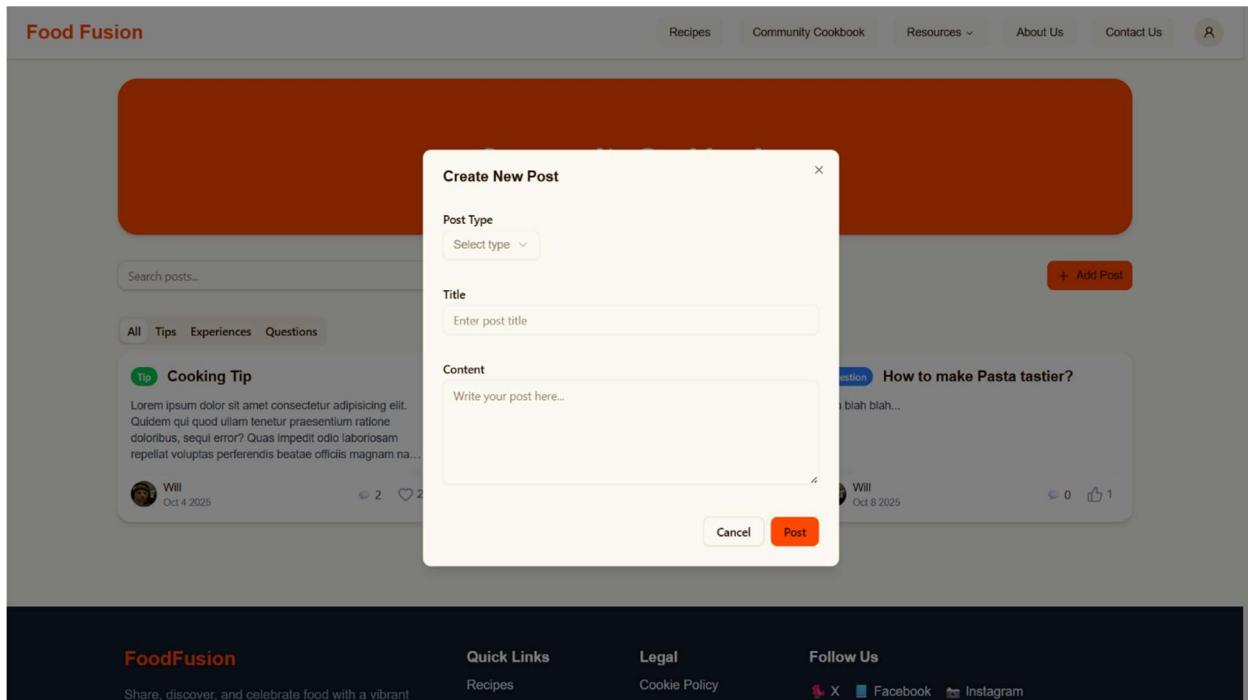


Fig 5a.16 Add Community Post Modal

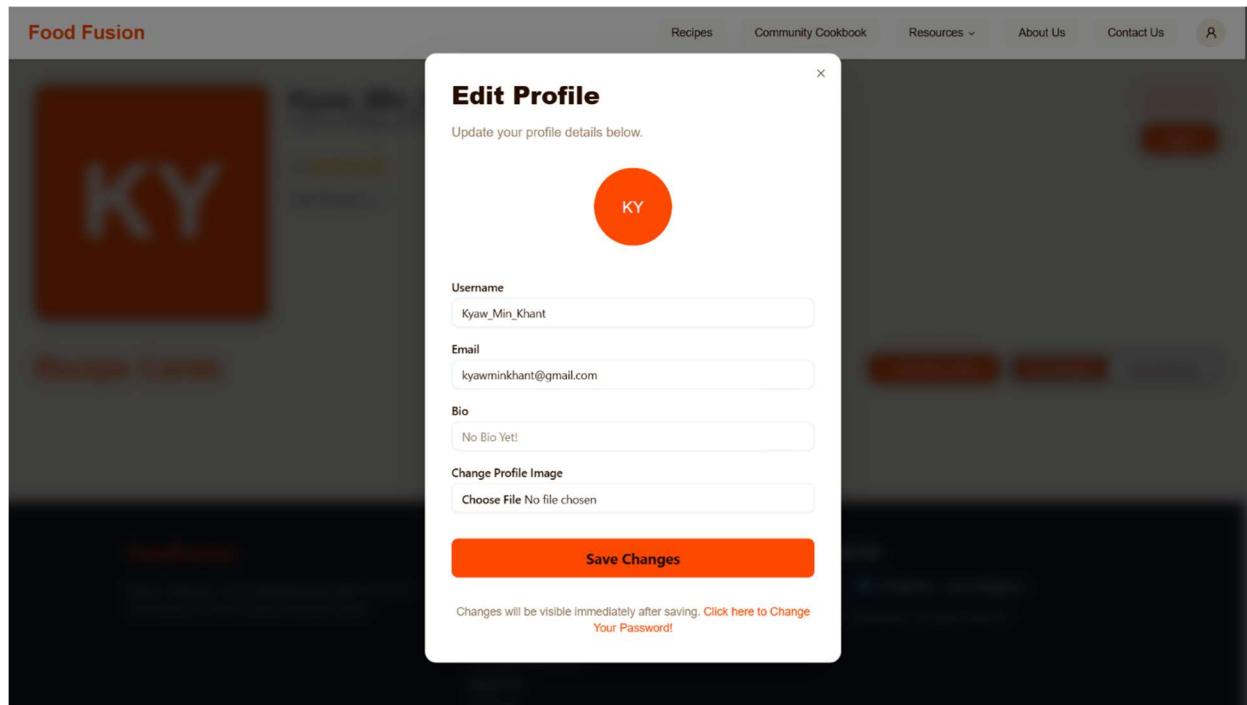


Fig 5a.17 Edit Profile Modal

A screenshot of the Food Fusion user profile page for "Kyaw_Min_Khant". The profile card shows a large orange "KY" profile picture, the name "Kyaw_Min_Khant", the email "kyawminkhant@gmail.com", a 4.3-star rating, and "Total Recipes: 0". To the right of the profile card are "Edit Profile" and "Logout" buttons. Below the profile card, there is a "Change Password" modal window. The modal has three input fields: "Old Password" (placeholder: Enter your old password), "New Password" (placeholder: Enter your new password), and "Confirm Password" (placeholder: Confirm your new password). At the bottom of the modal is an orange "Save Changes" button. The main page below the modal includes sections for "FoodFusion", "Quick Links" (Recipes, Community, Educational Resources, Culinary Resources, About Us, Contact), "Legal" (Cookie Policy, Privacy Policy, Terms of Service), and "Follow Us" (links to X, Facebook, Instagram). A copyright notice at the bottom states "© 2025 FoodFusion. All rights reserved."

Fig 5a.18 Change Password Modal

ii) Entity Relation Diagram

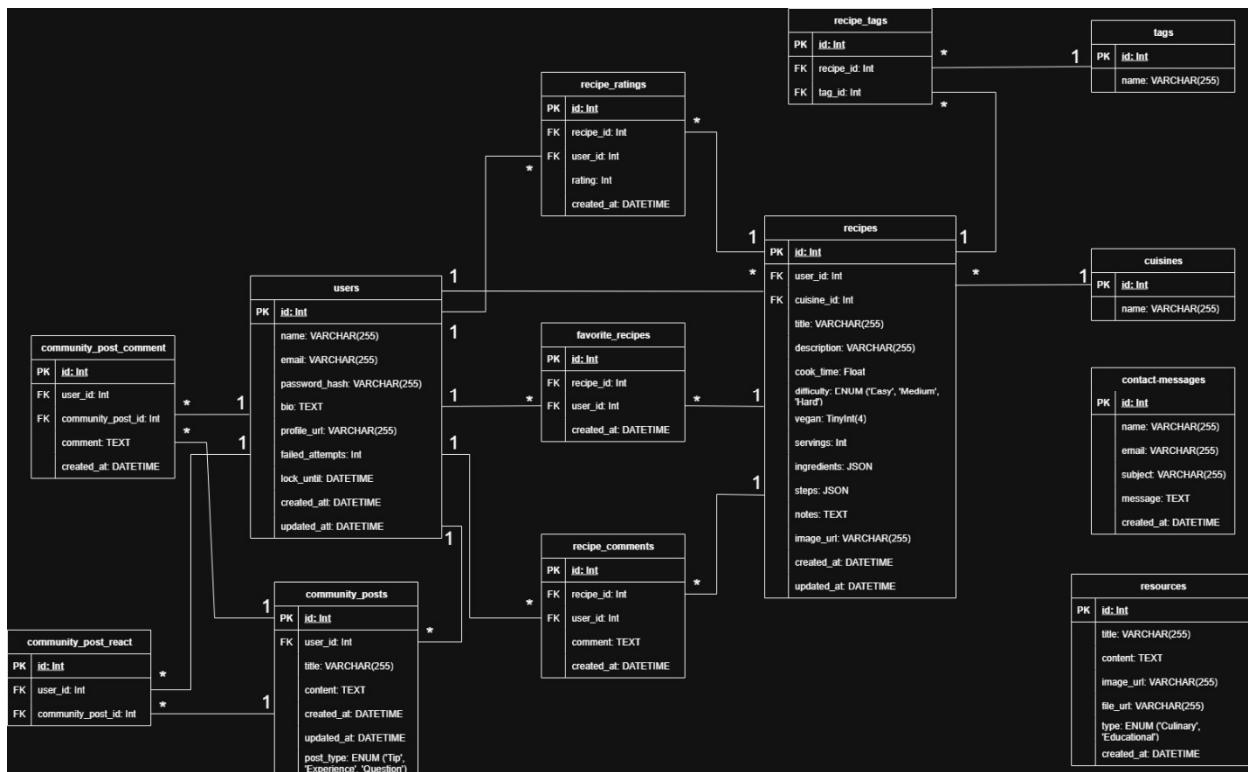


Fig 5a.19 Entity Relation Diagram

b) Security Controls

i)

Password Protection

The password control of the project is secure in the password management as it uses password functions of the PHP passwords by applying the use of password hash and password verify. Rather, the database does not save plaintext passwords but hashes them cryptologically and they can never be read in case of database confusion. The checking is also carried on the process of the login to ensure that only the legitimate users who go through the identity authentications are verified.

Input Sanitization and Data validation.

The input validation (server-side and client-side) is deployed all over the application. Any data that is processed or stored undergo sanitization and validation prior to processing or storage which minimizes a large risk of SQL injection, cross-site scripting (XSS) and other injection-related attacks. This will be so to make sure that only good and healthy data is consumed by the system.

Session Control and Management.

The authenticated user states are incorporated in the project using the secure session management techniques. All user sessions are identified and safely destroyed on the logout and this reduces the risks of hijacking a session. In addition, it is also configured with access control

policies that will not allow unauthenticated users to perform some of the operations like uploading resources, updating their profiles, and posting information because sensitive processes will not be performed by a person who is not expected to do them.

Learning Outcomes

i)

On my part, I have been fortunate enough to achieve my invaluable learning experience in the process of accomplishing this project that has enabled me to acquire technical and problem-solving skills. The information about the creation of working and safe full-stack web app according to latest technologies such as React as a front-end and PHP as a back-end was newer to me. This helped me in creating the connection between the communication between API, databases and the UI part of a complete system.

Overall, this project provided me with increased technical confidence and readiness to occupy professional jobs in the field of software development. The experience I got in life working on the authentication and designing database and the practices on secure code will be directly helpful to me in my career aspiration of becoming a good and security aware complete stack developer.

d) Version Control and Deployment Practices

i.

The version control may be implemented in the collaboration and code integrity. I have also employed the use of Git as a source control in the process of development where I would commit after every feature was developed to know the progress of the changes. The strategy has enabled me to be in a situation where I am capable of making a turn-around in case of difficulties. My project repository is a personal issue and my publication will be done under the following link: github.com/Jeff307-kib/food-community. Further quality and cooperation preparedness would be provided with the help of more frequent use of version control, not only division of modules in different branches, but also integration of modules by means of pull requests.

ii.

The testing, building and integration processes would be made automatic by continuous integration (CI) so that the project does not go down in case new functionality is being added. The specified system can be achieved with the help of the integration of CI tools, i.e., GitHub Actions or Jenkins with the help of which the unit tests and the linting checks will be introduced every time that the new code is being pushed. This would assist in elimination of bugs at the initial stage as the production itself including the broken codes would not be passed to the production phase. In general, it will make the working process more professional to make sure that the quality of codes will not be worsened and threats of deployment will be reduced.

iii.

The project can have an AWS or Vercel or Render cloud solution that would increase the level of scalability, reliability, and performance significantly. The cloud environments will be self-managed i.e. the application will be facilitated to be scaled without any complex usage with the user traffic. The project will be in a position to automatically publish the tested versions with the inclusion the CI/CD pipelines to ensure the assurance that the end-users are on the most stable and recent version that does not necessitate high volumes of human interactions.

e) Challenges and Solution

i.

The main challenge during this project was to use a secure authentication and at the same time have an easy experience. This meant that such functions as the monitoring of the attempts to log in and the temporary lock-out of the accounts would have to be well coordinated, so as not to discourage the brute attacks, but not to anger the genuine users. I solved this by reading the best security options in authentication and application of a lockout system that would lock user accounts during failure attempts and time constraints. The other problem was the situation with links between API and the frontend through Redux Toolkit and keeping the state up-to-date. The asynchronous operations were somewhat hard to debug and I could solve the issue by making the logic more modular and deploying easy to use API responses. Finally, it was not easy to ensure clean UI between the elements, and I was able to do that with the assistance of Tailwind CSS systematically usage and the patterns of the reusable components design.

f) Testing

i.

No	Test Area	Test Case Description	Expected Outcome	Actual Outcome
1.	User Registration	Testing Register Form	<p>When user does not fill anything in the form, the system checks the input in order starting from the name input.</p> <p>Error messages should be shown for empty input or invalid format.</p>	<p>Error Messages shown correctly.</p> <p>Fig 5f.1</p> <p>Fig 5f.2</p> <p>Fig 5f.3</p> <p>Fig 5f.4</p> <p>Fig 5f.5</p>
			<p>When user correctly entered all information. The Register should success and the log</p>	<p>Register succeeded, login button disappeared and user icon appears.</p> <p>Fig 5f.6</p>

			in button in Header should be replaced with User Icon.	
--	--	--	--	--

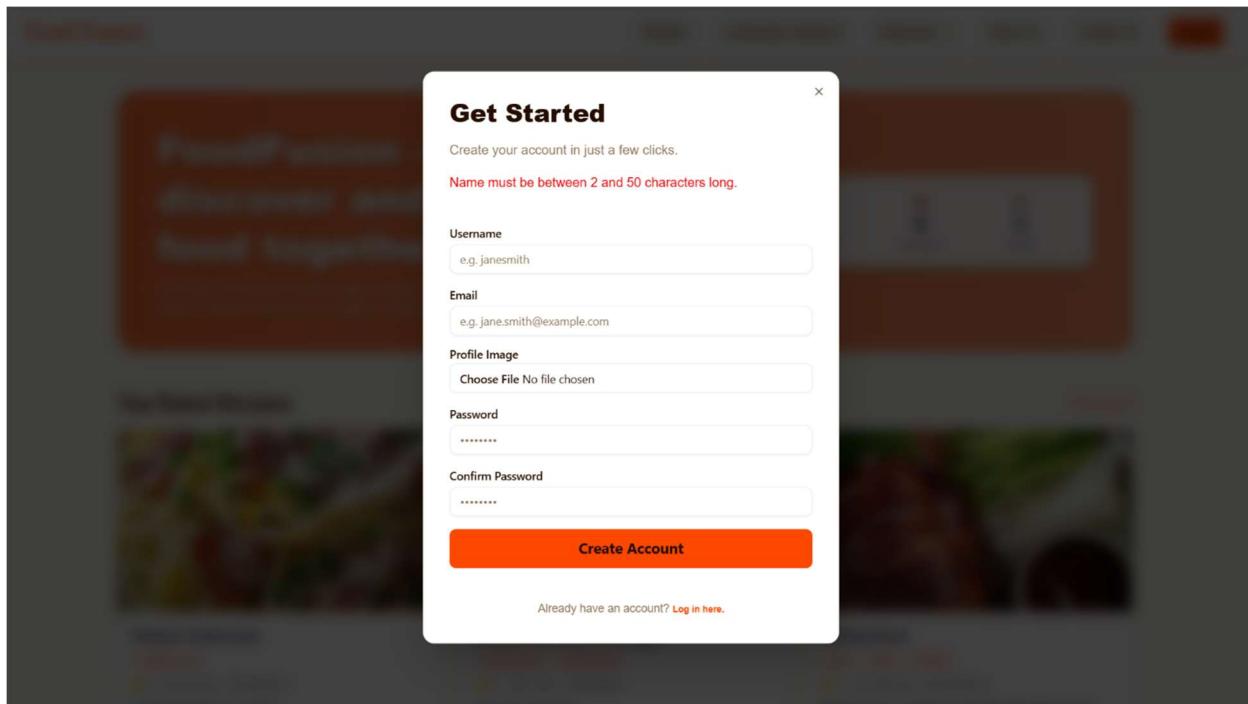


Fig 5f.1 Submitting the Form without Entering any Field

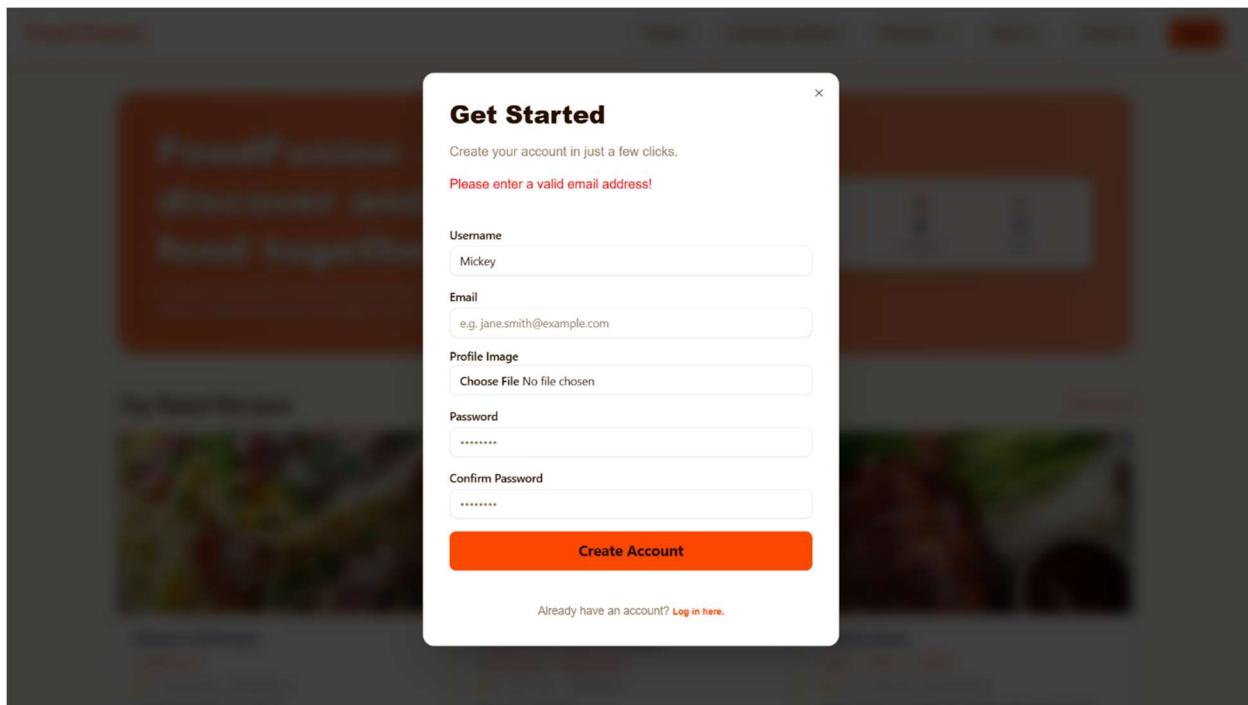


Fig 5f.2 Submitting the Form without Entering email Field

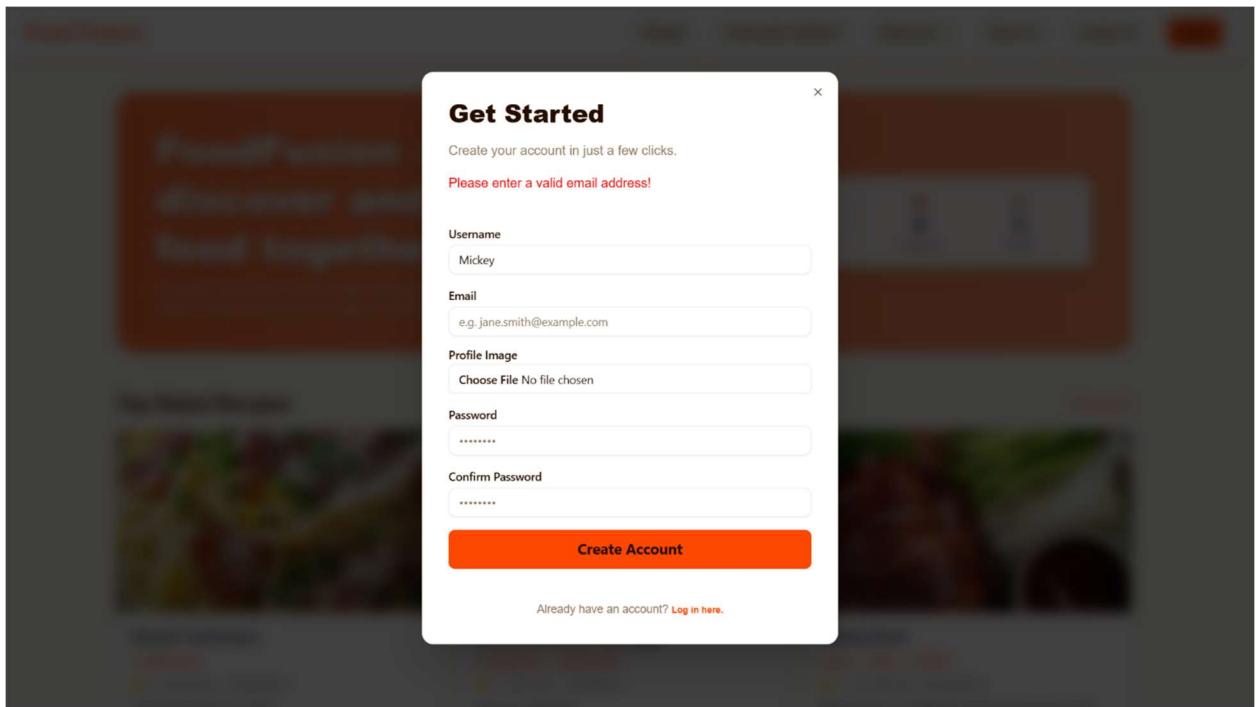


Fig 5f.3 Submitting the Form without Entering Email Field

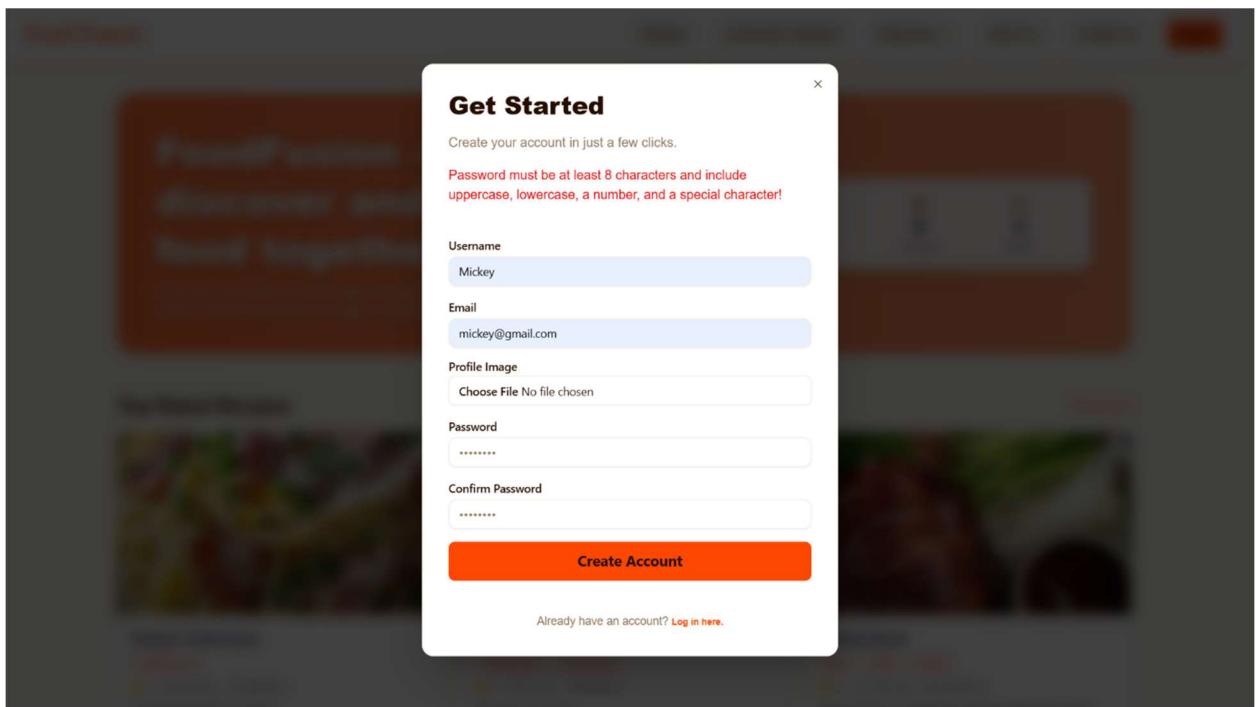


Fig 5f.4 Submitting the Form without Entering Password Field

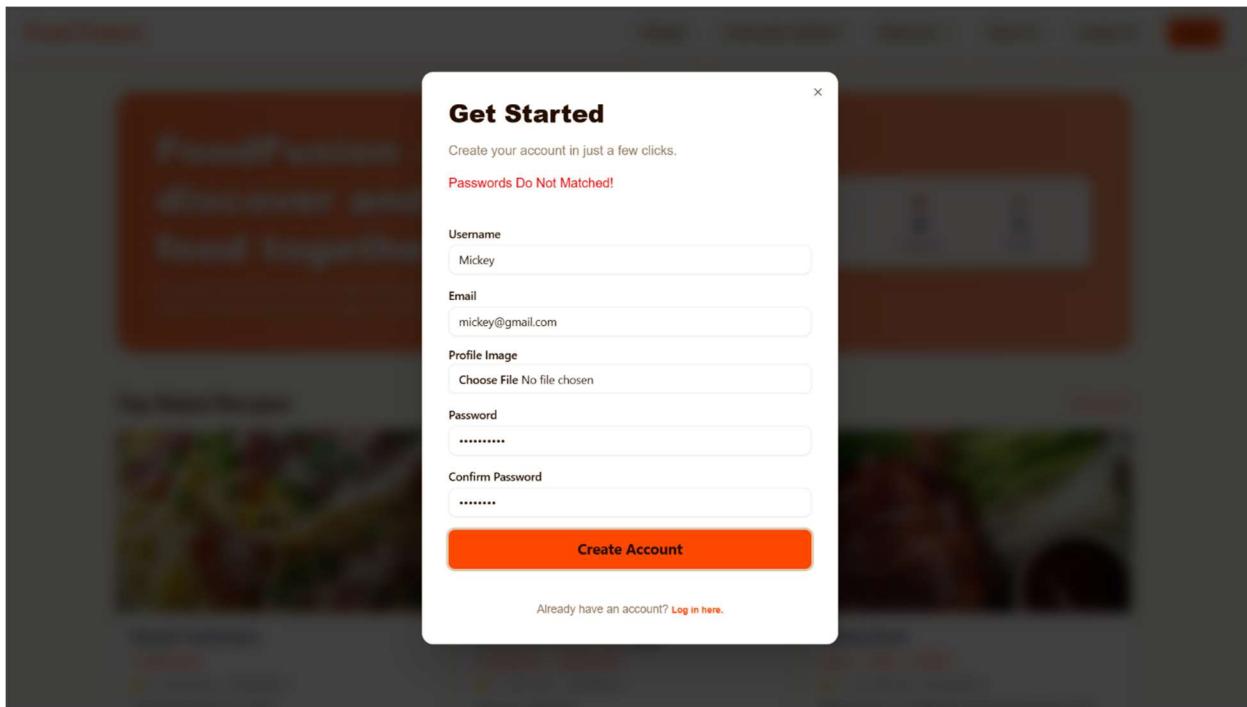


Fig 5f.5 Submitting the Form with Unmatched Passwords

Fig 5f.6 After Successfully Registered, User Icon Appeared in Header

No	Test Area	Test Case Description	Expected Outcome	Actual Outcome
1.	User Log in	Testing Login Form	Error messages should be shown for empty input. And system would also show error message for invalid email or password which is for unregistered	Error Messages shown correctly. Fig 5f.7 Fig 5f.8 Fig 5f.9

			account or incorrect password.	
			When user correctly entered all information. The Login should success and the log in button in Header should be replaced with User Icon.	Login succeeded, login button disappeared and user icon appears. Fig 5f.10

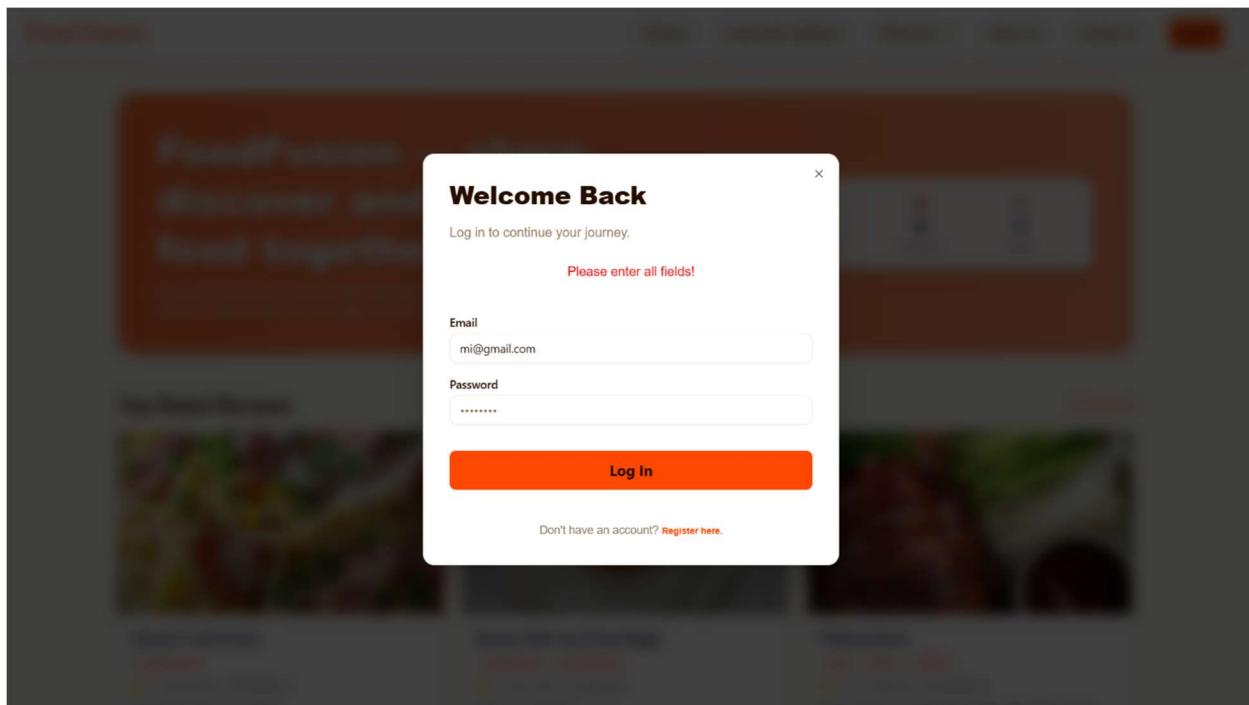


Fig 5f.7 Submitting the Form without Entering Any Field

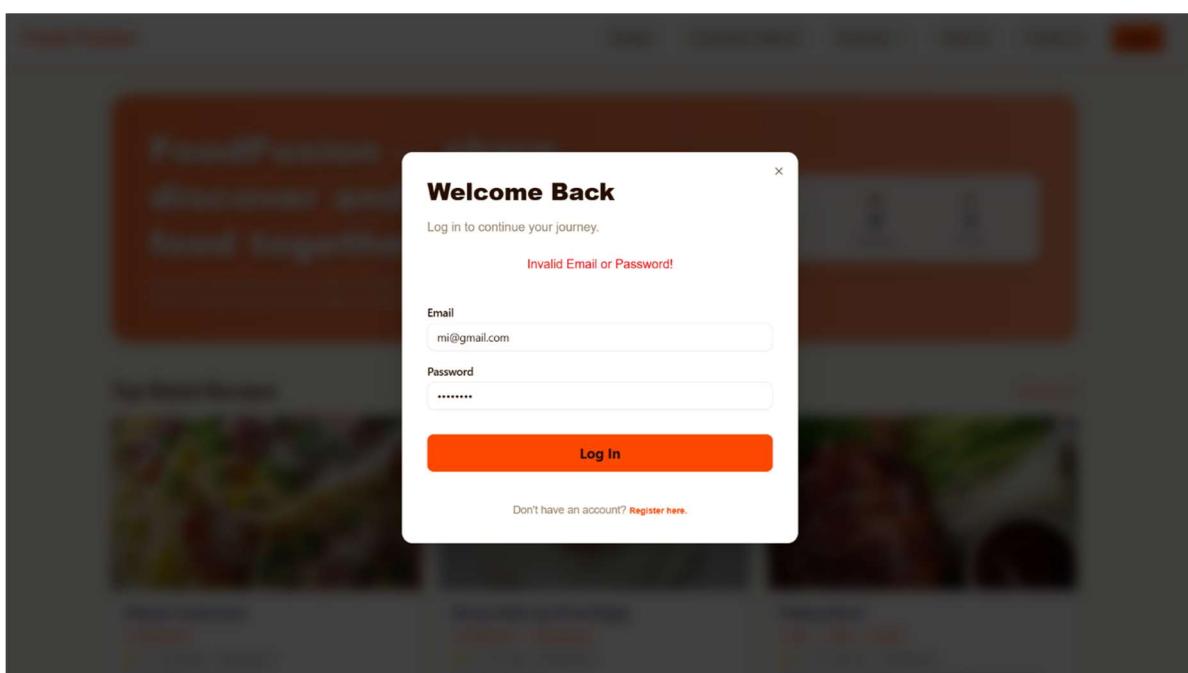


Fig 5f.8 Submitting the Form with Unregistered Email

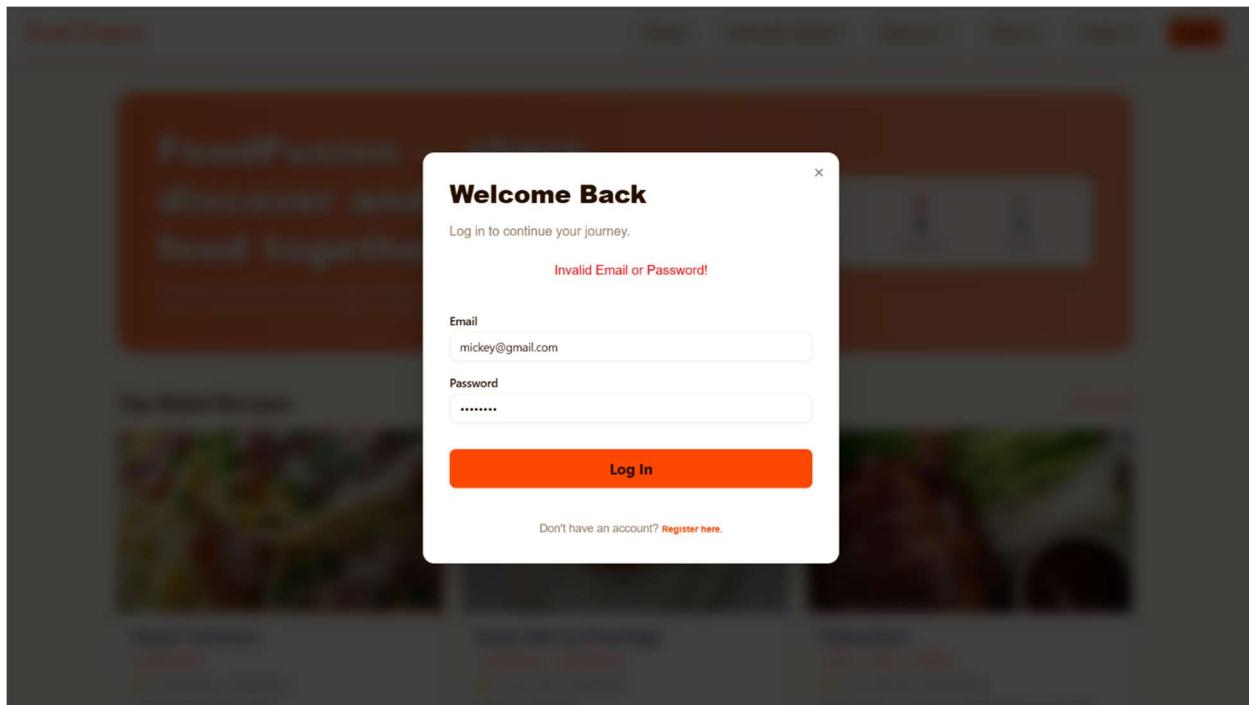


Fig 5f.9 Submitting the Form with Incorrect Password

Fig 5f.10 Log in Succeeded and User Icon appeared in the Header

No	Test Area	Test Case Description	Expected Outcome	Actual Outcome
2.	Home Page	Testing Header Responsive	The Header Should be in a collapsible box in Tablet and Phone Screen Size.	Error Messages shown correctly. Fig 5f.11 Fig 5f.12 Fig 5f.13 Fig 5f.14

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Fig 5f.11 Header Collapsible Icon in Phone Screen Size

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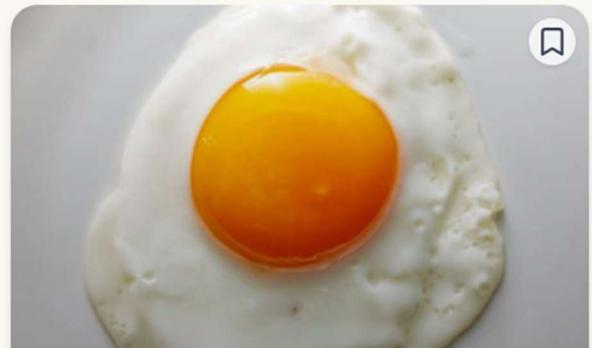
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Fig 5f.12 Header Collapsible Icon in Tablet Screen Size

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localhost:5173 Related Recipes

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Fig 5f.14 Header Collapsible Box in Tablet Screen Size

No	Test Area	Test Case Description	Expected Outcome	Actual Outcome
3.	Core Features	Testing if Recipes can be categorized and displayed with filter and search.	Related Recipes Should be shown when filter and search.	Error Messages shown correctly. Fig 5f.15 Fig 5f.16 Fig 5f.17 Fig 5f.18 Fig 5f.19 Fig 5f.20

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Search recipes... Cuisine Tag Difficulty View All Share Your Recipe

The screenshot shows a grid of eight recipe cards. Top row: Peking Duck (Halal, Grilled, Festive), Stir-Fried Garlic Bok Choy (Vegetarian, Vegan, Fried), Beef Wellington (Gordon), Chocolate Avocado Mousse (Vegan). Bottom row: Nasi Goreng (Halal, Grilled, Festive), Fried Chicken (Vegetarian, Vegan, Fried), Fried Egg, Fried Chicken (Vegetarian, Vegan, Fried).

Fig 5f.15 All Recipes Shown without Filter

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Search recipes... Chinese Tag Difficulty View All Share Your Recipe

The screenshot shows a grid of two recipe cards. Both are Chinese: Peking Duck (Halal, Grilled, Festive) and Stir-Fried Garlic Bok Choy (Vegetarian, Vegan, Fried).

Fig 5f.16 Recipes that has the Cuisine of “Chinese”

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Search recipes... Cuisine Comfort Food Difficulty View All Share Your Recipe

Sunny Side Up (Fried Egg)
Comfort Food Quick & Easy
★ 3 ① 7 min 🍽 Serves 1
This egg is the best.
Nay Chi (Your Noona) Sep 21 2025

Chicken Katsu (Fried Chicken)
Lunch Dinner Snack +1 more
★ 0 ① 45 min 🍽 Serves 2
This is the easiest friend chicken version.
Will Sep 20 2025

Classic Carbonara
Comfort Food
★ 4 ① 45 min 🍽 Serves 1
Creamy Pasta for your taste.
Will Sep 20 2025

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Fig 5f.17 Recipes that has the Tag of “Comfort Food”

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Search recipes... Cuisine Tag Hard View All Share Your Recipe

Peking Duck
Halal Grilled Festive
★ 0 ① 150 min 🍽 Serves 4
Peking Duck is a traditional Chinese dish known for its crispy skin, tender meat, a...
Nay Chi (Your Noona) Oct 9 2025

Beef Wellington
★ 0 ① 70 min 🍽 Serves 3
A show-stopping centerpiece dish featuring a tender beef fillet encased in ...
Gorden Oct 9 2025

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Fig 5f.18 Recipes that has the Difficulty of “Hard”

The screenshot shows the Food Fusion website's search interface. A search bar at the top contains the text "Duck". Below the search bar are several filter buttons: "Cuisine", "Tag", "Difficulty", and "View All". To the right of these is a red "Share Your Recipe" button. The main content area displays a recipe card for "Peking Duck". The card includes a thumbnail image of the dish, the name "Peking Duck", and small category tags: "Halal", "Grilled", and "Festive". It also shows a rating of 0 stars, a preparation time of 150 min, and serves 4 people. A brief description follows: "Peking Duck is a traditional Chinese dish known for its crispy skin, tender meat, a...". Below the description is the author's profile: "Nay Chi (Your Noona)" and the date "Oct 9 2025". At the bottom of the page, there is a footer with links for "FoodFusion", "Quick Links", "Legal", and "Follow Us" (with icons for X, Facebook, and Instagram), along with a copyright notice: "© 2025 FoodFusion. All rights reserved."

Fig 5f.19 Recipes that appeared when enter “Duck” in the Search Box

The screenshot shows the Food Fusion website's search interface with a search bar containing the letter "c". Below the search bar are filter buttons for "Italian", "Comfort Food", "Medium", and "View All". To the right is a red "Share Your Recipe" button. The main content area displays a recipe card for "Classic Carbonara". The card includes a thumbnail image of the dish, the name "Classic Carbonara", and a category tag: "Comfort Food". It shows a rating of 4 stars, a preparation time of 45 min, and serves 1 person. A brief description follows: "Creamy Pasta for your taste.". Below the description is the author's profile: "Will" and the date "Sep 20 2025".

Fig 5f.20 Recipes that Appeared when Combining Search Box and All Filter Type

No	Test Area	Test Case Description	Expected Outcome	Actual Outcome
4.	Core Features	Testing Recipe Submission	Test Form With invalid data and empty field and error messages and warning should be shown.	Error Messages shown correctly. Fig 5f.21 Fig 5f.22 Fig 5f.23 Fig 5f.24 Fig 5f.25 Fig 5f.26

				Fig 5f.27
			Fill Form with valid data and add recipe. Recipe should be shown in the collection page and author's profile.	Recipe card appears in Collection Page and Author's Profile. Fig 5f.28 Fig 5f.29

The screenshot shows the 'Add New Recipe' form on the Food Fusion website. The form includes fields for Recipe Title, Cook Time (minutes), Servings, Cuisine, Tags, Vegan status, Difficulty, Description, and Ingredients. The 'Servings' field is highlighted with a red border and contains the error message 'Please fill out this field.' The 'Cuisine' dropdown also has the same error message. The rest of the fields appear to have valid input.

Fig 5f.21 Testing Empty Input Field

This screenshot is identical to Fig 5f.21, showing the 'Add New Recipe' form on the Food Fusion website. The 'Servings' field is again highlighted with a red border and displays the error message 'Please fill out this field.' The 'Cuisine' dropdown also shows the same validation message. The other fields remain unchanged from the previous figure.

Fig 5f.22 Testing Empty Input Field

The screenshot shows the 'Add New Recipe' form on the Food Fusion website. The 'Description' field is empty, containing only the placeholder text 'Short teaser about your recipe...'. Other fields like 'Recipe Title' (Chicken Shawarma with Garlic), 'Cook Time (minutes)' (40), 'Servings' (3), 'Cuisine' (Middle Eastern), 'Tags' (3 tag(s) selected), 'Vegan' (No selected), 'Difficulty' (Medium selected), and the image thumbnail are visible.

Fig 5f.23 Testing Empty Input Field

The screenshot shows the 'Add New Recipe' form with valid data entered. The 'Description' field now contains a detailed description of the dish: 'A classic Middle Eastern dish made of marinated chicken cooked to perfection and served with a tangy garlic yogurt sauce inside soft pita bread. Bursting with spices and flavor, it's a street-food favorite turned gourmet experience.' The other fields remain the same as in Fig 5f.23.

Fig 5f.24 Filling Form with Valid Data - 1

The screenshot shows the 'Ingredients' section of the form. A list of ingredients is displayed with their quantities and a 'Remove' button next to each item. The ingredients listed are: Boneless Chicken Thighs (Or B) 500g, Olive Oil 4 Tbsp, Ground Cumin 1 Tsp, Ground Coriander 1 Tsp, Paprika 1 Tsp, Turmeric ½ Tsp, Ground Cinnamon ½ Tsp, Garlic, Minced 3 Cloves, Juice Of Lemon 2, Salt And Pepper To Taste, Plain Greek Yogurt (Or ½ Cup, Pita Breads Or Flatbread 3-4, Small Red Onion, Slicer 1, Tomato, Diced 1.

Fig 5f.25 Filling Form with Valid Data - 2

The screenshot shows a 'Food Fusion' application interface. At the top, there are navigation links: Recipes, Community Cookbook, Resources, About Us, Contact Us, and a search icon. Below the navigation, there is a list of ingredients with 'Remove' buttons:

Tomato, Diced	1	Remove
Fresh Parsley, Chopped	As Wanted	Remove
Pickles Or Tahini Drizzle	Optional	Remove

A '+ Add Ingredient' button is located below the ingredients list. The next section is titled 'Steps' and contains a list of cooking instructions with 'Remove' buttons:

- Marinate The Chicken (15 Minutes + 1-2 Hours Resting):
 - Combine olive oil, lemon juice, garlic, and all spices
 - Add chicken and coat well.
 - Cover and refrigerate for at least 1 hour (up to over
- Cook The Chicken (10-15 Minutes):
 - Heat a grill pan or skillet over medium-high heat.
 - Cook chicken 5-7 minutes per side until golden and
 - Rest for 5 minutes, then slice thinly.
- Prepare The Garlic Yogurt Sauce (5 Minutes):
 - Mix yogurt, garlic, lemon juice, olive oil, and salt. Ci

Fig 5f.26 Filling Form with Valid Data - 3

The screenshot shows the same 'Food Fusion' application interface as Fig 5f.26. The 'Ingredients' and 'Steps' sections are identical. The 'Notes' section contains the following information:

Total Time: ~30-40 Minutes (Plus Marination)
For a smokier flavor, grill the chicken over charcoal.
Can substitute chicken with lamb, beef, or tofu for variation.
Serve with fries or salad for a complete meal!

The 'Upload Image' section shows a file chosen: 'Tasty Chicken Shawarma ... Creamy Garlic Sauce...jpg'. A large orange 'Add Recipe' button is at the bottom, and a note at the very bottom says 'All fields marked are required.'

Fig 5f.27 Filling Form with Valid Data - 4

Food Fusion

What to Cook?

Search recipes... Cuisine Tag Difficulty View All Share Your Recipe



Chicken Shawarma with...
Halal Snack Comfort Food
★ 0 ① 40 min Serves 3
A classic Middle Eastern dish made of marinated chicken cooked to perfection...

Mickey Oct 14 2025



Peking Duck
Halal Grilled Festive
★ 0 ① 150 min Serves 4
Peking Duck is a traditional Chinese dish known for its crispy skin, tender meat, a...

Nay Chi (Your Noona) Oct 9 2025



Stir-Fried Garlic Bok Choy...
Vegetarian Vegan Fried +2 more
★ 0 ① 15 min Serves 2
A quick and healthy Chinese stir-fry featuring tender bok choy, crispy tofu, a...

Nay Chi (Your Noona) Oct 9 2025



Beef Wellington
★ 0 ① 70 min Serves 3
A show-stopping centerpiece dish featuring a tender beef fillet encased in ...
Gordon Oct 9 2025

Fig 5f.28 Recently Added Recipe is Added to the Recipe Collection Page

Food Fusion

Mickey
mickey@gmail.com Edit Profile Logout
4.3 ★★★★☆ Total Recipes: 1

Recipe Cards + Post New Recipe Your Recipes Saved Recipes



Chicken Shawarma with Garlic Yogurt Sauce
Halal Snack Comfort Food
★ 0 ① 40 min Serves 3
A classic Middle Eastern dish made of marinated chicken cooked to perfection and served with a tangy garlic yogurt sauce inside soft pita...

Mickey Oct 14 2025

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Fig 5f.29 Recently Added Recipe is also Added to the Author's Profile Page

No	Test Area	Test Case Description	Expected Outcome	Actual Outcome
5.	Core Features	Test Giving Rating to Recipe	When user give rating, that rating should be persist on the recipe card and stored in the database.	Rating Process Succeed. Fig 5f.30 Fig 5f.31 Fig 5f.32

Food Fusion

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 **Peking Duck**

(Heat) Grilled Festive
🕒 150 min 🍽️ Serves 4 Hard

⭐ ⭐ ⭐ ⭐ ⭐ 0 reviews

Nay Chi (Your Noona)
Oct 9 2025

Description [Edit](#)

Peking Duck is a traditional Chinese dish known for its crispy skin, tender meat, and rich aroma. Served with pancakes, hoisin sauce, and scallions, it's a celebratory dish that showcases the mastery of roasting and flavor layering.

Ingredients

- ✓ 2-2.5 kg Whole Duck
- ✓ 2 Tbsp Mallow Or Honey
- ✓ 2 Tbsp Chinese Five-Spice Powder
- ✓ 1 Tsp Salt
- ✓ 2-3 Tbsp Rice Vinegar
- ✓ 2-3 Tbsp Soy Sauce
- ✓ 1 Bunch Scallions, Sliced For Garnish
- ✓ 1 Cucumber, Julienne For Garnish
- ✓ 10-12 Chinese Pancakes (Store-Bought Or Homemade)
- ✓ For Serving Hoisin Sauce

Steps

- Mix five-spice powder and salt. Rub over the duck inside and out.
- Brush skin with maltose or honey mixed with a little warm water.
- Hang or place duck in a well-ventilated spot (or in front of a fan) to dry overnight. This helps achieve the signature crispy skin.
- Preheat oven to 180°C (350°F).
- Place duck on a rack in a roasting pan.
- Roast for ~1 hour, basting occasionally with the honey/maltose glaze.
- Increase oven to 220°C (430°F) for the last 10–15 minutes to crisp the skin.
- Warm pancakes according to package instructions.
- Slice scallions and cucumber.
- Carve crispy duck slices.
- Serve with pancakes, hoisin sauce, and garnishes.
- Diners assemble their own rolls with duck, sauce, and vegetables.

Notes

- Total time: ~2-2.5 hours (excluding overnight drying) Drying the skin overnight is key for crispiness. A small torch can be used to crisp the skin further if needed. This dish is as much about presentation as flavor — slicing thinly is crucial.

Rate This Recipe

☆ ☆ ☆ ☆ ☆

Leave a Comment

Write your comment...

[Submit](#)

Comments

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Fig 5f.30 Recipe Card Before User Giving Rating

Food Fusion

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Peking Duck

Half Grilled Festive
🕒 150 min 🍽 Serves 4 Hard

★★★★☆ 4 1 reviews

Nay Chi (Your Noona)
Oct 9 2025

Description

Peking Duck is a traditional Chinese dish known for its crispy skin, tender meat, and rich aroma. Served with pancakes, hoisin sauce, and scallions, it's a celebratory dish that showcases the mastery of roasting and flavor layering.

Ingredients

- ✓ 2-2.5 kg Whole Duck
- ✓ 2 Tbsp Mallow Or Honey
- ✓ 2 Tbsp Chinese Five-Spice Powder
- ✓ 1 Tsp Salt
- ✓ 2-3 Tbsp Rice Vinegar
- ✓ 2-3 Tbsp Soy Sauce
- ✓ 1 Bunch Scallions, Sliced For Garnish
- ✓ 1 Cucumber, Julienneed For Garnish
- ✓ 10-12 Chinese Pancakes (Store-Bought Or Homemade)
- ✓ For Serving Hoisin Sauce

Steps

- ✓ Mix five-spice powder and salt. Rub over the duck inside and out.
- ✓ Brush skin with maltose or honey mixed with a little warm water.
- ✓ Hang or place duck in a well-ventilated spot (or in front of a fan) to dry overnight. This helps achieve the signature crispy skin.
- ✓ Preheat oven to 180°C (350°F).
- ✓ Place duck on a rack in a roasting pan.
- ✓ Roast for ~1 hour, basting occasionally with the honey/maltose glaze.
- ✓ Increase oven to 220°C (430°F) for the last 10–15 minutes to crisp the skin.
- ✓ Warm pancakes according to package instructions.
- ✓ Slice scallions and cucumber.
- ✓ Carve crispy duck slices.
- ✓ Serve with pancakes, hoisin sauce, and garnishes.
- ✓ Diners assemble their own rolls with duck, sauce, and vegetables.

Notes

- Total time: ~2–2.5 hours (excluding overnight drying) Drying the skin overnight is key for crispiness. A small torch can be used to crisp the skin further if needed. This dish is as much about presentation as flavor — slicing thinly is crucial.

Rate This Recipe

★★★★☆

Leave a Comment

Write your comment...

Submit

Comments

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Fig 5f.31 Recipe Card After User Giving Rating

	<input type="button" value="←"/>	<input type="button" value="→"/>	<input type="button" value="▼"/>	id	recipe_id	user_id	rating	created_at
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	8	7	8	3	2025-09-25 11:23:56
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	10	9	8	5	2025-10-08 12:46:36
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	11	7	9	5	2025-09-25 11:25:05
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	12	9	9	1	2025-09-25 11:27:15
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	18	15	14	4	2025-10-14 12:44:09

Fig 5f.32 Rating is Stored in the Database

No	Test Area	Test Case Description	Expected Outcome	Actual Outcome
6.	Core Features	Test Giving Comment to Recipe	When user give comment to the recipe, that comment should be shown in the recipe detail page and is also stored in the database.	Rating Process Succeed. Fig 5f.33 Fig 5f.34 Fig 5f.35

The screenshot shows a recipe detail page from the Food Fusion website. At the top, there's a navigation bar with links for Recipes, Community Cookbook, Resources, About Us, and Contact Us. Below the navigation, there's a section for 'Notes' which contains a note about the total time and drying process. There's a 'Rate This Recipe' section with a 4-star rating. A 'Leave a Comment' section has a text input box containing the text 'Your Recipe is very Legit. Thanks a lot. I've tried that recipe with my family this weekend!'. A 'Comments' section below it is currently empty.

Fig 5f.33 Adding Comment Text in the Input Box

The screenshot shows a comment card on a recipe detail page. At the top, there's a navigation bar with links for Recipes, Community Cookbook, Resources, About Us, Contact Us, and a search icon. Below the navigation, a section titled "Rate This Recipe" shows a 4-star rating. A "Leave a Comment" form is present with a placeholder "Write your comment..." and a "Submit" button. Underneath, a "Comments" section displays a single comment from a user named Mickey. The comment reads: "Your Recipe is very Legit. Thanks a lot. I've tried that recipe with my family this weekend." It includes a timestamp of "Oct 14, 2025".

Fig 5f.34 Comment Card is Shown in Recipe Detail Page when Posted

	<input type="checkbox"/>	<input type="checkbox"/> Edit	<input type="checkbox"/> Copy	<input type="checkbox"/> Delete	id	recipe_id	user_id	comment	created_at
	<input type="checkbox"/>	<input type="checkbox"/> Edit	<input type="checkbox"/> Copy	<input type="checkbox"/> Delete	1	8	8	This is the first comment for recipes.	2025-09-26 10:46:08
	<input type="checkbox"/>	<input type="checkbox"/> Edit	<input type="checkbox"/> Copy	<input type="checkbox"/> Delete	2	8	8	This is the second comment. Testing if it would re...	2025-09-26 11:04:21
	<input type="checkbox"/>	<input type="checkbox"/> Edit	<input type="checkbox"/> Copy	<input type="checkbox"/> Delete	3	8	9	Wow, nice Recipe, mate!	2025-09-26 11:05:09
	<input type="checkbox"/>	<input type="checkbox"/> Edit	<input type="checkbox"/> Copy	<input type="checkbox"/> Delete	4	9	8	I Love Egg!	2025-09-26 21:07:35
	<input type="checkbox"/>	<input type="checkbox"/> Edit	<input type="checkbox"/> Copy	<input type="checkbox"/> Delete	5	8	8	Good	2025-10-01 12:49:08
	<input type="checkbox"/>	<input type="checkbox"/> Edit	<input type="checkbox"/> Copy	<input type="checkbox"/> Delete	6	9	8	Great	2025-10-01 12:49:29
	<input type="checkbox"/>	<input type="checkbox"/> Edit	<input type="checkbox"/> Copy	<input type="checkbox"/> Delete	8	8	8	This is new comment	2025-10-08 12:24:16
	<input type="checkbox"/>	<input type="checkbox"/> Edit	<input type="checkbox"/> Copy	<input type="checkbox"/> Delete	9	15	14	Your Recipe is very Legit. Thanks a lot. I've tri...	2025-10-14 12:45:31

Fig 5f.35 Comment is stored in the Database with Related Metadata

No	Test Area	Test Case Description	Expected Outcome	Actual Outcome
7.	Core Features	Test Adding Community Post ('Tip', 'Experience', 'Question')	Testing empty fields of form if it shows error message or not.	Error Messages shown. Fig 5f.36 Fig 5f.37 Fig 5f.38
			Testing form submission with valid data whether it is correctly submitted or stored in database.	Post Added Success. Fig 5f.38 Fig 5f.39 Fig 5f.40 Fig 5f.41

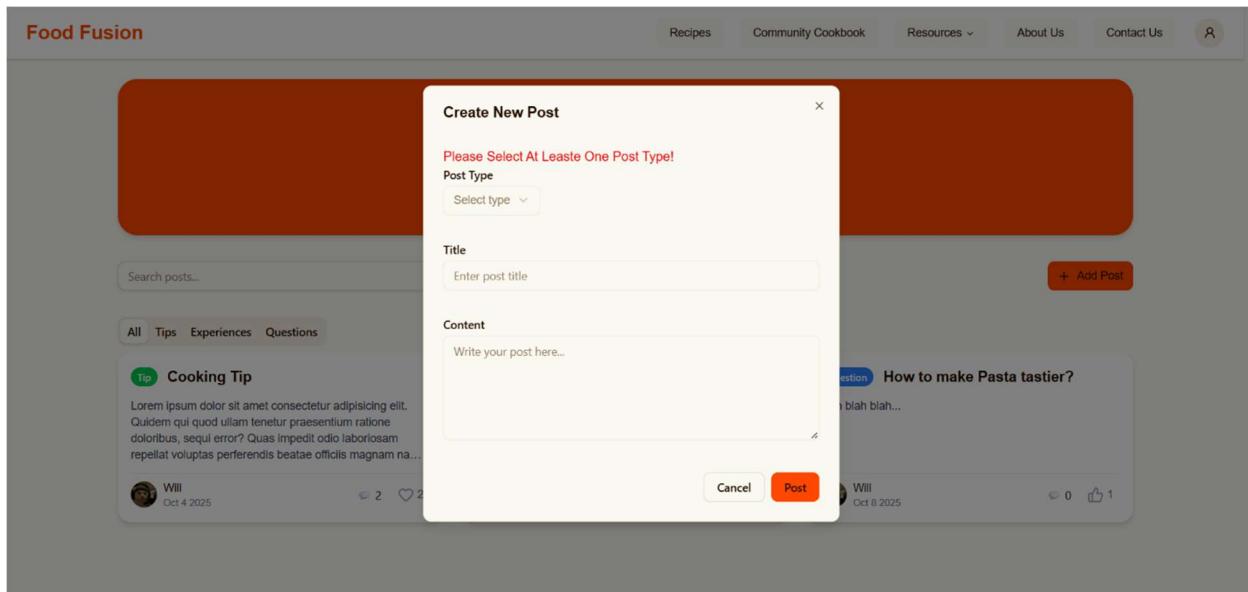


Fig 5f.36 Testing without Selecting or Filling Anything

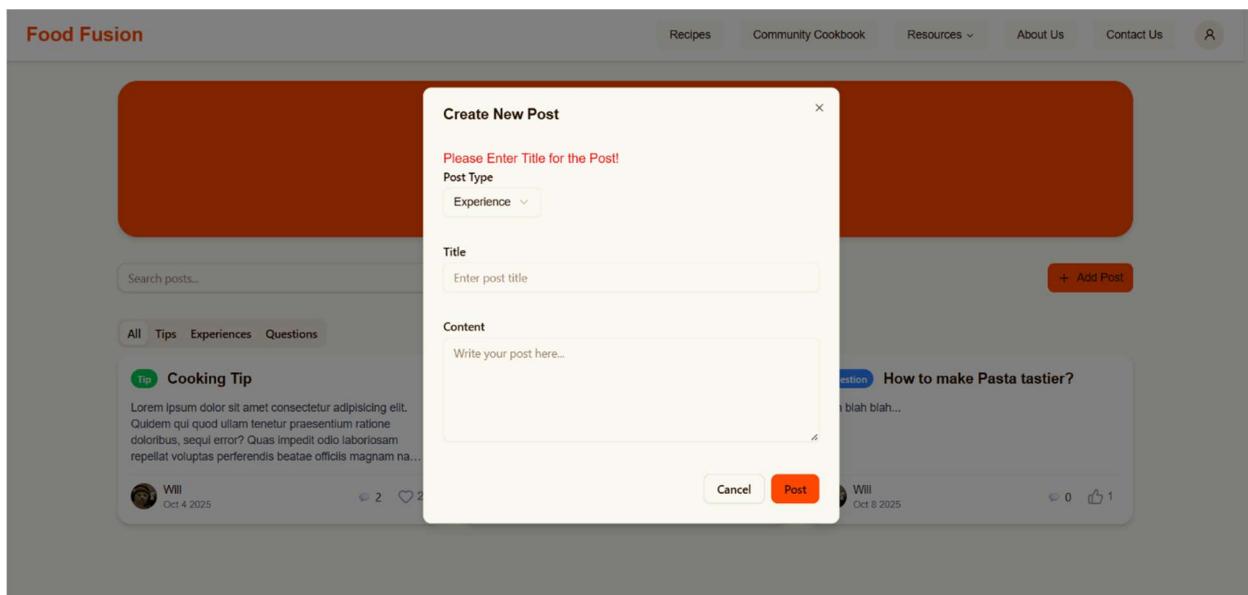


Fig 5f.37 Testing After Selecting Post Type

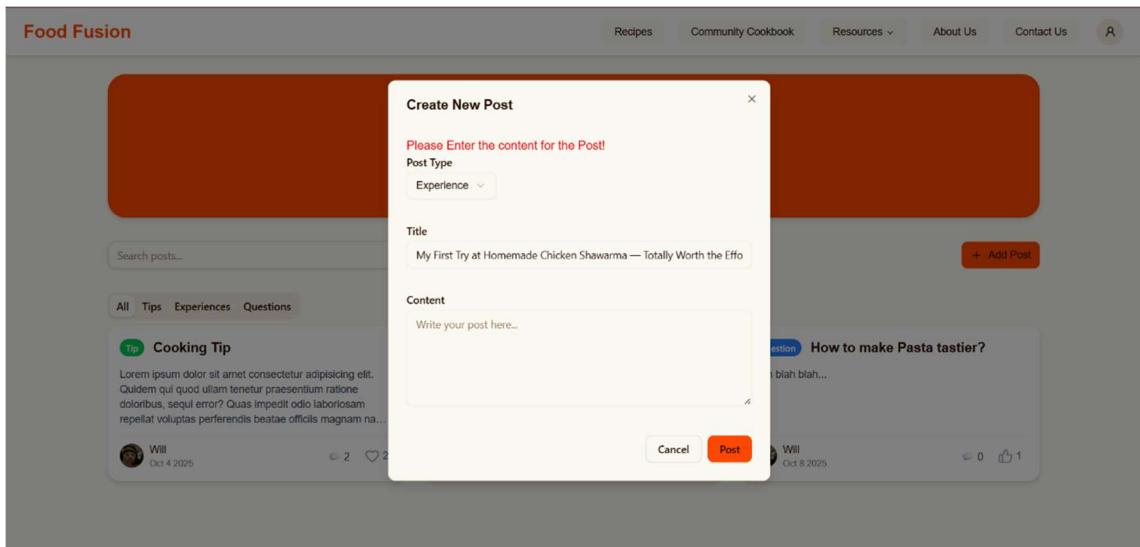


Fig 5f.38 Testing After Selecting Post Type and Filling Title

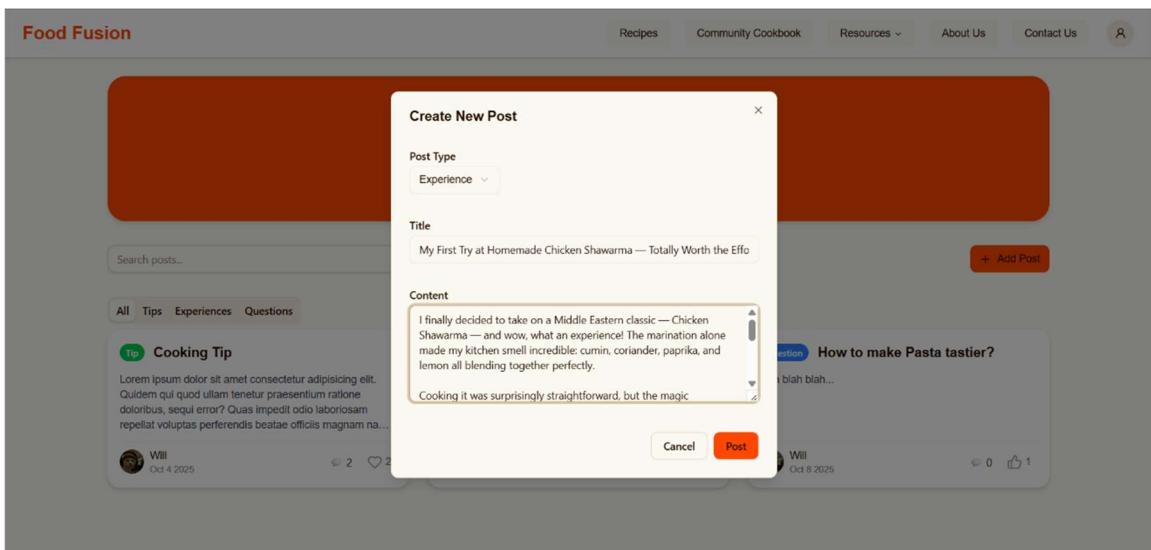


Fig 5f.39 Filling the Form Valid Data

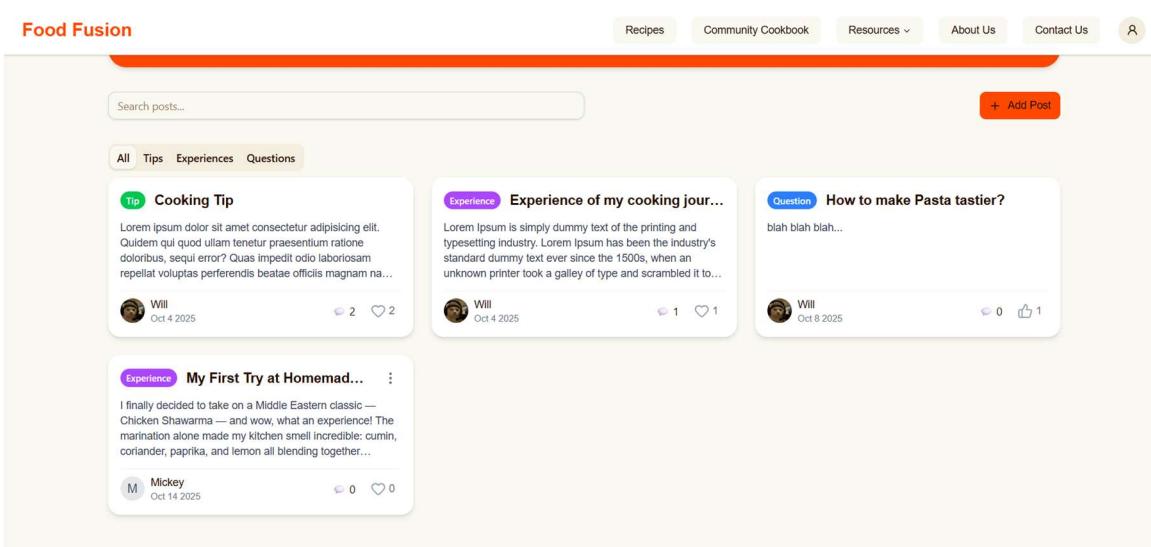


Fig 5f.40 Successfully Added and shown in Community Cookbook Page

	<input type="button" value="←"/>	<input type="button" value="→"/>	<input type="button" value="id"/>	<input type="button" value="user_id"/>	<input type="button" value="title"/>	<input type="button" value="content"/>	<input type="button" value="created_at"/>	<input type="button" value="updated_at"/>	<input type="button" value="post_type"/>
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	4	8 Cooking Tip	Lorem ipsum dolor sit amet consectetur adipisci...	2025-10-04 15:38:22	2025-10-04 15:38:22	Tip
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	5	8 Experience of my cooking journey	Lorem Ipsum is simply dummy text of the printing a...	2025-10-04 15:44:31	2025-10-04 15:44:31	Experience
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	6	8 How to make Pasta tastier?	blah blah blah...	2025-10-08 12:13:40	2025-10-08 12:13:57	Question
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	9	14 My First Try at Homemade Chicken Shawarma — Total...	I finally decided to take on a Middle Eastern clas...	2025-10-14 12:58:02	2025-10-14 12:58:02	Experience

Fig 5f.41 Added Post Data is Stored in the Database

No	Test Area	Test Case Description	Expected Outcome	Actual Outcome
8.	Core Features	Test Giving Reaction to Community Post	When user give reaction to the post, the state should persist for the given user and has to be stored in the database.	Give React Process Succeed. Fig 5f.41 Fig 5f.41 Fig 5f.43

The screenshot shows a 'Cooking Tip' post on the Food Fusion platform. The post content is a placeholder text: 'Lorem ipsum dolor sit amet consectetur adipisci...'. It was created by a user named 'Will' on October 4, 2025. Below the post, there are two comments: one from 'Will' on October 8, 2025, and one from 'Nay Chi (Your Noona)' on October 9, 2025. A comment input field with a 'Post' button is visible at the bottom. The interface includes a navigation bar with links like 'Recipes', 'Community Cookbook', 'Resources', 'About Us', and 'Contact Us'.

Fig 5f.41 State Before User Give React to the Post

This screenshot shows the same cooking tip post after a user has reacted to it. The 'Likes' count has increased to 3, indicated by a red heart icon with the number '3' next to it. The rest of the post content, comments, and user interface elements remain the same as in Fig 5f.41.

Fig 5f.42 State After User Give React to the Post

	<input type="button" value="←"/>	<input type="button" value="→"/>		<input type="button" value="▼"/>	id	user_id	community_post_id
	<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	3	9	4
	<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	10	9	6
	<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	11	9	5
	<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	12	9	4
	<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	22	14	4

Fig 5f.43 React Related Metadata is Stored in Database

No	Test Area	Test Case Description	Expected Outcome	Actual Outcome
9.	Core Features	Test Giving Comment to Community Post	When user give comment to the post, the comment should be shown in the post detail page and has to be stored in the database.	Give Comment Process Succeed. Fig 5f.44 Fig 5f.45 Fig 5f.46

The screenshot shows a web page titled "Food Fusion". At the top, there is a navigation bar with links for "Recipes", "Community Cookbook", "Resources", "About Us", and "Contact Us". Below the navigation bar, there is a "Cooking Tip" section. The tip is attributed to "Will" and dated "Oct 4 2025". The text of the tip is: "Lorem ipsum dolor sit amet consectetur adipisicing elit. Quidem qui quod ullam tenetur praesentium ratione doloribus, sequi error? Quas impedit odio laboriosam repellat voluptas perferendis beatae officiis magnam nam reiciendis?" Below the tip, there is a "Comments" section. It shows two comments: one from "Will" dated "Oct 8 2025" stating "This is comment. I don't think so mate.", and another from "Nay Chi (Your Noona)" dated "Oct 9 2025" stating "Wow". At the bottom of the comments section, there is a text input field with the placeholder "Can you tell me more about it, please?" and a red "Post" button.

Fig 5f.44 Entering Comment in The Comment Text Box

Cooking Tip

Will Oct 4 2025 This is comment. I don't think so mate.

Nay Chi (Your Noona) Oct 9 2025 Wow

Mickey Oct 14 2025 Can you tell me more about it, please?

Write a comment... Post

Fig 5f.45 Posted Comment Show in Post Detail Page

id	user_id	community_post_id	comment	created_at
1	8	4	This is comment. I don't think so mate.	2025-10-08 18:38:48
3	9	4	Wow	2025-10-09 09:45:45
4	8	5	One	2025-10-09 11:22:42
5	14	4	Can you tell me more about it, please?	2025-10-14 12:59:20

Fig 5f.46 Posted Comment is Stored in Database

No	Test Area	Test Case Description	Expected Outcome	Actual Outcome
10.	Core Features	Test Contact Form	Testing empty fields of form if it shows error message or not.	Error Messages shown. Fig 5f.47 Fig 5f.48 Fig 5f.49
			Testing form submission with valid data whether it is correctly submitted or stored in database.	Post Added Success. Fig 5f.50 Fig 5f.51 Fig 5f.52

The screenshot shows the 'Contact Form' page on the Food Fusion website. At the top, there is a navigation bar with links for Recipes, Community Cookbook, Resources, About Us, Contact Us, and a search icon. Below the navigation is a header image featuring a bowl of food. The main content area has a light beige background and features a title 'Contact Form' in bold black font. A sub-instruction 'Fill out the form below, and we'll get back to you within 1–3 business days.' is displayed. Below this, there is a large white input box containing three fields: 'Your Name', 'Your Email', and 'Subject'. Underneath these is a larger text area labeled 'Your Message'. At the bottom of the input box is an orange 'Send Message' button.

Fig 5f.47 Contact Form in Contact Us Page

This screenshot shows the same contact form as Fig 5f.47, but with an error message. The input box now includes a red error message at the top: 'Please fill all fields! All fields are required!' The rest of the form structure is identical to the previous figure.

Fig 5f.48 Error Message shown for not filling all fields

This screenshot shows the contact form again, but with a different error message. The 'Your Email' field now contains the placeholder 'w@' and a red error message: 'Please enter a valid email address!'. The other fields ('Your Name', 'Subject', 'Your Message') are empty. The 'Send Message' button is at the bottom.

Fig 5f.49 Error Message for Invalid Email Address

Food Fusion

Fill out the form below, and we'll get back to you within 1–3 business days.

Add more Tags and Cuisine Types

I want you guys to add more of the tags like drink and beverages. And also more cuisine types. Those are very necessary. I want you guys to do that ASAP.

Send Message

Contact Information

Email

Phone

Socials

Fig 5f.50 Filling form with Valid Data

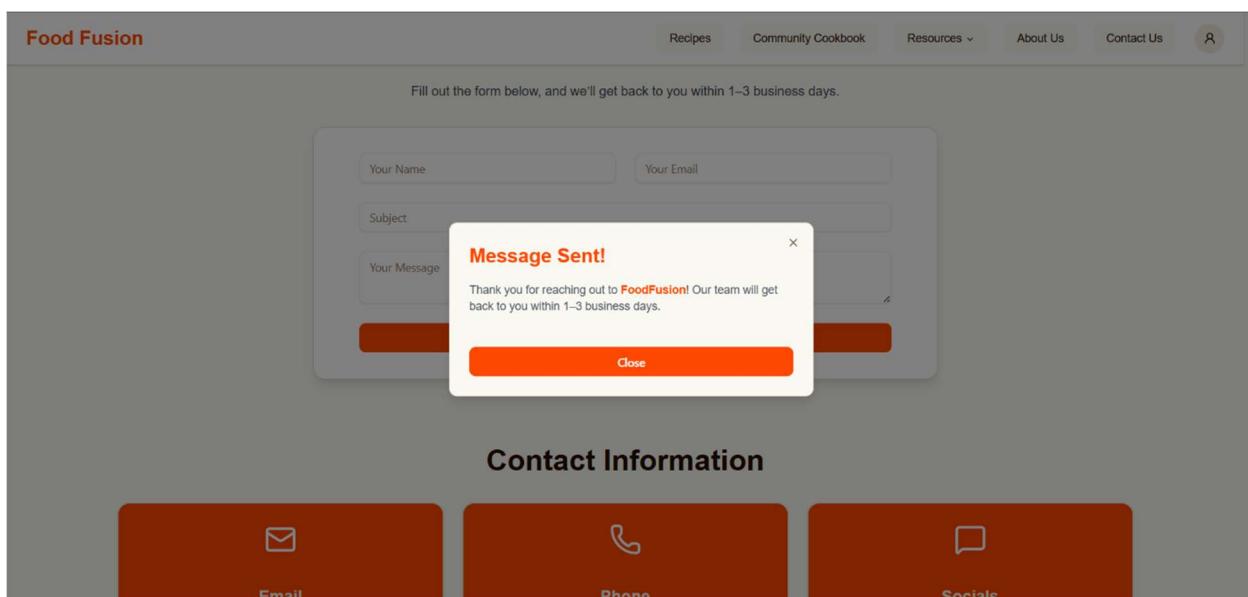


Fig 5f.51 Success Message Pop Up show when Message is Successfully Sent

		id	name	email	subject	message	created_at	
<input type="checkbox"/>		Edit			1 Sai	wunna@gmail.com tag	add more tag	2025-10-10 00:11:34
<input type="checkbox"/>		Edit			5 John	d	ddddd	2025-10-11 12:18:25
<input type="checkbox"/>		Edit			6 Sai	sai@gmail.com	Add more Tags and Cuisine Types I want you guys to add more of the tags like drink...	2025-10-14 13:18:02

Fig 5f.52 Sent Message is stored in the Database

No	Test Area	Test Case Description	Expected Outcome	Actual Outcome
11.	Core Features	Test if Culinary Resources are downloadable	When user click on the “Download”, it should redirect to the pdf view page. User could click download to download the pdf. It	Resource downloaded successfully. Fig 5f.53 Fig 5f.54

			should download the pdf.	
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Food Fusion

Recipes Community Cookbook Resources About Us Contact Us Login

Culinary Resources



Classic French Omelette

Making a French omelette is about precision, patience, and a touch of finesse. Unlike the fluffy American diner omelette, the French version is soft, tender, and slightly custardy inside – almost melting in your mouth. Here's how to master it like a chef...

[Download](#)



Sourdough Bread Basics

Sourdough baking is more than just making bread – it's a blend of science, patience, and intuition. Unlike ordinary loaves that rely on commercial yeast, sourdough uses a living culture of wild yeast and lactic acid bacteria to naturally ferment the dough, creating bread that's deeply flavorful, aromatic, and easier to digest. Let's start making it...

[Download](#)

Fig 5f.53 Culinary Resources Page where Every Resources are Downloadable

10/12/25, 11:36 AM serioeats.com/classic-french-omelette-recipe?print

 serious eats

Classic French Omelette

JUMP TO RECIPE

Prep	5 mins
Cook	5 mins
Active	5 mins
Total	10 mins
Serves	1 serving

Ingredients

- 3 large eggs
- Kosher salt and freshly ground white or black pepper
- 1 tablespoon (15 g) unsalted butter

Directions

- In a medium bowl, beat eggs with a disposable plastic or reusable wooden fork just until last traces of white are mixed in; season with salt and pepper.
- In a perfectly unscratched 8-inch nonstick skillet, melt butter, swirling over moderate heat, until fully melted and foamy but not browned. Add eggs and stir rapidly with fork, tines up, while shaking pan to agitate eggs; make sure to move fork all around pan to break up curds and scrape them from bottom of skillet as they form. Stop stirring as soon as eggs are very softly scrambled and creamy (but still loose enough to come together into a single mass), 1 to 2 minutes.
- Using fork, gently spread egg in an even layer around skillet and scrape down any wispy bits around the edges. The top surface should be loose and creamy, but if it looks too liquid and raw, cook undisturbed for another few seconds. (If it still flows, you can swirl skillet to send loose egg to the edges, where it will set more quickly.)
- Remove from heat, tilt skillet up by its handle, and, using fork, gently roll omelette down over itself until it is nearly folded in half. Using fork, push omelette to edge of skillet so that lower edges of egg begin to just barely

Fig 5f.54 When User Clicked Download, it redirects to the PDF Tab and User Can Download the PDF

No	Test Area	Test Case Description	Expected Outcome	Actual Outcome
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12.	Security	Test user data encryption and data storage.	User password should be stored in the database with has value only.	Password is stored with hashed value. Fig 5f.55 Fig 5f.56
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id	name	email	password_hash	bio	profile_url	failed_attempts	lock_until	created_at	updated_at
14	Mickey	mickey@gmail.com	\$2y\$10\$UJVOClZNokwJNx.7h7hre54meoUvSss1hogBMxHNY4...	NULL	NULL	0	NULL	2025-10-14 10:17:07	2025-10-14 10:17:07

Fig 5f.55 User password is stored with hash value and securely stored

```
$hashedPassword = password_hash($password, PASSWORD_DEFAULT);
```

Fig 5f.56 Hash Function