UNIVERSITI TEKNOLOGI MALAYSIA

FACULTY OF COMPUTING, UTM

SEMESTER I, SESSION 2023/2024

PROJECT PROPOSAL

SECD2523 : DATABASE

SECTION 02

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COURSE : BACHELOR OF COMPUTER SCIENCE (COMPUTER NETWORKS AND SECURITY)

SUBMISSION DATE : 17 - NOVEMBER - 2023

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1.0 Introduction

In the modern era of culinary diversity and exploration, where people are increasingly interested in trying new recipes and techniques, individuals seeking culinary inspiration and guidance often find themselves overwhelmed by the sheer amount of information available. From home cooks looking to experiment in their kitchen to professional chefs wanting to expand their repertoire, there is a constant need for a centralized platform that not only simplifies the process of discovering recipes but also helps users organize and share their culinary creations.

Introducing "Food Recipe Finder", a revolutionary platform that aims to be the ultimate solution to this growing need. With its user-friendly interface and intuitive features, "Food Recipe Finder" provides an extensive collection of recipes from around the world, catering to various dietary preferences and culinary styles. Whether you're in the mood for a quick weeknight dinner or a fancy dinner party menu, our platform has you covered.

"Food Recipe Finder" goes beyond just offering a vast array of recipes. Cooking is not just about following instructions, but also about the experience and community that surrounds it. That's why we are planning to build a vibrant community of like-minded individuals who are passionate about food and cooking. Connect with fellow food enthusiasts, share your own recipes, and discover new ideas to take your culinary adventures to the next level.

In conclusion, "Food Recipe Finder" is the comprehensive solution that simplifies the process of discovering, organizing, and sharing recipes. Whether you're a seasoned home cook or a professional chef, this platform is designed to enhance your cooking experience and connect you with a community of culinary enthusiasts.

2.0 Background Study

The culinary landscape has undergone remarkable transformations in recent years, as people have developed an even stronger fascination with a wide range of cuisines and innovative cooking methods. However, it is evident that there is currently no unified platform that adequately addresses the diverse requirements of both amateur and seasoned chefs. The existing recipe databases frequently suffer from overcrowded interfaces, which can pose a challenge for users who wish to swiftly discover, bookmark, and distribute recipes. Moreover, the absence of a cohesive community aspect severely restricts the possibilities for collaborative learning and exchanging culinary ideas and recipes.

3.0 Problem Statement

One of the major challenges faced by individuals who have a deep passion for home cooking is the absence of a centralized and user-friendly platform that allows them to easily discover and share recipes. The existing recipe databases, with their unintuitive interfaces and limited search capabilities, fail to meet the needs of these passionate home cooks. Moreover, the lack of community engagement tools further exacerbates the frustration experienced by users. As a result, they end up spending excessive amounts of time sifting through vast amounts of information, which ultimately hampers their cooking experience. It is clear that there is a pressing need for a platform that not only seamlessly integrates search functionality but also provides a supportive community for home cooks to connect and share their culinary experiences.

4.0 Proposed Solutions

"Food Recipe Finder" aims to address these challenges by providing a comprehensive solution for culinary enthusiasts. From a technical standpoint, the proposed solution involves creating a robust and extensive database structure that includes the following tables:

1. Food Recipe Name Table: This table will store the names of various recipes. It will serve as the primary table for recipe information, allowing users to easily search and browse through a wide range of recipe options.

2. Food Recipe Nutritional Information Table: This table will store detailed nutritional information for each recipe. By including data such as calories, fat content, protein content, and more, users will have a better understanding of the health benefits and nutritional value of the recipes they choose.

3. Food Recipe Ingredients Table: This table will provide a comprehensive list of ingredients required for each recipe. With the name of the ingredient and its corresponding recipe readily available, users can quickly gather all the necessary ingredients before starting their cooking adventure.

4. Food Recipe Measurements Table: This table will ensure precision in cooking by storing accurate measurements for each ingredient in a recipe. With details such as quantity and unit of measurement, users can follow the recipes with ease and achieve consistent and delicious results.

5. Food Recipe Steps Table: This table will guide users through the cooking process step-by-step. By providing a clear sequence of steps required to prepare each dish, users will have a reliable resource to follow, ensuring that their culinary creations turn out just as intended.

6. Food Recipe Category Table: This table will enhance the user experience by allowing recipe categorization. Users can search for recipes based on specific categories such as vegetarian, gluten-free, or dessert, making it easier to find recipes that align with their dietary preferences or restrictions.

By structuring the database in this comprehensive manner, "Food Recipe Finder" will provide a solid foundation for organizing and retrieving recipe information efficiently. This extensive database will enable users to search for recipes based on keywords, ingredients, cuisine types, categories, and more, ensuring that they can find the perfect recipe for any occasion.

Additionally, the platform will incorporate interactive community features, fostering a collaborative environment for culinary enthusiasts. Users will be able to create accounts, save their favorite recipes for future reference, submit their own unique recipe creations, and engage in discussions with fellow food lovers.

The proposed solution envisions a user-friendly and collaborative environment that empowers individuals to explore, create, and share their culinary journeys. With "Food Recipe Finder," users will have a reliable and comprehensive resource to rely on, whether they are seasoned chefs or beginners in the kitchen.

Please note that the specific technical implementation details and database design can be further developed based on the requirements and objectives of the project. This flexibility ensures that "Food Recipe Finder" can be tailored to meet the unique needs and preferences of its users.

5.0 Objectives

1. To establish a user-friendly platform for efficient recipe management.
2. To facilitate easy recipe contributions, ensuring a dynamic and collaborative environment.
3. To create a streamlined retrieval process for users exploring a diverse range of recipes.
4. To encourage active user engagement, transforming them from consumers to contributors in the culinary community.

6.0 Scope

The proposed system's scope covers the storage of detailed recipe information. This includes the recipes' ingredients, quantities, instructions, nutritional values, and user ratings. Users will be able to search for recipes based on criteria such as cuisine, ingredients, cooking time, and dietary preferences. Additionally, the system will include user profiles, allowing individuals to submit, edit, and delete recipes, fostering a dynamic and collaborative environment.

7.0 Project Planning

7.1 Human Resource

The table below shows our group members as well as their roles and responsibilities throughout the duration of this project.

NAME	ROLE	RESPONSIBILITIES
Aina Nurain binti Mohd Aroff	Leader / Documentation	1. Coordinate the efforts of the team in order to ensure that the project meets its objectives according to the set timelines. 2. Monitoring and assisting team members on their personal tasks. 3. Ensure that all project documentation is completed and formatted in the appropriate manner.
Danesh Muthu Krisnan	Database Designer	1. Understand the chosen system's business requirements in order to design a database solution that will fulfill its business needs. 2. Discuss and gather opinions from other team members regarding the system's database design.
Muhammad Firdaus bin Mohideen Abdul Cader	Database Developer	1. Develop the database solution based off of the design specifications presented by the database designer. 2. Responsible for testing the database to ensure data integrity and to help users retrieve data effectively.

7.2 Work Breakdown Structure (WBS)

TASK TITLE	START DATE	DUE DATE	DURATION
Project Briefing	8/10/2023	12/10/2023	4
Group Formation	15/10/2023	19/10/2023	4
Phase 1: Planning & Analysis			
Proposal Requirement	22/10/2023	26/10/2023	4
System Boundaries	29/10/2023	2/11/2023	4
Current Business Rules	29/10/2023	2/11/2023	4
Data Requirement	5/11/2023	9/11/2023	4
Transaction Requirement	5/11/2023	9/11/2023	4
WBA and Gantt Chart	12/11/2023	16/11/2023	4
Proposal Submission	17/11/2023	17/11/2023	1
Phase 2: Design			
Data Flow Diagram	19/11/2023	23/11/2023	4
Data and Transaction Requirement	26/11/2023	30/11/2023	4
DB Conceptual Design	3/12/2023	7/12/2023	4
Data Dictionary	10/12/2023	14/12/2023	4
Submission 2	14/12/2023	14/12/2023	1
Phase 3: Implementation			
DB Conceptual Design	17/12/2023	21/12/2023	4
DB Logical Design	24/12/2023	28/12/2023	4
Updated Data Dictionary	31/12/2023	4/1/2024	4
Relational DB Schemas	31/12/2023	4/1/2024	4
SQL Statements (DDL & DML)	7/1/2024	11/1/2024	4
Submission 3	11/1/2024	11/1/2024	1
Project Demonstration			
SQL Demonstration (DDL and DML)	14/1/2024	14/1/2024	1

7.3 Gantt Chart

TASK TITLE	START DATE	DUE DATE	DURATION	WEEK 1							WEEK 2							WEEK 3							WEEK 4							WEEK 5							WEEK 6						
				S	M	T	W	T	S	M	T	W	T	S	M	T	W	T	S	M	T	W	T	S	M	T	W	T	S	M	T	W	T	S	M	T	W	T	S	M	T	W	T
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Proposal Submission	17/11/2023	17/11/2023	1																																								

TASK TITLE	START DATE	DUE DATE	DURATION	WEEK 7					WEEK 8					WEEK 9					WEEK 10				
				S	M	T	W	T	S	M	T	W	T	S	M	T	W	T	S	M	T	W	T
Phase 2: Design																							
Data Flow Diagram	19/11/2023	23/11/2023	4																				
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TASK TITLE	START DATE	DUE DATE	DURATION	WEEK 11					WEEK 12					WEEK 13					WEEK 14					WEEK 15				
				S	M	T	W	T	S	M	T	W	T	S	M	T	W	T	S	M	T	W	T	S	M	T	W	T
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8.0 Requirement Analysis

Functional requirements:

1. The system shall allow users to register for the website and provide their basic login information such as email and password.
2. The system shall allow users to search for recipes by using the search bar and typing in the ingredient or dish that they are specifically looking for.
3. The system shall allow users to search for recipes by selecting all the specific ingredients they want to use in a dish, or by selecting the ingredients they currently have available in their household.
4. The system shall allow users to bookmark any recipes that interest them.
5. The system shall display each recipe's details which include its description, the ingredients needed, cooking instructions, nutritional information, measurements, etc.
6. The system shall allow users to share the recipes to other users and other platforms.
7. The system shall allow users to submit, edit and delete their own recipes on the website.
8. The system shall allow users to rate the recipes that they have tried cooking.

Non-functional requirements:

1. The system shall have a simple and user-friendly interface.
2. The system shall allow users to discover and share recipes in an efficient manner.
3. The system shall be able to accommodate multiple users.
4. The system shall be able to securely store users' personal information.

Additional requirements:

1. The system shall recommend interesting or new recipes for users to discover.
2. The system shall allow users to print out the recipes.
3. The system shall provide instructional videos for users to refer to.

Use cases:

1. User registration:
    - A user can register for the website if they wish to be able to connect with other users, use the bookmark function, or submit their own recipes. The user will have to key in their personal information such as their email address and password.
2. User login:
    - Once a user has registered for an account, they will be able to login by entering their email address and password.
3. Search for recipes:
    - A user can search for recipes using the search bar by entering any ingredient or by entering a specific dish that they are looking for.
    - A user can also search for recipes by selecting a list of ingredients that they want to use in the dish.
4. Display information:
    - By clicking on the recipe, it should display the recipe's details such as its description, ingredients, cooking instructions, nutritional information, and measurements.
5. Share recipes:
    - A user can share the link to the recipe to other users on the website or other platforms.
6. Bookmark recipes:
    - If a user is logged in, they can bookmark any recipe for easy referral in the future.
7. Submit, edit and delete recipes:
    - Once logged in, a user is able to submit, edit and delete their own recipes on the website. These recipes can be discovered by other users on the platform as well.
8. Rate recipes:
    - When logged in, a user is able to rate the recipes that they have tested. The overall rating for the dish will then be displayed alongside the recipe on the website.

8.1 Current Business Process

The “Food Recipe Finder” system or database that we are trying to develop and improve is based on multiple existing recipe finder websites such as myfridgefood.com and reciperadar.com. Though there are multiple recipe finder websites, the current business process for a majority of these sites entail several of the same scenarios and workflows.

Workflow for scenario 1: User registration

1. Enter email address and password at the registration form.
2. Submit the form and register for the website.

Workflow for scenario 2: User login

1. Must already be registered for the website.
2. Enter the registered email address and password at the login form.
3. Submit the form to login to the website.

Workflow for scenario 3: Search for recipes

1. Type in ingredient or recipe in the search bar.
2. Display all recipes that fulfill the requirements.
3. Choose a specific recipe.
4. Display recipe details and information.

Workflow for scenario 4: Share recipes

1. Type in ingredient or recipe in the search bar.
2. Display all recipes that fulfill the requirements.

3. Choose a specific recipe.
4. Display recipe details and information.
5. Click on the share recipe button.

Workflow for scenario 5: Bookmark recipes

1. Login to the website.
2. Type in ingredient or recipe in the search bar.
3. Display all recipes that fulfill the requirements.
4. Choose a specific recipe.
5. Display recipe details and information.
6. Click on the bookmark recipe button.

Workflow for scenario 6: Rate recipes

1. Login to the website.
2. Type in ingredient or recipe in the search bar.
3. Display all recipes that fulfill the requirements.
4. Choose a specific recipe.
5. Display recipe details and information.
6. Click on the rating button.

9.0 Transaction Requirement

Within the “Food Recipe Finder”, users have comprehensive control over data entry, enabling them to input personal information such as name, email, phone number, and password. They will also be able to contribute to the database by submitting new recipes and specifying its ingredients, quantities, and cooking instructions. In the realm of data update and delete functionalities, users retain autonomy over their personal details, editing information like name and email as well as actively curating the recipe database by modifying or removing existing recipes. The data querying capabilities enrich user interactions by allowing personalized insights into profiles, facilitating seamless retrieval of personal information, and extending search functionalities for recipes based on diverse parameters. This integrated approach ensures a user-friendly and dynamic experience, both for managing personal data and exploring a diverse culinary landscape.

9.1 Data Entry

1. Users can add data of their information such as name, email, phone number, and password.
2. Users can add new recipes with fields for ingredients, quantities, and cooking instructions.

9.2 Data Update or Delete

1. Users possess the capability to adjust their personal information.
2. Users have the option to edit recipes stored in the database.
3. Users can eliminate recipes from the database.

9.2 Data Queries

1. Users have the capability to retrieve information from their own profiles through querying.
2. Users can perform searches for recipes based on multiple parameters.

10.0 Benefit and Summary of Proposed System

The potential benefits of the “Food Recipe Finder” system extend far beyond improved accessibility. It encompasses a flow in how individuals are able to engage with the culinary world. The platform doesn't just offer a variety of recipes, it also becomes a gateway for users to explore more regarding the culinary world, providing them with a new and exciting experience. Beyond the practical advantages of easy access to diverse recipes, the system encourages a sense of community with other users through active user engagement. The ability to contribute, update, and rate recipes transforms users from just consumers into contributors, fostering a sense of community in the website. In summary, the proposed system isn't just a tool but it's a platform that hopes to redefine the recipe-sharing experience, promising an enriching journey for cooking enthusiasts.

11.0 Summary

In conclusion, the “Food Recipe Finder” system represents more than a technological solution, it signifies a vision for a new era in recipe management and discovery. With objectives that go beyond efficiency and a scope that goes above conventional databases, the system wishes to redefine the user's relationship with their culinary endeavors. The transactional elements such as data entry, data update, data delete and data queried are not mere functionalities but ways for users to actively shape and engage with the evolving content of the proposed website. The anticipated benefits include not just practical advantages but a profound change in how users connect with and contribute to the culinary community. In summary, the proposed system is a catalyst for a new experience, where users are not just passive consumers but active participants in the world of recipe sharing and exploration.