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Self-Learning Cooking Application

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Abstract: Self-learning cooking application is an application that provides a self-taught guide on cooking for its users. The idea to implement this project are triggered where the people are depending on printed or online book to cook, difficult to estimate cooking time, inaccuracy to estimate amount of groceries and calculate calories for the food taken. Thus, the objective of this project is to design the self-learning cooking application using Android Studio, to develop the self-learning cooking application using Android Studio and to test the functionality of the application. An interview session was conducted to gather the requirements of the expertise which are a chef, influencer and dietitian. They recommend building an app for self-learning cooking with a help of expertise such as design, recipes, and many more ideas. This system is driven by activities within the prototyping model. The Android Studio software is used for encoding and Firebase as database software. This app provides features such as making one's own cooking schedule, displaying the list of grocery products and the total number of calories from choosing recipes. The result of the test demonstrates that the test cases are 100% successful. In addition, it is free and suitable for the adult menu. As a conclusion, this application can help people to cook effectively.

Keywords: Android system, Android Studio, Prototyping Model, Self-Learning Cooking Application

1. Introduction

In this era of globalization, there are a lot of recipes that have been made by many people in the world. Food is an important thing that humans or even animals should take at least three times a day. It is known that healthy food is food that does by our self because the inserted ingredient may be known. Cooking allows us to preserve the hygiene of the food. Nowadays, people love to eat but they do not know how to cook properly. The self-learning cooking application basically provide a self-taught guide on cooking for its users. Another application for cooking is also available, but this project focuses on how to manage the cooking process and time as well. When discussing self-learning cooking, there are a few main problems that have been identified. To learn to cook, a user must depend on a printed or online book to refer the recipes. For online recipes, they come from numerous videos from diverse posters. Besides, choosing a menu takes a while and this cause people wasting much time researching

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first. Inevitably, this leads to excessive amount of time taken to cook. With this application, the user can plan for a cooking schedule. Additionally, this allows efficient management of their time and financial as well. Last but not least, the amount of calories for a recipe chosen will be calculated and be displayed with the list of groceries. This can make the user budget their diet.

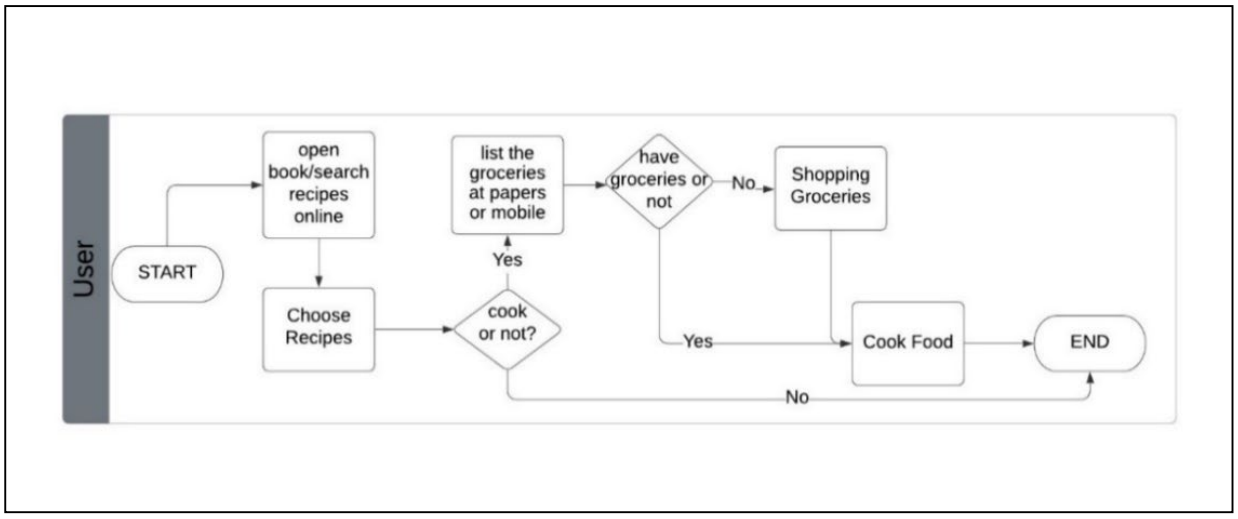
The objectives to overcome those problems are to design the self-learning cooking application using Android Studio, to develop the self-learning cooking application using Android Studio and to test the functionality of the application using Android Studio. Self-learning cooking application is focused to those adults that want to learn how to cook. The application provides features about registration, log in, manage recipes, manage groceries and calculate calories that can help people to manage their time, energy and cost. They can be prepared earlier before decide to cook food. Besides, admin can reduce their time for managing the system through mobile application only.

2. Related Work

2.1 Background of Self-Learning Cooking Application

Self-learning is the modern form of learning. There are many ways to learn whether in traditional or modern form. Usually for traditional, we learn by reading a book, making and write a note without open any device, hardware or software, but in the modern, we learn by open the resources online. Self-learning as one of the best ways to gain knowledge effectively [1]. Cooking is an art that comes effortlessly to some, but for others, it's a foreign language that takes time to master. Self-learning cooking application is the way that can be used to gain new knowledge about how to cook even for newcomers [2].

Self-learning cooking application is focused to those adults that want to learn how to cook. Nowadays, eating is a priority, at least 3 times in a day to make sure we are healthy. Cooking is one of the safest things that people need to be focused on so that they can preserve hygiene and avoid excessive unnecessary groceries. The current process for people to learning cooking are user open manual book to see the recipes or watching the video online, choose the recipes, user list the groceries at papers or mobile, user shopping the groceries and cook the food. The sequential steps that the user does manually to cook the food is shown in Figure 1.



2.2 Study of Existing Related Systems

In this project development, there are few systems information that are gathered and review, which are ChefBook's Mobile Application [3], CookIIS Mobile [4] and Food Recipe Application [5]. Table 1

discuss about the features, schedule, groceries and calories, which to compare and find the difference or improvement for Self-Learning Cooking Application.

The ChefBook's Mobile Application [3], is a medium that helps a lot of people by guiding them the procedure of cooking step by step. The system uses the Rational Unified Process (RUP) as project methodology where consists of inception, elaboration, construction and transition phase. The features that unavailable to the system, but available in Self-Learning Cooking Application is prepare a schedule for recipes to the user, list groceries displayed based on choosing recipes and calculate and display calories per served.

The CookIIS Mobile [4] recommend the recipes based on the ingredient that available in the kitchen. This recipes application was implemented using a case study of myCBR 3 SDK and extended with the Open Source Business rule engine Drools. CBR is a high value for mobile applications in various domains. CBR also can help knowledge-based system to obtain user information for improving the application in future. The features that available in the system are search ingredients, recipe details, favourite list, ingredient added in list and recommended recipes. The features that unavailable to the system, but available in Self-Learning Cooking Application are prepare schedule for recipes daily and weekly and calculate and display calories per served.

The Food Recipe Application [5] helps people to complete cooking task with minimal time. People can get access to multiple recipes in one application. This application aims to help users decide a recipe to cook and to guide the user to the recipes based on what they choose. The food recipes that available in the system are favourites, search by ingredients, all recipes and add new recipes / ingredients and recipe details. The features that unavailable to the system but available in Self-Learning Cooking Application are prepare schedule for recipes chosen, list groceries based on chosen recipes and calculate and display calories per served.

Table 1: Comparison of existing and Self-Learning Cooking Application

	ChefBook's Mobile Application [3]	CookIIS Mobile [4]	Food Recipe Application [5]	Self-Learning Cooking Application
Features	- Register account - Login account - Recipe procedure - Check ingredient preparation - Check cook procedure - Search recipe	- Search ingredients - Recipes details - Favourite list - Ingredient added in list - Recommended recipes	- Favourites - Search by ingredients - All recipes - Add new recipes/ ingredients - Recipes details - Database tables structures	- Registration - Log in - Manage Recipes - Manage Groceries - Calculate Calories - Manage System
Manage Recipes	Not available	Not available	Not available	Prepare recipes daily and weekly
Manage Groceries	Not available	Ingredient added in list	Not available	List groceries displayed based on chosen recipes
Calculate Calories	Not available	Not available	Not available	Calories will be calculated and displayed

2.3 Comparison of the Existing Systems

In a nutshell, there are several features that are similar to this Self-Learning Cooking application. However, the similarities can be used for the application development.

3. Methodology

This project is developed driven by Prototyping model [6]. There are six main phases which are planning, analysis, design, implementation prototype, implementation and testing. For each phase, the sub activities and output are identified.

The first phases of prototyping model are planning which is the requirements are gathered from the stakeholder by interview [7]. The interview undergoes with three people, which is a chef, influencer of cooking and dietitian. During the process, the users of the application are interviewed to know what their expectation of the application is. All the requirements that been gather were being analysed and can proceed to the next step which is design. In this phase, the Gantt chart is used for a guide to the application developer to complete the application. The guidelines are to know the relationship between activities and know the list of activity which is the process to complete the application.

In the analysis phases, the existing systems were observed. The common features in the existing systems are applied to the developed application. The features also be considered to make the application user friendly [7]. The requirements are collected from stakeholder and this will help to identify the solution. As-is diagram is created to understand the original flow of the cooking process. To-be application diagram is also created to specify the new improvement in the developed application. These diagrams help the developer to understand the process in details way. Besides, the requirements of the application are specified by using the object-oriented approach in the form of Use Case Diagram, Activity Diagram, Sequence Diagram and Class Diagram. The approach is used as a guideline to make the process of application clearer to the developer. The requirements in this app are listed on the requirement.

In the design phase, user interfaces are outlined [8]. However, it is not a complete design. It gives a brief idea of the application to the user. The design helps in developing the prototype. The first design is focused on the interface of the application which are drawn in android studio. The interface will be designed for a cooking theme. The navigation bar android bottom of the application also designed as a reference to the user to go to other pages such as homepage, summary schedule, groceries checklist, summary checklist and sign out. Next is database design which this application using firebase database [8]. In this phase, the data dictionary is created for each entity and attribute such as string for full name, string for email and many more which are used along developing the application.

There are three prototypes are developed in this project. The first prototype focuses on the interfaces on the application. They are developed using android studio [9]. The interfaces are divided to the homepage, adding or view recipes, the total calories in schedule, summary schedule and the list of groceries. After all activities are completed in prototype 1, the chef gives feedback, comments and recommendations on interfaces. The second prototype is focused on the connection of the interfaces to the database [10]. This will include the usage of the android studio for interfaces application and firebase that store the data of the application [11]. The third prototype is focused on the connection or integration between the modules of the application. They are registration, log in, view recipes, set schedule, manage groceries, view total of calories and manage application whether it can be used or not. If all the module is functioning well, the application is shown to the chef for feedback, comments and recommendations.

In implementation final application phase, the application is finalized and compiled as an apk application. It is then shown to the user and the chef.

The final phase is testing where test cases are produced by referring to requirements in requirement definition [7]. If the module is developed successfully followed the requirements, it is shown passed while if it is developed unsuccessfully, it is shown to fail.

4. Result and Discussion

This section discusses analysis and design output and shows outcome of the implementation and testing to Self-Learning Cooking Application.

4.1 Requirement Analysis

In this section, the analysis outcomes which is To-Be diagram, Use Case Diagram, Class Diagram and Requirement Definition are specified.

4.1.1 To be Diagram

There are two types of users: user and admin taking part into In Self-Learning Cooking Application. The business process in the application is shown in Figure 2.

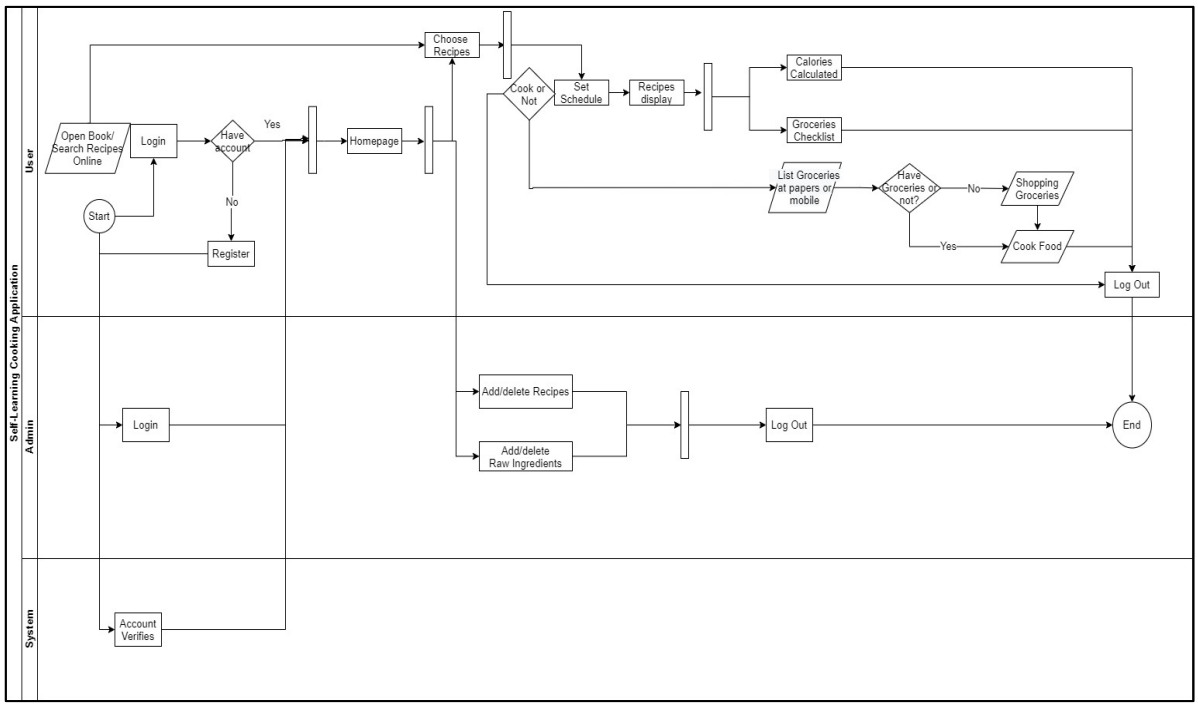


Figure 2: To be diagram

4.1.2 Use Case Diagram

The main features in the Self-Learning Cooking Application are Registration, Login, View Recipes, Set Schedule, Manage Groceries, Calculate Calories and Manage System. The association between the features and the actors is shown in Figure 3.

4.1.3 Class diagram

The class diagram in the app is shown in Figure 4 which is the crucial part in this project. There are 8 entity classes in the Self-Learning Cooking Application.

4.1.4 Requirements Definition

Details of functional requirements for each use case in Figure 3 are shown in Table 2 and Table 3.

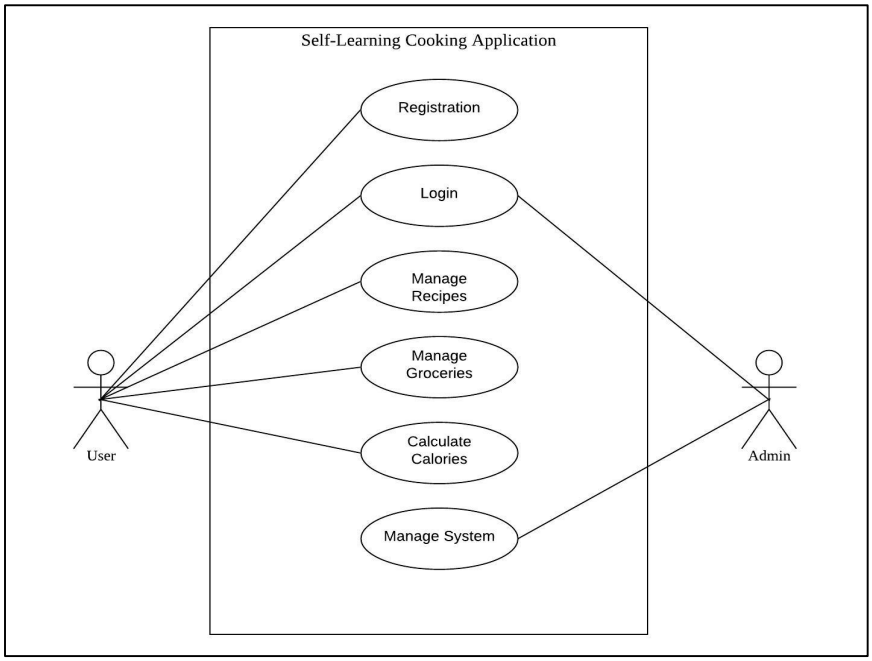


Figure 3: Use Case diagram for Self-Learning Cooking Application

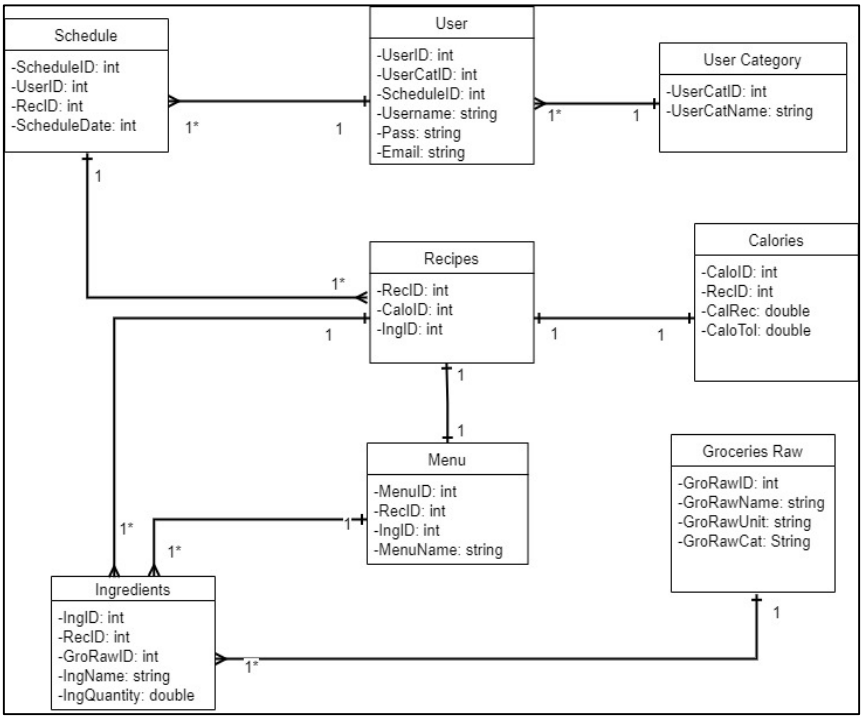


Figure 4: Class diagram

Table 2: Functional Requirement of the application

Requirement	Functional Requirement
SRS_RQ_100	Registration
RQ_100_101	The system shall allow user to create an account by inserting their information.
SRS_RQ_200	Login
RQ _200_201	The system shall allow the user and admin login into the system by inserting email and password.
SRS_RQ_300	Manage Recipes
RQ _300_301	The system shall allow the user to add recipes into the schedule.
RQ _300_302	The system shall be able to show the chosen recipes are added into schedule
SRS_RQ_400	Manage Groceries
RQ _400_401	The system shall be able to show the groceries list in the system.
RQ _400_402	The system shall allow the user to select the groceries needed for the shortlist in the application.
RQ _400_403	The system shall be able to show the summarize groceries in the system
SRS_RQ_500	Calculate Calories
RQ _500_501	The system shall be able to show the total calories of the recipes chosen in the system.
SRS_RQ_600	Manage System
RQ _600_601	The system shall allow the admin to add the recipes in the system.
RQ _600_602	The system shall allow the admin to add procedure of the recipes in the system
RQ _600_603	The system shall allow the admin to add ingredients of the recipes in the system
RQ _600_604	The system shall allow the admin to add raw ingredient in the system
RQ _ 600_605	The system shall allow the admin to delete the data in the system such as recipes and raw ingredient.
RQ _600_606	The system shall be able to display the recipes, raw ingredients, procedure and ingredients to admin.

Table 3: Non-Functional Requirement

Requirement	Non-Functional Requirements
Usability	The system should be user friendly and easy to understand.
Security	The system should be secured to keep the information of the user.

4.2 Design

Database design is the organization of data according to a database model. The designer determines what data must be stored and how the data elements interrelate. With this information, it can begin to fit the data to the database model. The database management system manages the data accordingly.

4.2.1 Database Design

Based on class diagram in Figure 4, there are seven database tables for this app. They are user, user category, recipes, grocery raw material, ingredient, schedule and menu table.

4.3 Implementation

The user will register a new account by filling in the form provided as shown in Figure 5. After that, the user and admin login into the application by entering email and password as shown in Figure 6.

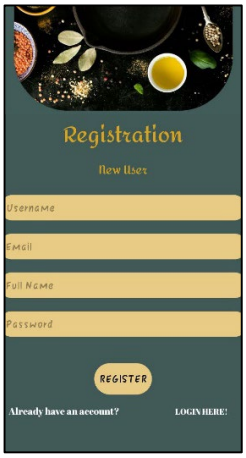


Figure 5: User Registration interfaces

Figure 6: User and Admin Login interfaces

After the application validates the Login for User or Admin, the homepage as Figure 7 (user) and Figure 8 (admin) is displayed.

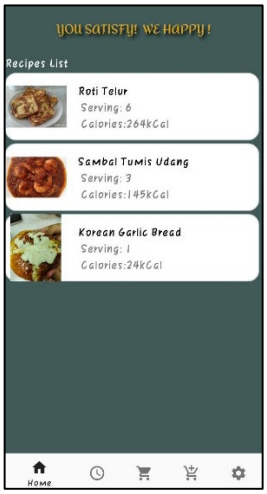


Figure 7: User Homepage interfaces

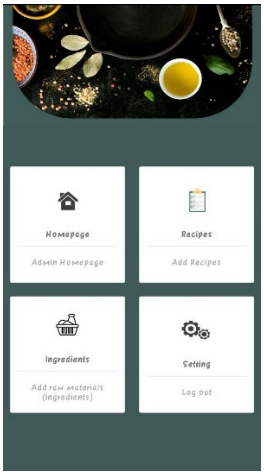


Figure 8: Admin Homepage Interfaces

On the user homepage, user can choose any recipes to view as shown in Figure 9 and add to schedule as shown in Figure 10 and the data will display in the summary schedule including total calories of chosen recipes as shown in Figure 11.

Figure 9: User Overview Recipes Interfaces

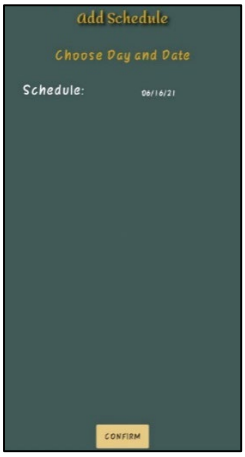


Figure 10: User Add to Schedule Interfaces

Figure 11: User Summary Schedule and Total Calories Recipes Chosen Interface

After the user chooses the recipes, the groceries will be listed as shown in Figure 12 and the user can select the groceries to be shortlisted or last view in summarizing groceries as shown in Figure 13.

Figure 12: User Groceries List Interface

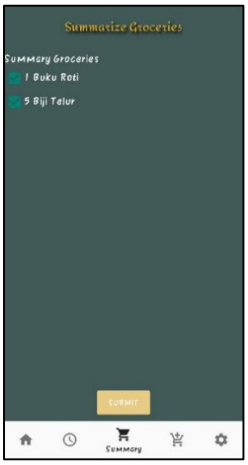


Figure 13: User Summarize Groceries

Admin Interfaces

In the admin homepage, admin can add recipes, procedure and ingredient in Add recipes page in (Figure 14). Besides, admin can add raw ingredient in (Figure 15).

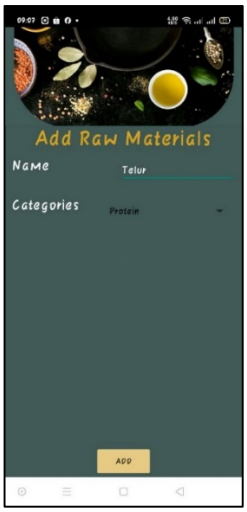


Figure 14: Add recipes Page

Figure 15: Add Raw Ingredient

4.4 Testing

4.4.1 Test Cases

Testing is the process of ensuring that the application being developed meets the needs of the application's users [7]. The list of the test cases and its traceability to the requirements to be tested are shown in Table 4.

Table 4: Requirement Traceability Matrix

TEST CASE	Software Requirement	Description	Output
STD_TEST_100	SRS_RQ_100	Registration	PASS/ FAIL
TEST_100_101	RQ_100_101	User can register into the application by completing all form.	PASS
TEST_100_102		User cannot register into the application by not completing the form	PASS
TEST_100_103		User cannot register into the application by fill the form with existing account	PASS
STD_TEST_200	SRS_RQ_200	Login	PASS/ FAIL
TEST_200_201	RQ _200_201	The user and admin can log in into the application by inserting valid email and password	PASS
TEST_200_202		The user and admin cannot log in into the application by inserting invalid email and password.	PASS
STD_TEST_300	SRS_RQ_300	Manage Recipes	PASS/ FAIL
TEST_300_301	RQ _300_301	The user can add recipes into the schedule by choosing one of the recipes	PASS
TEST_300_302		The user cannot add the schedule by not choosing any recipes.	PASS
TEST_300_303	RQ_300_302	The system verifies the schedule that already set by the user	PASS

Table 4: (continued)

TEST CASE	Software Requirement	Description	Output
STD_TEST_400	SRS_RQ_400	Manage Groceries	PASS/ FAIL
TEST_400_401	RQ _400_401	The system verifies the groceries list in the groceries checklist	PASS
TEST_400_402	RQ _400_402	The user can select groceries in the checklist groceries.	PASS
TEST_400_403	RQ _400_403	The system verifies groceries in summary groceries	PASS
STD_TEST_500	SRS_RQ_500	Calculate Calories	PASS/ FAIL
TEST_500_501	RQ _500_501	The total calories calculated based on recipes chosen by the user.	PASS
STD_TEST_600	SRS_RQ_600	Manage System	PASS/ FAIL
TEST _600_601	RQ _600_601	The admin adds recipes by completing the form in add recipes page.	PASS
TEST _600_602	RQ _600_602	The admin adds procedure by completing the form in add procedure page.	PASS
TEST _600_603	RQ _600_603	The admin adds ingredients by completing the form in add ingredient page.	PASS
TEST _600_604	RQ _600_604	The admin adds raw ingredient by completing the form in add raw ingredient page.	PASS
TEST _ 600_605	RQ _ 600_605	The admin deletes the data by click the delete button in raw ingredient page and recipe page	PASS
TEST _600_606	RQ _600_606	The system ensures the recipe, raw ingredient, procedure and ingredient display.	PASS

4.5 Overall Result

Testing is a process to test the system functionality. Test cases was conducted in this part where the module which is registration, login, manage recipes, manage groceries, calculate calories and manage application. The test cases shown that 100% all the test cases are passed (Table 5).

Table 5: The Overall Result of Test Case

Test Cases	Total Test Cases	Total Success	Total Fail
STD TEST_100	3	3	-
STD TEST_200	2	2	-
STD TEST_300	3	3	-
STD TEST_400	3	3	-
STD TEST_500	1	1	-
STDTEST_600	6	6	-
Total	18	18	-

The test result in Table 5 is summarized and specified in a pie chart in Figure 16.

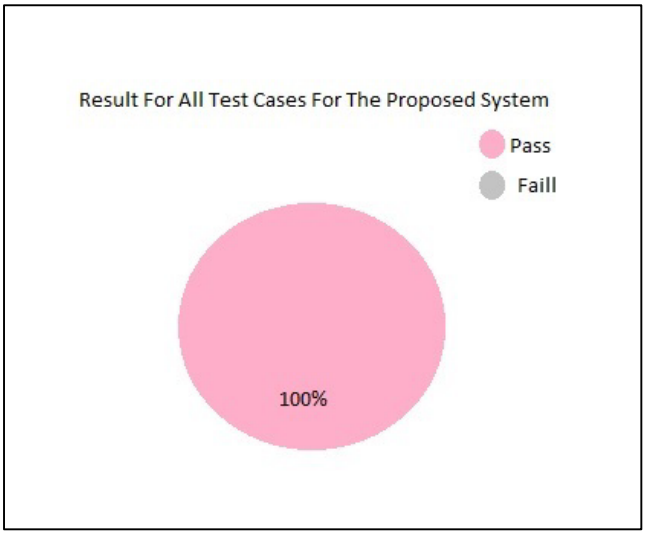


Figure 16: The Pie Chart of the Result for All Test Cases

4.4.3 User Acceptance Testing

The user acceptance testing (UAT) is participated by potential users of the app. The participants consist of the student, chef, teacher and many more. They are given several questions as in **Appendix A**. Part of the answer from the user is shown in **Appendix B.** There are twelve respondents for user category and three respondents for admin category. The result is shown in Table 6.

Table 6: Result for User Category Respondents

No.	Questions	Number of Respondent for each Scale					Total
		1	2	3	4	5	
1	The interface used is easy to understand.	0	0	2	2	8	12
2	The layout of the content in the interface is arranged accordingly.	0	0	0	3	9	12
3	The text font and size is clear to read and easy to understand	0	0	0	0	12	12
4	The graphic of the application such as colour and picture design is attractive	0	0	0	0	12	12
5	Overall I am satisfied with the application design	0	0	0	0	12	12
6	Every function of Login by the users works well.	0	0	0	0	12	12
7	The function of each features is easy to understand	0	0	0	3	9	12
8	The link from one page to another page is functioning well	0	0	0	1	11	12
9	The button for submit purpose is functioning well for all pages.	0	0	0	0	12	12
10	Overall I am satisfied with the application function	0	0	0	0	12	12

Table 7: Result for Admin Category Respondents

No.	Question	Scale					Total
		1	2	3	4	5	
1	The interface used is easy to understand.	0	0	1	1	1	3
2	The layout of the content in the interface is arranged accordingly.	0	0	0	0	3	3
3	The text font and size is clear to read and easy to understand	0	0	0	0	3	3

Table 7: (cont.)

No.	Question	Scale					Total
		1	2	3	4	5	
4	The graphic of the application such as colour and picture design is attractive	0	0	0	1	2	3
5	Overall I am satisfied with the application design	0	0	0	0	3	3
6	Every function of Login by the users works well.	0	0	0	1	2	3
7	The function of each features is easy to understand	0	0	0	1	2	3
8	The link from one page to another page is functioning well	0	0	0	0	3	3
9	The button for submit purpose is functioning well for all pages.	0	0	0	0	3	3
10	Overall I am satisfied with the application function	0	0	0	0	3	3

5. Conclusion

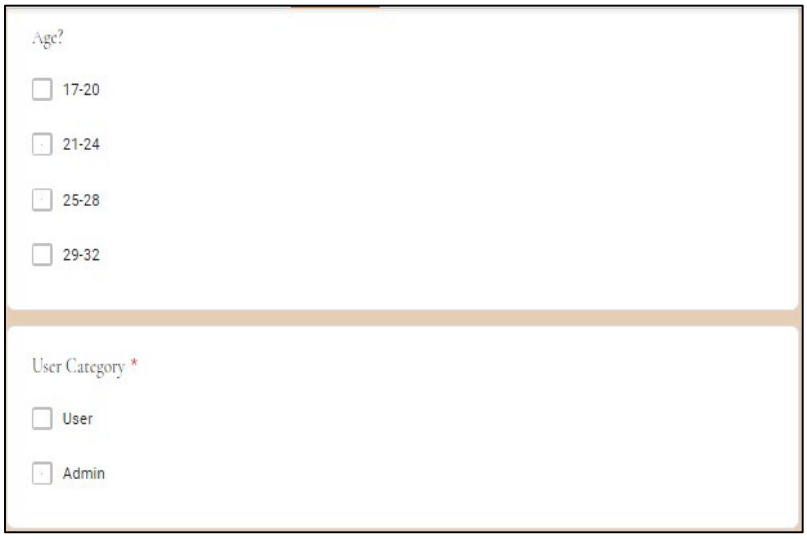
Self-Learning Cooking Application have a few advantages which is user-friendly where the user or admin can use this application anywhere and anytime as long, they bring their mobile phone, easy to understand the flow of the application where user and admin can use the features provided in the application, the features are organized well, the total calories provided help user to budget their diet well, the groceries listed help user to manage their time and money well and the features in the application is functioning well. There are few application's disadvantages which are the application is only for android user where IOS user cannot download it, limitation using ingredients part in the application where the user is hard to conclude the total amount of ingredients in the best way while the admin needs to standardized the unit of the ingredients and admin cannot use other account to access data information in the application. The recommendation for this application is to provide conversion feature from one unit to another unit as summarization. As an example, 5 cups of flour convert into 500 grams of flour. Other than that, the application provides admin to insert a video for each recipe and provide a report for admin to monitor the usage of the application. As a conclusion, Self-Learning Cooking Application was successfully developed as same as planning from the beginning of this project. This application can help people to enjoy cooking without hesitation and have a lot reminder and reference from the application. Hopefully this application help user to manage their time, money and diet in future.

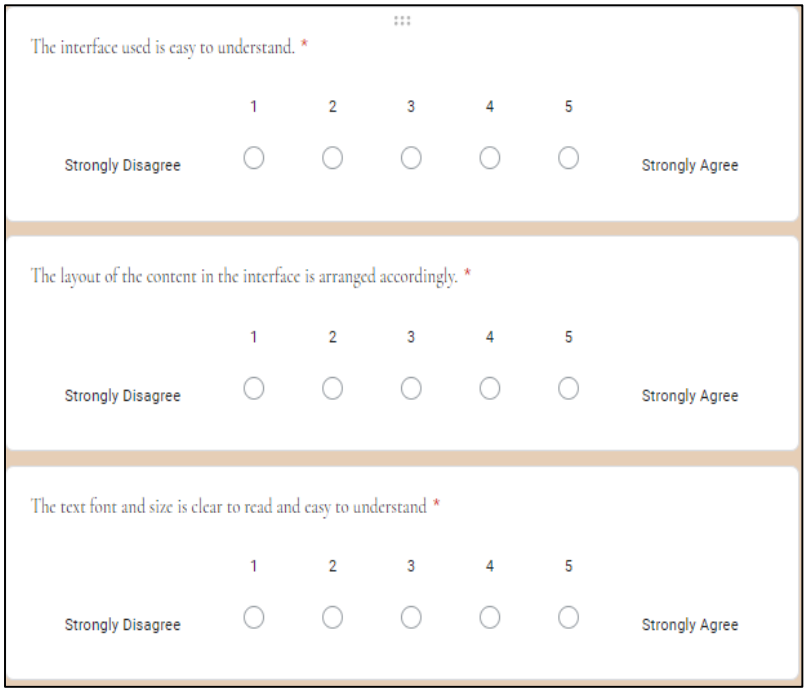
Acknowledgement

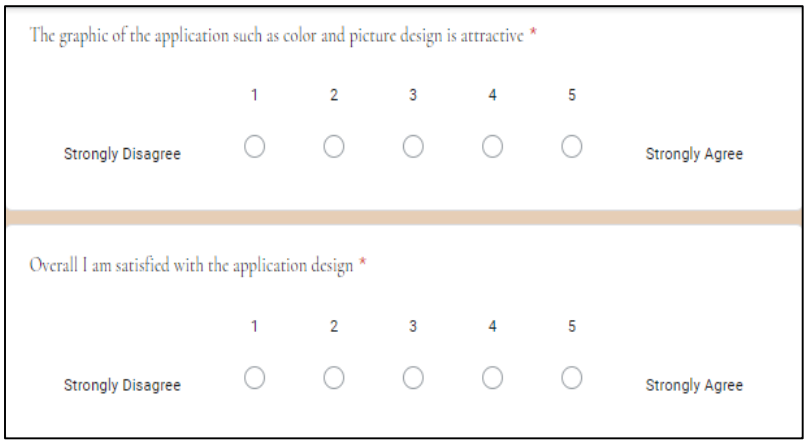
The authors also would like to thank Software Engineering Research Group (SERG) and Faculty of Computer Science and Information Technology, Universiti Tun Hussein Onn Malaysia for their support and encouragement throughout the process of conducting this study.

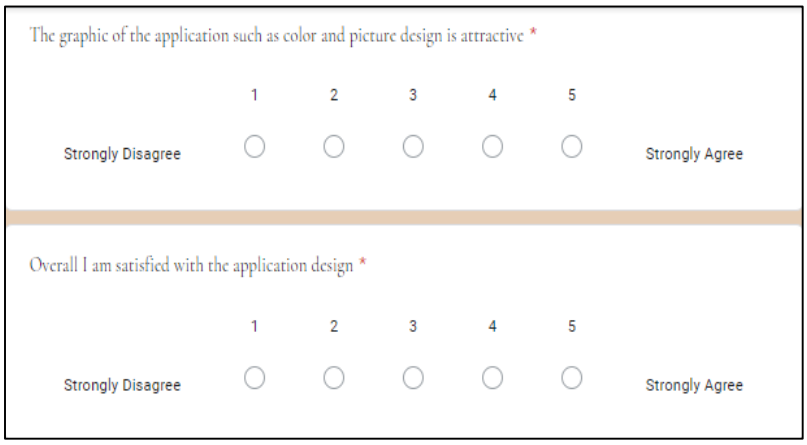
Appendix A

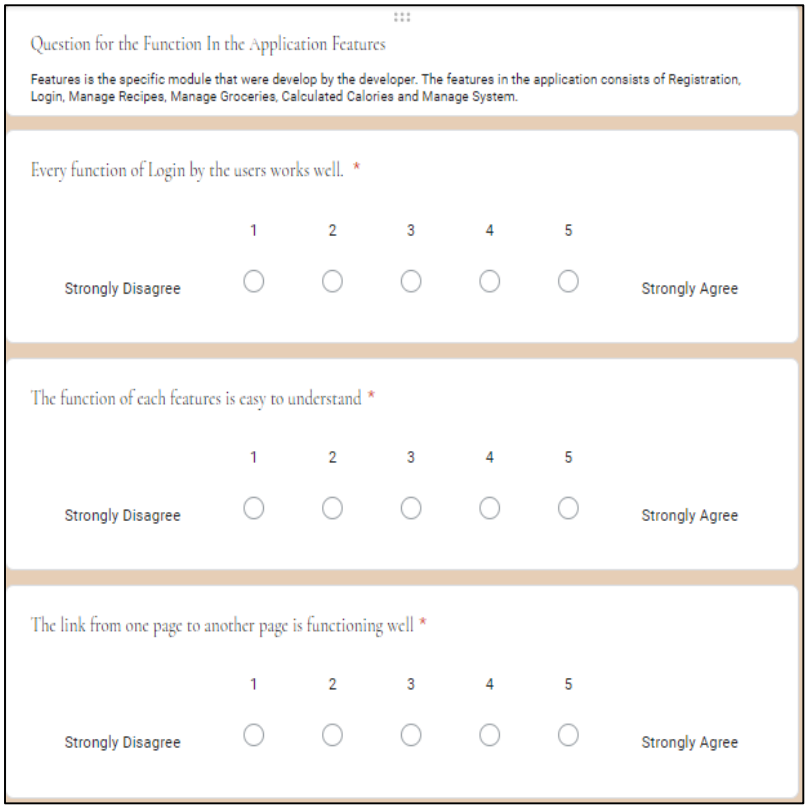

Self-Learning Cooking Application
Self-learning cooking application is an application that provide a self-taught guide on cooking for its users. The idea to implement this project are triggered are depending by people on printed or online book, difficulty to estimate cooking time, inaccuracy to estimate amount of groceries and calculate calories for the food taken. On the other hand, the user also cannot plan their daily or weekly cooking schedule. Thus, the objective of this project are to design the self-learning cooking application using Android Studio, to develop the self-learning cooking application using Android Studio and to test the functionality of the application using Android Studio. An interview session was conducted to gather the requirements from the expertise which are chef, influencer and dietitian. They recommend to build an application for the self-learning cooking with a help from the expertise such as tips, recipes, and a lot more ideas. This system is driven by activities in prototyping model. Android Studio software will be use to code and Firebase as software database. This application provides features such as making own cooking schedule, display the list of groceries and amount of calories of recipes that has been chosen. Moreover, this application is free and is suitable for adult menu. As the conclusion, hopefully this application can help people to cook effectively.
Name
Short answer text


Age?
17-20
21-24
25-28
29-32
User Category *
User
Admin


The interface used is easy to understand. *
1 2 3 4 5
Strongly Disagree
Strongly Agree
The layout of the content in the interface is arranged accordingly. *
1 2 3 4 5
Strongly Disagree
Strongly Agree
The text font and size is clear to read and easy to understand *
1 2 3 4 5
Strongly Disagree
Strongly Agree


The graphic of the application such as color and picture design is attractive *
1 2 3 4 5
Strongly Disagree
Strongly Agree
Overall I am satisfied with the application design *
1 2 3 4 5
Strongly Disagree
Strongly Agree


The graphic of the application such as color and picture design is attractive *
1 2 3 4 5
Strongly Disagree
Strongly Agree
Overall I am satisfied with the application design *
1 2 3 4 5
Strongly Disagree
Strongly Agree



Question for the Function In the Application Features

Features is the specific module that were develop by the developer. The features in the application consists of Registration, Login, Manage Recipes, Manage Groceries, Calculated Calories and Manage System.

Every function of Login by the users works well. *

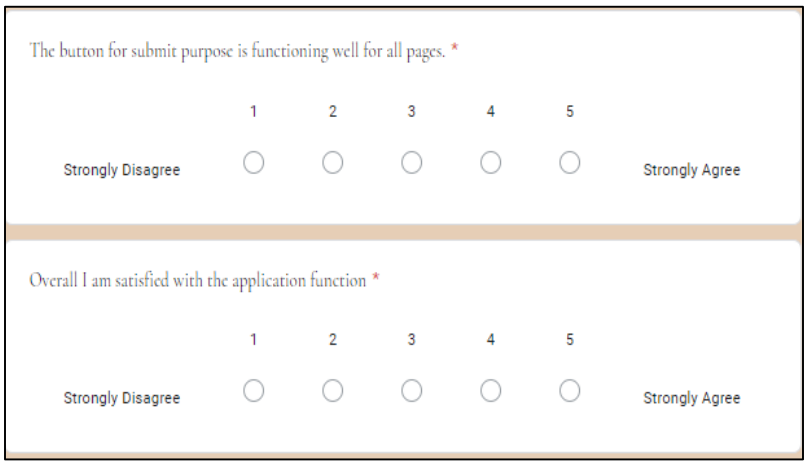
	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

The function of each features is easy to understand *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

The link from one page to another page is functioning well *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree



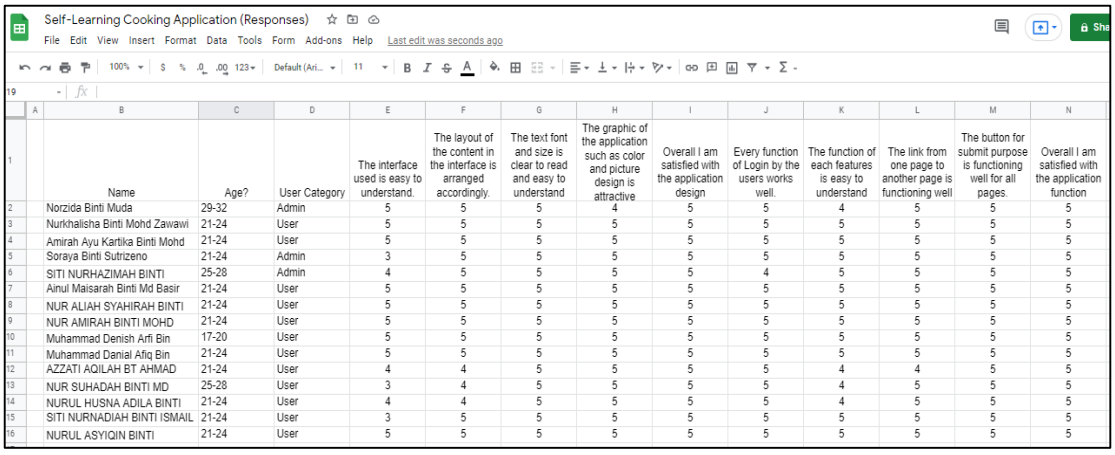
The button for submit purpose is functioning well for all pages. *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

Overall I am satisfied with the application function *

	1	2	3	4	5	
Strongly Disagree	○	○	○	○	○	Strongly Agree

Appendix B



Self-Learning Cooking Application (Responses)

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	Name	Age?	User Category	The interface used is easy to understand.	The layout of the content in the interface is arranged accordingly.	The text font and size is clear to read and easy to understand	The graphic of the application such as color and picture design is attractive	Overall I am satisfied with the application design	Every function of Login by the users works well.	The function of each features is easy to understand	The link from one page to another page is functioning well	The button for submit purpose is functioning well for all pages.	Overall I am satisfied with the application function
2	Norzida Binti Muda	29-32	Admin	5	5	5	4	5	5	4	5	5	5
3	Nurkhalisha Binti Mohd Zawawi	21-24	User	5	5	5	5	5	5	5	5	5	5
4	Amirah Ayu Kartika Binti Mohd	21-24	User	5	5	5	5	5	5	5	5	5	5
5	Soraya Binti Sutrizeno	21-24	Admin	3	5	5	5	5	5	5	5	5	5
6	SITI NURHAZIMAH BINTI	25-28	Admin	4	5	5	5	5	4	5	5	5	5
7	Ainul Maisarah Binti Md Basir	21-24	User	5	5	5	5	5	5	5	5	5	5
8	NUR ALIAH SYAHIRAH BINTI	21-24	User	5	5	5	5	5	5	5	5	5	5
9	NUR AMIRAH BINTI MOHD	21-24	User	5	5	5	5	5	5	5	5	5	5
10	Muhammad Denish Arfi Bin	17-20	User	5	5	5	5	5	5	5	5	5	5
11	Muhammad Danial Afiq Bin	21-24	User	5	5	5	5	5	5	5	5	5	5
12	AZZATI AQILAH BT AHMAD	21-24	User	4	4	5	5	5	5	4	4	5	5
13	NUR SUHADAH BINTI MD	25-28	User	3	4	5	5	5	5	4	5	5	5
14	NURUL HUSNA ADILA BINTI	21-24	User	4	4	5	5	5	5	4	5	5	5
15	SITI NURNADIAH BINTI ISMAIL	21-24	User	3	5	5	5	5	5	5	5	5	5
16	NURUL ASYIQIN BINTI	21-24	User	5	5	5	5	5	5	5	5	5	5

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