Rapidcook (Quick Recipe Maker)

Supervised by
Asif Khan Shakir
Lecturer
Department of Software Engineering
Daffodil International University

Submitted by
Mahdi Hasan
ID: 151-35-1024
Department of Software Engineering
Daffodil International University

This Project report has been submitted in fulfillment of the requirements for the Degree of Bachelor of Science in Software Engineering.

© All right Reserved by Daffodil International University

Letter of Approval

This **Project** titled "**Rapidcook (Quick Recipe Maker)**", submitted by **Mahdi Hasan, 151-35-1024** to the Department of Software Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc in Software Engineering and approved as to its style and contents.

BOARD OF EXAMINERS

Dr. Touhid Bhuiyan
Professor and Head — **Chairman**
Department of Software Engineering
Faculty of Science and Information Technology
Daffodil International University

K. M. Imtiaz-Ud-Din
Assistant Professor — **Internal Examiner 1**
Department of Software Engineering
Faculty of Science and Information Technology
Daffodil International University

Asif Khan Shakir
Lecturer — **Internal Examiner 2**
Department of Software Engineering
Faculty of Science and Information Technology
Daffodil International University

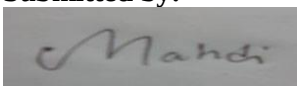
Dr. Md. Nasim Akhtar
Professor — **External Examiner**
Department of Computer Science and Engineering
Faculty of Electrical and Electronic Engineering
Dhaka University of Engineering & Technology, Gazipur

© Daffodil International University

DECLARATION

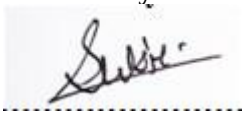
I hereby declare that, this project report submitted to the Daffodil International University, is a record of an original work done by me under the guidance of Mr. Asif Khan Shakir lecturer at the department of Software Engineering, Daffodil International University. I also declare that the project reported in this document has not been submitted to any other University or Institute for the award of any degree or diploma.

Submitted by:



……...
Mahdi Hasan
ID: 151-35-1024
Department of Software Engineering
Faculty of Science and Information Technology
Daffodil International University

Certified by:



Asif Khan Shakir
Lecturer
Department of Software Engineering
Faculty of Science and Information Technology
Daffodil International University

ACKNOWLEDGEMENT

First of all I would like to express my cordial gratefulness to Almighty **ALLAH** for **HIS** Kindness, for which thing I successfully completed my project.

While working on this project I have received many invaluable help from a large number of people. I would like to take this opportunity to express my deepest gratitude to everyone who helped us.

I felt grateful to express my boundless honor and respect to my supervisor, **Asif Khan Shakir, Lecturer, Department of Software Engineering, Daffodil International University** for his deep knowledge and keen interest in the field of software development that influenced me to carry out of this project. His endless patient helps, friendly support, which have guided me throughout our work and showed the path of achievement.

I would like to express my heartiest gratitude to **Dr. Touhid Bhuiyan, Professor and Head, Department of Software Engineering, Daffodil International University** for his kind help to finish my project and also to other faculty members, the staff of the Software Engineering Department, Daffodil International University and at last but not the least I must acknowledge with due respect the constant support and patience of our family members for completing this project.

Dedication

At first I dedicate this work to Almighty Allah for His blessing that makes me possible to complete this successfully. Almighty Allah gave me the power and confidence to done my project and this document. I also dedicate this work to my parents who always love me and pray for me and I also dedicate this work to my university and its people who always support me most.

ABSTRACT

Rapidcook is a web application which analyze user's kitchen and tell user what he/she can make with his/her available ingredients. It is quick recipe maker, It suggests what to cook and it gives information from the popular recipe websites. It makes you know which recipe is ready to cook or not. User can get all possible recipes by just adding ingredients what he/she has available. In our real life when we need to know about information order by ingredients it is very difficult to find out because first you have to search in google then you will get just few information about the recipes but not at all. So in such like the problem it needs as like the software that automatically suggest all information about your desire recipes what you are looking for about 2 hours or more time. So I think this system is benefit for the user because of time saving, giving efficient way information.

Table of Contents

Index **Page No**

Approval i

Declaration ii

Acknowledgement iii

Dedication iii

Abstract Iv

Table of Content v-vii

List of Table viii

List of Figure ix

CHAPTER

Introduction 1

1.1 Motivation 1

1.2 About the Project 1

1.3 Features 1

1.4 Objective of Rapidcook 2

1.5 Problem in Existing System 2

1.6 Schedule 3

1.7 Software Deliverable 3

1.8 Scope 3

Feasibility Study 4

2.1 Introduction 4

2.2 Technical Feasibility 4

2.3 Operational Feasibility 4

2.4 Economic Feasibility 4

Software Requirement Analysis 5

3.1 Introduction 5

3.2 Functional Requirements 5

3.3 Non-functional Requirements _____ 5
3.4 Methodology _____ 6
3.5 Software Requirement Analysis _____ 6
3.5.1 Objective/Goals _____ 6
3.6 Software Requirement Specification _____ 6
3.7 Functional and non-Functional Requirements. _____ 7
System Design and Development_____8
4.1 Introduction _____ 8
4.2 Use Case diagram _____ 8
4.2.1 Use Case diagram (Admin) _____ 8
4.2.2 Use Case diagram (Finder) _____ 9
4.3 Data flow diagram _____ 10
4.3.1 DFD (Admin) _____ 10
4.3.2 DFD (Finder) _____ 11
4.4 Entity relationship diagram_____ 12
4.6 Activity Diagram _____ 13
System Interfaces_____15
5.1 Software Language or Framework _____ 15
5.2 Development Tools and Technology _____ 15
5.2.1. User Interface Technology _____ 15
5.2.2. Implementation Tools & Platforms _____ 15
5.3 Database Design or Architecture _____ 16
5.4 Map of Hardware and Software _____ 16
Output Screens_____17
. 6.1 Home Page_____ 17
6.2 Login Page_____17
6.3 Category Page _____ 18
6.4 Ingredient Page _____ 18

6.5 Recipes Page _____ 19

Testing_____20

7.1 Importance of Testing _____ 20

7.2 Testing Modules _____ 20

7.3 Testing Environment (Hardware/Software Requirements) _____ 20

7.4 Testing Strategies _____ 20

7.5 Test Cases _____ 21

7.5.1. Test Case Module-1: - Registration _____ 21

7.5.2. Test Case Module-2: - Login _____ 22

7.5.3. Test Case Module-3: - Recipe Management _____ 23

7.5.4. Test Case Module-4: - Searching Recipes _____ 24

7.6. Testing Deliverables _____ 25

7.6.1. Project Status Report _____ 25

7.6.2. Change Management _____ 25

Conclusion_____26

8.1 Critical Evolution and Team Attainment _____ 26

8.2 Limitations _____ 26

8.3 Future Scope _____ 26

8.4 Final Synopsis _____ 26

Appendices_____27

9.1 Reference_____28

LIST OF TABLE

Table 1: Schedule _____ 3
Table 2: Functional and non-functional requirements _____ 7
Table 3: Map of Hardware and Software _____ 16
Table 4: Test Case Module - 1 _____ 21
Table 5: Test case - 1 _____ 21
Table 6: Test Case Module - 2 _____ 22
Table 7: Test Case - 2 _____ 22
Table 8: Test Case Module - 3 _____ 23
Table 9: Test Case - 3 _____ 23
Table 10: Test Case Module - 4 _____ 24
Table 11: Test Case - 4 _____ 24

LIST OF FIGURE

Figures **Pages**

Figure: 4.2.1: Use Case Diagram (Student) 8

Figure: 4.2.2: Use Case Diagram (Finder) 9

Figure: 4.4.1 Level 1 – DFD diagram (Admin) 10

Figure: 4.4.2 Level 1 – DFD diagram(Finder) 11

Figure: 4.5 ER Diagram 12

Figure: 4.6 Activity Diagram(Admin) 13

Figure: 4.7 Activity Diagram(Finder) 14

Figure: 5.3 Database Design 16

Figure 6.1: Home Page 17

Figure 6.2: Login Page 17

Figure 6.3: Add Category 18

Figure 6.4: Ingredient Page 18

Figure 6.5: Recipe List Page 19

Figure 6.6: Manage Recipe Page 19

Chapter 1

Introduction

1.1 Motivation

Rapidcook is an web application which analyze user's kitchen and tell user what he/she can make with his/her available ingredients. It is quick recipe maker, It suggests what to cook and it gives information from the popular recipe websites. It makes you know which recipe is ready to cook or not. User can get all possible recipes by just adding ingredients what he/she has available.

1.2 About the Project

Rapidcook project's aim to find out the desire recipes to the user. Because for finding recipes user has to find first ingredient in the google and there are many ingredient to search which is very time waste issue and difficult to find out the desire recipe. My project Rapidcook suggests thousands of recipes order by ingredients. It easily detects the matched and unmatched recipes easily.

1.3 Features

Finder Module:

- Registration
- Log In
- Select Ingredients
- View Recipes (order by selected ingredients)
- Searching Recipes
- Add favorite recipes

Admin Module:

- Log In
- Add/View/Update/Delete Category
- Add/View/Update/Delete Ingredients
- Add/View/Update/Delete Recipes
- Search Recipes

1.4 Objective of Rapidcook (Quick Recipe Maker)

To create a web app to help its user, all user like admin, assistant, student should automate the system.

- To save time for user
- Make easier to know recipes
- Very user friendly GUI for selecting ingredients
- System suggests thousands of recipes
- Show matched and unmatched recipes.

1.5 Problem in Existing System

- Risk of mismanagement
- No proper coordination between different Applications and Users
- No communication
- No responsibility.

Advantages:

- User friendliness is provided in the application with various controls.
- The system makes the overall project management much easier and flexible.
- There is no risk of data mismanagement at any level while the project development is under process.

1.6 Schedule

For the proposal I needed about 7 days to processing my proposal. Then I design SRS for the system and it takes about 14 days. After completing my SRS I decided to design front GUI (Graphical User Interface) and it takes about 14 days. After GUI it needs to implement back-end development coding so it takes about 30 days. Testing keeps vital role for quality software so I tested every module one by one and it takes about 7 days. Finally it needs the finalization of the product so revised the whole process then finalize the system and release first version of my software.

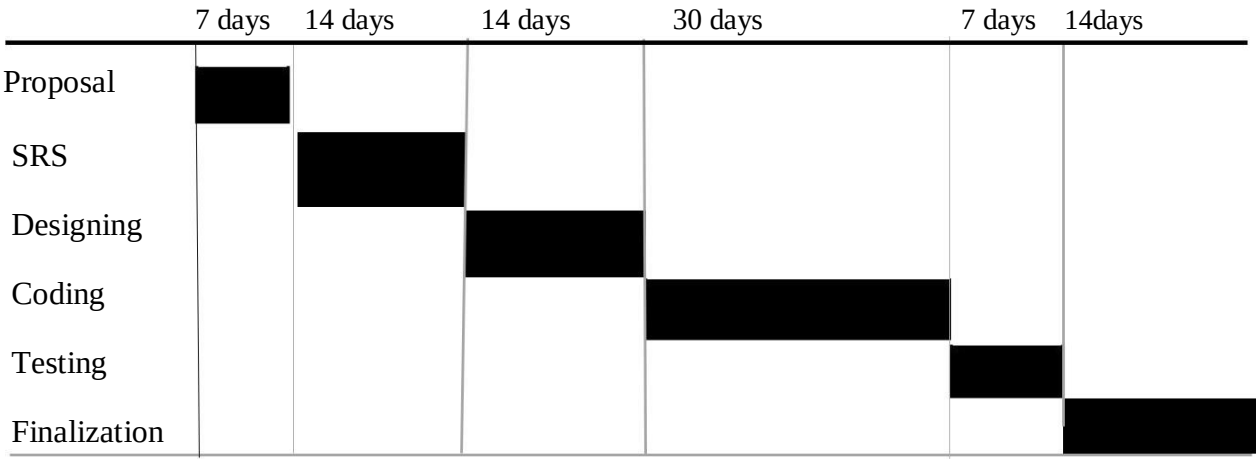


Table 1: Schedule

1.7 Software Deliverable

The main deliverables of this project is the complete system and the system document that will include:

- Software requirements and specification
- Software design document

1.8 Scope

- It can be used in any where because it is web based application. User can browse and get desire recipes in staying their home, office or other place.
- User does not need to log in for searching recipes.
- It populates recipe information from popular recipe web site so there are no false information providing to the user.

Chapter 2

Feasibility Study

2.1 Introduction

There are aspects in the feasibility study portion of the preliminary investigation:

- Technical Feasibility
- Operation Feasibility
- Economic Feasibility

2.2 Technical Feasibility

Rapidcook project's aim to find out the desire recipes to the user. Because for finding recipes user has to find first ingredient in the google and there are many ingredient to search which is very time waste issue and difficult to find out the desire recipe. My project Rapidcook suggests thousands of recipes order by ingredients. It easily detects the matched and unmatched recipes easily.
. It will try to provide a more secure, fast operational, risk managing, user friendly system which will give to user the best service.

2.3 Operational Feasibility

In the side of user all around the world every people can use it. Because we all need to cook and need to know about recipes so every user can use it and operate it.

2.4 Economic Feasibility

Rapidcook (Quick Recipe Maker) will reduce the number of working time, budget money, problems in data processing, processing time, suffering percentages of people. It will increase process speed, user satisfaction, service accuracy level. This project design based on all operational parameters such as reliability, maintainability, supportability, usability, sustainability, affordability. At this time. Our collaboration can provide the service to the maximum number of user.

Chapter 3

Software Requirement Analysis

3.1 Introduction

For all project it need good requirement specification. If a requirement is not good then this project can be destroy. For a good application good requirement need. There are some requirement that use for this application. It need functional and non-functional requirements. Because all this requirement based with this system.

3.2 Functional Requirements

- Admin do login while for accessing the system
- Add category
- Add ingredient
- Add recipes
- Edit category
- Edit ingredient
- Edit recipes
- Delete category
- Delete ingredient
- Delete recipes
- Admin do logout to leave the system
- User select ingredient

3.3 Nonfunctional Requirements

Security:

Personal details and admin, login id & password, must be remain confidential.

Availability:

The website is available for 24 hours a day. It is always available for user.

Usability:

It has good graphical user interface. It is user friendly. So user feel easy to use.

Efficiency:

It is efficient for all user. Because it is easy to use and easy to understand. It has simple way of work that user want to do.

3.4 Methodology

This project follow waterfall model. Because, for this project requirement can be collected once, second time this requirement was not changed.

3.5 Software Requirement Analysis

Software requirement analysis is important part of out project. If requirement of project is clear then a project can be done easily. Our objectives for software requirement is:

3.5.1 **Objective/Goals**

- Automatically handle all process
- Student can report of complain through online
- Assistant can know which problem and where
- Authority can know everything.

3.6 Software Requirement Specification

Software Requirement Specification is a description of full software system requirements. Software Requirement Specification describes the behavior of software from user's point of view. The specified requirements are shown in following table based on module. The functional requirements and non-functional requirements are following:

3.7 Functional and non-Functional Requirements.

SRS id	Function	Description	SRS Type	Priority
SRS-01	Recipe Management	Admin do login	FR	HIGH
SRS-02		Admin add recipe,ingredient,category	FR	MODERATE
SRS-03		Admin read recipe,ingredient,category	FR	MODERATE
SRS-04		Admin edit recipe,ingredient,category	FR	MODERATE
SRS-05		Admin delete recipe,ingredient,category	FR	MODERATE
SRS-06	Searching Recipe	User register in the system	FR	HIGH
SRS-07		User choose ingredient from the ingredient list	FR	MODERATE
SRS-08		User can add favorite recipes	FR	MODERATE
SRS-9		Assistant can see complain.	FR	HIGH
SRS-10	Security	No one can get access of the admin panel Without valid username and password.	NFR	HIGH
SRS-11	Usability	The website is available for 24 hours a day. It is always available for user.	NFR	HIGH
SRS-12	Efficiency	It has good graphical user interface. It is user friendly. So user feel easy to use.	NFR	MODERATE
SRS-13		It is efficient for all user. This give better performance for user.	NFR	MODERATE

Table 2: Functional and non-functional requirements

Chapter 4

System Design and Development

4.1 Introduction

Design is the first step in the development phase for any techniques. Software system design is important thing for an application. If design is not proper then application could be problematic. System should have good design. Software design is a process to transform user requirements into some suitable form, which helps the programmer in software coding and implementation.

4.2 Use Case diagram

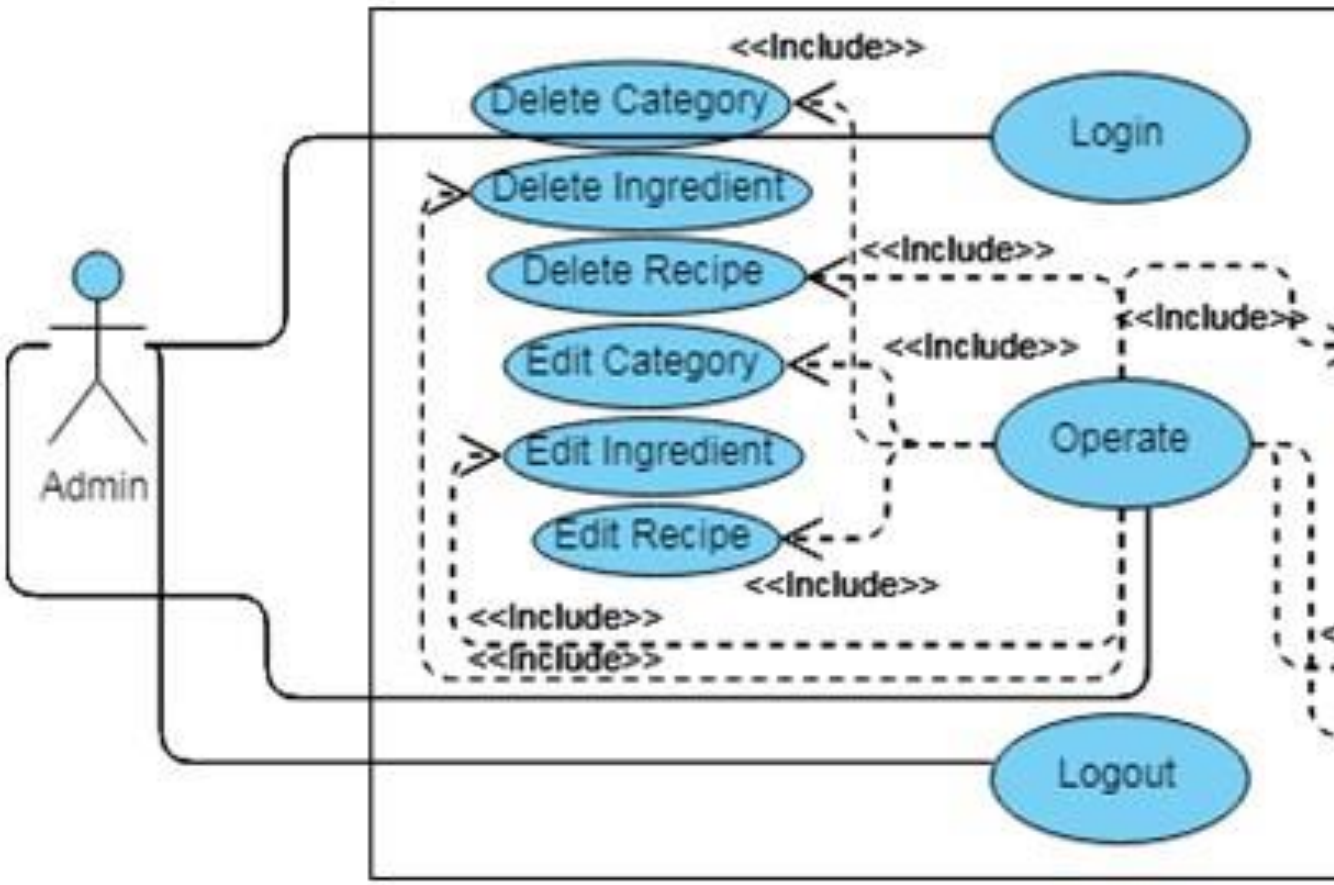


Figure: 4.2.1: Use Case Diagram (Admin)

- Admin login through php authentication
- They can operate crud operation to manage recipes
- They can see the all recipes with ingredient and category

4.2.2 Use Case diagram (Finder)

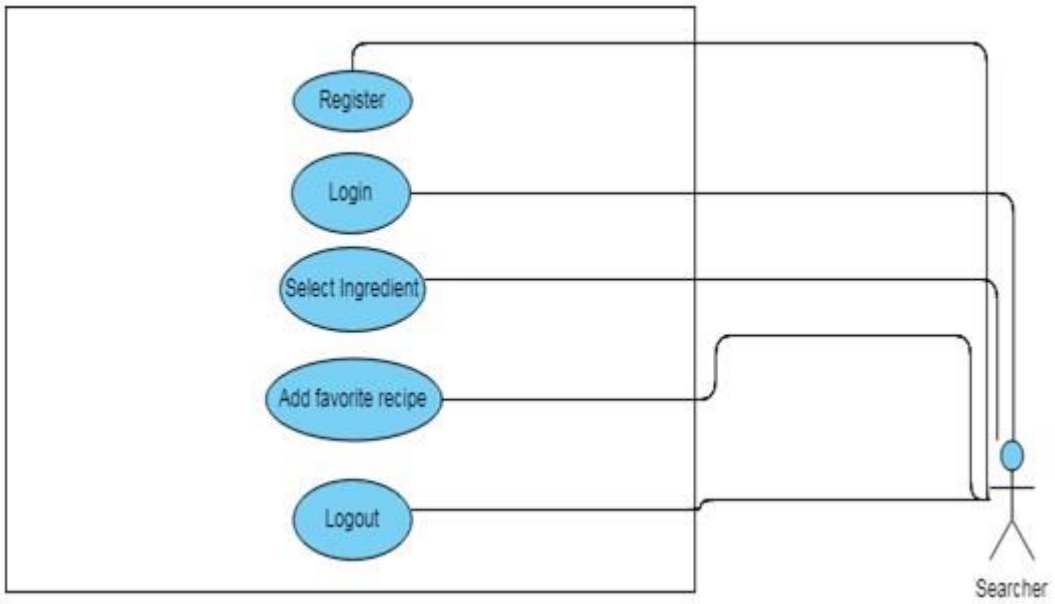


Figure: 4.2.2: Use Case Diagram (Finder)

- Finder first register to registered for using the system
- Then login to the system using php authentication
- Finder can select ingredient for searching recipes
- Finder can add favorite recipes

4.4 Data Flow Diagram (DFD)

4.4.1 DFD Level-1 (Admin)

In the diagram there is authentication process in the process admin will login and the process with interact with the User database. In the operation process admin operate some operation like Add/ Update/ Delete recipe, category, and ingredient. This all operation will interact with the database table Category, Ingredient and Recipe.

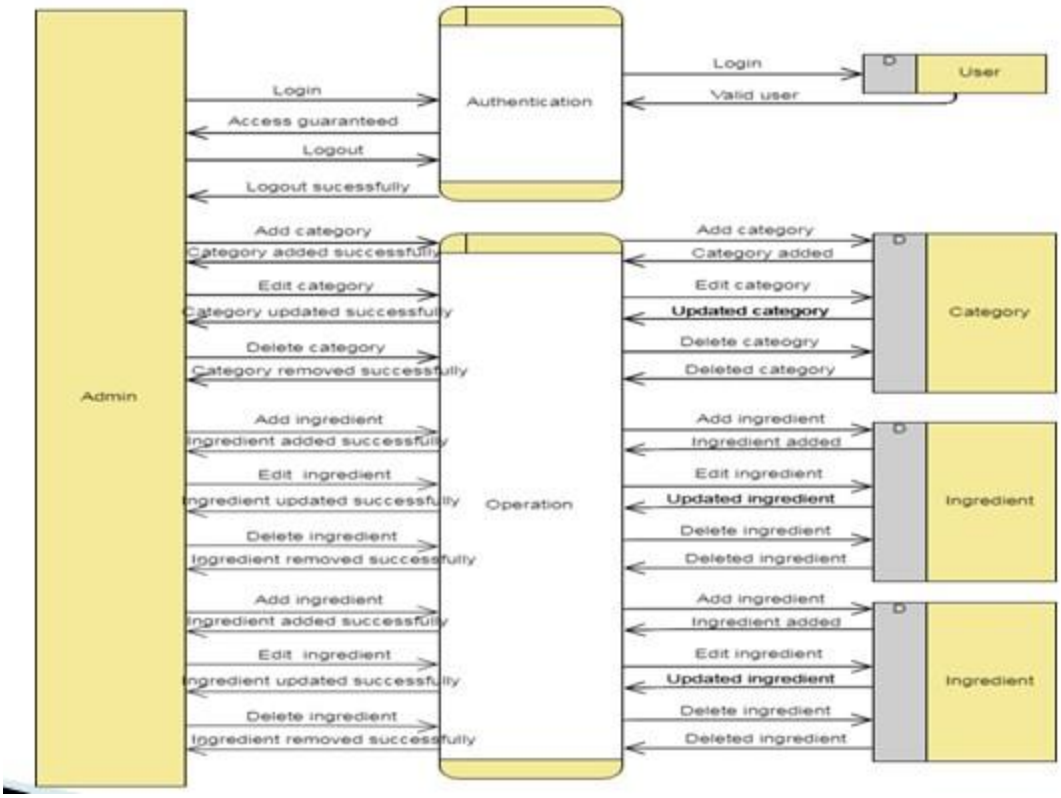


Figure: 4.4.1 DFD Level-1 (Admin)

4.4.2 DFD Level-1 (Finder)

In the diagram there is a process authentication where Finder will login to access some feature for accessing and this process will interact with the database table User. Finder will choose the ingredient then the process generating recipe will interact with the database table Recipe. After all The process will return the desire recipes to the finder.

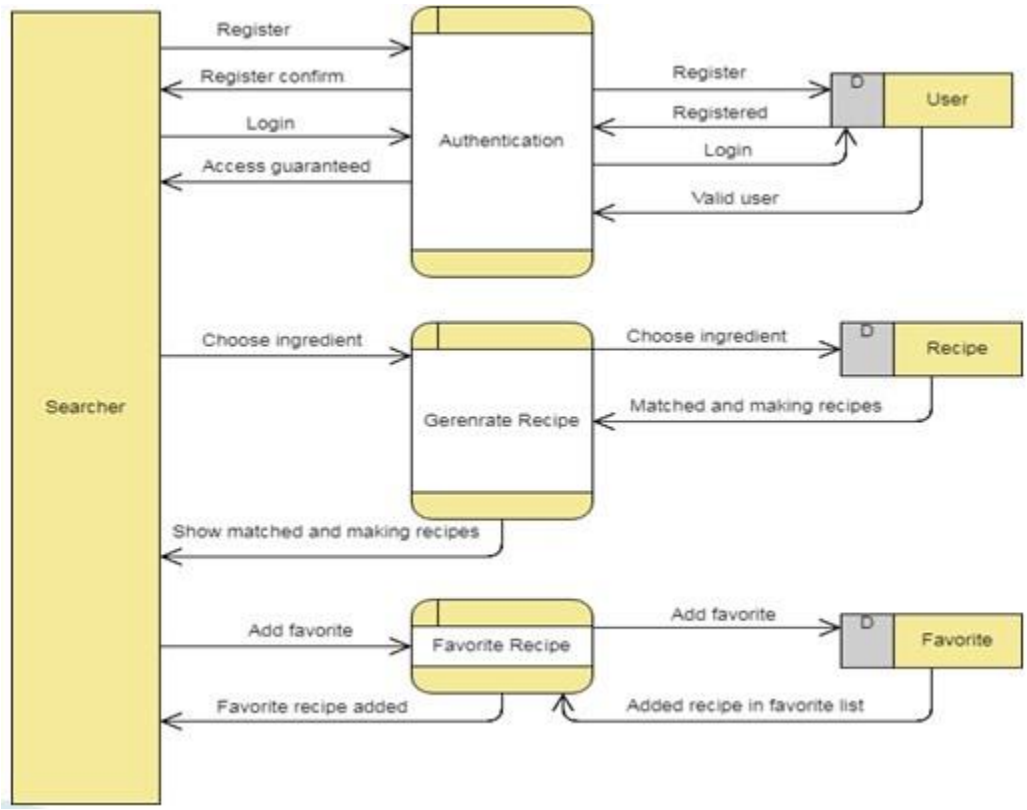


Figure: 4.4.2 DFD Level-1 (Finder)

4.5 Entity Relationship Diagram (ERD)

In the system it needs about five tables such as: Category, Recipe, Ingredient, User, and Favorite. The relation between Category and Ingredient table is one-to- many relationship. Category and Recipe table's relationship is one-to-many. Recipe and Favorite table relationship is one-to-many. User and Favorite table relationship is one-to-many. And finally Ingredient and Recipe table relationship is one-to-many.

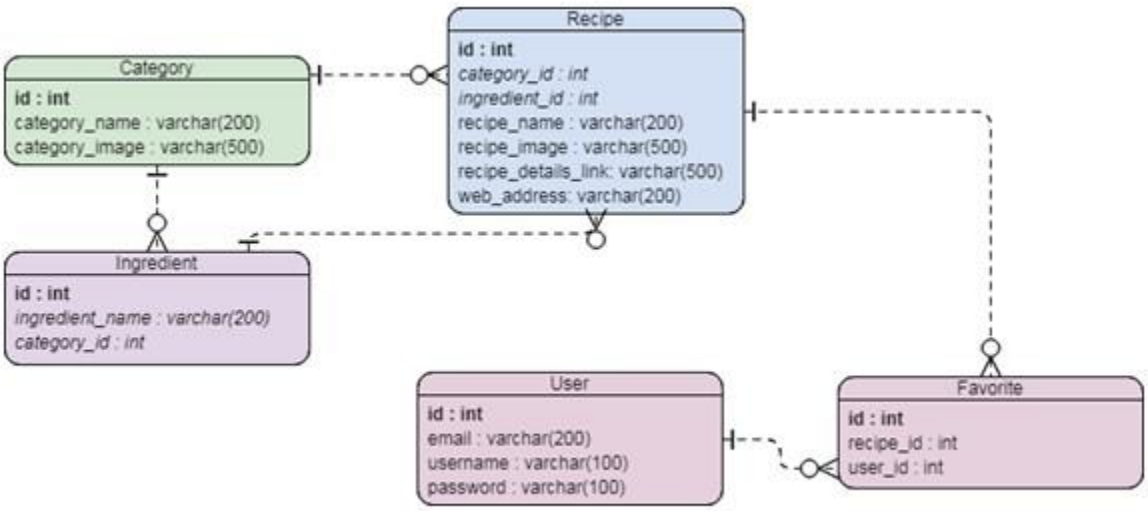


Figure: 4.5 ER Diagram.

4.6 Activity Diagram (Admin)

Firstly Admin do login for accessing the system. If the login is failed it redirects to the login page again and if success to login it takes the admin to the operation activity for operating the recipe management. There are many activities under operation such as: Create/ Update/ Delete of Ingredient/ Category/ Recipe. After all Admin can logout parallel way from any operation activity.

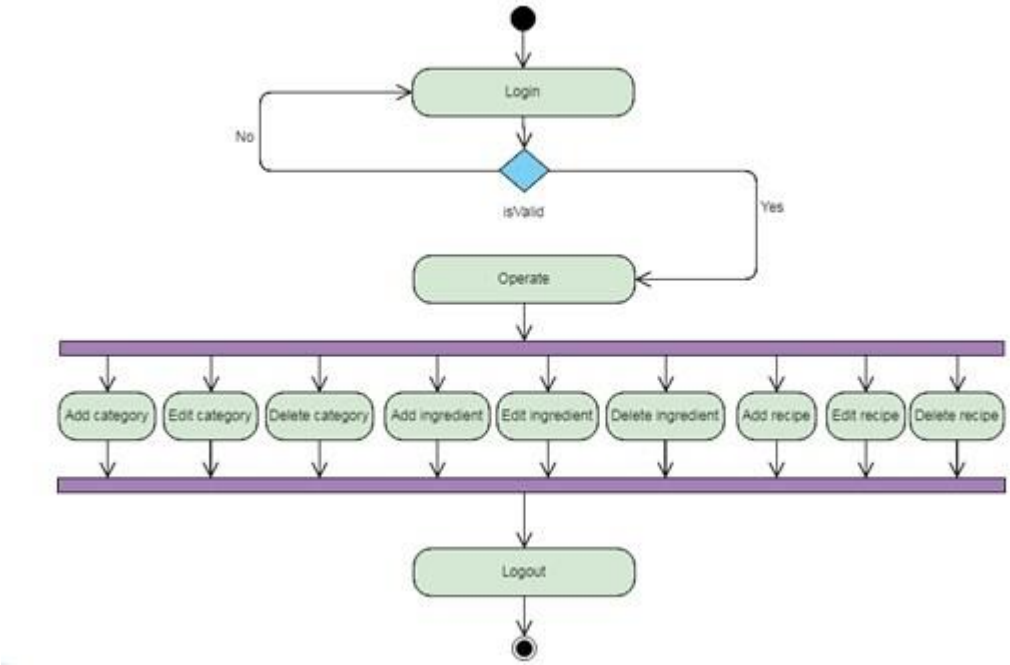


Figure: 4.6 Activity Diagram (Admin)

4.7 Activity Diagram (Finder)

Firstly Finder will register for login then he/she will login for accessing the system or Finder can access the ingredient selection module. If Finder fails to login it redirects to the registration page. If successful login then he/she will access the ingredient list and select ingredient for searching the desire recipes. The system will generate desire recipes. After all Finder will logout from the ingredient selection activity.

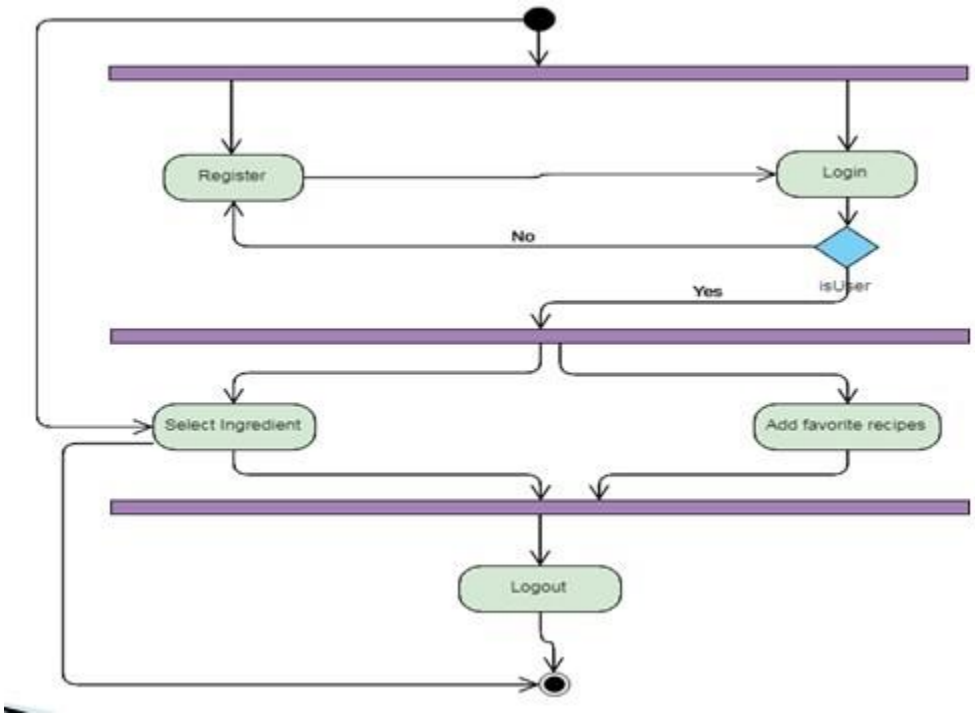


Figure: 4.7 Activity Diagram (Finder)

Chapter 5

System Interfaces

5.1 Software Language or Framework

Here, some Languages and frameworks are used for this project. Now, that is given below:

- HTML5
- CSS3
- Java Script
- Ajax
- JQuery
- Bootstrap
- PHP5
- MYSQL

5.2 Development Tools and Technology

5.2.1. User Interface Technology

Here, some Interface technology are used for this project. Now, that is given below:

- CSS Framework and Bootstrap 4
- Font Awesome

5.2.2. Implementation Tools & Platforms

Here, some tools are used for this project. Now, that is given below:

- Sublime Text 3
- MYSQL

Release Requirements

- First release version 1.0

5.3 Database Design or Architecture

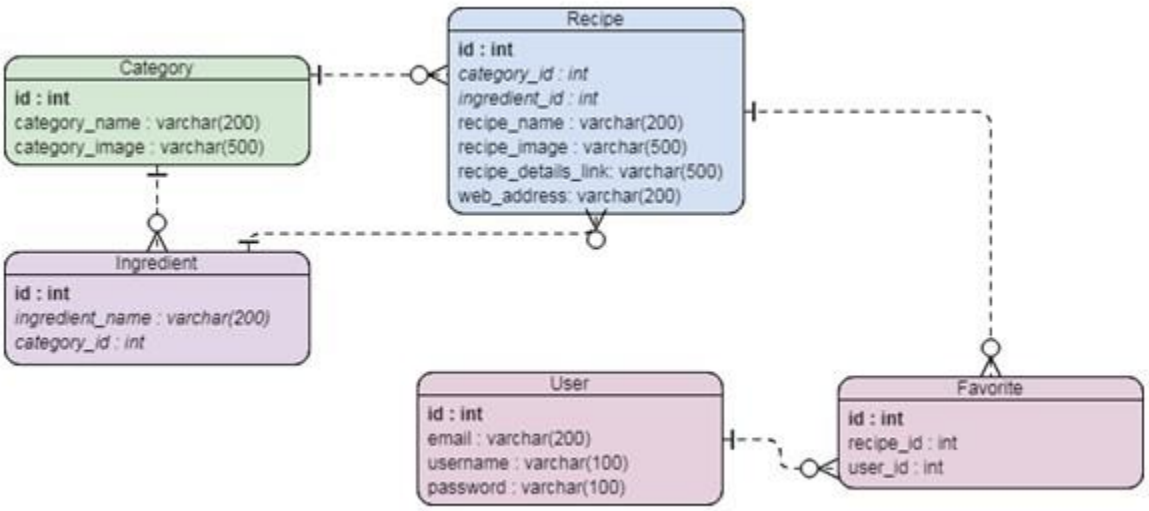


Figure: 5.3 Database Design

5.4 Map of Hardware and Software

Hardware Requirements		
Processor	**RAM**	**Hard Disk Space**
Core 2 duo or higher	2GB or higher	128 GB or higher
Software Requirements		
Operating System	**Database**	
For user no specific OS is required. The server machine must have Windows 7/8/8.1/10 along MYSQL and PHP5		

Table 3: Map of Hardware and Software

Chapter 6

Output Screens

6.1 HOME

Figure 6.1: Home Page

6.2 LOGIN

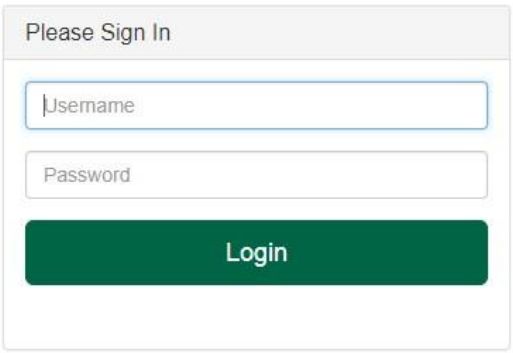


Figure 6.2: Login Page

6.3 Category

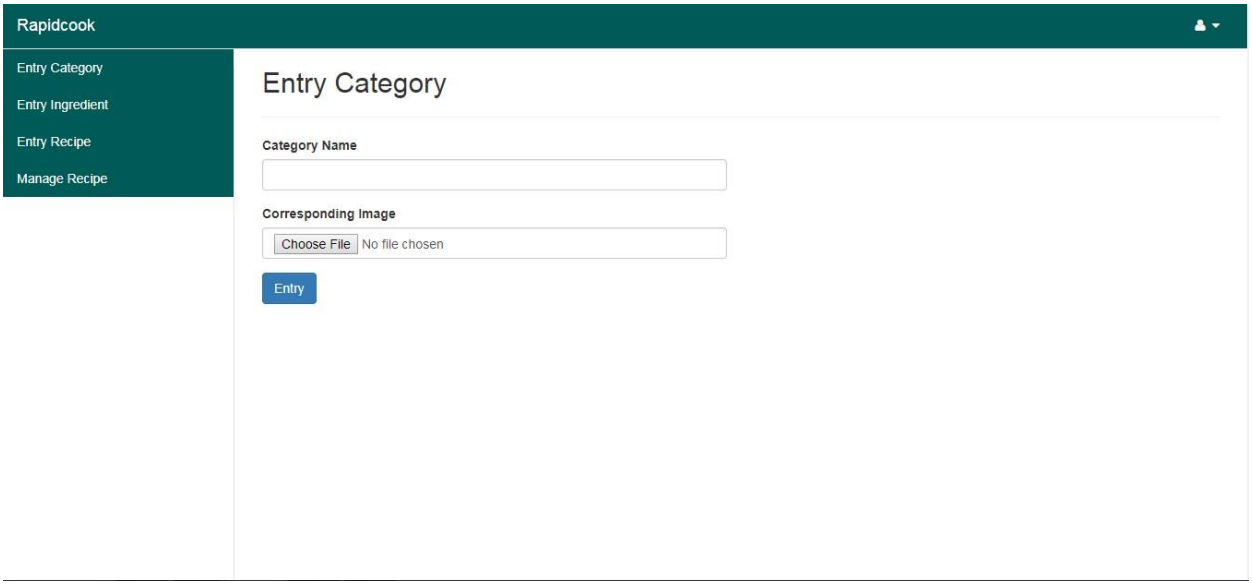


Figure 6.3: Entry Category Page

6.4 Ingredient

Figure 6.4: Ingredient Selection Page

6.5 Recipe

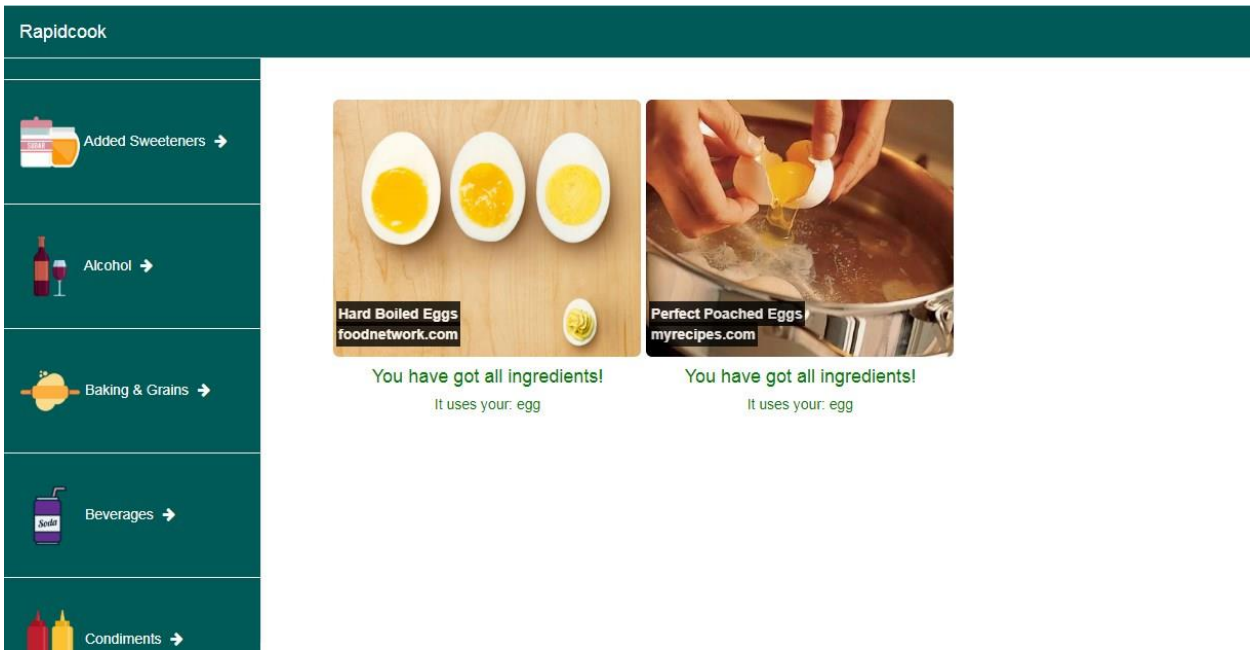


Figure 6.5: Recipe List Page

6.6 Manage Recipe

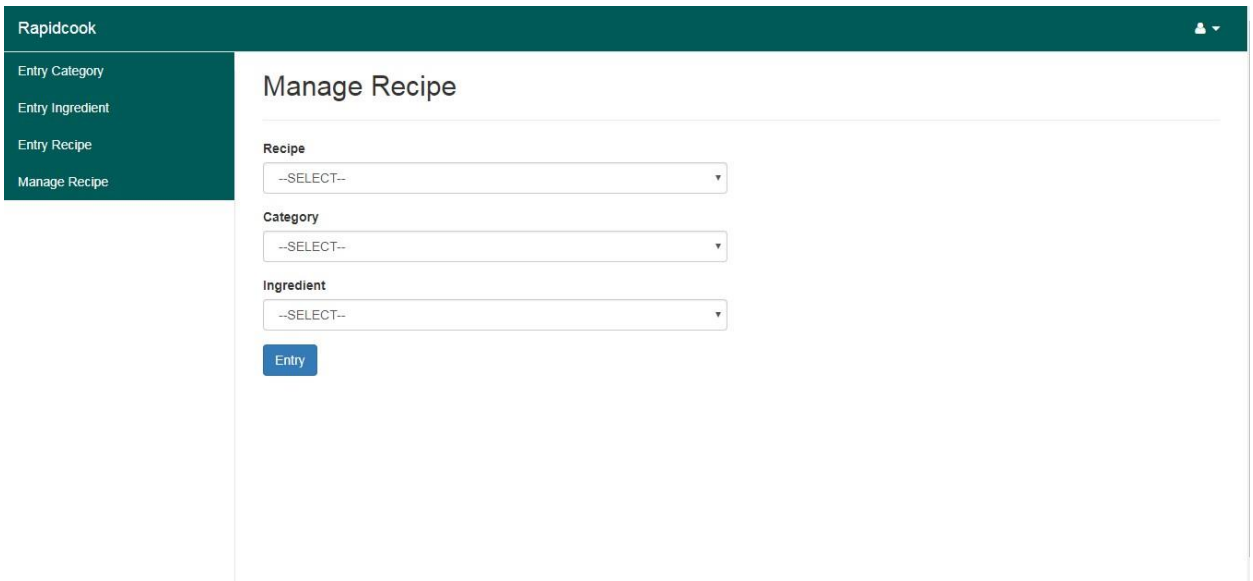


Figure 6.6: Manage Recipe Page

Chapter 7

Testing

7.1 Importance of Testing

- Testing is find errors on this application program.
- It is used for both validation and verification to develop a product.
- It is used for effective error identification.
- It makes sure customer reliability and satisfaction.
- Make sure quality of this application.
- Make sure great performance of this application.
- Required to stay in software business.

7.2 Testing Modules

- Registration
- Login Panel
- Recipe Management
- Searching Recipe
- Security

7.3 Testing Environment (Hardware/Software Requirements)

- Test data
- Web Application
- Database server
- Operating System(OS)
- Browser

7.4 Testing Strategies

A testing strategy is a general approach to the testing process rather than a method of devising particular system or component tests. Different testing strategies may be adopted depending on the type of system to be tested and the development process used.

7.5 Test Cases

7.5.1. Test Case Module-1: - Registration

Registration

Test Case ID: LTC1	Test Design by: Mahdi Hasan
Test Priority: High	Test Design Date: 04-12-2018
Module Name: Registration	Test Execute by: Mahdi Hasan
Description: This section covers the functionality of registering new users.	Test Execute Date: 05-12-2018

Table 4: Test Case Module - 1

Precondition: User has no precondition
Dependencies: Enter input required information

Step	Test cases	Test data	Expected result	P/f	Actual result
01	Enter empty value for any required Field		Display error Message	Pass	Display error message
02	Enter non-numeric value in Contact Number field	rdfgh b	Display error message "Enter valid contact number"	Pass	Display error message "Enter valid contact number"
03	Enter password less than 6 characters Long	1234 56	Display error message "Password length must be 6 characters"	Pass	Display error message "Password length must be 6 characters"
04	Enter different email format instead of xxx@xxx.xxx	gmai l.com .sg	Display error message "Invalid email address"	Pass	Display error message "Invalid email address"
05	New user Registration		Display message "Submitted Successfully''	Pass	Display message "Submitted Successfully''

Table 5: Test case - 1

7.5.2. Test Case Module-2: - Login

Login

Test Case ID: LTC2	Test Design by: Mahdi Hasan
Test Priority: High	Test Design Date: 04-12-2018
Module Name: Login	Test Execute by: Mahdi Hasan
Description: Test login process of Rapidcook (Quick Recipe Maker)	Test Execute Date: 05-12-2018

Table 6: Test Case Module - 2

Precondition: User must be registered already
Dependencies: Input correct user name & password.

Step	Test cases	Test data	Expected result	Actual result	P/F
01	Enter empty value for user name & Password		The Email field Is Required	The Email field Is Required	Pass
02	Enter correct value for user name & Password	User name & Password	Accept	Accept	Pass
03	Enter wrong value for user name & Password	User name & password	Invalid Login Attempt	Invalid Login Attempt	Pass
04	After giving input click submit Button		Clicking on submit button directed on another page	Clicking on submit button directed on another page	Pass

Table 7: Test Case - 2

7.5.1. Test Case Module-1: - Recipe Management

Test Case ID: LTC3	Test Design by: Mahdi Hasan
Test Priority: High	Test Design Date: 04-12-2018
Module Name: Recipe Management	Test Execute by: Mahdi Hasan
Description: Test recipe management	Test Execute Date: 05-12-2018

Table 8: Test Case Module – 3

Precondition: User must be logged in already.
Dependencies: Enter recipe,category,ingredient.

Step	Test cases	Test data	Expected result	Actual result	P/F
01	Enter empty value for any required Field		This field is Required	This field is Required	Pass
02	Enter correct value for all(recipe,ingredient,category) required field		accept	Accepted	Pass
03	Enter duplicate data for recipe, ingredient, category		Duplicate data is not allowed	Duplicate data is not allowed	Pass

Table 9: Test Case - 3

7.5.4. Test Case Module-4: - Searching Recipe

Test Case ID: LTC3	Test Design by: Mahdi Hasan
Test Priority: High	Test Design Date: 04-12-2018
Module Name: Searching Recipe	Test Execute by: Mahdi Hasan
Description: Test searching recipe	Test Execute Date: 05-12-2018

Table 10: Test Case Module - 4

Precondition: User must be logged in already.
Dependencies: select ingredient for searching recipes.

Step	Test cases	Test data	Expected result	Actual result	P/F
01	Select ingredient	select	Show recipes order by ingredient	Show recipes order by ingredient	Pass
02	Select ingredient	select	No recipes availabe	No recipes available	Pass

Table 11: Test Case - 4

.

Table 15: Test Case - 6

7.6. Testing Deliverables

7.6.1. Project Status Report

Project runs successful. This system has no error. This project can maintain this system and it can run it properly.

7.6.2. Change Management

We have changed this project code after testing. We use some regular expression for increase this software usability.

Chapter 8

Conclusion

8.1 Critical Evolution and Team Attainment

If user is not comfortable with computer he/she should have problem with this application. User must know English because whole application is in English. He/she should have good knowledge of web surfing. User should be registered he/she can login the system and add favorite recipes and select ingredient for getting desired recipes.

8.2 Limitations

The user must have web access in order to use the system. The main risk behind implementing the project is security. If somebody hacks the system then it will be a total disorder. So during development it will be one of our major concerns.

8.3 Future Scope

If this software use properly and user can understand its usability It can use for other sites like apartments, schools, college and others. It can use all the business, Local and all the building in all over the world. It can improve for other things if it is useful for user and they got help from this.

8.4 Final Synopsis

It has been a great pleasure to work on this project. This project help to know new technology. This project thing is some kind of weird thing but this is helping students. Helping people with developing an application make a better world.

Appendices

May include any supporting material which is not essential for the main body of the report

These could be:

- ✓ Questionnaire designed for use
- ✓ Completed questionnaires received
- ✓ Details of requirements
- ✓ User evaluation of the system I developed
- ✓ User manual/guide
- ✓ Test plans and results
- ✓ Project plans
- ✓ Tables of contents
- ✓ Diagrams

Chapter 9

9.1 Reference

HTML5 New Elements,
Available: http://www.w3schools.com/html/html5_new_elements.asp
[Accessed: July 15, 2018]

CSS Tutorial,
Available: http://www.w3schools.com/css/
[Accessed: Aug 15, 2018]

PHP 5 , MYSQL www.w3schools.com