CSCE 5540 Deliverable 2

Software Requirements Specification

for

PIZZA CRUSH

Version 1.0 approved

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1.Introduction

1.1 Purpose

Ordering pizzas is common in our country, mainly in urban areas. Even though there are many web applications which fulfill the need of customers, there are few other components and features that make the application more user friendly.

Pizza Crush is a web application that allows customers to order pizzas online providing many customizable features. The existing online pizza ordering applications allow customers to select pizzas and toppings which are present in their menu.

Our web application provides many services to the customers like ordering pizzas from the menu as in existing system, Customize their own pizzas by selecting products in sequential manner and thus enjoy a new delicious pizza which they like, displaying the final image where toppings and pizza images are overlapped after selecting pizza and toppings and dynamically generating bill as soon as customer selects an item.

1.2 Document Conventions

we have used Microsoft word 2010 to prepare this document. The font type and font size which we have used is 'Times New Roman' and 12pt with 1 line spacing respectively. The font width of heading is bold, and we have numbered all pages of our document except the cover page.

The font size of the title is 28pt and the font size of the remaining data is 14pt. The header is present on top left of each and every page of this document.

1.3 Intended Audience and Reading Suggestions

This project is basically for everyone so that they can order any pizza of their choice. This document is intended for admin, customers, developers, testers and document writers. This document contains all the information about the project like requirements, functionalities, design, features etc. which will be useful for all kinds of people.

1.4 Project Scope

Pizza Crush offers the functionalities of several other pizza ordering sites along with some extra features. The purpose of Pizza Crush is to ensure efficiency and reliability by making it simpler for the users to select and order a pizza with their own choice of crust, toppings and sauces. Thanks to the overlapping pizza and toppings images that we have implemented in this project because of which users can get a better visual of how their pizza is going to look like.
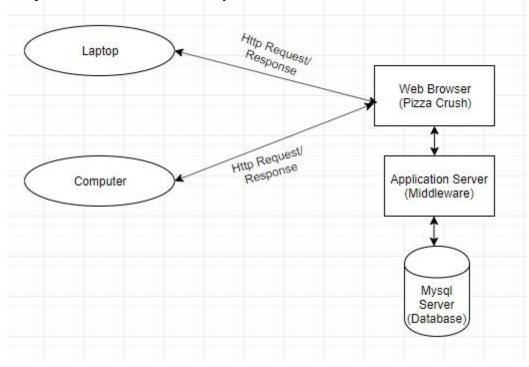
1.6 References

i)   www.w3schools.com
ii)   www.codeigniter.com
iii)   Programming with CodeIgniter MVC by Eli Orr.
iv)   Java Script: The Definitive Guide by Flanagan David
v)   Architecture diagram:https://geekflare.com/create-application-architecture-diagram/

2. Overall Description

2.1 Product Perspective

This product is an enhancement over the current online pizza ordering websites. Our system has all the features which existing system has. Along with existing features two new features have been added in Pizza Crush. The figure shown below describes the relation between different components and their functionality.
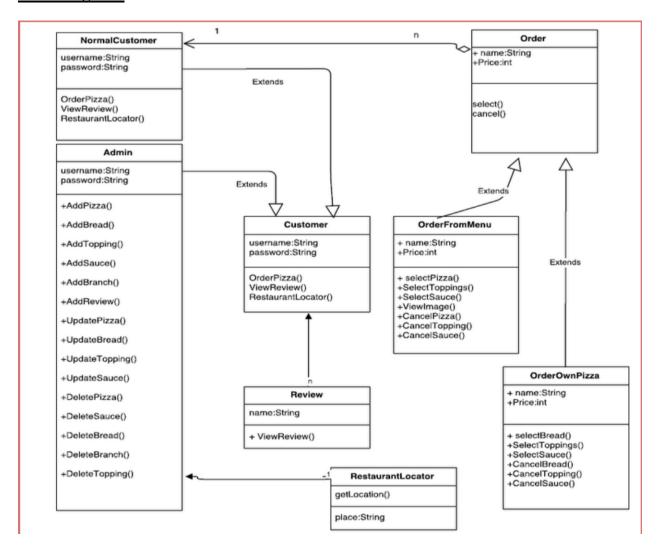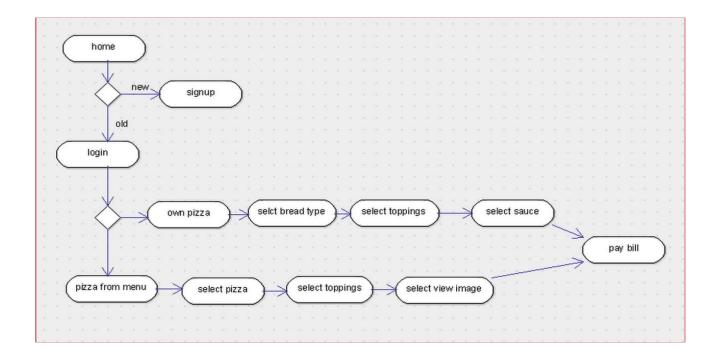

2.2 Product Features

i)   Ordering their own pizzas by selecting breads, toppings, sauces in sequential manner

ii)   Customers can view reviews on each pizza which are reviewed by great chefs.

iii)   Existing system does not overlap the images of pizza and toppings after they are selected.

iv)   The bill is generated dynamically and is displayed as soon as customer selects an item.

v)   Restaurant locator option is provided where the address of our branch in the selected city is displayed.

Class Diagram:

Flow chart:

2.3 User Classes and Characteristics

i)   **Admin:** The admin is the center piece for the entire application. He has his own username and password. He is responsible for handling the orders from the customers. The admin can add a new crust, a new topping, a new sauce into the website. He is even responsible for updating and deleting products from the page. The payments are handled by the admin as well.

ii)   **Customer**: Our customer can be anyone. Food is a basic necessity for everyone. So, our users can be any person. But old people who do not have basic knowledge of using technologies like mobile phone and computer might find it difficult to order from our website. Therefore, every person who has some basic computer knowledge will be able to order from our website. Students and employees who do not have much time to cook their own food are our primary customers. People who are health conscious and eat food containing less calories are not our target.

2.4 Operating Environment

i)   Front-end: HTML, CSS
ii)   Client-Side Scripting: JavaScript
iii)   Programming Language: PHP (Hyper Text Pre Processor)

iv)   Framework: CodeIgniter (PHP framework)
v)   Database: MYSQL
vi)   Operating System: Windows
vii)   Version control: GitHub
viii) Processor: Intel Core i3 or above
ix)   Processor Speed: 2.4 GHz or above
x)   RAM: 4 GB or more
xi)   Hard disk: 500 GB or more

2.5 Design and Implementation Constraints

i)   The system should use structured database like MySQL.
ii)   All HTML code should conform to the HTML 5.0 standard.
iii)   Backend should be written in PHP.
iv)   Developing delivery module with tracking location of delivery boy can be difficult within the given time.
v)   We shall use HTTP protocol. HTTPS is more secure, but SSL certificate is not available for free.
vi)   User's email id should be converted to lower case in before inserting in the data base.

2.6 User Documentation

i)   We shall provide a user manual system that describes and illustrates all functions of the system.
ii)   We shall provide our email id in our system. Customers can email us if they have any queries. We will respond to their emails as quickly as possible.

2.7 Assumptions and Dependencies

i)   Pizza crush will be available all the time. Customers can order their favorite pizzas at any time.
ii)   Depending on the availability of the pizza we will add/delete pizza from our menu.

3) System Features

3.1 Add, delete and update products:

Admin can add or delete new products to the database. He can also update the product price. Products may include items like
   i) Pizza
   ii) Toppings
   iii) Sauce
   iv) Bread

3.2 Mark as Delivered:

Admin can mark the orders as delivered.

3.3 Order Online

Customer selects his choice of ordering pizzas. He can either order pizza from menu or order his own customized pizza.

3.3.1 Order pizza from menu
   i) Order.selectPizza: Add selected pizzas to the cart which are selected from the list of pizzas provided.
   ii) Order.selectTopping: Add selected toppings to the cart which are selected from the list of toppings provided.
   iii) Order.selectSauce: Add selected sauces to the cart which are selected from the list of sauces provided.
   iv) Order.CancelPizza: Remove the selected pizza from the cart.
   v) Order.CancelTopping: Remove the selected topping from the cart.
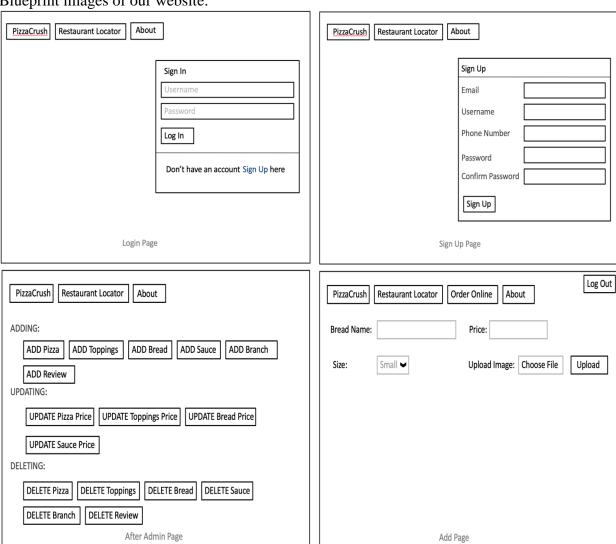   vi) Order.CacelSauce: Remove the selected sauce from the cart.

3.3.2 Order customized pizza
   i) Order.selectBread: Add selected Bread to the cart which is selected from the list of pizzas provided.
   ii) Order.selectTopping: Add selected toppings to the cart which are selected from the list of toppings provided.
   iii) Order.selectSauce: Add selected sauces to the cart which are selected from the list of sauces provided.
   iv) Order.CancelBread: Remove the selected pizza from the cart.
   v) Order.CancelTopping: Remove the selected topping from the cart.
   vi) Order.CancelSauce: Remove the selected sauce from the cart.
   vii) Order.AnotherPizza: Decides whether to order another customized pizza or not.

4) External Interface Requirements

4.1 User Interfaces

Blueprint images of our website:

Login Page

Sign Up Page

After Admin Page

Add Page

Log Out

| PizzaCrush | Restaurant Locator | Order Online | About |

Enter Topping Name: Onions ▼

Enter the Price to be Updated: [   ]   Update

Update Page

Log Out

| PizzaCrush | Restaurant Locator | Order Online | About |

Enter Bread Name: Italian Bread ▼   Size: Small ▼   Submit

Delete Page

Log Out

| PizzaCrush | Restaurant Locator | Order Online | About |

User Page

Log Out

| Restaurant Locator | Order Pizza from menu | Make your own Pizza |

Order Online Page

Log Out

| PizzaCrush | | Restaurant Locator |

①——————②——————③
Select Pizza   Select Toppings   Payment

VEG:
SMALL
MEDIUM
LARGE

NON VEG:
SMALL
MEDIUM
LARGE

| Orders Made by you: | Total Price: Rs | ->NEXT |

Pizza Ordered From Menu Page

Log Out

| PizzaCrush | | Restaurant Locator |

①——————②——————③——————④
Select Bread Type   Select Toppings   Select Sauce   Payment

VEG:
SMALL
MEDIUM
LARGE

NON VEG:
SMALL
MEDIUM
LARGE

| Orders Made by you: | Total Price: Rs | ->NEXT |

Make Your Own Pizza Page

Our application works on laptops and computers. The above screenshots show an abstract view of how the pages will be displayed. Each page has its own name which is displayed at the bottom of the page.

To get inside our website, the users have 2 options either to sign-in or login. For that, we have 2 pages.

a) Login Page: A registered user can login by typing his own username and password. He will be redirected to the menu page upon successful authentication. There is also a link for sign-up option in this page in case the user is new.

b) Sign up page: A new user can register for our website by filling up his email, username, phone number and password fields.

The admin interface has 4 pages for managing the whole website.

a) Admin page: This page has options for adding, updating and deleting of products from the product list. The products include toppings, bread, sauce, pizzas and reviews. The admin page can proceed to add page, update page and delete page.

b) Add page: This page is used by the admin to add toppings, sauces, breads, reviews and prices.

c) Update page: This page is used by the admin to update toppings, sauces, breads, reviews and prices.

d) Delete page: This page is used by the admin to delete toppings, sauces, breads, reviews and prices.

The user interface consists of 2 pages for ordering the pizzas.

a) Pizza ordered from menu page: The user can select the already existing pizzas from the product list. First he needs to select the pizza of his choice and then add the toppings. The total price of this product will be shown and the user then proceeds to the payment.

b) Make your own pizza page: Here, the user will have to create his own custom pizza including the bread type, the toppings and sauces. Once the user selects these, the price will be shown after which the user proceeds to the payment.

4.2 Hardware Interfaces

No specific hardware interfaces have been identified.

4.3 Software Interfaces

4.3.1 Pizza Crush Authentication System

i) The Pizza Crush system will identify whether the user is valid or not. If the user is valid then, he will be redirected to his page. Our system will identify whether the logged in user is Admin or not and will redirect the user to his respective page based on his role.

4.3.2 Pizza Crush Inventory System

i) Our system will transmit the details of food items ordered to the inventory system.

ii) The backend of our system will calculate the price based on the items which were ordered and display it in user interface.

iii) When the customer tries to delete an item, the item details will be transmitted to inventory system and our system will delete the selected item from the orders list.
iv) Admin can add new items like pizza, topping, sauce, bread to the inventory.
v) When admin tried to update/delete product details, our backend system will get the details and update the prize accordingly.
vi) When admin tries to mark the order as delivered, the order id will be sent to backend by using which, the order will be marked as delivered in the database.

4.4 Communications Interfaces
i) We are providing an email system for verification when the user registers in our system.
ii) We shall also send an email confirming order when customer orders pizza.
iii) The server's and client's communication will be in the form of HTTP request and response.

5.Other Nonfunctional Requirements

i)   Usability: This web application can be used by any user. This is a user-friendly website which even a common man who has no idea on computer technologies can understand.

ii)   Availability: This web application is available all the time and a backup is maintained to make the site available to our customers even if the main application goes down.

iii)   Reliability: The web application should be stable and give expected results.

5.1Performance Requirements

i) Capacity: We should be able to store all the data without deleting the orders data which were successful and delivered. We might need this data in future to analyze the patterns and make business decisions.
ii) Speed: The response time should be as fast as possible.

5.2Safety Requirements

i)   Confidentiality: Customers should not share their one time password(OTP) with others.

5.3Security Requirements

i)   We should prevent DDOS attack by limiting the number of incoming requests per second.

5.4 Software Quality Attributes

5.4.1 Availability: Pizza Crush shall be available to users 99% of the time. We shall maintain a backup of our production environment inorder to increase the availability of our website.

5.4.2 Robustness: If the link between customer and our system is disconnected before the order is either placed or canceled, our system should be stable and enable the customer to recover the order which was incomplete.

5.4.3 Reusability: Our application follows codeigniter framework which uses MVC architecture. Therefore, we can reuse the code while developing a new component.

6. Other requirements

Appendix A: Glossary

List of abbreviations:
SQL – Structured Query Language
UML – Unified Modeling Language
XML – Extensible Markup Language
SDLC – Software Development Lifecycle
JVM – Java Virtual Machine
API – Application Program Interface
PHP – Hypertext Pre-Processor
JSP – Java Server Pages
HTML – Hypertext Markup Language
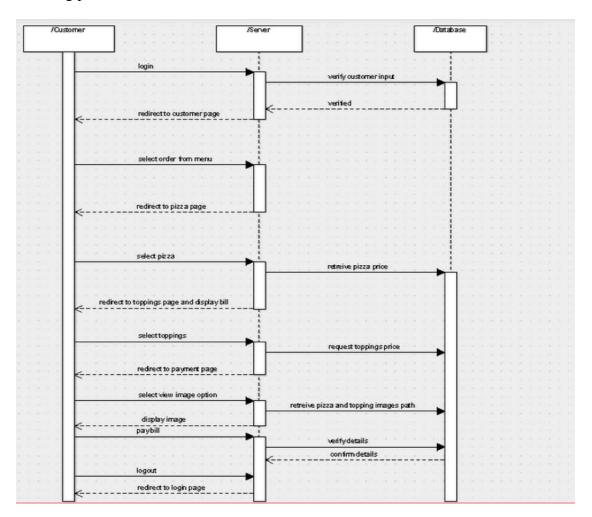CSS – Cascading Style Sheets
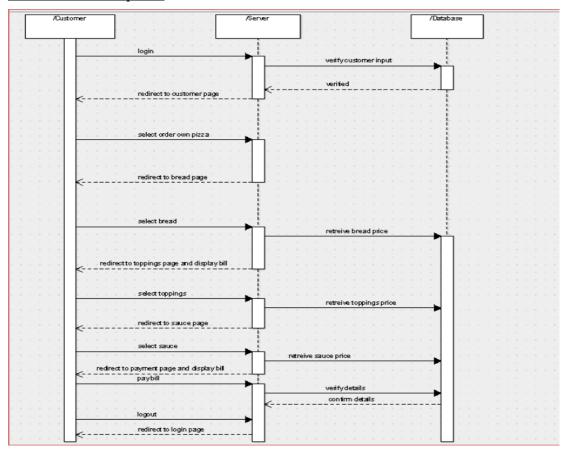DQ – Data Query
DE – Data Entry
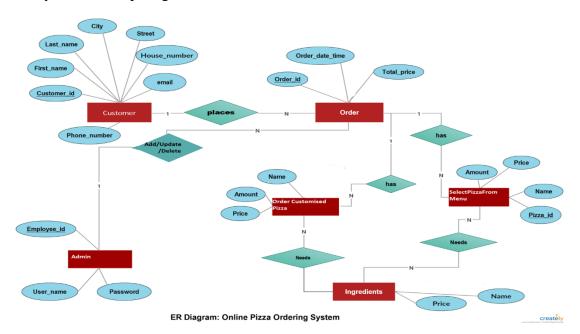
Appendix B: Analysis Models

Sequential Diagrams:

Ordering pizza from menu:

Order customized pizza:

Entity-Relationship diagram:

ER Diagram: Online Pizza Ordering System

7. Planning for development phases

7.1.   Phase 1
            In the first phase, we are planning to develop features
- Customer Registration Page
- Customer Login Page
- Add, Update and delete items (bread, toppings and sauce)

7.2.   Phase 2
            In the second phase, we are planning to develop features
- Customer Home page
- Order Pizza from Menu
- Image overlapping of toppings over pizzas
- Dynamic bill generation

7.3.   Phase 3
            In the third phase, we are planning to develop feature
- Customize own pizza
- Email Confirmation of order
- Testing
- Bug Fixing