

PROJECT DESCRIPTION:

In this project, you will apply the knowledge and skills to develop a working prototype database-drive website for a fictitious business case.

BUSINESS CASE: CRUST ONLINE PIZZA ORDERING SYSTEM

Born in 2001 from a dream to make gourmet pizzas, the first Crust Pizza store opened in Annandale, New South Wales. With the goal to branch out into another state, the second Crust store opened shortly after in Richmond, Victoria, both of which still operate today as a network of over 130+ stores across the country.

Taking the pizza industry by storm, Crust became iconically known for their innovative product offering and famous gourmet pizza flavors. Winning International Pizza Awards for their pizza flavours, Crust has cemented themselves as market leaders in their product offering and famous flavour profiles such as the Peri Peri Chicken Pizza. Crust was one of the first QSR brands to offer Gluten Free and Low Carb bases, a Healthy Choice Range in 2015, and Vegan Cheese in 2016. Continuing to dominate in market trends, Crust is now a market leader in Plant-Based Protein and Vegan Pizza ranges within the QSR Industry, being a finalist in the 2022 Vegan Nourish Awards. Crust's management needs to revamp its online pizza ordering system according to the following requirements:

REQUIREMENTS

Project Brief:

Objectives of Online Pizza Ordering System

The main objectives of this ordering system are:

Build your own pizza: This system should help customers in ordering custom pizzas. Therefore, the customers should be able to pick exactly the things, which they want in their pizza. This will surely enhance the image of Crust Pizza and improve customer satisfaction.

Online Payment: The system should give the option to the customer for online payment. This will make pizza buying experience cash free.

Better Knowledge: This system should provide customer all the details of his order before making the order. This confirmation will help customers to check the items ordered with their prices.

Know Delivery Time: This system should show the time by which the order will be delivered to the customer. For pick-ups, customers should be able to fix the time by which they will pick their order.

Reduce Paperwork: As most of the things will be performed online, it will reduce the usage of paper for Crust Pizza.

Improves Efficiency: This system should make things easier for staff as whole ordering process completed by the customer only.

HOW THIS SYSTEM WILL WORK

Whenever a customer visits the webpage or mobile application of Crust Pizza, he/she should be able to select his/her location so that the order can be made to the nearest Crust Pizza.

The menu should be visible to the customer with the pizzas and other non-pizza products on offer. All the ingredients should be shown at their prices.

The customer should be able to customize his pizza and make changes in the ingredients if requires. Customer should be able to select the quantity.

After selecting the items to be ordered, the customer should be able to select the type of order whether it will be a home delivery or pick up. After that, the customer has to provide his/her details like name, phone number, address, email id.

Now payment option should be shown to the customer. He has to choose from the various online payment methods or cash on delivery option.

The system should comprise of 3 major modules with their sub-modules.

SYSTEM MODULES

- Ordering
- Order Processing
- Administration.

ORDERING MODULE

This module should provide the interface for customers to order their pizzas.

Login/Sign Up

When a customer visits the online pizza ordering system of any Crust Pizza location, he should be asked to log in or sign up for them for a better experience. The customer should be able to create a unique username and a password.

Then customer should be able to enter details like Name, phone number, address. After these steps customer account should be created.

Menu

The system should provide customers a menu in which all the pizzas and non-pizza items should be shown with their prices. The pizzas on the menu should be created by the professional chefs from Crust Pizza.

The ingredients in the pizzas should be able to change according to the customer interests. The customer could be able to select any pizza from the menu or build the custom pizza.

Each pizza should be shown with the images and price. The ingredients used in the making of that pizza should also be seen. Each of these ingredients could be removed or other new ingredients could be added in the order.

After each selection or de-selection, the grand total of the order should be updated.

Build Your Pizza

Customers should be able to build their own pizzas from the scratch. This system should provide the options to create custom pizzas with everything of customer's choice.

The customer should get an option to select pizza's crust size, which can be small, medium or large.

Then the customer has to choose the sauce to be used on pizza crust. These can marinara, cheese, ranch, and others.

Then the system should ask the customer whether to add cheese or not. Customer should also has an option to select for extra cheese.

The system should show the customers different types of toppings. Firstly customer has to choose between veg. and non-veg. toppings. Suppose you selected veg., then different options like pineapple, mushrooms, olives etc. are shown.

One important point to be noticed here that the updated price of custom built pizza should be shown to the customers. Each item's price should also be reflected below its image.

Add To Cart

This feature should be useful in a situation where customer have to order more than one pizza or other non-pizza items. Suppose customer have selected a Margherita pizza and now wants to select other pizza as well. Customer just have to add that pizza to the cart using the Add to cart option. Items added to the cart should be saved so that he can choose other pizzas as well.

Finally, when customer is ready to order he should be able to check out from the cart to make payment.

Payment

There will be basically 2 payment options i.e. online payment using Credit/Debit cards and Internet banking or Cash on delivery. Before making payment customer order details should be shown and confirmed.

This system should make transactions easier as the need to pay with cash is not there.

Home Delivery or Pick up

This feature should ask the customer to if he/she intends to pick up his/her order from Crust Pizza or it is needed to be delivered to their address.

Track Order

This feature should help customers to keep a track of their order. The customer should be notified at every step of their order completion. After making payment the customer should be able to see the time by which his order will be delivered to his doorstep.

ORDER PROCESSING

This module should provide all the features and functionalities for processing orders without any fuss for the staff of Crust Pizza. The employees of Crust Pizza should be able to use this module for preparing orders and delivering the orders to their destination.

Each employee of Crust Pizza should have an account in this ordering system. They should have a username and password provided to them by the system admin.

Mainly there should be three types of employees using the online pizza ordering system. They are Kitchen staff, delivery staff and other employees like the counter staff.

Each user's rights and responsibilities:

Kitchen Staff

They should have an interface which show them the list of orders to be prepared. Each order should display its details like ingredients to be used and quantity of each item.

The current status of each order should be pending. After a particular order is prepared and ready to be delivered, the kitchen staff should be able to update the status to 'Prepared'.

The customer should be notified at this stage that their order is prepared and soon will be delivered.

Delivery Staff

After order is prepared the available delivery staff should hand over the orders with their address. When the delivery staff leaves for delivery the status of the order should be updated again to 'Out for Delivery' and the customer should be notified.

When the delivery staff delivers the order successfully, he updates the order status to 'Delivered'. If he fails to deliver the order due to any reason, the status is updated to 'Delivery Failure'.

Counter Staff

In case of pick up, the counter staff updates the status of the orders. When the kitchen staff has prepared the order, the counter staff updates the status to 'Ready to be picked' and the customer is notified that he can pick up his order now.

After the customer picks up his order, the counter staff updates the order status to 'Received by customer'. Each kind of employee has its own rights and permissions. The kitchen staff has a right to only check pending orders and update status to 'Prepared'. He cannot update the order status to 'Delivered' as he doesn't have the right to do so.

ADMINISTRATION

Administration module is equally important in the functioning of this system.

The user of this module is known as Admin or superuser. He is the master of this online system. Admin has all the rights and power to use this system.

The tasks which can be performed by the admin are:

He can add/edit/delete different ingredients into the system.

He can add/edit/delete new pizzas, their images, prices and other details. The same functions can be performed for non-pizza items.

He can add/edit/delete users in this system. It's the admin who adds new employees account to the system.

Admin has rights to add/edit/delete orders for customers.

Functionality performed by Admin user:

- Login For Admin
- Forgot password for Admin
- Edit Profile For Admin
- Change Password For Admin
- Logout Functionality
- Dashboard for Admin User

DELIVERABLES

To satisfactorily complete this project, you should build the database-driven website and then prepare a written report.

The following are required for the submission of deliverables:

- First things first. You are not allowed to make use of a web framework (eg. CakePHP, CodeIgniter, Laminas Yii, etc.) in building your website. Your work will not be appreciated if an attempt was evident.

- A written report, written in Microsoft word format, details the design and implementation of your website. The report should contain two parts: Website design and Website implementation and programming.

- o Website design needs to provide information about analysing and designing your website for the case. Documents required in this part involve, for example, functional requirements, nonfunctional requirements, diagrams such as ERDs, DFDs, etc.

- o The second part, which is Website implementation and programming, of the report, needs to

provide information on developing the website which is based on the information indicated in the design part. Documents required for this part include a website structure, layout of pages, and database design including tables, attributes, and types of data for attributes such as numeric, text, etc. with their constraints such as max length, etc.

The report should provide adequate information from a system design standpoint to address how your website was designed, coded, tested, and implemented. Discuss any assumptions you have made about the problem and the key elements of the problem. Additionally, what features did you add to make the website more functional? User friendly? (Please note that these assumptions cannot violate any of the requirements specified above.) The report should also indicate what components/functionalities work (partially or fully), and those that do not (include why). Also, it is essential in this document to have a brief how-to on installing/using your program code on a local machine as a test bed for your website. If your website requires login/password, information about login and password needs to be provided. As part of this report include what validation you have included on the inputs and why.

- An electronic, working copy of your website program and Database Schema written in MySQL used to create Database for the Website, that meets the criteria mentioned in the problem description. Ensure to put the website program code and database schema in a folder and use a compress utility program such as 'zip' or 'rar' to compress the folder.

GUIDANCE

This is substantial project, and you will likely need to invest few hours into it. The following process would be recommended.

- This is a data-driven site, so it is recommended beginning by constructing some type of data access layer. As part of this relevant objects should be created to hold the data and functions to perform the required queries and return the correct data.
- Write testers for each data access object so that you know each works as expected.
- Construct your user interface and check that it works correctly.
- Implement the required validation and testing on inputs.