

MINI PROJECT – I I

REPORT



Department of Computer Science & Application

Institute of Engineering & Technology

SUMMITTED TO:-

MS. MADHU MAM

SUBMITTED BY:-

NEHA(201500435)

SHIPRA AGRAWAL (201500648)

SHIVAM DUBEY(201500651)

Food ordering Website

Problem definition

A food ordering website is an online platform that allows users to browse menus, order food items, and make payments online for home delivery or pickup from participating restaurants. The website acts as a middleman between customers and restaurants, providing a convenient and efficient way to order food without the need to physically visit the restaurant or make a phone call.

Food ordering websites typically feature a user-friendly interface that allows customers to browse menus, select items, customize their orders, and make payments securely online. They may also offer additional features such as order tracking, restaurant ratings and reviews, and customer support services.

Food ordering websites have become increasingly popular in recent years, as more people seek convenient and contactless ways to order food. These websites have also provided a valuable source of revenue for restaurants, particularly during times when in-person dining is limited or restricted.

Overall, food ordering websites provide a convenient and efficient way for customers to order food, while also offering restaurants a new way to reach customers and generate revenue.

Issues

Technical issues: Technical problems such as website downtime, slow page loading times, or payment gateway errors can cause frustration for users and discourage them from using the website.

Poor user experience: If the website is difficult to navigate, has a confusing menu, or has an overly complex ordering process, users may abandon their orders and seek alternatives.

Food quality and delivery issues: Customers expect their orders to be delivered promptly and with high-quality food. Delivery delays or poor quality food can lead to negative reviews and a loss of business for the restaurant and the website.

Limited restaurant selection: If the website does not have a wide selection of restaurants, customers may seek other platforms to find the food they want.

Security concerns: Customers may be hesitant to enter their personal and payment information on the website if they are unsure about the website's security and data privacy policies.

Competition: The food ordering website market is highly competitive, and there are many well-established players in the industry.

New entrants must offer unique features or a better user experience to stand out and attract customers.

To address these issues, food ordering websites must ensure that their platform is technically sound, provides a seamless user experience, offers high-quality food and delivery services, and prioritizes user security and data privacy. They must also stay up-to-date with the latest industry trends and innovations to remain competitive in the market.

Objectives

The objectives of a food ordering website can vary depending on the specific business goals and strategies of the website. However, some common objectives of a food ordering website can include:

Increased sales: A primary objective of a food ordering website is to increase sales for participating restaurants. The website can provide a new channel for restaurants to reach customers and expand their customer base.

Enhanced user experience: A good user experience is essential for a food ordering website. The website should be easy to use, fast, and secure, with a wide variety of food options and convenient payment methods.

Improved order management: A food ordering website should have an efficient order management system that can handle a high volume of orders, track order status, and provide accurate delivery estimates.

Increased customer loyalty: By providing a positive experience for customers, food ordering websites can build customer loyalty and increase repeat orders.

Improved marketing and branding: A food ordering website can help promote participating restaurants and build their brand through targeted marketing campaigns and promotions.

Data analysis and insights: Food ordering websites can use data analytics to gain insights into customer behavior, preferences, and trends. This information can be used to improve the website's user experience and to help restaurants make informed business decisions.

Overall, the objectives of a food ordering website are to provide a convenient and efficient way for customers to order food, increase sales for participating restaurants, and provide a positive user experience that encourages repeat business and customer loyalty.

Requirements

When the car hire system is complete, a requirement analysis will be undertaken using a software engineering technique involving tasks that will determine the conditions and needs that will have to be met for the system to work. This assessment must consider all the possibly inconsistent requirements of entities with diverse dimensions.

Functional Requirements

Functional requirements are those used to exhibit how the internal system architecture works to meet the overall systems objectives. This also demonstrates subsystems with the main car rental system as well as the descriptions of each step. This entails

what tasks the systems have to execute, which data the system should hold, processes involved, and the relevant user interface. The functional car rental system requirements are:

1. User registration and login: Customers should be able to create an account and log in to the website to place orders, view order history, and save payment information.
2. Menu browsing and searching: Customers should be able to browse the menu by category, search for specific items, and view item details such as prices, descriptions, and images.
3. Order customization: Customers should be able to customize their orders, such as adding or removing ingredients, choosing cooking preferences, or selecting portion sizes.
4. Shopping cart and checkout: Customers should be able to add items to their shopping cart, view the total price of their order, and complete the checkout process, including payment and delivery information.
5. Payment processing: The website should support secure payment processing through various payment methods such as credit/debit cards, mobile payments, or online wallets.
6. Order tracking: Customers should be able to track their orders in real-time, including the estimated delivery time and status updates.

7. Order history: Customers should be able to view their past orders, reorder previous orders, and rate and review their experiences.
8. Restaurant management: Restaurants should be able to manage their menus, update prices and descriptions, and add new items to the menu.
9. Order management: Restaurants should be able to manage incoming orders, including accepting, rejecting, or modifying orders, updating order status, and printing receipts.
10. Customer management: Restaurants should be able to manage customer profiles, track customer orders, and use customer data to provide personalized recommendations and offers.
11. Reporting and analytics: The website should generate reports and analytics on order volume, revenue, customer data, and other key metrics to help restaurants make informed business decisions.
12. System administration: The website should have an administration interface to manage user accounts, permissions, and other settings, as well as monitor system performance and security.

Non-Functional System Requirements

Non-functional requirements provide a demonstration of how the system delivers its functional requirements.

Non-functional requirements for a food ordering website can include:

Performance: The website should be fast, responsive, and able to handle high volumes of traffic and transactions without slowdowns or downtime.

Usability: The website should have an intuitive and user-friendly interface that is easy to navigate, and clear and concise instructions.

Security: The website should have robust security measures in place to protect sensitive customer data such as credit card information and personal details.

Scalability: The website should be designed to handle growth in both the number of users and the number of restaurants and their menu items.

Reliability: The website should be available and accessible to users at all times without interruptions, and able to recover quickly from any failures or crashes.

Compatibility: The website should be compatible with various web browsers, operating systems, and mobile devices.

Accessibility: The website should be designed to be accessible to users with disabilities, such as providing alternative text for images, captioning for videos, and keyboard navigation options.

Localization: The website should be able to support multiple languages and currencies to cater to a global audience.

Maintainability: The website should be designed to be easily maintainable, with clear and organized code that is easy to update and troubleshoot.

Compliance: The website should comply with relevant laws and regulations, such as data privacy regulations and accessibility standards.

Constraints

- **Technology Constraints:** The food ordering website must be accessible and user-friendly across different devices such as mobile phones, tablets, and desktops. The website must also be scalable to handle a large number of users and transactions.
- **Security Constraints:** As the website involves handling sensitive user data such as personal and financial information, it must ensure secure data transmission and storage. The website must also have proper authentication and authorization mechanisms in place to prevent unauthorized access.
- **Legal Constraints:** The website must comply with local regulations and laws related to food safety, data privacy, and consumer protection. It must also ensure proper taxation and billing mechanisms are in place.
- **Operational Constraints:** The website must have a reliable and efficient order management system that can handle a high volume of orders from multiple restaurants. The website must also ensure timely delivery and provide real-time tracking of orders.

- User Experience Constraints: The website must provide a seamless and intuitive user experience that allows customers to easily search for restaurants, menus, orders.

Description of the proposed system

The customer visits the food ordering website, browses through the list of restaurants and menus, selects the items they want to order, and adds them to the cart. Once the order is finalized, the customer enters their delivery address, selects a payment method, and confirms the order.

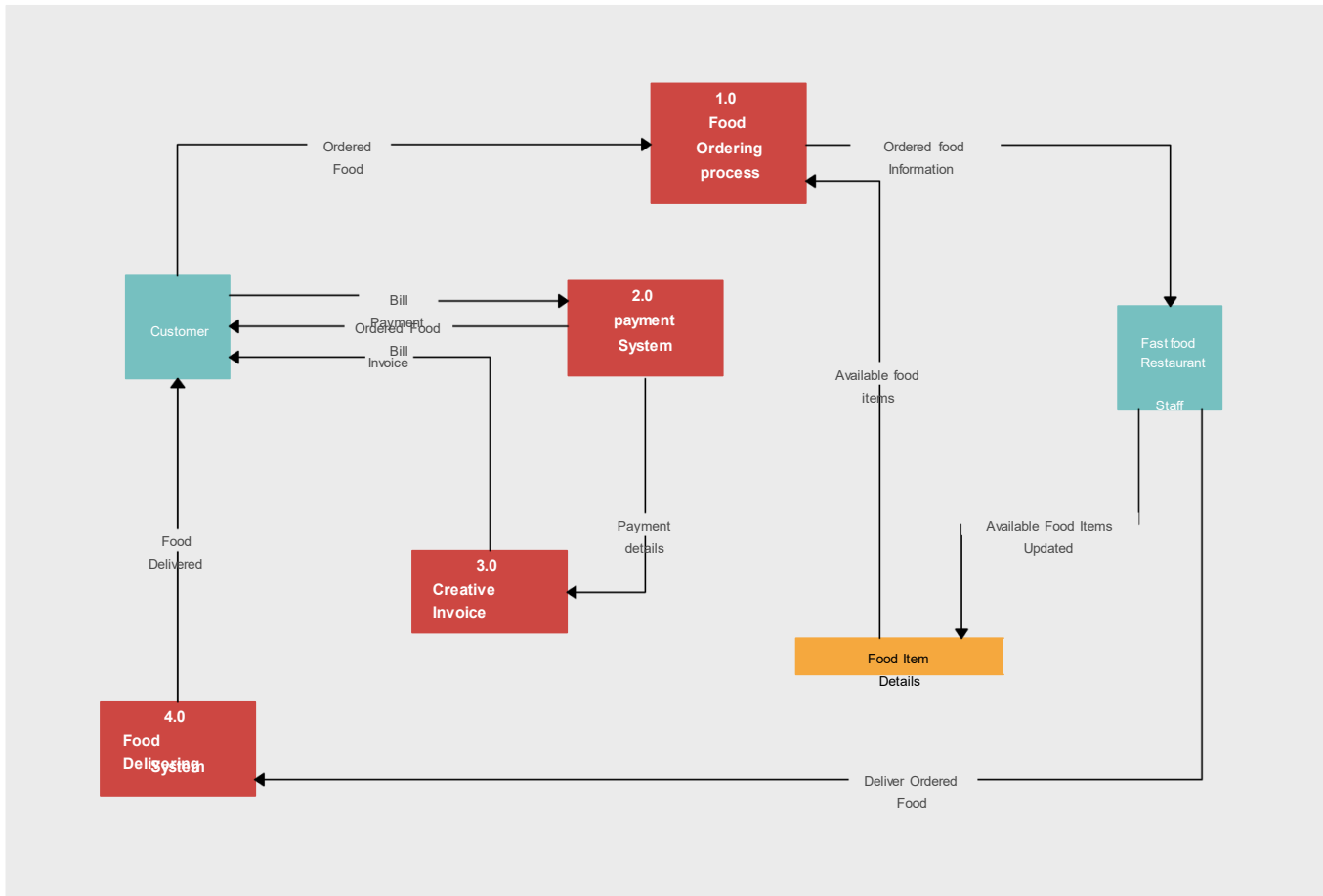
The restaurant receives the order details on their dashboard, which includes the list of items, delivery address, and payment details. The restaurant prepares the food and confirms the order.

Once the restaurant confirms the order, the food is packed and made ready for pickup. The delivery personnel receives the order details on their app, picks up the food from the restaurant, and delivers it to the customer.

The customer receives the order at their doorstep, verifies the contents of the order, and pays the delivery personnel if a cash-on-delivery option was selected.

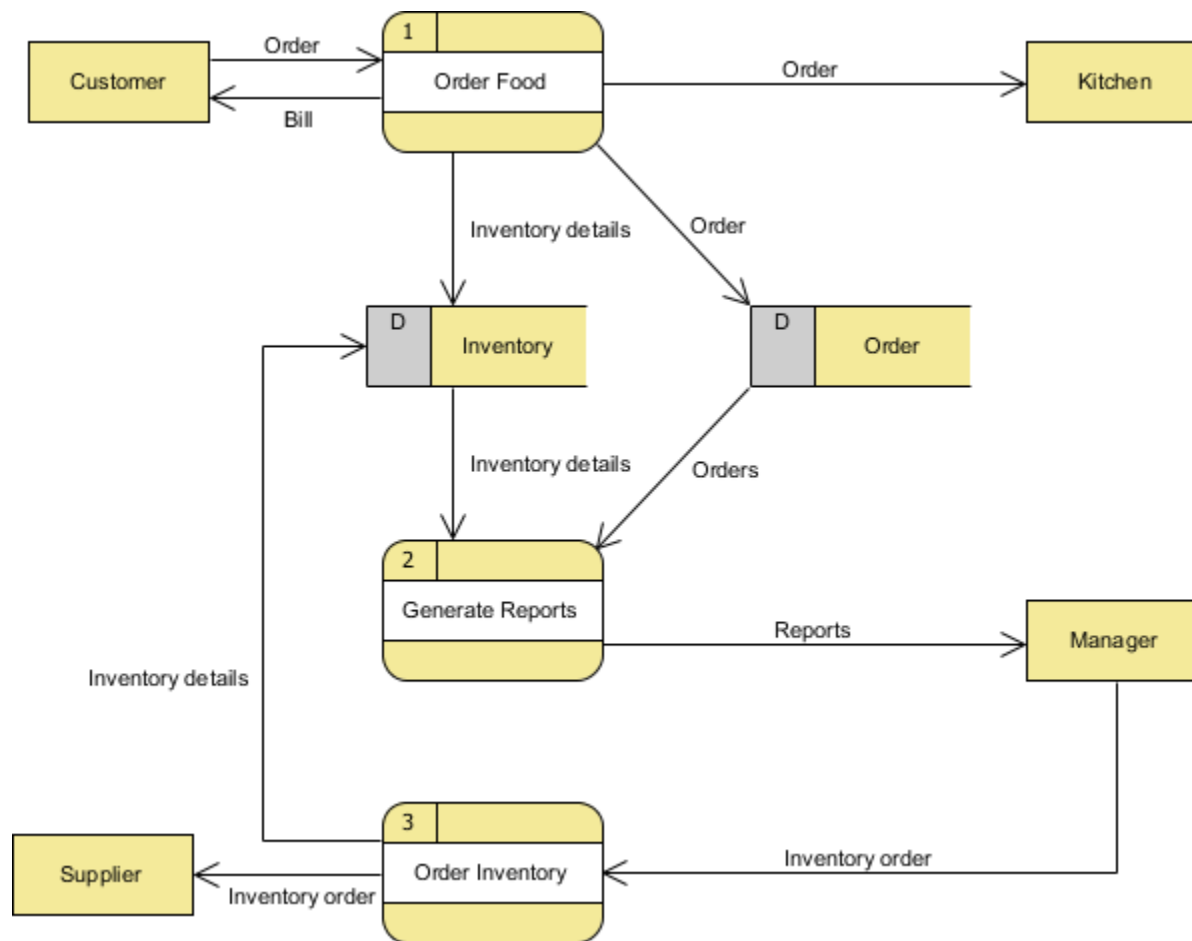
After the order is delivered, the customer can rate the food quality, delivery speed, and overall experience. This feedback helps improve the quality of service offered by the restaurant and the delivery personnel.

Overall, a food order system provides a convenient and efficient way for customers to order food from their favorite restaurants and for restaurants to manage their orders and deliveries.



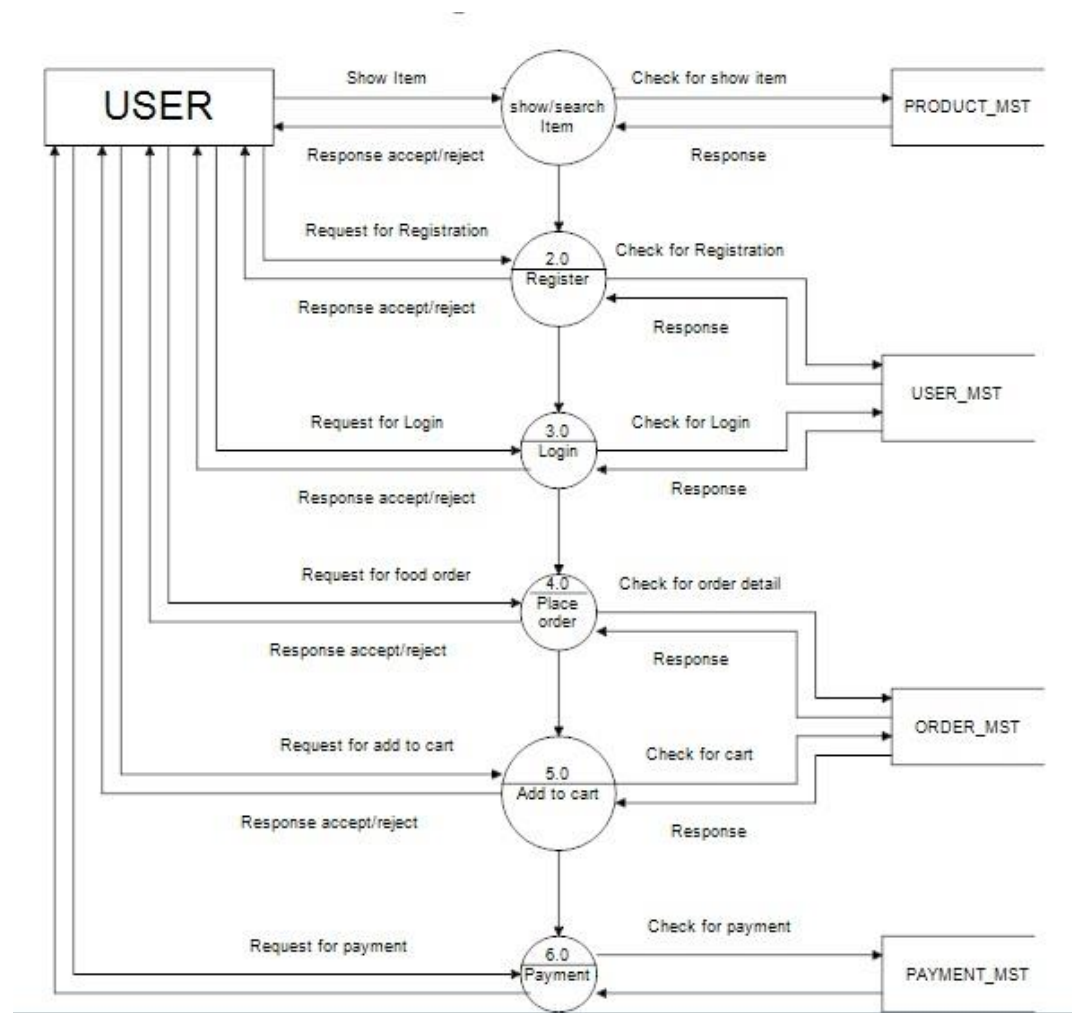
This diagram shows the different stages of food orders and ordered informations

Creative invoice ,payment details ,food items and many more



a DFD for a food ordering website might show a customer placing an order on the website, which triggers a series of processes that includes order processing, payment processing, and order fulfillment. The DFD might also show how customer information is stored in a data store, how order details are stored in another data store, and how data flows between different processes and entities within the system.

Overall, a DFD for a food ordering website can help provide a visual representation of the system's architecture and the flow of data within the system.



A food order system context diagram is a high-level overview of the components and interactions involved in a food ordering process. The diagram typically includes the system being analyzed (the food order system), the external entities interacting with the system (such as customers, restaurant staff, and delivery drivers), and the inputs and outputs of the system.

A food ordering website is a platform that allows customers to browse menus, place orders, and pay for food online. The website typically partners with various restaurants and provides a platform for them to showcase their menus, accept orders, and receive payments.

Some common features of a food ordering website may include:

- A search bar to help customers find specific types of food or restaurants

- Detailed menus with descriptions, prices, and pictures

- A shopping cart that allows customers to add and remove items from their order

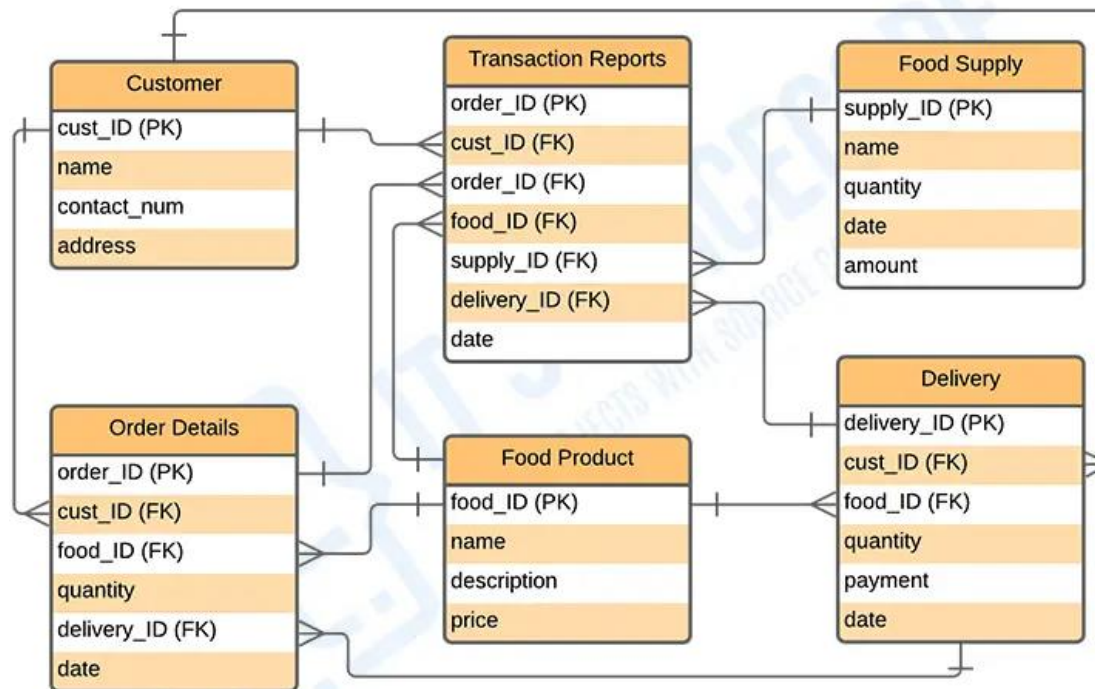
- Secure payment processing

- Delivery options, including pickup and delivery

- Customer reviews and ratings

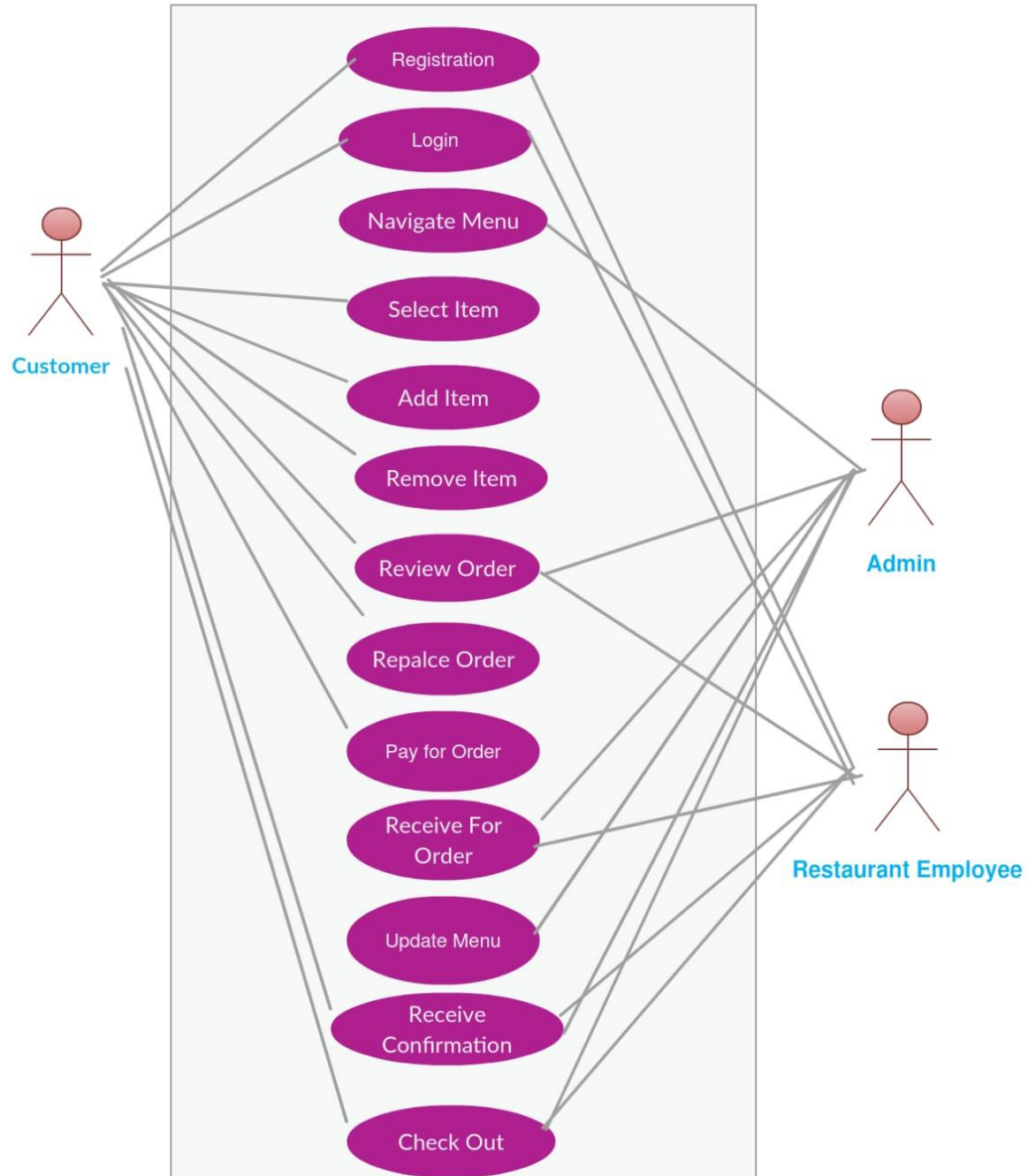
If you're interested in starting a food ordering website, there are many platforms available that offer various features and pricing plans. Some popular options include GrubHub, DoorDash, Uber Eats, and Postmates.

ONLINE FOOD ORDERING SYSTEM



ENTITY RELATIONSHIP DIAGRAM

Online Food Ordering System



A use case diagram is a graphical representation of the interactions between a system and its users.

The actors in this case would be the customers, the restaurant staff, and the delivery personnel

The use cases would represent the different actions that can be performed on the website. Some of the use cases that can be included are:

Browse Menu This use case would allow the customer to view the menu of the restaurant.

Place Order This use case would allow the customer to place an order for food.

Confirm Order This use case would allow the customer to confirm the order before it is placed.

Cancel Order This use case would allow the customer to cancel the order before it is processed.

Descriptions of outputs/inputs/performance/security or controls

Inputs:

User information, including name, email, and phone number

Delivery information, including address and delivery time

Order information, including menu items, quantity, and special requests

Payment information, including credit card or other payment details

Outputs:

Confirmation of order, including order details and estimated delivery time

Receipt of payment, including amount paid and payment method

Notification to the restaurant of the order and delivery details

In terms of performance, a food order website should be fast and reliable, with minimal downtime. It should be able to handle a high volume of traffic during peak hours without slowing down or crashing.

Security is also an important consideration for a food order website, as it handles sensitive customer information such as payment details. The website should be encrypted with SSL/TLS to ensure that all data is transmitted securely. Additionally, the website should be compliant with PCI DSS (Payment Card Industry Data Security Standard) to ensure that customer payment information is protected.

Controls should also be in place to prevent fraudulent orders or other security breaches. This may include requiring customers to create an account and verify their identity, monitoring orders for unusual activity, and implementing multi-factor authentication for certain actions (such as updating payment information).

Overall, a well-designed and secure food order website can help restaurants increase their revenue and provide a convenient ordering experience for customers.

User Interface

This is the interface through which customer's and the staff access and interact with the system. The following are the designs proposed for the home page.

Home page UI

The homepage of a food ordering website is the first thing customers see when they visit the site, and it's crucial to make a good impression. Here are some key elements that are commonly found on the homepage of a food ordering website:

Search bar: A search bar allows customers to easily search for specific restaurants or dishes they are interested in.

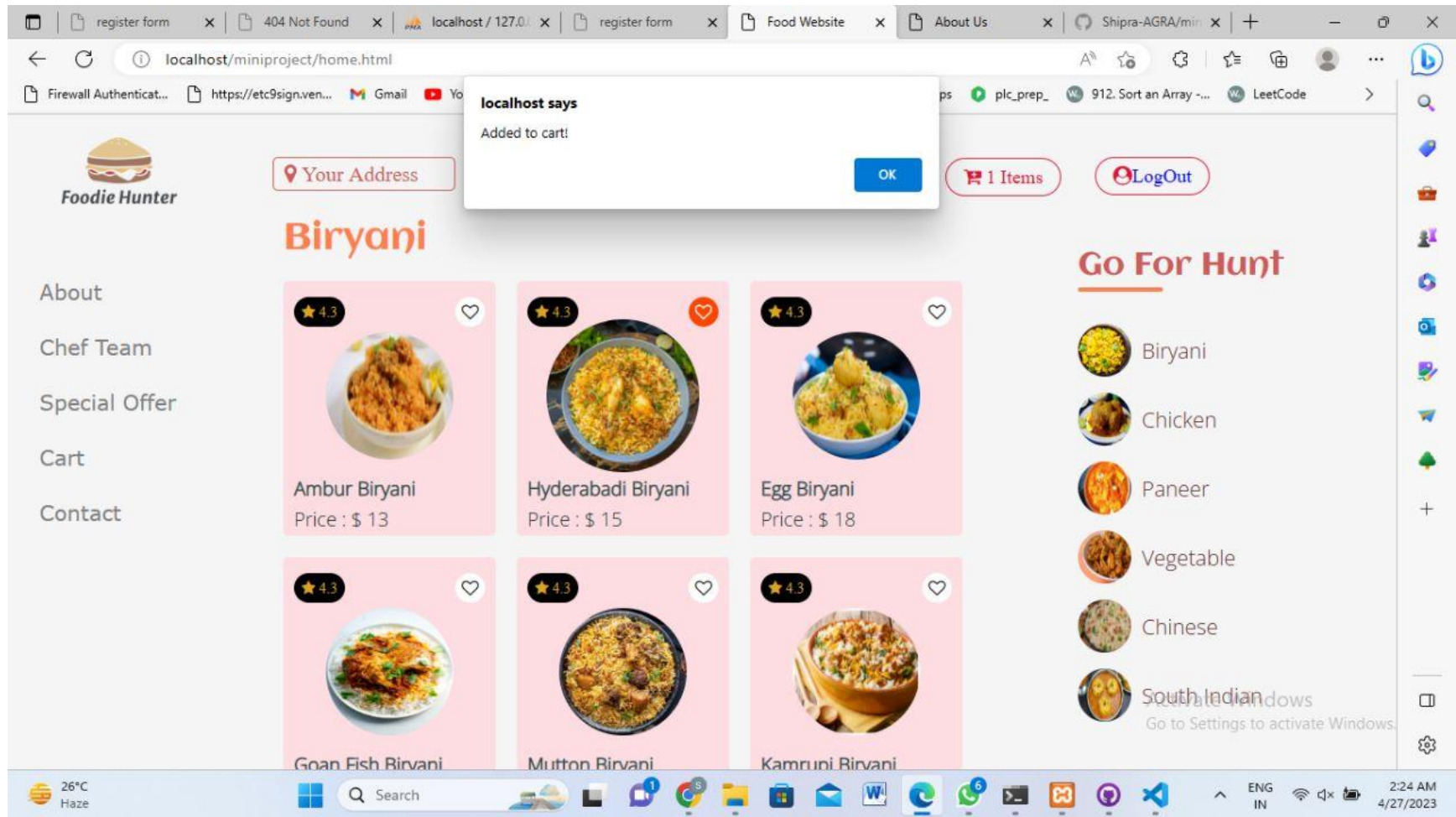
Featured restaurants: This section showcases some of the most popular or highly rated restaurants on the platform, often with eye-catching images and brief descriptions.

Categories: Many food ordering websites categorize restaurants and dishes to make it easier for customers to find what they're looking for. Common categories include cuisine type, dietary restrictions, and meal type (e.g. breakfast, lunch, dinner).

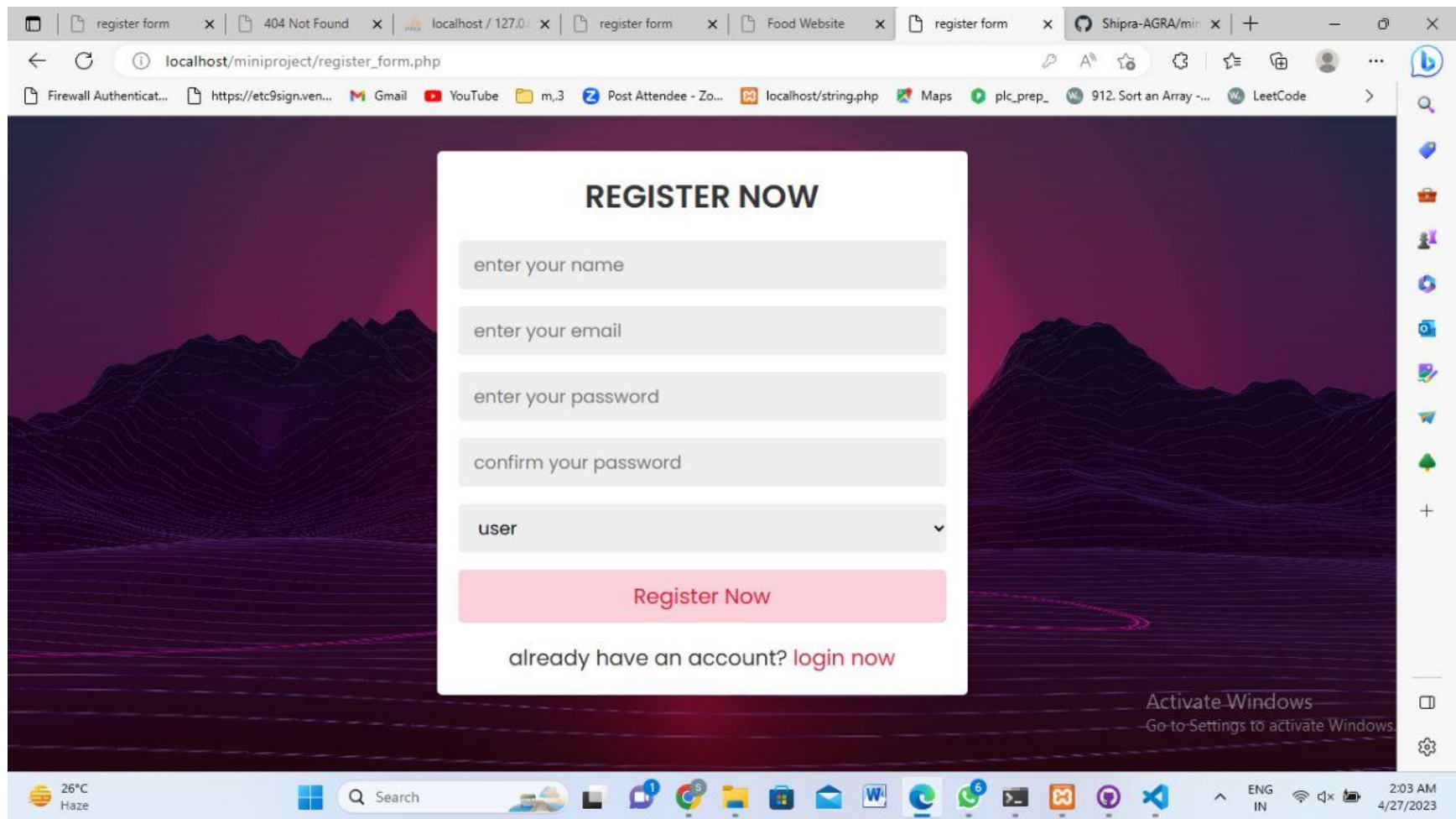
Promotions and discounts: Offering promotions and discounts can help attract customers to the platform and encourage them to place orders.

User account information: Customers may want to sign in or create an account to save their favorite restaurants or dishes, track their orders, or access rewards programs.

Customer reviews and ratings: Including customer reviews and ratings on the homepage can help build trust and credibility with potential customers.

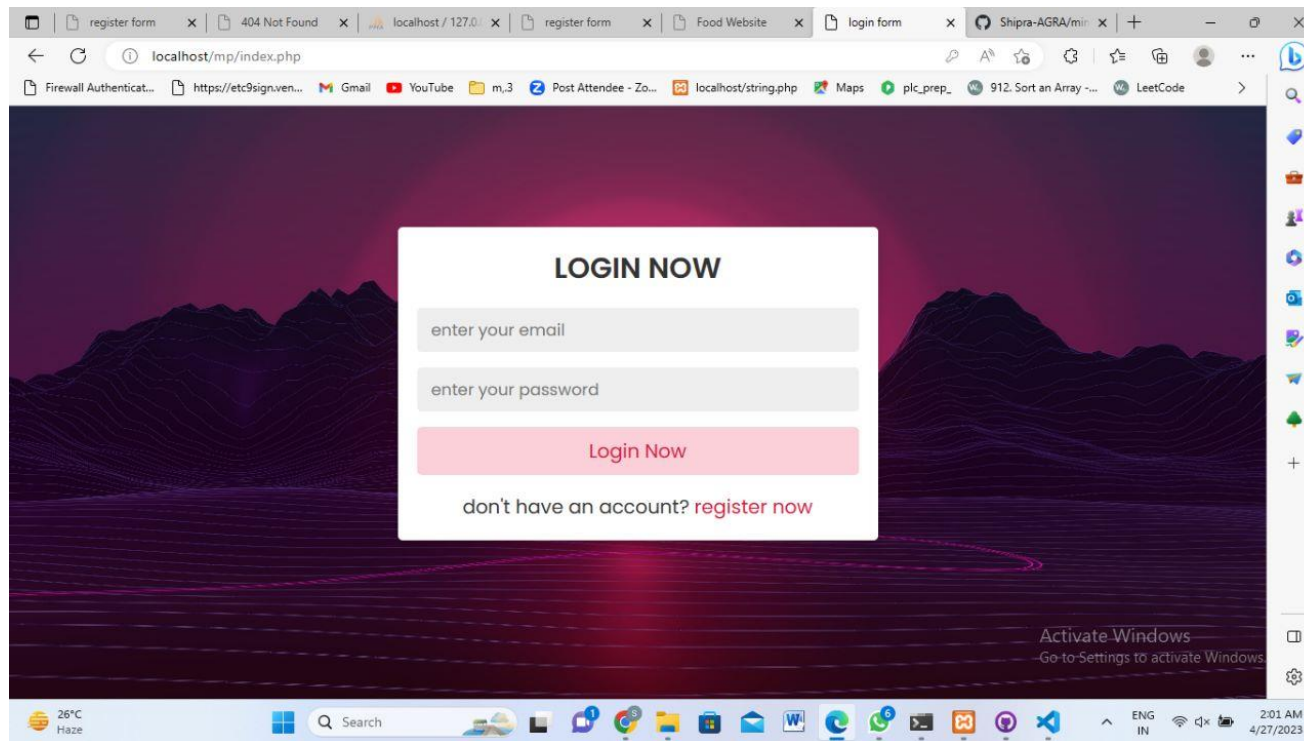


FOR REGISTER



User sign up and Login user interface

All customers looking to use the service will have to sign up and enter their personal details that will be used to determine whether they are eligible to Order food from the system. All the fields will be set as required. ID must a valid ID number of the government issued ID matching with the full names and date of birth. The email provided must be valid. To minimize errors in the date field, it is set to be a date picker such that users select date rather than keying in manually. The user must also create password not less than 6 digits.



The Login page requires user to enter their email and password. They must match with the one stored in the system for a user to login. Otherwise, they are require to reset it by inputting their email.

Promotions and discounts: Offering promotions and discounts can help attract customers to the platform and encourage them to place orders.

User account information: Customers may want to sign in or create an account to save their favorite restaurants or dishes, track their orders, or access rewards programs.

Customer reviews and ratings: Including customer reviews and ratings on the homepage can help build trust and credibility with potential customers.

Contact and support information: It's important to provide clear contact and support information so customers can easily get help if they have any issues with their orders.

Overall, a well-designed homepage should be easy to navigate, visually appealing, and provide all the necessary information customers need to start browsing and placing orders.

Database Design

The database tables will be organized as indicated in the tables below:

Customer's table

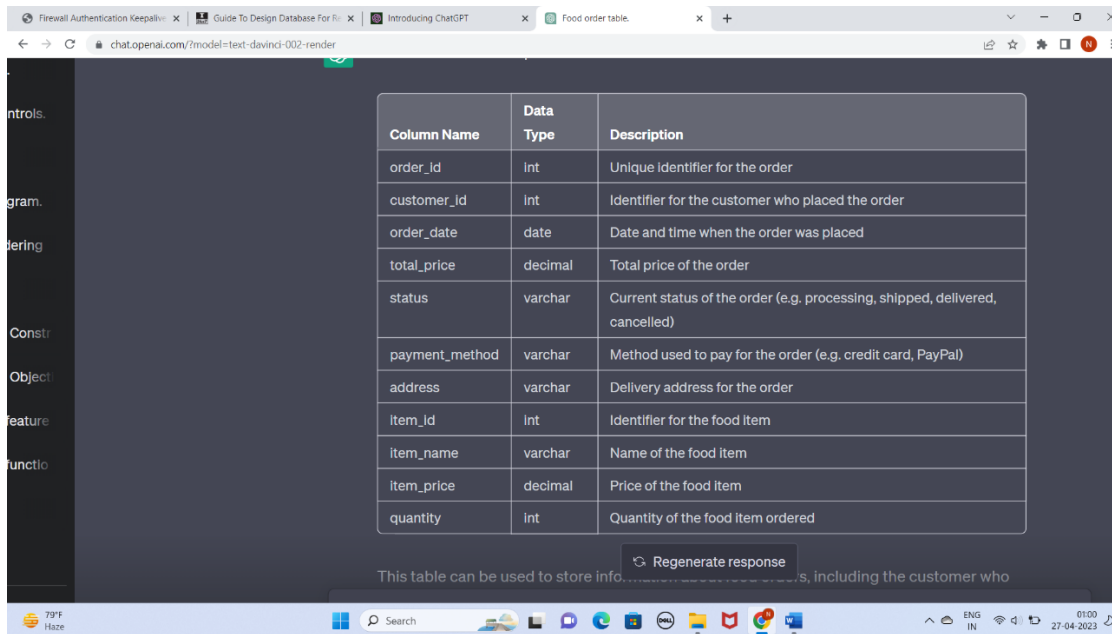
Table-Name	Customers		
Attributes	Type of data	Length	Attribute type
<u>Customer ID</u>	Varchar	75	Primary-Key
F_name	Varchar	75	
M_name	Varchar	75	
L_name	Varchar	75	
Email	Varchar	75	
Phone	Varchar	55	
Address	Varchar	75	
ID_Number	Integer	25	

Employees' Table

Table-Name	Employees		
Attributes	Type of data	Length	Attribute Type
<u>Employee ID</u>	Varchar	75	Primary-Key
F_name	Varchar	75	
M_name	Varchar	75	
L_name	Varchar	75	
Email	Varchar	50	

Phone number	Number	75	
Salary	float	75	
HireDate	Date		
Title	Varchar	75	
MEMPID	Varchar	50	Foreign-key

Food orders table



The screenshot shows a web browser window with the URL `chat.openai.com/?model=text-davinci-002-render`. The browser tabs include "Firewall Authentication Keepalive", "Guide To Design Database For R...", "Introducing ChatGPT", and "Food order table". The main content area displays a table with the following structure:

Column Name	Data Type	Description
order_id	int	Unique Identifier for the order
customer_id	int	Identifier for the customer who placed the order
order_date	date	Date and time when the order was placed
total_price	decimal	Total price of the order
status	varchar	Current status of the order (e.g. processing, shipped, delivered, cancelled)
payment_method	varchar	Method used to pay for the order (e.g. credit card, PayPal)
address	varchar	Delivery address for the order
item_id	int	Identifier for the food item
item_name	varchar	Name of the food item
item_price	decimal	Price of the food item
quantity	int	Quantity of the food item ordered

Below the table, there is a "Regenerate response" button and a partial sentence: "This table can be used to store info...s, including the customer who". The Windows taskbar at the bottom shows the date as 27-04-2023 and the time as 01:00.

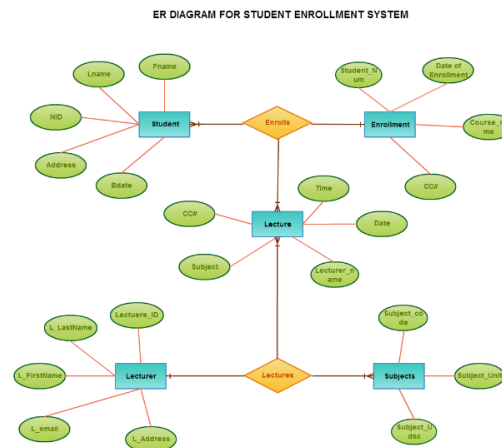
Billing Table

Table Name: Orders

Column Name	Data Type	Description
order_id	INT	Unique identifier for each order
customer_id	INT	Foreign key referencing the Customers table
order_date	DATE	The date the order was placed
order_time	TIME	The time the order was placed
total_amount	DECIMAL	The total cost of the order
payment_type	VARCHAR	The method of payment for the order
payment_date	DATE	The date the payment was processed
payment_time	TIME	The time the payment was processed
status	VARCHAR	The current status of the order (e.g. "Pending", "In Progress", "Complete")

You can also consider adding additional columns based on your specific needs. For example, you might want to include columns for the delivery address, any discounts applied to the

Entity Relationship Diagram



Data files storage access for all the database tables will be only accessible by logged in users only. Each user will have access to data tables that will allow them deliver their mandate. For example, customers will not access to employee tables.

System Architecture.

The system will be built on a web-based interface to allow for customer and employees to access the system from remote locations.

Phase 3: Project Plan

Define the scope and goals of the project: Start by defining the scope of the project and the goals you want to achieve. target audience and create user personas that represent them.

Conduct market research: Conduct market research to understand the competition and the needs of your target audience. Analyze the features that your competitors are offering, and come up with unique features that you can offer.

Develop a wireframe and mockup: Create a wireframe that outlines the basic structure and layout of the website. Once the wireframe is approved, create a mockup that includes the design, color scheme, typography, and other visual elements.

Choose a technology stack: Choose a technology stack that suits the requirements of the project. For example, you might choose a programming language like PHP or Python, and a database like MySQL or PostgreSQL.

Develop the front-end: Develop the front-end of the website using HTML, CSS, and JavaScript. Make sure the website is responsive and works well on different devices.

Develop the back-end: Develop the back-end of the website, including the server-side logic and database integration. Use a framework like Laravel or Django to speed up development.

Implement payment gateway: Integrate a payment gateway to allow customers to pay for their orders securely.

Test the website: Test the website thoroughly to identify and fix any bugs or issues. Conduct usability testing to ensure that the website is easy to use and meets the needs of your target audience.

Launch the website: Once the website is ready, launch it and promote it on social media and other channels to attract customers.

Maintain and update the website: Maintain and update the website regularly to ensure that it remains secure and up-to-date. Add new features and make improvements based on customer feedback.

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