

FOOD ORDERING SYSTEM

1. INTRODUCTION

1.1 Overview

Our project Online Food Ordering System is a website that sets up on the internet that helps in buying food online by choosing the listed foods from the website. The proposed system helps in building a website to buy and sell foods online using an Internet connection. It is a form of electronic commerce which allows customers to directly buy foods from the internet using a Web browser.

1.2 Purpose

The main purpose of our project is to order the food and to deliver it on time without any issues. And also the customer doesn't need any application to be installed in his phones which takes a lot of storage. With help of internet connection he can use it in the browser.

2. LITERATURE SURVEY

2.1 Existing problem

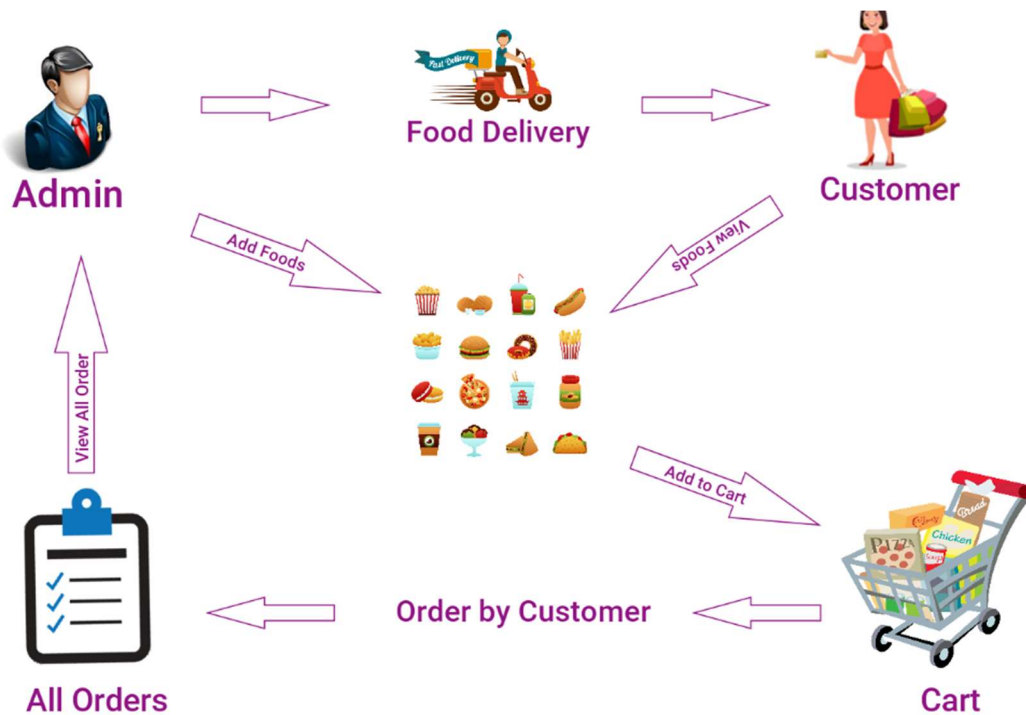
For most of the online food ordering systems we need an application to be installed in our phones which takes a lots of storage and also there are no applications for admin to manage the orders. These are some of existing problems we usually seen.

2.2 Proposed solution

By using spring boot java, MySql, JSP we have created a website where the user can select, order the food and delivered it on time. Using our system admins like restaurant managers can manages the site they can add the items according to their availability in restaurant and also handle the order until it's delivered.

3. THEORITICAL ANALYSIS

3.1 Block diagram



3.2 Hardware / Software designing

Hardware Requirements:

1. **Processor:** A modern processor with multiple cores, such as an Intel Core i5 or higher, or an equivalent AMD processor. This will ensure that our system can handle concurrent requests efficiently.
2. **Memory (RAM):** At least 8GB of RAM is recommended to ensure smooth performance, especially when dealing with a large number of concurrent users and processing orders.
3. **Storage:** Sufficient storage space is required to store our system code, libraries, and any associated databases. A minimum of 100GB of available disk space is recommended.
4. **Networking:** A stable internet connection with sufficient bandwidth is necessary for handling incoming orders, managing communication with customers and delivery personnel, and interacting with external APIs, such as payment gateways.
5. **Server Infrastructure:** You will need a server or cloud infrastructure to deploy a Spring Boot application. This could be a physical server or a virtual machine (VM) in a data center, or a cloud-based solution like Amazon Web Services (AWS), Google Cloud Platform (GCP), or Microsoft Azure.
6. **Load Balancer:** If you anticipate a high volume of traffic or expect your application to scale, you may want to consider implementing a load balancer to distribute the incoming requests across multiple server instances. This will help improve performance and ensure high availability.

7. Backup and Redundancy: It's crucial to have proper backup and redundancy measures in place to prevent data loss and minimize downtime. Regularly backing up an application code, databases, and any other important files is essential.

Software Requirements:

1. Java Development Kit (JDK): Installing the latest JDK version compatible with Spring Boot and our operating system. We can download it from the Oracle website or use an OpenJDK distribution.
2. Integrated Development Environment (IDE): Choose an IDE that supports Java development. Popular options include Eclipse, IntelliJ IDEA, and Spring Tool Suite (STS). These IDEs provide features like code completion, debugging tools, and project management.
3. Spring Boot: We need to install Spring Boot, which is a framework that simplifies the development of Java applications, including web applications. You can add the Spring Boot dependencies to your project using Maven or Gradle build tools.
4. MySQL Database: Install MySQL Server to set up the database for your online food ordering system. We can download MySQL Community Edition from the official MySQL website. Make sure to configure the server and create the necessary tables and relationships to store the website data.
5. Java Server Pages (JSP): JSP is a technology for creating dynamic web pages using Java. It is commonly used with Spring Boot for the view layer. We need to set up JSP support in your Spring Boot project by adding the necessary dependencies and configuring the JSP view resolver.

6. Bootstrap: Bootstrap is a popular CSS framework that provides Pre-styled components and layouts for building responsive web pages.

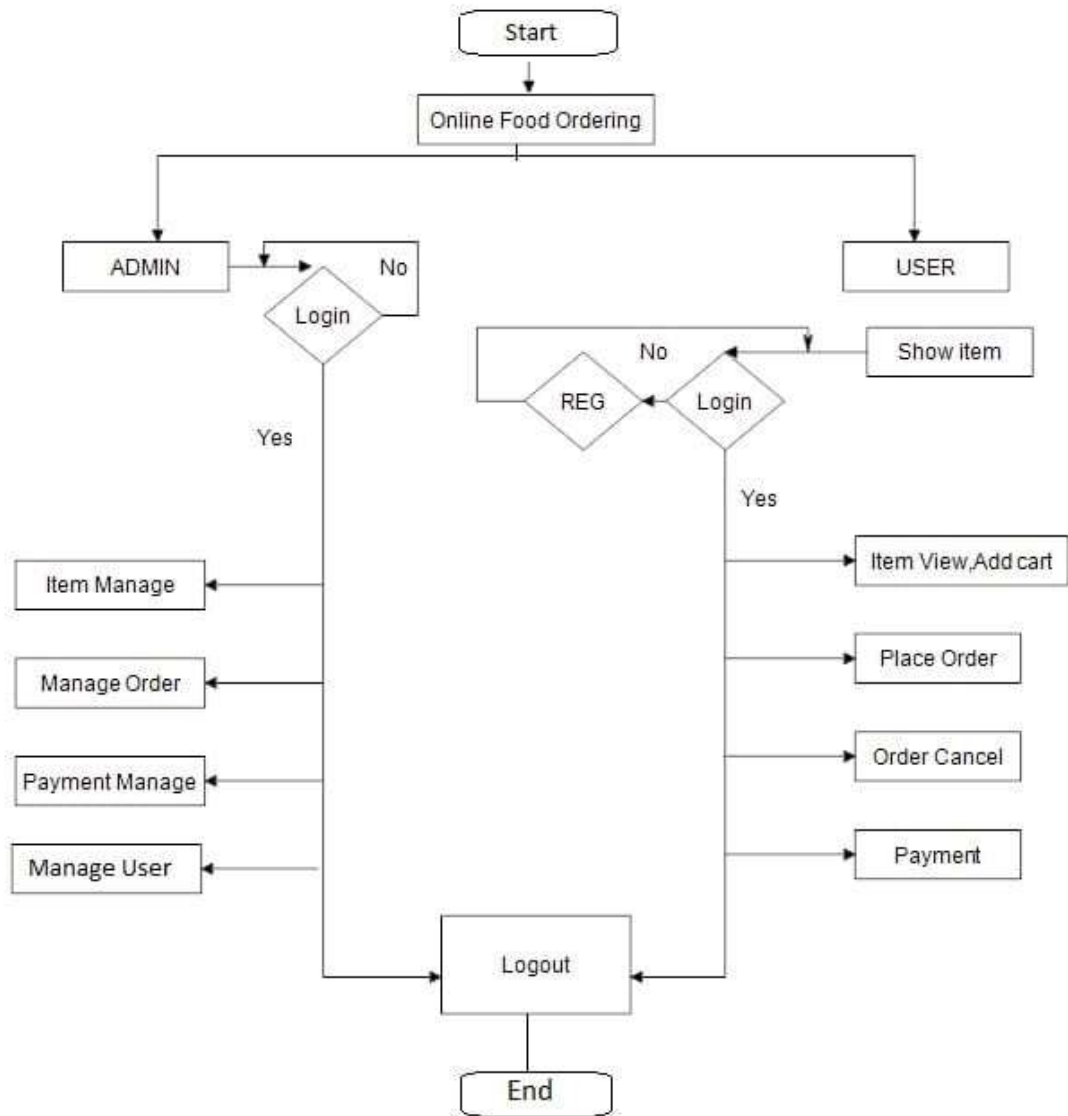
4. EXPERIMENTAL INVESTIGATIONS

These are the following Analysis or the investigation made while working on the solution:

- Performance Testing: Measuring the performance of our application under different loads and stress levels. By using tools like Apache JMeter or Gatling to simulate concurrent user requests and assess factors such as response time, throughput, and resource utilization. Identify any performance bottlenecks and optimize your code, database queries, or caching strategies accordingly.
- User Experience Testing: Gathering the feedback from users by conducting usability testing and user satisfaction surveys. Observe users as they interact with our system and identifying any usability issues or areas for improvement. Pay attention to aspects such as navigation, ordering process, responsiveness, and overall user satisfaction.
- Security Testing: Performing security testing to identify vulnerabilities and ensure the integrity of our system. Conducting a penetration testing to simulate attacks and validate the effectiveness of security measures like input validation, authentication, authorization, and data protection. Additionally, ensure compliance with security standards and best practices.

- **Compatibility Testing:** Testing our application on different web browsers (such as Chrome, Firefox, Safari, and Edge) and devices (desktop, mobile, tablet) to ensure cross-browser and cross-device compatibility. Verify that our application's layout, functionality, and responsiveness remain consistent across various platforms.
- **Database Performance Testing:** Measure the performance of our MySQL database by executing various queries, analyzing the execution time, and monitoring resource usage. Testing with a variety of data sizes to ensure optimal performance as the database grows. Tune database indexes, optimize queries, and explore caching mechanisms to enhance performance.
- **Load Testing:** Conduct load testing to determine the maximum capacity and scalability of our system. Gradually increase the number of concurrent users and monitor system behavior to identify performance thresholds and ensure our system can handle the expected load.
- **Error Handling and Exception Testing:** Simulate various error conditions, such as invalid inputs, network failures, or database errors, to verify that our system handles exceptions gracefully. Ensure that appropriate error messages are displayed to users, and critical errors are logged for analysis.
- **Integration Testing:** Test the integration of different components of our system, including Spring Boot, MySQL, JSP, and external APIs. Ensure proper communication and data flow between these components, and verify that interactions with external services (e.g., payment gateways or SMS providers) are functioning correctly.

5. FLOWCHART



6. RESULT

Online Food Ordering

Categories

About us

Contact us


Search Food

Search

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All Categories


- Icecream
- Veg
- NON VEG
- snacks
- beverages
- Pizza
- burger



chicken burger

tasty burger made with fresh chicken...


₹180.0/- ~~₹200.0~~ 10.0% off



chocolate icecream

delicious icecream...


₹135.0/- ~~₹150.0~~ 10.0% off



chicken pizza

jummy and cheereest chicken pizza...


₹237.5/- ~~₹250.0~~ 5.0% off



chicken biryani

tasty and spicy biryani...

₹285.0/- ~~₹300.0~~ 5.0% off



panipuri

streetstyle panipuri...

₹89.1/- ~~₹90.0~~ 1.0% off

Online Food Ordering

Categories

About us

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Forget password

Register

Login



Register Admin

First Name

Enter first name...

Last Name

Enter last name...

Email

Enter email id...

Mobile

Enter mobile no...

Street

Enter email id...

City

Enter city...

Pin code

Enter pincode...

Password

Enter password...

Must be 8-20 characters long.

Register

Online Food Ordering

Categories

About us

Contact us


Search Food

Search

Forget password

Register

Login



Admin Login

User name

gnanithajetti@gmail.com

Password

Must be 8-20 characters long

Login

Online Food Ordering

Admin Page

Categories


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Logout




1
USERS




7
TOTAL CATEGORY




7
TOTAL FOODS



2
TOTAL ORDERS



click to add category
ADD CATEGORY



click to add food
ADD FOOD

Ordering

Admin Page

Categories

About us

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Search

Fill category details.

Enter Category Title here

Enter Category Description here

Add Category

Close

Add Food
Close

No file chosen

Select Food Pic

Select Category



Enter Food Discount in %

Enter Food Price here

Enter Food Description here


Enter Food Title here

Add Food details

TOTAL ORDERS												
Order Id	User Id	User Name	User Email	User Phone	Food Image	Food Title	Qty	Price	Ord. date	Delivery date	Delivery Status	Action
tbeUdzfYkl	1	asrith	asrithjetti@gmail.com	9160307937		chocolate icecream	1	135.0	2023-06-25	2023-06-25	On the Way	<input type="text" value="mm/dd/yyyy"/> Pending Set
tbeUdzfYkl	1	asrith	asrithjetti@gmail.com	9160307937		panipuri	2	178.2	2023-06-25	2023-06-25	On the Way	<input type="text" value="mm/dd/yyyy"/> Pending Set

Close

Online Food Ordering
Categories
About us
Contact us
Search
[Forget password](#)
[Register](#)
[Login](#)


Register User

First Name
Last Name
Email
Mobile
Street
City
Pin code
Password
Must be 8-30 characters long

Register

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[Forget password](#)
[Register](#)
[Login](#)

User Login

User name

Password

Must be 8-20 characters long

Online Food Ordering
Categories
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[My Orders](#)
[Logout](#)

Search By Order Id

Order Id	User Id	User Name	User Email	User Phone	Food Image	Food Title	Qty	Price	Ord. date	Delivery date	Delivery Status
tbeUdzfYkl	1	asrith	asrithjetti@gmail.com	9160307937		chocolate icecream	1	135.0	2023-06-25	2023-06-25	On the Way
tbeUdzfYkl	1	asrith	asrithjetti@gmail.com	9160307937		panipuri	2	178.2	2023-06-25	2023-06-25	On the Way

7. ADVANTAGES & DISADVANTAGES

Advantages:

Convenience: Customers can conveniently browse menus, place orders, and make payments from the comfort of their homes or offices. It eliminates the need to visit a physical restaurant or make phone calls.

Expanded Reach: Our system allow restaurants and food businesses to reach a wider customer base. Customers can place orders from anywhere, enabling businesses to serve customers beyond their immediate geographical location.

Order Customization: Our system often provide options for customers to customize their orders. This enhances customer satisfaction and allows for a personalized dining experience.

Order Tracking and Transparency: Our system provide order tracking features, allowing customers to monitor the status of their orders in real-time. This transparency enhances trust and provides a better customer experience.

Time and Cost Savings: Our system also help to save time for both customers and businesses. Customers can quickly place orders without waiting on hold, while businesses can streamline their operations and reduce order processing time. It also eliminates the need for printed menus and phone order-taking staff.

Disadvantages:

Technical Issues and Downtime: Our system rely on technology and internet connectivity. Technical glitches, server downtime, or network issues can disrupt the ordering process and lead to customer dissatisfaction.

Dependence on Delivery Services: Our system includes delivery services, businesses become dependent on third-party delivery partners. Any issues with delivery, such as delays or mistakes, can reflect poorly on the business.

Limited Customization: System have limitations in terms of menu customization, special requests, or complex ordering scenarios.

8. APPLICATIONS

- Restaurants and Cafes
- Catering Services
- Aggregator Platforms
- Hotel Room Service
- Campus or Corporate Cafeterias
- Online Grocery Stores
- Food Trucks

9. CONCLUSION

In conclusion, building an online food ordering system using Spring Boot Java, MySQL, JSP, and Bootstrap that caters to both administrators and users offers a convenient and efficient solution for businesses in the food industry. The system provides users with a seamless ordering experience, allowing them to browse menus, customize orders, and make payments online. Simultaneously, administrators benefit from streamlined operations, enabling them to manage menus, process orders, and monitor inventory effectively. The combination of Spring Boot's scalability, Java's robustness, MySQL's data management capabilities, and Bootstrap's responsive design empowers businesses to create a user-friendly and customizable platform that enhances customer satisfaction and drives operational efficiency.

10. FUTURE SCOPE

The future scope for the online food ordering system can be as follows:

With the continuous advancement in technology and changing consumer preferences, there are several opportunities for further improvement and expansion. Integration of artificial intelligence and machine learning algorithms can enhance the system's recommendation engine, providing personalized menu suggestions based on user preferences and ordering history. Implementing progressive web app (PWA) capabilities can offer a seamless mobile experience, allowing users to place orders offline and receive real-time notifications. Additionally, exploring block chain technology for secure and transparent transactions and incorporating voice-based ordering through virtual assistants presents exciting possibilities. As the online food industry continues to grow, this system can evolve to meet the dynamic needs of customers and businesses, enhancing convenience and customer satisfaction in the digital food ordering ecosystem.

11. BIBILOGRAPHY

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