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DishDelight

Food Delivery Platform

A Project report submitted to the Jawaharlal Nehru University in the partial fulfillment of the requirements for the award of the degree of

MASTER
OF
COMPUTER APPLICATION

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DECLARATION

This is to certify that the project entitled "**DishDelight**" is being submitted to the School of Computer and System Sciences ,Jawaharlal Nehru University, new Delhi ., in partial fulfillment of the requirement for the award of the degree of Master of Computer Applications, is a record of bonafide work carried out by me. Any contributions from external sources have been properly cited and acknowledged.

The matter embodied in the dissertation has been submitted in part or full to any University or Institution for the award of any degree or diploma.

Signature: Aditya Kumar
Date: 20/05/2024



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Certificate by Project Guide

This is to certify that the project titled "DishDelight - Food Delivery Platform" is a bonafide work done by **Aditya Kumar** in partial fulfillment of MCA course has been carried out under my guidance and supervision. The work presented in this report is original and meets the standards required for its evaluation. It is certified that the declaration made by the student is correct to the best of my Knowledge.

Signature:

Name: **Dr. PIYUSH PRATAP SINGH**

Designation: Associate Professor

Institution: Jawaharlal Nehru University, New Delhi

Date:

Acknowledgement

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Aditya Kumar

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The Data Flow Diagram (DFD) illustrates the flow of information within the DishDelight system, showcasing how data moves between various processes and external entities. It provides a visual representation of data inputs, outputs, and transformations, aiding in understanding the system's functionality and data flow

05

Testing

Testing ensures the reliability and functionality of the DishDelight system through rigorous evaluation of its features and performance against predefined criteria. It involves executing test cases, identifying and fixing defects, and validating the system to ensure it meets user requirements.

06

Conclusions

In conclusion, the DishDelight project has successfully addressed the need for a convenient and efficient food delivery platform, offering valuable insights and solutions to enhance user experience.

06

Future Work

0 1

ABOUT DISHDELIGHT

DishDelight is an innovative food delivery platform designed to revolutionize the way people experience dining. With a focus on convenience, quality, and variety, DishDelight offers users a seamless and enjoyable culinary journey from the comfort of their homes.

By partnering with local restaurants and eateries, DishDelight provides customers with access to a diverse range of cuisines and dishes, catering to every taste and preference. Through its user-friendly interface and efficient delivery services, DishDelight aims to make ordering food online a hassle-free and delightful experience for users across the globe.

GOALS

The goals of DishDelight are to:-

Provide a seamless and convenient platform for users to order food from a diverse range of local restaurants and eateries.

Ensure timely and efficient delivery services to enhance customer satisfaction and loyalty.

Offer a user-friendly interface that prioritizes ease of navigation and a pleasant ordering experience.

Support local businesses by promoting their culinary offerings and expanding their customer reach through the platform.

Maintain high standards of food quality and safety to uphold customer trust and confidence in the DishDelight brand.

02

PROBLEM DEFINITION

In the contemporary lifestyle, people often face challenges in accessing diverse food options conveniently. This leads to:

- i) Limited Choices: Traditional methods of food ordering restrict customers to a handful of local eateries, limiting their culinary experiences.
- ii) Inconvenience: Manual ordering processes through phone calls or physical visits to restaurants are time-consuming and inconvenient, especially for busy individuals.
- iii) Delivery Delays: Inefficient delivery systems often result in delays, impacting the overall customer experience and satisfaction.
- iv) Lack of Transparency: Customers may face difficulties in tracking their orders or obtaining accurate delivery estimates, leading to frustration and dissatisfaction.
- v) Quality Concerns: Without a reliable platform to vet and monitor food quality, customers may encounter issues such as inconsistent taste or compromised hygiene standards.

02

KEY CHALLENGES

- i) Fragmented Market: The absence of a unified platform makes it challenging for customers to explore and access a wide range of food options from different restaurants.
- ii) Logistical Hurdles: Coordinating between multiple restaurants and delivery services poses logistical challenges, often resulting in delayed or inaccurate deliveries.
- iii) Technological Barriers: Existing food ordering systems may lack user-friendly interfaces or advanced features, hindering seamless user experiences and efficient operations.
- iv) Quality Control: Ensuring consistent food quality and adherence to hygiene standards across various restaurants presents a significant challenge, especially without robust monitoring mechanisms.
- v) Customer Experience: Poor communication, long wait times, and inadequate support channels can tarnish the overall customer experience, impacting user retention and brand reputation.

02

PROCESS MODEL

PROCESS MODEL FOR DISHDELIGHT PROJECT:

The DishDelight project adopts a hybrid approach to software development, incorporating elements of both Agile and Waterfall methodologies to meet the unique requirements of the food delivery platform.

Requirements Gathering:

The project begins with a comprehensive phase of requirements gathering, where stakeholders define the functional and non-functional requirements of the DishDelight platform. This phase involves conducting stakeholder interviews, analyzing market trends, and identifying key features and functionalities required for the platform.

System Design:

Following the requirements gathering phase, the project moves into the system design stage. Here, the architecture of the DishDelight platform is conceptualized, and key design decisions are made.

The system design phase encompasses database design, user interface design, and the selection of technologies and frameworks to be used in development.

02

PROCESS MODEL

PROCESS MODEL FOR DISHDELIGHT PROJECT:

The DishDelight project adopts a hybrid approach to software development, incorporating elements of both Agile and Waterfall methodologies to meet the unique requirements of the food delivery platform.

Agile Development:

Once the system design is finalized, the project transitions into an Agile development model for iterative software development. Development is divided into short sprints, typically lasting 2-4 weeks, during which specific features and functionalities are implemented and tested.

Daily stand-up meetings are held to track progress, address any issues or impediments, and ensure alignment with project goals.

Waterfall Phases:

While Agile is used for the majority of development work, certain phases of the project, such as initial planning and system testing, follow a Waterfall approach.

The Waterfall phases provide structure and stability to critical project activities, such as project initiation, requirements analysis, and final system testing.

02

PROCESS MODEL

PROCESS MODEL FOR DISHDELIGHT PROJECT:

The DishDelight project adopts a hybrid approach to software development, incorporating elements of both Agile and Waterfall methodologies to meet the unique requirements of the food delivery platform.

Continuous Integration and Testing:

Throughout the development process, continuous integration and testing are emphasized to ensure the quality and reliability of the DishDelight platform.

Automated testing scripts are developed to validate new features and functionalities, and integration tests are performed to verify the seamless integration of different system components.

User Feedback and Iteration:

User feedback plays a crucial role in shaping the evolution of the DishDelight platform. Regular feedback loops are established to gather input from end-users and stakeholders.

Based on user feedback, iterations are made to the platform to enhance usability, address user pain points, and introduce new features that align with user preferences.

02

PROCESS MODEL

PROCESS MODEL FOR DISHDELIGHT PROJECT:

The DishDelight project adopts a hybrid approach to software development, incorporating elements of both Agile and Waterfall methodologies to meet the unique requirements of the food delivery platform.

Deployment and Maintenance:

Upon successful completion of development and testing, the DishDelight platform is deployed to production environments. Post-deployment, ongoing maintenance and support activities are carried out to address any issues, implement updates, and ensure the smooth operation of the platform.

By combining the iterative and adaptive nature of Agile with the structured approach of Waterfall, the DishDelight project aims to deliver a robust, user-friendly food delivery platform that meets the needs of both customers and businesses.

03

REQUIREMENT ANALYSIS

USER REQUIREMENT

- i) Ease of Use: Users expect an intuitive interface that simplifies the food ordering process, allowing them to browse menus, customize orders, and track deliveries effortlessly.
- ii) Variety of Options: Customers seek access to a diverse range of cuisines and restaurants, catering to different tastes, dietary preferences, and budget constraints.
- iii Order Customization: The system should enable users to customize their orders based on preferences such as ingredients, portion sizes, and dietary restrictions.
- iv) Transparent Pricing: Users demand clear and transparent pricing, including item costs, taxes, delivery fees, and any additional charges, displayed upfront during the ordering process.
- v) Secure Transactions: Customers prioritize secure payment options, including encrypted transactions and reliable payment gateways, to protect their financial information.

04

SYSTEM REQUIREMENT

HARWARE REQUIREMENT

Server Infrastructure: Robust server infrastructure capable of handling concurrent user requests, managing database operations, and facilitating real-time communication between users and restaurants.

Network Connectivity: Stable and high-speed internet connectivity to ensure seamless data transfer and communication between servers, clients, and external services.

Data Storage: Sufficient storage capacity to store user profiles, order histories, menu items, restaurant details, and other relevant data securely.

04

SYSTEM REQUIREMENT

HARWARE REQUIREMENT

SERVER INFRASTRUCTURE

RAM (Random Access Memory): Minimum 8 GB RAM for efficient multitasking and data processing.

Processor: Multi-core processor with a clock speed of at least 2.4 GHz for optimal performance.

System Type: 64-bit architecture for handling large datasets and running resource-intensive applications.

Processor Speed: Minimum 2.4 GHz processor speed to ensure smooth system operation and response times.

Storage: SSD (Solid State Drive) storage with a minimum capacity of 256 GB for fast data access and retrieval.

Network Interface: Gigabit Ethernet adapter for high-speed network connectivity and data transfer.

04

SYSTEM REQUIREMENT

HARDWARE REQUIREMENT

CLIENT DEVICES

Processor: Dual-core processor with a clock speed of at least 1.8 GHz for responsive user experience.

RAM: Minimum 4 GB RAM to support web browsing, application usage, and multitasking.

Monitor: High-resolution monitor (1920x1080 pixels or higher) for clear and crisp display of user interfaces and content.

Storage: SSD or HDD storage with a minimum capacity of 128 GB for storing applications, documents, and media files.

Graphics: Integrated or dedicated graphics card for smooth rendering of graphics-intensive content and multimedia playback.

Peripherals: Standard peripherals including a keyboard, mouse, and webcam for input, navigation, and video conferencing.

Network Connectivity: Built-in Wi-Fi adapter or Ethernet port for internet connectivity and network access.

04

SYSTEM REQUIREMENT

HARWARE REQUIREMENT

ADDITIONAL HARWARE

Printer: Optional printer with wireless or USB connectivity for printing invoices, receipts, and order confirmations.

Backup Storage: External HDD or cloud storage solution for data backup and disaster recovery purposes.

UPS (Uninterruptible Power Supply): UPS unit to provide backup power during unexpected outages or fluctuations, ensuring system uptime and data integrity.

Security Devices: Firewall, antivirus software, and intrusion detection/prevention systems (IDS/IPS) for protecting the server and client devices from cyber threats and unauthorized access.

By meeting these hardware requirements, the DishDelight platform can ensure reliable performance, scalability, and security for its users and stakeholders.

04

SYSTEM REQUIREMENT

SOFTWARE REQUIREMENT

Operating System

Server: Linux-based operating system such as Ubuntu Server or CentOS for hosting the DishDelight application **and database.**

Client Devices: Compatibility with popular operating systems including Windows, macOS, and Linux for accessing the DishDelight platform through web browsers and mobile applications.

04

SYSTEM REQUIREMENT

SOFTWARE REQUIREMENT

Web Server

Apache: Open-source web server software for hosting the DishDelight web application and **serving HTTP requests.**

Node.js: Server-side JavaScript runtime environment for building scalable and efficient web applications.

Nginx: High-performance web server and reverse proxy server for load balancing, caching, and SSL/TLS termination.

04

SYSTEM REQUIREMENT

SOFTWARE REQUIREMENT

Database Management System (DBMS):

- MongoDB: NoSQL database platform for storing and managing dynamic data such as user profiles, orders, and menu items.
- MySQL or PostgreSQL: Relational database management systems for handling structured data and performing complex queries in the DishDelight system.

04

SYSTEM REQUIREMENT

SOFTWARE REQUIREMENT

Programming Languages:

- JavaScript: Frontend and backend scripting language for developing interactive user interfaces and server-side logic.
- HTML (Hypertext Markup Language) and CSS (Cascading Style Sheets): Standard markup and styling languages for designing and formatting web pages.
- Python: Optional programming language for backend development and scripting tasks, such as automation and data processing.

04

SYSTEM REQUIREMENT

SOFTWARE REQUIREMENT

Frameworks and Libraries:

- Express.js: Minimalist web application framework for Node.js, providing robust features for building APIs and handling HTTP requests/responses.
- React.js: JavaScript library for building user interfaces with reusable components, enabling a responsive and interactive frontend experience.
- Bootstrap: Frontend framework for designing responsive and mobile-first websites, offering pre-built CSS and JavaScript components.

04

SYSTEM REQUIREMENT

SOFTWARE REQUIREMENT

Development Tools:

- Visual Studio Code (VS Code): Lightweight and extensible code editor with built-in support for JavaScript, HTML, and CSS, facilitating code development and debugging.
- Git: Distributed version control system for tracking changes to source code, collaborating with team members, and managing project repositories.

Postman: API testing tool for sending HTTP requests, validating responses, and debugging API endpoints during development and testing phases.

04

SYSTEM REQUIREMENT

SOFTWARE REQUIREMENT

Deployment and Hosting:

- **Docker:** Containerization platform for packaging and deploying the DishDelight application, ensuring consistency and portability across different environments.
-
- **Heroku or AWS (Amazon Web Services):** Cloud hosting services for deploying and scaling the DishDelight application, providing reliability, scalability, and security features.

By satisfying these software requirements, the DishDelight platform can deliver a robust, scalable, and user-friendly experience to its customers, administrators, and other stakeholders.

04

FUNCTIONAL REQUIREMENT

User Registration and Authentication:

- Users should be able to register an account with DishDelight by providing necessary details like name, email, password, and contact information.
- Upon registration, users should be authenticated securely to access the platform's features and functionalities.
- Menu Browsing and Ordering:
- Users should be able to browse through the menu items available on DishDelight, categorized by cuisine, type, or dietary preferences.
- Users should have the ability to add selected items to their cart, specify quantities, and proceed to place orders securely.

Order Management:

- Registered users should have access to a dashboard where they can view their order history, track order statuses in real-time, and manage delivery addresses.

04

FUNCTIONAL REQUIREMENT

Users should have the ability to add selected items to their cart, specify quantities, and proceed to place orders securely.

Order Management:

Registered users should have access to a dashboard where they can view their order history, track order statuses in real-time, and manage delivery addresses.

Users should receive notifications via email or SMS regarding order confirmations, status updates, and delivery schedules.

Admin Dashboard:

Administrators should have a dedicated dashboard for managing menu items, updating prices, adding new dishes, and categorizing items for better organization.

Admins should be able to view and process incoming orders, update order statuses, and generate reports for sales analytics and inventory management.

Payment Integration:

DishDelight should integrate secure payment gateways to facilitate online transactions, allowing users to make payments using credit/debit cards, net banking, or digital wallets.

Payment processing should be seamless, with support for multiple currencies and real-time authorization to minimize payment failures.

04

NONFUNCTIONAL REQUIREMENT

Performance:

The DishDelight platform should exhibit high performance and responsiveness, with fast loading times for web pages and minimal latency during order processing.

The system should be capable of handling concurrent user sessions and peak traffic loads without compromising performance or user experience.

Scalability:

DishDelight should be designed to scale horizontally and vertically to accommodate growing user bases and increasing demands for menu items and services.

The system architecture should support load balancing, auto-scaling, and distributed computing to ensure seamless expansion and resource allocation.

Security:

Data security should be a top priority, with measures in place to encrypt sensitive information, such as user credentials, payment details, and personal data.

DishDelight should implement authentication and authorization mechanisms, role-based access controls, and regular security audits to mitigate risks of data breaches and unauthorized access.

04

NONFUNCTIONAL REQUIREMENT

Reliability:

The platform should be highly reliable and available, with minimal downtime and robust fault tolerance mechanisms to handle server failures or network disruptions.

Backup and disaster recovery plans should be in place to ensure data integrity and continuity of service in the event of unexpected incidents or outages.

Usability:

DishDelight should offer an intuitive and user-friendly interface, with clear navigation paths, descriptive labels, and visual cues to guide users through the ordering process.

The platform should be accessible on multiple devices and screen sizes, with support for assistive technologies and compliance with web accessibility standards.

04

DATA DICTIONARY

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User Collection:

- i) _id (Primary Key): Unique identifier for each user.
- ii) name: Name of the user.
- iii) email: Email address of the user.
- iv) password: Encrypted password of the user.
- v) mobile: Mobile number of the user.
- vi) is_admin: Boolean value indicating whether the user is an admin or not.
- vii) is_verified: Boolean value indicating whether the user's email is verified or not.
- viii) verify_token: Token used for email verification.
- ix) created_at: Timestamp indicating when the user account was created.
- x) updated_at: Timestamp indicating when the user account was last updated.

04

DATA DICTIONARY

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Food Item Collection:

- i) _id (Primary Key): Unique identifier for each food item.
- ii) name: Name of the food item.
- iii) description: Description of the food item.
- iv) price: Price of the food item.
- v) image: File path or URL of the image associated with the food item.
- vi) category: Category of the food item (e.g., appetizer, main course, dessert).
- vii) created_at: Timestamp indicating when the food item was added to the database.
- viii) updated_at: Timestamp indicating when the food item was last updated.

04

DATA DICTIONARY



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Order Collection:

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- i) _id (Primary Key): Unique identifier for each order.
- ii) user_id (Foreign Key): Foreign key referencing the user who placed the order.
- iii) user_email: Email address of the user who placed the order.
- iv) items: Array containing details of the items ordered (e.g., name, quantity, price).
- v) amount: Total amount of the order.
- vi) address: Delivery address provided by the user.
- vii) payment: Boolean value indicating whether the order has been paid for or not.
- viii) status: Current status of the order (e.g., pending, confirmed, delivered).
- ix) created_at: Timestamp indicating when the order was placed.
- x) updated_at: Timestamp indicating when the order was last updated.

04

DATA DICTIONARY

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Cart Collection:

- i) _id (Primary Key): Unique identifier for each cart.
- ii) user_id (Foreign Key): Foreign key referencing the user who owns the cart.
- iii) items: Object containing details of the items in the cart (e.g., item_id, quantity).
- iv) created_at: Timestamp indicating when the cart was created.
- v) updated_at: Timestamp indicating when the cart was last updated.



05

PROJECT PLAN:

The project plan for DishDelight involves several key phases, including goal setting, requirement gathering, design, development, testing, deployment, and maintenance. Each phase is crucial for the successful implementation of the food delivery platform. During the design phase, wireframes and prototypes are created to visualize the platform's layout and functionality. Development involves coding the backend logic, database structure, and frontend components. Rigorous testing ensures the platform's functionality, usability, security, and performance. Deployment involves launching the platform in a live environment, followed by training sessions for users and admins. Maintenance and support are provided post-deployment to address any issues and keep the platform up-to-date.

07

MODULES

Customer Module:

This module focuses on providing a seamless experience for customers who wish to order food from various restaurants.

Features include user registration, login, browsing restaurants and menus, placing orders, tracking order status, and providing feedback.

Customers can also manage their profiles, addresses, payment methods, and view order history.

07

MODULES

Admin Module:

The admin module is designed for platform administrators to manage and oversee the entire system.

Admins have access to functionalities such as restaurant management, menu management, user management, order management, and reporting.

They can add, edit, or remove restaurants and menus, manage user accounts, view and process orders, and generate reports for analytics.

07

MODULES

Chatbot Module:

This module introduces an AI-powered chatbot feature to enhance customer engagement and support.

The chatbot can assist users in placing orders, answering FAQs, providing recommendations, and resolving common issues.

It operates in a conversational manner, using natural language processing to understand and respond to user queries.

07

MODULES

About Us Module:

The About Us module serves as a platform for providing information about the DishDelight service, its mission, vision, and values.

Users can learn more about the company, its founders, team members, and any other relevant information.

This section aims to establish transparency and trust with customers by showcasing the brand's story and background.

07

MODULES

Contact Us Module:

The Contact Us module enables users to get in touch with the DishDelight team for inquiries, feedback, or support.

It typically includes a contact form where users can submit their queries or concerns, along with contact details such as email, phone number, and address.

This module facilitates communication between customers and the platform administrators, ensuring timely responses to user inquiries.

08

DETAILED DESCRIPTION OF EACH SEGMENT OF THE USER FRONTEND

NAVBAR:-

The navigation bar provides easy access to different sections of the website, including home, menu, about us, contact us, and user profile.

It typically includes branding elements, menu links, search functionality, and user authentication options.

09

PROJECTIONS FOR Q3:

STRATEGY TWEAKS AND NEW INITIATIVES

The next step is to decide what metrics matter to you. Below are some metrics you can start with:

1. Follower growth – the number of people you have reached
2. Influencer report – the influential people in your network
3. Volume of posts – the number of times you have shared content
4. Reach rate – the number of users who have seen your post
5. Total engagement – how much interaction each post generated
6. Engagement per follower – engagement each post generated

Before even typing your report, first take the time to consider who the report is for. One good rule of thumb to remember is that the higher up the stakeholder is in the organizational ladder, the more succinct the report needs to be.



10

DIGIPATRON SOCIAL MEDIA TEAM 1: MEMBERS

Now that you know your audience and metrics, you can start creating your report. Kick things off by presenting the big picture. Give a snapshot which summarizes how you are doing across all social media platforms. Here, you can do a health check and assess how well these platforms are doing for the reporting period. Remember that you don't have to jam all metrics in one page. Make it easy for your audience by selecting just the top three or four important metrics. Then give a few takeaways, which lets you transition smoothly to the other parts of your report.

