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Vikum Graphics – Printing Press Management System

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Background

Vikum Graphics is a printing press company located in the bustling district of Maradana. They specialise in a diverse range of products, including labels, business cards, stickers, books, greeting cards, wedding cards etc. They have an old management system to manage their business. With years of experience in the industry, they aim to provide better-quality prints by investing in modern technology. We hope to give an online ordering system to customers and a management system for a business. This project will help them offer a wider range of printing from online platforms. They believe these enhancements will ensure customer satisfaction and keep them competitive in the market.

Problems And Motivations

Problems

In our analysis of the current printing press management processes, several significant problems have come to light, revealing operational inefficiencies, communication gaps, and challenges in inventory tracking.

- **Manual Administrative Overhead:** The reliance on manual tasks for customer management, order processing, inventory tracking, product management, supplier interactions, employee oversight, and financial transactions has resulted in operational inefficiencies, increased errors, and extended processing times.
- **Communication Gaps:** The absence of a structured communication framework has led to communication gaps between stakeholders, including customers, suppliers, and employees. This lack of cohesion is hindering collaborative efforts and impacting overall operational effectiveness.
- **Customer Engagement Hurdles:** The inadequate mechanisms for informing and engaging customers about printing press services, package details, and ongoing promotions are leading to suboptimal customer awareness and acknowledgment. This limitation impacts customer satisfaction and loyalty.
- **Order Management Complexities:** The current system struggles with complexities in creating, managing, and tracking orders. The lack of real-time updates for customers has resulted in dissatisfaction and potential discrepancies in order fulfillment.
- **Employee Records and Salary Management:** Manual maintenance of employee records, including registrations, and challenges in managing employee salaries have introduced complications and paperwork issues. This not only consumes time but also poses a risk of errors in administrative processes.
- **Limited Feedback Mechanism:** The absence of a structured and comprehensive feedback mechanism prevents the collection of valuable insights into overall customer satisfaction. Relying on biased feedback from a select few customers may not accurately reflect the printing press's performance.

- **Inventory Management Problems:** Manual inventory tracking poses challenges in maintaining accurate stock levels. The current system lacks real-time insights into inventory status, potentially leading to overstocking or stockouts.

Motivations

The Printing Press Management System is motivated by a deep commitment to overcoming these problems and driving significant improvements across various facets of operations. This commitment stems from the recognition that addressing these problems is essential not only for operational efficiency but also for fostering customer satisfaction, optimizing inventory management, and ensuring streamlined communication among stakeholders.

- **Workflow Automation and Integration:** Introduce robust automation to streamline and integrate the entire spectrum of manual administrative tasks. This initiative aims to improve operational efficiency, reduce errors, and enhance overall productivity.
- **Communication Enhancement:** Implement a communication system that fosters seamless interaction among customers, suppliers, and employees. This enhancement is pivotal for improving collaboration, ensuring clarity, and boosting operational coordination.
- **Customer-Centric Features:** Develop customer-centric features that provide real-time updates on order status, personalized promotions, and relevant information about printing press services. This approach aims to elevate customer satisfaction and loyalty.
- **Order Fulfillment Optimization:** Optimize the order management process by introducing features for easy order creation, tracking, and providing customers with timely updates. A more transparent and efficient order fulfillment experience is expected to enhance customer satisfaction.
- **Employee Efficiency Solutions:** Implement solutions that simplify employee management processes, including streamlined registrations and an automated salary management system. This initiative is aimed at reducing paperwork, saving time, and improving overall administrative efficiency.
- **Comprehensive Feedback System:** Design and implement a comprehensive feedback system that collects insights from a diverse customer base. This initiative seeks to provide a more accurate representation of customer satisfaction, enabling data-driven decisions for business growth.
- **Inventory Optimization:** Introduce features for real-time inventory tracking and management to ensure accurate stock levels. This enhancement is critical for avoiding overstocking or stockouts, thus optimizing inventory operations.

Aim and objectives.

Aims

The Printing Press Management System project aims to address the inefficiencies and challenges faced by printing presses by providing an integrated and formal solution for managing printing processes, orders, inventory, customer interactions, and more. In the current landscape, traditional printing press operations often suffer from manual processes, disorganized workflows, and a lack of digitalization. These issues can lead to delays, errors in orders, inefficient resource usage, and ultimately, unsatisfied customers. The primary goal of this project is to revolutionize the way printing presses operate by introducing automation and digital tools. By doing so, the system aims to improve overall efficiency, reduce errors, enhance customer satisfaction, and support the growth of the printing industry.

The System aims to correct printing processes for diverse materials like books, magazines, and flyers, ensuring user-friendly handling of various printing requirements. This includes optimizing color accuracy, resolution, and print consistency to enhance overall quality. Quality control mechanisms will be implemented to meet industry standards, providing tools for checks and adjustments. Cost-effective production is targeted through optimized resource use and accurate printing cost estimation for clients. The system also enhances workflow management from order placement to delivery, allowing tracking of print jobs for improved efficiency and profitability.

The System is a comprehensive solution that integrates vehicle management for efficient delivery operations alongside logistics management to ensure timely and cost-effective transportation of materials and products. This system also includes inventory management to monitor supplies, enhancing operational effectiveness. Additionally, it provides tools for better communication, task delegation, and performance tracking within the organization. By optimizing vehicle usage, monitoring maintenance schedules, and enhancing logistics coordination, the system aims to improve delivery efficiency, reduce transportation costs, and fulfill customer orders promptly and accurately. This holistic approach not only optimizes printing operations but also enhances the entire supply chain and internal departmental workflows, ultimately improving productivity and customer satisfaction while maintaining cost-effectiveness.

In summary, the Printing Press Management System aims to streamline operations through integrated vehicle management, logistics, inventory monitoring, and organizational tools. This comprehensive approach is designed to enhance efficiency, reduce costs, and provide exceptional service to customers. By optimizing processes and workflows, the system positions the printing press for sustained growth and success in a competitive market.

Objectives

Develop a Customizable Printing Platform:

- Create a platform that allows customization of print settings such as material type, size, color profiles, etc.
- Enable users to upload print-ready files and preview their designs before printing.

Integrate Quality Control Mechanisms:

- Implement color calibration tools to ensure accurate color reproduction.
- Incorporate software for print testing and inspection to maintain consistent print quality.
- Set up automated quality checks to detect and correct errors before printing.

Optimize Resource Management:

- Develop algorithms to optimize ink and usage of goods for cost-effective printing.
- Implement scheduling features to minimize downtime and maximize machine utilization.

Enhance Customer Interaction and Order Management:

- Design an intuitive user interface for easy order placement, file uploading.
- Provide real-time updates on print job status and estimated completion times.
- Offer online proofing capabilities for clients to approve designs before printing.
- Implement a feedback system to gather client suggestions and improve services.

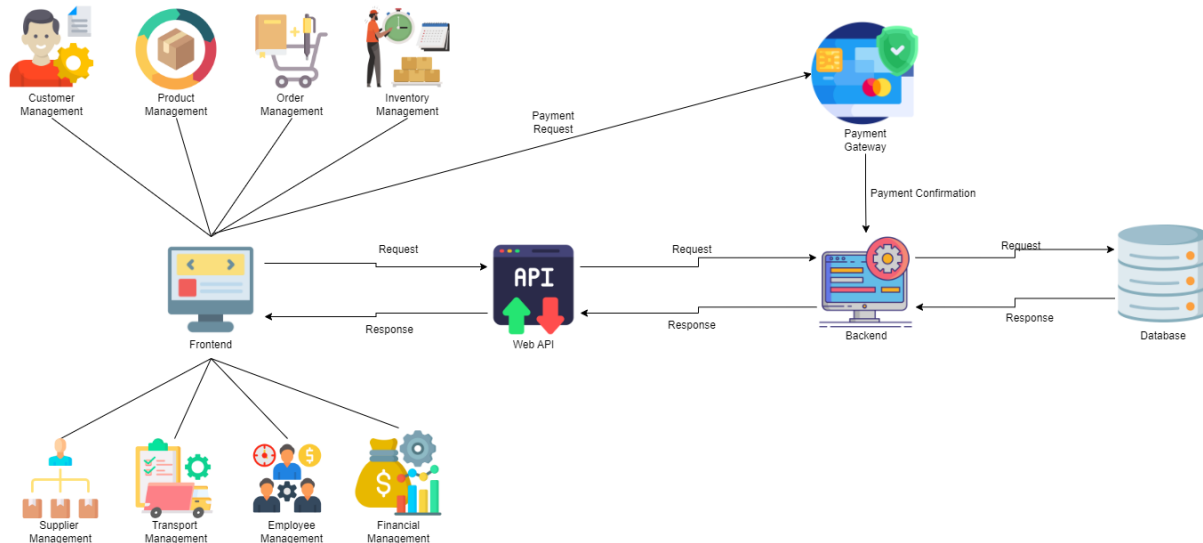
Integrate Vehicle and Inventory Management:

- Develop a system to manage the fleet of delivery vehicles.
- Monitor vehicle availability, maintenance schedules, and routes for efficient deliveries.
- Implement inventory monitoring to track supplies, materials, and stock levels.

Continuously monitor and evaluate the system's performance. The goal is to strategies the system's performance, receive user feedback, and make improvements to its features and functioning. The system must gather information on user preferences and behavior.

System Overview

System Diagram



Functional Requirements

1. Customer Management

The Customer Management System (CMS) is a robust solution designed to provide a comprehensive platform for overseeing customers and ensuring secure interactions. With a focus on user convenience and security, the CMS allows customers to register accounts using a valid email address and password, ensuring a secure authentication process that grants them access to customer-specific data.

Once registered, customers can easily manage their profiles, benefiting from the flexibility to edit and delete information such as their name, contact details, and preferences. The system empowers customers to actively engage by submitting, editing, and deleting feedback and reviews on products or services. This valuable information is stored and displayed for other users, contributing to a transparent and collaborative user experience.

Customer managers, upon logging in, gain administrative control with the authority to manage tasks and efficiently oversee customer-related activities. They have the capability to view a comprehensive list of all registered customers, facilitating a holistic understanding of customer demographics.

Facilitating seamless communication between customer managers and customers, the CMS allows managers to utilize various channels, such as emails or notifications, for delivering promotional updates or addressing customer inquiries. This ensures that customers are well-informed about promotions, order updates, and other relevant information.

To enhance managerial decision-making, the system incorporates search and filter options, enabling customer managers to segment customers based on various criteria. This feature streamlines the management process, allowing for targeted engagement and personalized interactions.

Moreover, the CMS provides customer managers with the capability to generate detailed reports on customer activities, feedback, and preferences. These reports offer valuable insights, enabling data-driven decisions to improve customer satisfaction and optimize business strategies.

The integrated notification system ensures timely communication with customers, enhancing the overall customer experience by keeping them informed about updates, promotions, and relevant information. In essence, the Customer Management System is a comprehensive and user-friendly solution that aligns with industry best practices to ensure efficient customer management and foster positive customer relationships.

2. Product management

As a product manager, I am doing product management. product managers play a crucial role in adding a category, editing, deleting and adding a product, and editing, and deleting parts. They oversee the organization of products into logical categories, ensuring easy navigation and accessibility for users. This categorization process involves understanding the unique attributes of each product and grouping them effectively to streamline the browsing and ordering experience. Additionally, product managers are responsible for adding new products to the system, which includes gathering product information such as name, description, pricing, and images, and inputting them into the product database. They also handle the deletion of outdated or discontinued products, maintaining a clean and up-to-date product catalogue. Moreover, product managers oversee the editing of product details, including updating prices, descriptions, or images to reflect changes in inventory or market conditions. also product manager generate different reports.

3. Order Management

Customers can effortlessly navigate through the product catalog, select items, and add them to their shopping cart. The system provides an intuitive interface for customers to review their selections, specify quantities, and choose product variations. It supports product customization, allowing customers to specify preferences, upload custom designs, or request designs via email. To complete their orders, customers proceed to checkout, providing necessary shipping and billing information for a seamless transaction.

The order management system empowers customers with control over their orders. They can review existing orders, make updates to order details, cancel orders within a specified timeframe before shipment, and initiate refund requests. This flexibility ensures that customers can adapt their orders based on changing needs, fostering a positive and accommodating user experience. The system's order manager is responsible for verifying product availability before confirming orders, ensuring accurate and timely processing.

Upon successful order placement, customers receive order confirmation emails containing essential details and a unique order ID. The system includes robust order tracking functionality, enabling customers to monitor their orders' real-time status, from confirmation and processing to shipment and delivery. The seamless integration with a secure payment gateway facilitates secure transactions, supporting various payment methods like credit/debit cards. Additionally, the system generates comprehensive reports and analytics on order trends, sales performance, and customer behavior. These insights empower the business to make data-driven decisions, optimize inventory, and enhance overall customer satisfaction.

4. Inventory Management

Inventory management system is a vital component within the printing press management system, designed to efficiently oversee storage, tracking and the optimization of inventory levels. This management system is composed of a range of functionalities aimed at providing a seamless and organized process for managing inventory items, ensuring availability of raw materials and the facilitation of the smooth production operations. The system allows the Inventory manager to track the inventory movement throughout the complete production process initiating at the reception of inventory to the final distribution of the final products. Here the raw material is added to the system when received through suppliers at the warehouse and is recorded in the system on reception. Then inventory is re-recorded as it is added to the system again and is stored within the physical inventory of the warehouse and is recorded again as items are retrieved to complete the production process of the products requested by customers. Finally any products that are not immediately delivered using the transport system is also asserted to the inventory system. This causes system to provide real time updates on inventory levels, locations of

inventory within the warehouse and statuses to facilitate the accurate stock management. The system maintains a centralized inventory catalog containing detailed information of each inventory item as well, including the description of the item, any related specifications, pricing of inventory and the availability within the inventory. The inventory manager is allowed to easily search, view and update inventory item information to ensure the accuracy and consistency of information across platform. User is also allowed to add new inventory items to the catalog as new raw materials and new products are introduced to the printing press.

Inventory manager is also allowed to set automatic reorder points and threshold levels for inventory items to trigger replenishment orders when stock levels fall below the predefined thresholds. The system generates alerts and provides notifications to prompt user to reorder materials in a timely manner, which minimizes stockouts and production delays. Authorized users are allowed to make manual changes to the inventory levels when needed, such as when to record defective and damaged items and when reconciling discrepancies between the physical counts and the system records. All such adjustments are logged within the system for auditing and tracking purposes.

Finally the system generates comprehensive reports and analytics on the inventory levels, turn over rates, stock movements and aging of inventory items. These documentations provide user with insights on trends, forecast on demand and allow to make informed decisions.

5. Supplier Management

The supply management section can be identified as another important section in our printing press management system. Which is to handle all supplier-related tasks, sending invoices and receipts and generating reports.

The supplier manager is responsible for managing the suppliers. Supplier manager can enter their personal details like supplier name, supplier id, company name, email etc. It's a common thing that changes are happening in supplier's personal details such as email and phone numbers. So, the supplier manager can edit supplier details whenever such an update is necessary. The supplier manager can remove the suppliers from the database as well.

The supplier management section includes features for managing supplier invoices, such as recording invoice details like supplier id, item id, quantity, date of supply and total cost. The supplier manager has the authority to add, delete and update invoice details within the system. The function includes a search option to find products names supplied by various suppliers. The search option enhances user experience allowing for quick and targeted retrieval of product names associated with specific suppliers. This includes inputting new invoices, removing details and making necessary modifications to existing invoice records.

This function also allows for the generate customizable reports on supplier performance, product demand and overall purchasing trends. Moreover, the function offers graphical representation of supplier item id's and their corresponding quantities. The feedback page in supplier management allows users to rate and provide comments on supplier performance. It offers a structured format for assessing aspects like product quality, timeliness, communication and professionalism. This feedback mechanism helps identify areas for improvement, strengthen supplier relationships and enhance operational efficiency.

6. Transport Management

The Transport Management System is aimed at optimizing the movement of materials and products from production to delivery. When an order is placed, the system seamlessly integrates critical details such as product type, quantity, and transportation dates. This integration allows customers to review their orders for accuracy and satisfaction before moving on to the transportation phase. Vehicle Management features enable administrators to efficiently add new vehicles to the fleet and provide real-time updates on availability and operational status. This optimization of vehicle deployment and maintenance ensures enhanced transportation efficiency.

Driver Management controls in ensuring timely deliveries. The system efficiently schedules and assigns drivers, matching them with suitable vehicles and optimizing their schedules to meet delivery requirements. Real-time notifications are sent to clients throughout the delivery process, keeping them mentioning on the progress of their deliveries. Additionally, the system includes a built-in feedback mechanism allowing clients to rate the transportation service and provide valuable insights. This feedback loop facilitates continuous improvement and refinement of the transportation process.

In conclusion, the System offers a comprehensive approach to transportation logistics within the Printing Press Management project. By seamlessly integrating order details, optimizing vehicle deployment and maintenance, and efficiently scheduling drivers, the system ensures a seamless and satisfactory transportation experience for all stakeholders involved. Real-time notifications and a feedback mechanism further enhance transparency and trust, allowing for continuous improvement and refinement of the transportation process.

7. Employee Management

Employee Information Management: The system will provide administrators with tools to manage employee records efficiently. This includes adding new employee information, viewing existing records, updating details as needed, and deleting outdated information. Essential employee details such as names, contact information, roles, and work history will be stored securely within the system, ensuring easy access and accurate maintenance of employee records.

Attendance Tracking: The system will feature clock-in and clock-out functionality to accurately record employee attendance. Employees will be able to log their working hours conveniently using these features, with timestamps automatically recorded to ensure precise attendance tracking. This functionality will streamline attendance management and facilitate accurate payroll processing.

Leave Management: Employees will have the ability to submit leave requests through the system, specifying the type and duration of leave required. Managers will be responsible for approving or rejecting these requests, with approved leaves automatically updating employee leave balances. The system will support various types of leave, including vacation, sick leave, and other applicable categories, ensuring efficient leave management processes.

Reporting and Analytics: The system will offer reporting and analytics features to provide managers and administrators with valuable insights into employee-related metrics. This includes generating reports on attendance patterns, leave utilization rates, and task assignment metrics. Data visualization tools such as charts and graphs will be utilized to present these insights in a clear and actionable format, enabling stakeholders to make informed decisions based on data-driven analysis.

8. Financial management

The financial management component within the system of the printing press is integral, covering three key aspects: profit and loss statements, salary statements, and income statements. Salary data is derived from the employee management module, while income statements are formulated based on order details, encompassing completed orders, quantities, pricing, and additional services. Additionally, financial data such as expenses is sourced from the inventory management system. This comprehensive integration yields a holistic view of the printing press's financial health.

The system efficiently processes and analyzes this data to generate intricate financial reports. These reports serve as invaluable tools for informed decision-making and

strategic planning. Furthermore, the system offers functionalities for deleting and updating information, ensuring the accuracy and integrity of the data.

In essence, the financial management component serves as a cornerstone for financial transparency, analysis, and optimization within the printing press. By providing a consolidated view of various financial metrics, it empowers stakeholders to make well-informed decisions regarding resource allocation, cost management, and revenue generation strategies. Through its robust functionalities and comprehensive reporting capabilities, the financial management component drives efficiency and effectiveness in financial operations, ultimately contributing to the printing press's overall success and sustainability.

Non-Functional Requirements

- **Usability:** The system interface should be intuitive and user-friendly, catering to users of all technical levels.
- **Performance:** The system must handle concurrent user activity and maintain optimal performance, ensuring quick response times during peak periods.
- **Security:** Robust security measures must be implemented to safeguard customer data, payment information, and transaction integrity.
- **Reliability:** The system should operate reliably with minimal downtime, ensuring uninterrupted order processing and fulfillment.
- **Scalability:** The system architecture should be scalable to accommodate future growth and increasing order volumes without compromising performance.
- **Compliance:** The system must adhere to industry standards and regulations regarding data privacy, online transactions, and consumer protection.

Technical Requirements

- **Technology Stack:** The system will be developed using the MERN (MongoDB, Express.js, React.js, Node.js) stack for its flexibility, scalability, and robustness.
- **Integration APIs:** Integration with third-party services such as payment gateways, shipping providers, and inventory management systems will require well-documented APIs.
- **Data Management:** Efficient data management practices, including database design, data modeling, and data migration strategies, will be essential for storing and retrieving order-related information.
- **Frontend and Backend Development:** Skilled frontend and backend developers will be required to build the user interface and backend logic, ensuring seamless interaction and functionality.

- **Testing and Quality Assurance:** Rigorous testing, including unit testing, integration testing, and user acceptance testing, will be conducted to ensure the system meets functional and performance requirements.
- **Deployment and Maintenance:** Deployment strategies, including continuous integration and deployment (CI/CD) pipelines, will be implemented to streamline deployment processes and ensure system availability. Ongoing maintenance and support will be provided to address issues and implement enhancements as needed.

Literature review

In today's rapidly evolving landscape of the printing industry, the adaptation of an effective management system is critical to streamlining operations, enhancing productivity and meeting the diverse needs of the customer. File-based systems are a popular approach due to the simplicity, accessibility, and cost effectiveness this method offers though limitations in terms of functionality, security, collaborations and scalability might arise. Many of these limitations can be eliminated through the application of a digital solution through platforms such as PrintVis,

This literature review seeks to explore the pros and cons of such digital solutions in comparison to the Printing press management system developed by critically examining the existing systems, this review aims to inform decision making processes and guide future development in printing press management practice.

This can be conducted by analyzing such existing solutions within the online digital platforms. Then the pros and cons of the currently available digital solutions can be listed as below,

Solution	Pros	Cons
PrintVis [1]	<ul style="list-style-type: none"> • Is a comprehensive solution tailored for the printing industry. • Features for estimating production planning and scheduling. 	<ul style="list-style-type: none"> • Depends on proprietary platform, might not be suitable for organizations preferring open-source technologies. • High licensing cost

EFI Fiery Workflow Suite [2]	<ul style="list-style-type: none"> Advanced workflow automations available for digital print production. Features for job submission and color management of products 	<ul style="list-style-type: none"> Designed for a digital print production doesn't contain requirements for a traditional printing press system. Customer relationship management and order processing features are not present.
Avanti Slingshot [3]	<ul style="list-style-type: none"> Workflow automation and a comprehensive print management information system is offered. 	<ul style="list-style-type: none"> Complexity and cost may be expensive for a small printing business. Lack flexibility for customizations for specific requirements.
Prinect SS	<ul style="list-style-type: none"> Suited as a workflow and production management solution. Include features for all prepress, press, post press fractions of the system. 	<ul style="list-style-type: none"> Only suitable for a large printing operation not effective for small business models. Customer relationship management and order processing features are not present.
PrintPoint [5]	<ul style="list-style-type: none"> Cloud based management information system for print services. Include features for estimation, order management and production tracking 	<ul style="list-style-type: none"> Lack flexibility for customizations for specific requirements.

These can be given as the mainly present advantages and disadvantages of the present solutions available in the online digital market for a printing press management system. Following is a comparison between the system in development and some such presently existing systems through comparing the management systems present within each solution.

After thorough evaluation, it's clear that existing print management systems fall short of meeting the comprehensive needs outlined by the client's requirements. While they may offer partial solutions for certain aspects like inventory or order management, none provide a holistic approach covering all necessary management system types. Moreover, their limitations in terms of platform dependencies, high costs, and lack of customization options underscore the necessity for developing a new, tailored system. By utilizing the MERN stack, the new system can address these shortcomings, providing a flexible, scalable, and customizable solution that aligns precisely with the client's business needs, ensuring streamlined operations and enhanced efficiency.

Methodology

Requirements Engineering Methods

For the development of a printing press management system, Agile methodology emerges as a favorable approach due to its iterative and flexible nature. Agile emphasizes incremental development, allowing for continuous feedback and adaptation throughout the project lifecycle. This methodology enables the project team to respond swiftly to changing requirements and priorities, ensuring that the final product aligns closely with stakeholders' needs.

Design Methods

The printing press management system prioritizes user experience by employing a user-centric design approach. Leveraging Figma for UI/UX design, we ensure that the system is intuitively structured, facilitating easy navigation and information accessibility. Early-stage prototyping allows us to visualize system functionalities, ensuring alignment with user expectations. Our design is meticulously crafted to be responsive across various devices, including computers and mobile phones, ensuring seamless accessibility. Furthermore, we emphasize visual aesthetics and interaction design to create an appealing and engaging user interface. Ultimately, our objective is to deliver a user-friendly and efficient system experience for all users.

Development Tools and Technologies and Integration Methods

- **Integrated Development Environment (IDE):** We rely on versatile and feature-rich IDEs such as Visual Studio Code (VS Code) for front-end and back-end development. VS Code offers an intuitive interface, powerful debugging tools, extensive support for various programming languages and frameworks, enhancing developer productivity and code quality.
- **Frontend Development:** In addition to React.js, we leverage frontend libraries like Bootstrap to streamline the design and development of user interfaces. Bootstrap provides a comprehensive set of responsive design components and utilities, enabling us to create visually appealing and mobile-friendly web applications with ease.
- **Backend Development:** Node.js and Express.js, we incorporate additional tools and libraries such as Mongoose for MongoDB integration. These technologies empower us to build efficient and scalable backend systems that handle complex business logic and data processing tasks effectively.

- **Database Management:** MongoDB serves as our primary database management system, offering a flexible and schema-less approach to data storage. We utilize MongoDB's document-oriented model to store and retrieve structured data efficiently, supporting the dynamic needs of the printing press management system as it evolves.
- **Version Control:** Git plays a pivotal role in our development workflow, providing a distributed version control system for tracking changes to our codebase. Collaborative features of platforms like GitHub enable seamless code collaboration, code review, and continuous integration (CI) processes, ensuring code integrity and facilitating smooth project management across team members and contributors.
- **Payment Gateway Integration:** Our system will integrate a payment gateway to facilitate secure transactions. This integration will enable customers to complete their orders securely by processing payments through trusted payment gateways. By integrating the payment gateway, we ensure a seamless checkout experience for customers while adhering to industry standards for secure online transactions.

Testing Methods:

To ensure the reliability, functionality, and performance of our Printing Press Management System, we'll employ a multi-layered testing approach. This comprehensive strategy will involve various methods, each targeting different aspects of the system:

- **Unit testing:** This granular approach rigorously examines individual components and modules in isolation, guaranteeing their correctness and intended functionality.
- **Integration testing:** Moving beyond individual units, this method focuses on how modules and components interact and collaborate seamlessly, ensuring smooth information flow and data exchange.
- **System testing:** Here, we evaluate the PPMS as a whole, putting its end-to-end functionality and user experience under the microscope. This holistic view identifies potential issues that might arise during real-world usage.
- **Acceptance testing:** Finally, we hand over the reins to stakeholders for their crucial evaluation. This ensures the system aligns with their requirements and effectively addresses their needs.

Project Plan (Gantt Chart):

Process	FEBRUARY			MARCH					APRIL			MAY		
	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14
Requirements gathering and analysis														
Design system architecture and database schema														
Frontend development (UI/UX design, wireframing)														
Database Designing														
Coding the Structure														
Development														
User acceptance testing and feedback														
Final adjustments, and the web application														

Work Breakdown Structure (Tabular Format):

Student ID	Name with initials	Work Allocated
IT22152428	Fernando A.S.P	<ul style="list-style-type: none"> Implementing the Customer Management section (Handles all users in the system.)
IT22186256	Bhashitha W.K.V	<ul style="list-style-type: none"> Implementing the Product Management section (Handles all products in the system.)
IT22268594	Madhuka H.W.E	<ul style="list-style-type: none"> Implementing the Order Management section (Handles all orders in the system.)
IT22027474	Kaluappuwa Hannadige U.Kithmini	<ul style="list-style-type: none"> Implementing the Inventory Management section (Handles all inventory levels in the system.)
IT22213662	Nanayakkara K.E.D	<ul style="list-style-type: none"> Implementing the Supplier Management section (Handles all supplier materials in the system.)
IT22551252	Gonsalkorala T. Dilmith	<ul style="list-style-type: none"> Implementing the Transport Management section (Handles all customer orders transport in the system.)

IT22551498	Savithma P.T.C	<ul style="list-style-type: none"> Implementing the Customer Employee Management section (Handles all employees manage in the system.)
IT22186560	Siriwardhana S.A.R.D	<ul style="list-style-type: none"> Implementing the Financial Management section (Handles all financial section in the system.)

Evaluation Method

While evaluating a web application for printing press management, the following criteria might be considered:

User Interface: The user interface of the online application should be simple and intuitive. Users should be able to navigate through different sections of the system.

Functionality: The web application should include all the required features for order management, customer management, product management, Inventory management, supplier management, transport management, employee management and financial management.

Integration: The web application should be able to integrate with other systems, such as payment gateways and customer relationship management systems.

Scalability: The system should be able to accommodate with a growing volume of orders, customers and data. Evaluate it's flexibility to adapt to changes in business requirements and technology advancements.

Security: The online application should protect sensitive data including customer information and financial records from illegal access and hacking.

Mobile compatibility: The online application should be responsive and accessible on mobile devices, as the majority of internet users access the web via smartphones and tablets.

Performance: The system should be dependable, stable, and able to process and handle concurrent users and large data volumes.

By analyzing the web application based on these characteristics, it is possible to verify that the application is effective, efficient, and meets the requirements of printing press management.

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