



DRUG PURCHASE AND MEDICAL STORE MANAGEMENT

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ABSTRACT :

The healthcare industry relies heavily on efficient management systems to ensure seamless operations, especially within medical stores and pharmacies where the accurate tracking and distribution of drugs are crucial. This project aims to develop a comprehensive Drug Purchase and Medical Store Management System utilizing Pega as the platform for application development and integrating it with a robust database methodology. The system's primary objectives include facilitating the procurement process of pharmaceuticals, maintaining accurate inventory records, managing prescriptions, and ensuring compliance with regulatory standards. The system aims to revolutionize the traditional processes involved in drug procurement and medical store management by introducing automation, real-time data access, and streamlined workflows. Through the utilization of Pega's advanced capabilities in process automation, case management, and user interface design, the system offers an intuitive and adaptive platform for managing various aspects of pharmaceutical procurement, inventory control. By employing Pega for application development and a robust database methodology, this project aims to enhance the efficiency and accuracy of drug purchase and medical store management processes.

Keywords :Pega, Low code, Medical ,Efficient, Database

INTRODUCTION :

The project for drug purchase and medical store management using Pega and a database encompasses various key components aimed at creating a comprehensive and efficient solution for pharmaceutical retail operations. Firstly, the project will focus on developing an intuitive user interface that allows pharmacists, administrators, and managers to easily navigate and utilize the system's functionalities. This includes features such as secure user authentication, role-based access controls, and personalized dashboards tailored to each user's role and responsibilities. The project will also involve implementing robust inventory management capabilities to track the stock levels of drugs and medical supplies accurately. This includes functionalities for adding new stock, updating inventory quantities, and setting up automated alerts for low stock levels or expiring items. Integration with barcode or RFID technology may be explored to enhance inventory tracking efficiency. Additionally, the project scope may encompass reporting and analytics capabilities [1] to provide insights into sales trends, inventory turnover rates, and supplier performance metrics.

Customizable reports and dashboards [2] will empower users to make data-driven decisions and optimize business operations. Supplier management functionalities will also be included in the project scope, allowing users to manage supplier information, negotiate contracts, and track supplier performance metrics such as delivery times and [3] product quality. Integration with suppliers' systems will enable real-time updates on product availability and pricing, facilitating efficient communication. Designing a drug purchase and medical store management project requires adherence to several key principles to ensure its effectiveness and compliance with regulatory standards. First and foremost, regulatory compliance is paramount, necessitating adherence to local and national laws governing pharmaceutical sales, storage, and dispensing. A [4] robust inventory management system is essential, enabling accurate tracking of stock levels, expiry dates, and reorder points to prevent stock outs and minimize wastage. Cultivating strong relationships with reliable suppliers is crucial to ensuring a consistent supply of quality pharmaceutical products at favourable terms.

PEGA METHODOLOGY :

Projects built in Pega and integrated with databases offer numerous advantages that empower organizations to streamline operations, enhance customer experiences, and drive digital transformation initiatives.[4] Pega's robust software platform, combined with seamless integration with databases, provides a powerful foundation for building intelligent, data-driven applications that deliver tangible business benefits. One significant advantage of projects built in Pega and integrated with databases is the ability to leverage data for intelligent decision-making and personalized interactions. By accessing and analysing data stored in databases, Pega applications can deliver highly targeted and relevant driving engagement and satisfaction. For

example, in a retail setting, in a product quality. Integration with suppliers' systems will enable real-time updates [5] database to recommend products tailored to each individual's preferences, increasing the likelihood of conversion and repeat business. Another advantage of projects is the scalability and performance offered by the platform. Pega applications are designed to handle large volumes of data and user interactions efficiently.

ADVANTAGES OF PEGA

Projects built in Pega and integrated with databases benefit from enhanced security and compliance features. Pega incorporates robust security measures to protect data stored in databases, including encryption, access controls, and audit trails. This ensures that sensitive [6] information remains secure and compliant with regulatory requirements, reducing the risk of data breaches or non-compliance penalties. Moreover, projects built in Pega and integrated with databases streamline business processes by automating workflows and decision-making. This automation reduces manual effort, increases efficiency, and minimizes errors, leading to improved productivity and operational excellence.[7] Real-time insights derived from Pega applications integrated with databases enable organizations to monitor key metrics and performance indicators instantaneously. This real-time visibility empowers timely decision-making, allowing organizations to respond swiftly to changing market conditions and capitalize on emerging opportunities. Enhanced customer engagement is another significant advantage of projects built in [8] Pega and integrated with databases. Enhanced customer engagement is another significant advantage of projects built in Pega and integrated with databases. Overall, projects built in Pega and integrated with databases offer a comprehensive solution for organizations looking to harness the power of data for driving innovation, efficiency, and growth. By leveraging[9] Pega's advanced capabilities and seamless integration with databases, organizations can build intelligent, data-driven applications that deliver superior customer experiences and drive business success in today's competitive in every marketplace. In addition to the integration capabilities mentioned earlier, here are some more points highlighting the benefits and functionalities of Pega's integration with databases:

PEGA AND DATABASE

Designing a drug purchase and medical store management project requires adherence to several key principles to ensure its effectiveness [11] and compliance with regulatory standards. First and foremost, regulatory compliance is paramount, necessitating adherence to local and national laws governing pharmaceutical sales, storage, and dispensing

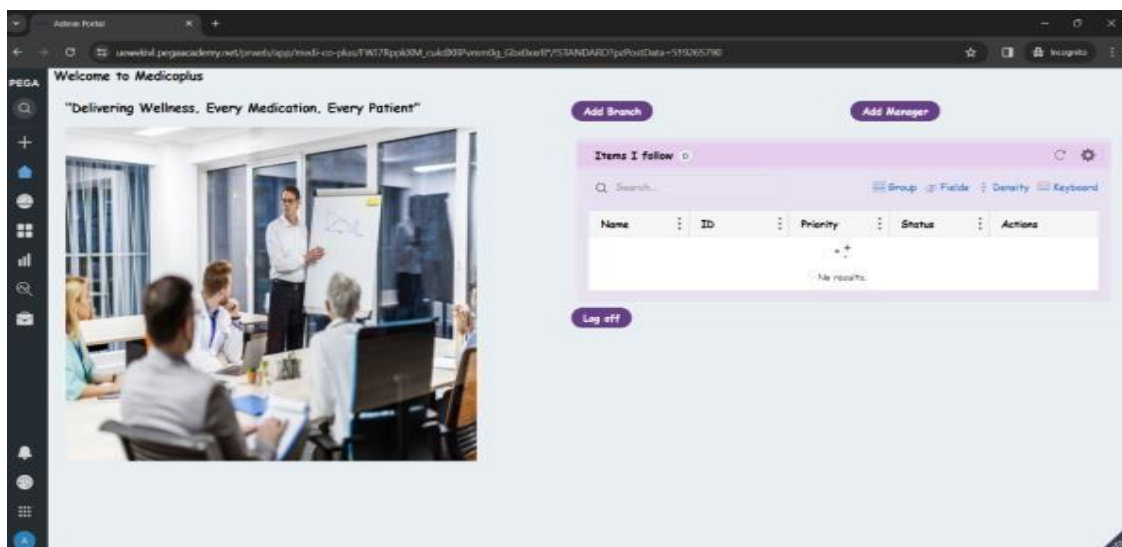


Fig 1. ADMIN LOGIN

The above Picture represents the admin login page. Where the admin of the company can login and perform their activities like creating new branch as well as creating a manager for that branch. If the admin wants to log off, they can click on the log off button which is available in the login page. [10]Admin can login into[12] the application by entering their credentials Eg,admin@medico(operator ID). Admin can create a new branch by clicking on Add branch button in the login page .Admin will create new branch by providing branch name,address,phone number etc.Once the new branch is created ,the branch code is auto populated i.e the random code generation .The admin can also create a branch manager for a new branch or existing branch by choosing the branch code.Admin must enter the branch manager's name,email id ,phone number ,address etc.

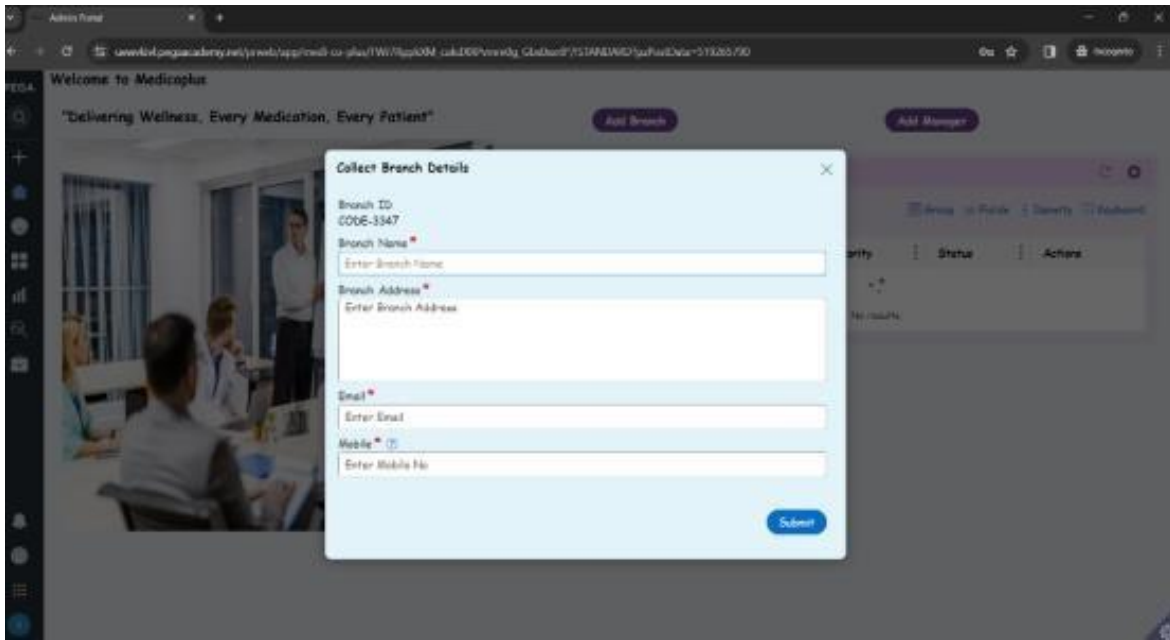


Fig 2. Branch Details

The above picture represents the creating of new branch, which can be done by the admin by entering the branch name, branch address, email, mobile etc..

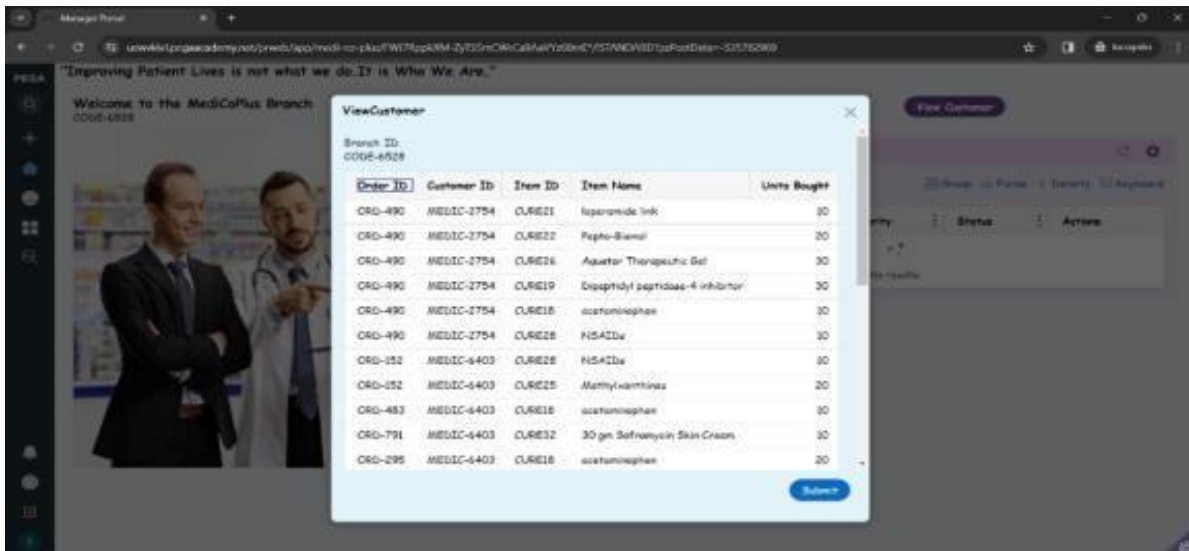


Fig 3 View Customer

In Pega website development, the "View Customer" page is often part of a broader application built on the Pega platform, which specializes in business process management and customer relationship management. The page typically presents a comprehensive view of customer data, leveraging Pega's capabilities for dynamic case management and data integration.

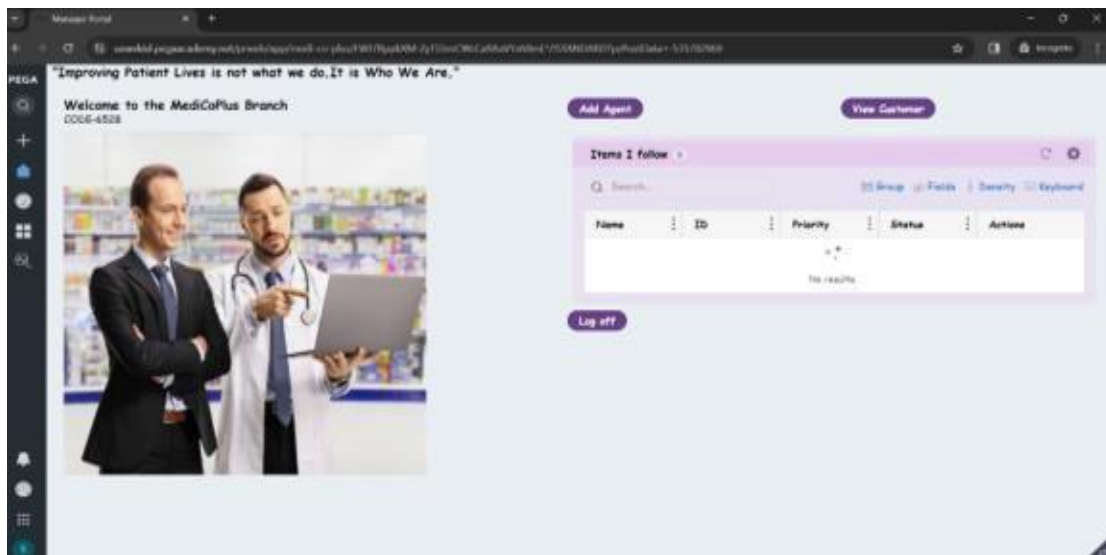


Fig 4 Manager Login

Empowering branch managers with the authority to create support staff, or agents, within their branches is essential for operational efficiency and effective task delegation

PEGA ARCHITECTURE :

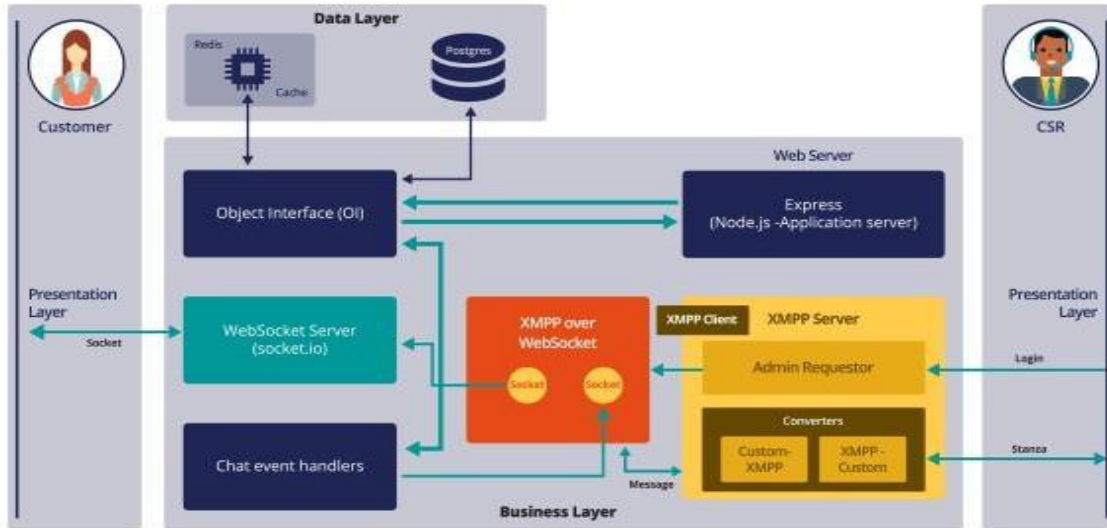


Fig.5.Pega Architecture

Pega Architecture is a comprehensive framework designed by Pega systems Inc. to facilitate the development, deployment, and management of enterprise applications. Pega's architecture is built on the Pega Platform, a unified platform that combines business process management (BPM), customer relationship management (CRM), robotic process automation (RPA), and artificial intelligence (AI) capabilities, efficiency, enhance customer engagement, and accelerate digital transformation initiatives. Pega Platform: At the core of Pega Architecture lies the Pega Platform, a unified platform that provides a set of tools and services for building, deploying, and managing enterprise applications. The platform includes components such as Pega Express for rapid application development, Pega Infinity for cloud-based services, and Pega Cosmos for design system, and Pega AI for artificial intelligence capabilities. Pega Customer Decision Hub is a component of Pega Architecture that enables organizations to analyse customer data, predict customer behaviour, and deliver personalized recommendations and offers in real-time across various channels. It leverages AI and machine learning algorithms to optimize customer engagement and drive business outcomes.

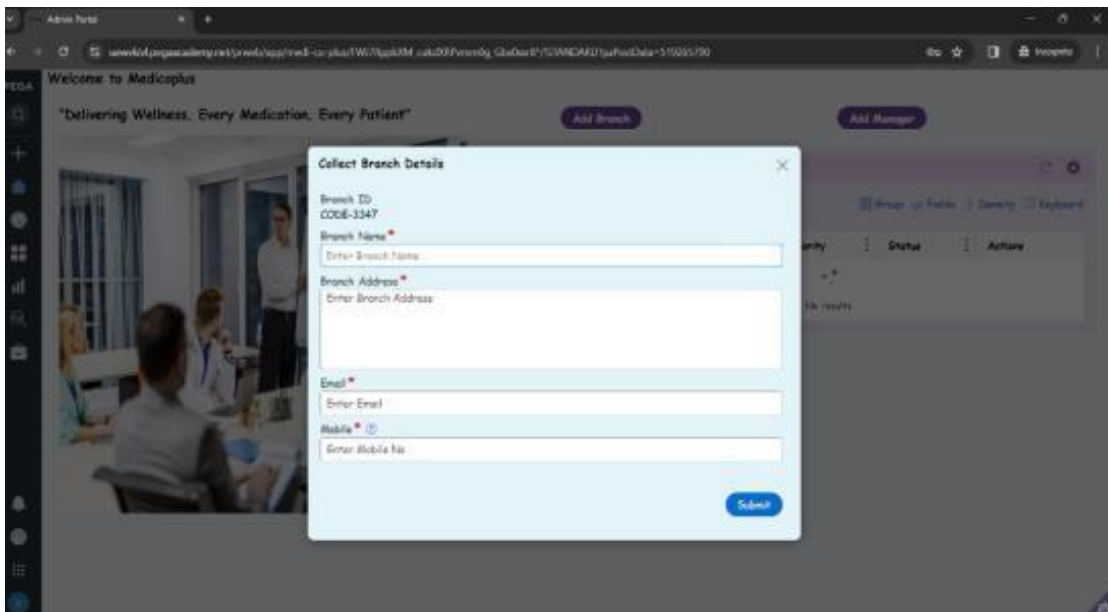
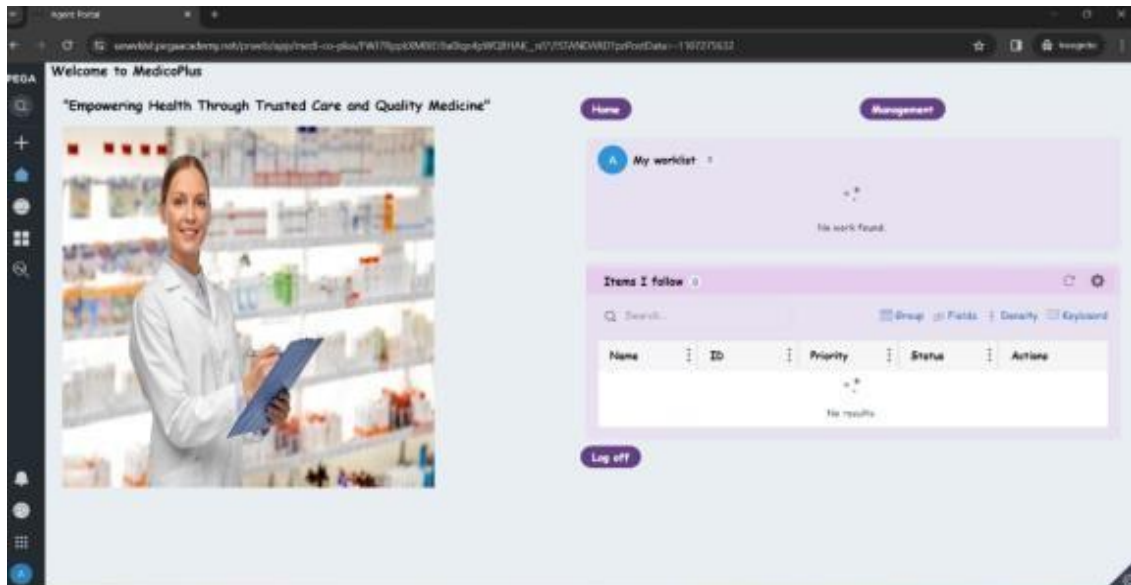
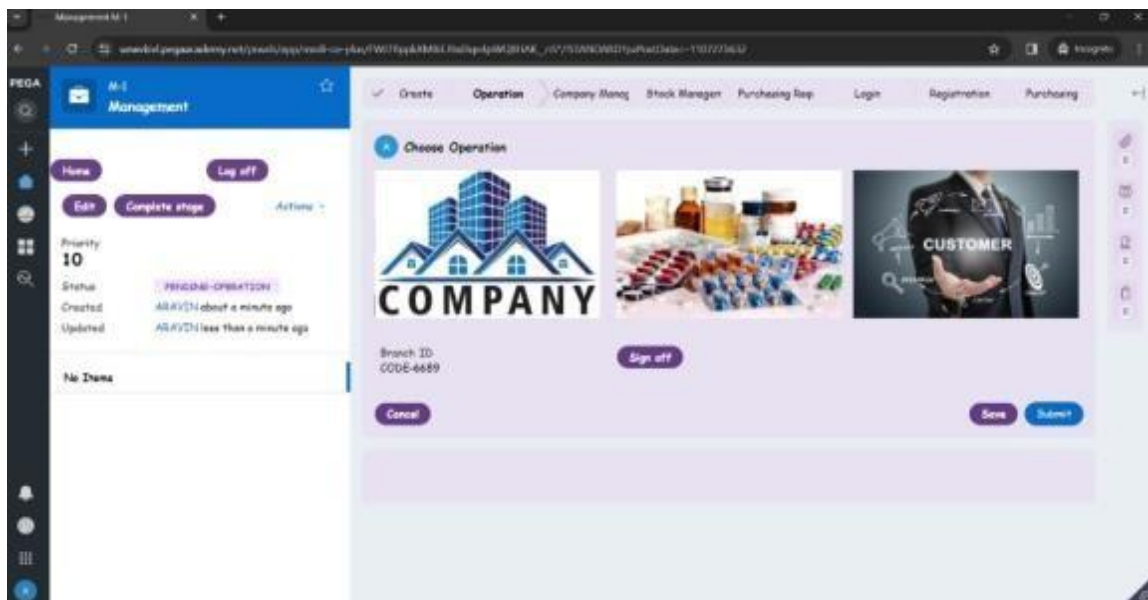


Fig 6 Agent Details

Empowering branch managers with the authority to create support staff, or agents, within their branches is essential for operational efficiency and effective task delegation. Agents play a pivotal role in facilitating various tasks, thereby contributing to the smooth functioning of the branch. By entrusting branch managers with the ability to specify agent details such as names, contact information, and roles, organizations enable tailored delegation strategies suited to each branch's unique needs.

**Fig 7 Agent Login**

Agents should be empowered to manage company details within the system. This includes the ability to add new company information, view existing details, and delete obsolete records. Managing company details involves maintaining accurate records of supplier information, such as contact details, product offerings, and pricing. This ensures smooth procurement processes and efficient supplier management. Agents should possess the necessary permissions to manage stock details effectively. This includes adding new stock items to the inventory, updating existing stock information (such as quantity or price), and deleting obsolete stock

**Fig.8 Agents Operation**

Each agent should be capable of registering new customers within their assigned branch. Customer registration involves capturing essential information such as name, contact details, and any relevant medical history or preferences. This functionality streamlines the process of on boarding new customers and ensures that their information is securely stored within the system. Agents can also update customer information as needed to reflect any changes or updates. Agents should be empowered to purchase medicines on behalf of customers within their branch. By entrusting branch managers with the ability to specify agent details such as names, contact information This functionality enables agents to fulfil customer orders promptly, ensuring a seamless and convenient shopping experience. Agents can access the pharmacy's inventory, select the required medicines, and complete the purchase transaction on behalf of the customer. This ensures that customers receive their medications in a timely manner, enhancing their overall satisfaction with the pharmacy's services. Agents should have access to tools for managing customer records within their respective branches. This includes the ability to view,

update, and delete customer information as necessary. . Agents should possess the necessary permissions to manage stock details effectively. This includes adding new stock items to the inventory Managing company details involves maintaining accurate records of supplier information, such as contact details, product offerings, and pricing Agents can use these tools to maintain an accurate database of customer interactions and transactions.

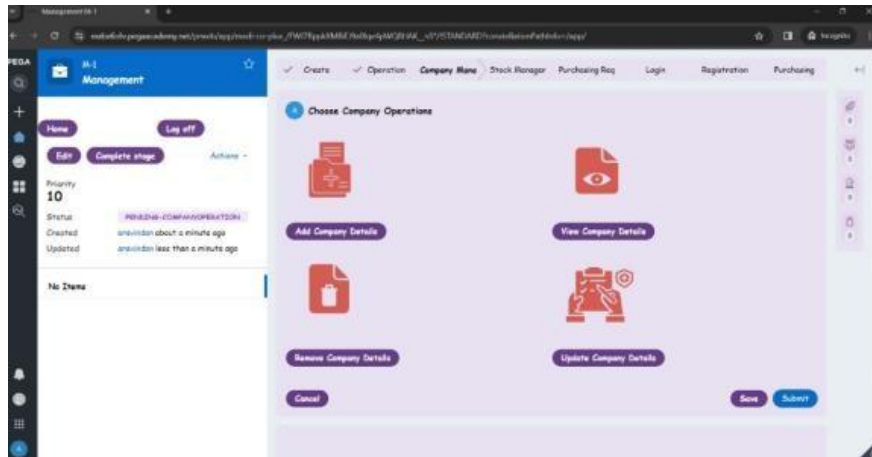


Fig 9 Company Operation

The company page may include interactive elements such as timelines, achievements, and testimonials to highlight the organization's successes and credibility. Pega's flexibility enables developers to customize the company page to align with the organization's branding guidelines and strategic objectives, ensuring consistency across digital touch points. Moreover, the company page may integrate with external systems or APIs to dynamically fetch and display real-time data, such as financial performance metrics or news updates, enhancing its relevance and utility. By serving as a comprehensive resource for information about the organization, the company page in Pega web development reinforces brand visibility, fosters trust, and strengthens relationships with stakeholders.

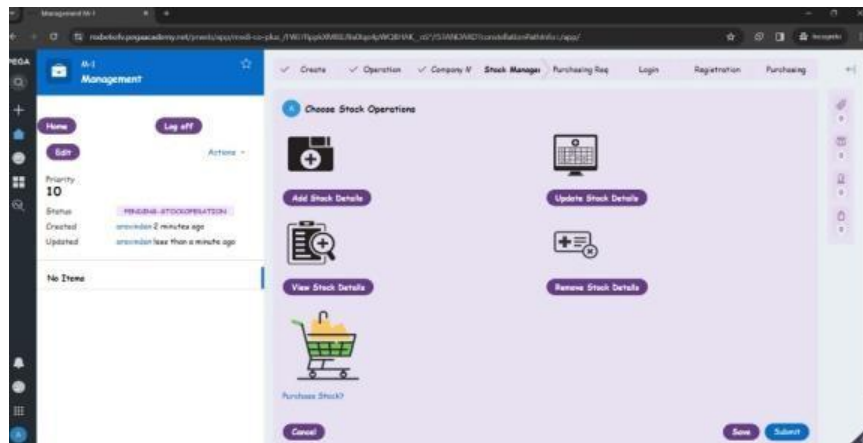


Fig 10 Stock Operation

In Pega development, the "View Customer" page typically serves as a comprehensive interface for accessing and managing customer information. This page often features various sections such as personal details, contact information, account history, and any relevant interactions. Within the page, developers utilize Pega's user interface (UI) components to display pertinent data in an organized and easily navigable manner. The personal details section commonly includes fields for the customer's name, address, date of birth, and other demographic information.

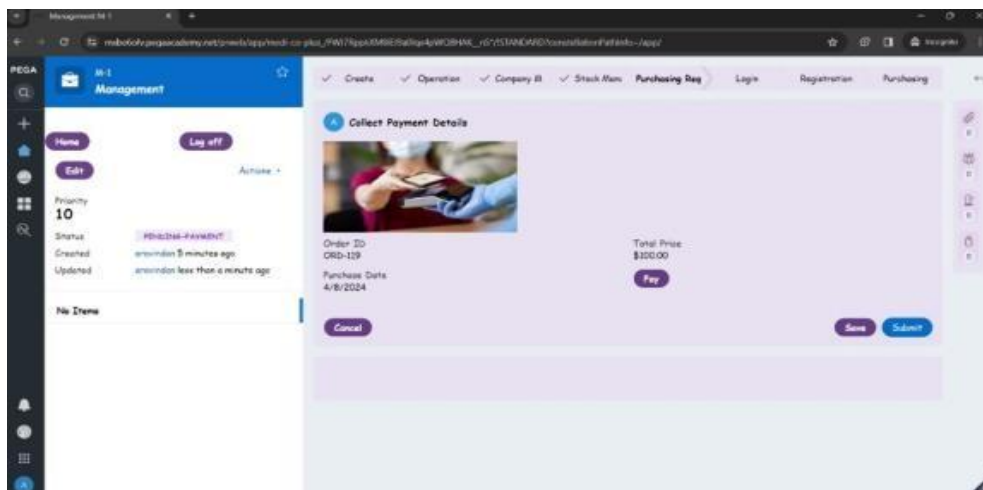


Fig 11 Payment

Pega's robust capabilities allow developers to implement features like real-time validation of payment information, dynamic calculation of totals, and confirmation messages to enhance user confidence and minimize errors during the payment process.

CONCLUSION AND FUTURE SCOPE :

Conclusion, the drug purchase and medical store management project developed using Pega and a database system represents a significant advancement in healthcare technology. Through the integration of Pega's robust workflow automation capabilities and a well-designed database infrastructure, the project has successfully addressed key challenges in the pharmaceutical and medical supply chain management process. The utilization of Pega's platform has enabled seamless automation of various tasks involved in drug procurement, inventory management, and sales processes. Leveraging Pega's intuitive user interface and workflow tools, healthcare professionals can efficiently manage orders, track inventory levels, and monitor sales transactions in real-time. Additionally, Pega's reporting and analytics capabilities

Future scope: Deployment, Real-time Payment, Online Customer Purchasing

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