CHAPTER 1

INTRODUCTION

1.1 PROJECT DESCRIPTION:

A website application system called stock control management covers the product management for business equipment or other goods that need to be stored The project's major purpose is to develop an application model for the stock control management platform that would show all of the the organization's inventory information. Many organizations now utilize the technology to prevent overstocking, accounting problems, and outages. It's a mechanism for better organizing inventory data than was previously used, which is often kept in spreadsheets or manual form books. To manage records, inventory, and system maintenance for the inventory, this program features an admin component. The program includes a general organization profile information on the stock, purchases, and remaining stock as it’s displayed the organization. Along with the specifics of the transaction balance, this application also provides the stock's remaining balance. Each new stock is formed, entitled, and given a name and entry date. It can also be updated as necessary based on transactions or sales returns, as applicable. In this case, the login page is made to safeguard the organization's stock management in order to shield it from theft and improper usage of the inventory.

The proposal system's goals include:

- A user-friendly system that manages product or item information and calculates it to manage the information system must be designed and developed.
- To assist the user in locating and determining the amount of stored stocks
- To create a program that addresses the requirements of any industrial company on a daily basis. This application is used to provide information about old and new items amount of stock still available. It provides information on the stock on a daily and weekly basis.
- Login/Sign in page: The login page shows as the application launches. The username and password for the admin login decide who has the power to add, update, and delete stock as necessary for the company.
- Stock details: It displays information on the inventory's remaining supply. Additionally, it displays information about the used stock.

- Purchase details: It displays information on the organization's purchase, including the price and dates.
- Calculation of the number of objects that have been and will be stored using automation

1.2 GANTT CHART:

A Gantt chart diagram A continuous line of horizontal lines compares the quantity of work or production actually completed over time to the amount scheduled for each period.

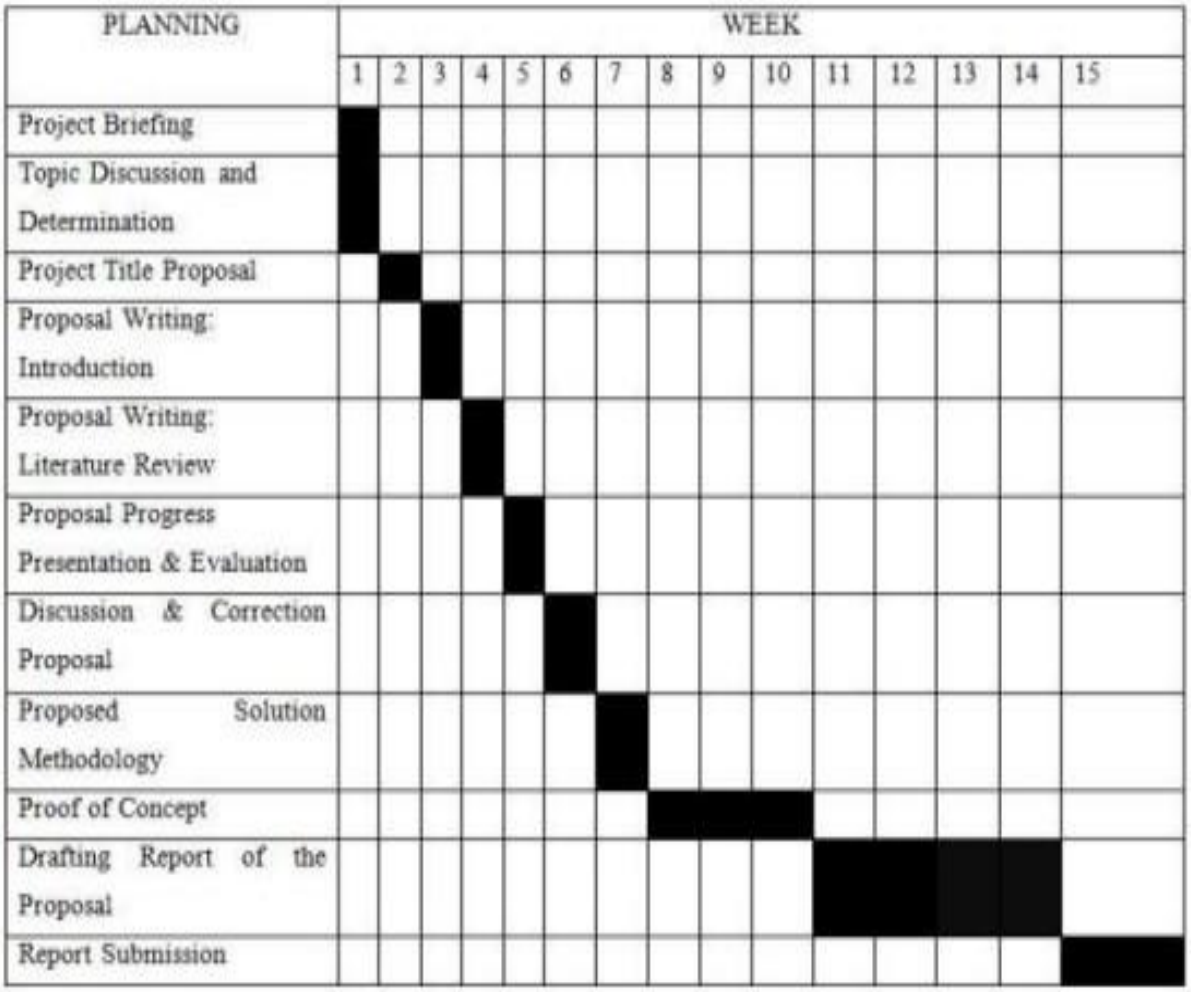

Fig 1.2.1 Gantt chart

1.3 OVERVIEW:

The Stack Control Management System goal is to build an integrated platform for effective inventory and user account management. This system consolidates several functions, including customer management, personnel administration, product inventory monitoring, handling transactions, management of suppliers, and user account management. By combining these key features into a single, unified system, the project hopes to expedite workflows, minimize redundancies, and improve data accuracy throughout the business. This system's modular design is designed to meet evolving business requirements, ensuring long-term sustainability and flexibility. In addition, this project aims to provide business firms with the resources they need to increase operational efficiency, make informed decisions, and maintain a competitive edge in a changing business environment.

1.4 SCOPE OF THE PROJECT:

- Develop a scalable and adaptable system architecture to satisfy both present and future company requirements.
- Integrate seamlessly with existing business-critical systems, including ERP and CRM.
- Enforce strict security measures and comply with industry requirements like GDPR.
- Create thorough training materials and user manuals.
- Offer continuous technological assistance and maintenance services.
- Use effective project management approaches, such as agile behaviors, to makes sure timely delivery and community participation.
- Plan for future development, including increasing data volume, customer interactions, and transactional complexity.
- Create easy-to-use interfaces and dashboards.
- Create personalized dashboards based on role and access rights.
- Use real-time data processing to gain actionable insights and make informed decisions.
- increase operational efficiency, lower inventory management costs, increase data quality, streamline operations, and boost competitive positioning.

1.5 PLAN-DRIVEN DEVELOPMENT:

An application's development process that is more formally precise is called plan-driven software development. The following characteristics are shared by all plan-driven methodologies: repeatability, predictability, defined incremental process, substantial documentation, upfront system architecture, specific plans, process monitoring, controlling, and education, risk management, verification, and validation. The Stock Control System was developed using the Waterfall Model, which is a sequential and linear approach to the Software Development Life Cycle (SDLC). The lifecycle is divided into six distinct stages that don't overlap each other, and each stage builds on the one before it and can begin once the one before it is complete.

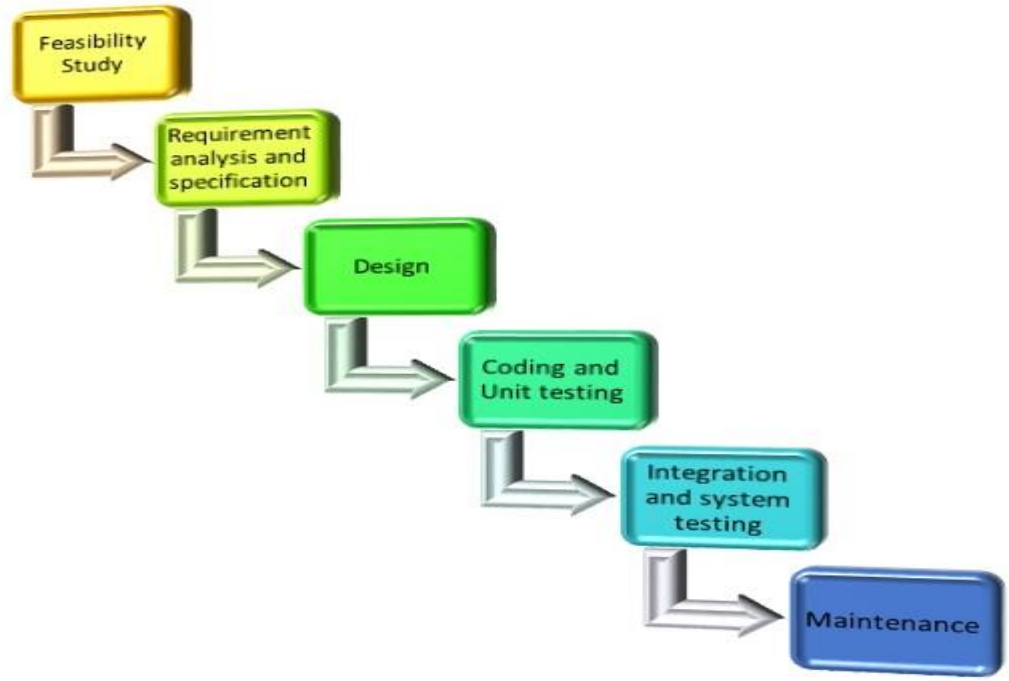

Fig 1.5.1 Waterfall Model

- **Feasibility Study**

  The major objective of this phase is to evaluate the software development's technical and economical viability for the stock control system. Understanding the problem and finding viable solutions are the initial steps in a feasibility study. The benefits and drawbacks of the various options are evaluated, and the best alternative is chosen. The next steps will be carried out according with this solution strategy.

- **Requirements analysis and specifications**

  At this stage, the requirements analysis and specifications phase aims to precisely identify and capture the customer's needs.

- **Design**

  The goal of this phase is to convert the system requirements specifications into a programming language-friendly format. It includes both the overall software architecture and the higher-level and detailed design. All this effort is recorded using an application design document (SDD).

- **Programming and unit testing**

  During the coding process, any relevant programming language is utilized to translate the program's design into source code. As a result, each designed module has been coded. Unit testing is to ensure proper functionality of each module.

- **Performed integration and system testing.**

  Different components are merged after testing for units and coding are accomplished. The integration of several modules is done sequentially in a series of phases. The system undergoes testing after each integration step, which consists of adding previously developed elements to the partly integrated system. After successfully integrating and testing all of the components, a completely working system can be obtained and tested.

CHAPTER 2

LITERATURE SURVEY

2.1 EXISTING & PROPOSED SYSTEMS

2.1.1 EXISTING SYSTEM:

- Manual inventory management solutions, such as written documents or Excel spreadsheets, are simple but error-prone and lack real-time updates. Even so, smaller enterprises may face hurdles in terms of complexity and price. ERP (Enterprise Resource Planning) programs like as SAP ERP and Oracle ERP provide full integration across corporate processes as well as powerful analytics, but they are costly and hard to deploy. Cloud-based solutions, such as Fishbowl Inventory or NetSuite, offer ability to scale and real-time data updates, but they require internet access and may incur subscription fees and customization issues.
- Many firms' current inventory and user account management systems are typically scattered and rely on antiquated technologies and manual methods. Separate systems or independent software applications are typically used to manage distinct features such as customer data, personnel records, product inventories, expenditures, and supplier information. This lack of interaction results in separate databases, implementing it difficult to gain a cohesive perspective of corporate activities. Manual operations, such as actual inventory measurements and written in paper keeping of records, are prone to human mistake, leading to inconsistencies and inefficiencies. Furthermore, the lack of continuous data processing and monitoring complicates decision-making since corporate executives must rely on obsolete or incomplete information. Security controls in these older systems are frequently weak, presenting sensitive data to possible breaches and compliance problems.
- Many firms' current inventory and user account management systems are typically scattered and rely on antiquated technologies and manual methods. Separate systems or independent software applications are typically used to manage distinct features such as customer data, personnel records, product inventories, dealings, and supplier information. The lack of integration results in separate databases, making harder to gain a cohesive perspective of corporate activities. Manual operations, such as actual

inventory counts and written in paper maintaining records, are prone to errors made by people, leading to inconsistencies and inefficiencies.

- Without a single system, data redundancies and inconsistencies are widespread, resulting in incorrect levels of inventory, order processing mistakes, and delayed replies to client concerns. Employees frequently squander substantial time reconciling data from several sources, lowering overall productivity and increasing operating expenses. The absence of automation in these operations exacerbates inefficiencies, as regular tasks like as updating inventory data, processing transactions, and monitoring details about suppliers take instructive manual work and are prone to error.
- Furthermore, the lack of accurate data processing and processing makes decision-making difficult, since corporate executives must rely on old or incomplete information. This delay in receiving crucial data reduces the organization's capacity developments, effectively estimate demand, Strategic planning becomes tough when decision-makers lack timely and reliable information into sales patterns, turnover of stocks rates, and supplier performance.
- Traditional systems' security protections are frequently insufficient, leaving sensitive data vulnerable to breaches and compliance problems. Data about customers, financial data, and staff records are scattered across various platforms, making security of information and regulatory compliance increasingly complex. Current technologies may lack the encryption, controls for access, and records of audits required to prevent illegal entry and data breaches, placing the company at risk of both legal and adverse reputational effects.
- Overall, the current system is plagued by inefficiencies, errors, and constraints that impede organizational growth and response in a competitive market. These problems underscore a contemporary, integrated solution capable of providing real-time insights to support strategic decision-making while ensuring strong security and compliance. Making the transition to an effective stack manage management system may address these concerns, allowing firms to improve their efficiency, agility, and effectiveness in today's changing business environment.

DRAWBACKS OF THE EXISTING SYSTEM:

- The present inventory management system is prone to manual mistakes in data entry and recording, resulting in irregularities in counts of inventory and financial problems.
- Operational inefficiencies are common because to reliance on obsolete technology and heterogeneous software solutions with limited integrating capacity, resulting in time-consuming procedures and delayed decision-making.
- Poor visibility into actual time levels of stocks and financial transactions impedes the organization's capacity to respond quickly to consumer requests and market variations, perhaps leading to overstocking or overproduction problems.
- Security flaws in the system increase the danger of breaches of data and unwanted access to private information, jeopardizing data integrity and consumer confidence.
- The old system's limited scalability limits its capacity to handle corporate expansion and developing operational needs, necessitating costly upgrades or substitutes to meet increasing demand.
- Inadequate statistical and reporting skills limit management's ability to extract useful information from inventory data, affecting strategic scheduling and forecasting accuracy.
- The expensive upkeep expenses associated with legacy systems and old hardware/software versions put a pressure on IT funding and resource allocations, diverting cash away from targeted investments and innovation projects.
- Complex interfaces for users and minimal instruction for users contributes to low user acceptance rates and productivity issues among employees, necessitating considerable training and assistance to offset operational interruptions.
- Ineffective collaboration and communication within departments as a result of isolated information and decentralized procedures leads to disconnected workflows and missed possibilities for optimization of processes and efficiency benefits.

2.2 PROPOSED SYSTEM:

The suggested Stack Control System for Management intends to transform how businesses manage their stocks and accounts for users by delivering a comprehensive, comprehensive solution that tackles the present system's inefficiencies modern platform will combine multiple capabilities, personnel administration, product inventory monitoring, handling transactions, supplier administration, and user account management into a single, coherent system. The suggested solution, which makes use of innovative technology, would simplify workflows, minimize redundancies, and improve data accuracy throughout the business. It provides continuous data processing and analytics.

The suggested Stack Control System for Management intends to transform the way firms manage stock and user accounts by offering a complete, integrated solution that tackles the present system's inefficiencies and constraints. This modern platform will combine a variety of capabilities, such as customer management, personnel administration, product inventory monitoring, processing transactions, vendor administration, and user account management, into a single, coherent system. The proposed system would use sophisticated technology to expedite operations, minimize redundancies, and improve data accuracy throughout the business. It will provide 24-hour data processing and analysis capabilities, enabling decision-makers to get timely and actionable knowledge to improve strategic thinking and operational efficiency.

One of the proposed system's distinguishing advantages is its ability to interact easily with current corporate systems like ERP and CRM systems, allowing a uniform and consistent stream of knowledge across all company processes. This connection breaks down data silos, improves operational visibility, and provides comprehensive business insight, all of which are critical for making educated decisions. Furthermore, computerized inventory management, processing orders, and tracking of transactions will drastically minimize human mistakes while optimizing resource allocation, resulting in increased worker efficiency and expense savings.

The system's scalable design will allow for future expansion, enabling higher data volumes, interactions between users, and financial complexities without affecting performance. Whether the business extends its line of products, enters emerging markets, or grows up activities, the stack of the Control Management Platform will be prepared ready to manage the transition.

This scalability assures that the system will remain a useful asset to the corporation in the long run, responding to changing business demands and technology improvements.

The suggested system prioritizes user experience, with friendly interfaces and informative dashboards intended to improve usability and accessibility. Customized dashboards will include specific roles views and access rights, ensuring each user interacts with information relevant to their duties. Extensive instruction programs and user manuals will aid system adoption, allowing personnel to swiftly adjust to the fresh system and take advantage of its full potential.

Overall, the suggested Stack Control Administration System is intended to improve inventory and user management of accounts by delivering a trustworthy, safe, and efficient technology that promotes organizational development and effectiveness in a changing business context. The proposed system, by tackling some of the weaknesses of the current system and taking into account cutting-edge capabilities and technologies, will enable organizations to operate with improved productivity, agility, and advantages in strategy, positioning them for long-term success in a more and more multifaceted and strong competitors marketplace.

ADVANTAGES OF PROPOSED SYSTEM:

- The Stack Control System of Management provides several benefits that address the different operational requirements of modern enterprises. By combining the latest technology and standard operating procedures, the system promises to transform inventory and personal account management, offering a solid foundation for improving organizational effectiveness and strategic decision-making.
- One of the main advantages of the suggested system is its complete functionality, which includes modules for customer management, personnel administration, product inventory monitoring, transactions, supplier connections, and user account management. This integrated strategy improves workflow efficiency, removes redundancy, and guarantees that data flows smoothly between departments and
- Another key feature of the system is its scalability, which is intended to meet the changing demands of developing enterprises. Scalable design enables the development of storage capability, customer base, and number of transactions while maintaining

system performance and responsiveness. This flexibility allows firms to efficiently adjust to changing marketplace conditions and operational needs. Enhanced security mechanisms built into the system provide strong protection for sensitive information while mitigating risks connected with illegal access or cyber attacks. The system protects private information, ensures data integrity, and develops confidence among stakeholders and consumers by following industry-standard security processes and legal requirements.

- The system's mechanization and current information processing capabilities considerably increase operational efficiency. Routine processes like inventory management, placing orders, and transaction recording are streamlined by automated workflows, which reduce manual mistakes and optimize resource allocation. Current information analytics enable proactive making choices, allowing businesses to capitalize on new opportunities and reduce possible hazards quickly.
- Simple to use user interfaces and informative dashboards enable users of all levels to traverse the system with ease and complete activities effectively. Customizable dashboards give position-specific views and access rights, to guarantee each user interacts with information relevant to their function. This accessibility boosts user productivity, decreases training costs, and speeds up system implementation across the enterprise.

CHAPTER 3

SYSTEM REQUIREMENTS SPECIFICATION

A stock control system integrates technologies (technological infrastructure and application), processes, and processes to monitor and maintain stored products, weather they are firm resources, goods that are raw supplies, or completed commodities ready for delivery to suppliers or consumers. The technology will also help managers choose the best items for the purpose of recording, such as ordering just the most recently utilized and popular things. The purpose of the stock control management program is to guarantee that inventory flows smoothly and to aid when making choices that will reduce the total cost of stocks, which is not the same as lowering inventory.

3.1 FUNCTIONAL REQUIREMENTS:.

Any requirement that specifies what the system should do is referred to as a functional requirement of a system. In other words, a functional requirement will outline a specific action that the system should take when a set of criteria are satisfied

The functional requirements includes:

- A user's authentication when they attempt to log into the system using some login credentials.
- Users can sign up for the structure by entering information.
- Inventory and product details must be displayed.
- The system should have the ability to shut down in the event of a cyberattack.
- Administrators or managers can add and remove stock details.
- Only administrative people have access to income and transaction data.
- Users receive a verification email when they register for the initial time on the software system.
- Users may quickly log off the system

3.2 NON-FUNCTIONAL REQUIREMENTS:

Any need that details how the system executes a specific function is considered a non-functional requirement. In other words, a non-functional requirement will outline the expected behavior of a boundaries of its functionality. For instance, Emails must to be sent with a maximum latency of 12 hours, It should take 10 seconds to process each request, When there are more than 10,000 concurrent visitors, the website should load in three seconds.

Non-functional requirements includes:

- **Speed** - Speed determines how quickly a program responds to commands. For example, the quickness of the search engines influences how quickly you receive search results after typing a term into the search field. Another component of speed is determining a system's ability to handle an increasing workload when running numerous programs at the same time.
- **Security** - You might think about creating security features that aren't functional to protect sensitive data. Secure databases are used, for instance, to store data in stock control systems. To prevent unwanted access, their databases may be secured with user authentication.
- **Portability** - The term "portability" refers to how well a system works in one environment as opposed to another. The application is highly portable if it performs as well in the new environment as it did in the previous one. As a developer, you can create programs that run well on a variety of platforms to increase portability.
- **Compatibility** - When additional apps are running on a device, highly compatible systems often work well. Additionally, compatibility enables users of various operating systems to utilize the same programs.
- **Reliability** - Highly dependable technology continues to perform well even after extensive use.
- **Environment** - The environment consists of outside elements that affect how well your system works. The environment of an application may also include the time frame during which it operates, such as constantly or only when the user activates it.

3.3 HARDWARE AND SOFTWARE REQUIREMENTS

3.3.1 HARDWARE REQUIREMENTS:

- Processor: x86 or x64
- RAM : 512 MB (minimum), 1 GB (recommended)
- Hard disk: up to 200 MB of available space may be required. However, 50 MB free space is required in boot drive even if you are installing in other drive.

3.3.2 SOFTWARE REQUIREMENTS:

- PHP 5.3.3+ version.
- Apache Tomcat
- MySQL (Necessary for Database related functionalities)

CHAPTER 4

PROBLEM STATEMENT & OBJECTIVES

4.1 PROBLEM STATEMENT:

Organizations now have substantial issues in successfully managing inventories and accounts for customers due to diverse systems, manual procedures, and limited data visibility. These restrictions impair operational efficiency, data quality, and strategic decision-making, affecting overall corporate performance and consumer happiness. The existing inventories and user accounts administration environment within enterprises is filled with inefficiencies and issues as a result of antiquated systems, disjointed procedures, and manual activities. Many firms use diverse systems that do not integrate, leading to separate records and a disconnected picture of vital company information. Manual operations, such as actual stock counts and paper-based keeping records, are not only time-consuming, but also subject to human error, resulting in inaccurate levels of stocks, postponed transactions, and ineffective operations.

4.2 OBJECTIVES:

The major goal of establishing the Stack Inventory Control Management Systems is to fully solve these difficulties by offering a single platform that improves the control of inventory and user account management. Specifically, the objectives are:

- To expedite inventory management procedures, functions for monitoring inventory of goods levels, actions, and stock locations will be easily integrated.
- To increase transactional accuracy and dependability, automate the recording, tracking, and analysis of sales, purchases, refunds, and other payments.
- To improve customer relationship management by centralizing client data management, allowing for more tailored interaction along with effective resolution of customer inquiries and issues.
- To improve employee administration by enabling role-based access control, managing user permissions, and streamlining employee data processing.
- To improve supplier relationship management, provide tools for successfully managing supplier data, contracts, purchases, and performance reviews.
- To maintain data safety and adherence with industry regulations and standards, organizations use strong security mechanisms, encryption techniques, and audit trails.

- To give those making decisions with current data, reports, and displays that reveal useful information into inventory patterns, a transactional one structures, and operational performance.
- To maintain data integrity, interoperability, and operational continuity, integrate seamlessly with current corporate systems such as ERP and CRM platforms.

CHAPTER 5

SYSTEM DESIGN

5.1 SYSTEM MODELLING:

System modeling is the process of creating abstract representations of a system, with each model offering a distinctive viewpoint. It has to do with graphical notation, which is now nearly invariably based on notations in the Unified Modeling Language, to depict a system (UML)

5.1.1 FRAMEWORK DESIGN

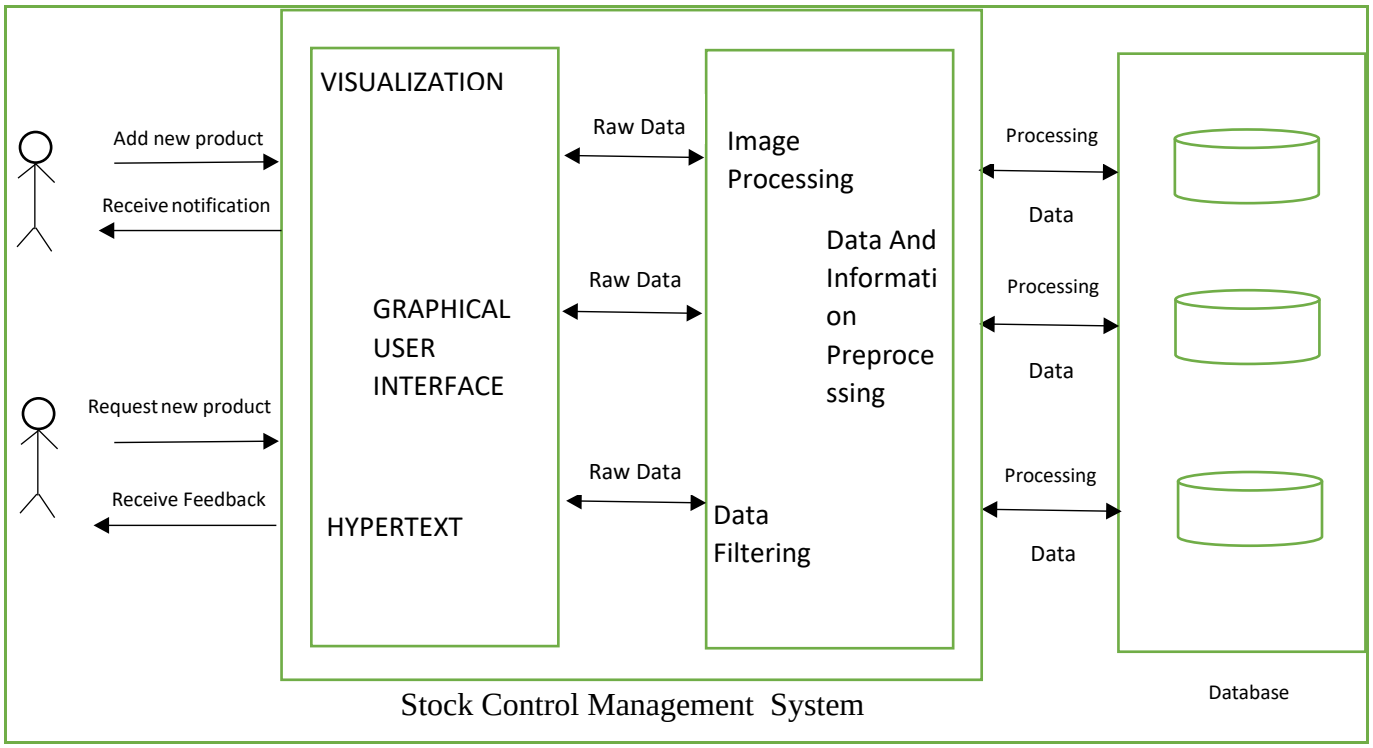

Fig 5.1.1 Framework Design

5.1.2 CONTEXT DIAGRAM:

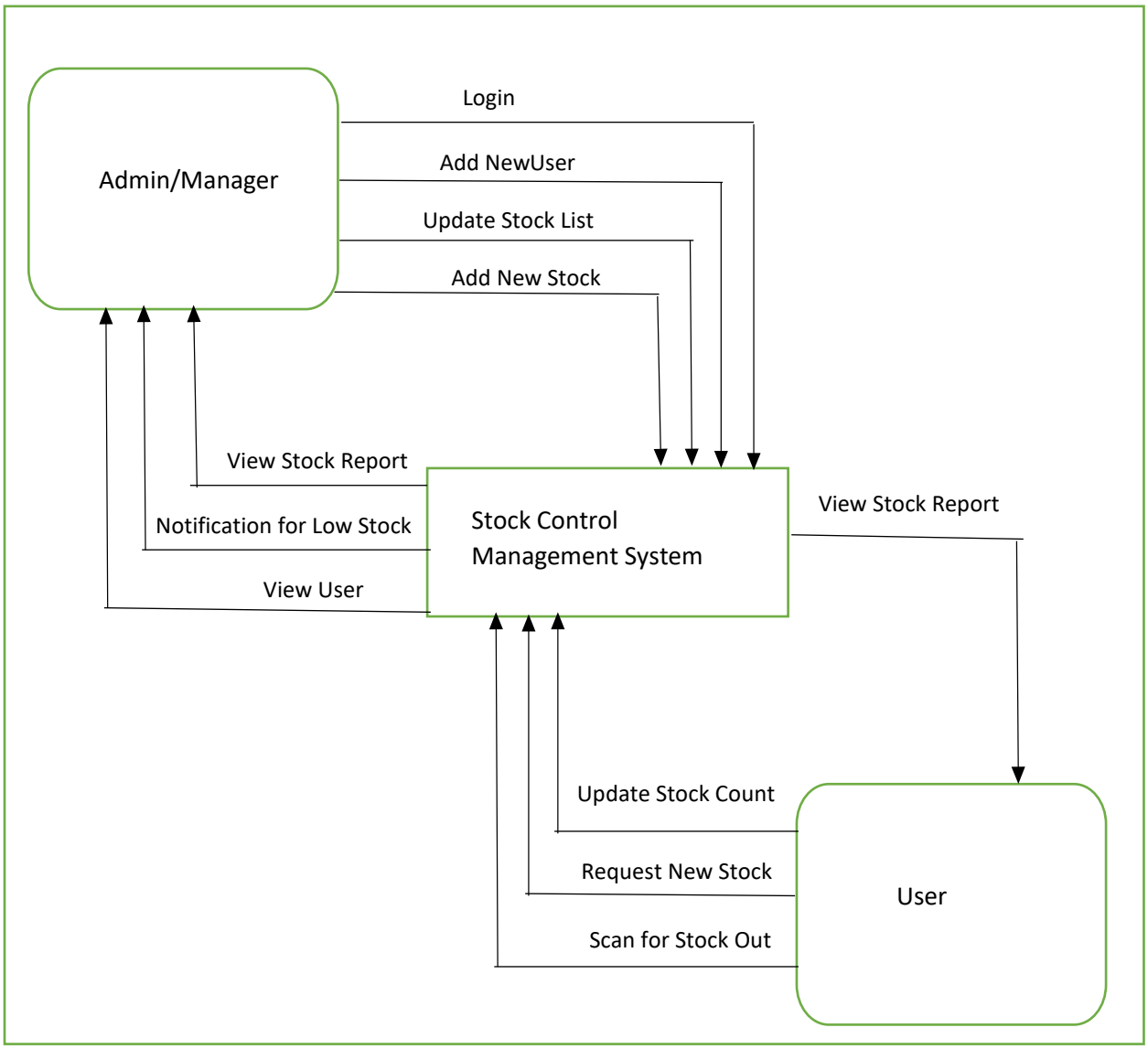

Fig 5.1.2 Context Diagram

5.1.3 Dataflow Diagram Level 0:

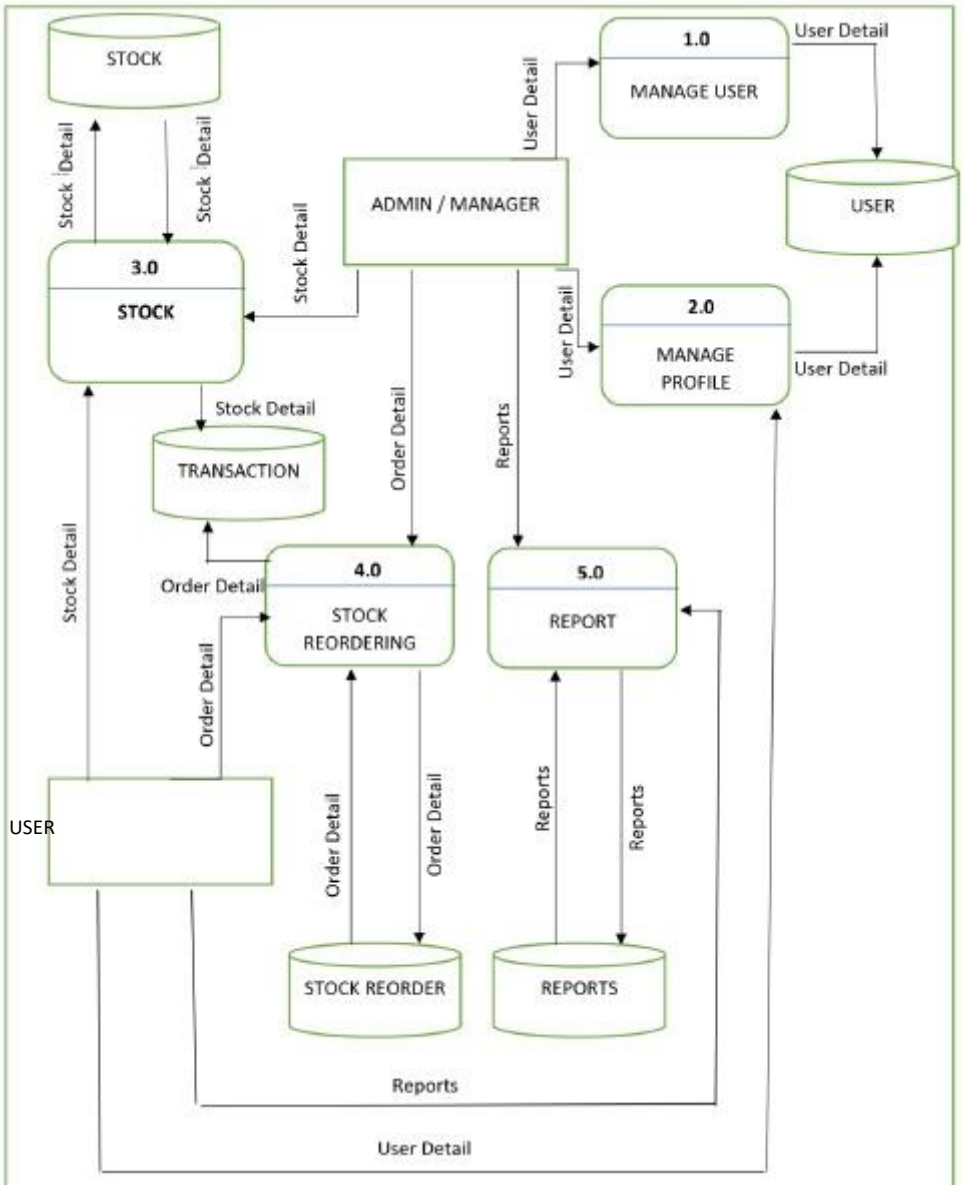

Fig 5.1.3 Dataflow Diagram Level 0

The ability to manage other system users belongs exclusively to the Admin/Manager role. The Admin/Manager will be in charge of adding and removing users. The system's administrator can also log in and manage new stocks, reports, and the stock reordering process. The Transaction database will save each and every stock transaction that occurs.

5.1.4 Dataflow Diagram Level 1 (Process 1.0) :

Admin can add, delete and view detail of users in the system

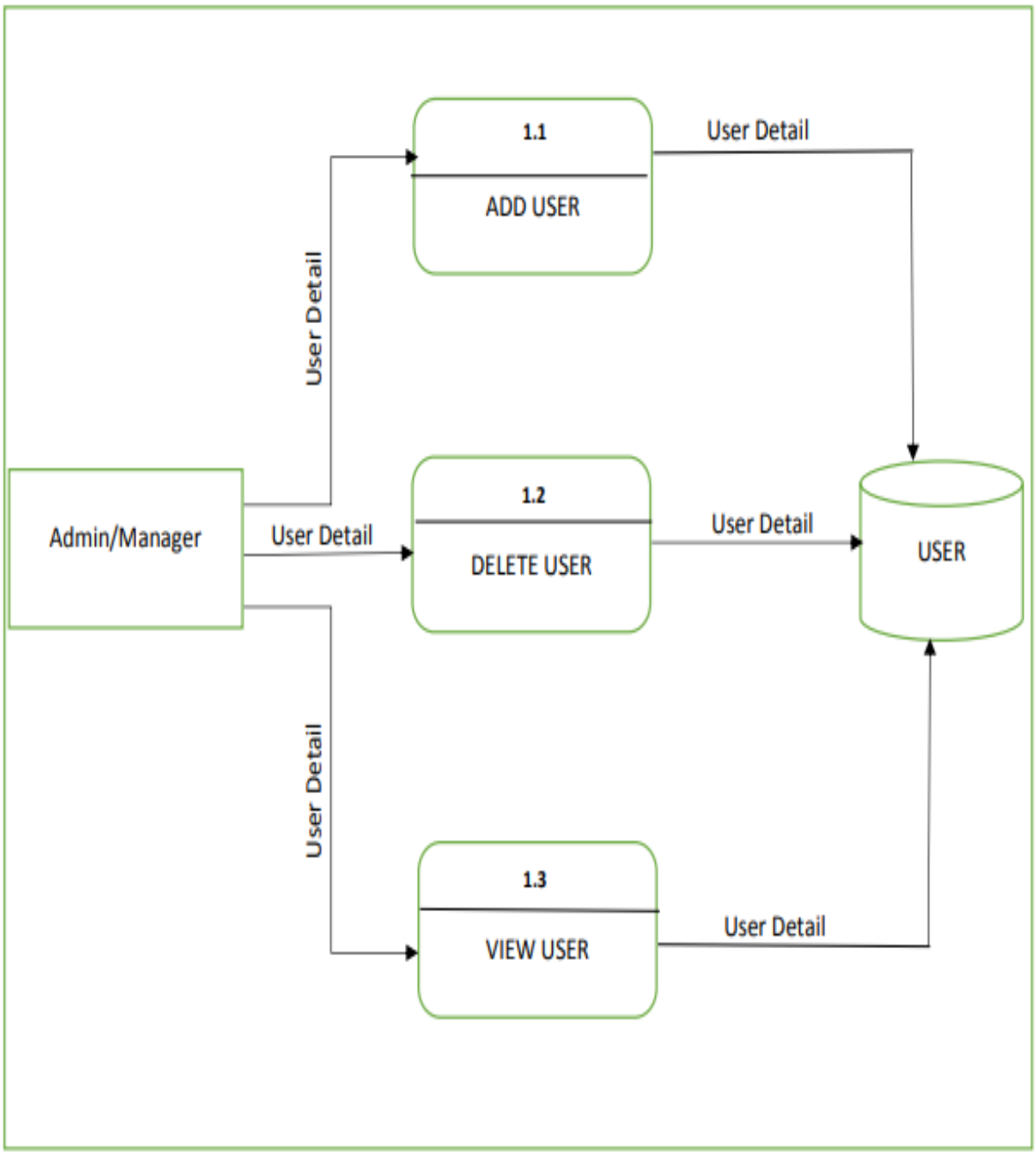

Fig 5.1.4 Dataflow Diagram Level 1 (Process 1.0)

5.1.5 Dataflow Diagram Level 1 (Process 2.0):

Admin can update the username and user profile but User only can update their profile.

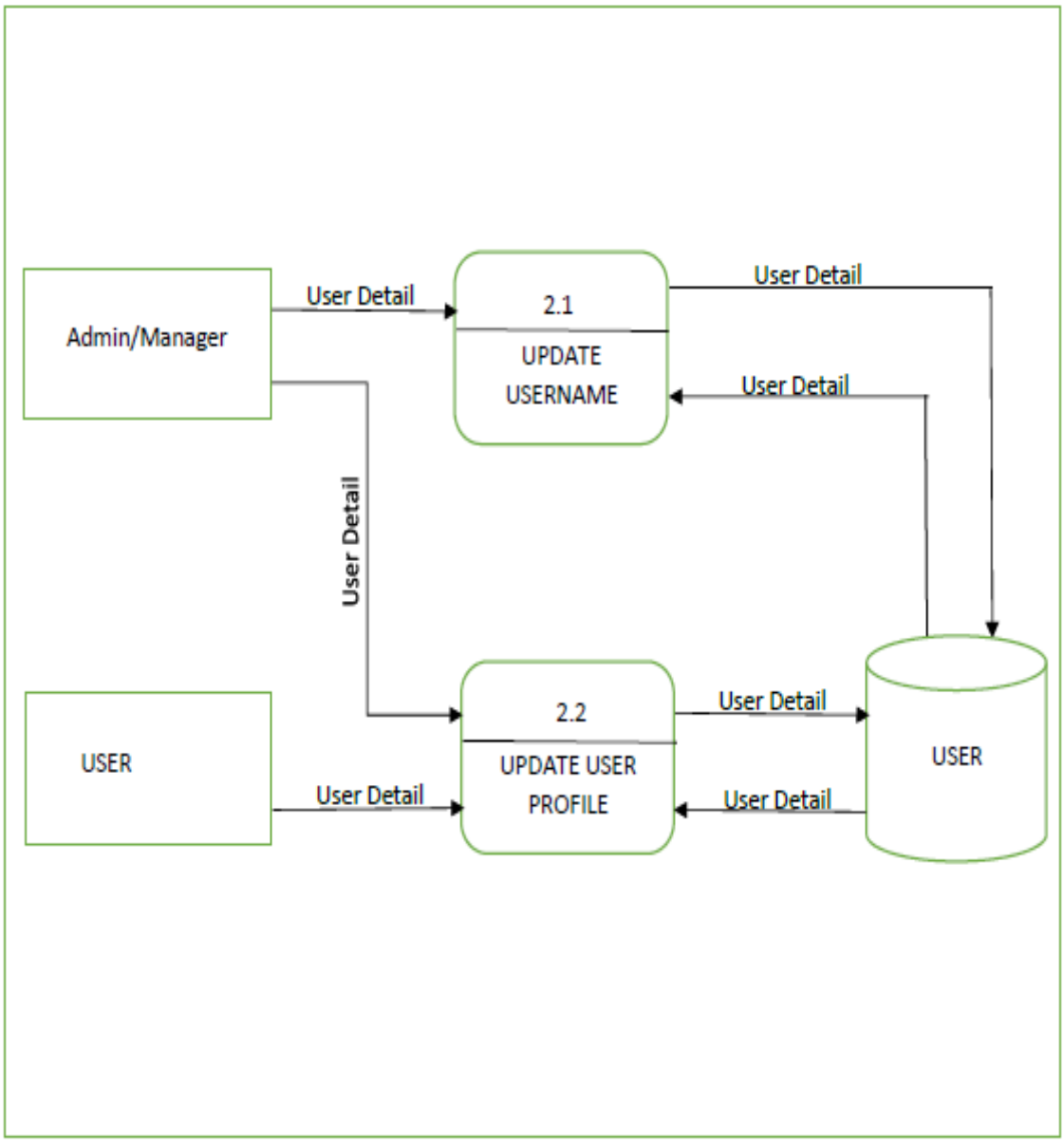

Fig 5.1.5 Dataflow Diagram Level 1 (Process 2.0)

5.1.6 Dataflow Diagram Level 1 (Process 3.0) :

A person can only make an inventory out of the systems; the administrator may add (stock in), edit, remove, and inventory out the stock. Each Stock In/Out transaction will be saved in the Transaction Database.

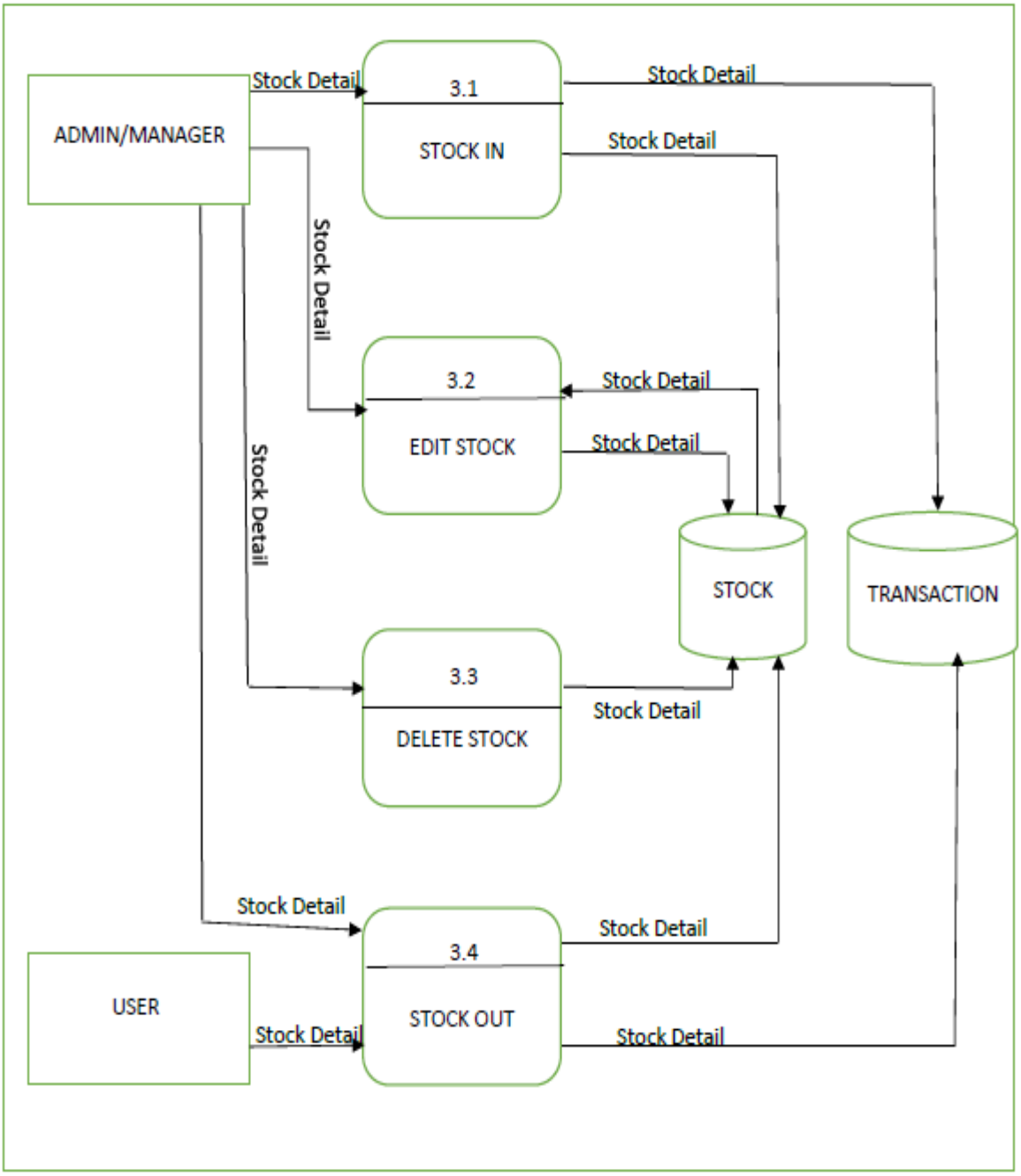

Fig 5.1.6 Dataflow Diagram Level 1 (Process 3.0)

5.2 USE CASE DIAGRAM

In the Unified Modeling Language (UML), the behavioral diagram that depicts how actors (users or external systems) interact with a system to accomplish certain goals. It offers a broad overview of the system's operation as seen through the eyes of its users. useful tools for collecting and visualizing a system's functional requirements, identifying actors and their relationships, and confirming that the system is meeting user demands. They help with stakeholder communication, aid in defining the scope and bounds of the system, and support the analytical and design stages of the software development process.

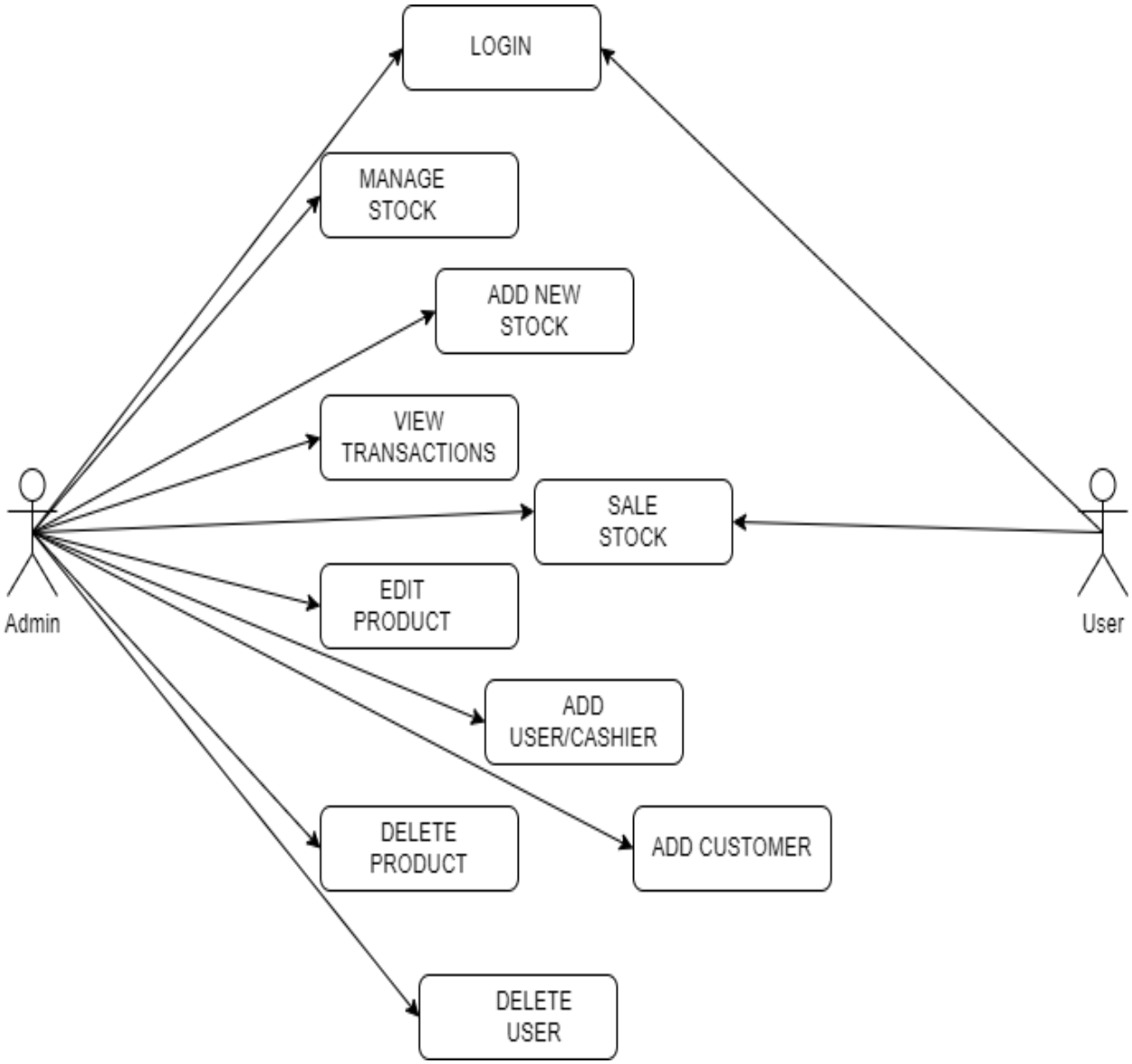

Fig 5.2.1 USE CASE DIAGRAM

5.3 ACTIVITY DIAGRAM

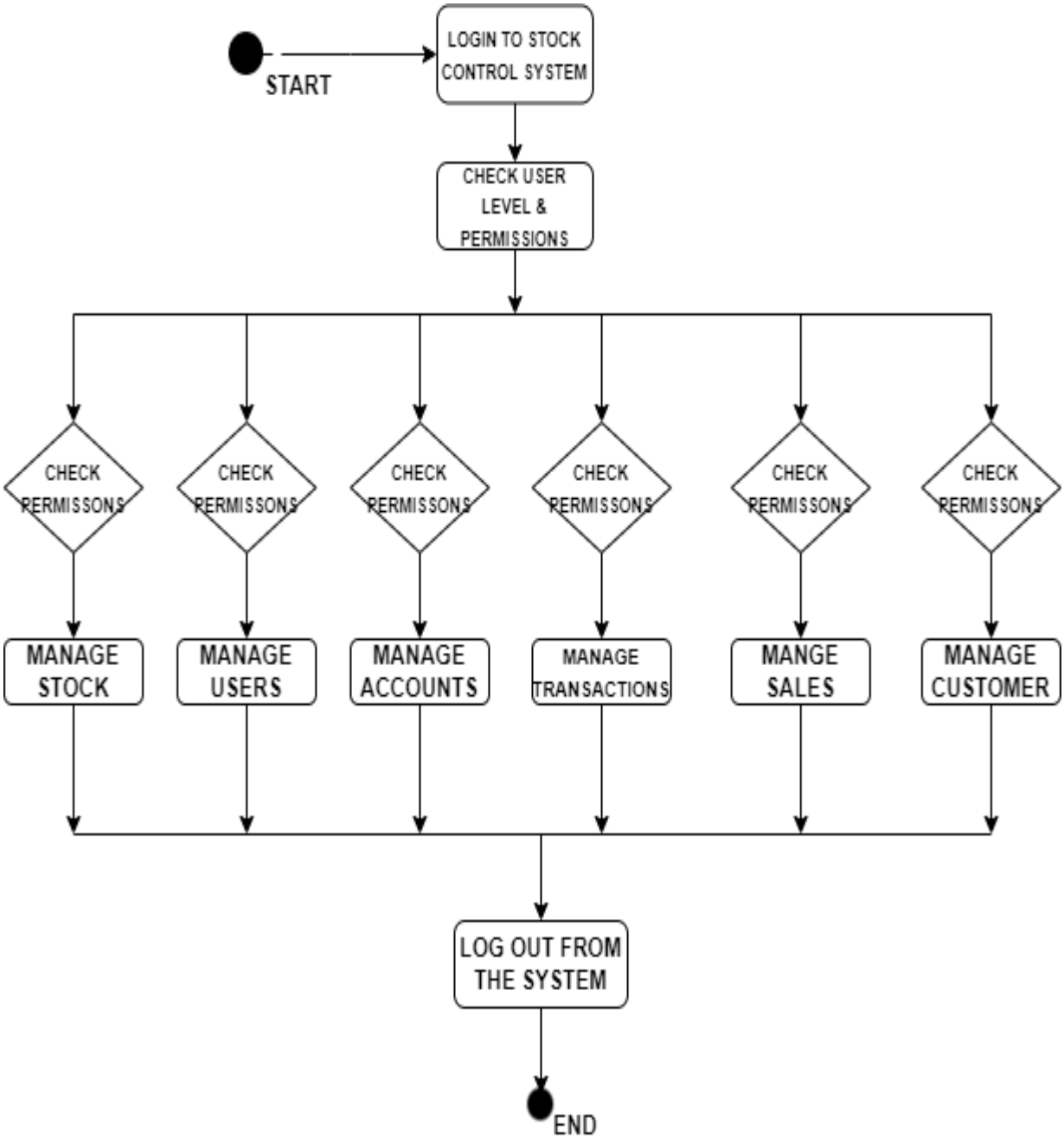

Fig 5.3.1 Activity Diagram

5.4 CLASS DIAGRAM

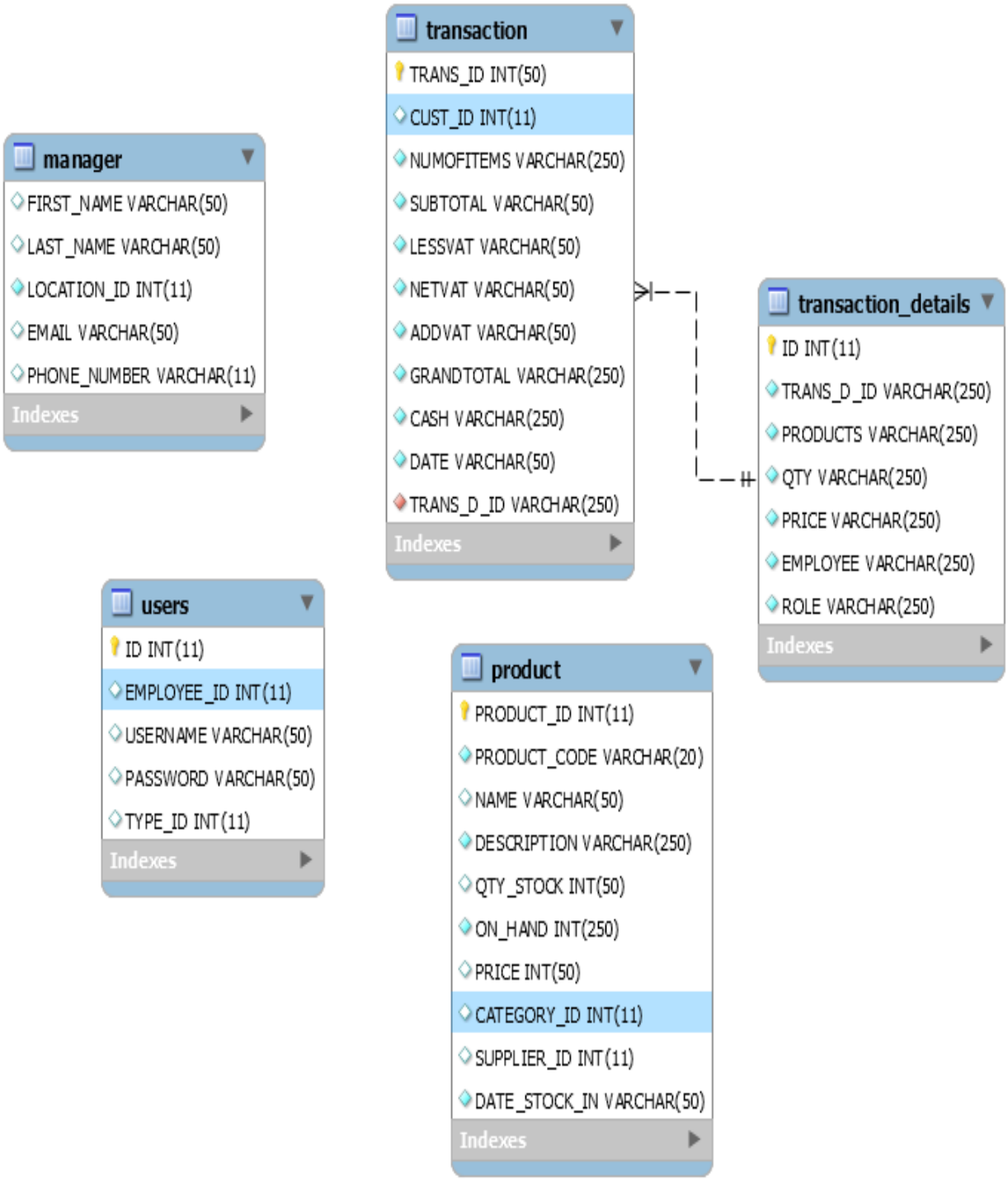

Fig 5.4.1 Class Diagram Process 1

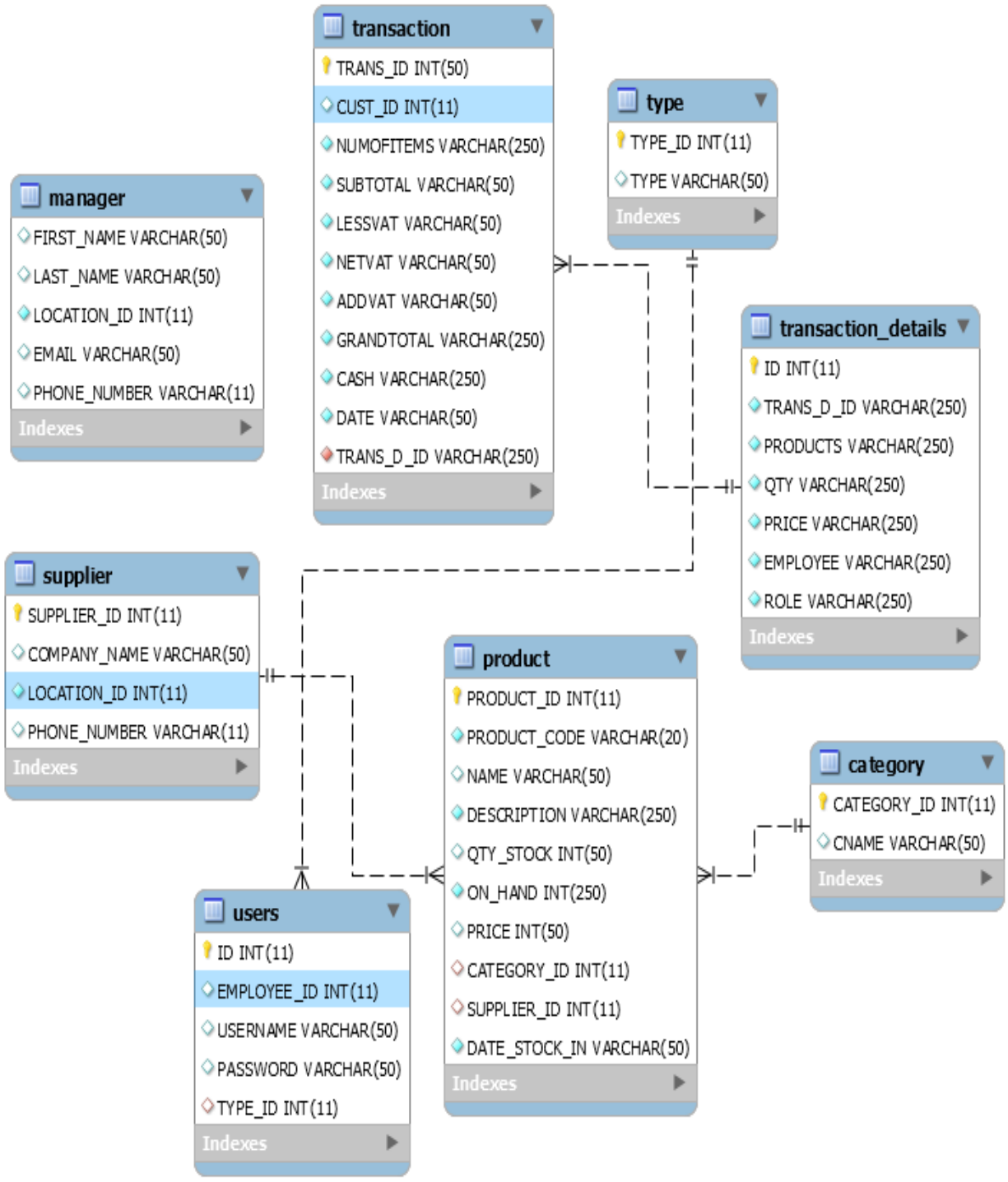

Fig 5.4.2 Class Diagram Process 2

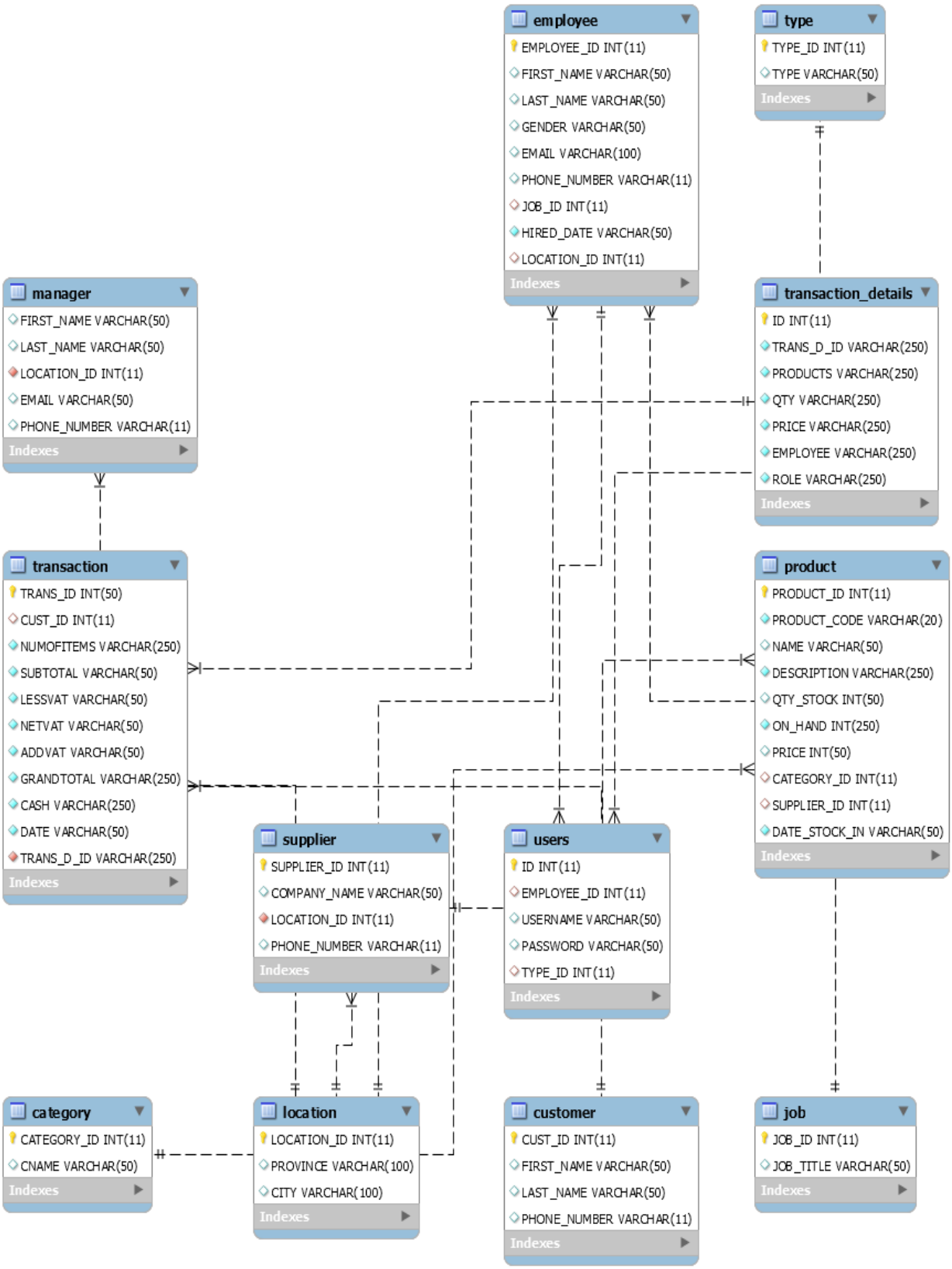

Fig 5.4.3 Class Diagram Process 3

5.5 SEQUENCE DIAGRAM

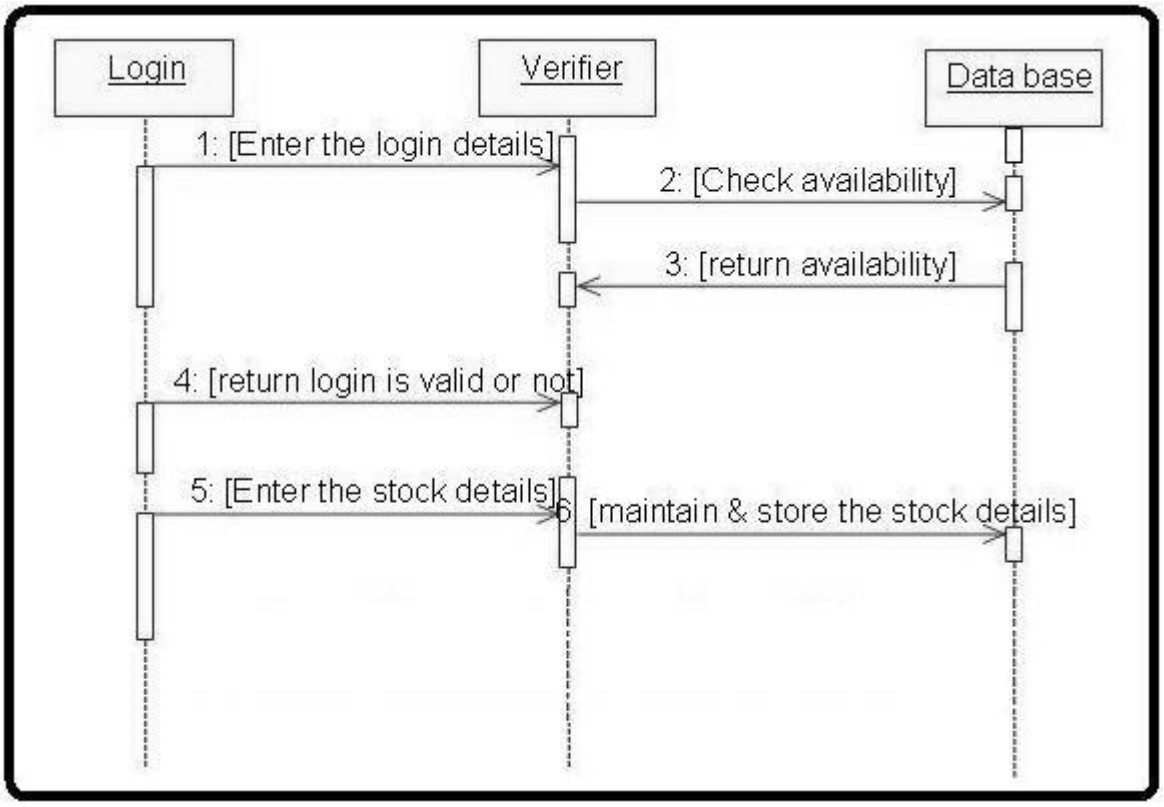

Fig 5.5.1 sequence diagram1

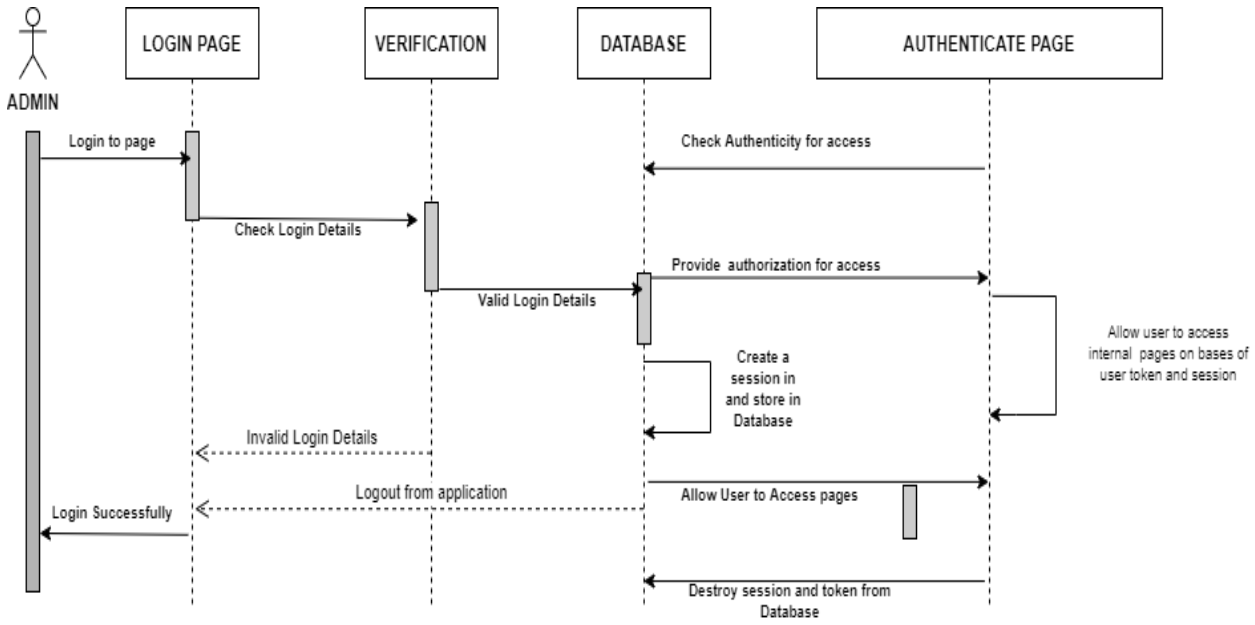

Fig 5.5.2 sequence diagram2

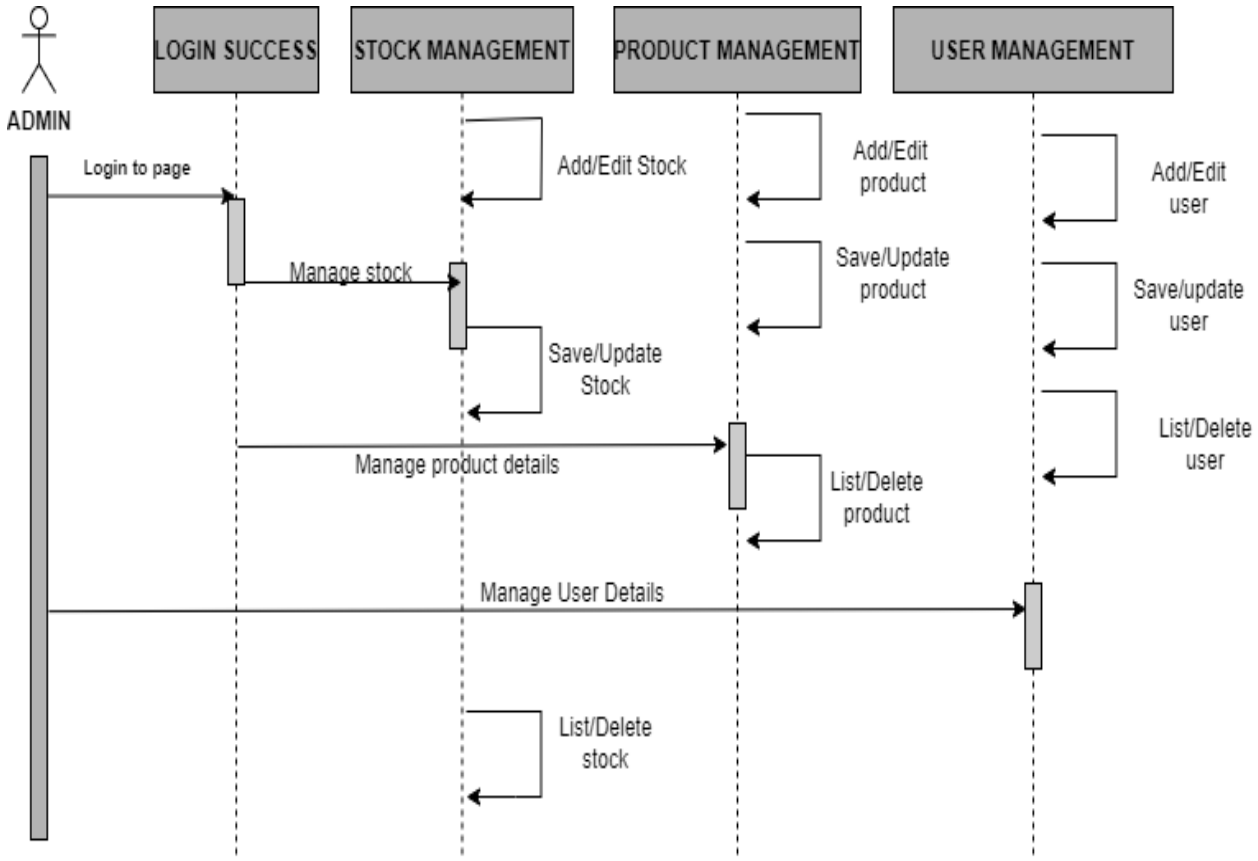

Fig 5.5.3 sequence diagram3

CHAPTER 6

IMPLEMENTATION

6.1 SCREEN SHOTS:

Implementation

In the Implementation stage of the study project, the characteristics of the stocks Control System were displayed through a website. The system has a variety of features, include login, enrollment, inventory, and many more. I created and saved the web document with HTML, then utilized CSS to create the attractive structure of the layout. Additionally, Bootstrap is utilized to make the design mobile and responsive. Furthermore, JavaScript and PHP are utilized to construct the system's website pages. MySQL is also used for accessing, manage and query the information stored in a database.

Dashboard/Home Page

The stock control system's home page and landing page are depicted in the diagram below.

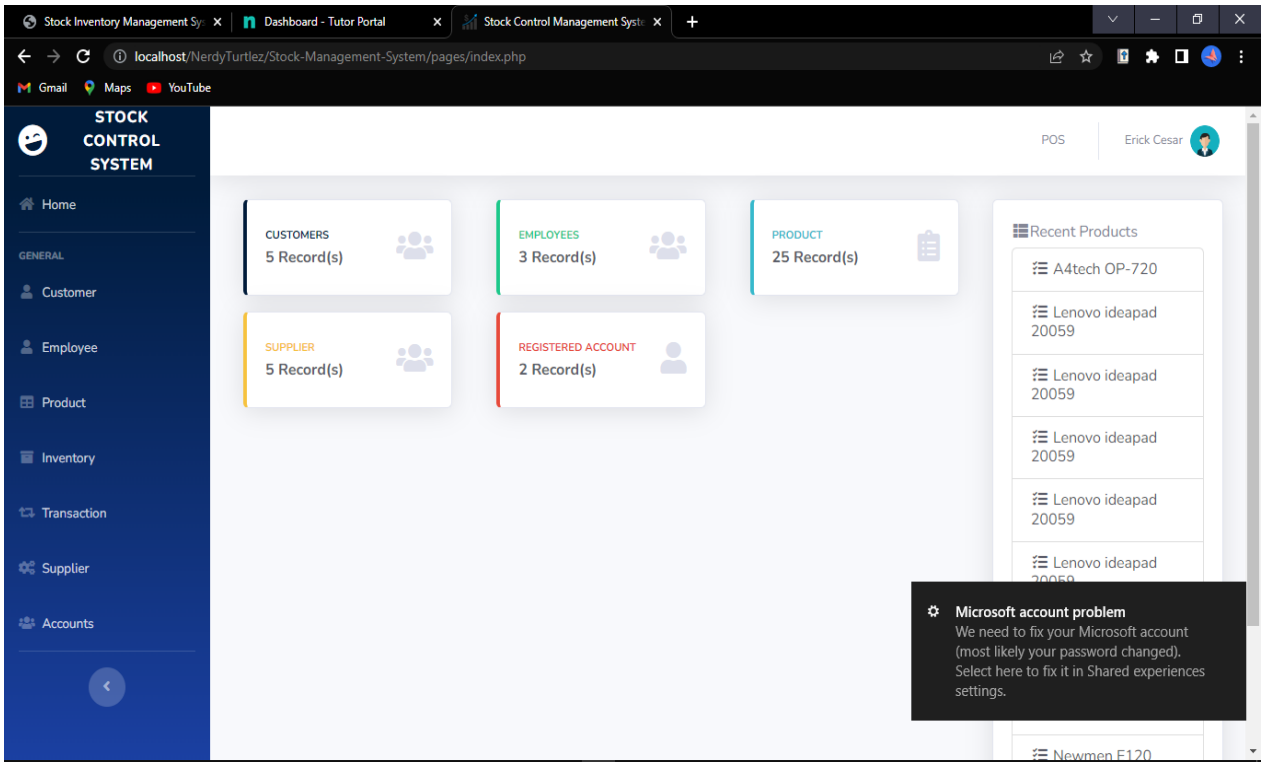

Fig 6.1.1 Dashboard/Home Page

Registration Page

Based on the user registration webpage, the figure below was created. By providing their username and password, users can quickly establish a new account.

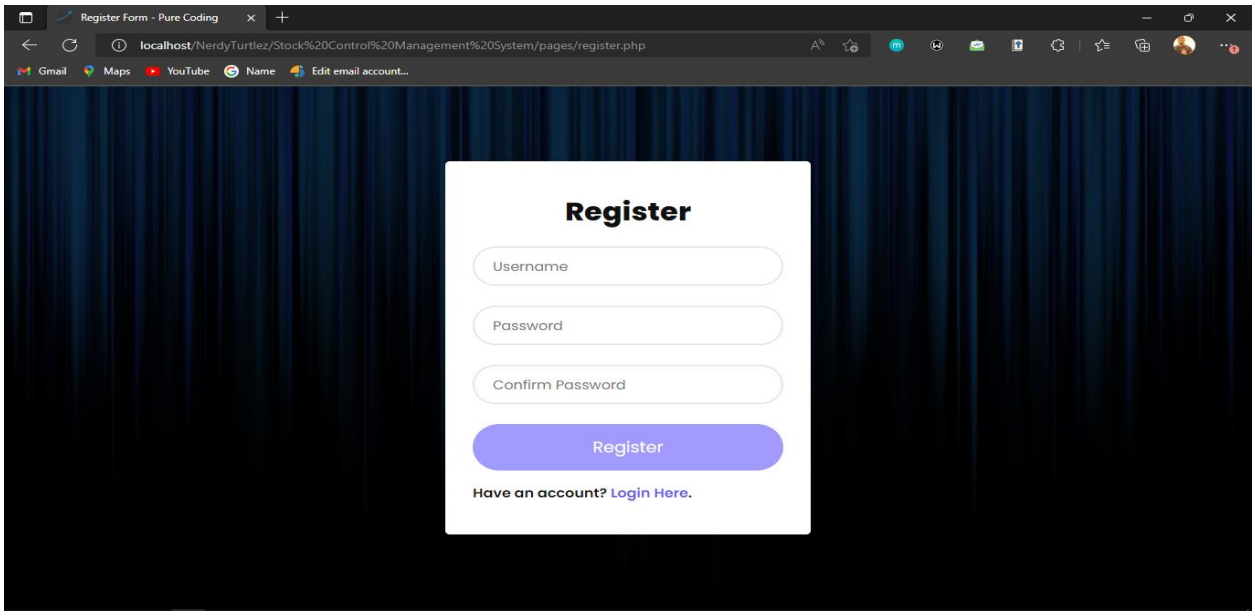

Fig 6.1.2 Registration Page

Login page

A user login web page is depicted in the following figure. By entering their username and password on this page, individuals can access their own accounts.

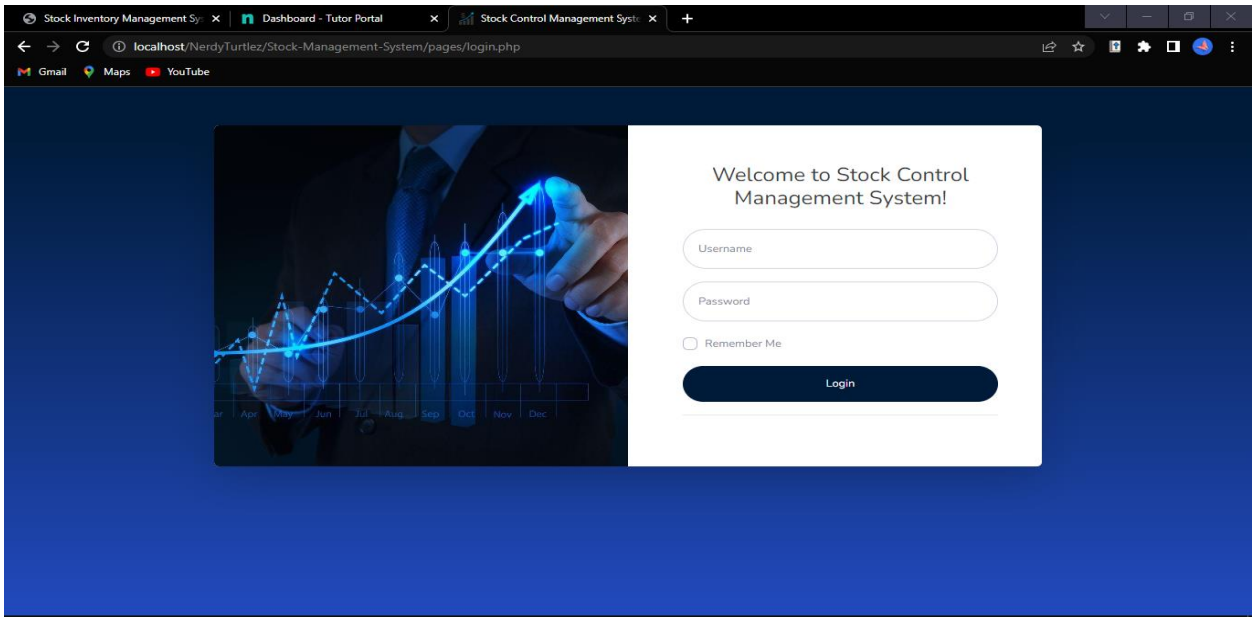

Fig 6.1.3 Login page

Transaction Page

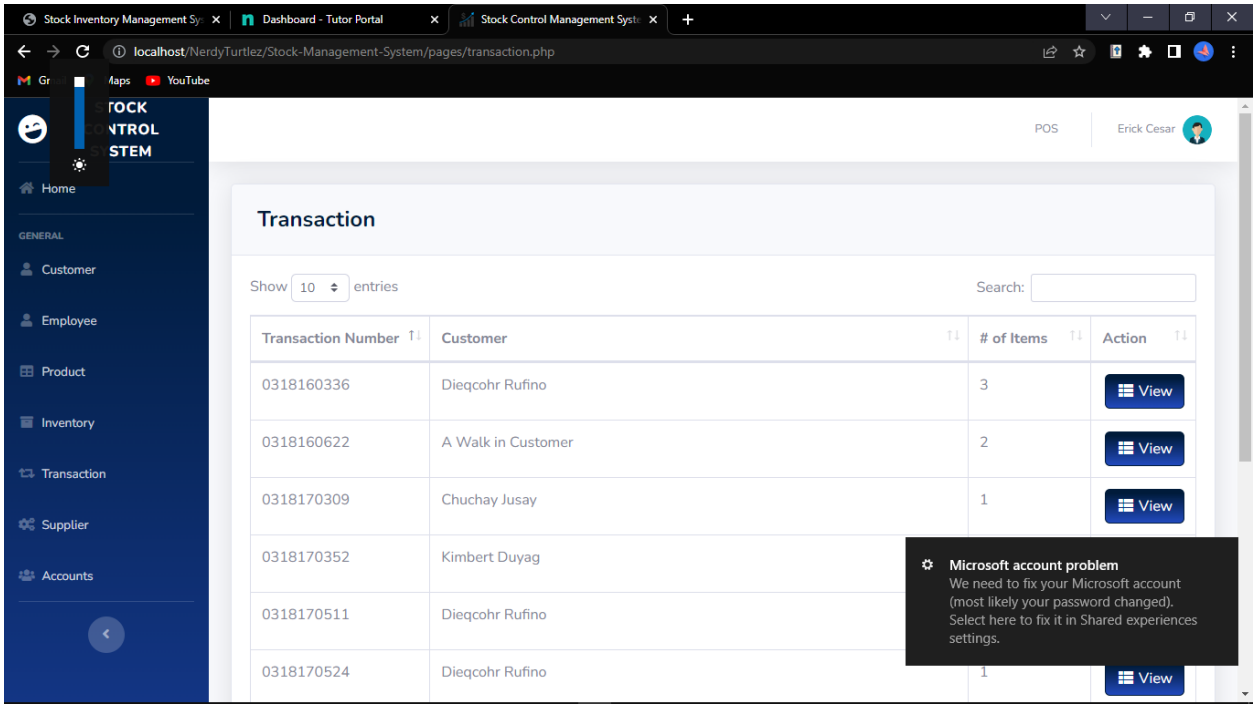

Fig 6.1.4 Transaction Page

Products Page

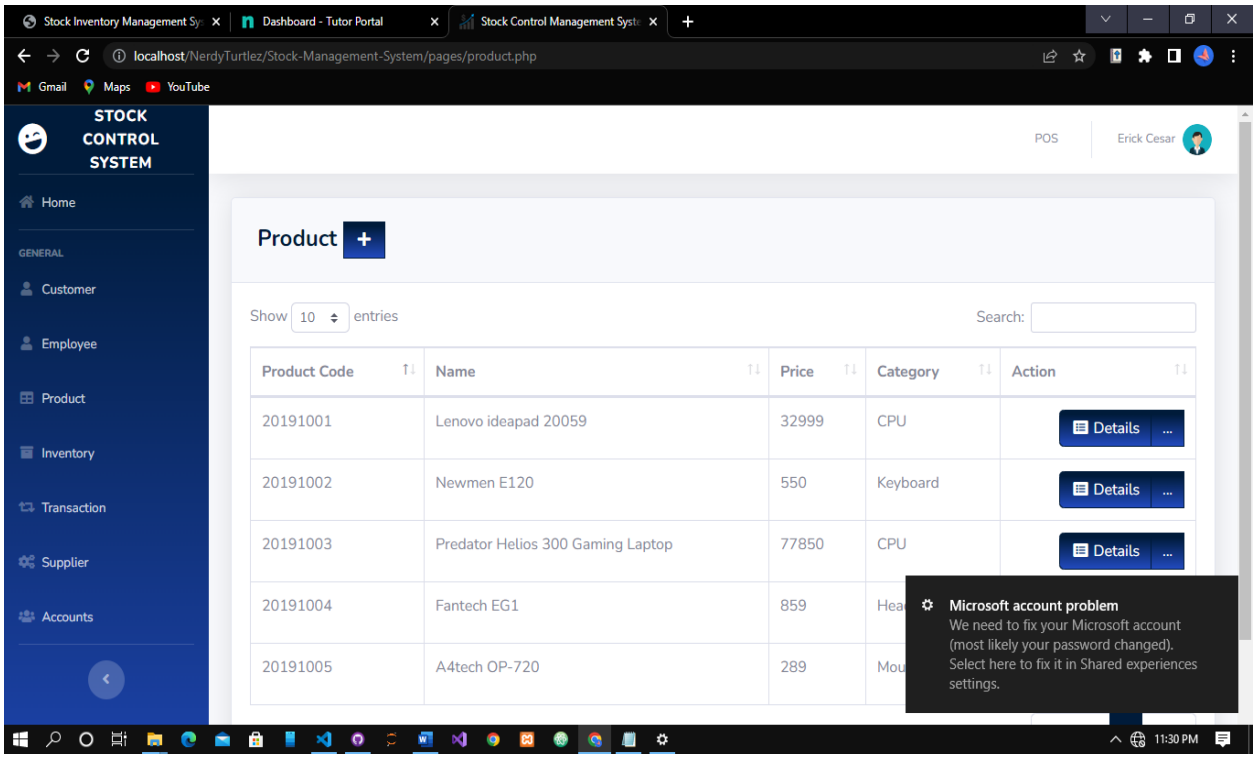

Fig 6.1.5 Products Page

Accounts Page

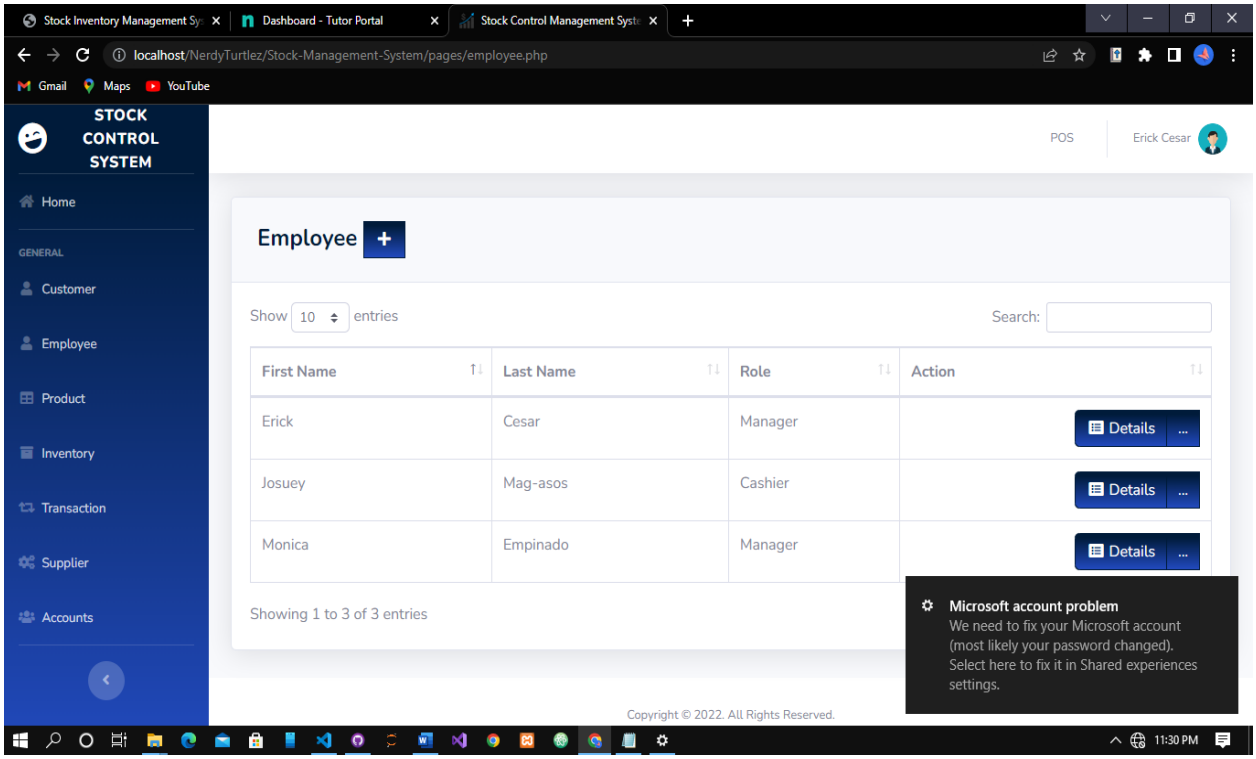

Fig 6.1.6 Accounts Page1

Accounts Page

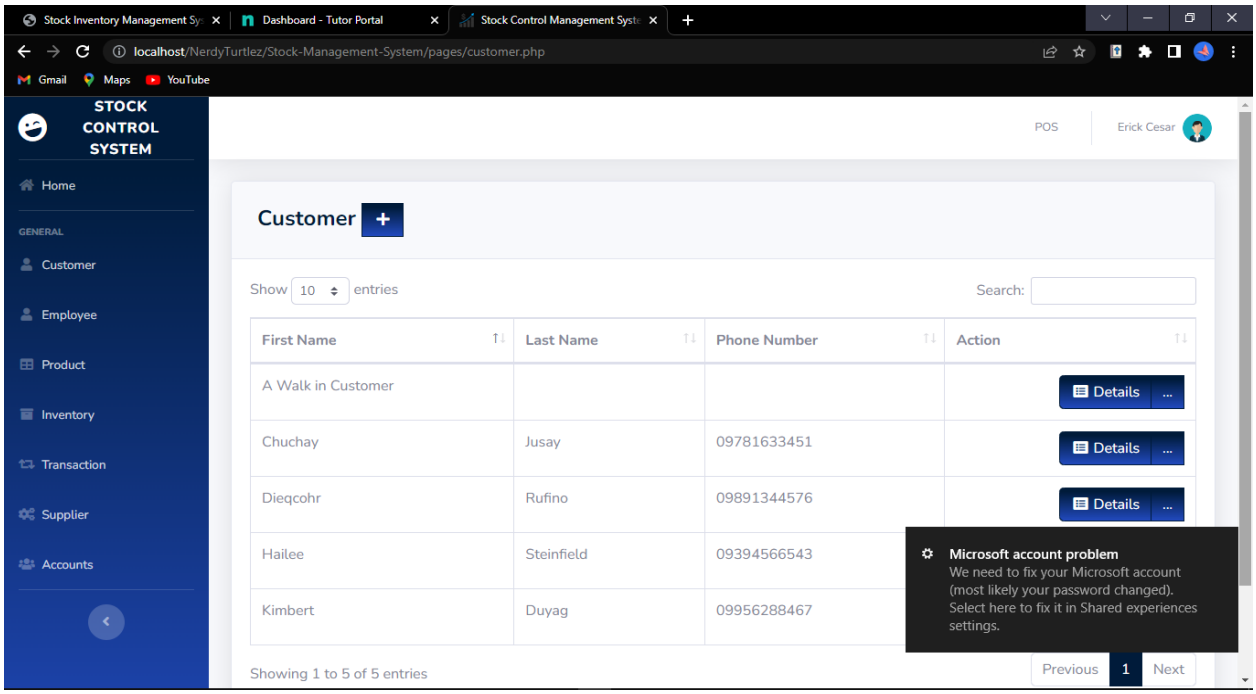

Fig 6.1.7 Accounts Page2

Inventory Page

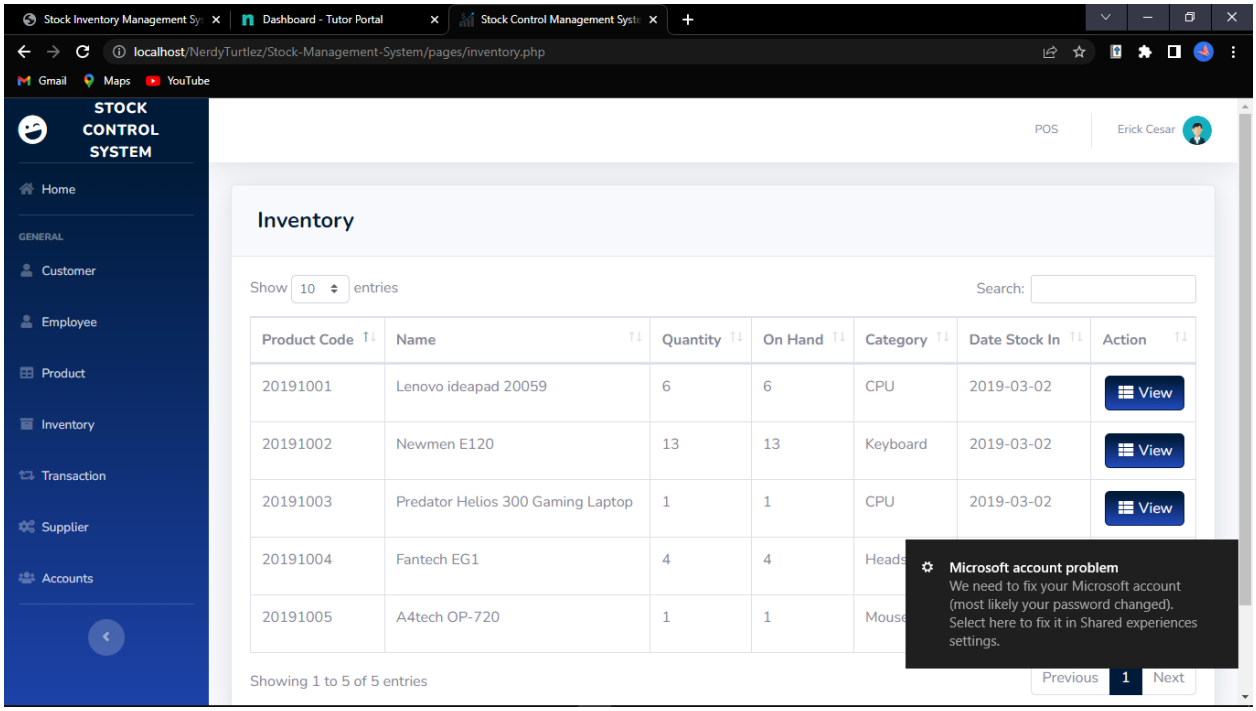

Fig 6.1.8 Inventory Page

User Page

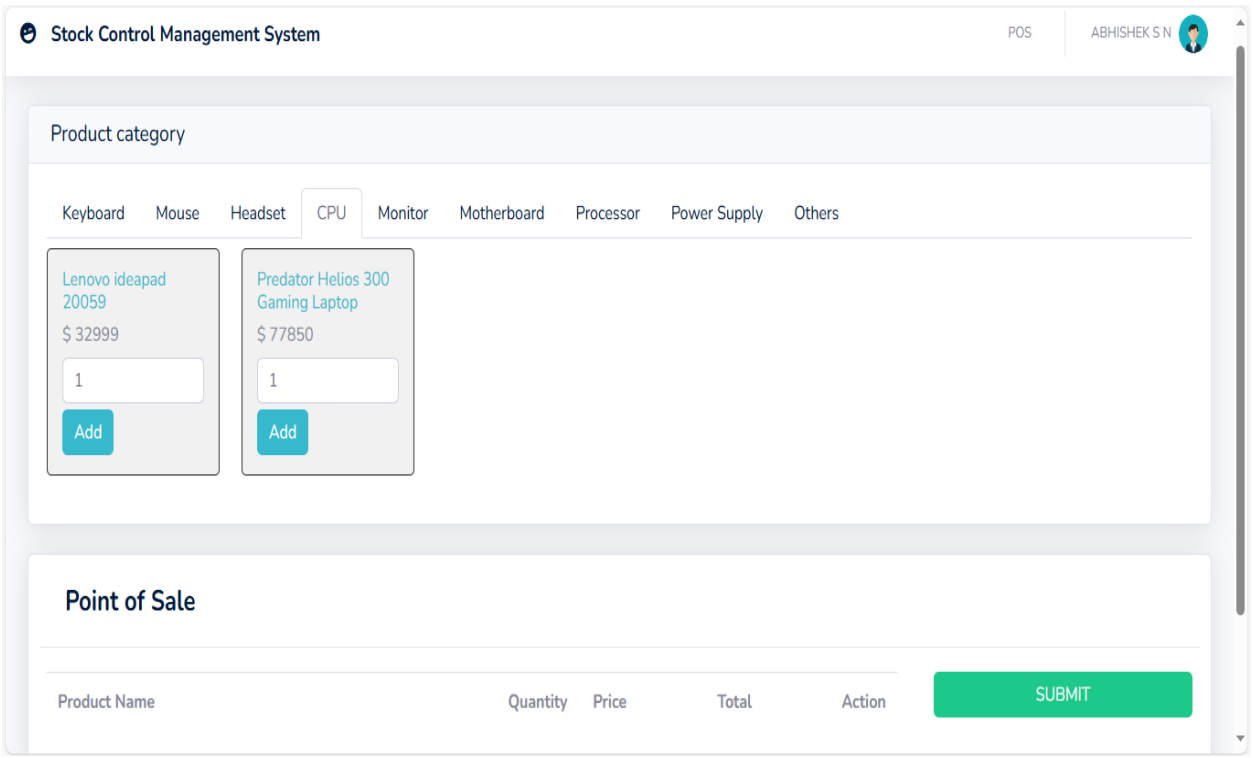

Fig 6.1.9 User Page

CHAPTER 7

SYSTEM TESTING

7.1 TESTING

Testing is integrated into the development phase of an extreme program rather than being done after it. All programs have unit tests to find and fix flaws, and the program must pass all of these tests before it can be released. Client acceptance tests, which are based on customer specifications, are yet another important test. After the coding is finished, acceptance tests are conducted, and the developers show the customer the results as well as demos.

7.2 ACCEPTANCE TEST

User stories, acceptance standards, and use cases are the constant sources of acceptance tests. Only those business tests that need to be verified are represented by these black-box system tests. These should primarily be used to describe product behavior, usage, and flows. The system testing phase in the regression cycles can also take into account the intended acceptance tests boost product confidence before transferring it to the acceptance testing phase.

The web application is hosted on localhost using the Apache Tomcat Server to test the stock and inventory algorithm. The following diagram explains how the stock and inventory algorithm was tested.

7.3 TEST CASES:

Stock Control Management System using a tabular format:

Test case ID	Test case Description	Test steps	Expected Results	Pass/Fail
TC-001	Login Functionality - Admin	1. Navigate to the admin login page.	Admin login page is displayed.	Pass
		2. Enter valid admin username and password.	Admin dashboard is displayed.	Pass
		3. Click on the login button.	Logged in successfully as admin.	Pass
TC-002	Login Functionality - General User	1. Navigate to the general user login page.	General user login page is displayed.	Pass
		2. Enter valid general user username and password.	General user dashboard is displayed.	Pass
		3. Click on the login button.	Logged in successfully as general user.	Pass
TC-003	Add Customer Record	1. Navigate to the customer management section in the admin dashboard.	Customer management page is displayed.	Pass
		2. Click on the "Add New Customer" button.	New customer entry form is displayed.	Pass
		3. Enter valid customer details (name, contact information).	Customer record is successfully added.	Pass

Test case ID	Test case Description	Test steps	Expected Results	Pass/Fail
TC-004	Search for Product	1. Navigate to the product inventory section in the admin dashboard.	Product inventory page is displayed.	Pass
		2. Enter product name or ID into the search field.	Product details matching the search criteria are displayed.	Pass
TC-005	Record Sale Transaction	1. Navigate to the transaction management section in the admin dashboard.	Transaction management page is displayed.	Pass
		2. Click on the "Record New Sale" button.	Sale entry form is displayed.	Pass
		3. Enter valid transaction details (customer, product, quantity, price).	Sale transaction is successfully recorded.	Pass
TC-006	Update Employee Details	1. Navigate to the employee management section in the admin dashboard.	Employee management page is displayed.	Pass
		2. Locate the employee record to be updated.	Employee details page is showed.	Pass
		3. Tap on the "Edit" key to amend personnel information. (contact information, role).	Employee details are successfully updated.	Pass
TC-007	Generate Inventory Report	1. Navigate to the reports section in the admin dashboard.	Reports page is displayed.	Pass
		2. Select "Inventory Report" from the report options.	Inventory report with current stock levels and details is generated.	Pass

Test case ID	Test case Description	Test steps	Expected Results	Pass/Fail
TC-008	Supplier Contract Management	1. Navigate to the supplier management section in the admin dashboard.	Supplier management page is displayed.	Pass
		2. Click on the "Add New Supplier Contract" button.	Supplier contract entry form is displayed.	Pass
		3. Enter valid supplier contract details (supplier name, contract terms).	Supplier contract is successfully added and recorded.	Pass
TC-009	Change Password - General User	1. Navigate to the profile settings section in the general user dashboard.	Profile settings page is displayed.	Pass
		2. Click on the "Change Password" option.	Change password form is displayed.	Pass
		3. Enter current password and new password, then confirm.	Password is successfully updated.	Pass

In this table:

- **Test Case ID**: Unique identifier for each test case.
- **Test Case Description**: Brief description of what the test case is testing.
- **Test Steps**: Detailed steps to execute the test case.
- **Expected Results**: Expected outcome after executing the test steps.
- **Pass/Fail**: Actual result of the test execution (to be filled in during testing).

Each test case is structured to ensure comprehensive coverage of functionalities and scenarios within the Stack Control Management System, verifying that all aspects of the system perform as intended before deployment.

CHAPTER 8

CONCLUSION

The technique is what matters most in making sure the system development process goes well. It is wise to employ one of the many various software development approaches available while creating a system. However, picking the appropriate approach is crucial since it will have an impact on how the system development process proceeds. If the proper methodology is applied to create a system, the project can be completed on schedule. Finally, every step of the process is clearly explained to make it easy to understand.

In a system modeling and design, the specifics of the system's data flow and the entities involved are detailed, and every module is completely documented in relation to one another. While the Entity Relationship Diagram (ERD) and database design provide a clear grasp of the system's database and the relationships between each table, the Data Flow Diagram (DFD) design provides insight into the system's flow and straightforward explanations for each flow.

The challenges will be resolved by the stock control management system since all inventory-related information will be recorded in a database, which will be much easier to maintain and update. This system will also help the organization save time and money by automating many inventory-related processes. The project incorporates a database for inventory management, which includes product performance analysis and project-end material cost calculation. The inventory manager no longer needs to spend as much time keeping track of every item in stock because the stock control management system gives them all the information they need and want to grasp inventory-related matters quickly and easily. The inventory manager can use the system to list out all the specifics or to look through all the inventory data with this assistance.

CHAPTER 9

FUTURE ENHANCEMENTS

Incorporating learning algorithms to forecast fluctuations in inventory and manage stock levels using past data might dramatically improve efficiency in operations and inventory control accuracy in the future.

- Implementing sophisticated analytics for immediate knowledge and predictive planning based on market trends and consumer behavior.
- Enhancing system flexibility and compatibility to interface with new technologies and IoT devices, enabling real-time inventory monitoring and automatic replenishment operations.
- Create mobile apps or responsive interfaces for distant or field staff to access inventory information, past transactions, and user account management.
- Implementing blockchain technology for transparent and secure supply chain management, including tracking of goods origins, recordings of transactions, and supplier agreements.
- Integrating sustainability indicators and reporting tools into the system to monitor the environmental effect of inventory management methods and support company sustainability goals.

These changes seek not only to strengthen the Stacked Control Management System's operating capabilities, but also to make it future-proof against changing business demands and technological innovation.

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