SE 103.3 - Systems Analysis and Design

Group Assignment

Computerized Hardware Store Management System.

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Group AQ

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Introduction

The complications surrounding management relate to issues with making decisions. Important tasks that companies must undertake include making decisions. Business management becomes essential because businesses must acquire, distribute, and regulate input resources in an efficient way to maximize their profits while reducing administration costs.

Business management systems are used by companies to maintain the lowest possible administration costs based on their goals.

Inventory management, sales management, and staff management are the main sectors included in the business management system.

Effective business management supports sound business decisions according to the motives behind their owners. The nature of these motives inclines towards being transactional, precautionary, or speculative.

In this proposed project, we are going to present a better solution to overcome the above problems in an efficient way. So, this hardware management system will provide a good solution for our client, “Arusha Enterprises Pvt.

Feasibility Study

The feasibility study is the analysis or consideration that developers do to determine the possibility of succeeding in the proposed project. So, this is the evaluation of the proposed project to determine if it is technically, economically, operationally, and schedule feasible. In order to do that, we created the following feasibility study for the hardware store management system of Arusha Enterprises PLC: The objective of this study is to determine if it is technically, economically, operationally, and schedule feasible.

Technical Feasibility

In the present day, implementing a hardware store management system is very feasible from a technical point of view. because there are so many software applications and hardware devices that can assist in hardware store management systems. Also, people's literacy in technology has vastly improved within the last two decades.

In this case, our team has mostly focused on easy accessibility and inputting data for this proposed project. So users can only use the system using Visual Studio and its related plug-ins and tools. We have also ensured that the system is user-friendly and intuitive, with clear instructions and prompts throughout the process. Our goal is to make data input and processing as seamless and efficient as possible while also ensuring accuracy and reliability in the output.

Economic Feasibility

Implementing a hardware store management system can be highly beneficial for businesses. By optimizing inventory levels, managing staff, managing sales, and improving efficiencies, businesses can save money on storage, labour, and administration while reducing their workload.

In our project, we are able to develop it in a very cheap way while maintaining the quality of the project. through using free development applications and tools such as Visual Studio, Guna UI, Bunifu UI, etc.

From the user's point of view, they can also use this system at a lower cost due to the fact that there is no need for any advanced technologies or devices other than their personal computer. Furthermore, the system is customizable and can meet the specific needs of the user. This ensures that users have a seamless experience while using the system and can easily navigate through its various features.

Schedule Feasibility

Developing and implementing a hardware store management system can be a time-consuming process that requires careful coordination and planning. This may include planning the system, analysing the system, developing, and coding it, testing it, and providing user training.

Schedule feasibility may depend on factors like size, complexity, and the amount of data needed to migrate and improve users' knowledge of how to use the system.

Thereby, it's possible to ensure the schedule feasibility of the above-proposed project due to its simplicity and well-prepared project work plan. And also, using project management tools like the Gantt chart, we can improve our team members' efficiency and awareness about those timelines. Furthermore, regular communication and updates among team members can help identify potential issues and address them promptly, ensuring the project stays on track. By implementing these strategies, our team can effectively manage the project and achieve a successful outcome.

Operational Feasibility

Operational Feasibility is an important standpoint when implementing Hardware Store Management System. This refers to the ability to implement and use the system with the existing business's infrastructure and operational environment.

In this project, the compatibility of the system with the existing infrastructure, such as the organization's current hardware (PC, QR/Barcode Reader), software, and network connection, will ensure a good integration process.

Also, we ensure the system is easy to use by providing training and technical knowledge about the system to users. Further, this will be improved by our simple UI/UX design.

Because of this system's simplicity and lower resource requirements (especially minimum PC specs), it has the ability to accommodate future system expansions and updates. Moreover, our system's scalability allows it to handle increasing amounts of data and users without compromising its performance. This makes it a cost-effective solution for the hardware store to grow and expand its operations.

Legal Feasibility

When we consider the system and its data security, we have a slight risk.

- Ensure the data security of the business.

To prevent this risk, we came up with a solution where every time someone logged in to the system, they had to enter a specific username and password. So thereby, only authorized people can log in to the system.

Agile Development Methodology

To implement the hardware store management system, we have used the agile development methodology. This methodology is suitable for developing an efficient system. The hardware store management system aims to manage operations, inventory, sales, and customer interactions in the hardware store.

1. Planning Stage

- In the planning stage, we defined the goals, objectives, requirements, and scope of the system. Our team collaborated to identify and prioritize features and functionalities that needed to be implemented in the hardware store management system.

2. Analyzing

- At the analysis stage, we gathered the information by analyzing user stories and gathering additional information to clarify the user requirements. Further, we collaborate with the users to ensure their understanding of their needs and expectations. We identify any risks and challenges that appear during the development process.

3. Sprint Planning

- In sprint planning, we select the requirements and separate work during the sprints. Further, we estimated the effort required for each user story requirement and determined the team's capacity to complete the selected tasks during the sprint period.

4. Development Process

- Our team members collaborated, divided tasks, assigned responsibilities, and worked on developing the features. This consists of coding, testing, and integration. Further conducting meetings to discuss progress, challenges, and planned tasks.

5. Integration and Testing Process

- Ensures the code changes are frequently merged and tested via continuous integration. Further automating testing techniques to identify any errors and verify the functionalities.

6. Sprint review and retrospective

- Our team members gathered at the end of each sprint and held a review session to display the completed user requirements and receive feedback. Further review the process of the completed sprint and the challenges faced during the retrospective meeting and identify the areas that need to be improved in the next sprint.

7. Validate and update

- Provide functional upgrades to the system at the end of each sprint to validate the upgrades with users and gather their feedback for further necessary improvements.

8. Product Delivery and Documentation

- In the end, after completing all the planned sprints, make sure that all the required features are implemented. And prepare necessary system documentation, which includes user guidance, which is going to be provided along with the final delivery of the hardware store management system.

By applying agile methodology, the team members can effectively collaborate, communicate, adjust to changes, and deliver a functional hardware store management system throughout the development process. This iterative approach allows for flexibility and responsiveness to changing requirements. Agile methodology encourages a clear and interactive environment where everyone's input is valued, leading to a more effective hardware store management system that meets the needs of both store owners and customers. Additionally, the use of agile methodology results in faster development cycles and a higher quality product.

Requirement collection methods followed.

Our system is designed for a hardware store management system. To develop the system, we needed to collect the user requirements, so we gathered the relevant information using interview and observation methods. After analyzing the data, we identified the key features and functionalities that would be required for an efficient hardware store management system. We then proceeded to design and develop the system, combining these features while ensuring ease of use and scalability. We then used agile development methodology to ensure that the system was developed in an iterative and collaborative manner with regular feedback from the end-users. The end result is a hardware store management system that simplified operations, enhances productivity, and improves customer satisfaction.

Interview Method

The interview method requires having a structured discussion with the store owner to learn about their needs and expectations. We conducted the interview in person; there are other methods, such as via email or over the phone. We began the interview by scheduling the interview with the owner, and after agreement on a time and date, we interviewed the owner with some simple questions to get the owner's requirements.

Here are the questions we asked the owner.

1. What are the main objectives or goals you have in mind for implementing a hardware store management system?
2. What specific functionalities or features would you like to see in the system?
3. Can you describe the current challenges or difficulties you face in managing the store's operations?
4. How are you currently handling the tasks or operations at the hardware store?
5. Are there any specific reporting or data analysis needs that you would find valuable for decision-making?

Through active listening to the conversation, we were able to gather the requirements that the owner needed for the system and learn about the difficulties facing managing the business since the hardware store manages all the operations using a manual, paper-based system. Additionally, we were able to identify areas where automation could improve efficiency and reduce errors. We proposed a customized software solution that would streamline inventory management, point-of-sale transactions, and employee management.

The proposed software solution would also provide real-time data analysis and reporting, allowing for better decision-making and forecasting. By implementing this solution, the hardware store could save time and money while improving customer satisfaction.

Observation Method

After completing the interview with the owner, we had the opportunity to visit the hardware store, Onsight. During our visit, we closely observed the store's operations and made note of several key observations.

Firstly, we observed the checkout process and how customers made purchases. We noticed some issues related to processing payments, such as delays in transaction processing and difficulties in applying discounts. Additionally, we paid attention to how the staff interacted with customers and gathered relevant information for sales.

Secondly, we observed the store's inventory management practices, including how they managed products, deliveries, and customer orders. It became evident that the store was

facing numerous challenges due to its reliance on paper-based records. There were difficulties in locating items, a difference between physical stock and recorded inventory, and issues with managing orders efficiently.

Based on these observations, we identified a critical requirement for an automation system for the hardware store. Implementing such a system would not only streamline their operations but also significantly improve the overall customer experience. By automating processes like inventory management, sales tracking, and order fulfilment, the staff could focus more on assisting customers and providing excellent service. This automation system would enhance efficiency in managing business activities and ensure smoother operations of the Hardware Store.

Requirements (Business, User, Functional and, non-functional)

Business Requirements:

- The hardware store management system should be able to keep track of products , deliveries, orders, take-on and other checkout methods.
- The system should be able to increase the efficiency in business management.
- The system should be able to save time and reduce the work force of the employees or users.
- Improve the selling process and ensure positive customer relationships.

User Requirements:

- The system should have a simple user interface that allows store staff to quickly adhere to and learn to operate the system.
- Users should be able to easily search for products, categories, orders, staff and view availability, and place orders.
- The system should provide list of pending transactions.

Functional Requirements:

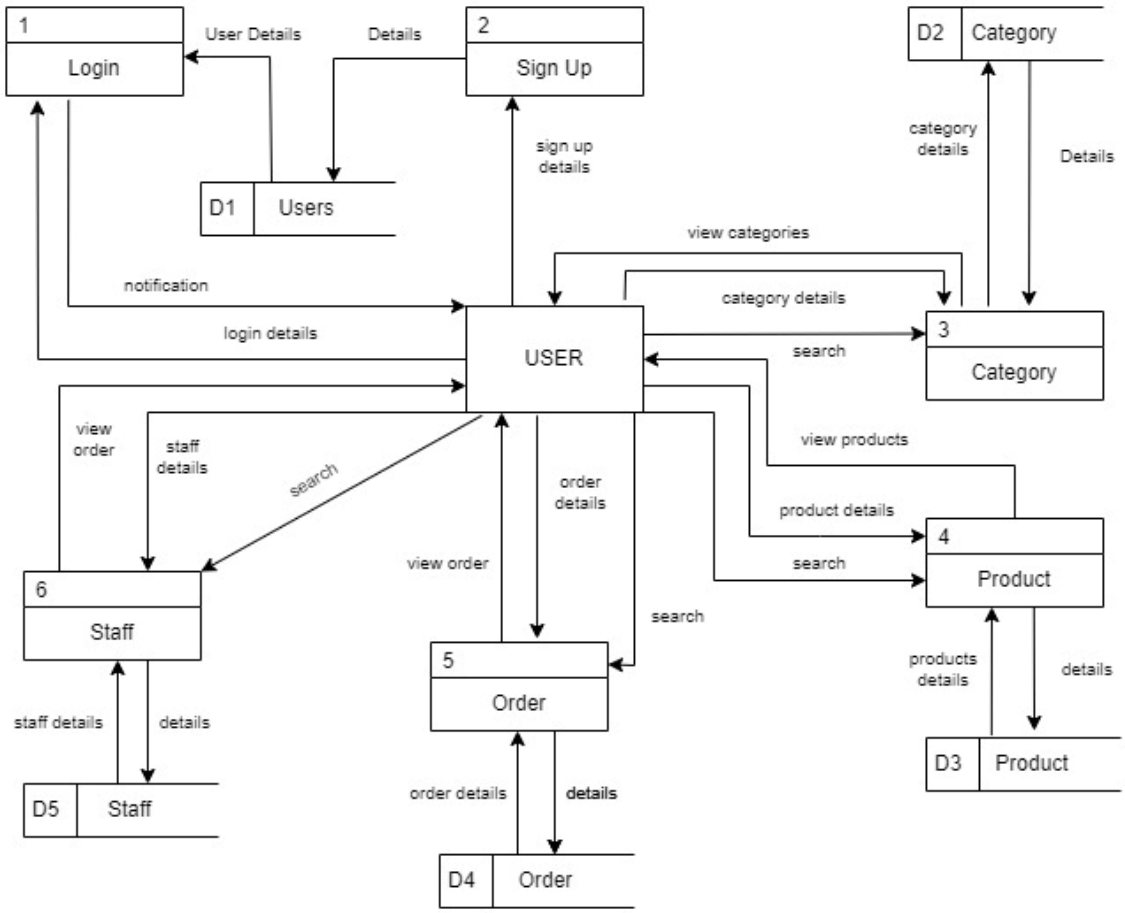
- The system should provide functionality for users to add, update, and delete products, categories, orders, and staff, ensuring that all relevant details remain up to date.
- Users should have the ability to select products for transactions.
- Users should be able to track sales, access information about pending transactions, and make necessary changes if required.
- Users should be able to generate invoices and receipts.
- Users should have the option to hold transactions for future processing.
- The system should have the capability to create user accounts and manage the system effectively.

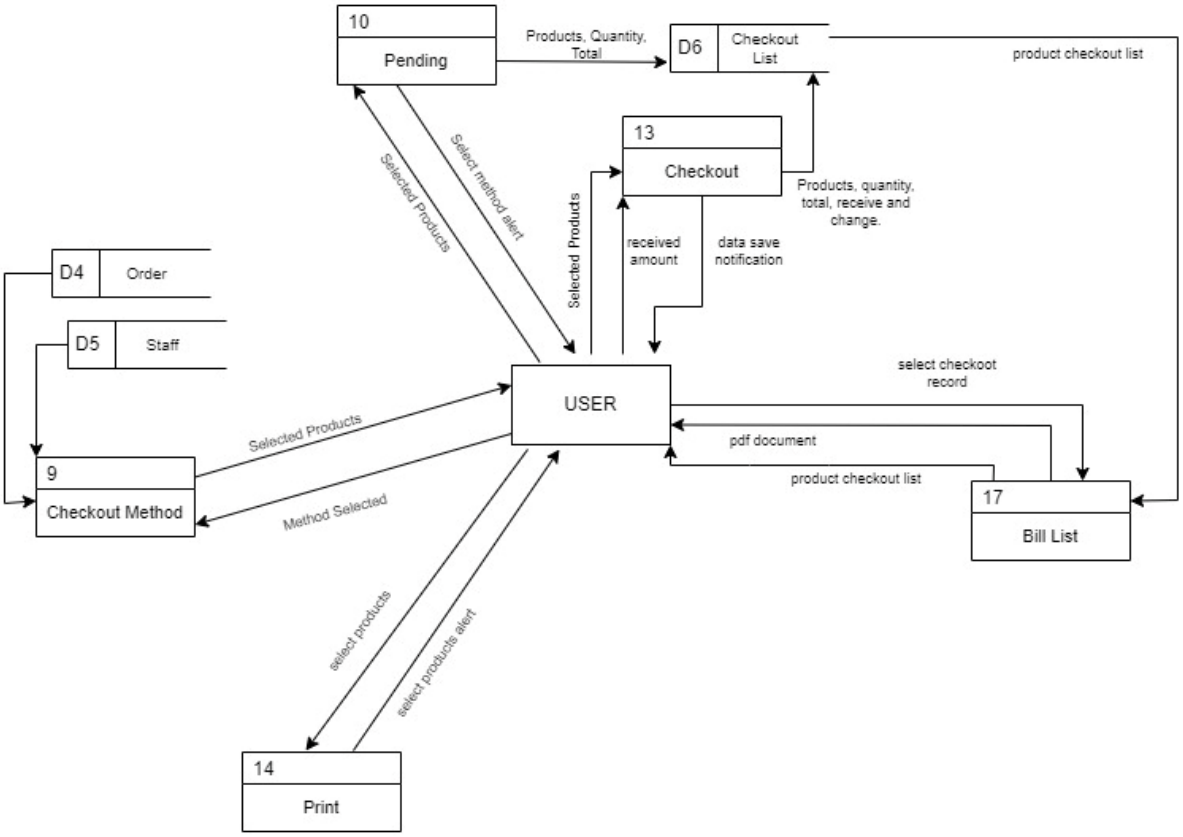
Non-functional Requirements:

- The system should be dependable and have minimal downtime to keep the store running smoothly without any interruptions.
- It should be scalable according to the growing number of categories, products, orders, and staff further the transactions.
- The system should consist of better security measures to protect sensitive data, such as customer information and sales information.
- The system should be able to handle a large volume of transactions in real time.

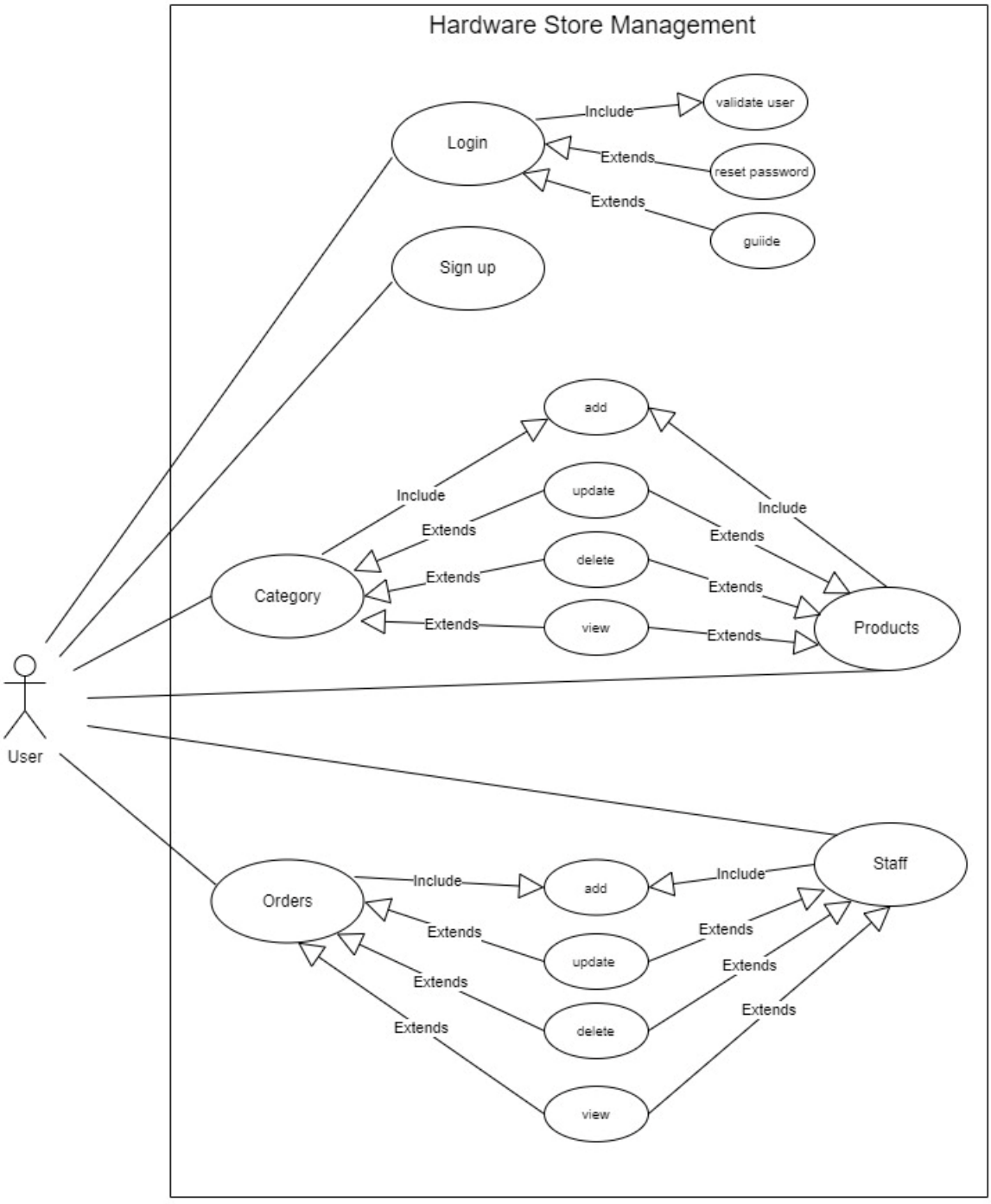
Graphical illustrations of the system

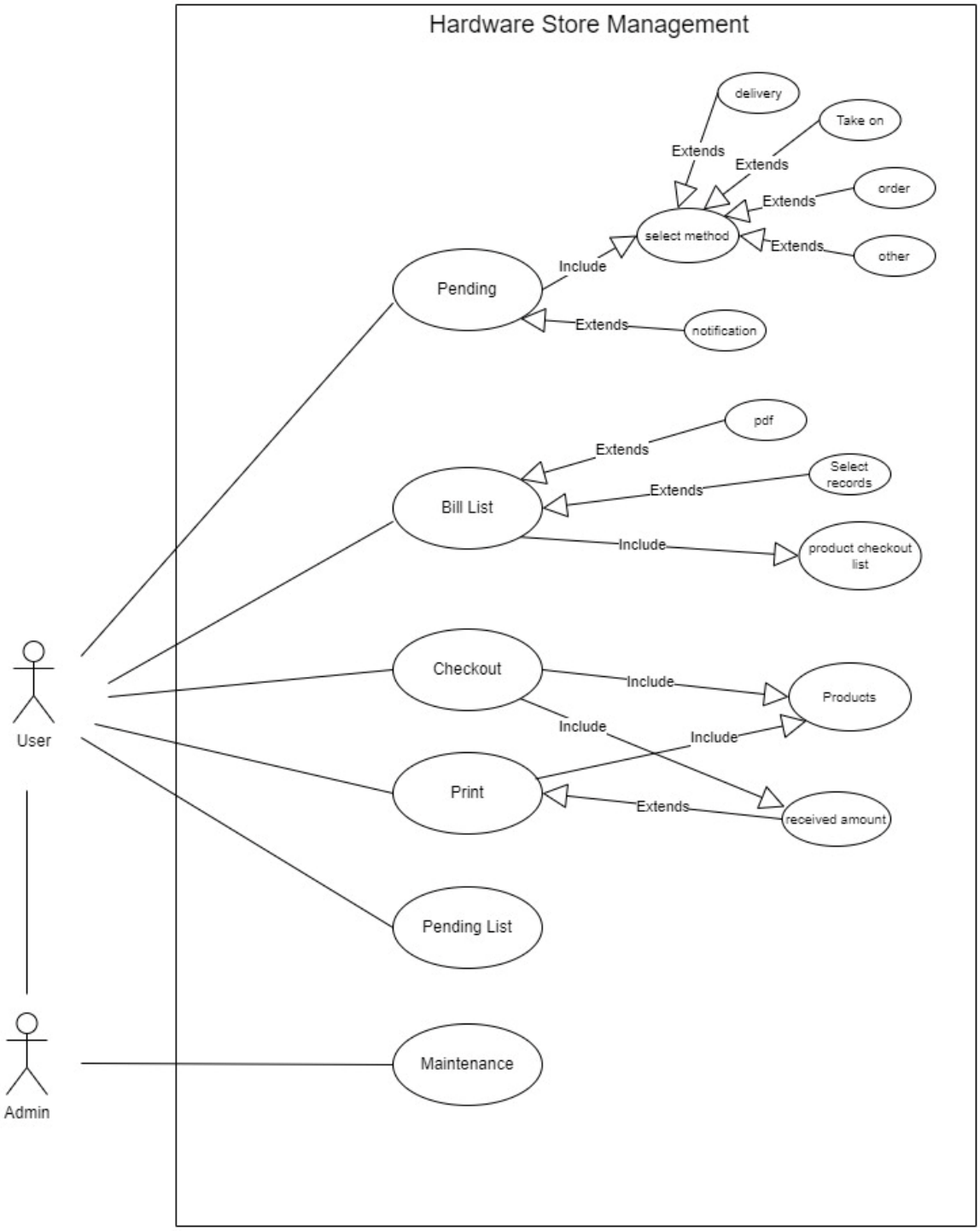
– **DFD (Data Flow Diagram)**




10
Pending
Products, Quantity, Total
D6
Checkout List
product checkout list
13
Checkout
Products, quantity, total, receive and change.
Selected Products
Select method alert
Selected Products
received amount
data save notification
D4
Order
D5
Staff
USER
select checkoot record
pdf document
product checkout list
Selected Products
Method Selected
9
Checkout Method
17
Bill List
select products
select products alert
14
Print

- **Use Case Diagrams**




Hardware Store Management
delivery
Take on
Extends
Extends
order
Extends
select method
Extends
other
Include
Pending
Extends
notification
pdf
Extends
Select records
Extends
Bill List
Include
product checkout list
Checkout
Include
Products
Include
Include
Print
Extends
received amount
Pending List
Maintenance
User
Admin

Use cases

1. Login

Name :- Login

Brief Description :- This use case allows the user to access the hardware store management system.

Actors :- User, Admin

Basic flow :-

1. Enter username.
2. Enter password.
3. The system will check the validity of the access credentials.
4. Click the login button.

Pre Conditions :-

1. user needs to connect the to the database before Login into the system.
2. the user should be a valid or registered user in the system.

Post Conditions :-

1. User Successfully login to the system and
2. If the User enters the wrong username and password system sends error message.

2. Sign Up

Name :- Sign Up

Brief Description :- This use case allows the user to add user details for login in to the system.

Actors :- User, Admin

Basic flow :-

1 Enter username.
2 Enter password.
3 Enter phone number.
4 Select user category.

Pre Conditions :- User needs to connect the to the database before signing up into the system.

Post Conditions :- User added to the system successfully.

3. Category.

Name :- Category.

Brief Description :-

This use case allows the user to view the available categories and add, update, delete category in the System.

Actors :- User, Admin

Basic flow :-

1. Go to the “Category” page.
2. Select “plus icon” to add categories to the system.
3. Enter the category name.
4. The system saves all the input details when user click the “save button”.
5. Select” edit icon” to update available categories.
6. The system saves all the updated details when user click the “save button”.
7. Select” delete icon” to delete available categories.
8. Confirmation for delete.
9. All the category details show in category list.

Pre Conditions :-

1. User needs to select category section of the system.

Post Conditions :- 1.User successfully view category details.

2. receives a message after adding, update or delete data.

4. Products

Name :- Products.

Brief Description :- This use case allows the user to view the available products and add, update, delete Products in the System.

Actors :- User, Admin

Basic flow :-

1. View available Products details.
2. Select “plus icon” to add products to the system.
3. Enter the new product name, category, and unit price. Also, upload a product’s image by clicking the “Browse” button.
4. Save the data by clicking the “Save” button.
5. Select ”edit icon” to update available product.
6. Save data.
7. Select ”delete icon” to delete available product.
8. Confirmation for delete.

Pre Conditions :- 1. User needs to login into the system.
2. User needs to select products section of the system.

Post Conditions :- User successfully view Product details.

5. Orders.

Name :- Orders.

Brief Description :-

This use case allows the user to view the available orders and add, update, delete orders in the System.

Actors :- User, Admin

Basic flow :-

1. View available orders details.
2. Select “plus icon” to add orders to the system.
3. Enter the orders details to the form.
4. Save the data by clicking the “Save” button.
5. Select ”edit icon” to update available orders.
6. Save data.
7. Select ”delete icon” to delete available orders.
8. Confirmation for delete.

Pre Conditions :-

1. User needs to login into the system.
2. User needs to select orders section of the system.

Post Conditions :- User successfully view order details.

6. Staff

Name :- Staff.

Brief Description :-

This use case allows the user to view the available Staff and add, update, delete Staff in the System.

Actors :- User, Admin

Basic flow :-

1. Go to the “Staff” page .
2. Select “plus icon” to add staff to the system.
3. Enter the staff details to the form.
9. Save the data by clicking the “Save” button.
4. Select ”edit icon” to update available staff.
5. Save data.
6. Select ”delete icon” to delete available staff.
7. Confirmation for delete.

Pre Conditions :-

1. User needs to login into the system.
2. User needs to select Staff section of the system.

Post Conditions :- User successfully view Staff details.

7. Pending.

Name :- Pending.

Brief Description :-

This use case allows the user to add transactions according to the sales option’s delivery, take-on, order, and other to the pending list for later processing.

Actors :- User, Admin

Basic flow :-

1. Select the relevant products.
2. And select sales option from options like delivery, take-on, order and other based on customer choice.

3. Select “Pending” button after selection of method.
4. The system saves data in the bill list .

Pre Conditions :-

1. Go to the “POS” page and select.
2. Products needed to be available.

Post Conditions :- Transaction successfully added to the Pending List and receives a message.

8. Pending List

Name :- Pending List.

Brief Description :- This use case allows the user to complete the pending transactions.

Actors :- User, Admin

Basic flow :-

1. View pending transactions or orders.
2. Select the order needed to be completed.
3. Click the Complete Button.

Pre Conditions :-

1. Select Pending section.
2. A transaction or order must be placed in the POS section as pending.

Post Conditions :- User successfully completed the Pending Transaction.

9. Bill List.

Name :- Bill List.

Brief Description :-

This use case allows the user to view the transactions of delivery, take-on, order, and other transaction methods and able print transaction details and add transaction products for DataGrid for further modify the records.

Actors :- User, Admin

Basic flow :-

1. Click the “Bill List ” button.
2. Select “edit Icon ” for send products to DataGrid view.
3. Select “plus icon” and next click on print icon to get a pdf file.

Pre Conditions :-

1. User needs to select POS section of the system.
2. There must be transactions that previously happened.

Post Conditions :- View transactions occurred in the system.

10. Checkout.

Name :- Checkout.

Brief Description :-

This use case allows the user to make transactions when user received money for the products sold.

Actors :- User, Admin

Basic flow :-

1. Click the “ Checkout” button.
2. Add the received amount.
3. The system processes the final calculations related to given amount .
4. The system saves all the processed data after clicking the save button to complete the transaction.

Pre Conditions :-

1. User needs to select POS section of the system.
2. Products needed to be selected.
3. Cash must be received to enter the received amount.

Post Conditions :- 1. Successfully sold products .

2. Transaction added to the bill list.

11. Print.

Name :- Print.

Brief Description :- This use case allows the user to provide a pdf document for transactions.

Actors :- User, Admin

Basic flow :-

1. Select the products.
2. Checkout the selected products.
3. Click the " Print Icon".

Pre Conditions :-

1. User needs to select POS section of the system.
2. Products needed to be available.

Post Conditions :- User successfully getting a pdf document of the transaction.

12. Maintenance.

Name :- Maintenance.

Brief Description :-

This user case allows the admin to maintain the system update system if necessary.

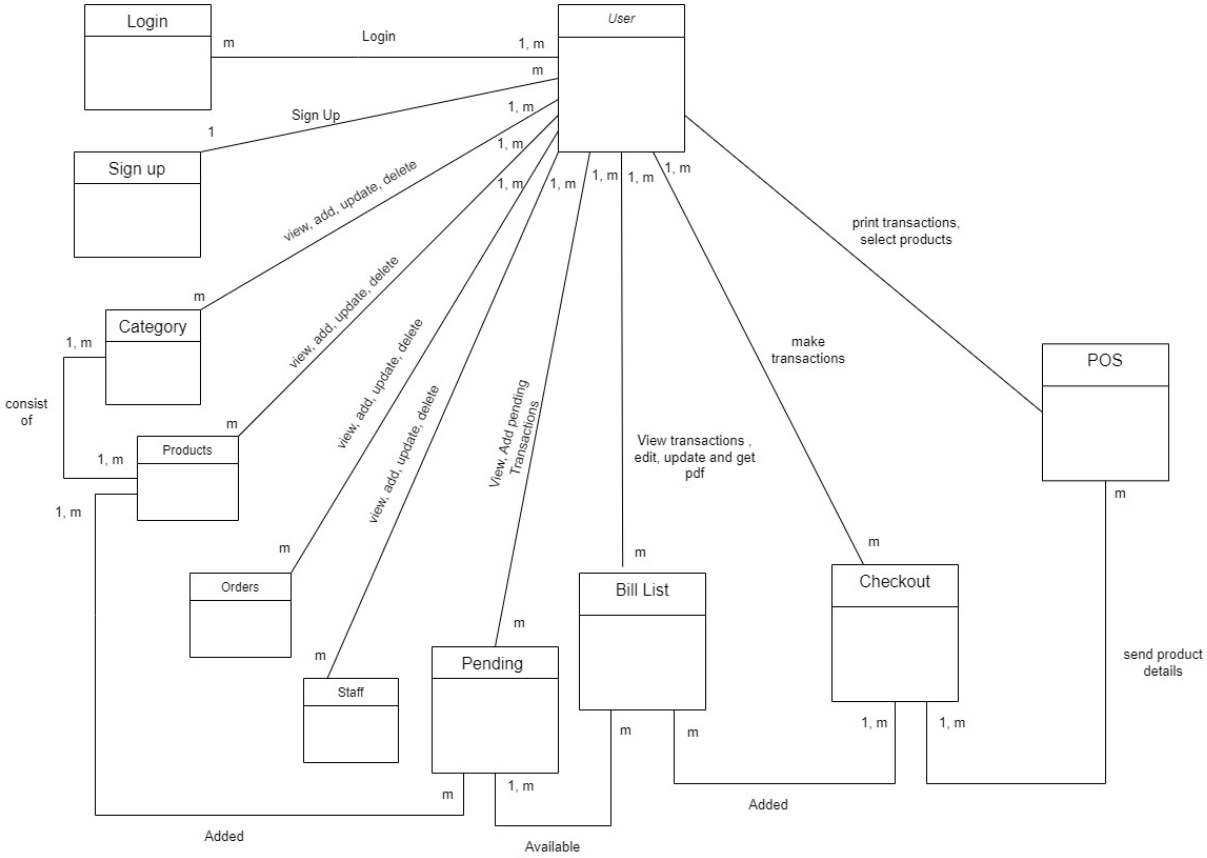
Actors :- Admin

Basic flow :- Maintain the system performance .

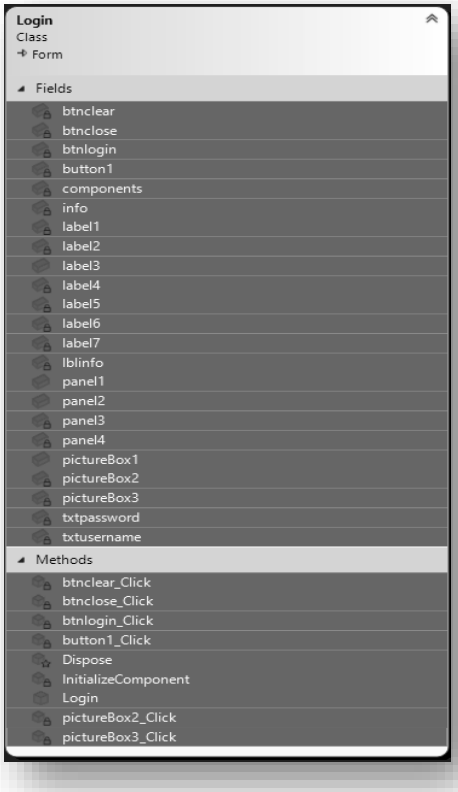
Pre Conditions :- User needs to request for update or maintenance of the System.

Post Conditions :- Successfully functioning the system.

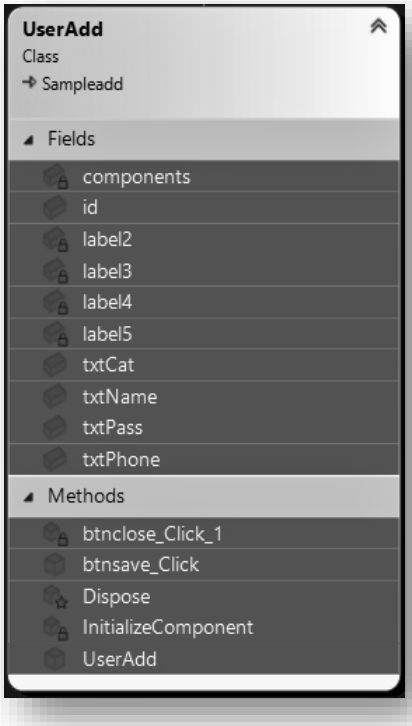
- **Class Diagram**



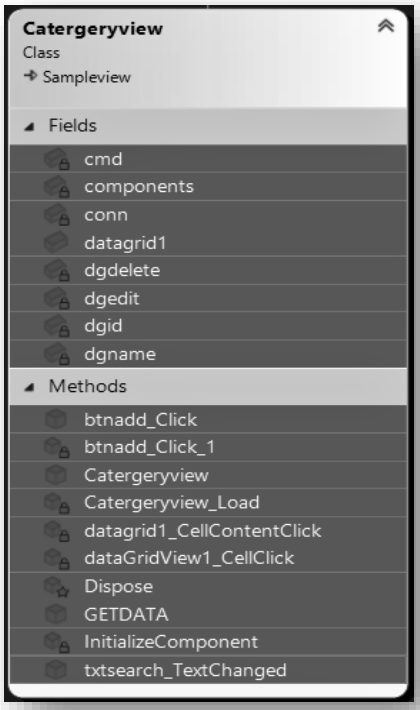
2. Login



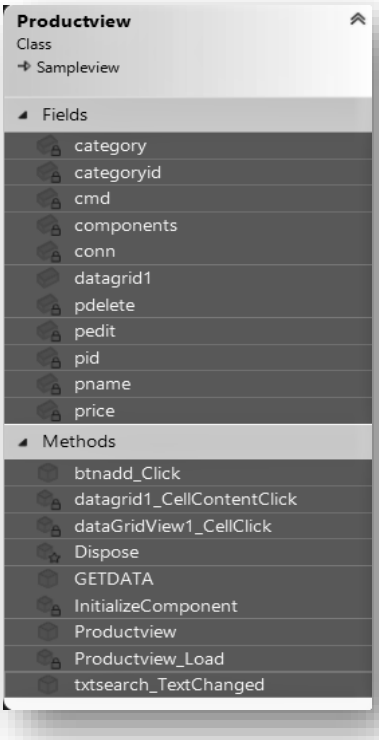
1. Sign Up



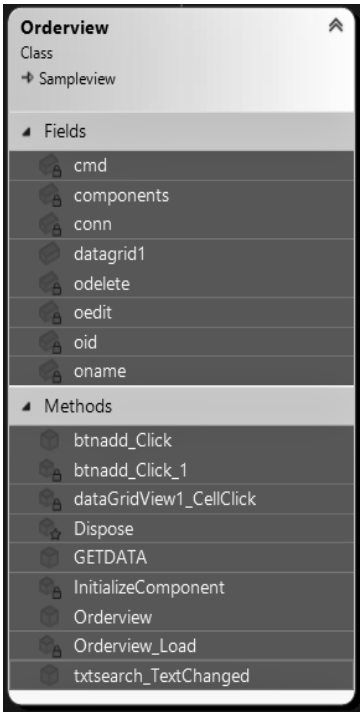
4. Category



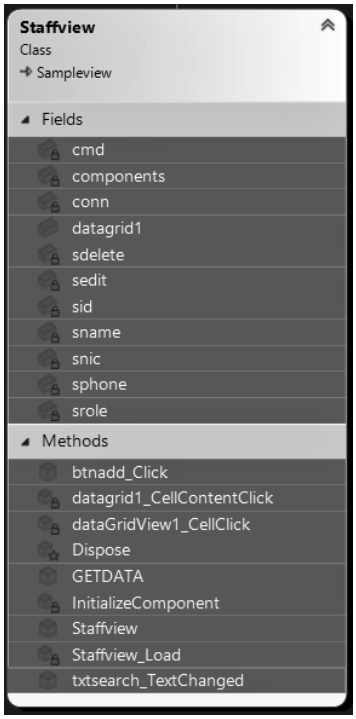
3. Product



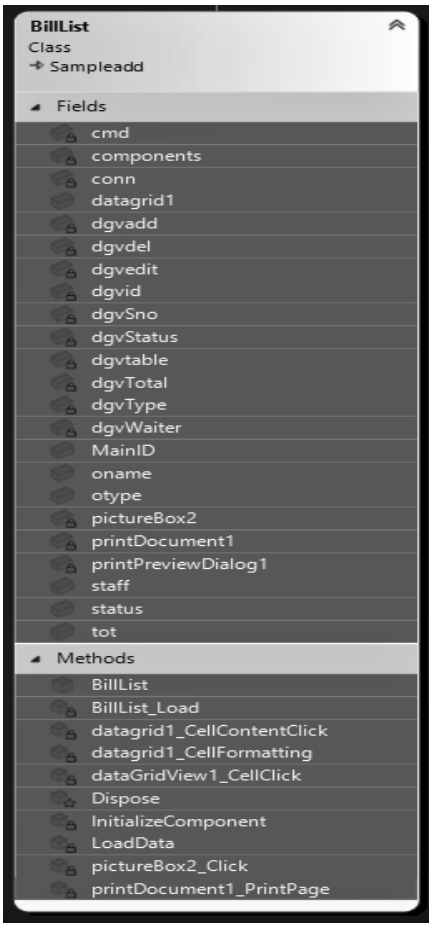
5. Orders



6. Staff

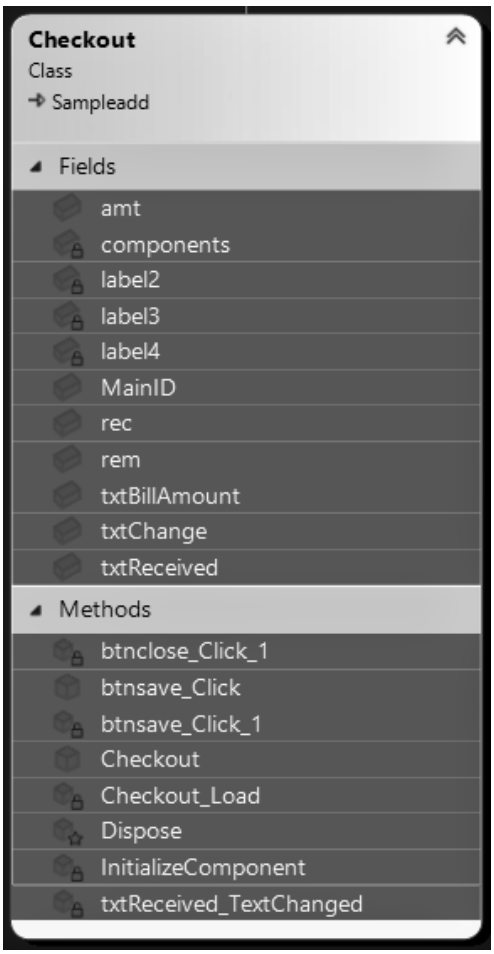


7. Bill List

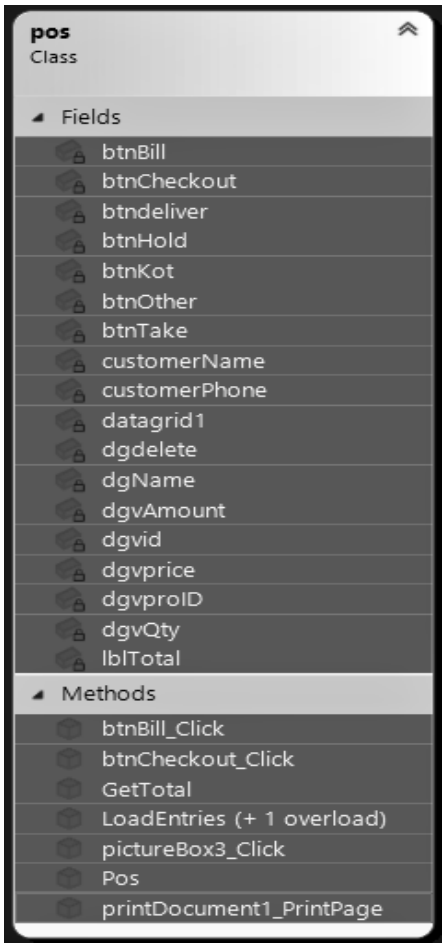


8. Pending

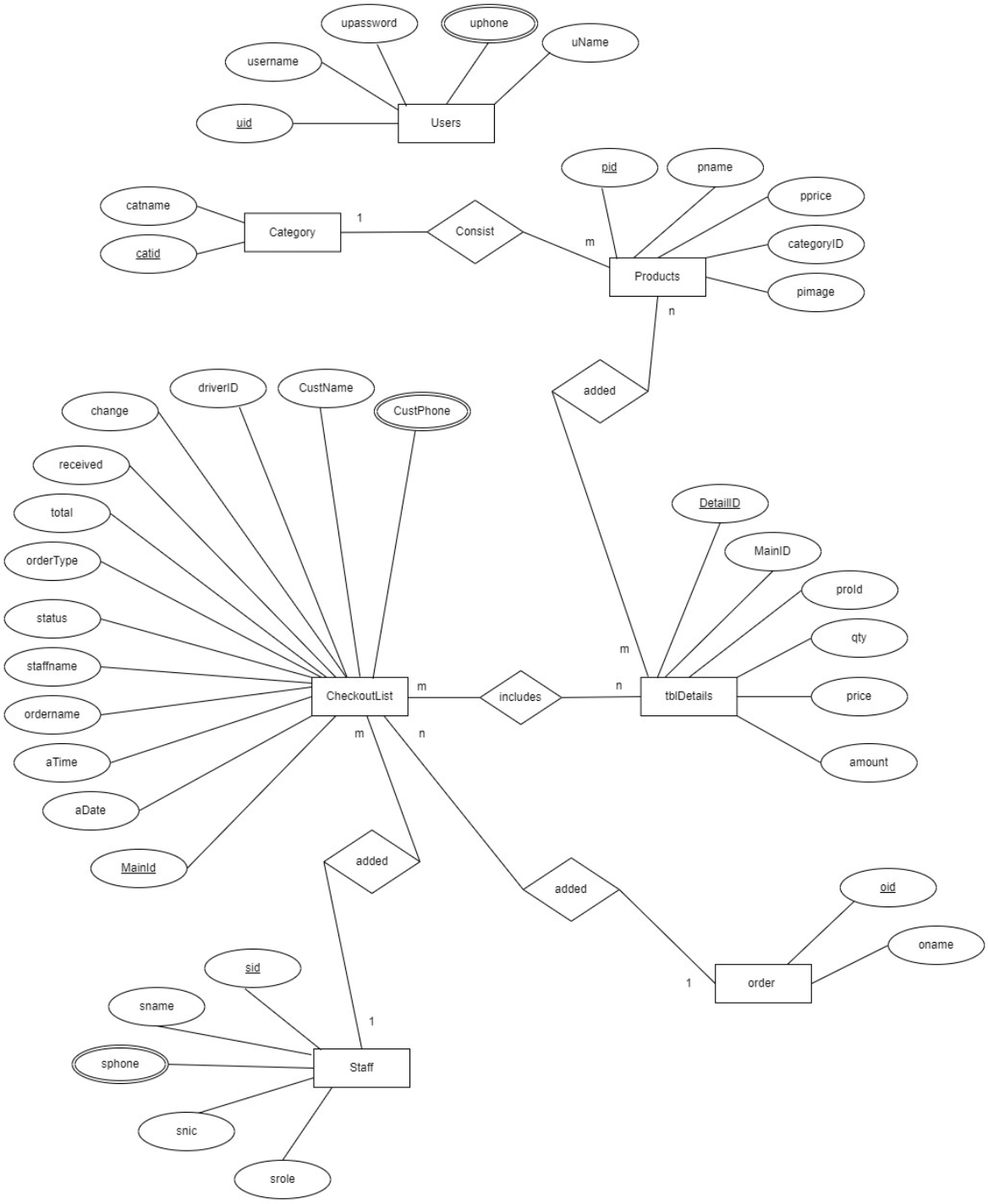
10. Checkout



9. POS



- **ER Diagram**


upassword
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categoryID
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aDate
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DetailID
MainID
proId
qty
price
amount
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includes
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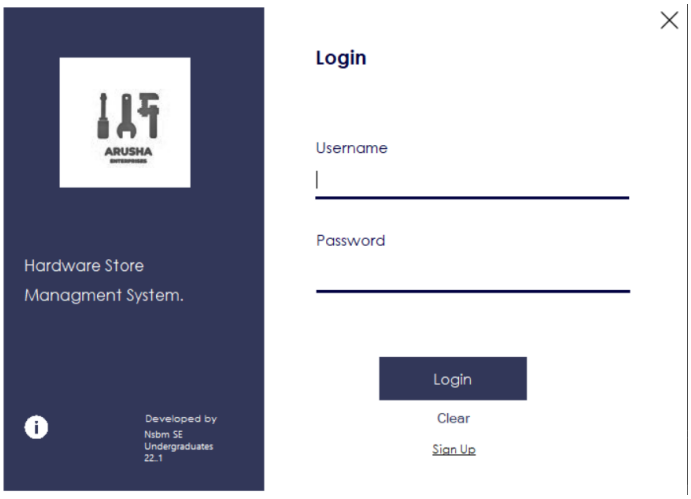
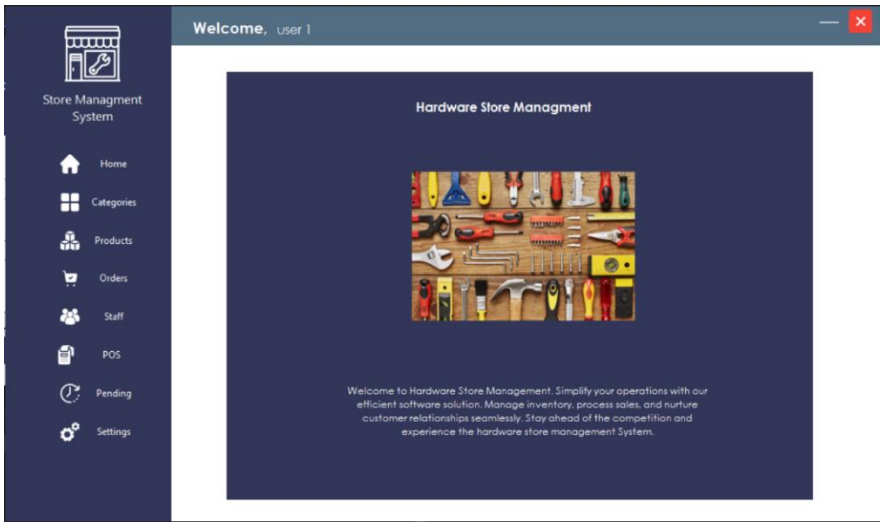
Ui design with necessary specifications and operations.

1. Login



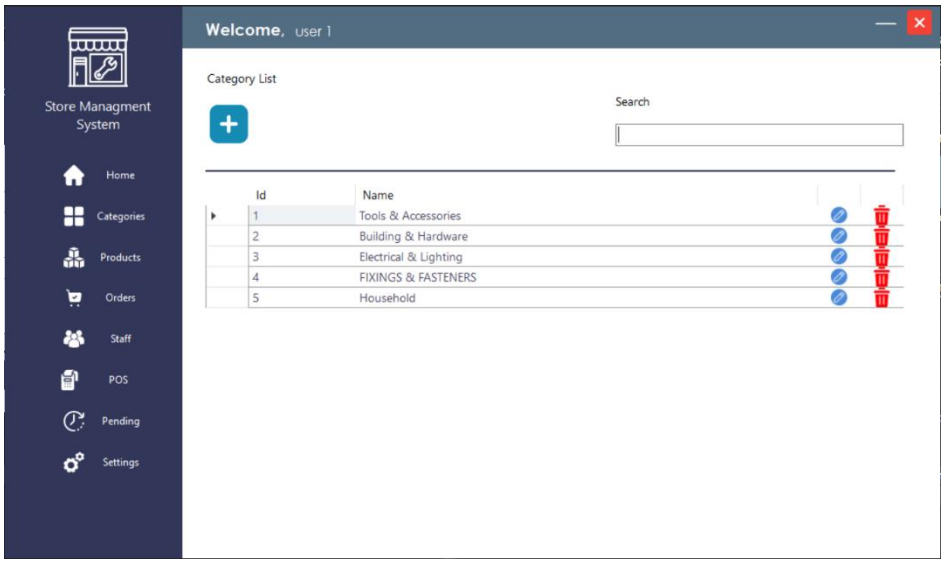
Users must input their username and password on the login interface. The database is used by the system to verify the credentials. The user will be forwarded to the hardware store management system if the submitted information matches the details that are kept in the database Access is granted after a successful login, while an error notice is displayed for invalid credentials. further Users can use the signup button for registering. Into the system.

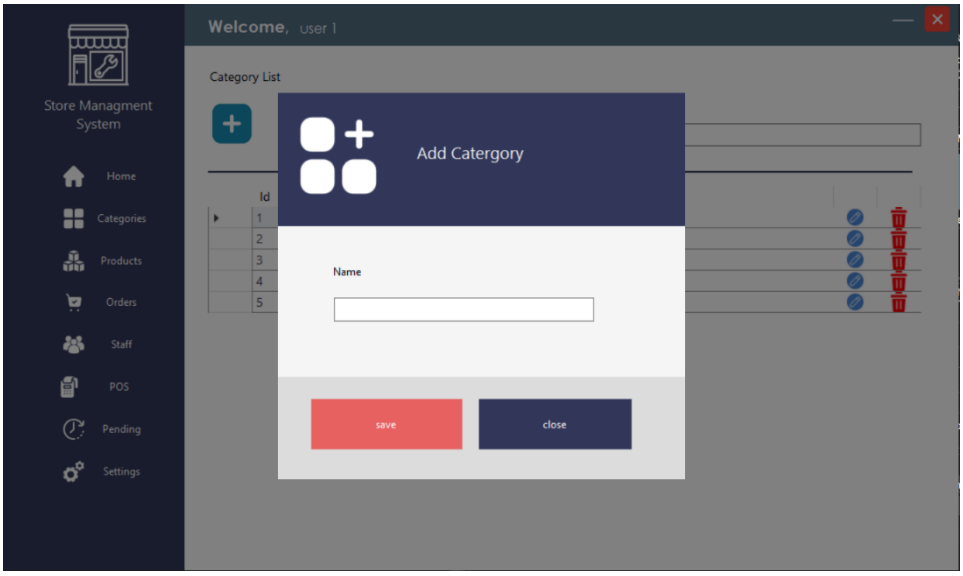
2. Home Page



The home page consists of a simple introduction to the system. It provides a brief overview of the features and benefits that users can expect from using the system. The introduction is designed to be easy to understand and navigate, making it accessible to users. Overall, the home page serves as a great starting point for users who are new to the system. It provides a clear and concise overview of what the system has to offer and is user-friendly for individuals of all technical backgrounds.

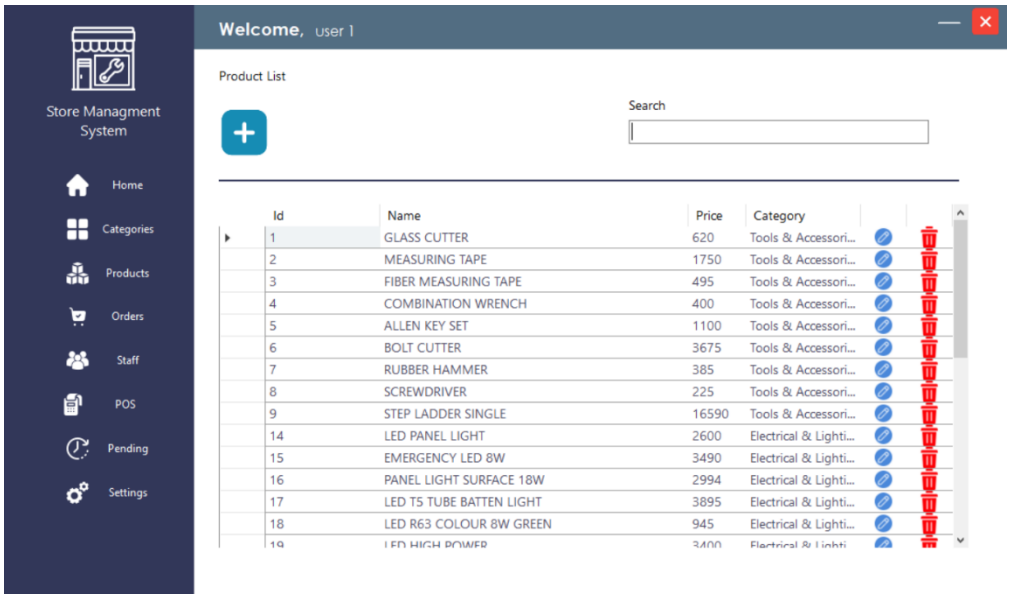
3. Category

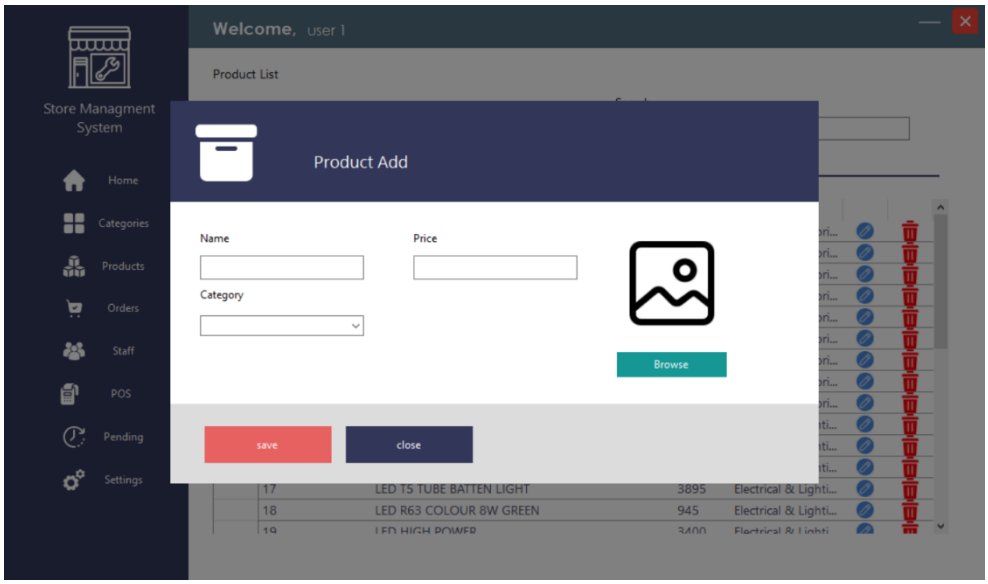




The categories section includes the available categories, and users can add, update, and delete the available categories from the list. Users will be notified when the action is complete. Further, users can search for categories by their names. This feature allows for easy organization and management of data within the system. Users can quickly find and select the appropriate category for their data, ensuring efficient and accurate record keeping. this will be important when adding a product to the system.

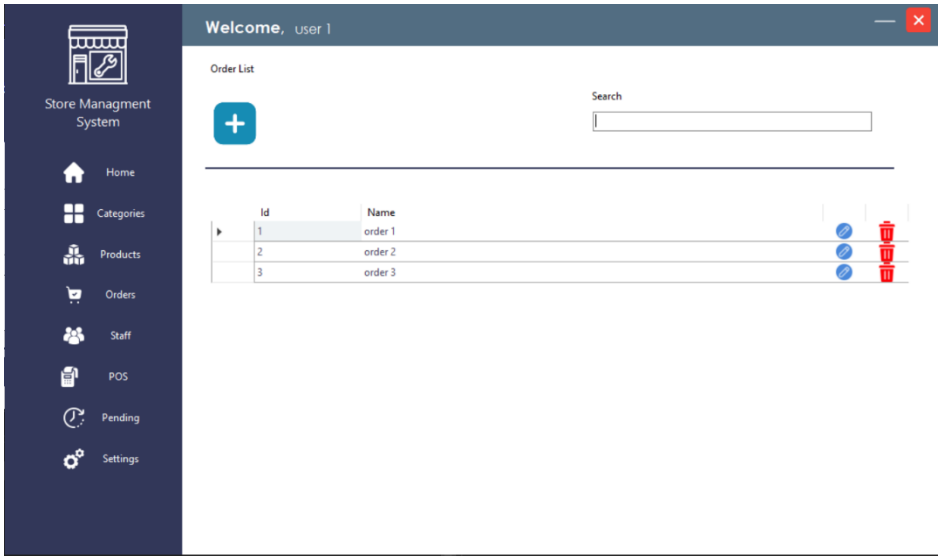
4. Products

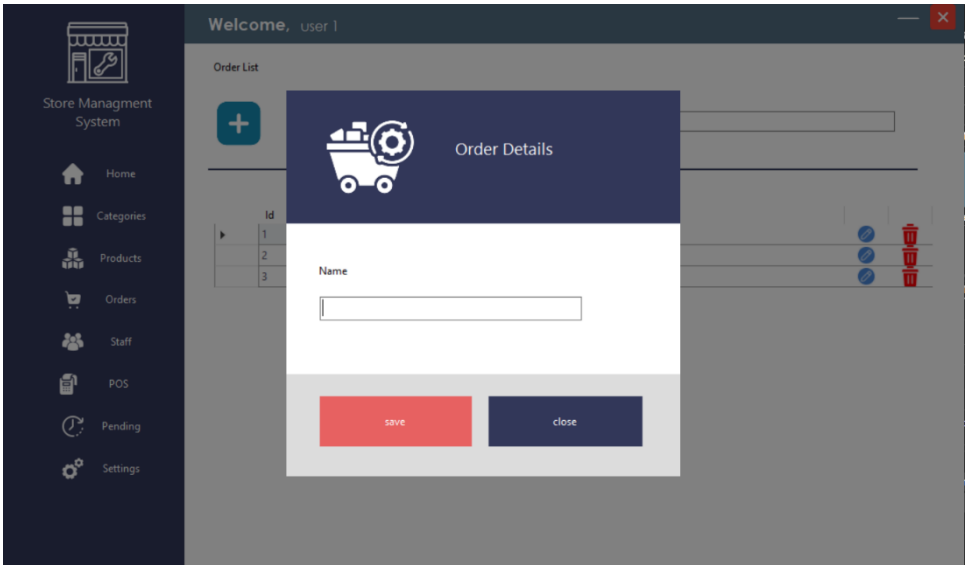




The products section includes the available products, and users can add, update, and delete the available products from the list. When a user adds their product to the system, they can select the relevant category that is available in the system. Users will be notified when the action is complete. Further, users can search for products by their names.

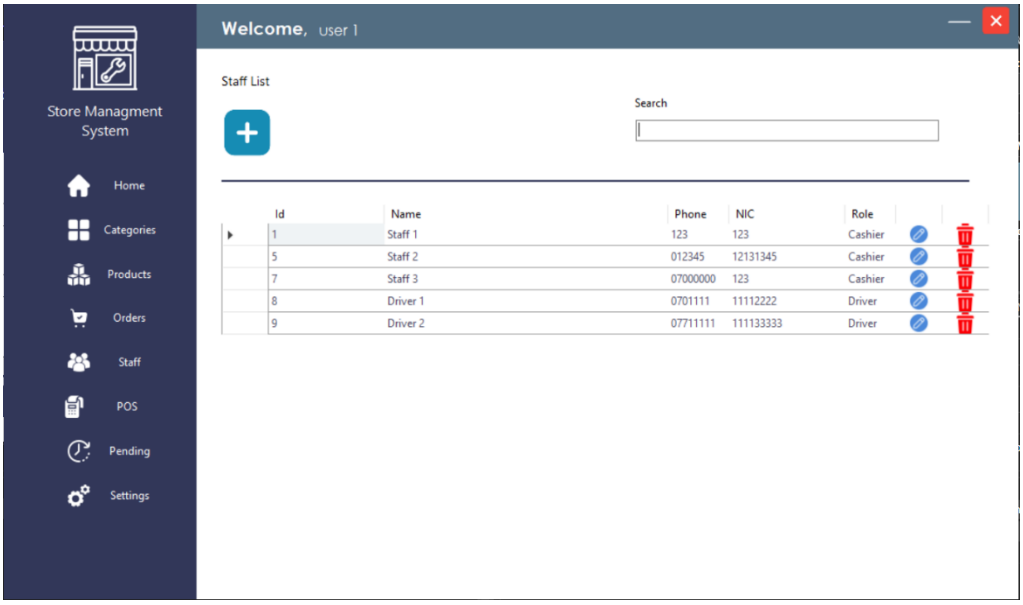
5. Orders

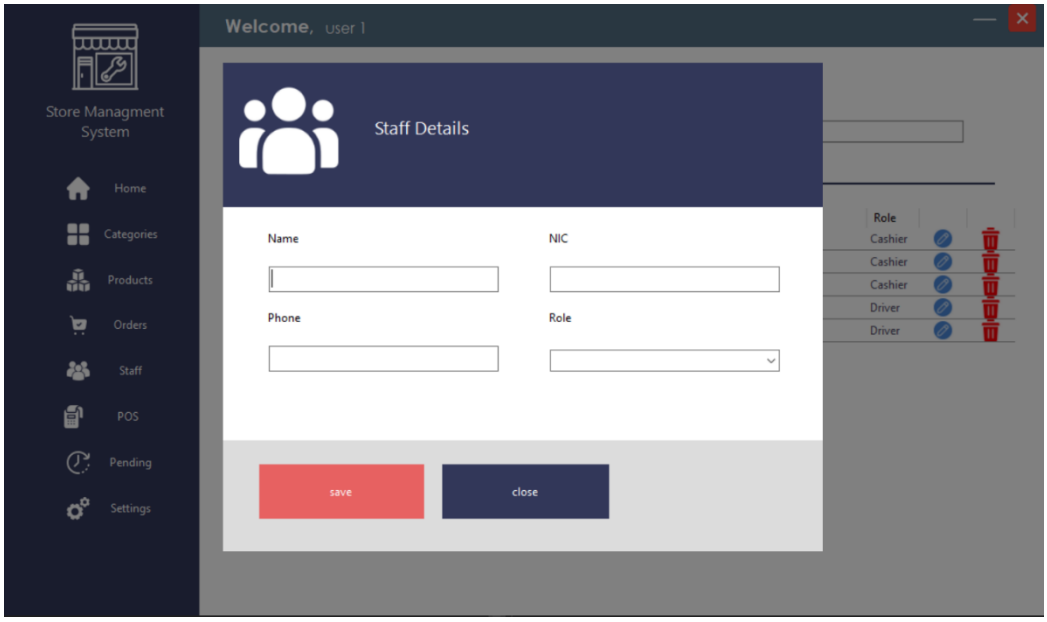




The orders section includes the available orders list and allows users to add, update, and delete records. Like mentioned in the above sections, users can search for orders by their names, and they will be notified when the action is complete, further improving efficiency for the users. This section will be important when users place orders.

6. Staff

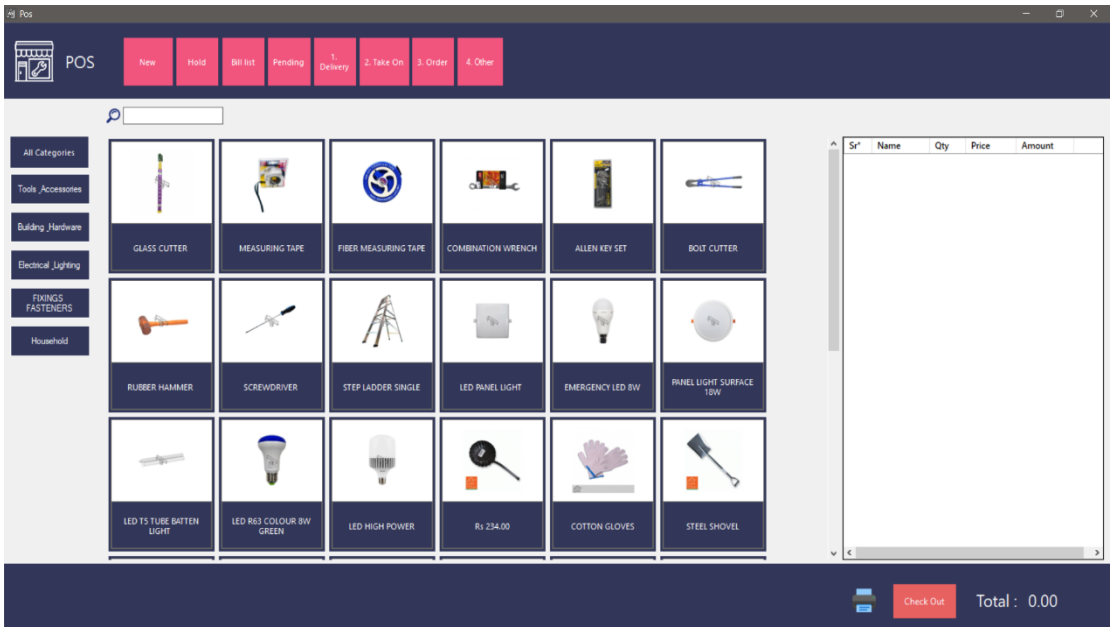




The staff section includes the available staff members, and users can add, update, and delete the available staff from the system. When adding staff members, users need to include their name, phone number, national identification number (NIC), and specific role. Staff members details will be assigned when delivering and ordering through the

system. The business will be able to have clear details of the staff members assigned roles, which helps manage the staff's workload.

7. POS (Point of sale)

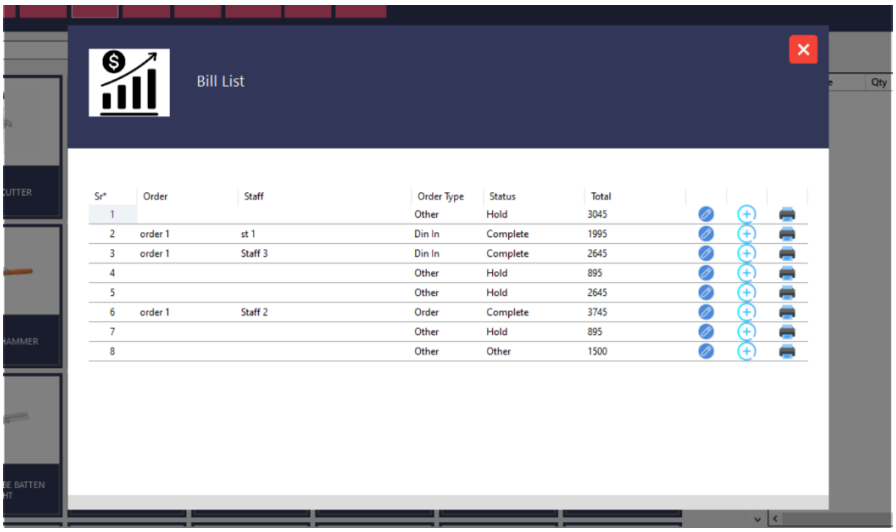


In the POS section, users will be able to make transactions for the business. Users are able to select products. When selecting products, users can categorize products according to the available categories to get the specific products they need. Further, users are able to search the product by product name, which will increase efficiency in transactions, and the selected products will be displayed in the DataGrid, which is located on the right side of this UI. When the user double-clicks on the product, the quantity of the product increases as well as the price; the total amount of the products will be displayed in the lower right-hand corner in front of the label total of the UI. At the top of the UI, there are several buttons to provide help in managing the transactions. the button "New," which will clear all the selected product details. By selecting "Hold", users will be able to hold the transaction and continue the transaction

later. By selecting "Bill List," users will be able to see the transactions that happened. and by selecting "Pending," users will be able to send the transaction to the Pending section of the system, which can later be completed when the transaction is complete. There are four transaction methods: delivery, take on, order, and others. The user can select the relevant method according to the transaction type. Each method has its own set of requirements and procedures that must be followed to ensure a successful transaction.

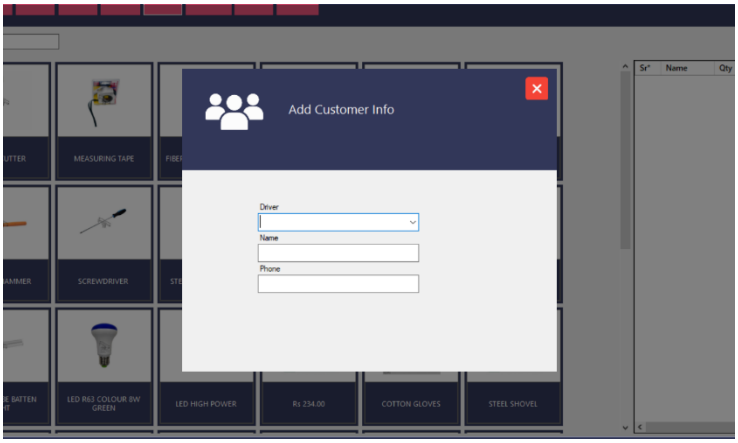
Detailed view of the POS

I. Bill List



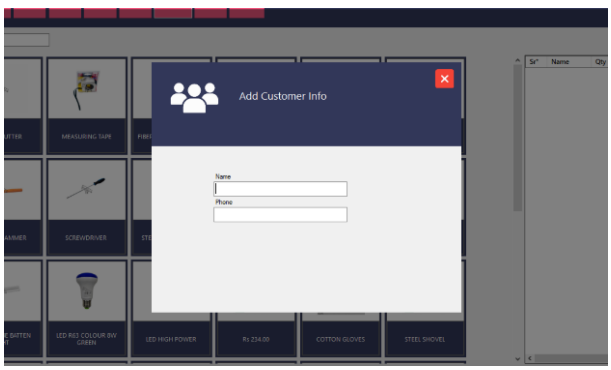
In the bill list, the user is able to see the transactions that have occurred. The user will be able to get details about the order name, staff name, order type, status, and total value of the products. The user can get a pdf document of the relevant transaction by selecting the “Plus” icon first and then selecting the print button. When the user selects the “edit” icon, they will be directed to the POS with products placed in the data grid. From there, the user can make any necessary changes to the transaction, such as adding or removing products or adjusting quantities. Once the changes have been made, the user can save and finalize the transaction. This feature allows for easy and efficient management of transactions, ensuring accuracy and customer satisfaction.

II. Delivery



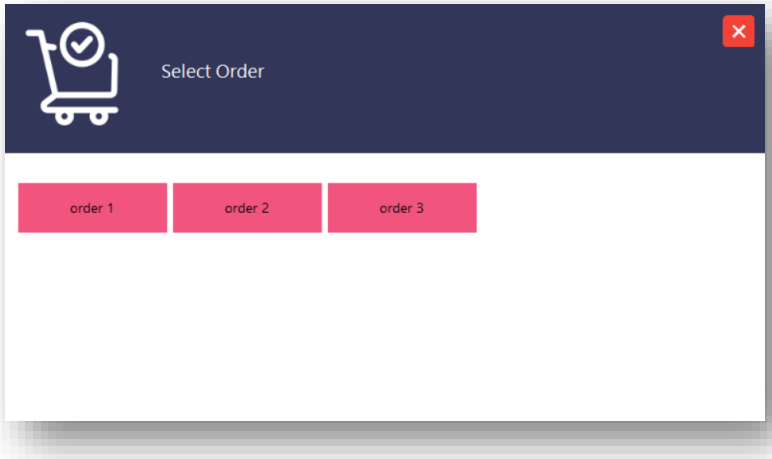
By selecting the button "delivery", the user will be displayed a window to add the driver, customer name, and customer phone number. Driver will be displayed only if there are any staff members registered in the staff with the role of driver. This option helps the user manage the delivery more effectively. Additionally, the customer's name and phone number will be used to contact the recipient and ensure a smooth delivery process. With this feature, the user can easily manage all their deliveries. Once the delivery was complete, it needed to be completed through the pending list, which is available in the system. The pending list allows the user to keep track of all their deliveries and mark them as completed once they have been received. This helps to ensure that no deliveries are missed or forgotten about.

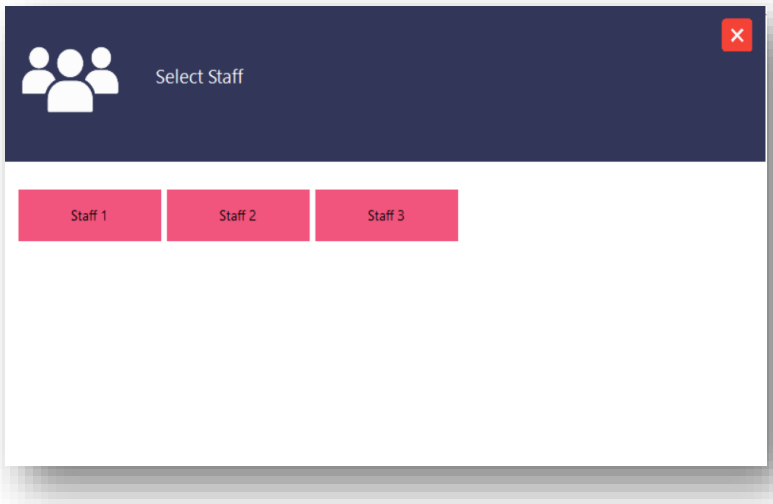
III. Take On



When the user selects "Take On", they will be displayed a window to add the customer's name and phone number. Later, this record will be moved to the pending list. From there, once the task is completed, the user can record it as "completed". This feature allows for easy tracking of pending tasks and ensures that no task is left incomplete. Additionally, users can also view the history of completed tasks from the bill list.

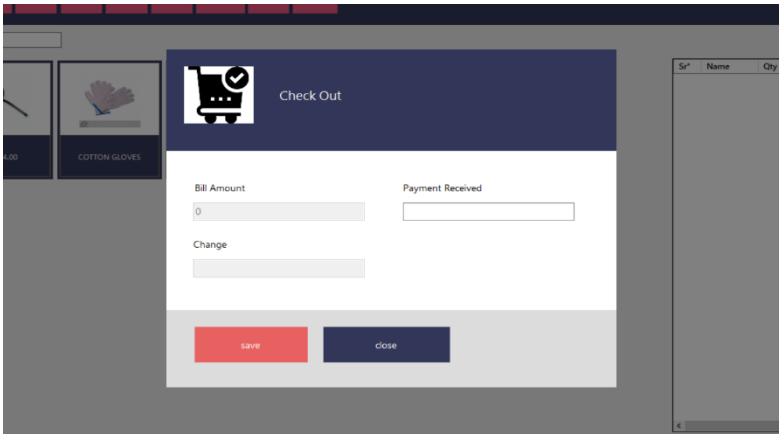
IV. Order

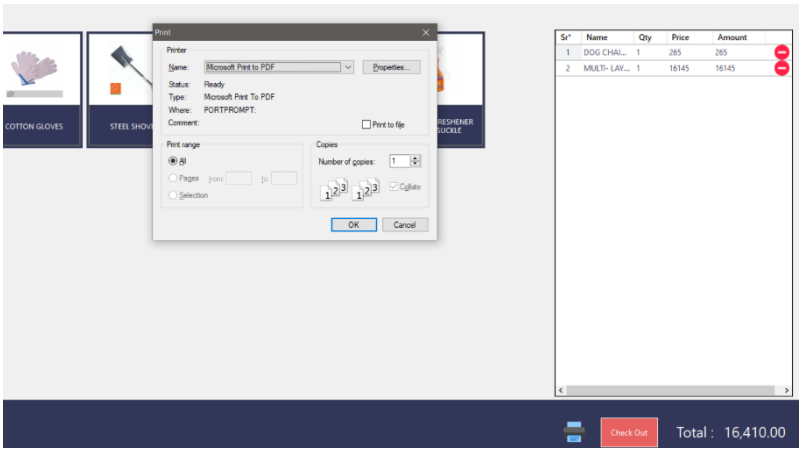




By selecting the order button, the user will be able to see the order names that are available in the system. Orders can be added to the system by the user, and after selecting the order name, the user can assign the staff member for the order, which will help in managing orders more efficiently. Additionally, the user can also view the status of each order, whether it is pending or completed. This feature allows for better tracking and organization of orders.

V. Checkout

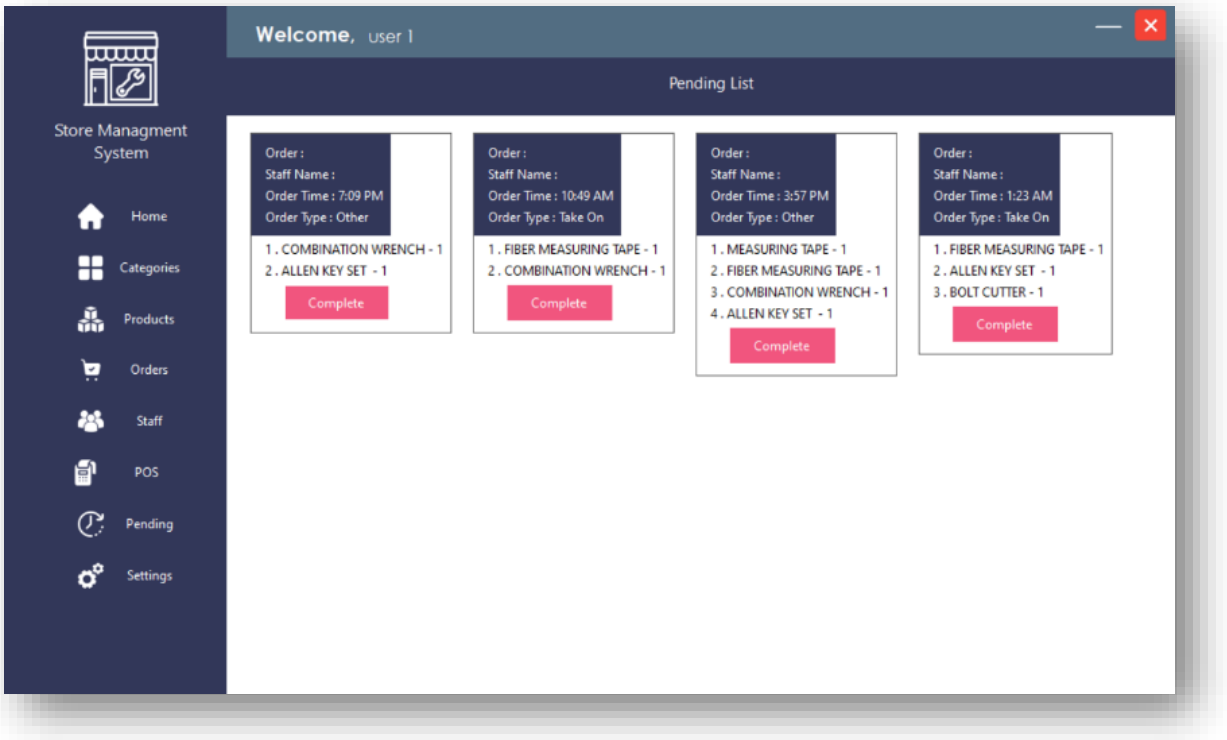




The checkout process can be done by the user after selecting products and choosing a relevant method to carry out the transaction. After receiving the cash for the purchased products, the user needs to enter the relevant amount into the checkout form for completion of the transaction. After completing the transaction, a record will be displayed in the bill list. As well, the user is able to get a pdf document of the transaction that occurred by selecting the print icon on the POS user interface. This feature ensures

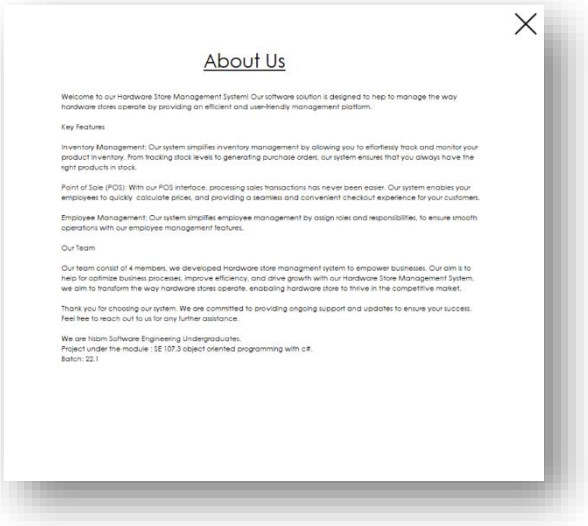
that users have a convenient and reliable way to keep track of their transactions. Additionally, the pdf document can be easily saved or shared with others for record-keeping purposes.

8. Pending List



The user is able to view the pending details about delivery, orders, and take on transactions. Once a transaction is completed, the user needs to click on the complete button available. This will update the status of the transaction from "pending" to "completed" and change the status. Furthermore, the user will receive a confirmation message indicating that the transaction has been successfully completed. This completed record will be displayed in the Bill List. This process ensures all the pending transactions are completed.

9. Settings



In this settings section, users can add system users to the system and view a simple overview of the system that was created by our team. When the user selects the "user icon," they will be directed to the user's form, which can be used to add users to access the system, and they can update their username, password, and user category by selecting the "edit icon" provided. Further, users can remove users from the system by selecting the "delete icon," as well as search for users by their name. The user will get a notification once the action is completed.

Overview

The user interface is designed to be intuitive and easy to use, with a focus on simplicity and speed of operation. The system is designed to be flexible enough to accommodate a wide variety of data entry requirements, from simple one-time entries to complex multi-step processes. The system is designed for use by individuals who are not computer literate or who have limited computer skills. Additionally, the system provides user-friendly interfaces for the data entry process. It also includes built-in error checking and validation to ensure accuracy and minimize mistakes.

Testing Plan Hardware Store Management System.

To test the system, we followed some steps to ensure the final product was working properly according to the user's expectations.

1. Unit Testing:

- In unit testing we tested each form, classes, and database interactions to ensure proper functioning.
- Purpose of unit testing is to identify any bugs or errors in the code and fix them.

2. Integration Testing:

- The different system forms are combined and tested together to ensure they work well together and integrate properly.
- This process includes testing how different forms communicate, connect to the database, and ensure smooth data flow throughout the system.
- we used different test cases to make sure system working properly.

3. Functional Testing:

- We test the system to ensure it meets the required functionality.
- We design test cases to thoroughly test each feature of the system.
- We test features like adding, updating, and deleting categories, products, orders, and staff.
- Further we test generating reports, print documents and handling customer transactions.

4. Performance Testing:

- In performance testing we test the system's performance with different workloads to ensure it can handle the expected user demands.
- We test the system under high loads to evaluate its stability and responsiveness.
- We measure and analyses performance factors like how fast the system responds, how resources are used, and how scalable it is.

5. Security Testing:

- We perform security testing to identify vulnerabilities and protect sensitive data by testing the system's security measures.
- Test cases are created to address common security vulnerabilities, like authentication problems.

6. User Acceptance Testing (UAT):

- Store employees and owners conducted user acceptance testing to assess whether the system met their requirements and expectations.
- In User acceptance testing primarily focuses on checking if the system is easy to use, has a user-friendly interface, and provides a satisfactory user experience.
- Test cases are created to imitate real-world scenarios and user workflows.

7. Regression Testing:

- After identifying any issues found, regression testing is done to make sure the changes or bug fixes did not introduce new errors.
- In order to confirm the stability and functionality of the system, a few test cases were conducted, as in earlier phases.

In the whole testing process, we recorded the errors we faced, fixed the errors, and monitored the overall progress of the testing to ensure there were no more errors in the system. We involved the owner and employees in the testing process to gather feedback and ensure that the system meets their requirements. We also provided guidance on how to adhere to the system.

Thank You...