National University
of computer and emerging sciences

Project Proposal

Course: SRE (Spring 2024)

Submitted to:
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Description:

The goal of this project is to maintain the purchase and sale records for a stationery store. The store owner purchases inventory from certain suppliers and resells it to customers. How many products are currently in stock at the store, which products may run out of stock in the first few days, how many products break or get damaged, how much money was sold today, and which vendor received how much money for stock purchases these are the kinds of details that are difficult to record with pen and paper and also take up a lot of time.

Features

- View daily purchase,sales and damage report
- View current stock and listing of new product
- Keep track of vendor’s purchases
- Keep track of customer’s sales

Stakeholders

- Shop owner
- Customers/Vendors
- Shop Employees (if any)

Scope

Project scope include:Inventory Management, Sales Management while our project has a limitation .it does not include:E-commerce/online sales,Complex accounting integrations,Employee management.

Reverse Engineering

Code Analysis:

- Examine the project's classes and their relationships. Pay attention to UI components, event handling, and data handling logic.
- Identify key abstractions, design patterns, and algorithms used in the project.

Visualization

Create UML diagrams to represent the structure and behavior of the system. We will use:
Class Diagrams
Sequence Diagrams

Forward Engineering

Define New Requirements:

- Based on the shopkeeper's future analysis of the existing system, outline new features.

Design:

- Create new or modify existing UML diagrams to reflect the planned changes.
- Consider how the changes will impact the Java Swing UI.

Implementation:

- Carefully begin coding the new features or modifications.
- Integrate new components with the existing system.

Refactoring Techniques

- Look for long methods, complex conditional blocks, and code smells like duplicated logic.
- Break down large methods into smaller, focused methods.
- Use intermediate variables to clarify calculations.
- Use more descriptive names for variables, classes, and methods.

Stated Technologies

- Java Object Oriented Programming
- Java Swing UI
- VS Code/Eclipse IDE
- Windows OS
- GUI

Timeline

Elapsed time in (days or weeks or month or quarter) since the start of the project(March 2024)	**Milestones**
Week 1	Code Analysis(Reverse Engineering)
Week 2	Visualization (Reverse Engineering
Week 3	Forward Engineering
Week 4,5	Refactoring Techniques
