

EE3302/EE3351: DATA STRUCTURES AND  
ALGORITHMS

PROJECT PROPOSAL – SMALL AGENCY STOCK MANAGEMENT  
SYSTEM

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# 1 Introduction

We are glad to provide this proposal for a small agency's stock management system development. This project aims to improve efficiency, decrease manual errors in stock management, streamline processes, and give real-time stock level visibility, client and dealer descriptions and their operations. The agency will be able to maximize stock usage, improve client support and dealer support, and provide accurate financial reporting with the help of this application.

We are using data structure and algorithms for this project. Mainly, we are focusing on arrays and linked lists commands for this project. We hope to use the C++ program to generate this with command line interface as GUI.

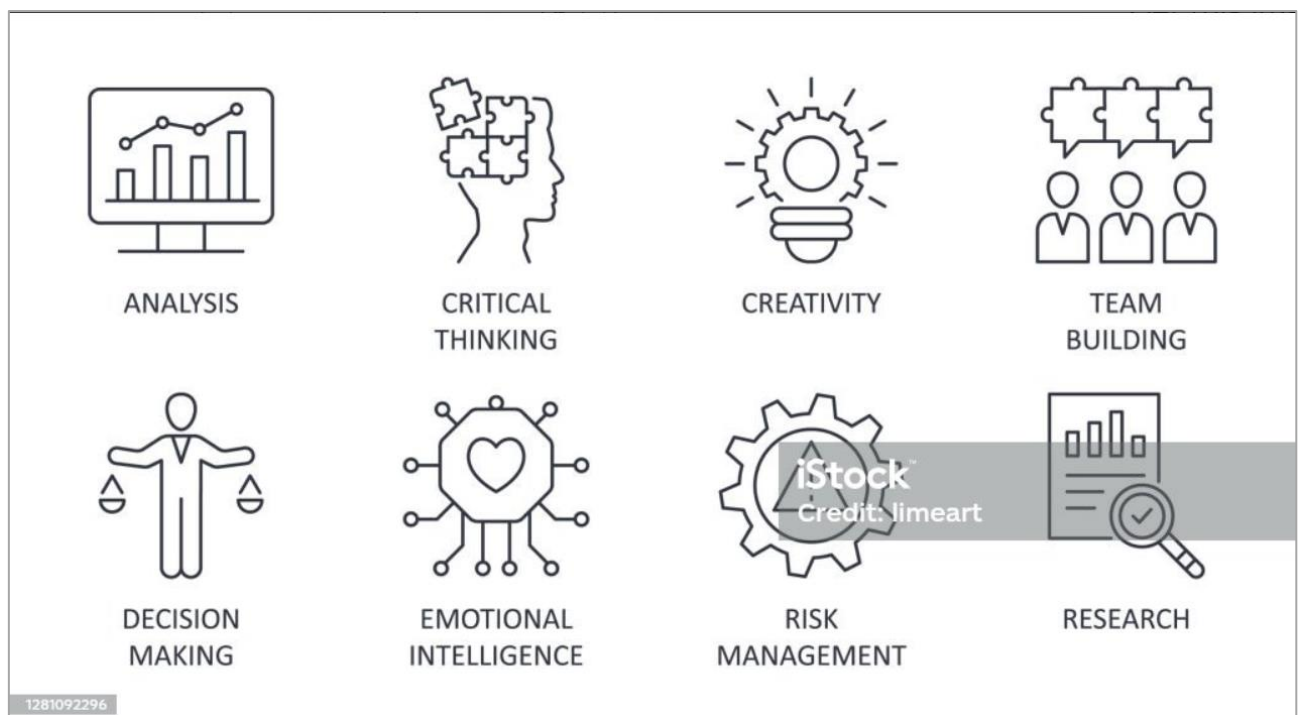
## 2 Background

A small agency stock management system serves to efficiently organize and manage the inventory or stock of a small agency. This is very user-friendly for agency's owner. we hope to overcome the limitations of exiting solutions by developing simple stock management system using data structures and algorithms. In this we can take information about current inventory, what are the items in the agency and what type of customers deal with us. And also we can minimize manual errors that can occur in traditional paper-based or manual tracking systems. We can optimize cost control and efficient resources. This is a very good system to manage relationships with customers. This reduces the time and effort required for manual tracking and management.



### 3 Objectives

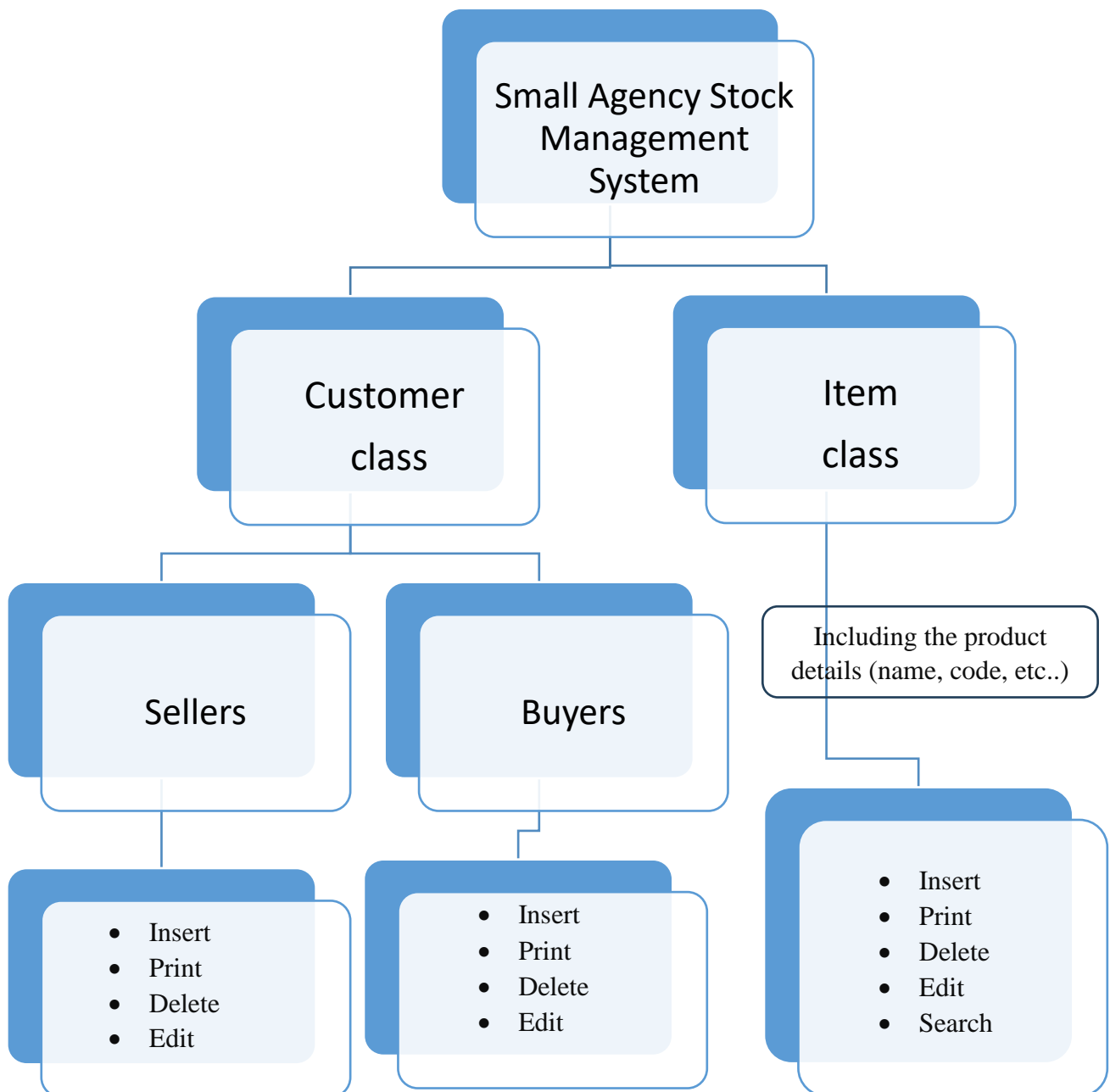
- **Accurate Stock Monitoring:** To reduce mistakes and inconsistencies, make sure that every stock item—including its amounts and transaction history—is accurately managed.
- **Efficient Order Management:** To increase customer satisfaction, improve order processing, and make sure that orders are completed correctly.
- **Cost Optimization:** Cut down on carrying expenses, avoid over-purchasing, and stop stock waste to minimize stock-related expenses.
- **Price Details:** Effective contact with suppliers is essential for timely replenishment and successful price negotiations. This is known as supplier management.
- **Interface:** The interface should be designed with ease of use and accessibility in mind to minimize the need for extensive training and enable effortless navigation.
- **Data Security:** To protect critical stock and financial information, set severe data security procedures.
- **Scalability:** Build the system to expand or change according to the agency's expanding or varied products.



## 4 Scope

We are hoping to create two main classes as customer and item. Customer class can be divided in to two main categories which are mainly Sellers and Buyers. Sellers can provide products for the stock while Buyers can buy the products through an agency. In this scope, insert, print, delete and edit options are available.

Item class has the products that are provided by the agency. The category of the products (product name, product code, etc.), the quantity of the products, and also previous insert, print, delete, and edit options are available in this class. The below chart simply shows the plot of the system.



## 5 Conclusion

The stock management app we're creating is all about simplifying things and making stock agencies and businesses more efficient. We're confident that by following a clear plan, sticking to a schedule, and truly understanding what users need, we can make this project a success. Our app is designed to help you manage both customer information and items in a straightforward way, all within a C++ program. You can easily add, edit, delete, and keep track of customer records and items using functions like add, find, remove, change, and show. This will lead to smoother operations for stock agencies, better record-keeping, and smarter decision-making. We're also ensuring that your data is secure, and we've built the app to grow along with your needs. We're enthusiastic about the positive impact this project will bring and are dedicated to delivering a user-friendly solution for stock agencies.