**CS-110**

**PROJECT PROPOSAL**

**‘BizOptimizer’—A Shop Management System**

**Group Members:**

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**Title:**

‘BizOptimizer’**—**A Shop Management System

**Introduction:**

There is a variety of items in a shop e.g., a grocery store, with different brands, sizes, qualities, etc. and at one particular moment of time, the inventory of these items is always varying. In order to streamline and automate their sale, purchase lot of manual effort is required to make all the operations error free and efficient. Developing a comprehensive computerized management system can not only reduce the human effort but also make it error free and efficient. Such a system can not only benefit the owners but also customers by rightly and timely incorporating their feedback in the system.

The scope of such a management system can be unlimited but for the sake of simplicity, scarcity of time and extend of knowledge gained so far, this project would only be limited to inventory management and billing system only. Nevertheless, as some future extension this can be extended to include other fields also.

**Objective:**

The primary objective of development of a Shop Management System are:

1. Create an application that would automate the process involved in the management of a shop.
2. To improve the accuracy in management of inventory of store items and cash transactions.
3. To facilitate the shop owner in decision making and better resource utilization.

**Scope:**

The system will cover the following core functionalities:

1. **Inventory Management (File-Based):**
   * Effortlessly add, update, or remove products with streamlined operations.
   * Display live stock levels for a clear overview of inventory.
   * Intuitive text-based console interface for smooth interaction.
2. **Billing System:**
   * Generate professional invoices with detailed breakdowns.
   * Seamlessly update stock levels after every transaction to maintain accuracy.
3. **Customer Menu:**
   * Present an up-to-date menu displaying available products and pricing.
   * Automatically calculate and display applicable taxes for each item or order.
   * Simple and interactive text-based interface for customers to browse and choose items effortlessly.

**Methodology:**

Following steps would be followed for the development of the project:

* + Create flowcharts and algorithms for core functionalities.
  + Develop modules for each task and test each segment for accuracy.
  + Develop documentation for developer and user.

**Tools:**

* **Language:** C++
* **IDE:** VS code and CLion.

**Project Deliverables:**

* + Well-documented code
  + User and development manual
  + Project presentation