**“APPAREL SHOP MANAGER”**

A Mini Project

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**TABLE OF CONTENTS**

1. PROBLEM STATEMENT 1

2. INTRODUCTION 1

3. TECHNOLOGY USED 2

4. METHODOLOGY 4

4.1 SOFTWARE AND HARDWARE DETAILS 6

4.2 LIBRARIES / PACKAGES USED 6

4.3 ALGORITHMS 7

5. RESULTS 8

6. CONCLUSION 9

7. REFERENCES 10

1. **PROBLEM STATEMENT:**

**Handling various aspects of shop management using futuristic programming model.**

1. **INTRODUCTION:**

In the world of growing technology, not all shops use a full-fledged programmed model to manage their shops in more efficient manner.

In the current scenario, we need something that can spread technology even in the remotest areas.

Our Model is easily implementable even in remotest areas. It is user-friendly, and performs all possible managerial tasks of a shop with ease.

1. **TECHNOLOGY USED:**
   1. **Programming Language:**
      1. **C++**

**4 METHODOLOGY:**

**4.1 SOFTWARE REQUIREMENTS:**

**a. A 64**-bit Operating System.

**b**. IDE/Editor---Visual Studio Code(here).

**4.2 LIBRARIES/PACKAGES USED:**

* #include<iostream>
* #include<time.h>
* #include<vector>
* #include<stack>
* #include<queue>
* #include<string>
* #include<fstream>
* #include<stdlib.h>
* #include<conio.h>
* All libraries above included in: #include<apparelmanager.h>
  1. **Algorithm:**

**Functions used:-**

1. ***Class Warehouse***:

A. void refill\_stock()- For refilling product stock.

2***. Class Receptionist: Inherits Warehouse***

* float calc\_total\_cost()-

Calculates total amount of bill,product stock available and gives final amount after call to functions of tax\_calc() and discount\_calc().

* void login\_check\_receptionist()- username and password check for receptionist.
* float tax\_calc()- Calculates and returns tax added amount(GST).
* float discount\_calc()- Calculates and returns discounted final amount,if any discount has been provided.
* void print\_bill()-Uses File-Handling concept to print bill of individual customer into text file format.
* void print\_daily\_billsheet()- Uses File-Handling concept to print bill of all the customers for each day. Maintains bill records.

3***. Class Admin: Inherits Receptionist(also Warehouse)***

* void print\_daily\_collection()-Prints daily tallied amount for the shop.
* void sales\_analysis()- Analyses sales of the shop and shows which products are in more demand.
* float calc\_daily\_expanse()-Shows daily expanse for the shop.
* void login\_check\_admin()-username and password check for admin.
* void reminder\_payment()- Reminds admin of pending dues of vendors(if any)
* void vendor\_info()- Prints “.CSV”file to record all the vendor information.
* void stock\_warehouse\_update()-Updates the current product availability with that of warehouse.

4. int main()- object creation for classes and menu driven programming used effectively.

**Data Structures Used:**

1.Array—Widely used for,

* character arrays
* array of objects-Customers
* product\_stock\_qty—Stores initial value of quantity of products.
* Array of structures.

2. Stack--- Used for maintain records of various bill amounts(tax and discount too)

Maintaining vector(STL) in stack.

Push(),pop(),top() operations performed widely.

3. Queue:

* Deque- Maintaining Product IDs
  + Enqueuef(),dequeuer(),front() widely used.
* Priority Queues- Arranging Product IDs according to the Product Quantities.

**OOP Concepts Used:**

* OOP features(Class and Objects)
  + Data Abstraction
  + Encapsulation
  + Inheritance (Multi-Level)
* File Handling
* Standard Template Library
* Vector
* Templates
* Structures

1. **RESULT**

**-------------------------Tasks Performed--------------------------------------**

1. **Login** 
   1. **Admin(Secured)**
   2. **Receptionist(Secured---Accessible to Admin)**
2. **Billing System(Discount Suggestion + GST Rates Added)**
3. **Stock Updates/Report**
4. **Warehouse Updates**
5. **Daily Collection/Monthly Collection(Updated at Runtime)**
6. **Daily Bill Sheet (To keep record of Customer Bills)**
7. **Vendor Information(including Payment reminders, if any)**
8. **CONCLUSION:**

All the fore-mentioned tasks are performed by the program efficiently, thus the solution of our problem statement is implemented successfully.

1. **REFERENCES:**

[http://www.geeksforgeeks.org](http://www.geeksforgeeks.org/)