Fundamentals of Computing II - LAB

CSCE 1102 - Project

Milestone 1 - Design Report

Team#: 2 Team Email:

Members’ Info:

| Member Name | ID | Email |
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GitHub Link: <https://github.com/Hamdy410/CS2_lab_finalProject>

Main classes

| Class Name | Short Description | Data members | Member Functions |
| --- | --- | --- | --- |
| Item | Defines an item object | name:QString, category:QString, quantity:int, price:double, supplier:QString | updateQuantity(), getDetails(),  operator==()  operator+=()  operator-=() |
| Inventory | Contains all items | items:unsorted\_set<Item> | addItem(), removeItem(), searchItem(), getLowStockItems(), generateReport() |
| User | Defines a user object | username:QString, password:QString, role:Role | login(), changePassword(), canManageUsers(), canEditInventory(),  operator==() |
| Record | Facilitates record tracking | Item  User  Time:QDateTime | appendToFile(), displayHistory() |
| InventorySystem | Acts as a backend manager in the background | users: unsorted\_set<User>,  inventory: Inventory,  currentUser: User\*  records:vector<record> | load(),  save(),  addUser(),  deleteUser(), |
| Role (Enum) | Enumerates to define users’ roles | Admin, Manager, Staff | N/A |

Selected DS

| List Name | Selected DS | Reasons for selecting this DS |
| --- | --- | --- |
| items | unordered\_set | Ensures unique items stored, fast insertion, search, and deletion |
| users | unordered\_set | Ensures unique items stored, fast insertion, search, and deletion |
| records | vector | Easy to use, records are already ordered so no need to use a more complicated data structure |