INTERNATIONAL INSTITUTE OF INFORMATION TECHNOLOGY

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Object Oriented Programming using C++

Project

Supermarket File Management System

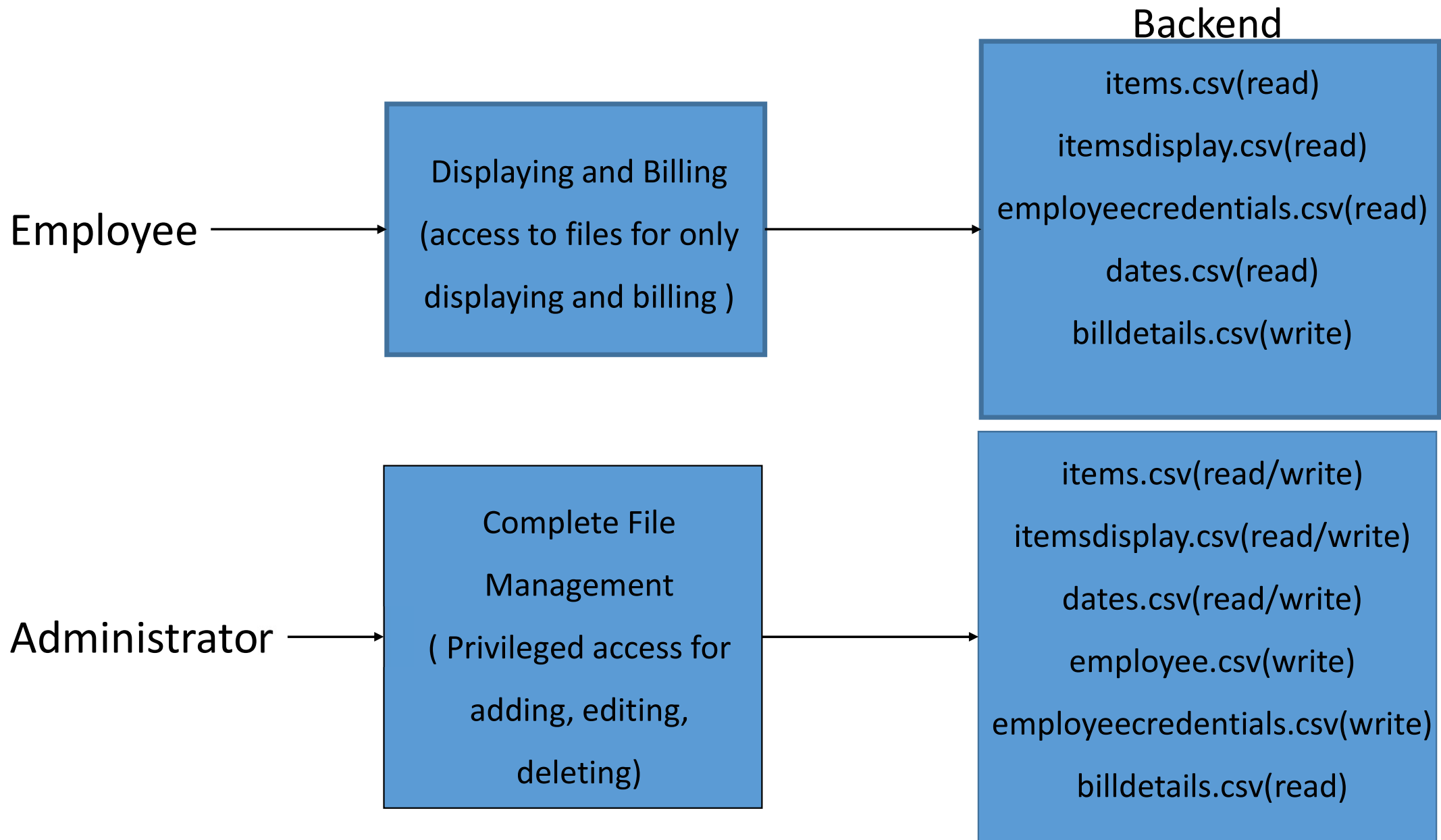Group 11

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Aim of the Project

- To create a file management system for a supermarket.

- To provide a user friendly methods to display, search, add or edit item details.

- To provide appropriate functions for discount calculation.

- To design a billing interface for shopping.

- To provide the specific method linked with billing interface to check festive season discount.

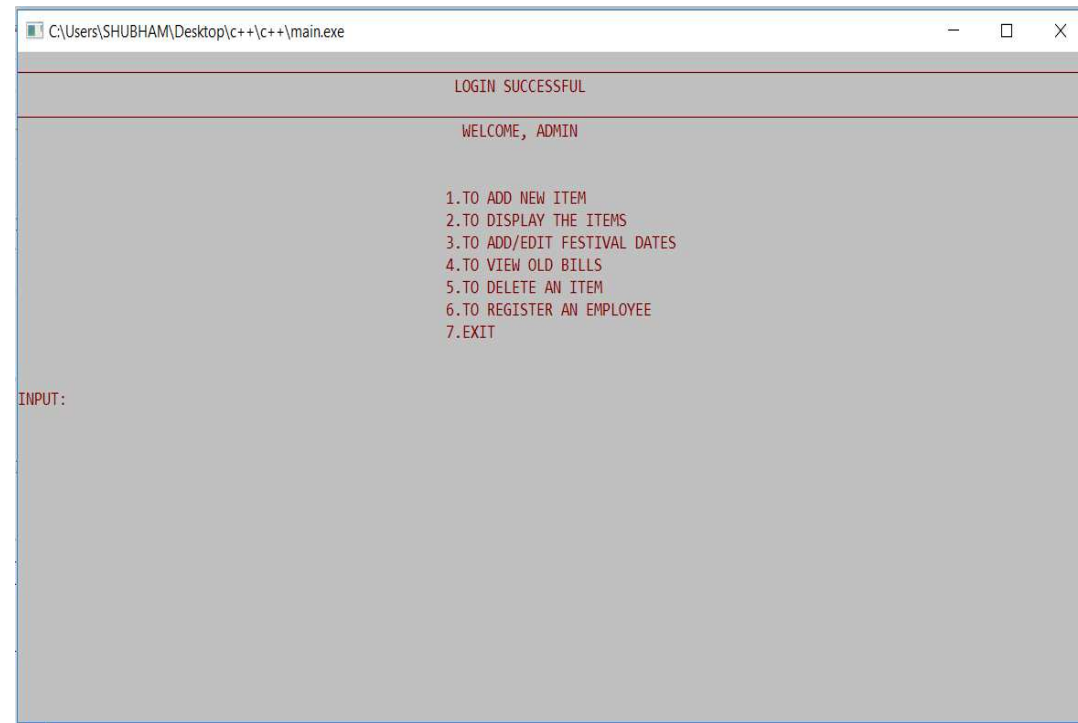- To provide functions for display, add and edit festive seasons and view archived shopping details.

Backend

Employee → Displaying and Billing (access to files for only displaying and billing) → items.csv(read)

itemsdisplay.csv(read)

employeecredentials.csv(read)

dates.csv(read)

billdetails.csv(write)

Administrator → Complete File Management (Privileged access for adding, editing, deleting) → items.csv(read/write)

itemsdisplay.csv(read/write)

dates.csv(read/write)

employee.csv(write)

employeecredentials.csv(write)

billdetails.csv(read)

Project Details

- 'displayitem( )' function in class 'item' to display the items in supermarket by reading 'itemsdisplay.csv' file.

- Login interface for employee and admin.

- 'void admin(char id[ ],char pass[ ])' function in class 'login_interface' matches the id and pass with the 'admin.csv' file's id and pass.
- Admin interface after successful login.

- Adding new item calls 'void edit( )' function in class 'item' which checks for existing product id and then adds another item's details in the 'items.csv' and 'itemsdisplay.csv' files.
- Displaying of item is done in with 'void displayitem( )' function and further asked to view or edit the details of an item.

- Details of an item is shown with 'void edit(char x)' (overloaded) function in class 'item' if (x='1') with the help of 'items.csv' file details after product id is matched.

- While editing of an item old details of an item is shown with 'void edit(char x)' function in class 'item' if (x='2') with the help of 'items.csv' file details after product id is matched.

- Discount dates displayed by 'void display_date( )' in class 'cart' (inherited from item), new festival date/name can be added for festive discount by 'void edit_date( )' function in class 'cart' (inherited from item) by adding details in 'dates.csv' file.

- Existing festival date/name can be edited in same function by editing 'dates.csv' file.

- Bill Details according to the given date can be viewed by 'void see_archived_details(char date[ ])' in class 'bill' by accessing 'billdetails.csv' file.

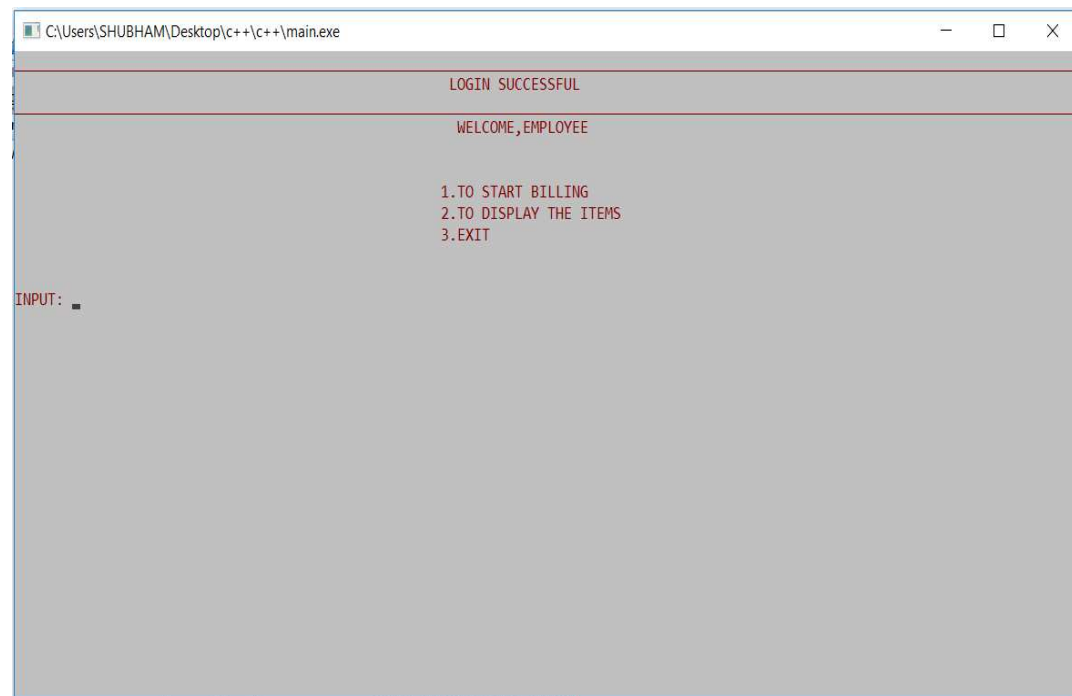- Deletion of an item is done by 'void remove_item(char pid)' in class 'item' by editing 'items.csv' and 'itemsdisplay.csv' file.

- Employee registration is done by 'void credentials( )' function in class 'login' by adding details in 'employees.csv' file and its id and password in 'employeecredentials.csv' file.

- For login 'void employee(char id[ ], char pass[ ])' function in class 'login' is used and details checked from 'employeecredetials.csv' file.


```
C:\Users\SHUBHAM\Desktop\c++\c++\main.exe

                          EMPLOYEE REGISTRATION

              Enter Name: employee

              Enter Age: 22

              Login ID: emp2

              Password: user2

's' TO SAVE
```

```
C:\Users\SHUBHAM\Desktop\c++\c++\main.exe

                          LOGIN SUCCESSFUL

                          WELCOME,EMPLOYEE


              1.TO START BILLING
              2.TO DISPLAY THE ITEMS
              3.EXIT

INPUT:
```

- 'void billdetails( )' function in class 'bill' is accessed and fetches item by accessing 'double itemfetch(char pid[ ])' in class 'cart' which returns the MRP of that item and is further passed to 'double billamt(double mrp)' of same class 'bill' which further returns new 10% discounted value and that is added to total bill.

- Each time an item is fetched, above procedure repeats and total bill is updated.

- Total bill amount and date are passed to another function 'void discount(double billedamt, char date[ ])' in class 'bill' and further discount operations are checked depending on total bill amount and checking festive season date from 'dates.csv' file.

- While fetching item 'double itemfetch(char pid)' also checks for the stock.

- According to the total bill amount and after checking the festive season discount various types of discount are given.

Basic OOP features implemented

- ## Data Abstraction and Encapsulation

Data abstraction and encapsulation are extensively used in our project. Classes like 'item' (for item specific details and implementations), 'bill'(for bill related details and implementations).

- ## Inheritance

For the shopping purpose derived class 'addtocart' is inheriting members from base class 'item'.

- ## Polymorphism

Static Polymorphism: In this project 'edit( )' function is overloaded for the purpose of editing and viewing detail of an item.

Dynamic Polymorphism: Virtual functions named 'itemfetch( )', 'edit_date( )', 'display_date( )'.

- Dynamic memory management is used while reading files, to save space and to reduce the reading time.

- Administrator and Employee functions are segregated to avoid any type of data interference.