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OOPL PROJECT REPORT

PARCEL DELIVERY SYSTEM

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ABSTRACT

Express Delivery is a parcel delivery system that automates the process of delivering heavyweight and lightweight parcels, and letters too from person to person across the country.

The initial consumer must register their IDs in this system, which must include their name, address, phone number, and city. Customers can place an order request after completing the registration process, which includes information such as the weight, kind of parcel, and recipient information. The price depends on the parcel's weight. The complete delivery process is managed online for easy interaction with the organization.

When it comes to handling a big number of consumers and orders across multiple cities, the manual and offline method of delivering goods is a daunting challenge. Express Delivery investigates the situation and streamlines the process. Express delivery not only delivers items from one person to another but also allows customers to track their orders online.

The online platform will assure security and provide a quick and safe mechanism for sending packages from one location to another. The parcel-ID will be generated automatically, and the work will be assigned to the appropriate staff.

PS: We are doing this all by basic features of oops.

Table Of Contents

ABSTRACT	1
Table Of Contents	2
Introduction	3
What is OOPL ?	3
Role of OOPL in our Project	3
Following are some features of OOPL we used:	4
Classes and Objects	4
Constructors	4
Inheritance	5
Friend Function	5
Friend Class	6
File Handling	6
Objectives	7
Outputs	7
Main Menu	7
About	7
Customer Login	8
Submitting a Review	8
Employee Login	9
Manager Menu	9
Hire new Employee	9
Fire an Employee	9
Manage Centres	9
Manage Vehicles	9
Show Vehicles	10
List all Employees	10
Delivery Person menu	11
Reviews	11

OBJECT-ORIENTED PROGRAMMING

The logo consists of the word "OOPS" in a bold, sans-serif font. The first two 'O's are cyan, and the 'PS' is yellow. The entire logo is enclosed within a thin cyan rectangular border.

Introduction

What is OOPL ?

Object-oriented programming is a programming paradigm that uses the idea of "objects" to hold data and code.

The ability of an object's procedures to access and frequently alter the data fields of the object is one of its features. OOP is a programming language that allows you to create computer programs consisting of objects that interact with one another. The most common OOP languages are class-based, which means that objects are instances of classes, which also define their types.

Role of OOPL in our Project

We have used various features of OOPL to increase the efficiency of our program and to make it more secure and easy to use.

Following are some features of OOP we used:

- **Classes and Objects**

We have used the following classes:

1. class Employee
2. class Customer
3. class Order
4. class Centres
5. class Vehicles
6. class ExpressDelivery
7. class DeliveryInfo
8. class Reviews

- **Constructors**

A constructor is a special type of member function of a class that initializes objects of a class.

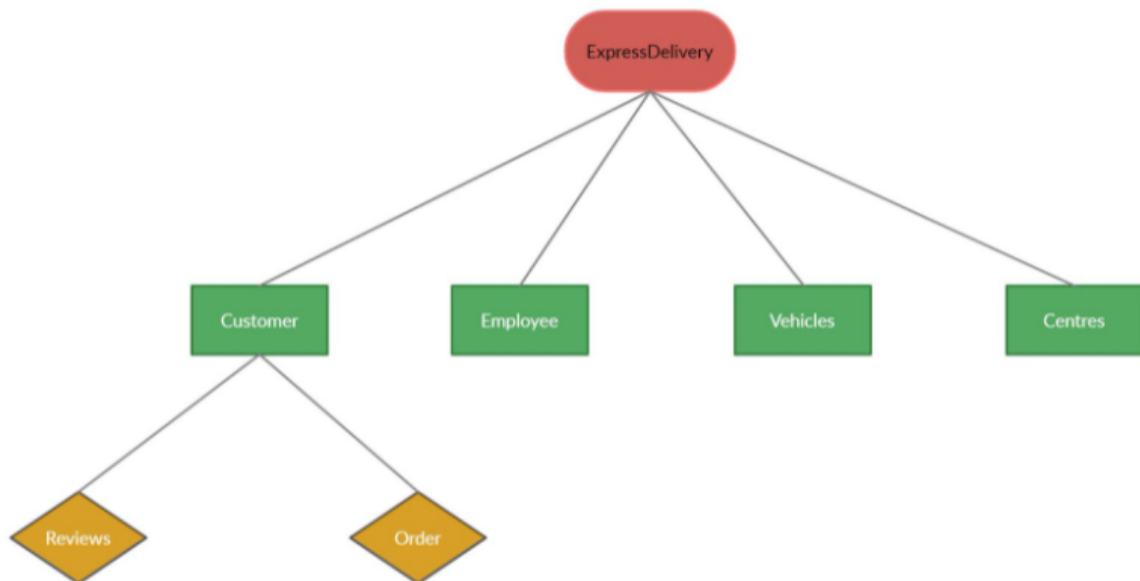
In our project, we have used a copy constructor, the default constructor, and the constructor which will be used for initialization.

E.G.

```
ExpressDelivery() // constructor for initialization
{
    no_centres = 0;
    no_customers = 0;
    no_employees = 0;
    no_vehicles = 0;
    system_inform = "The Express Delivery System is a parcel delivery"
}
```

- Inheritance

We have used various types of inheritance which can be understood by this flow chart.



- Friend Function

In object-oriented programming, a friend function, which is a "friend" of a given class, is a function that is given the same access as methods to private and protected data.

Similarly in our project, we have used the friend function to use the friend function in different classes as this will reduce the repetition of code.

E.G.

```
friend void customerMenu(Customer &ptr, vector<Reviews> &rev, vector<Order> &ord, vector<DeliveryInfo> &di);  
friend void loginCustomer(vector<Customer> &cust, vector<Reviews> &rev, vector<Order> &ord, vector<DeliveryInfo> &di);  
friend void registerCustomer(vector<Customer> &cust);
```

- Friend Class

A friend class is a class that can access the private and protected members of a class in which it is declared as friend.

In our project class DeliveryInfo is a friend class of class Order. So, all the members of class Order are accessible by class DeliveryInfo too.

Syntax:

```
friend void customerMenu(Customer &ptr, vector<Reviews> &rev, vector<Order> &ord, vector<DeliveryInfo> &di);  
friend class DeliveryInfo;
```

- File Handling

We have used a .txt file to save the reviews given by customers and display them when requested.

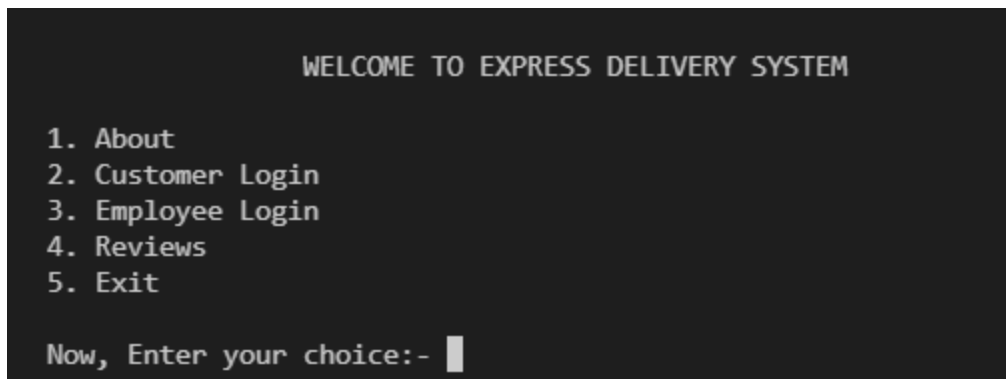
```
void showReviews() // File handling  
{  
    ifstream fin;  
    string a;  
    fin.open("oops.txt");  
    while (getline(fin, a))  
        cout << a << "\n";  
    fin.close();  
    return;  
}
```

Objectives

- Develop a database for employees, customers, and orders.
- Automate the process of the parcel delivery system.
- Provide an online platform for delivering goods across the country.
- Provide the ability to track and manage orders online.
- Easy to access the database using various GUI applications.

Outputs

- Main Menu



```
WELCOME TO EXPRESS DELIVERY SYSTEM

1. About
2. Customer Login
3. Employee Login
4. Reviews
5. Exit

Now, Enter your choice:- █
```

This will be our main screen shown to the user.

- About

```
Now, Enter your choice:- 1
Express Delivery
The Express Delivery System is a parcel delivery system that automates the process of delivering various products such as heavyweight and lightweight parcels, as well as letters, from person to person throughout numerous cities across the country.
Our Centres are :

Centre ID :-100
Centre Name :-Jhunjhun
City where Centre is located :-Jhunjhun
Address of Centre :-Rajasthan
Contact Number :- 8779966552

Centre ID :-101
Centre Name :-Delhi
City where Centre is located :-Delhi
Address of Centre :-Delhi
Contact Number :- 8855663322

Number of Centres :- 2
Number of Customer :- 2
Number of Employee :- 3
Number of Vehicles :- 3
```

- Customer Login

Customers will be able to sign up or sign in depending on need after signing in they can place an order or see the update on previous orders. They can also give a review of our service.

```
HELLO CUSTOMER, EXPRESS DELIVERY WELCOMES YOU!!

Enter your choice (1-3)
1. Existing Customer? Login
2. Sign Up
3. Back to main menu
Enter Your Choice : █
```

By providing the correct customer id and password they can log in and the following menu will open.

```
Login Successful

                        HELLO! Ishan Dhingra
1. Your Orders
2. New Order
3. Review our services
4. Logout
Enter Your Choice :- █
```

Placing a new order is simple just by providing the asked information u can place your order which can be managed by checking the 'Your Orders' option.

```
Enter Your Choice :- 1
Order Id :- 1
Reciever's Name is :- Himanshi
Address of Reciever :-
Ludhiana
Phone Number of Reciever :- 885858696
Weight of the parcel :- 15
Cost of the Parcel is :- 150 Rs.
```

Submitting a Review

One can submit them by giving ratings out of 5 and giving a brief description which is completely optional.

- **Employee Login**

This is the generalized menu for both manager and employees further specific menu will be open based on employee id if employee id matches that of a manager then it will open manager menu and similarly for other destinations.

```
                        HELLO EMPLOYEE, EXPRESS DELIVERY SYSTEM WELCOMES YOU!!

Enter your choice (1-2)
1. Login
2. Back to main menu
Enter Your Choice :- █
```

Manager Menu

```
      Hello Mr. Adil Prag

1. Hire new Employee.
2. Fire an Employee.
3. Manage Centres.
4. Manage Vehicles.
5. Show Vehicles.
6. List all Employees.
7. Logout.
Enter Your Choice : █
```

1.) Hire new Employee

Manager can hire an employee by providing valid information about the employee.

2.) Fire an Employee

Manager can fire any employee just by telling employee id.

3.) Manage Centres

New centres can be added by this option by giving details of centre.

4.) Manage Vehicles

New Vehicles can be added here.



5.) Show Vehicles

```
Enter Your Choice : 5
Vehicle ID is 100
Vehicle Type is Bike

Vehicle ID is 101
Vehicle Type is Mini Truck

Vehicle ID is 102
Vehicle Type is Car
```

6.) List all Employees

```
Following are the details of our Employees

Name :-Adil Prag
Contact Number :-9785640207
Address :-AB-500 , Hyderabad
Designation :-Manager
Employee ID :-1
Salary :-100000

Name :-Pratham Mishra
Contact Number :-9988556699
Address :-Kanpur
Designation :-Delivery Person
Employee ID :-100
Salary :-12000

Name :-Deepanshu Jain
Contact Number :-8855226699
Address :-Jaipur
Designation :-Delivery Person
Employee ID :-101
Salary :-15000

Name :-Parveen
Contact Number :-8855447788
Address :-DELHI
Designation :-Delivery Person
Employee ID :-103
Salary :-14000
```

Delivery Person menu

If an employee id matches that of a delivery person it will open the following menu.

```
HELLO DELIVERY PERSON , LETS GET TO WORK.  
1. List all Incomplete Delivery  
2. Change Delivery Status.  
3. Logout  
Enter Your Choice :- █
```

Here a delivery person can see all the pending deliveries and after fulfilling them change their status from pending to done.

```
The Sender_Id is : 100  
The Order Id is : 1  
The Cost is : 150  
The Parcel is Not Delivered yet.
```

```
Enter Order Id : 1  
If the Parcel is delivered Press Y  
Y  
Delivery of parcel is successfully completed
```

- Reviews

One can see all the reviews of our services from here.

```
Now, Enter your choice:- 4  
  
Customer's Name-- iop  
Rating Given by customer (out of 5) -- 4  
Description given by customer-- Fast service , easy to use and affordable cost.  
  
Customer's Name-- Ishan Dhingra  
Rating Given by customer (out of 5) -- 5  
Description given by customer-- Good prices and a very trouble free transaction as well as simple tracking loved how easy it was to place a order.
```

Conclusion

The Express Delivery system is completely based on Object-Oriented Programming. This project helped us develop real-world projects to hone our skills and materialize their theoretical knowledge into practical experience. This project has shown us the benefits that OOP brings to a project and to a programmer. Finally in conclusion, we have made this project with the help of various features of Object-Oriented Programming.

*Thank
you*



P.S.: cpp file is attached too for your reference.

