Topic : Online Salon Booking System

Group no : MLB_01.01_07

Campus : Malabe ~~/ Metro / Matara / Kandy / Kurunegala / Kandy / Jaffna~~

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We declare that this is our own work and this Assignment does not incorporate without acknowledgment any material previously submitted by anyone else in SLIIT or any other university/Institute. And we declare that each one of us equally contributed to the completion of this Assignment.

Registration No	**Name**	**Contact Number**
IT20605902	S.D. Samarasinghe	0702449678
IT20299552	L.M. Rubasinghe	0776400813
IT20604844	W.G.T.D. Thilakarathne	0776668613
IT20605834	H.R. Kotuwe Gedara	0712011693
IT20606060	Wanni Arachchige H.S.	0772137060

Exercise 01

01) Requirement Analysis

- User needs to register to the system as a Customer by entering valid details. If is not a registered user cannot book services and purchase products. After the registering they becomes the Customers of the system.
- User can view available services and products.
- User can add available products to shopping cart according to his preferences.
- Customer can select available services and products. And add products to shopping cart.
- Customer can fill the inquiry form according to their preferences and do a booking, they can choose Beauticians before booking services. One customer can do a one booking at once.
- Registered user can select products.
- Customer can add products to the shopping cart. One customer can add many products to the shopping cart at one time.
- After the Booking and Purchasing items, customers should make their advance or full payment using credit or debit cards.
- A customer can cancel the booking by visiting his profile and confirming the cancelation. He can request for refund within 5 days.
- The System Administrator can add new services, new items, delete and update and available services and products.
- He can reply for feedbacks and generate reports.
- Job seeker is a guest. He can search for jobs and apply for available job opportunities by filling the respective career form.
- Manager should login to the system as an admin. He can check income, manage payments, and check reports.
- Manager can assign new Beauticians.

02) Noun & Verb Analysis

- Nouns are Blue
- Verbs are Red

- Any User can register to the System by providing email and password.
- User can search services and products.
- User can view products and services, also User can add products to shopping cart.
- Customer can search services and products.
- Customer can select available products. And add products to shopping cart.
- Customer can fill the inquiry form according to their preferences and do a booking, they can choose Beauticians before booking services.
- After the Booking and Purchasing items, customers should make their advance or full payment by using credit or debit cards.
- A customer can cancel the booking by visiting his profile and confirming the cancelation. He can request for refund within 5 days.
- The System Administrator can add new services, new items, delete and update and available services and products.
- System Administrator can reply for feedbacks and generate reports.
- Job seeker can search for jobs and apply for available job opportunities by filling the respective career form.
- Manager should login to the system as an admin. He can check income, manage payments, and check reports.
- Manager can assign new Beauticians.

03) Identify Classes using Noun Verb Analysis

Nouns

- User
- System
- Email
- Password
- Customer
- Services
- Products
- Inquiry Form
- Booking
- Beautician
- Advance
- Full Payment
- System Administrator
- Job Opportunities
- Shopping Cart
- Career Form
- Manager
- Search Services
- Income
- Credit Card
- Debit Card
- Payments
- Reports
- Feedbacks
- New Services
- New Items

Identified Classes

- Products
- User
- Customer
- Services
- Report
- Beautician
- Payment

- Booking
- Feedback
- Shopping Cart

Rules of Rejecting Nouns

- Redundant – Visitor, User refers to the same person as “Customer”, Payment (Credit Card, Debit Card, Advance, Full Payment), Services (New Services), Products (New Items)
- Outside Scope of the System – System, System Administrator, Manager, Job Opportunities, Inquiry Form, Career Form
- Meta-Language – Visitor, User, Customer
- An Event or an Operation – Search Services
- Attributes – Email, Password, Income

Exercise 02

CRC Card

User	
Responsibility	**Collaborators**
Visit the Website	
Register to the System	
Search Products	Products
Search Services	Services
Add to Shopping Cart	Shopping Cart

Customer	
Responsibility	**Collaborators**
Search Services and View Services	Services
Search Products and View Products	Products
Purchase Products	Products
Do a Booking	Booking
Make the Payment	Payment
Add products to Shopping Cart	Shopping Cart
Give a Feedback	Feedback

Payment	
Responsibility	**Collaborators**
Store the Payment Details	Customer
Validate the accurateness of the Payment	Customer
Confirm the Payment	

Beautician	
Responsibility	**Collaborators**
Check for Bookings	Booking
Update the Availability of the Beautician	

Products	
Responsibility	**Collaborators**
Display Product Details	
Update the Availability of Product	

Services	
Responsibility	**Collaborators**
Display Service Details	
Redirects to Booking	Booking

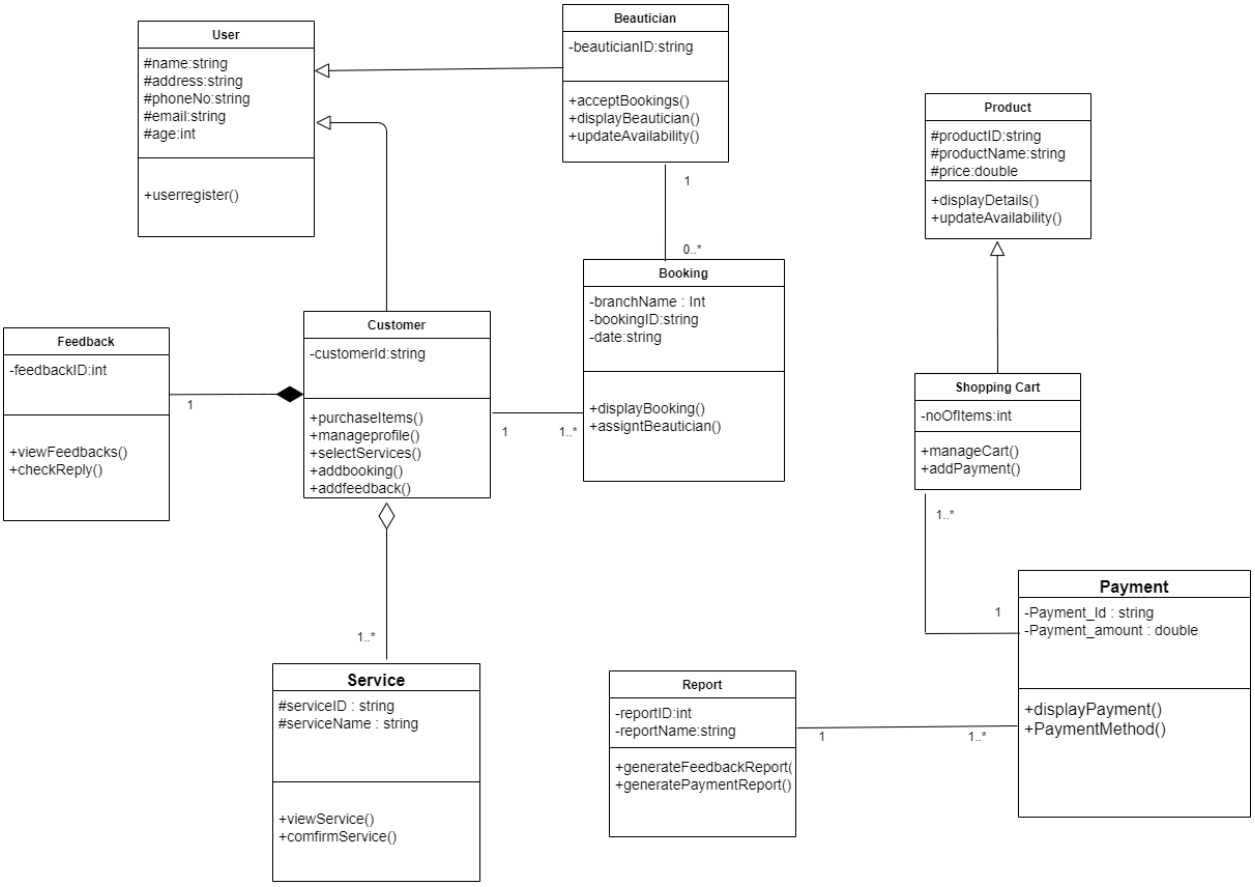
Booking	
Responsibility	**Collaborators**
Make a Booking	Customer
Assign a Beautician	Beautician
Confirm the Booking	Payment

Report	
Responsibility	**Collaborators**
Generate List of Available Products	Products
Generate List of Sold Products	Products
Generate Transaction Details	Payment

Feedback	
Responsibility	**Collaborators**
Manage feedbacks	Customer

Shopping Cart	
Responsibility	**Collaborators**
Manage shopping cart	

Exercise 03


User
#name:string
#address:string
#phoneNo:string
#email:string
#age:int
+userregister()
Beautician
-beauticianID:string
+acceptBookings()
+displayBeautician()
+updateAvailability()
Product
#productID:string
#productName:string
#price:double
+displayDetails()
+updateAvailability()
1
0..*
Booking
-branchName : Int
-bookingID:string
-date:string
+displayBooking()
+assigntBeautician()
Feedback
-feedbackID:int
+viewFeedbacks()
+checkReply()
1
Customer
-customerId:string
+purchaseItems()
+manageprofile()
+selectServices()
+addbooking()
+addfeedback()
1
1..*
Shopping Cart
-noOfItems:int
+manageCart()
+addPayment()
1..*
1
Payment
-Payment_Id : string
-Payment_amount : double
+displayPayment()
+PaymentMethod()
1..*
Service
#serviceID : string
#serviceName : string
+viewService()
+comfirmService()
Report
-reportID:int
-reportName:string
+generateFeedbackReport(
+generatePaymentReport()
1
1..*

Exercise 04

```
#include <iostream>
#include<cstring>
using namespace std;

//classes declaration
class Products;
class  User;
class Customer;
class Services;
class Report;
class Beautician;
class Payment;
class Booking;
class Feedback;
class Shopping_cart;

//base class(use inheritance)
class User {
    protected:
        string name;
        string  phoneNo;
        string email;
        int age;
        string address;

    public:
        User();//default constructor
        User(string pname, string pphoneNo, string pemail, int page, string
paddress);//overloaded constructor
        void userregister();
        ~User() {}//destructor called
};

User::User() {}

User::User(string pname, string pphoneNo, string pemail, int page, string paddress) {
        name = pname;
        phoneNo = pphoneNo;
        email = pemail;
        age = page;
        address = paddress;
}
void User::userregister() {}


class Report {
    private:
        int reportID;
        string reportName;
        Payment* payreport;

    public:
        Report() {}//default constructor
```

```
        Report(int RID, string rreportName) {
            reportID = RID;
            rreportName = reportName;
        }//overloaded constructor

        void generatepaymentReport(Payment* prep);
        ~Report() {}//destructor called

};

class Feedback {
    private:
        int feedbackID;

    public:
        Feedback();//default constructor
        Feedback(int pfeedbackID);//overloaded constructor
        void viewfeedback() {
            cout << "======================||Feedback||======================" << endl
<< endl;
            cout << "Excelent Service" << endl << endl;;
            cout << "++++++++++++++++++++++++++++++++++++++++++++++++++++++++" << endl;
        }
        void checkreply();
        ~Feedback() {}//destructor called

};

Feedback::Feedback(int pfeedbackID) {
    feedbackID = pfeedbackID;

}


class Services {
    protected:
        string serviceID;
        string serviceName;

    public:
        Services();//default constructor
        Services(string pserviceID, string serviceName);//overloaded constructor
        void viewService() {
            cout << "======================||Service||======================" << endl <<
endl;
            cout << "Service ID: " << serviceID << endl;
            cout << "Service Name: " << serviceName << endl;
        }
        void confirmService();
        ~Services() {}//destructor called

};

Services::Services() {}

Services::Services(string pserviceID, string pserviceName) {

        serviceID = pserviceID;
```

```
}


class Customer :public User {
    private:
        Booking* booking;
        Feedback* feedback[1];//composition relationship
        Services* cusservice[2];
        string CustomerId;

    public:
        Customer();//default constructor
        Customer(string pname, string pphoneNo, string pemail, int page, string paddress,
string pCustomerId, int serno, int feedno);//overloaded constructor
        void selectservice(Services* s1, Services* s2) {
            cusservice[0] = s1;
            cusservice[1] = s2;
        }
        void addbooking(Booking* cusb);
        void addfedback() {
            feedback[1]->viewfeedback();
        }
        void purchaseitems();
        void manageprofile();
        ~Customer() {}//destructor called
};

Customer::Customer() {}

Customer::Customer(string pname, string pphoneNo, string pemail, int page, string
paddress, string pCustomerId, int serno1, int feedno) :User(pname, pphoneNo, pemail,
page, paddress) {

        feedback[0] = new Feedback(feedno);
        CustomerId = pCustomerId;
 }


class Beautician : public User {
    private:
        string beauticianID;
        Booking* bbooking[2];

    public:
        Beautician();//default constructor
        Beautician(string pname, string pphoneNo, string pemail, int page, string
paddress, string pbeauticianID);//overloaded constructor
        void acceptbooking(Booking* beau);
        void updateAvailability();
        void displayBeautician() {
            cout << endl << "==================||Beautician Details||==============" <<
endl << endl;;
            cout << "Beautician Name: " << name << endl;
            cout << "Beautician ID: " << beauticianID << endl;
            cout << "Email: " << email << endl;
        }
        ~Beautician() {}//destructor called
```

```
};

Beautician::Beautician() {}

Beautician::Beautician(string pname, string pphoneNo, string pemail, int page, string
paddress, string pbeauticianID) :User(pname, pphoneNo, pemail, page, paddress)
{
    beauticianID = pbeauticianID;
}


class Booking {
    private:
        Customer* cus;
        Beautician* beautician;
        string bookingID;
        string branchName;
        string date;

    public:
        Booking();//default constructor
        Booking(string pbookingID, string pbranchName, string pdate, Customer* pcustomer,
Beautician* pbeautician);//overloaded constructor
        void assignBeautician(Beautician* B);

        void displayBooking() {
            cout << "++++++++++++++++++++++++++++++++++++++++++++++++++++++++" << endl;
            cout << endl << "======================||Booking||======================" <<
endl << endl;
            cout << "Booking ID: " << bookingID << endl;
            cout << "Branch Name: " << branchName << endl;
            cout << "Appointment Date: " << date << endl << endl;
        }
        ~Booking() {}//destructor called

};

class Customer;
Booking::Booking() {}

Booking::Booking(string pbookingID, string pbranchName, string pdate, Customer*
pcustomer, Beautician* pbeautician) {

        bookingID = pbookingID;
        branchName = pbranchName;
        date = pdate;
        cus = pcustomer;
        beautician = pbeautician;
}

class Shopping_cart;

class Products {
    private:
        string productID;
        string productName;
        float price;
```

```
    public:
        Products() {}//default constructor
        Products(string pproductID, string pproductName, float pprice);//overloaded
constructor
        void displayproduct();
        ~Products() {}//destructor called

};

Products::Products(string pproductID, string pproductName, float pprice)
{
        productID = pproductID;
        productName = pproductName;
        price = pprice;
}


class Shopping_cart :public Products {
    private:
        Payment* paycart;
        int noOfitems;

    public:
        Shopping_cart();//default constructor
        Shopping_cart(string PProductId, string PProductname, float Price, int
pnoOfitems);//overloaded constructor
        void managecart();
        void addpayment(Payment* p);
        ~Shopping_cart() {}

};

Shopping_cart::Shopping_cart(string pproductID, string pproductName, float pprice, int
pnoOfitems) :Products(pproductID, pproductName, pprice) {

        noOfitems = pnoOfitems;
}


class Payment {
    private:
        Shopping_cart* pcart;
        Report* payreport;
        string  Payment_Id;
        double Payment_amount;
    public:
        Payment();//default constructor
        Payment(string pPayment_Id, float pPayment_amount, Shopping_cart* cart, Report*
p);//overloaded constructor
        void displaypayment() {
            cout << endl << "======================||Payment||======================" <<
endl << endl;
            cout << "Payment ID: " << Payment_Id << endl;
            cout << "Payable Amount: " << Payment_amount << endl << endl;
        }
        ~Payment() {}//destructor called
```

```
};

Payment::Payment(string pPayment_Id, float pPayment_amount, Shopping_cart* cart, Report*
p) {

        Payment_Id = pPayment_Id;
        Payment_amount = pPayment_amount;
        pcart = cart;
        payreport = p;

}


int main() {

        Customer* C1 = new Customer("Nipuni Sooriarachchi", "0768959018",
"nipuni.s@gmail.com", 30, "89/1,Bataduwa,Galle", "CUS01", 01, 23);
        Beautician* BT = new Beautician("Sandali Fernando", "0773456738",
"sandali.salonj@gmail.com", 33, "45/2,Arangala,Malabe", "BEAU01");
        Booking* B1 = new Booking("BK01", "Nugegoda", "2021/06/04", C1, BT);
        Shopping_cart* SC = new Shopping_cart("PRO01", "Oriflame", 3700, 1);
        Report* Re = new Report(1001, "DAY01");
        Payment* P = new Payment("PAY01", 1000, SC, Re);
        Products* Pr = new Products("PRO02", "Oriflame", 1000);
        Services* Ser = new Services("SER01", "Hair Cutting");
        Feedback* feed = new Feedback(01);
        User* user = new User("Senalii Mendis", "0786387632", "senali.m@gmail.com", 44,
"123/3,Mavittara,Kottawa");

        B1->displayBooking();//Booking::displayBooking() called
        Ser->viewService();//Services::viewService() called
        BT->displayBeautician();//Beautician::displayBeautician() called
        P->displaypayment();//Payment::displaypayment() called
        feed->viewfeedback();//Feedback::viewfeedback() called

        //deallocate memory(release memory)
        delete C1;
        delete P;
        delete Ser;
        delete BT;
        delete B1;
        delete feed;
        delete Re;
        delete SC;
        delete Pr;
        delete user;

    return 0;

}
```

```
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

======================||Booking||=======================

Booking ID: BK01
Branch Name: Nugegoda
Appointment Date: 2021/06/04

======================||Service||=======================

Service ID: SER01
Service Name:

====================||Beautician Details||===============

Beautician Name: Sandali Fernando
Beautician ID: BEAU01
Email: sandali.salonj@gmail.com

======================||Payment||=======================

Payment ID: PAY01
Payable Amount: 1000

======================||Feedback||=======================

Excelent Service

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
```