Topic : Vehicle Insurance Management System

Group no : MLB_03.02_05

Campus : Malabe

Submission Date : 2022/05/20

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**
IT21240560	Jayarathne U.C.K.	0713035762
IT21243912	Gaurawa S.	0786543501
IT21241628	Wickrama Arachchi W.A.D.C.S.	0775334405
IT21241550	Bidushan V.P.	0702027631
IT21238376	Dinujaya M.H.S.	0703200293

Requirements

1. Customer account can change insurance package.
2. Customer can pay insurance.
3. Customer can claim insurance.
4. Customer can send feedback.
5. Customer can request support.
6. Staff can provide support.
7. Staff can add/remove vehicle.
8. Staff can remove customer.
9. Staff can add new packages.
10. Packages have price, type, package ID.
11. Packages can check compatible vehicle type.
12. Vehicle can check available packages.
13. Support has request time, connected customer and staff IDs.
14. Support can connect customer and staff.
15. Support can end session.

Registration No	**Name**	**Classes**
IT21240560	Jayarathne U.C.K.	Vehicle
IT21243912	Gaurawa S.	Staff, Payment
IT21241628	Wickrama Arachchi W.A.D.C.S.	Customer, Feedback
IT21241550	Bidushan V.P.	Package
IT21238376	Dinujaya M.H.S.	Support

CRC cards

Customer class	
Responsibilities	**Collaborations**
Store customer details	
Send feedback	Feedback class
Request support	Support class

Feedback class	
Responsibilities	**Collaborations**
Store feedback details	Customer

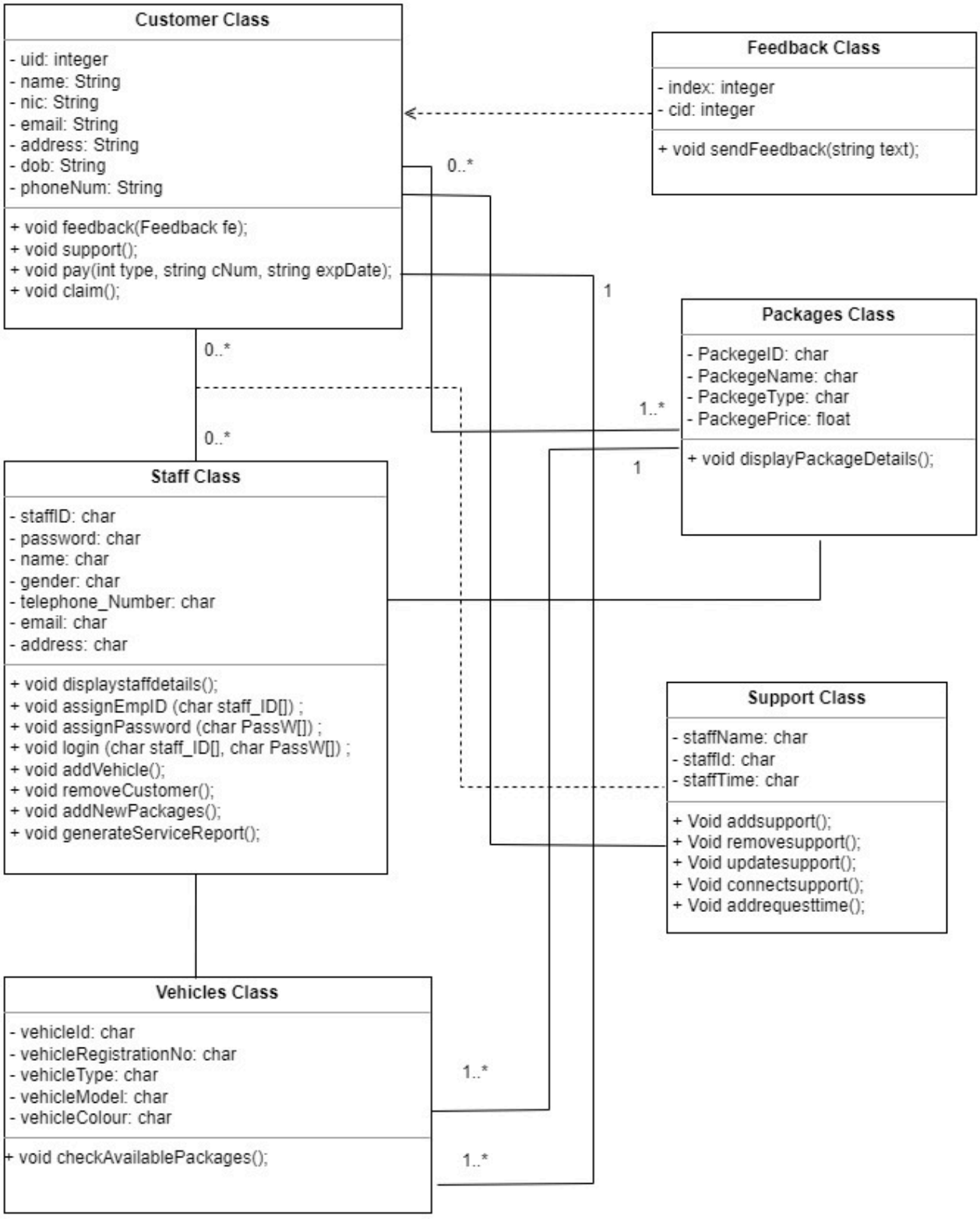
Class Name: Vehicle	
Responsibilities	**Collaborations**
Check the available packages	Packages

Class-Package	
Responsibilities	**Collaborations**
Store package details	staff
Check ability vehicle type	

Class name - support	
Responsibilities	**Collaborations**
Request time	
Connect customer and staff	Staff, customer
End session	

Class Name: Staff	
Responsibilities	**Collaborations**
Store employee credentials	
Checkout vehicle details	
Add vehicle	vehicle
Remove vehicle	vehicle
Update vehicle	vehicle
Remove packages	packages
Add new packages	packages
Generate service report	Vehicle, packages

UML diagram


Customer Class
- uid: integer
- name: String
- nic: String
- email: String
- address: String
- dob: String
- phoneNum: String
+ void feedback(Feedback fe);
+ void support();
+ void pay(int type, string cNum, string expDate);
+ void claim();
Feedback Class
- index: integer
- cid: integer
+ void sendFeedback(string text);
Packages Class
- PackegeID: char
- PackegeName: char
- PackegeType: char
- PackegePrice: float
+ void displayPackageDetails();
Staff Class
- staffID: char
- password: char
- name: char
- gender: char
- telephone_Number: char
- email: char
- address: char
+ void displaystaffdetails();
+ void assignEmpID (char staff_ID[]) ;
+ void assignPassword (char PassW[]) ;
+ void login (char staff_ID[], char PassW[]) ;
+ void addVehicle();
+ void removeCustomer();
+ void addNewPackages();
+ void generateServiceReport();
Support Class
- staffName: char
- staffId: char
- staffTime: char
+ Void addsupport();
+ Void removesupport();
+ Void updatesupport();
+ Void connectsupport();
+ Void addrequesttime();
Vehicles Class
- vehicleId: char
- vehicleRegistrationNo: char
- vehicleType: char
- vehicleModel: char
- vehicleColour: char
+ void checkAvailablePackages();
0..*
1
0..*
1..*
0..*
1
1..*
1..*

Code

Customer

```
#include <string>
#include "Feedback.h"
using namespace std;

class Customer {
  private:
    int uid;
    string name, nic, email, address, dob, phoneNum;

  public:
    Customer();
    Customer(int iud); // uses database to get user details for other attributes
    ~Customer();
    void feedback(Feedback fe);
    void support();
    void pay(int type, string cNum, string expDate);
    void claim();
    int getCID();
    string getName();
    string getNIC();
    string getEmail();
    string getAddress();
    string getDob();
    string getPhoneNum();
};
```

Feedback

```
#include <string>
using namespace std;

class Feedback {
  private:
```

```
    int index, cid;

  public:
    Feedback();
    Feedback(int cid); //index will be given by the code
    ~Feedback();
    int getIndex();
    void sendFeedback(string text);
};
```

Staff

```
#include <iostream>
#include <cstring>

using namespace std;

class Staff
{
  private:

    char staffID[4] ;
    char password[20] ;
    char name[20];
    char gender[8];
    char telephone_Number[11];
    char email[30];
    char address[50];



  public:
       Staff();
    Staff(char StaffID[],char S_password[], char S_name[], char Gender[], char
S_Pnum[],char S_email[], char S_addres[]);
    void displaystaffdetails();
    void assignEmpID (char staff_ID[]) ;
```

```
    void assignPassword (char PassW[]) ;
    void login (char staff_ID[], char PassW[]) ;
    void addVehicle();
    void removeCustomer(int uid);
    void addNewPackages();
    void generateServiceReport();
    ~Staff();//destructor
};
```

Packages

```
#include<iostream>
#include<cstring>
Using namespace std;
class Package
{
  Private:
    char PackegeID[20];
    char PackegeName[20];
    float PackegePrice[11];
    char PackegeType[11];

  public:
    Package();
    Packege(char pkg_ID[],char pkg_N[], float pkg_price[], char pkg_Type[]);
    void displayPackage Details();

    Void setPackageID(char pkg_ID[]);

    Void setPackegeprice(float pkg_price[]);
    Void setPackegetype(char pkg_Type[]);
    void setPackegeName (char pkg_N []);

    ~Package();
};
```

Vehicle

```
#include <iostream>
#include <cstring>
class Vehicle
{
private:
	char vehicleId[10];
	char vehicleRegistrationNo[10];
	char vehicleType[20];
	char vehicleModel[40];
	char vehicleColour[20];

public:
  Vehicle();
	Vehicle(const char pVehicleId[], const char pVehicleRegistrationNo[], const char pVehicleType[], const char pVehicleModel[], const char pVehicleColour[]);
  void checkAvailablePackages();
  ~Vehicle();
};
```

Support

```
#include<iostream>
#include<cstring>
Using namespace std;
class Support
{
  Private:
    char staffName[20];
    char staffId[20];
    char staffTime [20];

  public:
```

```
    Support();
    Support(char s_name[], char staffId [], char s_time[] );
    void displaystaff Details();



    Void setStaffName (char s_name []);
    Void setStaffId (char staffId [] );
    Void setStaffTime (char s_time[] );

    Void addSupport();
    Void removeSupport();
    Void updateSupport();
    Void connectSupport();
    Void addrequesttime();
    ~Support ();
};
```

Main

```
#include <iostream>
#include <cstring>
#include "Customer.h"
#include "Feedback.h"
#include "Vehicle.h"
#include "Staff.h"
#include "Payment.h"
#include "Package.h"
#include "Support.h"
using namespace std;

int main()
{
  //IT21241628
  Customer c1 = Customer(2);
  Feedback f1 = Feedback(3);
```

```
  //IT21240560
  Vehicle *vehicle1;
       vehicle1 = new Vehicle("V001", "GQ-3384", "Van", "Toyota Dolphin",
"white");
       vehicle1->checkAvailablePackages();

  //IT21243912
  Staff emp1; //object creation using default constructor
  //object creation using overloaded constructor
  Staff emp2 ("EMP00001" , "@#$2345_7swq ","Sandun Gaurawa" ,"Male"
,"0786543501","sandungaurawa@gmail.com", "50/A Honnathara, Piliyandala");

  //IT21243912
  Payment pay1 ; //object creation using default constructor
  Payment pay2 ("P003","19/05/2022", "30,000", "Visa card", "3456789233345",
"10/28", 106) ; //object creation using overloaded constructor

  //IT21241550
  Package pkg1;// //object creation using default constructor
  //object creation using overloaded constructor
  Package pkg2("0002","Full insurace",200000,"1");

  //IT21238376
  Support sname1;// //object creation using default constructor
  //object creation using overloaded constructor
  Support sname("Suboda","A0001","11.10 AM");


  return 0;
}
```