Ahsanullah University of Science and Technology

Department of Computer Science and Engineering

Project Name : **Hospital Admission System.**

Couse Name: Database Lab
Couse ID: CSE 3104
Semester : FALL 2018

Student ID : Student Name

160204036: Arnab Saha
160204045: Dipesh Shome

Introduction: This Project is about Hospital Admission System. This system managing the hospital functions and events. It has different module to deal with day to day operations taking place like patient's details, doctor details and availability, bed managing system and admission process and updating any data if needed. It also provides billing facility on the basis of patient's status.

Motivation and Objective: The purpose of the project is to computerize the Front Office Management of Hospital to develop software which is user friendly, simple, fast, and cost – effective. It deals with the collection of patient's information, diagnosis details, etc. Traditionally, it was done manually. The project outlines all the process followed to come up with the software that is from analysis to testing the system.

Database Tables:

Table 01: New Patient Table

Field	Type	Constraint
Patient Id	Int	P.K (IS: 0020001)
First Name	Varchar(50)	Not Null
Last Name	Varchar(50)	Not Null
Gender	Varchar(50)	Not Null
Age	Int	Not Null
Blood Group	Varchar(50)	Not Null
Date of Birth	Varchar(50)	Not Null
Height	Float	Not Null
Weight	Float	Not Null
Martial Status	Varchar(50)	Not Null
Occupation	Varchar(50)	Not Null
Father's Name	Varchar(50)	Not Null
Mother's Name	Varchar(50)	Not Null
Present Address	Varchar(1000)	Not Null
Contact No.	Varchar(50)	Unique
Diseases	Varchar(1000)	Not Null

Table 02: Doctor Table

Field	Type	Constraint
Doctor ID	Int	P.K (IS: 3001)
Doctor Name	Varchar(50)	Not Null
Doctor Designation	Varchar(50)	Not Null
Department	Varchar(50)	Not Null
Phone No.	Varchar(50)	Not Null
E-mail	Varchar(50)	Not Null
Joining Date	Varchar(50)	Not Null

Table 03: Doctor Availability Table

Field	Type	Constraint
Doctor Id	Int	F.K. (DoctorTable)
Doctor Name	Varchar(50)	Not Null
Last Name	Varchar(50)	Not Null
Ward A	Varchar(50)	Not Null
Ward B	Varchar(50)	Not Null
Ward C	Varchar(50)	Not Null
ICU	Varchar(50)	Not Null
CCU	Varchar(50)	Not Null
Operation Theatre	Varchar(50)	Not Null

Table 04: Inpatient Table

Field	Type	Constraint
Admission No.	Int	P.K. (IS: 004001)
Patient Id	Int	F.K. (NewPatientTable)
Patient Name	Varchar(50)	Not Null
Ref. Doctor Id	Int	F.K. (DoctorTable)
Ref. Department	Varchar(50)	Not Null
Date of Admission	Date	Not Null
Ward Name	Varchar(50)	Not Null
Block	Varchar(50)	Not Null
Bed No.	Varchar(50)	Not Null
Bed Type	Varchar(50)	Not Null
Attendant Name	Varchar(50)	Not Null
Address	Varchar(50)	Not Null
Contact No.	Varchar(50)	Not Null

Table 05: Patient Assigned Table

Field	Type	Constraint
Patient Id	Int	F.K. (NewPatientTable)
Patient Name	Varchar(50)	Not Null
Ref. Department	Varchar(50)	Not Null
Ward Name	Varchar(50)	Not Null
Block	Varchar(50)	Not Null
Bed No.	Varchar(50)	Not Null
Bed Type	Varchar(50)	Not Null

Table 06: Bed Table

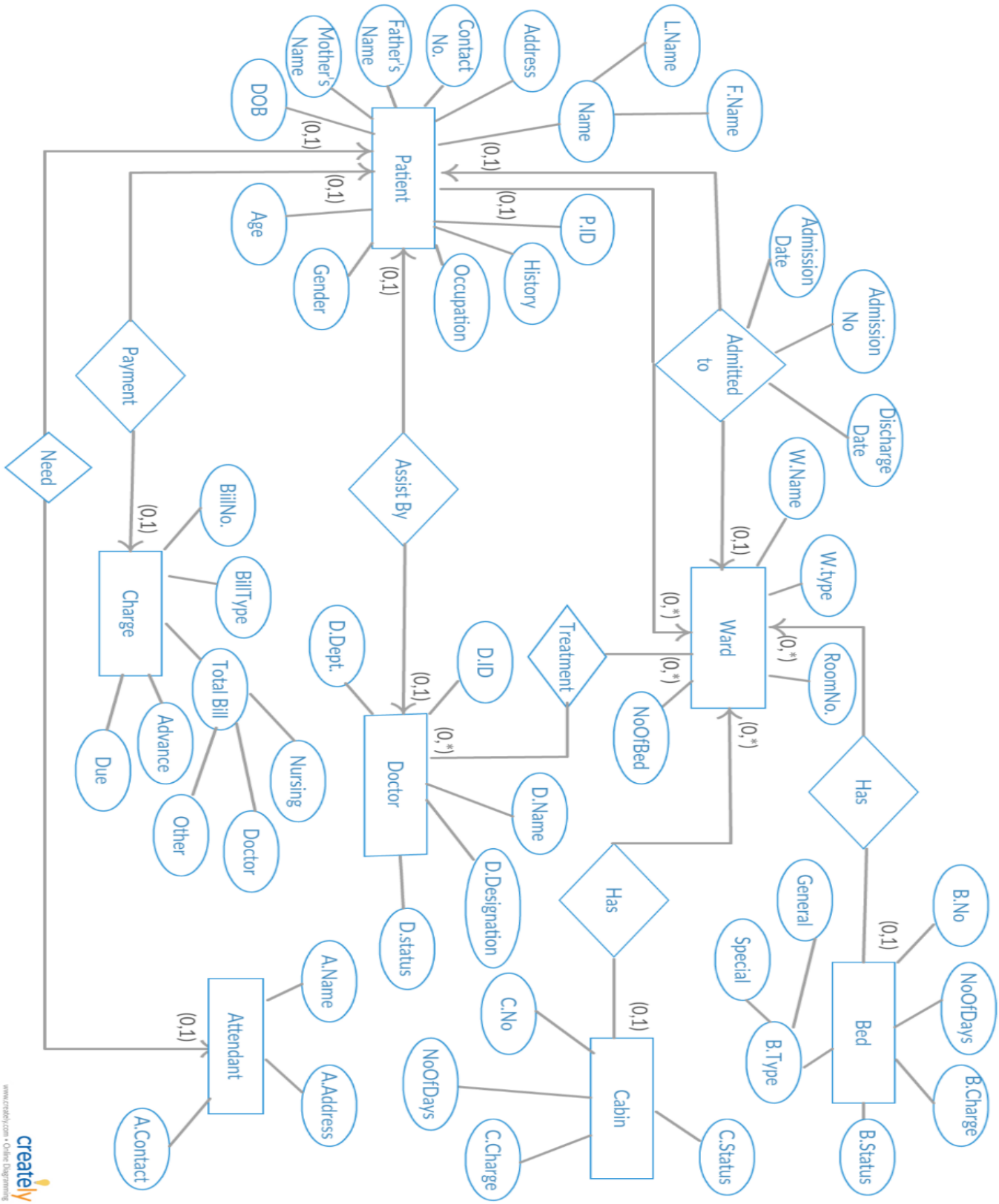
Field	Type	Constraint
Ward Name	Varchar(50)	Not Null
Bed No.	Int	P.K.
Bed Type	Varchar(50)	Not Null
Bed Status	Varchar(50)	Not Null
Bed Type	Varchar(50)	Not Null

Table 07: Charge Table

Field	Type	Constraint
Bill No.	Int	P.K (IS: 005001)
Patient ID	Int	F.K. (NewPatientTable)
Bill Type	Varchar(50)	Not Null
Discharge Date	Varchar(50)	
Bed No.	Varchar(50)	
Bed Charge	Decimal(7,2)	Null
Cabin Charge	Decimal(7,2)	Null
Nursing Charge	Decimal(7,2)	Not Null
Doctor Charge	Decimal(7,2)	Not Null
Other Expenses	Decimal(7,2)	Not Null
Advance Payment	Decimal(7,2)	Check
Due	Decimal(7,2)	Null
Payment Date	Varchar(50)	Null

Database Relations:

Field	Type	Constraint
Doctor Id	Int	F.K. (DoctorTable)
Patient Id	Int	F.K. (NewPatientTable)
Ref. Doctor Id	Int	F.K (DoctorTable)
Advance Payment	decimal(5,2)	Min 3000


Patient
Name
L.Name
F.Name
Address
Contact No.
Father's Name
Mother's Name
DOB
Age
Gender
P.ID
History
Occupation
Admitted to
Admission No
Admission Date
Discharge Date
Ward
W.Name
W.type
RoomNo.
NoOfBed
Has
Bed
B.No
NoOfDays
B.Charge
B.Status
Has
Cabin
C.No
NoOfDays
C.Charge
C.Status
General
Special
B.Type
Treatment
Assist By
Doctor
D.ID
D.Name
D.Designation
D.Dept.
D.status
Payment
Need
Charge
BillNo.
BillType
Total Bill
Nursing
Doctor
Other
Advance
Due
Attendant
A.Name
A.Address
A.Contact
(0,1)
(0,*)

Query Tables Construction

```
create table NewPatientTable(
        PatientID int Identity(0020001,1) not null primary key,
        FirstName varchar(50) not null,
        LastName varchar(50) not null,
        Gender varchar(50) not null,
        Age INT not null,
        BloodGroup varchar(50)not null,
        DateOfBirth varchar(50) not null,
        Height float null,
        Weight float not null,
        MartialStatus varchar(50) not null,
        Occupation varchar(50) not null,
        NameFather varchar(50) null,
        NameMother varchar(50) null,
        PresentAddress varchar(1000) not null,
        ContactNo varchar(50) not null unique,
        Diseases varchar(1000) not null    );

create table DoctorTable(
          DoctorID  int Identity(3001,1) not null primary key,
          DoctorName varchar(50) not Null,
          DotorDesignation varchar(50) null,
          Department varchar(50) not null,
          PhoneNo varchar(50) not null,
          DEmail varchar(50) not null,
```

```
        JoinigDate varchar(50) not null,
);

create table DoctorAvailability(
        DoctorID  int not null foreign key references DoctorTable(DoctorID),
        DoctorName varchar(50) not null ,
        WardA varchar(50) not null,
        WardB varchar(50) not null,
        WardC varchar(50) not null,
        ICU varchar(50) not null,
        CCU varchar(50) not null,
        OperationTheatre varchar(50) not null   );

create table InpatientTable(
          AdmissionNo Int Identity(004001,1) not null primary key,
          PatientId int not null foreign key references NewPatientTable(PatientID),
          PatientName varchar(50) not null,
          RefDoctorID int not null foreign key references DoctorTable(DoctorID),
          RefDepartment varchar(50) not null,
          DateOfAdmission date not null,
          WardName varchar(50) not null,
          Block varchar(50) not null,
          BedNo varchar(50)  not null,
          BedType varchar(50)not  null,
          AttendantName Varchar(50) Not Null,
          Address Varchar(50) Not Null,
          ContactNo Varchar(50) Not Null
);
```

```
SELECT PatientId,PatientName,RefDepartment,WardName,Block,BedNo,BedType INTO
PatientAssigned FROM InpatientTable;

create table BedTable(
        WardName varchar(50) not null,
        BedNo varchar(50) primary key,
        BedType varchar(50)not  null,
        BedStatus varchar(50)
);

create table  ChargeTable(
        BillNo int Identity(005001,1)  primary key,
        PatientID int not null foreign key references NewPatientTable(PatientID),
        BillType varchar(50) not null,
        DischargeDate varchar(50),
        BedNo varchar(50),
        BedCharge  decimal(7,2) null,
        CabinCharge decimal(7,2)  null,
        NursingCharge decimal(7,2) not null,
        DoctorCharge decimal(7,2)  not null,
        OtherExpenses decimal(7,2)  not null,
        AdvancePayment decimal(7,2) check (AdvancePayment>=3000.00),
        Due decimal(7,2) null,
        PaymentDate varchar(50)  null
);
```

Query Insertion of Data

```
INSERT INTO NewPatientTable(FirstName,LastName,Gender,Age,BloodGroup,DateOfBirth,Height,
Weight,MarotalStatus,Occupation,NameFather,NameMother,PresentAddress,ContactNo,Diseass)
VALUES
```

('Shakib','Hasan', Male',32,'B+','28-03-1987',172.50,72.50,'Married','Athlate',
'Karim','Salma','Mirpur,'01723546987',' Fingure Broken'),
'Tamim','Hasan', Male',30,'A+','21-03-1989',175.50,82.50,'Married','Athlate',
'Rafiq','Fatema','Mirpur,'01751246987','Leg Broken')

INSERT into DoctorTable(DoctorName,DoctorDesignation,Department,PhoneNo,DEmail,
JoinigDate)
VALUES
('A.K. Rafiq','Professor','Cardiology','01923654123','rafiq@gmail.com','01-02-2015'),
('Shafiq Khan','Assistant Professor', 'Urology,'01525654555','shafiq@outlook.com',
'16-01-2019')

INSERT into DoctorAvailability (DoctorName,WardA,WardB,WardC,ICU,CCU,OperationTheatre)
VALUES
('A.K.Rafiq','Sun-Mon','Mon-Tue','Tue-Wed','Anyday','Anyday','Anyday'),
('Shafiq Khan','Sat-Mon','Sun-Tue','Mon-Wed','Anyday','Anyday','Anyday')

INSERT INTO inpatientTable(PatientName,RefDepartment,DateOfAdmission,WardName,Block,
BedNo,BedType,AttendantName,Address,ContactNo)
Values
('Shakib Hasan','Neurology','04-04-2019','OT','A','A22','General','Musfiq','Uttara',
'0152156324'),
('Tamim Hasan','Neurology','01-04-2019','ICU','B','B19','Special','Musfiq','Uttara',
'0152156324')

INSERT INTO PatientAssigned (PatientName,RefDepartment,WardName,Block,BedNo,BedType)
Values
('Shakib Hasan','Neurology','OT','A','A22','General'),
('Tamim Hasan','Neurology','ICU','B','B19','Special')

INSERT INTO BEDTable (WardName,BedNo,BedType,BedStatus)
VALUES
('ICU','A20','General','Busy'),
('CCU','B29','VIP','Free')

Query for Value Update

UPDATE NewPatientTable SET Age=35 WHERE PatientID=20001;

UPDATE InpatientTable SET RefDepartment='Cardiology' WHERE PatientID=20001;

UPDATE PatientAssigned SET WardName='WardB' WHERE PatientID=20003;

UPDATE DoctorTable SET DotorDesignation='Assistant Professor WHERE DoctorID=3001;

UPDATE BedTable SET BedStatus='Free' WHERE BedNo='A20';

UPDATE BEDTable SET BedType=”Special’ WHERE BedNo=’A20’;

Query for the Join Operation

SELECT InpatientTable.PatientId, InpatientTable.DateOfAdmission, BEDTable.WardName, BEDTable.BedNo, BEDTable.BedType, ChargeTable.DischargeDate from BedTable join InpatientTable on BedTable.BedNo=InPatientTable.BedNo join ChargeTable on BedTable.BedNo=ChargeTable.BedNo

Screenshots of Project Interface Design:

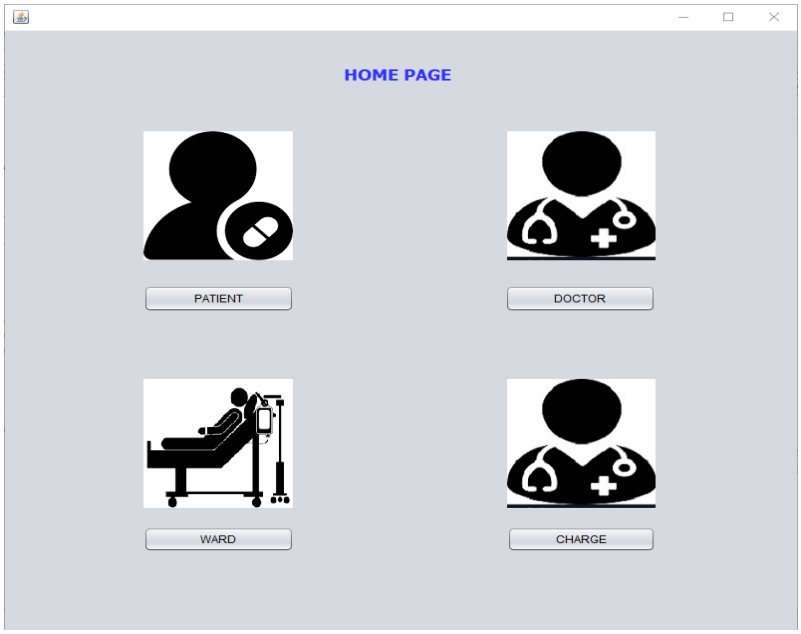


Image 01: Home Page

Image 02: Patient Menu

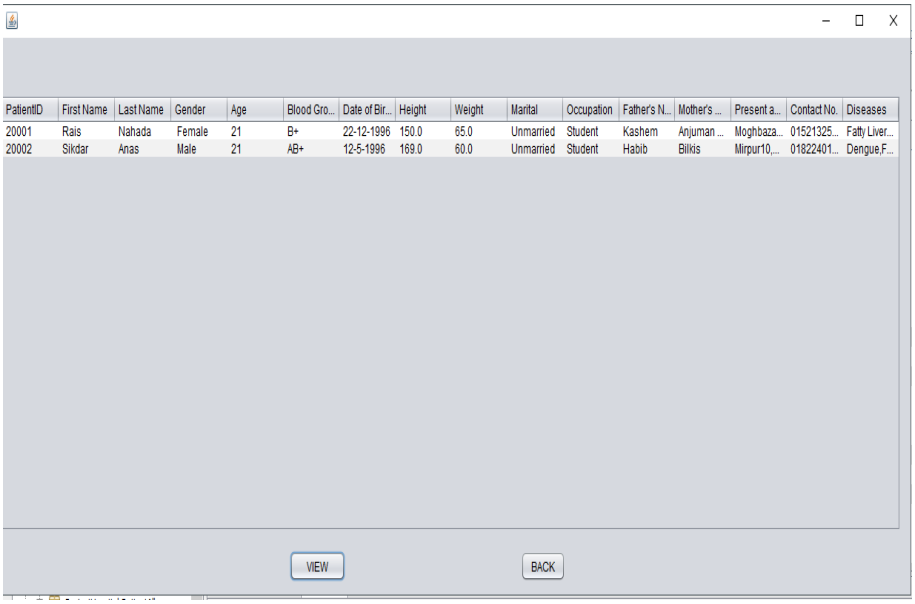


Image 03: View Patient Data

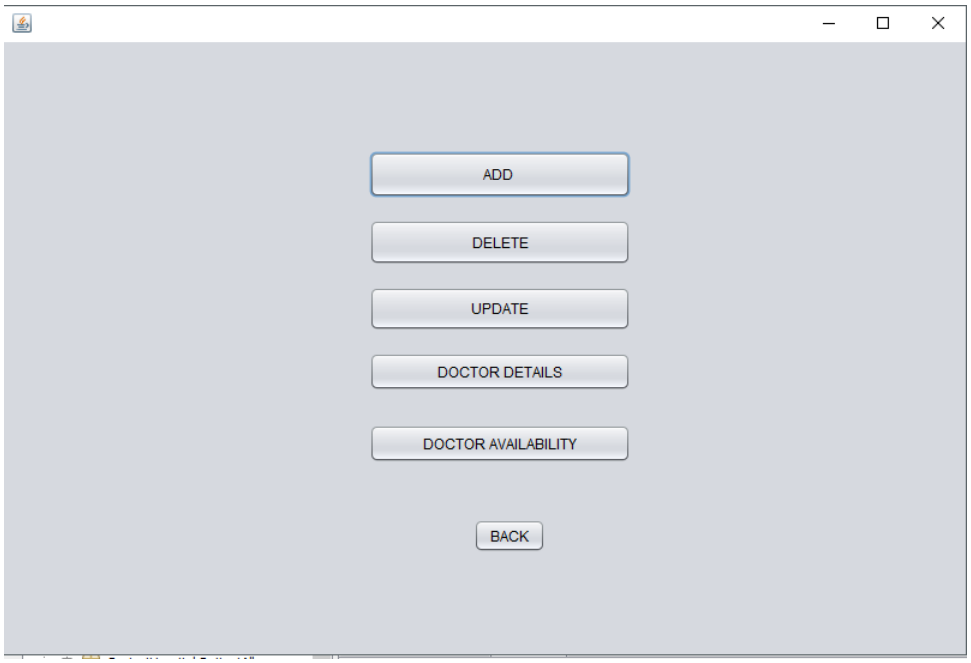


Image 04: Doctor Page

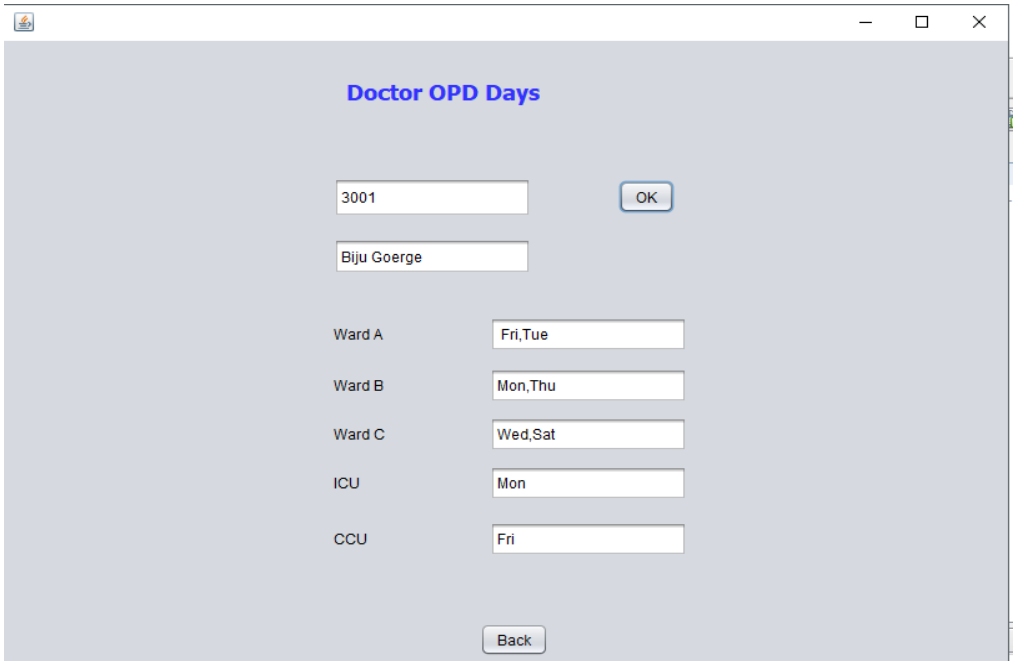


Image 05: Doctor Availability

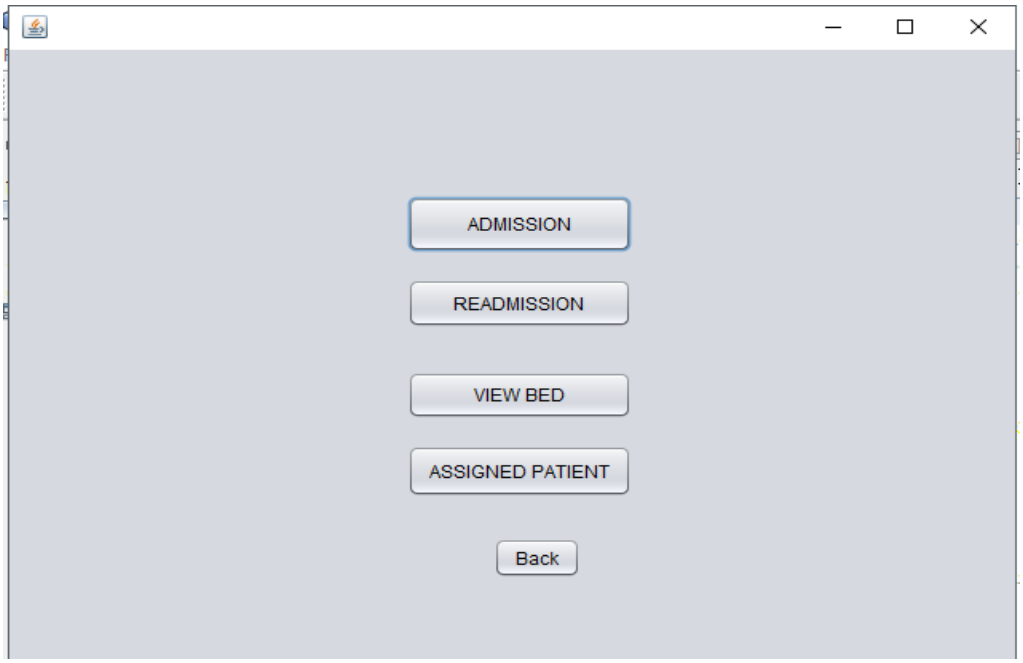


Image 06: Patient Admission Page

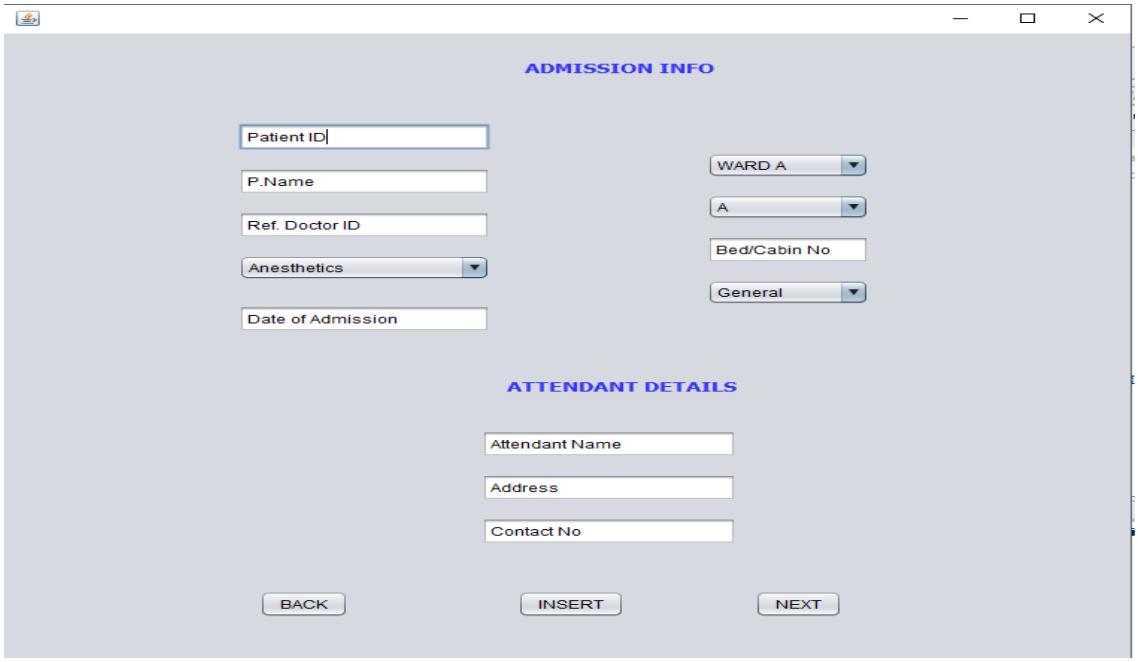


Image 07: Admission Info

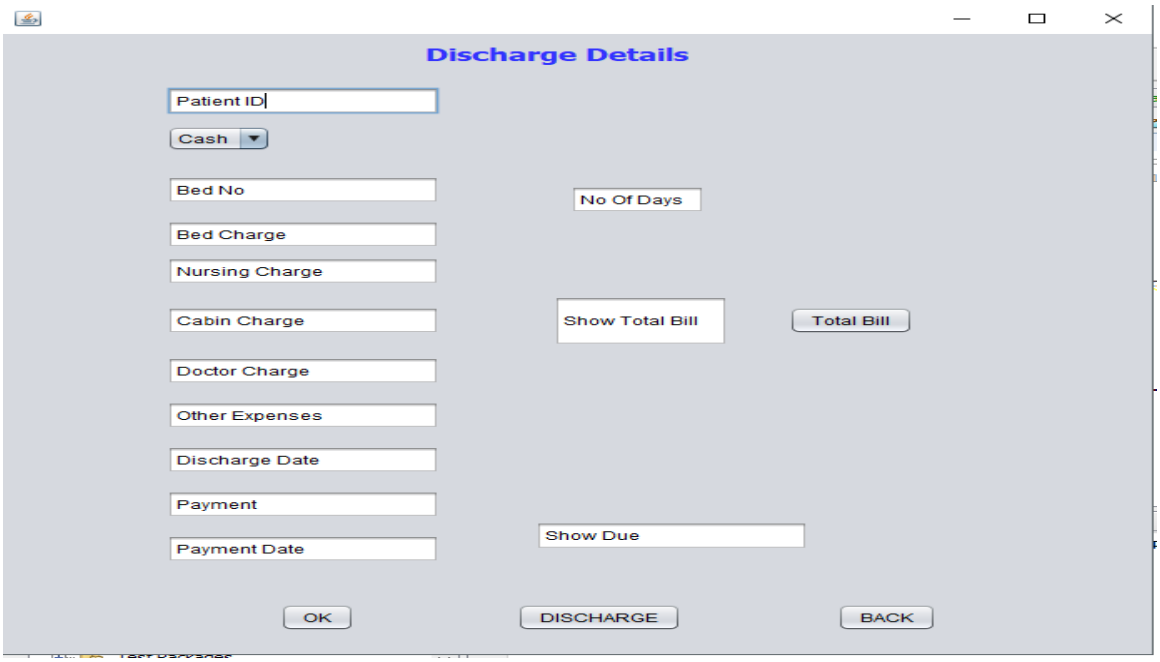


Image 08: Discharge Details

Conclusion: The project "Hospital Admission System" is for computerizing the admission in a hospital. The software takes care of almost all the requirements of a hospital and is capable to provide easy and effective storage of information related to patients that come up to the hospital. It generates doctor's information, availability, patient's history etc. It also provides billing facility on the basis of patient's status.

Contribution: