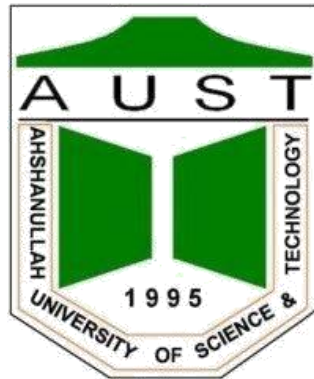


Ahsanullah University of Science and Technology



Distributed Database Lab

CSE 4126

Project name: National patient Management System.

Submitted by:

Md. Shakhawat Hossain Mridha (15-01-04-067)

Submitted to:

Mr. Mohammad Imrul

Mrs. Safun Nesa

Jubair Asst. Prof., AUST

Saira Lecturer, AUST

National Patient management system

Project Abstract:

This will be a database of patient management system which will be able to be operated nationally. There will be the information of all patients around Bangladesh so that when a patient will go to a new doctor at new hospital, they will be able to check his/her past history through this database. So, the diagnosis will be more perfect and easy for the doctor and patient will be benefited at most.

User of this database:

Hospital authority.

Need of having distributed database for this project:

As this will be a national patient database so the data will be entered from every hospital around Bangladesh. That's why we need distributed database management system.

Global relations of this project:

Doctors (dr_id, dr_name, dr_age, dr_sex, dr_phn, dr_email, dr_hospital_chamber, designation, degree, department, experience, time, Fee, day, primary key (dr_id))

Reports (rep_id, rep_date, impression, primary key (rep_id))

Medicine (med_id, med_name, med_generic_name, med_company, med_work, med_per_price, primary key (med_id))

Diagnosis (dia_id, dia_name, dia_cost, dia_requirements, dia_hospital, rep_id, primary key (dia_id), foreign key(rep_id) references reports(rep_id))

History (his_id, his_date, problem, rep_id, dr_id, med_id, primary key (his_id), foreign key(rep_id) references reports(rep_id), foreign key(dr_id) references doctors(dr_id), foreign key(med_id) references medicine(med_id))

Surgical_history (s_his_id, s_date, s_name, s_hospital, s_cost, dr_id, primary key (s_his_id), foreign key(dr_id) references doctors(dr_id))

Patient (pt_id, pt_name, pt_age, pt_sex, pt_phn, pt_house, pt_road, pt_block, pt_section, pt_district, bl_grp, weight, height, dia_id, his_id, s_his_id, primary key (pt_id), foreign key(dia_id) references diagnosis(dia_id), foreign key(his_id) references history(his_id), foreign key(s_his_id) references surgical_history(s_his_id))

Functions and procedures of the database:

- **Function 1 (blood_group):**

This is a function which counts the patients of same blood group of given ID as parameter.

- **Procedure 2 (same_bl_group):**
This is a procedure which gives the patients ID, corresponding number of patients of same blood group and corresponding blood group (fetched from the cursor) using function 1.
- **Function 3 (dr):**
This is a function which finds the doctor ID who hasn't done any surgery till now (this works for only single ID).
- **Function 4 (rep):**
This is a function which counts the patients who have report impression as 'normal report'.
- **Procedure 5 (rep_date):**
This is a procedure which gives the patients' ID and name whose reports were made on 21-05-2016.
- **Procedure 6 (his):**
This is a procedure which shows the history date and problem of a patient.
- **Procedure 7 (shis):**
This is a procedure which gives the patients' name and phone number whose surgical cost was greater than 60 thousands.
- **Procedure 8 (dd):**
This is a procedure which shows the name and designation of the doctor who operated on desired patient.
- **Blood_group_find:**
Search patient of a special blood group from server at site.

Fragments of this project:

Doctors1 = $\mathbb{S}\mathbb{L}$ dr_hospital_chamber="Square Hospital" Doctors
 Doctors2 = $\mathbb{S}\mathbb{L}$ dr_hospital_chamber ="Medinova Diagnostic" Doctors

```
Command Prompt - sqlplus
Microsoft Windows [Version 6.3.9600]
(c) 2013 Microsoft Corporation. All rights reserved.

C:\Users\user>sqlplus

SQL*Plus: Release 11.2.0.2.0 Production on Thu Oct 11 23:51:31 2018

Copyright (c) 1982, 2014, Oracle. All rights reserved.

Enter user-name: sys as sysdba
Enter password:

Connected to:
Oracle Database 11g Express Edition Release 11.2.0.2.0 - 64bit Production

SQL> drop database link site1;

Database link dropped.

SQL> create database link site1 connect to hospital identified by "hospital1" using
  2  (DESCRIPTION =
  3  (ADDRESS = (PROTOCOL = TCP)(HOST = 192.168.0.109)(PORT = 1521))(CONNECT_DATA =
  4  (SERVER =
  5  DEDICATED)(SERVICE_NAME = XE)))';

Database link created.

SQL> create or replace procedure fragment_doctor1
  2  is
  3
  4  begin
  5
  6      for t in (select * from doctors where dr_hospital_chamber = 'Square Hos
  7  pital' )
  8      loop
  9          insert into doctors@site1 values (t.dr_id, t.dr_name, t.dr_age,
 10  t.dr_sex, t.dr_phn, t.dr_email, t.dr_hospital_chamber, t.designation, t.degree,
 11  t.department, t.experience, t.time, t.fee, t.day);
 12      end loop;
 13      commit;
 14  end;
 15  /

Procedure created.

SQL>
SQL> execute fragment_doctor1;

PL/SQL procedure successfully completed.

SQL>
```

```

C:\> Command Prompt - sqlplus
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\USER>sqlplus

SQL*Plus: Release 11.2.0.2.0 Production on Thu Oct 11 22:33:20 2018

Copyright (c) 1982, 2014, Oracle. All rights reserved.

Enter user-name: sys as sysdba
Enter password:

Connected to:
Oracle Database 11g Express Edition Release 11.2.0.2.0 - 64bit Production

SQL> conn hospital/hospital1
Connected.
SQL> select * from doctors;

no rows selected

SQL> select * from doctors;

no rows selected

SQL> select * from doctors;

DR_ID DR_NAME                DR_ D DR_PHN          DR_EMAIL
-----
CHAMBER
DEGREE
FEE    DAY
9002 Raihan Rabbani          40 M 01678904145 raihan1@gmail.com
Square Hospital
MRCP,FCPS                    Medicine      10y      5:00pm
1200 Sat,mon,tues,thurs

SQL>
```

Sites of this project:

Site1 (Square Hospital) : Doctors1, patient, reports, medicine, diagnosis, history, surgical_history.

Site2 (Apollo Hospital) : Doctors2, patient, reports, medicine, diagnosis, history, surgical_history.

Triggers of this project:

Trigger 1: There are two tables at site 1 where male and female patients are differentiated.

Trigger 2: There is a new table at site 1 when a phone number of a patient is changed it is stored there.

Level-3 distribution transparency:

When Square changes their medicine price it will be updated on server too.

```
Select med_name, med_generic_name, med_company,
med_work into $med_name, $med_generic_name,
$med_company, $med_work from medicine where med_id = 02
IF #FOUND then,
```

```
Delete medicine at site1 where med_id = 02;
```

```
Insert into medicine at site1: (02, $med_name,
$med_generic_name, $med_company, $med_work,
"35tk");
```

```
Delete medicine at server where med_id = 02;
```

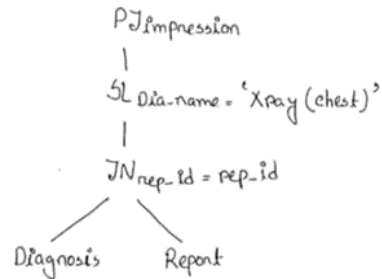
```
Insert into medicine at server: (02, $med_name,
$med_generic_name, $med_company, $med_work,
"35tk");
```

Operator Tree:

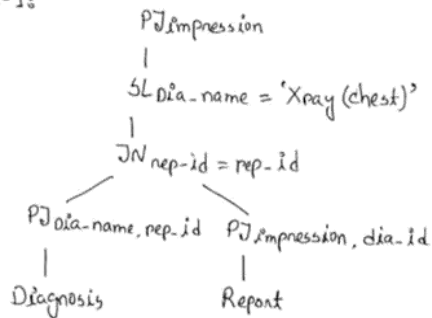
PJ Impression SL dia-name = 'Xray (chest)'

(Diagnosis JN rep-id = rep-id Report)

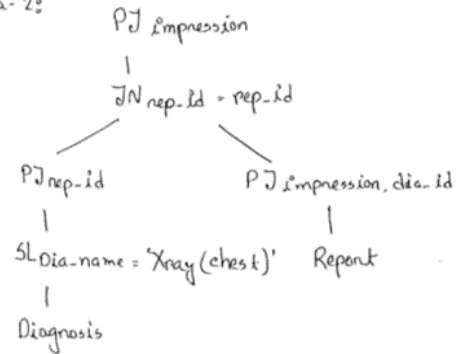
Operator Trees:



Criteria-1:



Criteria-2:



Conclusion:

We have tried our best to implement a patient management database system. Hope this will help to maintain patient history if implemented nationally.