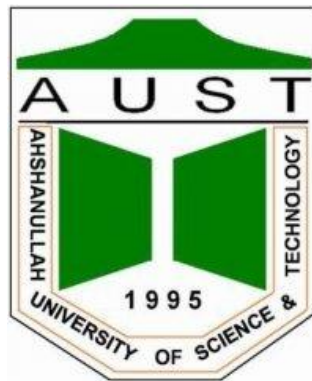# Ahsanullah University of Science and Technology

Distributed Database Lab

CSE 4126

Project name: National patient Management System.

Submitted by:

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Submitted to:

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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))

Fragments of this project:

- Doctors1 = SL $_{dr\_hospital\_chamber="Square\ Hospital"}$ Doctors

- Doctors2 = SL $_{dr\_hospital\_chamber = "Medinova\ Diagnostic"}$ Doctors


```
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" us
ing '(DESCRIPTION =
  2   (ADDRESS = (PROTOCOL = TCP)(HOST = 192.168.0.109)(PORT = 1521))(CONNECT_DAT
A =(SERVER =
  3   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
pital' )
  7       loop
  8             insert into doctors@site1 values (t.dr_id, t.dr_name, t.dr_age,
t.dr_sex, t.dr_phn, t.dr_email, t.dr_hospital_chamber, t.designation, t.degree,
t.department, t.experience, t.time, t.fee, t.day);
  9       end loop;
 10       commit;
 11
 12   end;
 13   /

Procedure created.

SQL>
SQL> execute fragment_doctor1;

PL/SQL procedure successfully completed.

SQL>
```

```
Command Prompt - sqlplus                                          [_][□][X]

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                                                       DESIGNATIO
-------------------------------------------------------------- ----------
DEGREE                       DEPARTMENT     EXPERIENCE TIME
---------------------------- -------------- ---------- --------------------
FEE    DAY
----- -------------------------------------------------------------
9002  Raihan Rabbani        40  M 01678904145 raihan1@gmail.com
Square Hospital                                              Consultant
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.
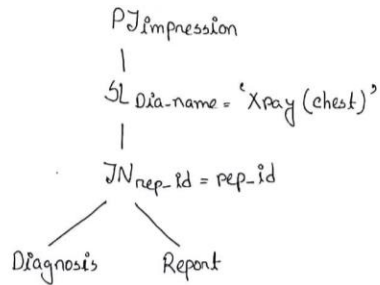
Level-3 distribution transparency:

When a patient's current medicine is updated from square hospital at site 1 then when this patient will go to medinova they will be able to see his new medicines at site 2
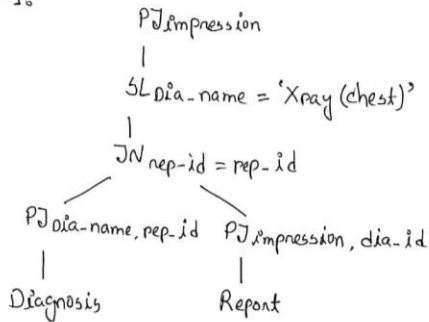
Operator Tree:

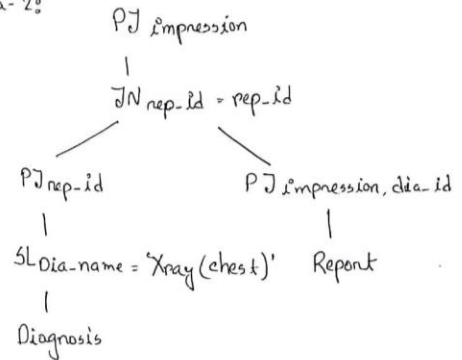$PJ_{impression}$ $SL_{dia-name = 'Xray (chest)'}$
($Diagnosis$ $JN_{rep-id = rep-id}$ $Report$)

Operator Tree:

$PJ_{impression}$
|
$SL_{Dia-name = 'Xray (chest)'}$
|
$JN_{rep-id = rep-id}$
/ \
$Diagnosis$ $Report$

Criteria-1:

$PJ_{impression}$
|
$SL_{Dia-name = 'Xray (chest)'}$
|
$JN_{rep-id = rep-id}$
/ \
$PJ_{Dia-name, rep-id}$ $PJ_{impression, dia-id}$
| |
$Diagnosis$ $Report$

Criteria-2:

$PJ_{impression}$
|
$JN_{rep-id = rep-id}$
/ \
PJ_{rep-id} $PJ_{impression, dia-id}$
| |
$SL_{Dia-name = 'Xray (chest)'}$ $Report$
|
$Diagnosis$

Calbo-C®

Conclusion:

We have worked this far on this project. We will try to complete our full project at final submission. We hope that this project will be really helpful at our medical sector.