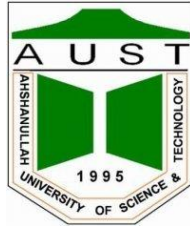# Ahsanullah University of Science & Technology

Department of Computer Science & Engineering

Patient Management System

Distributed Database System Lab

CSE-4126

Submitted By:

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Section: B

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Introduction:

Hospital are the essential part of our lives which provides us with the best medical facilities for various sickness, it may be due to the change in climatic conditions, stress (emotional trauma) etc. It is necessary for the hospital to keep track of all activities and records day in and day out of its patient, doctors, nurses and other staffs that keeps the hospital in its operation. Keeping track of all activities and reports on paper is very inefficient and time consuming and also error prone. Keeping records on paper is a traditional base system that sometimes do not make it robust, in any case of damage all files will be lost that will cost a lot to the organization. Day in and day out many people visit the hospital and when using the traditional base system it make it unreliable in the sense that it will take longer time to enter or access data and also maintaining. It is not economically and technically feasible to maintain these records on paper. Thus keeping the working on the manual system we have develop an automated version of the manual system called "Patient Management System". Patient Management System is designed specifically to manage episodes of care quickly and safely in demanding. The main aim of our project is to provide a paper-less and also providing low-cost reliable of automation of a reliable existing system. The system also provides excellent security of data at every level of user-system interaction and also provides robust and reliable storage and backup facilities.

We will use the concept of distributed database to implement our project.

Global Relations:

1. PATIENT (p_id int , p_name varchar2(30) , p_phone varchar2(30) , dept varchar2(30) , doc_id int , admission_date DATE , nurse_id int , status int , seat_no varchar2(30))
2. DOCTOR(doc_id int , doc_name varchar2(30) , d_phone varchar2(30) , dept varchar2(30))
3. NURSE (n_id int , n_name varchar2(30) , n_phone varchar2(30), dept varchar2(30))
4. SEAT (seat_no varchar2(30), status int)

Fragmentation Schema:

1. $PATIENT_1 = SELECT_{dept='MEDICINE'}(PATIENT)$
2. $PATIENT_2 = SELECT_{dept='ENT'}(PATIENT)$
3. $DOCTOR_1 = SELECT_{dept='MEDICINE'}(DOCTOR)$
4. $DOCTOR_2 = SELECT_{dept='ENT'}(DOCTOR)$
5. $NURSE_1 = SELECT_{dept='MEDICINE'}(NURSE)$
6. $NURSE_2 = SELECT_{dept='ENT'}(NURSE)$

7. $SEAT_1 = SELECT_{dept='MEDICINE'} (SEAT)$
8. $SEAT_2 = SELECT_{dept='ENT'} (SEAT)$

Allocation Schema:

There are two sites.

Site 1 Includes $PATIENT_1$, $DOCTOR_1$, $NURSE_1$, $SEAT_1$

Site 2 Includes $PATIENT_2$ $DOCTOR_2$, $NURSE_2$, $SEAT_2$

Function/Procedure Details:

1. FINDBD (date IN VARCHAR2) : takes date as parameter and returns the patient information who are admitted in that date.
2. FINDBDL3 (dept IN VARCHAR2,date IN VARCHAR2) : takes date and department as parameter and returns the patient information who are admitted in that date in the given department.
3. available_seat (dept IN VARCHAR2) : takes department as parameter and returns the available seat no.
4. insertion : insert data into site according to the department.
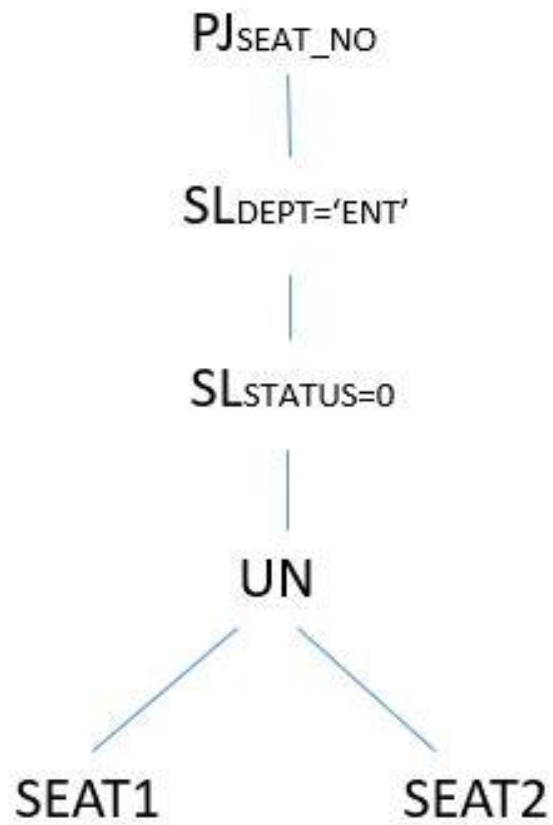5. FindAll: shows details information of each patient.

Trigger Details:

1. seat_update : This trigger will be called after inserting a new patient info and will update the status 0 to 1 of a seat to indicate that the seat is booked.
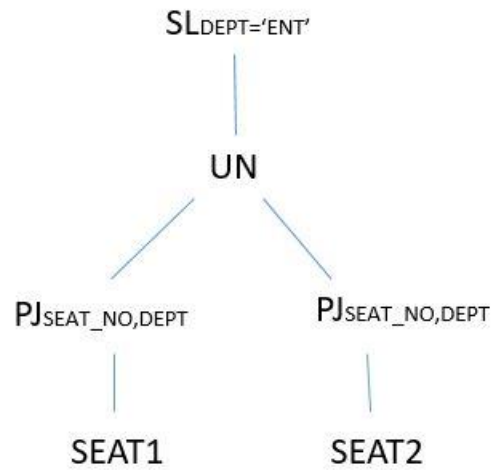
Operator Tree For The Global Query :

I take the following global query. This query returns all avaiable seat no of the given department. This query is implemented by calling FINDBDL3 procedure.
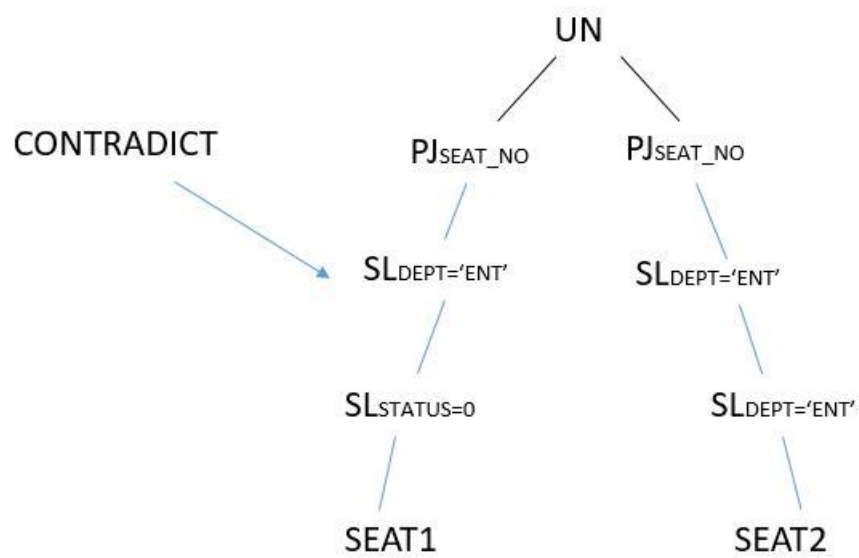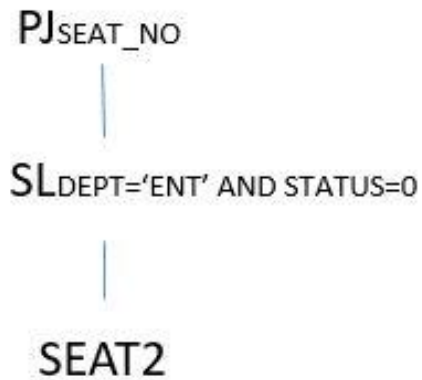
PJSEAT_NO (SL DEPT='ENT' AND STATUS=0 SEAT)

$$PJ_{SEAT\_NO}$$

$$|$$

$$SL_{DEPT='ENT'}$$

$$|$$

$$SL_{STATUS=0}$$

$$|$$

$$UN$$

SEAT1   SEAT2

Applying Criteria 1 :

$SL_{DEPT='ENT'}$

UN

$PJ_{SEAT\_NO,DEPT}$ $PJ_{SEAT\_NO,DEPT}$

SEAT1   SEAT2

Applying Criteria 2 :

UN

CONTRADICT PJ_{SEAT_NO} PJ_{SEAT_NO}

$SL_{DEPT='ENT'}$ $SL_{DEPT='ENT'}$

$SL_{STATUS=0}$ $SL_{DEPT='ENT'}$

SEAT1   SEAT2

Applying Criteria 3 :

$$PJ_{SEAT\_NO}$$
|
$$SL_{DEPT='ENT'\ AND\ STATUS=0}$$
|
$$SEAT2$$

Reduced Query:

$$PJ_{SEAT\_NO}(SL_{DEPT='ENT'\ AND\ STATUS=0}(SEAT2))$$

My Contribution

Most of the functions , procedures and triggers are written by me . I mainly focused on implementation of our project.

CONCLUSION

The project patient management system is for computerizing the working in a hospital. It is a great improvement over the manual system. The computerization of the system has speed up the process. In the current system, the front office managing is very slow. The Patient managing system was thoroughly checked and tested with dummy data and thus is found to be very reliable. The software takes care of all the requirements of an average hospital and is capable to provide easy and effective storage of information related to patients that come up to the hospital.