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Project - II

CLINIC

As an update of the first project I have added advanced features to my EMR system for an outpatient clinic. This database system is designed and defined as a system to manage data stores, where they are quired and updated using data manipulation languages such as inserting, updating, deleting the data. There are a couple of specific requirement reasons to build this database. This database allows users access their healthcare related patient related information and administrative data within the clinic for the providers. This database has different tables that work on keeping track of patient records and other data’s that a clinic need. In addition to this tables I added one more table which is the **trigger\_time.** These tables have different columns related to their specific needs which are as follows

* **Patient**: This table will keep track of patient's id, first name, last name, date of birth, address, state, city, and insurance type.
* **Provider**: This table will keep track of provider’s id, provider first name, provider last name, their profession, and department id. This table will use the patient record id to access patients' necessary records.
* **Patient** **record**: This table keeps track of patient’s record id, signs, exam orders, prescription, and discharge. This record will use the patient id to correctly access their information.
* **Visit**: This table will keep track of the facility/ location within the clinic the patient visited, date they visited relating to each patient's id number. This table will use patient’s id to correctly keep track of patients.
* **Pertinent**: This table keeps track of the appointment date, exam room, billing check number, billing date, and cost of what each patient's chargers are. Pertinent table will use patient id to keep track of necessary patient information.
* **Trigger time**: This table consist of three columns username, trigger date/ time, and action. Once I created this table, I used it to create triggers on every one of the other tables in order to show the progress of every change made within those tables.
* **Employee:** this table contains column of employees with time clocked in, clocked out, visited facility which will help connect with facility table**.**

On top of the features I have done with the data based I included the following to make sure my clinic database is efficiently working.

* I have created stored procedures which allows for users to access the database without having to write scripts. By doing so it makes it easier on the users and very efficient by saving so much time reducing to write the scripts. Simply executing the procedure will show general results from every table and data’s that are filtered by providing specific format.
* In order to make sure only authenticated users have access to the database I created users with identified way of accessing it such as password. By selecting grant of users, it shows who can access the database.
* To create the role-based access control I added specific tasks to who can do what within the database. Doctors can update, insert, and delete the database while receptionist can update, and insert.
* When any change is made in within the database as mentioned above, I create the trigger table and triggers for every table that can update, insert, and delete. For example, when first name is changed in the patient table and affects the table, then execute the trigger timetable it shows who, when, and what was done.
* I added different indexes and views for every table it differentiates people on the database. By doing so it makes it easier to do anything the database. If we had thousands of data within the database, then using the index will make it easier to find what we are looking at fast without having to look at every data.
* Everything is very efficient by following and executing the procedures, triggers, tables within the table.

Therefore, by using this database system patients, and providers of the clinic are able to successfully keep track of all the necessary information needed. From the first project I tripled the data within each table, added more tables. By being able to do all of the mentioned functionality my database system to facilitate more robust and efficient application development. This helps to support security, privacy, audit trail, and other regulatory requirements within my clinic database.