IT-650 1-2 Scenario Activity

Choose a Scenario

Southern New Hampshire University (IT-650)

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# Major Topics

A good database focuses on a single topic. Defining the major topics of a database helps “provide a clearer sense of just what the database is about” and is “the first step toward identifying the entities that will be used in the database design” (Conger, 2014, p. 11). The major topic for the database is a Double-Blind Test; the following are the major topics to include in the database:

* Doctors
* Patients
* Test Supervisors
* Appointment Schedule
* Appointment Details
* Drug Type

# Statement of Work

## History

The goal of the new database is to provide a way for the hospital to track data associated with the double-blind test of a new depression drug. The hospital does not currently have a system in place to track this information. The database will be used for the duration of the test expected to conclude after eighteen (18) months. The database will store sensitive information and will need to be secured to ensure user permissions are restricted, and the system is hardened against external intrusion threats.

## Statement of Scope

The Double-Blind Test database will be used to track critical information associated with the test of two (2) drugs used to treat depression. The database will need to handle data associated with four-hundred (400) patients handled by twenty (20) doctors and overseen by two (2) supervisors. The database will need to have strict permission requirements ensuring that doctors and Patients can only see specific data required for them to conduct their work while hiding critical data like the specific drugs each patient is provided. The database will be used to store the drug type, data from doctor's bi-weekly interviews with patients, doctor and patient profiles, and user data. Given the sensitive nature of the study, special attention needs to be given to the security of the database to ensure protection from external intrusions.

## Objectives

The goal of the Double-Blind Test database is to store data specific to the new drug to allow for evaluation of the new drug after the study. The database will be used as a means to organize the data so that external tools can reference the data and provide information relating to the drug's effectiveness at treating depression. Given that the unauthorized disclosure of the data could result in the failure of the study, a major objective of the database is to ensure critical data is not visible to the patients and doctors. The following are the key objectives of the database:

* Store data associated the drug type, patient interviews, and patient heath for review of the study at the conclusion of said study
* Track patient reactions to the new drug
* Improve the efficiency of data entry and organization of the data associated with the study
* Prevent unauthorized disclosure of critical elements associated with the study while allowing the information to be stored for later reference.

## Preliminary Timeline

* **Identify Specific Entities**
  + **Description**: This task will review each of the major topics, identified earlier in the document, and identify the specific elements needing to be stored associated with each of the topics.
  + **Time** **Allocated**: 3 Day’s
  + **Deliverable**: A document containing a complete breakdown of each of the major topics listing all of the specific entities.
* **Identify** **Permissions**
  + **Description**: This task will identify the permission groups required for the database users based on the requirements outlined in the scope.
  + **Time** **Allocated**: 1 Day
  + **Deliverable**: A document containing a breakdown of each of the permission groups required for the database. The document will identify types of users in each group, permission level of each group, and the access the group will have to each of the tables.
* **Normalization**
  + **Description**: This task will generate a data model normalized to the third normal form.
  + **Time** **Allocated**: 3 Days
  + **Deliverable**: An entity-relationship diagram showing the normalized database and the relationships between tables.
* **Building** **the** **Database**
  + **Description**: This task will translate the normalized database entity relationship diagram in the relational database management system (RDBMS). The table, columns with defined data types, relationships, and constraints, will be created.
  + **Time** **Allocated**: 4 Days
  + **Deliverable**: A database schema for the completed database.
* **Database** **Testing**
  + **Description**: This task will test the various permission levels, CRUD capabilities, business requirements, and general security of the database.
  + **Time** **Allocated**: 3 Days
  + **Deliverable**: Database test document defining the tests performed and the results of said tests.
* **Database** **Completion**
  + **Description**: This task will fix any of the problems discovered during testing, remove any data created during testing, and ensure connections to the database are functioning.
  + **Time** **Allocated**: 3 Days
  + **Deliverable**: Completed, working database.

# Notebook

The project notebook is an electronic notebook stored in GitHub. The notebook will be used to record the progress of the scenario database, store documents associated with the scenario database, and store any notes created regarding the scenario database. The following is a link to the notebook on GitHub:

* <https://github.com/ronmiller947/IT_650_Project_Notebook/tree/master>

# References

Conger, S. (2014). *Hands-on Database* (Second ed.). Upper Saddle River, New Jersey, United States: Pearson Education, Inc. Retrieved April 08, 2020