

ISAT 340—Fall 2010—Lab #3

Purpose

The goal of this lab is to give you more practice doing database analysis with a more advanced case.

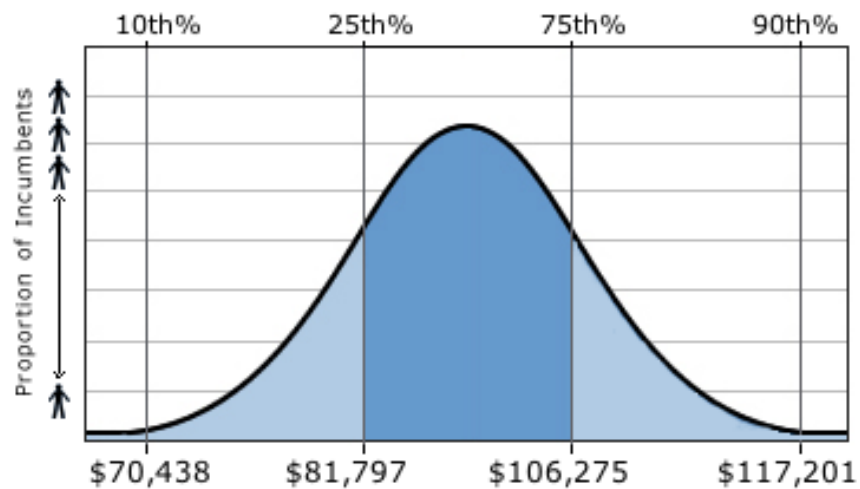
Problem

According to Salary.com, a “database administrator,” more commonly referred to as a DBA:

Administers, maintains, develops and implements policies and procedures for ensuring the security and integrity of the company database. Implements data models and database designs, data access and table maintenance codes; resolves database performance issues, database capacity issues, replication, and other distributed data issues. May require a bachelor's degree in a related area and 2-4 years of experience in the field or in a related area. Familiar with standard concepts, practices, and procedures within a particular field. Relies on limited experience and judgment to plan and accomplish goals. Performs a variety of tasks. Works under general supervision; typically reports to a manager. A certain degree of creativity and latitude is required.

Here is a chart of the salary range for DBA’s centered on the zip code 20050 (The Pentagon) on 9/10/10 from Salary.com:

Database Administrator - Washington, DC 20050



Source: HR Reported data as of September 2010

As you might guess, a comfortable salary as described here doesn't come from doing simple database analyses like the one from our introductory lab.

For this week's lab you have a more complicated database to analyze and design. Choose **ONE** of the following scenarios and complete an analysis in the same way that you completed the previous lab. Again, for extra credit you may want to actually try to create it in Access to confirm that you understand the concepts. You'll note that in the job description above it mentions that this type of job requires a certain degree of "creativity and latitude." I hope you'll find that the case as you go through this lab.

Music Database

You have been hired to design a DB for Harrisonburg Records. Our client wants to store data that helps find the albums from a given artist, the songs on a given album, the songs composed by a given artist, the albums that feature a given song, the recording company that publishes a given album, the songs that fall under a given style of music, and the albums produced by a given recording company. Each artist has a numeric ID assigned by Harrisonburg Records, a name, age, gender, and place of birth. Each album is identified by its ISBN, and has a name. Each song is identified by a unique numeric identifier and has a name and duration. The recording companies are identified by their name and have address and zip code. There are several styles of songs; each style has a unique numeric ID and a brief text description. A song can be classified under only one style. Each album has one or several songs. A song can appear on several albums. Only one recording company has produced each album but a record company can have produced several albums. Each song has been composed by only one artist, but an artist may compose several songs. An artist can play in several albums, and an album can feature more than one artist.

Baseball Database

Harrisonburg Baseball Consortium has hired you to design and implement a database to keep information about the baseball season. The HBC board wants the capability of making a list of all the players that played in a given game, the other team involved in the game, the final score, and the performance of each player in that game. Each player is identified by a player ID and has a first name, MI, and last name as well as address and birth date. Each player plays one or more positions and the same position can be played by more than one player. Positions are identified by a position ID and have a brief text description. Locations are identified by a code and have the official name of the location. Games are identified by the date the game was played, and no two games can be played on one day. They also want to keep track of the location and the name of the playing teams. Statistics of the performance of each player are kept for each game, such as hits, doubles, HR, errors, etc. For each team in the Baseball league, the DB must store information about name and location of the team. Each team will be identified by a code that is unique among teams.

Best Practice: A Designer's Mantra—*The User Is Not Like Me*

One of the [classic blunders](#) of software and website design work is that we assume that everyone sees the world exactly the way that we see it. We assume they have the same technical capabilities and understanding. We assume that what's easy for us is easy and intuitive for them, as well. **Nothing** could be further from the truth. Repeat this mantra to yourself over and over and over...

The user is not like me. The user is not like me. The user is not like me. The user is not like me. The user is not like me. The user is not like me. The user is not like me. The user is not like me. The user is not like me. The user is not like me. The user is not like me. The user is not like me. The user is not like me. The user is not like me....

Most developers are in the upper end of the 99th percentile in terms of their grasp of how to use technology. Remember that the key to being really, really good at this stuff is a strong sense of **empathy**, or the ability to put yourself into someone else's shoes/frame of reference/mindset. So when you go about designing your databases, try to keep in mind the questions that your clients are likely going to want to ask from the database. If you can't envision what those questions are, then you need to spend some more time getting to know them.

Deliverables

By 9AM on Wednesday, September 15th, 2010 please have the following:

1. Hard copies of:
 - a. Your database analysis
 - b. A short narrative explaining how and where you got stuck on this lab. Also keep a list of questions that you'd like to discuss/answer during the time that we grade this lab together.
2. Soft copies of:
 - a. Your database analysis
 - b. Your narrative
 - c. Your actual database if you decide to implement it

As usual, please zip up your files and name it **lab03_yourteamname.zip** and upload it to Basecamp.