Database for Church Treasurer

Criterion A - Planning

Problem Exposition

The client, Joel Nguyen is a church event organizer at Scarborough Vietnamese Alliance Church in Toronto, Ontario. As the event organizer, he is in charge of distributing duties to the volunteers.

At the moment, he records the volunteers' information and the jobs they feel competent to do in a large binder. He records each job and the number of people required for each job in another binder. He then uses this information to maximize the number of volunteers that can have jobs they feel comfortable in. He then puts the remaining volunteers in training so they can learn their new jobs.

With the growing number of jobs to do and volunteers, his manual input of data and distribution of jobs has become strenuous. With each new volunteer and job, the amount of analysis he has to do to emplace the maximum volunteers into positions where they feel comfortable in grows exponentially. Additionally, his manual analysis lends itself to human error. Even more, he is never sure if he minimized the number of volunteers that need to be trained.

Joel has enlisted the help of Brian Quach, a Computer Science student, to make his duties more efficient. He would like a simple interface so he can efficiently input the volunteers' information and receive the optimal job distribution of volunteers.

Word Count: 218

Rationale of the Solution

In conversing with Joel, I judged that a relational database would be appropriate for him. Like a spreadsheet, a relational database can insert and delete volunteers and events; however, unlike a spreadsheet a relational database can identify redundancies in volunteers and events as well as ensure the integrity of the data. A console-based interface for the database would be appropriate as Joel is desiring a simple, intuitive, design.

The relational database with be coded using Java. Java is an object-oriented language; its use of encapsulation allows additions to be made efficiently as detailed understanding of each class is not needed. Even more, Java is a well-known programming language; thus, additional changes can easily be done by virtually any programmer.

Word Count: 119

Starting Success Criteria

1. A data input procedure that allows Joel to add and delete jobs both manually and by file, and that allows him to save the jobs to a file.
2. A data input procedure that allows Joel to add and delete volunteers both manually and by file, and that allows him to save the volunteers to a file.
3. The ability to show the current added jobs and the number of volunteers required.
4. The ability to show the current added volunteers and their desired jobs.
5. The ability to assign volunteers to jobs to minimize the number of volunteers without jobs.
6. After all the data has been inputted, the ability to show each volunteer and their assigned jobs.
7. A user-friendly interface so Joel can easily add and remove data.
8. Concise instructions to guide Joel through the process

Word Count: 144