Criterion B: Analysis

Proposed solution:

Pastor Melgar and I initially considered the following solutions:

- Creating a spreadsheet
- Creating a database
- Finding a smaller archive

After consultation we decided upon creating a database.

Requirement specification

IT system requirements

- Hardware: PC with a minimum requirements (1 GHz processor, 512 MB RAM, 10 GB HD, Screen, Keyboard, Mouse); Digital Camera; Min 1 GB flash drive for backup
- Software: Windows XP or greater, MS Access 2003 or greater

System interaction

- Hardware: PC with a minimum requirements (1 GHz processor, 512 MB RAM, 10 GB HD, Screen, Keyboard, Mouse); Digital Camera; Min 1 GB flash drive for backup

Input/output requirements

Input requirements

- Church members' data and pictures of members provided by Pastor
- Following Forms:
  - Member form
  - Visitor form
  - Ministry form
  - Memberships Form
  - Donations form

Output requirements

- Database with the following tables:
  - Church members
  - Visitors
  - Ministries
  - Ministries members
  - Church study groups
  - Evangelism groups
  - Tithe records
  - Map areas
- Following Queries showing results in report form:
  - Search member by name
  - Search member by area
  - Search leader by ministry
  - Search donations by member
  - Search ministry by name

    - Search visitor by area
    - Search visitor by contact member
    - Search ministry by member
    - Search donations by date

Processing

- Switchboard
- Queries
- Forms
- Calculating Fields
- Validation
- Security

Security

- Passwords: high security level password to access the database
- Backups: creation of weekly backups to make sure data is safe from crashing

Specific performance criteria

a. To measure the effectiveness of the database:

    a. User-friendly interface
    b. Integrate passwords to assure security
    c. Easy input and reports
    d. Easy search
    e. Reducing space

Justification of chosen solution

The problems initially identified by Pastor Melgar were the lack of organisation in the current system, the space taken up by the archives and the poor effectiveness of the current system. He wanted something new and easy to use, that requires little physical space and is very well organised. The database is the best way to solve all these problems. First, a database uses no physical space other than the computer itself. It does not require great amounts of disk space. Also, databases are very common and can be protected better than a lock can protect an archive.

The other solutions observed were either, buying another archive and continuing recording manually, or creating a table in a spreadsheet such as MS Excel. Compared to the other solutions proposed, a database is the most effective and easy-to-manipulate solution. The larger archive would not be an IT solution and would not solve the problems outlined. It would not make the access to the records any easier and would take up even more space.

The spreadsheet solution, the Excel table, would have been way too hard to make. It would require more time to input new records and would create a lot of redundant data. Also, the spreadsheet is less effective than the database. It does not create automated reports. For this database, all needed is a desktop or laptop computer with a minimum of 512 MB RAM, 1 GHz processor, basic hard drive, a screen, keyboard, mouse and a flash disk to use as a backup. These are minimum hardware requirements, anything grater is good too. For software requirements, the computer must have installed Microsoft Windows XP as the operating system (although Windows Vista and Windows 7 are also supported) and Microsoft Office Access 2003 or newer versions. My computer meets all the requirements. Pastor Melgar's computer meets all the requirements. Pastor Melgar and his secretary will need a tutorial to learn how to use Access. I will provide the tutorial. The software is easy to use and the database will be made user friendly for the input of data and browsing through the records.

Word count: 350 words