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BBIT
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QUESTION ONE

Planning-It is a set of tasks or activities, which decide to the resource required in the database development and the time limit of different activities. The following activities takes place during planning;

- Review and approve the database project request by the KCA university
- Prioritize the database project.
- Allocate resources such as money, people, tools, etc.
- Arrange a development team to develop the database project.

Requirements collection and analysis- Requirement analysis is done in order to understand a problem, which is not solved. It is very important activity for the development of database system in the development life cycle of the database. This is where the expectations of the KCA university will be collected and analysed.

There are two major activities in requirement analysis. These are

- Problem Understanding or analysis.
- Requirement specification

design- In this phase, the information model that we developed during analysis are used to design a conceptual schema for the database and to design application. It is an important phase of the phases in database development process.

The major two steps in design phase are

- Database Design
- Process Design

DBMS Selection- A number of factor are involved in DBMS selection. They may be technical and economical factors.

Technical Factor

The technical factors are concerned with the suitability of the DBMS for information system. The following technical factor are considered

- Type of DBMS such as relational, object-oriented etc.
- Storage structure and access methods that the DBMS supports with in the database .
- Interfaces available for users and programmers.
- Types of query language.
- Development tools.

Financial Factors

- Software Cost
- Maintenance Cost

- Hardware Cost
- Database Creation and Maintenance Cost
- Training Cost

Implementation and Maintenance-

******After the design phase and selecting a suitable DBMS, the database system is implemented or installed for use. Implementation involves a series of steps leading to operational information system that includes creating database definitions, development applications, testing the system, developing operational procedure and documentation, training the users and populating the databases in the same data file of the same organization.

******The maintenance is the process of monitoring and maintaining the database system. Maintenance includes activities such as adding new fields, changing the size of existing file, adding new tables and so on

Reference

<https://www.open.edu/openlearn/ocw/mod/oucontent/view.php?printable=1&id=2786>

QUESTION 2

There are several tools used for coming up with a DBMS in any organization.

a) Identity any Two possible methods for your organization

MySQL-RDBMS

SQL Server-RDBMS

b) Discuss similarities in both methods (8 Marks)

- Both are RDBMS (relational database management systems)
- Both support programming languages such as Java and C++
- Both platforms use the standard relational database table model for storing data in columns and rows.
- The syntax of these two database platforms is similar, although you should expect some small differences across varying CRUD (create, read, update, delete) statements.
- Both MySQL and SQL Server offer high-performance speed

c) Discuss dissimilarities in both methods (8 Marks)

- MySQL is owned by Oracle while SQL Server is developed by Microsoft
- MySQL needs less amount of operational storage space while SQL Server needs large amount of operational storage space.

- MySQL does not support midway query execution cancellation while SQL Server does not block the database during backup process
- MySQL is free to use while SQL Server is costly.
- Data file can be manipulated while running in MySQL while it cannot in SQL server

Reference

<https://www.forbes.com/sites/forbestechcouncil/2020/01/08/12-top-recommended-database-management-tools/>