Information Management (EPPS 6354) Assignment

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Master in Social Data Analytics & Research

Question 1.

Name and describe three applications you have used that employed a database system to store and access persistent data. (e.g. airlines, online trade, banking, university system)

a) Airline - United Airlines online booking – This is used for booking and management of flight schedules

b) Banking - Bank of America Online/Internet banking – This is a platform that allows customers to access and make banking transactions online

c) Amazon Online (www.amazon.com) – This is an online trading platform that allows customers to purchase items with ease.

d) Orion/Galaxy – This is UTD Online Student Records Management System

Question 2.

Propose three applications in domain projects (e.g. criminology, economics, brain science, etc.) Be sure you include:

i. Purpose

ii. Functions

iii. Simple interface design

a) Crimilogy

Police Crime Management System

Purpose - To help Police manage records of crime, offenses and the records of culprits / offenders

Functions - Enter Record of Citizens

Capture Offenses

Capture fines and payments

Offense Table

Date:

Crime Type:

Offender SSN:

Offender Sex:

Offender Name:

Nature of Offense:

b) Brain Science

Pattern Recognition/Text Editor

Purpose -   To help in auto correct typographical error or pattern Recognition.

Functions - Enter Record of Citizens

Check the word by word and auto correct

Recognize the character/ pattern of an object

Character/Dictionary Table

Date:

Character Type:

Dictionary Check:

Word Count:

Character Count:

c) Economic

Banking Application

Purpose -   Financial/Banking Application.

Functions – To manage customers records

To generate Account Balances

To generate reports P&L, balance sheet etc

SAMPLE INTERFACE

Payment Table

Date:

Customer ID:

Customer Name:

Amount Paid:

Balance:

Payment Ref:

Question 6.

Describe at least three tables that might be used to store information in a social-network/social media system such as Twitter or Reddit.

a) Members Table – this is to store the records of members details such as Lastname, Firstname, Date of Birth, Addresses, PhoneNumber etc

b) Gender Table – This is to store different categories of sex such as Male, Female etc

c) Log/Event Table – This is to store activities of what individual does on the application for audit trail or events monitoring

Question 3.

If data can be retrieved efficiently and effectively, why data mining is needed?

Why data mining is needed?

The primary benefit of data mining is its power to identify patterns and relationships in large volumes of data from multiple sources.

Data mining is the process of analyzing large sets of gathered data to recognize patterns, predict outcomes, and develop solutions to problems. Generally, businesses keep a large database or tool to maintain data that is collected by customers or highlights information from around an industry.

Why data mining is needed?

Data mining is a comprehensive process and involves sifting through large amounts of information to determine what is the most valuable and what can be used to make informed decisions. Data mining is also referred to as knowledge discovery in data (KDD).

Data mining allows businesses and organizations to understand their audience, identify patterns, and adjust to trends. Businesses and organizations that use data mining are often more responsive and more resilient than those that do not. The following are some of the biggest benefits of data mining for businesses and organizations.

Benefits of Data mining

✓ It helps companies gather reliable information

✓ It's an efficient, cost-effective solution compared to other data applications

✓ It helps businesses make profitable production and operational adjustments

✓ Data mining uses both new and legacy systems

✓ It helps businesses make informed decisions

✓ It helps detect credit risks and fraud

✓ It helps data scientists easily analyze enormous amounts of data quickly

✓ Data scientists can use the information to detect fraud, build risk models, and improve product safety

✓ It helps data scientists quickly initiate automated predictions of behaviors and trends and discover hidden patterns