Why All Companies Need a Data Experience Designer

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Learning Objectives

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- Describe how the problems of managing data resources in a traditional file environment are solved by a database management system
- Describe the capabilities and value of a database management system
- Apply important database design principles
- Evaluate tools and technologies for accessing information from databases to improve business performance and decision making
- Assess the role of information policy, data administration, and data quality assurance in the management of a firm's data resources

RR Donnelley Tries to Master Its Data

- **Problem:** Explosive growth meant information management challenges.
- **Solutions:** Use MDM to create an enterprise-wide set of data, preventing unnecessary data duplication.
- Master data management (MDM) enables companies like R.R. Donnelley to standardize outdated, incomplete or incorrectly formatted data.
- Demonstrates IT's role in successful data management.
- Illustrates digital technology's role in storing and organizing data. TheCaseSolutions.com

Organizing Data in a Traditional File Environment

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- File organization concepts
- **Database:** Group of related files
- **File:** Group of records of same type
- **Record:** Group of related fields
- **Field:** Group of characters as word(s) or number
- Describes an **entity** (person, place, thing on which we store information)
- **Attribute:** Each characteristic, or quality, describing entity
- E.g., Attributes Date or Grade belong to entity COURSE

Organizing Data in a Traditional File Environment

THE DATA HIERARCHY

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Organizing Data in a Traditional File Environment

Problems with the traditional file environment (files maintained separately by different departments)
- **Data redundancy:**
  - Presence of duplicate data in multiple files
- **Data inconsistency:**
  - Same attribute has different values
- **Program-data dependence:**
  - When changes in program requires changes to data accessed by program
- Lack of flexibility
- Poor security
- Lack of data sharing and availability

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Finally

Key Concepts
prepared by:
(names of authors)

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- **Problem:** Explosive growth created information management challenges.
- **Solutions:** Use MDM to create an enterprise-wide set of data, preventing unnecessary data duplication.
- Master data management (MDM) enables companies like R.R. Donnelley to eliminate outdated, incomplete or incorrectly formatted data.
- Demonstrates IT's role in successful data management.
- Illustrates digital technology's role in storing and organizing data.

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Organizing Data in a Traditional File Environment

THE DATA HIERARCHY

A computer system organizes data in a hierarchy that starts with the bit, which represents either a 0 or a 1. Bits can be grouped to form a byte to represent one character, number, or symbol. Bytes can be grouped to form a field, and related fields can be grouped to form a record. Related records can be collected to form a file, and related files can be organized into a database.

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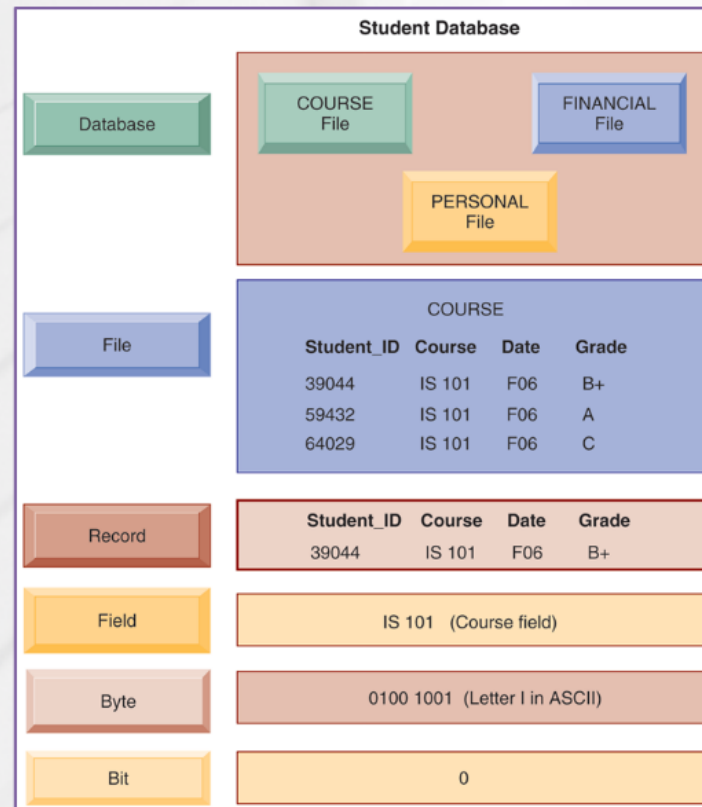
Organizing Data in a Traditional File Environment

- Problems with the traditional file environment (files maintained separately by different departments)

--Data redundancy:

- Presence of duplicate data in multiple files

--Data inconsistency:

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Organizing Data in a Traditional File Environment

TRADITIONAL FILE PROCESSING

The use of a traditional approach to file processing encourages each functional area in a corporation to develop specialized applications. Each application requires a unique data file that is likely to be a subset of the master file. These subsets of the master file lead to data redundancy and inconsistency, processing inflexibility, and wasted storage resources.
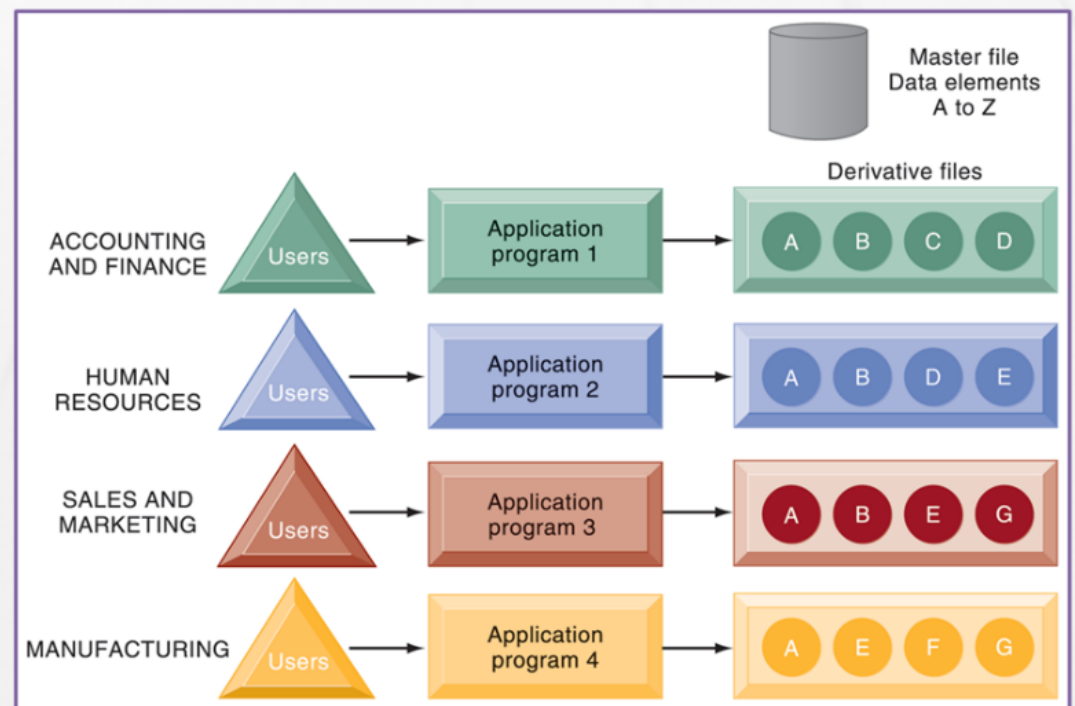
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The Database Approach to Data Management

- • Database
--Serves many applications by centralizing data and controlling redundant data
- • Database management system (DBMS)
 --Interfaces between applications and physical data files
--Separates logical and physical views of data
--Solves problems of traditional file environment

- -Controls redundancy
- -Eliminates inconsistency
- -Uncouples programs and data
- -Enables organization to centrally manage data and data security

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