

Scope & Design of Information Systems (Class 4)

So Far: LAYING A FOUNDATION

- What are Info Systems - Defs/Example
- How will Info Systems knowledge help me?
 - Specific Activities - Listed on syllabus, through discussion (i.e., evaluate, identify/resolve ethical issues).
 - Pervasive Topic - Relationship of IS to IE and Engineering shows possibilities.
- What is the scope of this class? What will we learn (not learn)?

Today: SOME BASICS

- Describing Data
 - Entity-Relationship Diagrams (p.10-11)
 - Meta-Data (p. 7)
- Differentiating *Data & Information* (p.4-7)
 - Definitions and examples from project
 - "Information Systems" yet "Modern Database Management"

Describing Data

Project Question 4 - Describe the Structure of the Data in the Database: **Describe the data that the database now contains.** How is the data in the three tables related? What is the benefit of distributing the data across three tables?

Verbal/Text Approach:

The project1 database now contains data describing stores, products, and the number of product units in different stores. The data in the store and product tables are related through the data in the StockInStores table. In this table, one can see that products can be in multiple stores and stores can have multiple products. Distributing the data across three tables reduces redundancy that would occur if fewer tables were used. Although the stock in stores table has many entries for each product and store, the specific data about a product or a store is stored only once in the respective tables.

Strengths/Weaknesses?

Other Approaches?

Describing Data

Entity Relationship Models/Diagrams

Definition:

Example for Project:

Describing Data MetaData

Definition:

Example for Project:

The image displays two side-by-side screenshots of the Microsoft Access interface, showing the 'Field Properties' window for two different tables: 'Products' and 'StockInStores'.

Left Screenshot: Microsoft Access - [Products : Table]

Field Name	Data Type	escriptio
ProductCode	Text	
Item Description	Text	
Unit Price	Number	
Descriptor 3	Memo	
Descriptor 4	Number	
Descriptor 5	Date/Time	
Descriptor 6	Currency	
Descriptor 7	Yes/No	

Field Properties (Unit Price):

Property	Value
Field Size	Single
Format	Currency
Decimal Places	2
Input Mask	
Caption	
Default Value	0
Validation Rule	
Validation Text	
Required	No
Indexed	No

Right Screenshot: Microsoft Access - [StockInStores : Table]

Field Name	Data Type	escriptio
StoreID	Text	
productCode	Text	
Quantity	Number	

Field Properties (Quantity):

Property	Value
Field Size	50
Format	
Input Mask	
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	No
Allow Zero Length	No
Indexed	Yes (Duplicates OK)

Describing Data - **Tradeoffs**

Question: What are the strengths & weaknesses of the various approaches?

1. Verbal/Text Description:

2. Entity Relationship Diagram:

3. Meta-Data:

Data & Information: **Exploring the difference**

Data:

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Data: Facts, texts, graphics, images, sound, and video that have meaning in a users environment.

Information:

Data & Information: **Exploring the difference**

Data: Facts, texts, graphics, images, sound, and video that have meaning in a users environment.

Information: Data that have been processed in such a way as to increase the knowledge of a person who uses data.

Why Distinguish?

Database Systems vs. Info Systems

Final Thought: Our course is entitled *Information Systems*. Yet, our text is entitled *Modern Database Management*. What (if any) might be the distinction?