CHAPTER 13
Specifying data requirements

Objectives

- Student should enhance the ways to explore and represent the data
- Student understand the ways to specify any reports or dashboards of application needs to generate.

Contents

1. Modeling data relationships
2. The data dictionary
3. Data analysis
4. Specifying reports
5. Dashboard reporting

Modeling data relationships

- Purpose
- ERD or Class diagram?
- How to build ERD (remind) and class diagram

The data dictionary

- Definition
- Purpose
- Example

Data Element	Description	Composition or Data Type	Length	Values
Chemical Request	request for a new chemical from either the Chemical Stockroom or a vendor	Request ID + Requester + Request Date + Charge Number + 1:10(Requested Chemical)		
Delivery Location	the place to which requested chemicals are to be delivered	Building + Lab Number + Lab Partition		
Number of Containers	number of containers of a given chemical and size being requested	Positive integer	3	
Quantity	amount of chemical in the requested container	numeric	6	
Quantity Units	units associated with the quantity of chemical requested	alphabetic characters	10	grams, kilograms, milligrams, each
Request ID	unique identifier for a request	integer	8	system-generated sequential integer, beginning with 1

Data analysis

- Purpose
- CRUD matrix : Create, Read, Update, and Delete
- Example

Entity Use Case	Order	Chemical	Requester	Vendor Catalog
Place Order	C	R	R	R
Change Order	U, D		R	R
Manage Chemical Inventory		C, U, D		
Report on Orders	R	R	R	
Edit Requesters			C, U	

FIGURE 13-5 Sample CRUD matrix for the Chemical Tracking System.

Specifying reports

- Many applications generate reports from one or more databases, files, or other information sources.
- Reports can consist of traditional tabular presentations of rows and columns of data, charts and graphs of all types, or any combination
- Exploring the content and format of the reports needed is an important aspect of requirements development

Specifying reports

- Eliciting reporting requirements
- Report specification considerations
  - Consider other variations
  - Find the data
  - Anticipate growth
  - Look for similarities
  - Distinguish static and dynamic reports
  - Prototype reports
- A report specification template: page 255

Dashboard reporting

- Definition

  A dashboard is a screen display or printed report that uses multiple textual and/or graphical representations of data to provide a consolidated, multidimensional view of what is going on in an organization or a process

- Purpose
  - pull together information about sales, expenses, key performance indicators (KPIs), and the like.
  - Stock trading applications display a bewildering (to the novice) array of charts and data that the skilled eye can scan and process at a glance

- How to build