Chapter 1: Database Systems CSCI 475

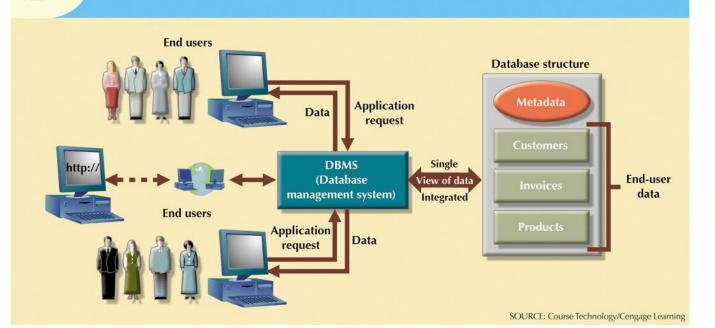
Heart of Database Management Systems (DBMS)

- 1. collect
- 2. store
- 3. aggregate (combine)
- 4. manipulate
- 5. disseminate (spread)
- 6. manage

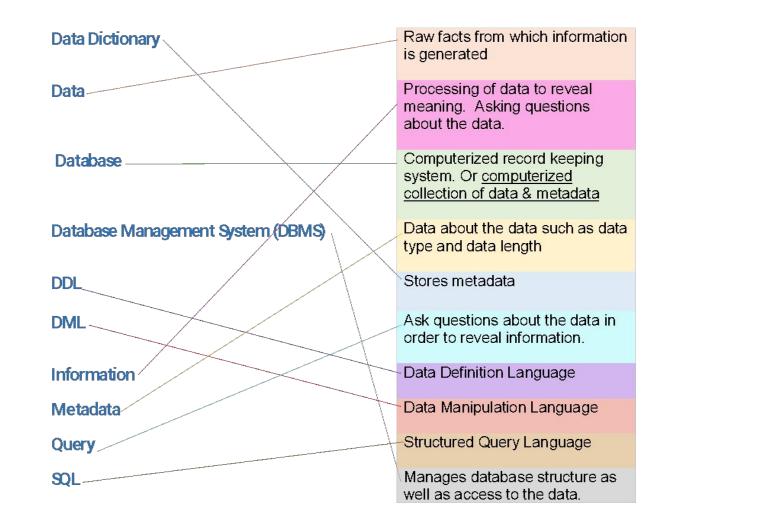
ALL DONE QUICKLY

FIGURE 1.2

The DBMS manages the interaction between the end user and the database



Definition Activity



Consistent data	Enforces data reliability
Data Anomaly	Rules in data dictionary enforced, such as datatype and length
Data Integrity	Bridges real world and computer databases
Data Model	Same data stored unnecessarily in different places
Data Redundancy	When not all of the required data changes are made successfully (UPDATE, INSERT, DELETE)
Contraints	_Restrictions on data

Employee_Skills Table

ID E	ENum	Name	Title	HireDate	Skill1	Skill1Date	Skill2	Skill2Date	Skill3	Skill3Date
1 0:	2345	Johnny Jones	DBA	2/14/1995	Basic Database Management	2/14/2000	Advanced Database Management	2/14/2003	Basic Web Design	8/9/2001
2 0	8273	Marco Bienz	Analyst	7/28/2006	Basic Web Design	3/8/2007	Advance Process Modeling	8/19/2010		
3 0	6234	Jasmine Patel	Programmer	8/10/2005	Basic Web Design	8/10/2005	Advanced C# programming	8/10/2005	Basic DB manipulation	1/29/2010
4 0:	3373	Franklin Johnson, Jr.	Purchasing Agent	3/15/2002	Advanced Spreadsheets	6/20/2009				
5 13	3567	Almond, Robert	Analyst	9/30/2012	Basic Process Modeling	9/30/2012	Basic Database Design	5/23/2013		
6 1	0282	Richardson, Amanda	Clerk	4/11/2011						
7 0	9382	Jessica Johnson	Database Programmer	8/2/2010	Basic DB Design	8/2/2010	Basic Database Manipulation	8/2/2010	Advanced DB Manipulation	5/1/2011
8 1	4311	Duong, Lee	Programmer	9/1/2014	Basic Web Design	9/1/2014				
9					Master Database Programming					
10					Basic Spreadsheets					
11 0:	9002	Ben Joiner	Clerk	5/20/2010	Advanced Spreadsheets	5/16/2011	Basic Web Design	5/16/2011		
12 13	3383	Raymond F. Matthews	Programmer	3/12/2012	Basic C# Programming	3/12/2012				
13 0	9283	Chavez, Juan	Clerk	7/4/2010						
14 0	4893	Patricia Richards	DBA	6/11/2004	Advanced Database Management	6/11/2004	Advanced Database Manipulation	9/20/2010		
15 13	3932	Lee, Megan	Programmer	9/29/2013						