



Whitemarsh
Information Systems Corporation

Specifying the Corporate Business Model

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Part I

Introduction

1. The database setting
2. The integrated database
3. The viewpoints
4. Database development scenarios
5. Project overview
6. Staffing
7. Project phases



1. The Database Setting

- 1.1 The integrated database
- 1.2 The traditional approach
- 1.3 Critical comparison
- 1.4 The promise of database
- 1.5 Summary



1.1 The Integrated Database

Traditionally, "going database" is viewed as a technical discipline -- an extension of the DP organization.

Thus,

- ! Database is viewed as a file organization
- ! Use of DBMS is synonymous with "going database"
- ! DBMS's are used as fancy access methods



"Database" Is Really the Code Word For

The systematic process of defining, and organizing a body of codified information for a large class of information users.



Database Underscores:

- ! Sharing common data
- ! Maintaining accuracy
- ! Responding to needs
- ! Orderliness, uniformity and
- ! Maintainability of represented data



To Have Database Is to Be Organized!

Definition: Database is a treaty that governs the behavior of its users.

The real question is:

Not whether you have DBMS, but whether you have database.



1.2 The Traditional Approach

- ! Uncontrolled redundancy: multiple versions of the truth, expanding overtime
- ! Costly development of applications with overlapping data & processing requirements
- ! Poor responsiveness to user needs: long delays in assembling, integrated reports
- ! Low quality data: decentralized & private files, impossible to control
- ! Multiple, disconnected, and informal channels for distributing information outside of organization



Traditional Data Processing Environment

- ! Large sequential files
- ! Founded on report requirements
- ! Design strategy

Output specification

- then -

Input requirements

- then -

Program specification to translate input to output



1.3 Approach Comparison

APPROACH COMPARISON		
Characteristic	Traditional data processing	Database Approach
Ownership	Programmer	Corporation
File	Stand-alone, transient storage and high performance structure design	Permanent storage; small part of a naturally organized structure
Input	Only critical data to serve report needs; one data collection per report	Capture data and contexts; preserve environment and history; one data collection per database
Output	Multiple reports via single pass of data file	Transient report requirements that change often
Program	File division and procedure division with program based semantics to process multi-meaning data fields	COBOL only for updates and complex reports; ad hoc language; All semantics within the database
Data field	Small as possible; pack as many values and meanings as possible	Single meaning; well defined with strict rules



Result--when You Use the Traditional Approach

- ! Collect only what you report.
- ! Store only in pre-report format.
- ! Extract specific data from natural contexts into processing efficient storage.
- ! Everyone goes B-ZURK when a change happens because...



- ! All File Formats Have to Be Changed
- ! All report programs have to be changed
- ! All input programs have to be changed
- ! All translation programs have to be changed
- ! New data collection procedures are instituted, duplicating and overlapping existing ones

In short, everything has to be changed

And so, We Dpers invented,



Crafty Sex Codes

Crafty Sex Codes							
Code	Age			Sex		Handicapped Status	
	0-5	6-25	26 & up	Male	Female	Yes	no
1		✓		✓			✓
2		✓			✓		✓
3		✓		✓		✓	
4		✓			✓	✓	
5			✓	✓			✓
6			✓		✓		✓
7			✓	✓		✓	
8			✓		✓	✓	
9	✓			✓	✓	✓	
0	✓			✓	✓		✓



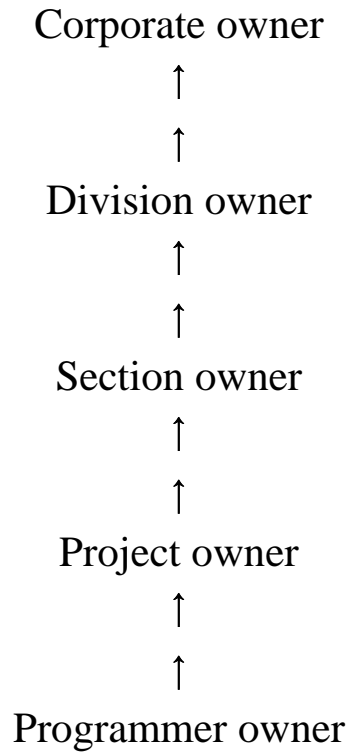
But That Was No Problem Because

- ! We documented very well
- ! We never changed jobs
- ! We alone owned the entire system



The Environment Has Changed

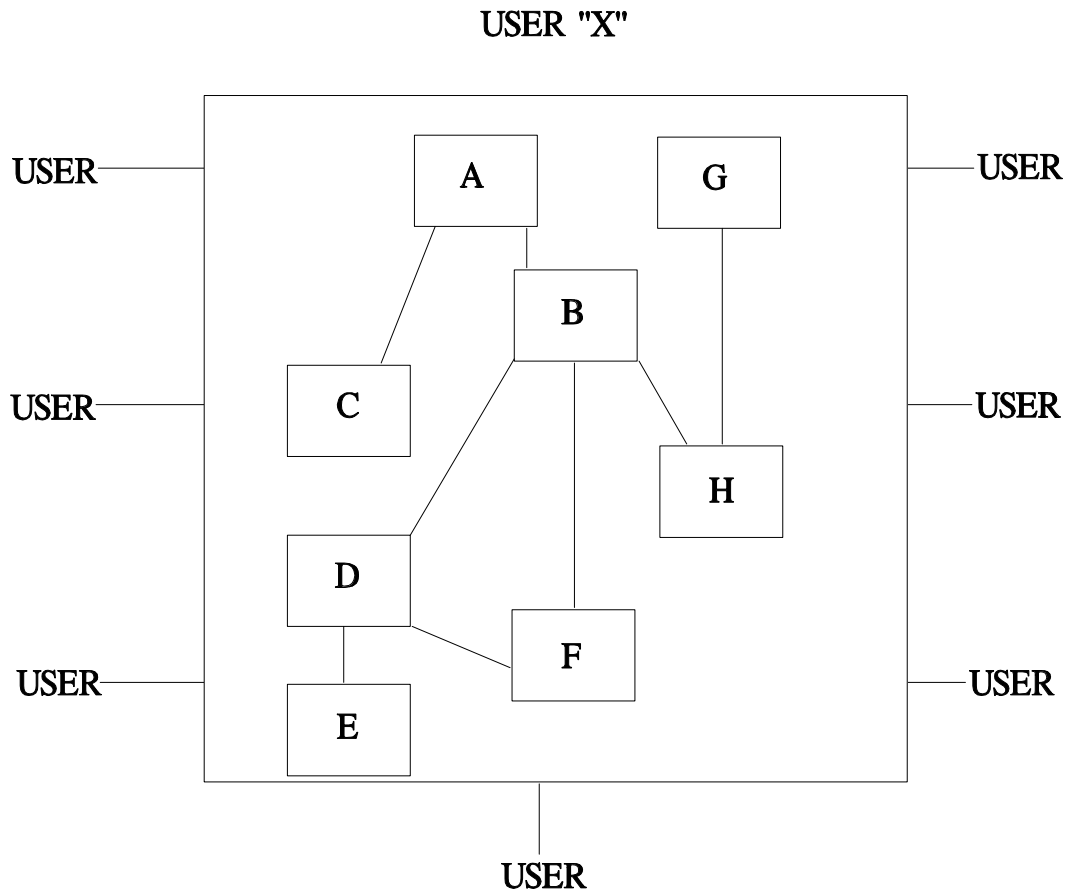
Ownership abstraction



Which results in



Common Access

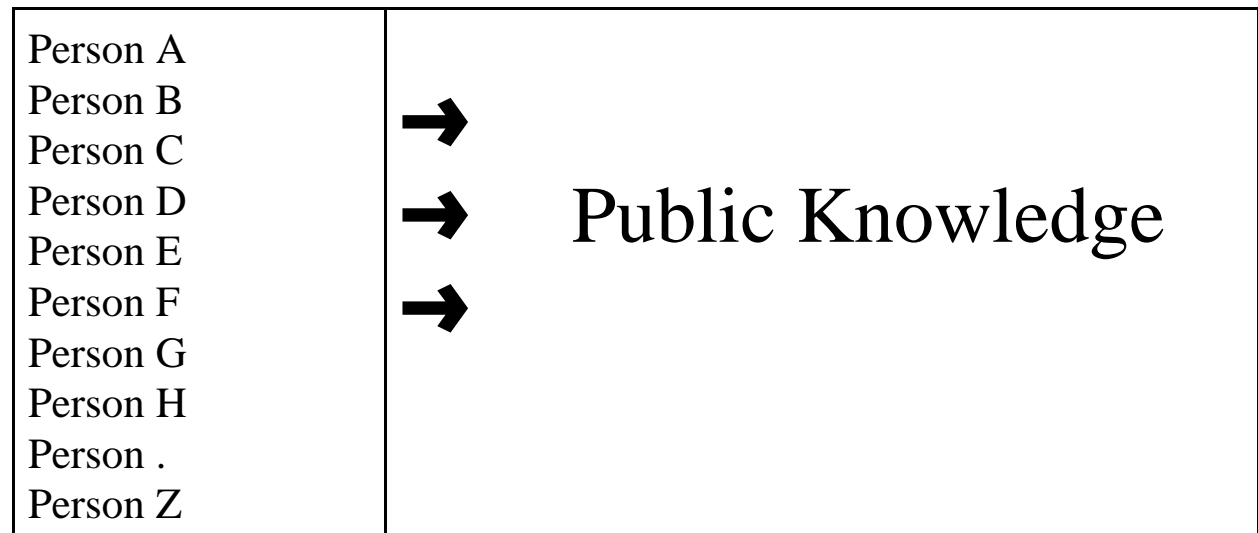


And that requires...

- ! Public Rules/policies
- ! Public programs
- ! Natural data contexts
- ! Single purpose data

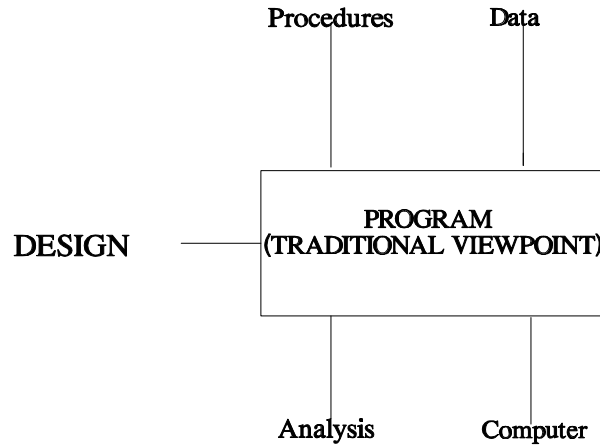


Private Knowledge

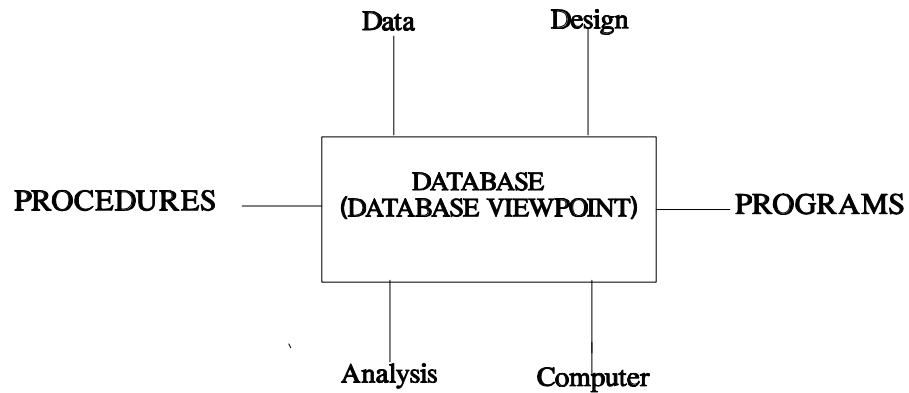


Change of Focus

From:



To:



1.4 The Promise of Database

- ! Database centered analysis & design
- ! Database designs built on natural reflections of business fundamentals
- ! Long term stability in data
- ! Emphasis on "canned" tools to accomplish transient work
- ! Corporate ownership
- ! Common processing



Short Term Benefits

- ! Few organized versions of the truth
- ! Controlled accuracy and integrity of the data
- ! One-time investment in a well-planned data resource
- ! Orderly foundation for application systems



Long Term Benefits

- ! Increased productivity of data: strategic & operational
- ! Reduced cost of data maintenance: collect once, update once
- ! Planned foundation for future business systems



1.5 Summary

- ! Database is not a technical discipline
- ! Data integration is the: organization, preservation, and utilization of data in the enterprise
- ! Database has short-term and long-term benefits
- ! Database can be implemented manually or by computer

