Users

On the scene -

DBA - administrates database, coordinate with other stakeholders Database Designer - this is you!

- Requirements gathering
- Conceptual design
- Logical design
- Physical design

End users

- Casual need to know some things about the DBMS
- Naive don't need to know about the DBMS
- Sophisticated Software Engineer & System Engineer, etc.. Behind the scene - (aren't concerned with your mini world)
- Standalone excel to manage your budget

Database System Database - related data (general)

- Logically coherent
- represents the real world
- it has a purpose

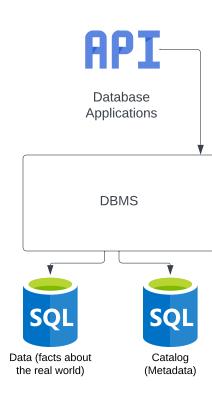
DBMS (DCMS) Define - Metadata

Construct (storage medium)

Manipulate - i.e. SQL

Sharing - multiple users

Protection - implements security Maintainence - i.e. index maintainence





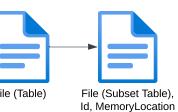
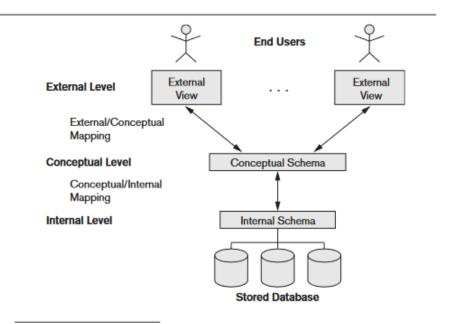


Figure 2.2 The three-schema architecture.



⁹This is also known as the ANSI/SPARC (American National Standards Institute/ Standards Planning And Requirements Committee) architecture, after the committee that proposed it (Tsichritzis & Klug, 1978).

Client

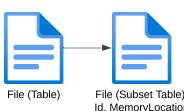
Server

API

Miniworld

Database





Natural Language, 4th Dimensional High Level Programming Languages

Python

C# Compiler Java

C, C++

0. Requirements

High

Low Level

Assembly, Machine

Language

Entities, Attributes, and

Relationships (ER

Diagrams)

DBMS

Conceptual

Representation

Logical Representation Miniworld Database C

> Low Physical Representation

Need to know a lot

Miniworld

Database B

API A

Miniworld

Database A