Database Management Systems

Subject Teacher: Zartasha Baloch

Database Development Process

Lecture # 3

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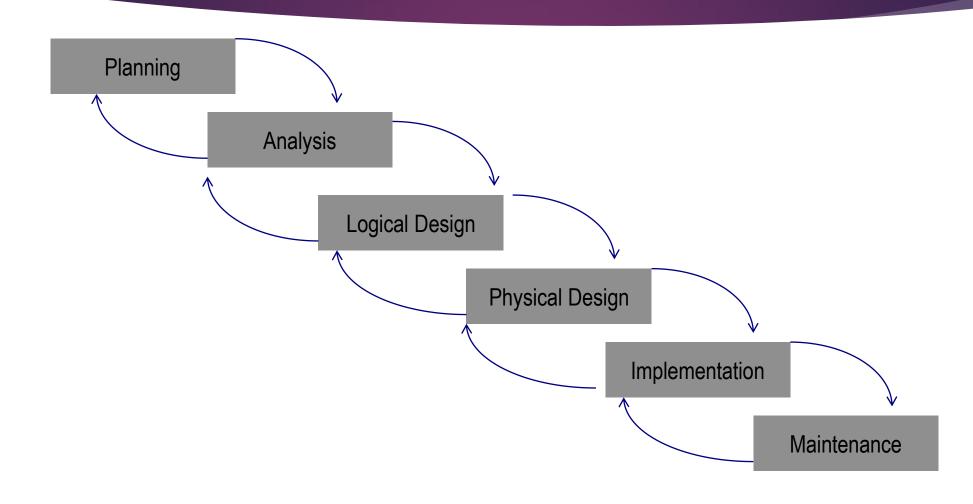
- 1. Connolly, Thomas M., and Carolyn E. Begg. Database systems: a practical approach to design, implementation, and management. Pearson Education, 2005.
- 2. 2. Hoffer, Jeffrey A., Venkataraman Ramesh, and Heikki Topi. Modern database management. Upper Saddle River, NJ: Prentice Hall,, 2011.

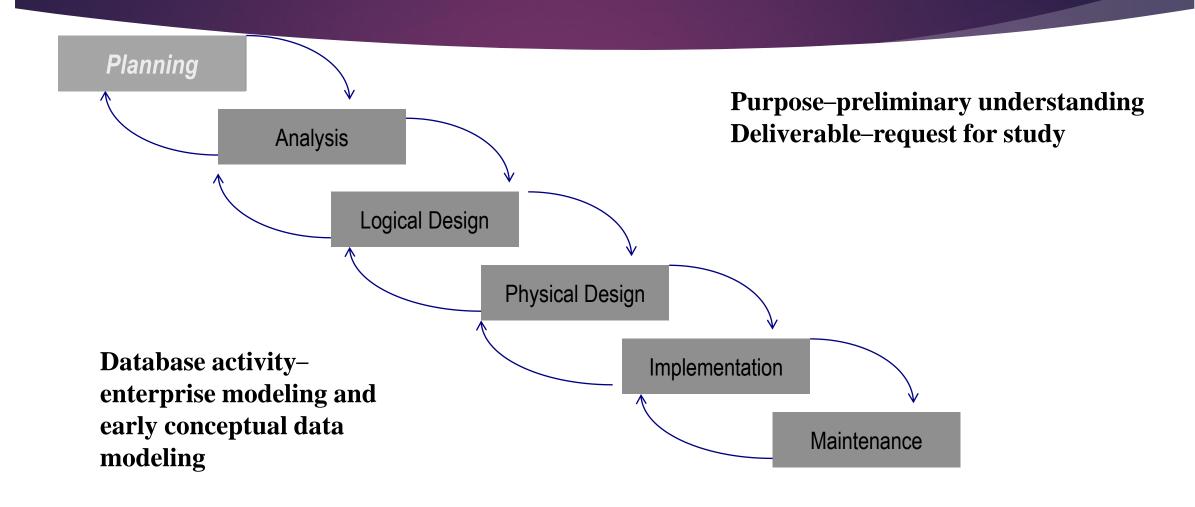
In this Lecture you will Learn about:

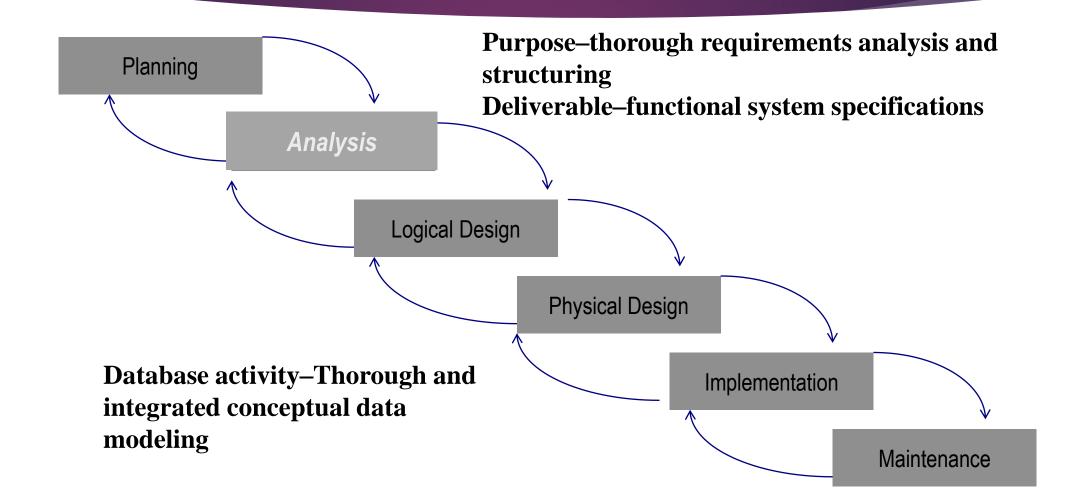
- Database Development Process
- System Development Life Cycle
- Prototyping Database Methodology

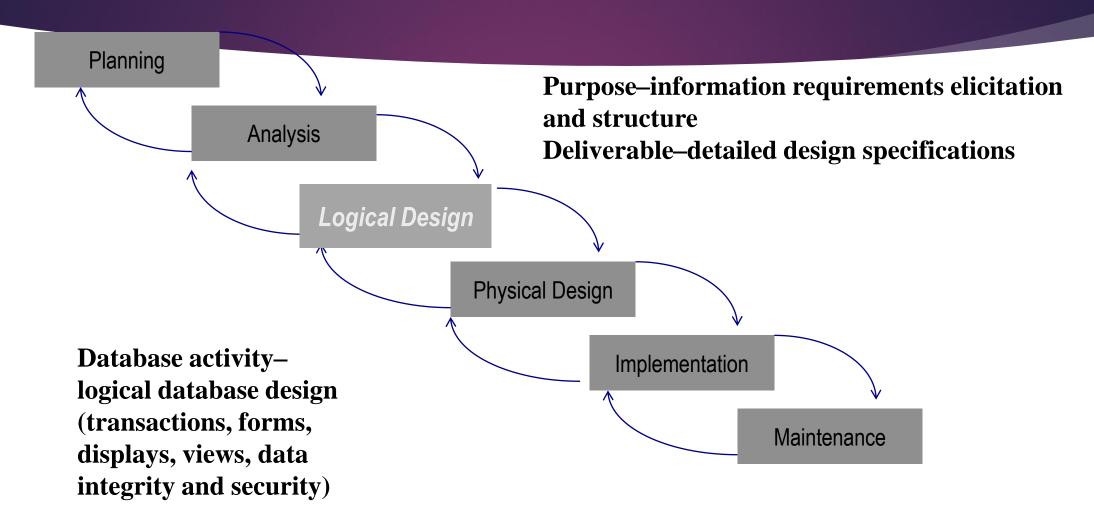
Database Development Process

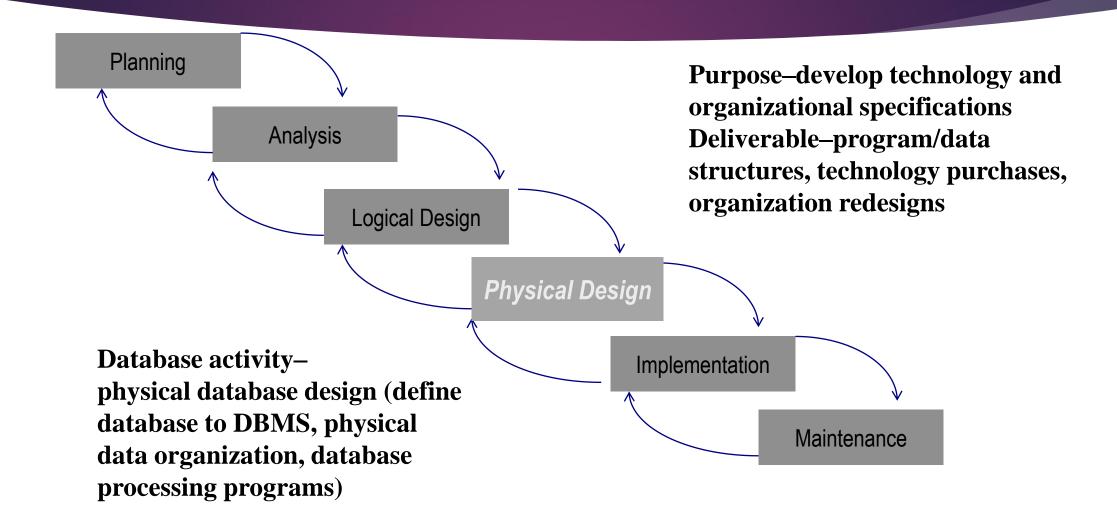
- ▶ It is the subdivision of the development process into a series of phases, or steps, each of which focuses on one aspect of the development.
- ▶ The collection of these steps is sometimes referred to as a System Development Life Cycle (SDLC).
- ▶ The SDLC is a complete set of steps that a team of information systems professionals, including database designers and programmers follow in an organization to specify, develop, maintain and replace information systems.

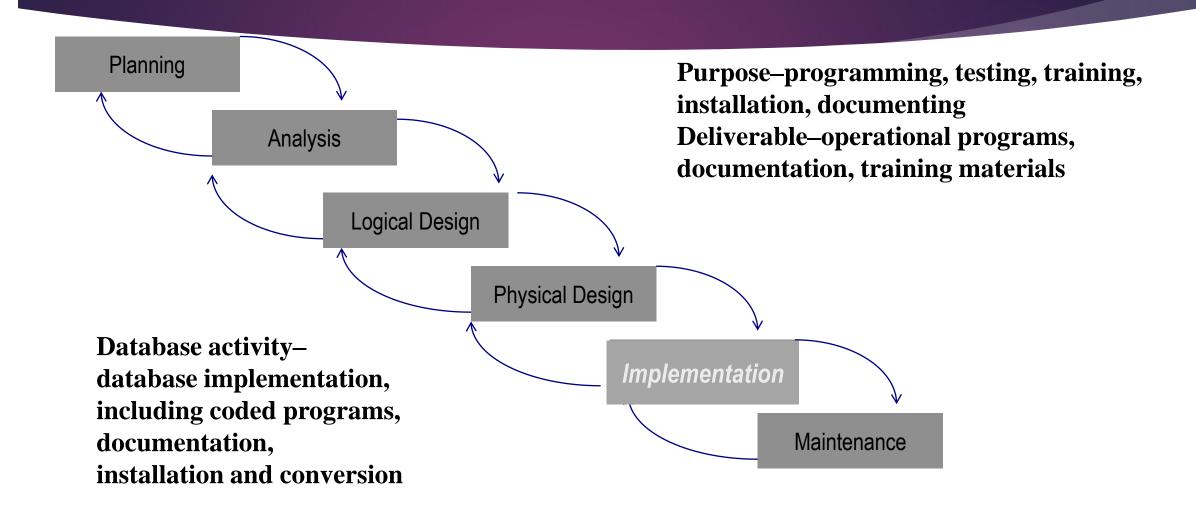


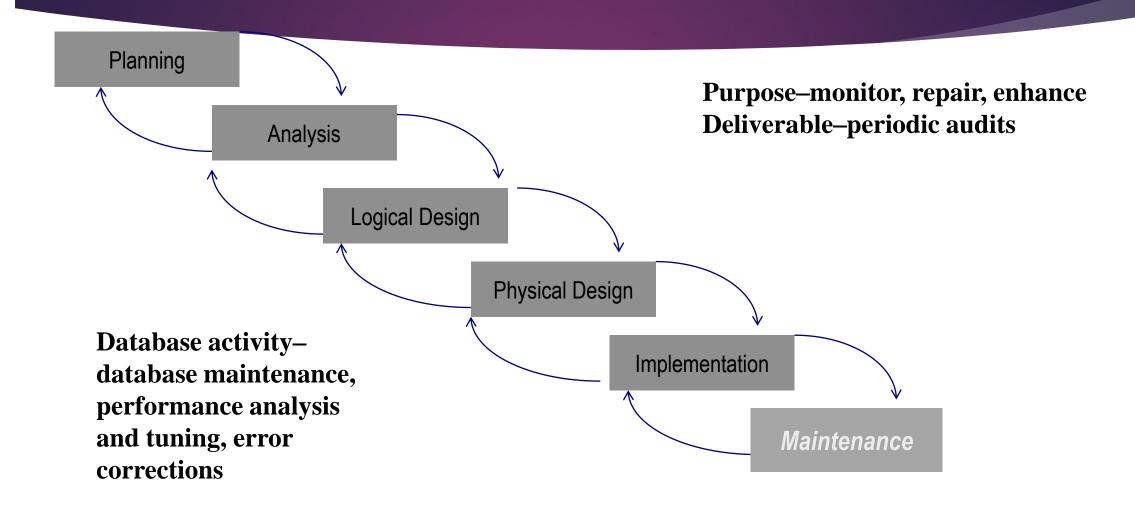


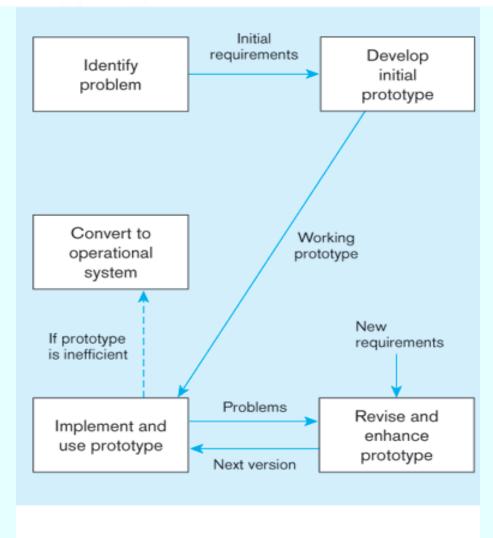






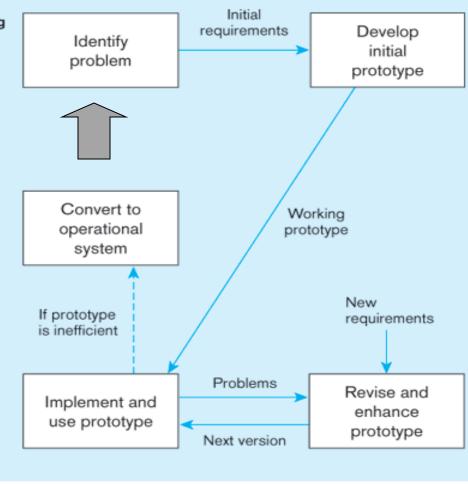






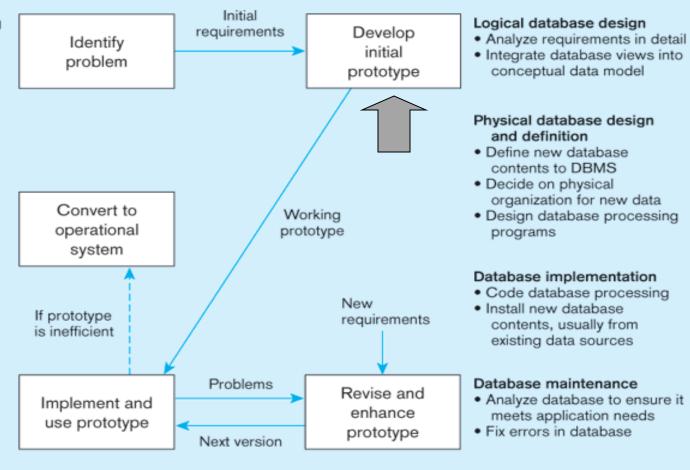
Conceptual data modeling

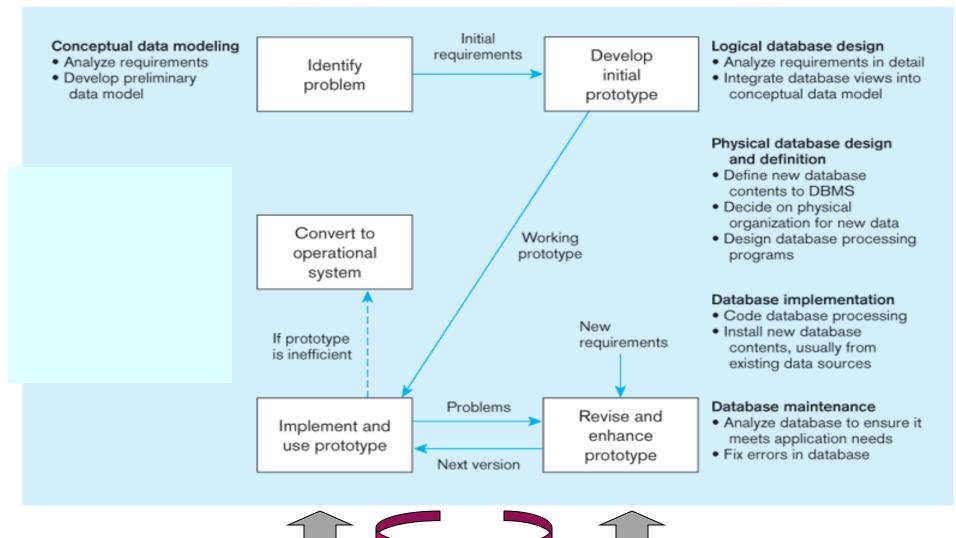
- · Analyze requirements
- Develop preliminary data model



Conceptual data modeling

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- Develop preliminary data model



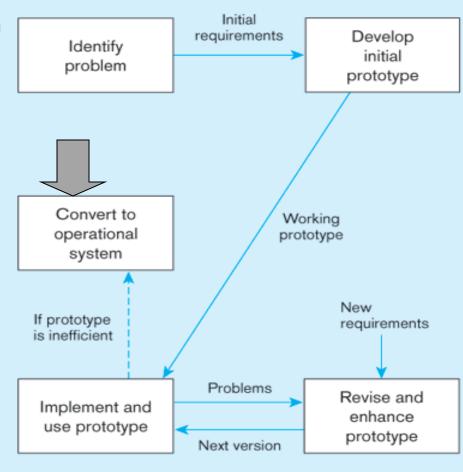


Conceptual data modeling

- · Analyze requirements
- Develop preliminary data model

Database maintenance

- Tune database for improved performance
- · Fix errors in database



Logical database design

- · Analyze requirements in detail
- Integrate database views into conceptual data model

Physical database design and definition

- Define new database contents to DBMS
- Decide on physical organization for new data
- Design database processing programs

Database implementation

- Code database processing
- Install new database contents, usually from existing data sources

Database maintenance

- Analyze database to ensure it meets application needs
- · Fix errors in database