



ALTERNATIVE SYSTEMS BUILDING APPROACHES

M. Rasti-Barzoki

Website: rasti.iut.ac.ir

92-1



Alternative Systems Building Approaches

- **Alternative Systems-Building Methods**
 - **Traditional systems life-cycle**
 - **Prototyping**
 - **End-user development**
 - **Application software packages**
 - **Outsourcing**



Alternative Systems Building Approaches

- **Traditional systems lifecycle:**
 - **Oldest method for building information systems**
 - **Phased approach divides development into formal stages**
 - Follows “waterfall” approach: Tasks in one stage finish before another stage begins
 - **Emphasizes formal specifications and paperwork**
 - **Still used for building large complex systems**
 - **Can be costly, time-consuming, and inflexible**



Alternative Systems Building Approaches

- **Prototyping**
 - **Building experimental system rapidly and inexpensively for end users to evaluate**
 - **Prototype: Working but preliminary version of information system**
 - Approved prototype serves as template for final system
 - **Steps in prototyping**
 1. Identify user requirements
 2. Develop initial prototype
 3. Use prototype
 4. Revise and enhance prototype



Management Information Systems

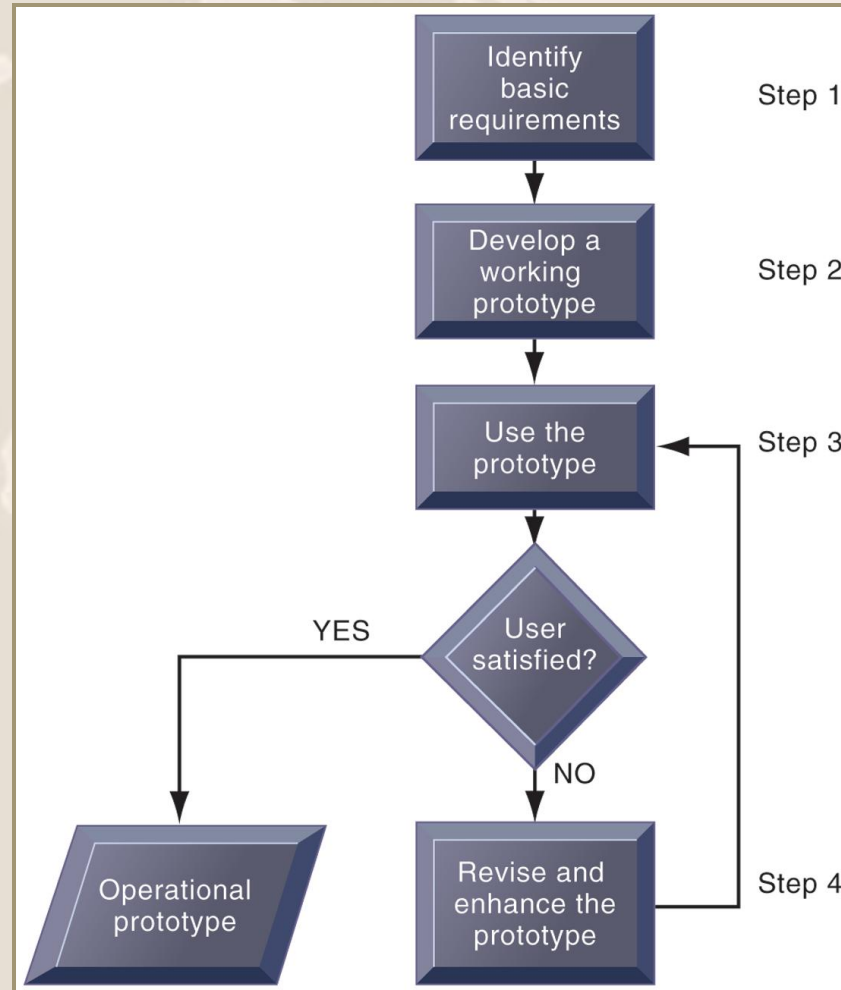
CHAPTER 13: BUILDING INFORMATION SYSTEMS

Alternative Systems Building Approaches

THE PROTOTYPING PROCESS

The process of developing a prototype can be broken down into four steps. Because a prototype can be developed quickly and inexpensively, systems builders can go through several iterations, repeating steps 3 and 4, to refine and enhance the prototype before arriving at the final operational one.

FIGURE 13-9





Alternative Systems Building Approaches

- **Advantages of prototyping**
 - Useful if some uncertainty in requirements or design solutions
 - Often used for end-user interface design
 - More likely to fulfill end-user requirements
- **Disadvantages**
 - May not accommodate large quantities of data or large number of users
 - May not undergo full testing or documentation



Alternative Systems Building Approaches

- **End-user development:**
 - **Uses fourth-generation languages to allow end-users to develop systems with little or no help from technical specialists**
 - **Fourth generation languages: Less procedural than conventional programming languages**
 - PC software tools
 - Query languages
 - Report generators
 - Graphics languages
 - Application generators
 - Application software packages
 - Very high-level programming languages



Alternative Systems Building Approaches

- **End-user development (cont.):**
 - **Advantages:**
 - More rapid completion of projects
 - High-level of user involvement and satisfaction
 - **Disadvantages:**
 - Not designed for processing-intensive applications
 - Inadequate management and control, testing, documentation
 - Loss of control over data



Alternative Systems Building Approaches

- **Application software packages**
 - **Save time and money**
 - **Many offer customization features:**
 - Software can be modified to meet unique requirements without destroying integrity of package software
 - **Evaluation criteria for systems analysis include:**
 - Functions provided by the package, flexibility, user friendliness, hardware and software resources, database requirements, installation and maintenance efforts, documentation, vendor quality, and cost
 - **Request for Proposal (RFP)**
 - Detailed list of questions submitted to packaged-software vendors
 - Used to evaluate alternative software packages



Alternative Systems Building Approaches

- **Outsourcing**
 - **Several types**
 - Subscribing companies use software and computer hardware provided by vendors
 - Hired to design, create software



Alternative Systems Building Approaches

- **Outsourcing (cont.)**
 - **Advantages**
 - Allows organization flexibility in IT needs
 - **Disadvantages**
 - Hidden costs, e.g.
 - Identifying and selecting vendor
 - Transitioning to vendor
 - Opening up proprietary business processes to third party



امام ہادی علیہ السلام:

التواضع أن تعطي الناس ما تحب أن تعطاه

فروتنی در آن است کہ با مردم چنان کنی کہ دوست داری با تو چنان باشند.

(المحجة البيضاء، ج 5، ص 225)

پایان