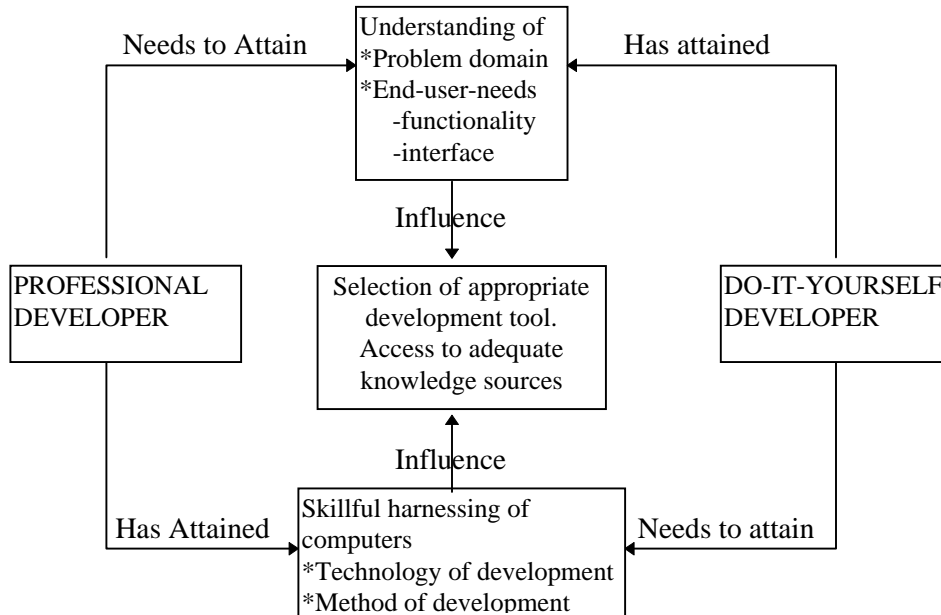


Chapter 7 Building Decision Support Systems

1. Explain the relative advantages and disadvantages of do-it-yourself versus professional development.



Measures of success:

- Is it used?
- Extent of Usage
- User's perception about convenience of usage
- Ability to produce correct responses
- Economic Payoff

Professional Developer- builds systems for a living
formally trained in computer science/ business computing

Do-it-Yourself Developer- is a manager and end user
typically little formal training in computer science
should have the use of an information center

2. Describe important steps that can occur during the process of building a decision support system.

Ingredients for successful development

- Technical skill in system development
- Methodological skills in system development
 - analysis (what are the requirements?)
 - design (what is the blueprint?)
 - implementation (following the blueprint)
- Satisfying the end user
 - familiarity with problem domain

- determining end user needs
- user involvement in analysis and design
- Selecting an appropriate development tool(s)
 - depends on developer's technical skills
 - depends on end user's needs
- Knowledge access
 - initializing the KS
 - depends on appreciation of knowledge sources for the problem domain

or

Preliminaries

- recognizing a decision support need or opportunity
 - improving decision-maker productivity
 - pursing a competitive strategy
- setting broad objectives and evaluation standards
 - kinds of support to be provided
 - capacity expectations
 - standards for gauging success
- Planning for the development project
 - securing commitment of superiors
 - constructing a budget
 - scheduling the development activities

Analysis (see 3 below)

Design (see 3 below)

Implementation (see 3 below)

Operation

- installation
- periodic review
 - incremental modifications
 - iterative redevelopment
- general administration
 - controlling usage
 - adapting to technology changes
 - evaluation efficacy

Prototype Development

- resultant prototype demonstrates on a small scale and in a partial way what might be experienced with an operational DSS
 - can aid in securing/retaining support by showing tangible progress
 - if prototype is a failure, the plan to build an operational DSS can be reconsidered quickly
 - can help provoke user to clarify what is desired, indicating what to change, add, eliminate
- two kinds of prototype-
 - throw away
 - evolutionary

3. Differentiate among the developmental activities of analysis, design, and implementation.

Analysis-

- Studying the decision situations to be supported
 - decision maker inclinations and tastes
 - relevant problem recognition and solving means
 - relevant knowledge used in decision making
 - organizational context in which system will be used
- Specifying detailed requirements to be met
 - functional requirements - storing, recalling & producing knowledge
 - interface requirements - knowledge - communication capabilities
 - coordination requirements - timing of events
 - needed knowledge management techniques
- identifying tool candidates
- ROMC - see page 215

Design-

- finalize selection of tool(s) to be used
- LS design
 - assistance requests
 - problem-handling requests
 - may be little design latitude, depending on tool(s)
- PS design
 - assistance responses
 - problem-handling responses
 - may be little design latitude, depending on tool(s)
- PPS design
 - typically, tool(s) furnish ready-made PPS
 - little latitude, without complex and time-consuming software design
- KS design
 - match and assign pieces of knowledge to techniques
 - for each, devise a plan for using technique's representation conventions
 - be aware of variants due to tool differences
 - build design skill by learning technique possibilities and practice
 - considerable design latitude

Implementation-

- Use selected tool(s) to transform design into operational DSS
 - store knowledge into KS
 - test resultant decision support system against:
 - functional requirements
 - interface requirements
 - coordination requirements
 - make coordination's as needed
 - to implementation
 - to design
 - to requirements

-prepare DSS documentation

4. Discuss your role as a do-it-yourself developer.