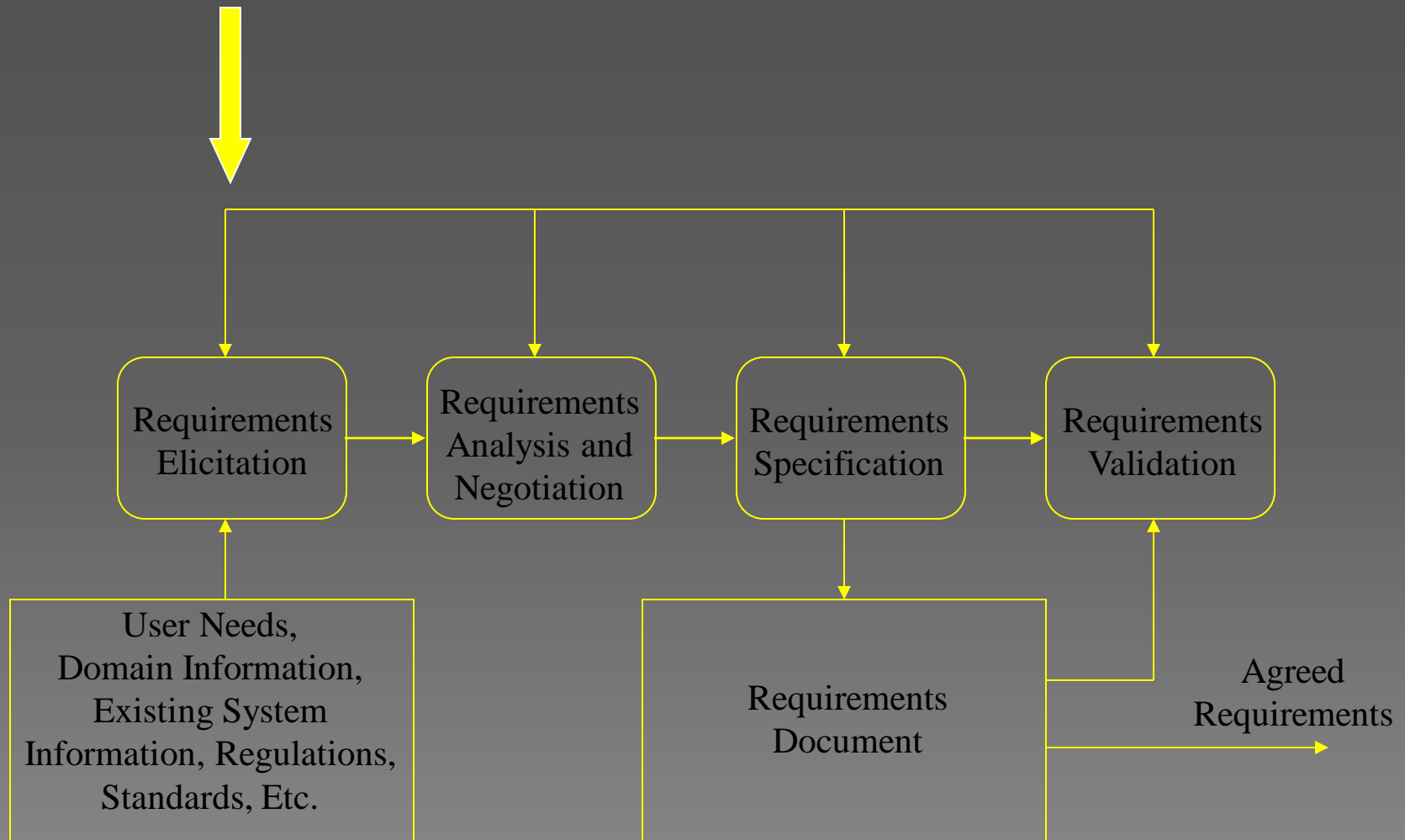


Requirements Elicitation – 1

Lecture # 9



Requirements Engineering Process



Requirements Elicitation - 1

- ◉ Elicit means to gather, acquire, extract, and obtain, etc.
- ◉ Requirements elicitation means gathering requirements or discovering requirements

Requirements Elicitation - 2

- ◉ Activities involved in discovering the requirements for the system

Basics of Knowledge Acquisition

These are the sources of knowledge acquisition

- ◉ Reading
- ◉ Listening
- ◉ Asking
- ◉ Observing

Requirements Elicitation Techniques

- ◉ Individual
- ◉ Group
- ◉ Modeling
- ◉ Cognitive

Problems in Requirements Elicitation

- ⦿ Problems of scope
- ⦿ Problems of understanding
- ⦿ Problems of volatility

Problems of Scope

- ◉ The boundary of the system is ill-defined
- ◉ Unnecessary design information may be given

Problems of Understanding - 1

- ◉ Users have incomplete understanding of their needs
- ◉ Users have poor understanding of computer capabilities and limitations
- ◉ Analysts have poor knowledge of problem domain

Problems of Understanding - 2

- ⦿ User and analyst speak different languages
- ⦿ Ease of omitting “obvious” information
- ⦿ Conflicting views of different users
- ⦿ Requirements are often vague and untestable, e.g., “user-friendly” and “robust”

Problems of Volatility

- ⦿ Requirements evolve over time and hence there are some requirements which are bound to change during the system development process due to one reason or the other.

Contexts in Requirements Elicitation Process

It is important to consider the context in which requirements are being elicited. Requirements elicitation process may be followed in the following contexts

- ◉ Organization
- ◉ Environment
- ◉ Project
- ◉ Constraints imposed by people

Contexts in Requirements Elicitation Process - 1

- Organization

- > Submitters of input
- > Users of output
- > Ways in which the new system change the business process

Contexts in Requirements Elicitation Process - 2

◉ Environment

- > Hardware and software
- > Maturity of the target system domain
- > Certainty of the target system's interfaces to the larger system
- > The target system's role in the larger system

Contexts in Requirements Elicitation Process - 3

● Project

- The attributes of the different stakeholder communities, such as the end users, sponsors, developers, and requirements analysts. Examples of such attributes are:
 - Management style
 - Management hierarchy
 - Domain experience
 - Computer experience

Contexts in Requirements Elicitation Process - 4

- ◎ The constraints imposed by the people
 - > They are involved in the elicitation process, e.g., managerial constraints concerning cost, time, and desired quality in the target system

Requirements Elicitation Guidelines - 1

- Assess the business and technical feasibility for the proposed system
- Identify the people who will help specify requirements and understand their organizational bias
- Define the technical environment
- Identify “domain constraints” that limit the functionality or performance of the system

Requirements Elicitation Guidelines - 2

- Define one or more requirements elicitation methods (interviews, focus groups, team meetings)
- Solicit participation from many people so that requirements are defined from different points of view; be sure to identify the rationale for each requirement that is recorded

Requirements Elicitation Guidelines - 3

- Identify ambiguous requirements as candidates for prototyping
- Create usage scenarios to help customers/users better identify requirements

Ethnomethodology

- ◉ Looks for behaviors that may be different in a specific culture but which have the same underlying purpose or meaning
- ◉ Conversational analysis
- ◉ Measurement of body system functions
- ◉ Non-verbal behavior studies
- ◉ Detailed video analysis

Requirements and Psychology

- ⦿ Errors in statements can happen in two places
 - > Perception of facts – reality
 - > Linguistic representation of one of these perceptions – personal reality
- ⦿ To remove these errors, requirements should be reviewed (during and after elicitation)

Use Case Modeling

- ◉ Define actors and black-box use cases
- ◉ The functional requirements of the system are defined in terms of use cases and actors
- ◉ The use case descriptions are a behavioral view

Summary - 1

- Introduced the concept of elicitation and requirements elicitation process
- Basics of knowledge acquisition (reading, listening, asking, & observing)
- Knowledge acquisition techniques (individual, group, modeling, cognitive)
- Elicitation problems (scope, understandability, volatility)

Summary - 2

- ◉ Context (organization, environment, project, constraints imposed by people)
- ◉ Guidelines for knowledge acquisition