



มหาวิทยาลัยราชภัฏนครปฐม
Nakhon Pathom Rajabhat University

Software Requirements Engineering

วิศวกรรมความต้องการซอฟต์แวร์

Suphitcha Chanrueang 🐰

1



มหาวิทยาลัย
ราชภัฏนครปฐม

Chapter 6

Requirements Elicitation

การรวบรวมความต้องการ

2

Outline

- What is Requirement Elicitation
- Process of Requirement Elicitation
- Importance of Requirement Elicitation
- Techniques and Process of Requirement Elicitation
- Challenges in Requirement Elicitation



3

Objective

- Understand the concept and significance of Requirement Elicitation in software development.
- Explore the process and key techniques used in Requirement Elicitation.
- Analyze the challenges associated with Requirement Elicitation and strategies to address them.

4

What is Requirement Elicitation?

Requirement Elicitation is the process of gathering and understanding the needs and expectations of users and stakeholders for a software system under development. The goal is to obtain accurate, complete, and clear information to serve as the foundation for designing and developing a system that meets actual requirements.

Requirement Elicitation is the first step in the software development process and often involves various techniques such as interviews, questionnaires, workshops, and observations. These methods help collect precise information that can be effectively used to define system requirements.

5

The primary goals of requirement elicitation include

- Capturing comprehensive and accurate stakeholder requirements
- Establishing a clear scope for the project
- Identifying potential challenges and constraints early in the development process
- Creating a shared understanding among all project stakeholders



6

Process of Requirement Elicitation

Requirement elicitation is not a single, linear step but a dynamic and iterative process of discovery, understanding, and refinement. Think of it like carefully peeling back layers of an onion, where each layer reveals more about the true nature and needs of a project.



7

Process of Requirement Elicitation

1. Preparation and Planning

1.1 Identify Stakeholders : The first critical step is mapping out everyone who has a stake in the project. This isn't just about finding people, but understanding their roles, perspectives, and potential influence. Stakeholders might include

- End-users
- Management
- Technical teams
- Clients
- Regulatory bodies
- Subject matter experts



8

Process of Requirement Elicitation

1. Preparation and Planning

1.2 Develop an Elicitation Strategy : Create a comprehensive plan that answers key questions

- Which elicitation techniques will be most effective?
- What are the primary communication channels?
- How will requirements be documented?
- What is the timeline for requirement gathering?



9

Process of Requirement Elicitation

2. Information Collection

This is where the actual requirement discovery happens. Multiple techniques are employed to extract comprehensive insights.

- Interviewing
- Observation and Contextual Inquiry
- Workshops and Focus Groups
- Document Analysis



10

Process of Requirement Elicitation

3. Requirement Documentation

Transforming gathered information into clear, actionable requirements:

3.1 Categorization : Organize requirements into meaningful groups

- Functional requirements: What the system must do
- Non-functional requirements: Quality attributes like performance, security
- Constraints: Limitations on system design

3.2 Specification : Write requirements that are:

- Clear and unambiguous
- Measurable
- Traceable
- Testable

11

Process of Requirement Elicitation

4. Validation and Verification

Ensuring requirements are accurate, complete, and feasible:

4.1 Stakeholder Review

- Present documented requirements back to stakeholders
- Seek confirmation and clarification
- Address any misunderstandings or gaps

4.2 Prototyping : Create visual or interactive models to:

- Help stakeholders visualize requirements
- Identify potential issues early
- Facilitate more precise feedback

12

Importance of Requirement Elicitation

Requirement elicitation is crucial because it:

- Defines project success criteria
- Minimizes project risks
- Reduces potential costly rework
- Aligns project outcomes with stakeholder expectations



13

Techniques and Process of Requirement Elicitation

1. Interviewing
2. Workshops and Focus Groups
3. Observation Methods
4. Document Analysis
5. Surveys and Questionnaires
6. Prototyping
7. Brainstorming



14

Challenges in Requirement Elicitation

1. Communication Barriers
2. Requirement Complexity
3. Stakeholder-Related Challenges
4. Technical Challenges
5. Psychological and Behavioral Challenges
6. Documentation Challenges
7. Process-Related Challenges
8. Mitigation Strategies



15

Conclusion

Requirement Elicitation is a crucial process in software development that allows development teams to clearly understand and define the true needs of users. Despite challenges and obstacles, such as communication barriers, requirement complexity, and stakeholder-related issues, using appropriate techniques, clear communication, and effective management of these obstacles can mitigate risks and lead to successful requirement elicitation. Giving priority to high-quality requirement gathering will help develop software that meets user needs and remains competitive in the market.

16

Thank You

