


Team 6

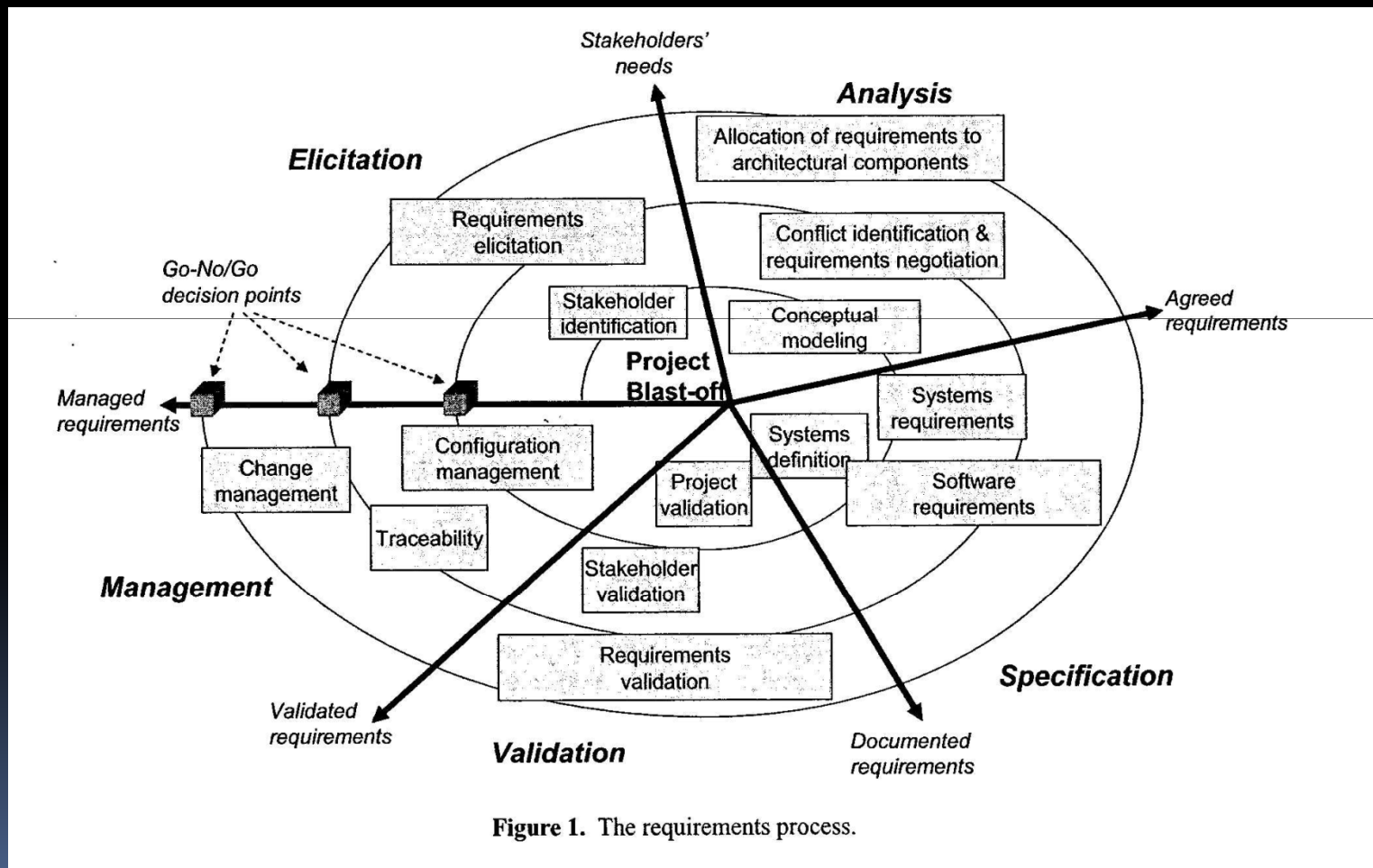
# SOFTWARE REQUIREMENTS



# 1. Introduction

- Elicitation
  - Analysis
  - Specification
  - Management
  - Validation
- 

# 1. Introduction



# 2. Defining a Requirement

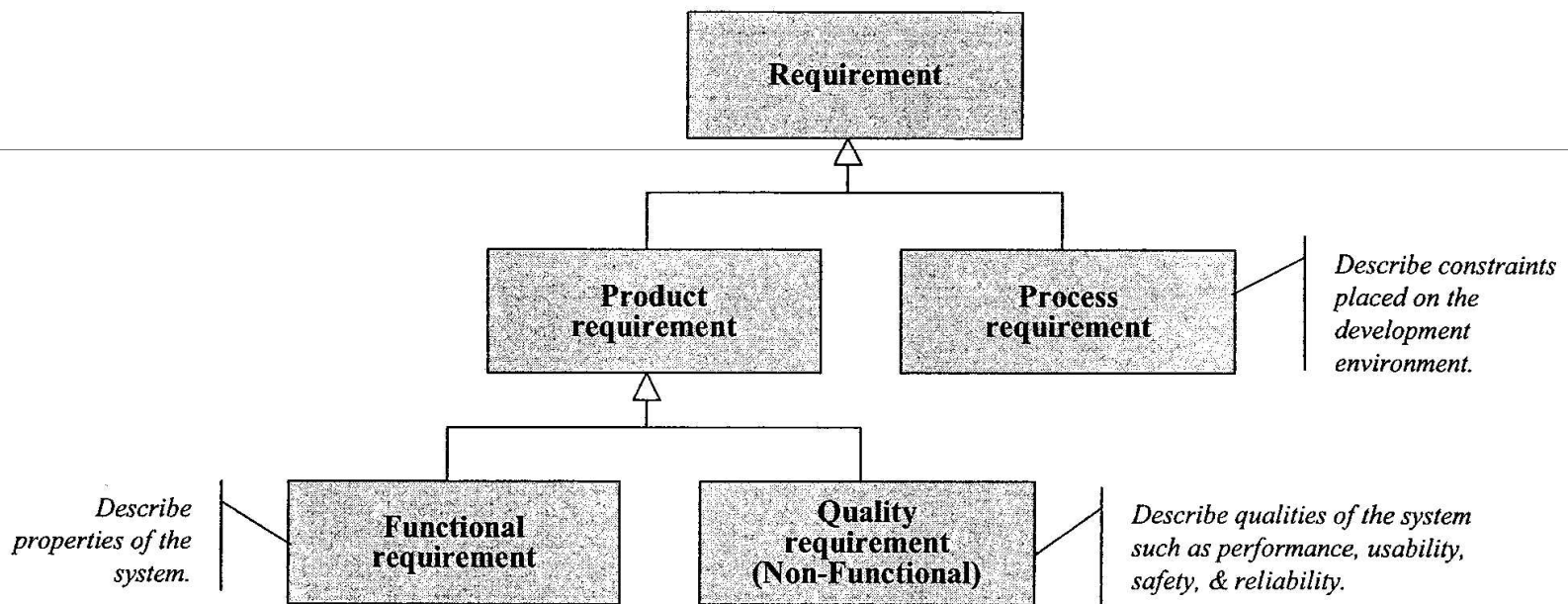


Figure 2. Types of requirements.

# 3. Elicitation

- Requirements elicitation focuses on gathering knowledge about the needs of the stakeholders.

# 3.1 Understanding the Problem and Its Domain

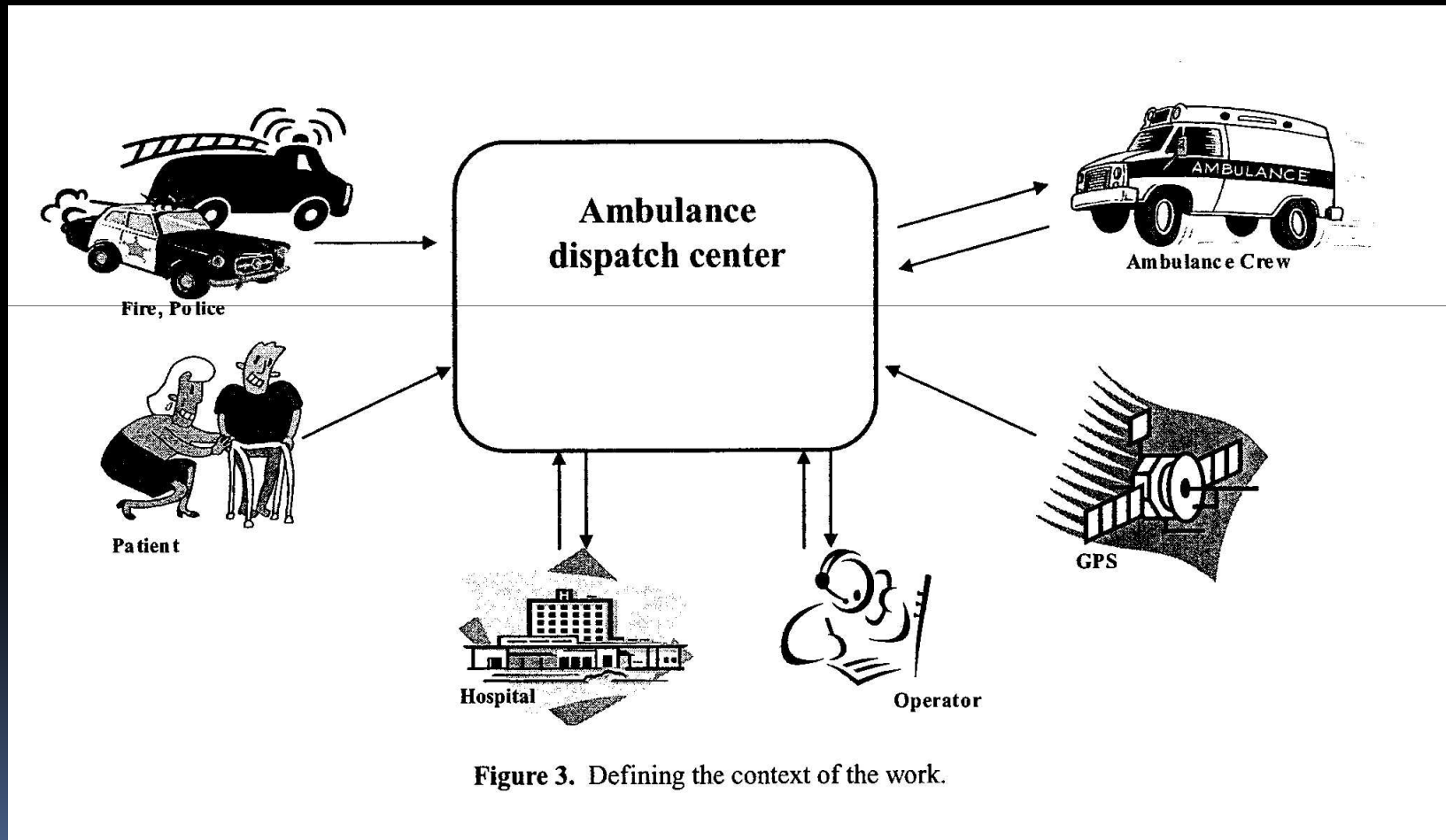


Figure 3. Defining the context of the work.

## 3.2 Making the Business Case

- Understanding cost, risk, and anticipated benefits from the project
- It determines whether the project should proceed or not

## 3.3 Elicitation Techniques

- Collaborative session
- Interviewing techniques!
- Questionnaires
- Ethnography!
- Prototyping!
- Documentation
- Modeling
- Roleplaying
- Checklists of NFRs



## 3.4. Conflict Identification and Negotiation

- Conflict : between stakeholder and functionality of the system
  - Functional requirement
  - Nonfunctional requirement
- Negotiation : to reveal conflicts rapidly

# 4. Requirements Analysis

- 4.1 Conceptual Modeling
  - Several types of model : data flows, state models, user interaction
  - Depend of many factors : engineer expertise, customer requirements

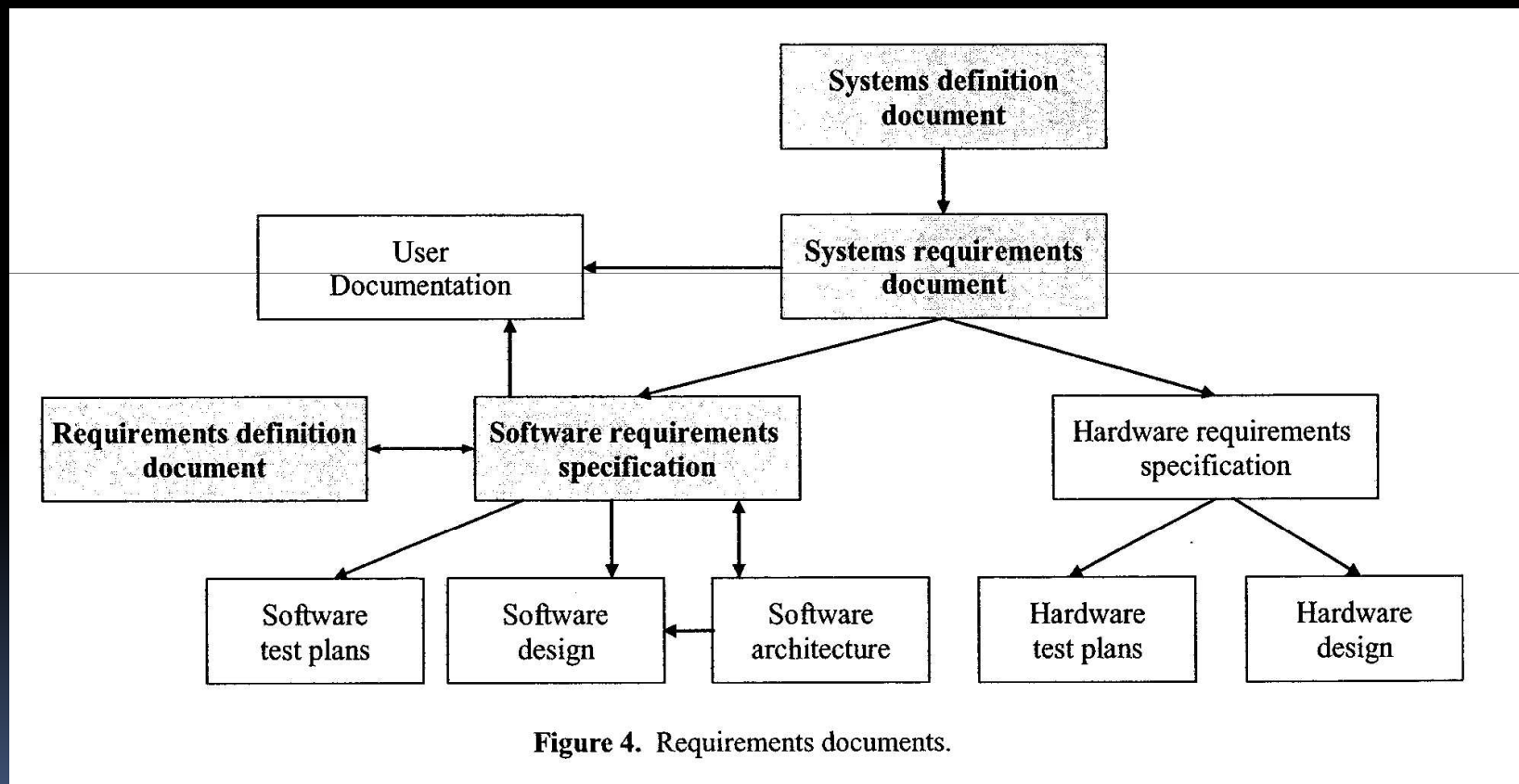
# 4. Requirements Analysis

- 4.2 Architectural Design and Requirements Allocation
  - Identify requirements
  - Design Architectural and fulfill the stated requirements(using ATAM)
  - Requirements can be allocated to components

# 5. Requirements specification

- Systems definition document
  - user requirements document or the concept of operations
- Systems requirement specification
  - Systems engineering activities
- Software requirements specification
  - What the software component must to do

# 5. Requirements specification



## 5.1 Qualities of an individual requirement

- Concise, Correct, Nonambiguous, Feasible, Verifiable

## 5.2 Qualities of the set of requirements

- Realistic, Concise, Complete, Consistent

# 6. Validation

- “How we got the requirements right?”

**Table 1.** Cost to repair software errors at various stages

Stage	Relative Repair Cost
Requirements	1-2
Design	5
Coding	10
Unit test	20
System test	50
Maintenance	200

- Reviews
- Prototyping
- Model validation
- Acceptance tests

# 7. Requirements Management

- Requirements traceability
- Change requests
- Requirements
- Attributes





# 8. Conclusions