

REQUIREMENT ENGINEERING

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LEARNING OBJECTIVES



LO1

Understand the concepts of user and system requirements and why these requirements should be written in different ways.



LO2

Understand the differences between functional and non-functional software requirements.



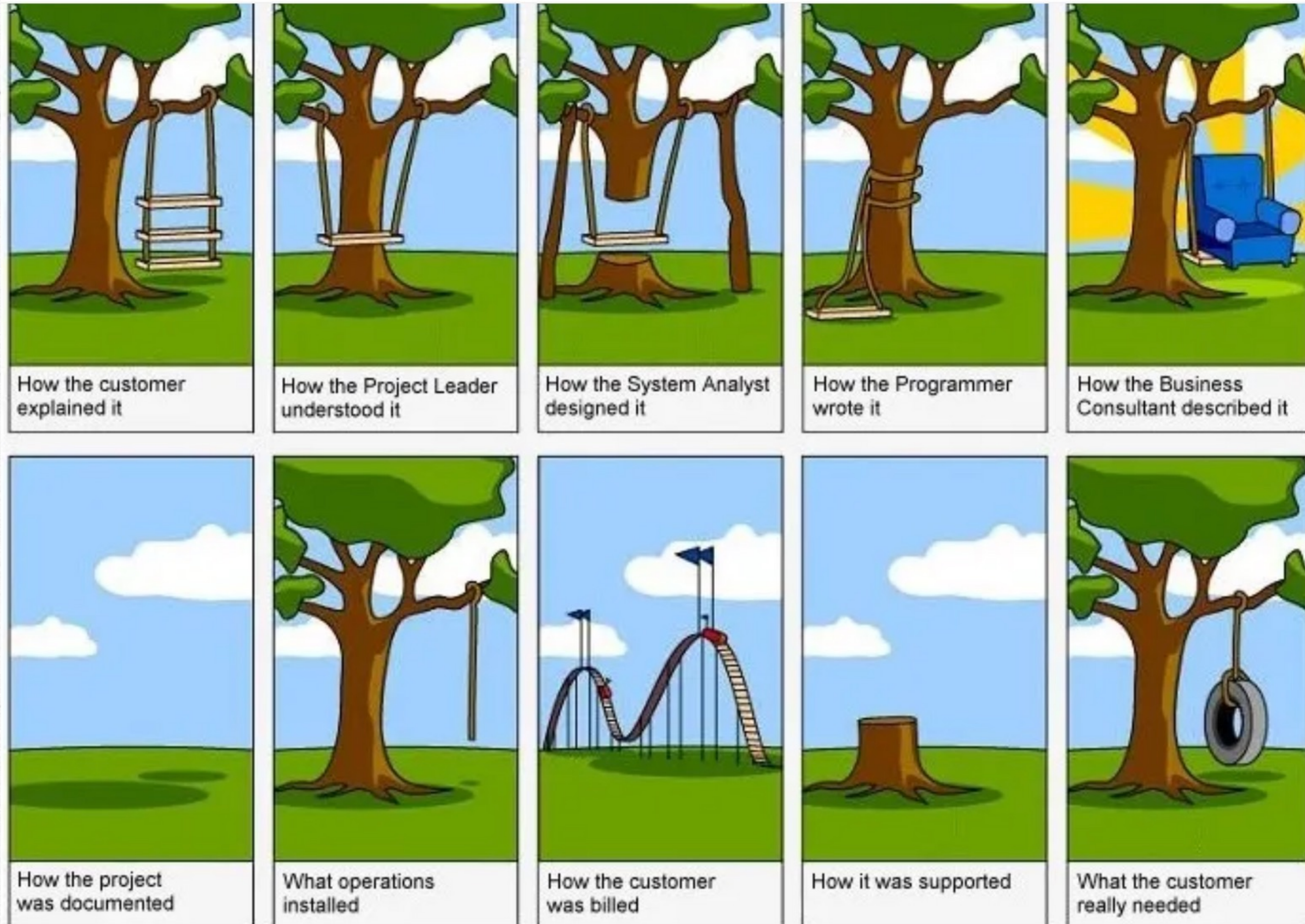
LO3

Understand how requirements may be organised in a software requirements document.

DEFINITION

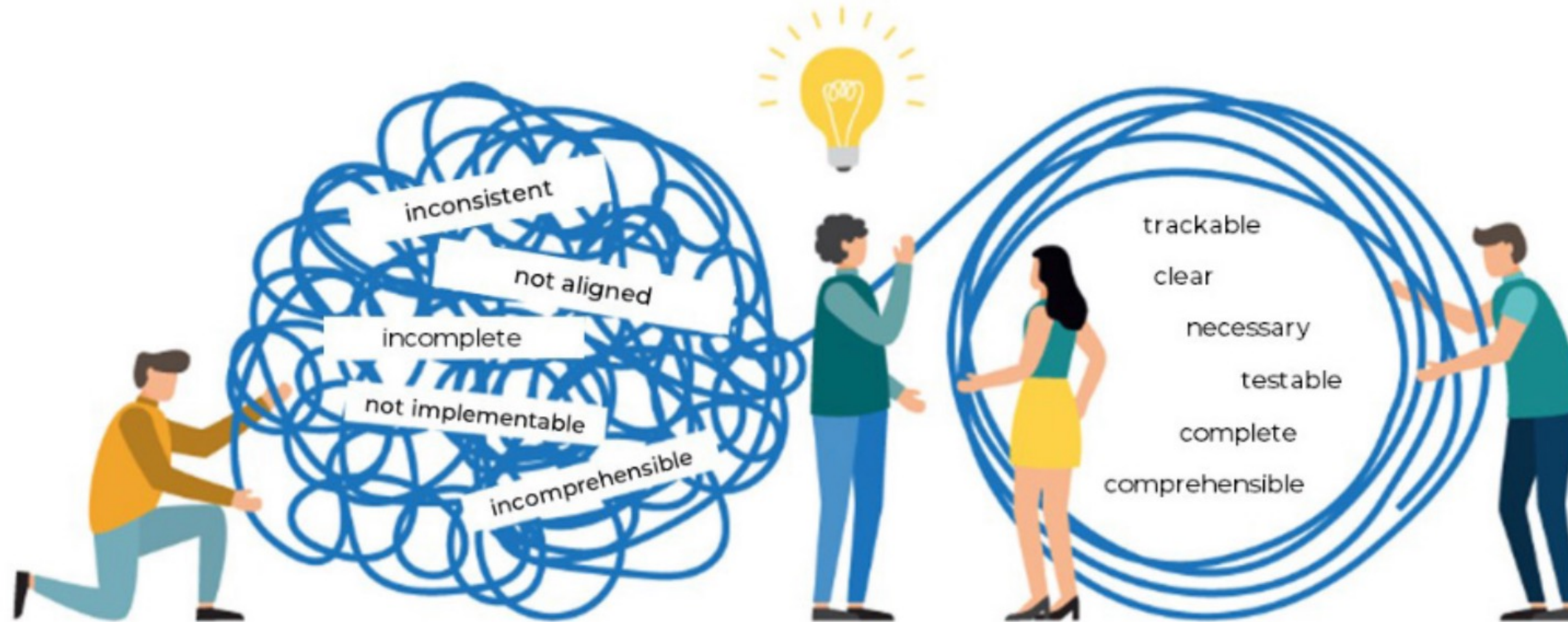
Understanding and specifying what services are required from the system, as well as determining the limits on the system's functioning and evolution, is the process of requirement engineering.

IMPORTANCE OF REQUIREMENTS



Bad Requirements

Good Requirements



FOUR MAIN ACTIVITIES

FEASIBILITY STUDY

- User needs are assessed to see if they can be met with current software and hardware solutions.
- Cost-effective

ELICITATION AND ANALYSIS

- Process of determining system needs by looking at current systems and talking to users.
- Creating system models and prototypes.

REQUIREMENTS SPECIFICATION

- Turning the information acquired during the analysis activity into a document that describes a set of requirements.

REQUIREMENTS VALIDATION

- Verifies that all of the standards for realism, consistency, and completeness have been met.

FUNCTIONAL REQUIREMENT

Functional requirements are statements of the services that the system must provide or are descriptions of how some computations must be carried out.

These are assertions about the services the system should deliver, how it should respond to specific inputs, and how it should behave in specific situations.



SYSTEM REQUIREMENT SPECIFICATION DOCUMENT

Purpose

Definitions, System overview, and background.

Overall Description

Assumptions, constraints, business rules, and product vision.

Specific Requirements

System attributes, functional requirements, and database requirements.

NON-FUNCTIONAL REQUIREMENT

Non-functional requirements is quality attributes that describe ways your product should behave. These include:

- Usability
- Security
- Reliability
- Performance
- Availability
- Scalability



RECAP ACTIVITY

[HTTPS://WWW.MENTI.COM/AL5HJZ2XTYXZ](https://www.menti.com/AL5HJZ2XTYXZ)

What are the key ideas/words from today's sessions?

22 responses



A word cloud visualization of responses to the question 'What are the key ideas/words from today's sessions?'. The words are arranged in a circular pattern, with their size and color indicating their frequency or importance. The most prominent words are 'reuse oriented model' (large, yellow), 'requirements' (large, pink), 'waterfall model' (large, red), and 'agile' (large, blue). Other visible words include 'nonfunctional requirement', 'importance of requirement', 'software process model', 'requirement engineering', 'incremental model', 'requirement analysis', 'hardcoding scalability', 'service level agreement', 'good and bad requirements', 'functional requirements', 'good requirement', 'model types', 'scalability', and 'incremental'.

nonfunctional requirement

importance of requirement

reuse oriented model

requirements

agile

waterfall model

good requirement

good and bad requirements

functional requirements

software process model

requirement engineering

incremental model

requirement analysis

hardcoding scalability

service level agreement

model types

scalability

incremental

The background is a light gray textured paper. It is decorated with various watercolor-style abstract shapes in soft colors. In the top left, there's a pinkish-red flower-like shape and some small brown dots. At the top center, a large orange shape is partially visible. To its right, a blue squiggly line is present. In the top right, a pink semi-circle and a yellow semi-circle are shown. On the left side, a blue wavy shape is visible. On the right side, there are orange lines radiating from a point, suggesting a sun or star. At the bottom, there's an orange star-like shape on the left, and several semi-circles in pink, yellow, and orange. On the bottom right, there are blue concentric semi-circles.

THANK YOU!