

# Configuration management



## Configuration management

- Field of management that focuses on establishing and maintaining consistency of a system's attributes (functional and physical) and performance with its requirements, design, and operational information throughout its life.



## Outline

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- Motivation
- Versioning
- Configuration items, configurations, baselines
- Change control
- Build
- Configuration management plan
- Configuration management tools

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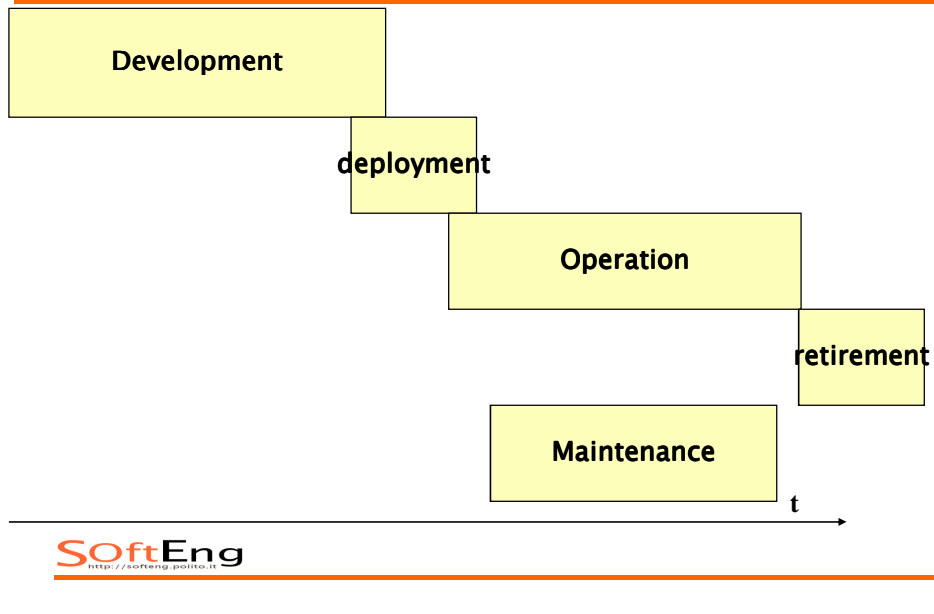
## Motivation

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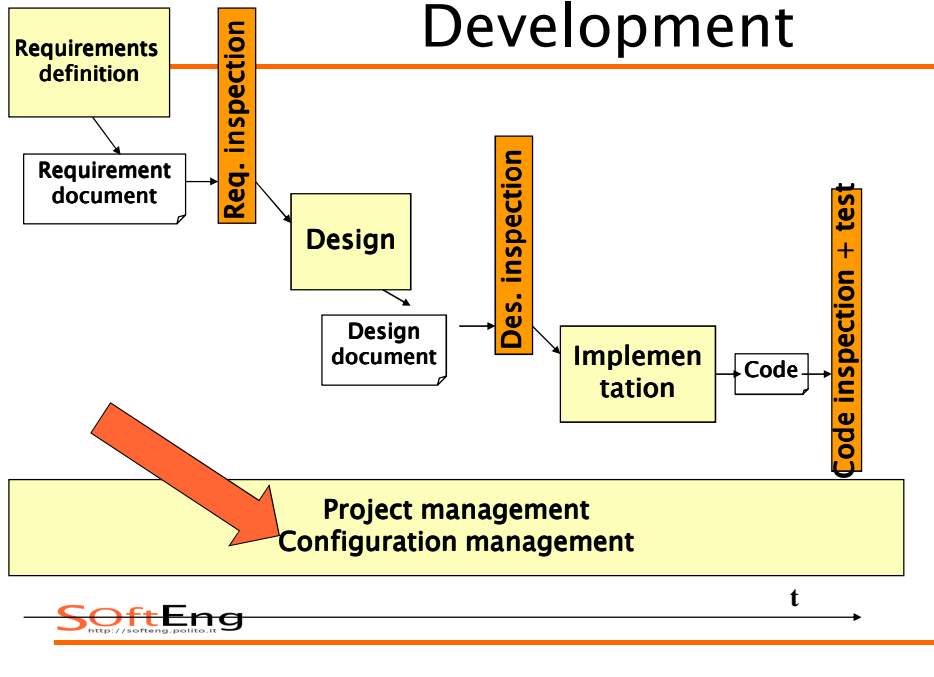
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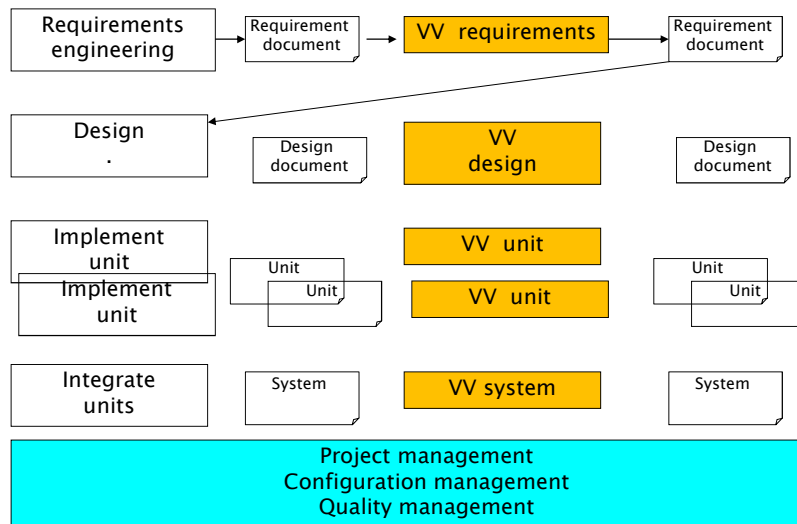
# Main Phases



# Development



# Development



# Time and space dimensions

- Space
  - ◆ System made of many parts (documents, code)
  - ◆ System (and parts) adapted for many situations
- Time
  - ◆ Parts, and system, change over time

## Software – space

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- Made of many parts
  - Documents
  - Programs
- With different instantiations
  - ♦ Customers, platforms
- Thousands of separate documents are generated for a large software system

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## Time – Change is inevitable

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- A software system changes
  - ♦ Different instantiations of software for different customers
  - ♦ Same software changes over time

“No matter where you are in the system life cycle, the system will change, and the desire to change it will persist throughout the life cycle.” [Bersoff et al., 1980]

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## Issues

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- What is history of document?
  - ♦ versioning
- What is the correct set of documents for a specific need?
  - ♦ configuration
- Who can access and change what?
  - ♦ change control
- How the system is obtained?
  - ♦ build

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## Goals of CM

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- Identify and manage parts of software
- Control access and changes to parts
- Allow to rebuild previous version of software

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