Overview of Previous Lecture

- Requirements Specification & Documentation
  - Requirement Specification

Today's Topics

- Requirements validation
- Validation techniques

Requirements Engineering Process

Validation Objectives

- Certifies that the requirements document is an acceptable description of the system to be implemented
- Checks a requirements document for
  - Completeness and consistency
  - Conformance to standards
  - Requirements conflicts
  - Technical errors
  - Ambiguous requirements

Analysis and Validation

- Analysis works with raw requirements as elicited from the system stakeholders
  - "Have we got the right requirements" is the key question to be answered at this stage
- Validation works with a final draft of the requirements document i.e., with negotiated and agreed requirements
  - "Have we got the requirements right" is the key question to be answered at this stage
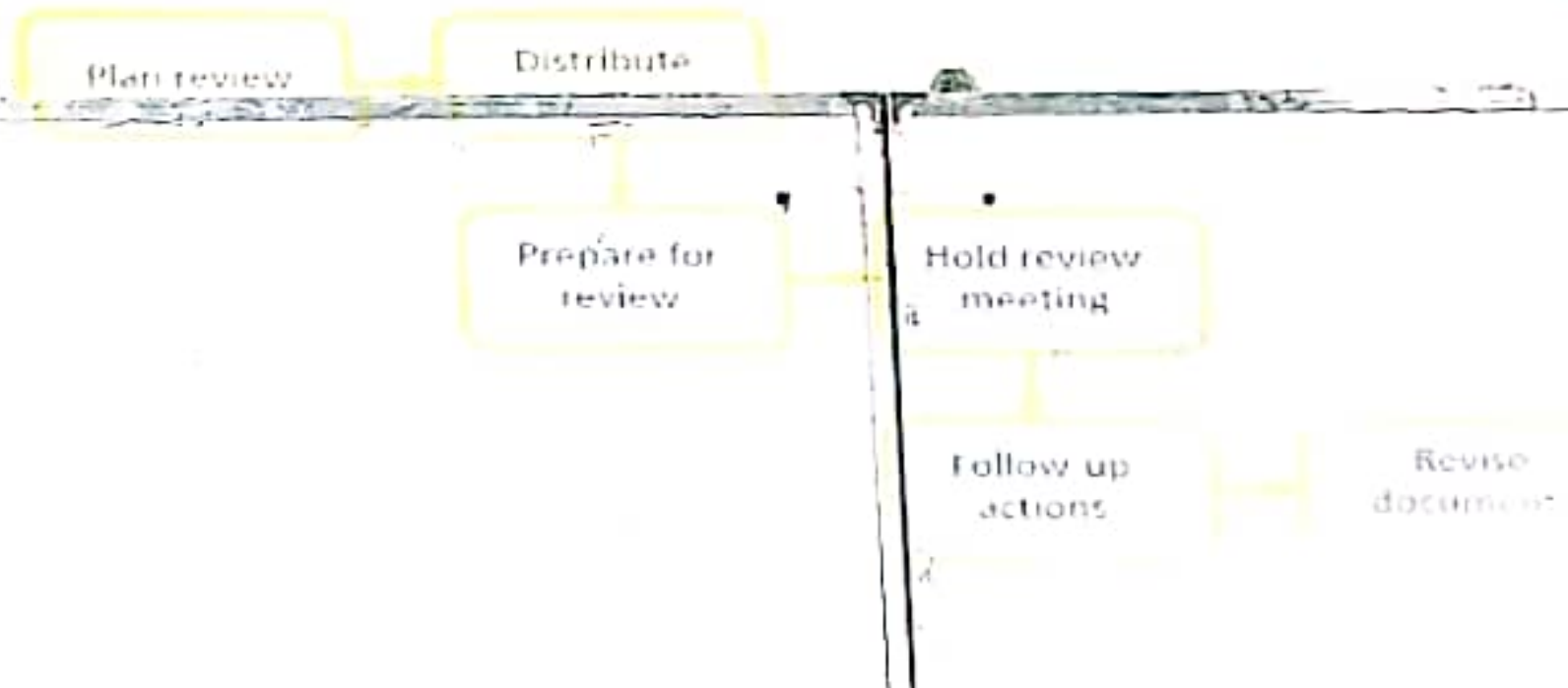
Validation Inputs and Outputs

Requirements Reviews

- A group of people read and analyze the requirements, look for problems, meet and discuss the problems and agree on actions to address these problems.

Requirements Review Process

Plan review

Distribute

Prepare for review

Hold review meeting

Follow up actions

Revise document

Problem Actions

- Requirements clarification
- Missing information
- Requirements conflict
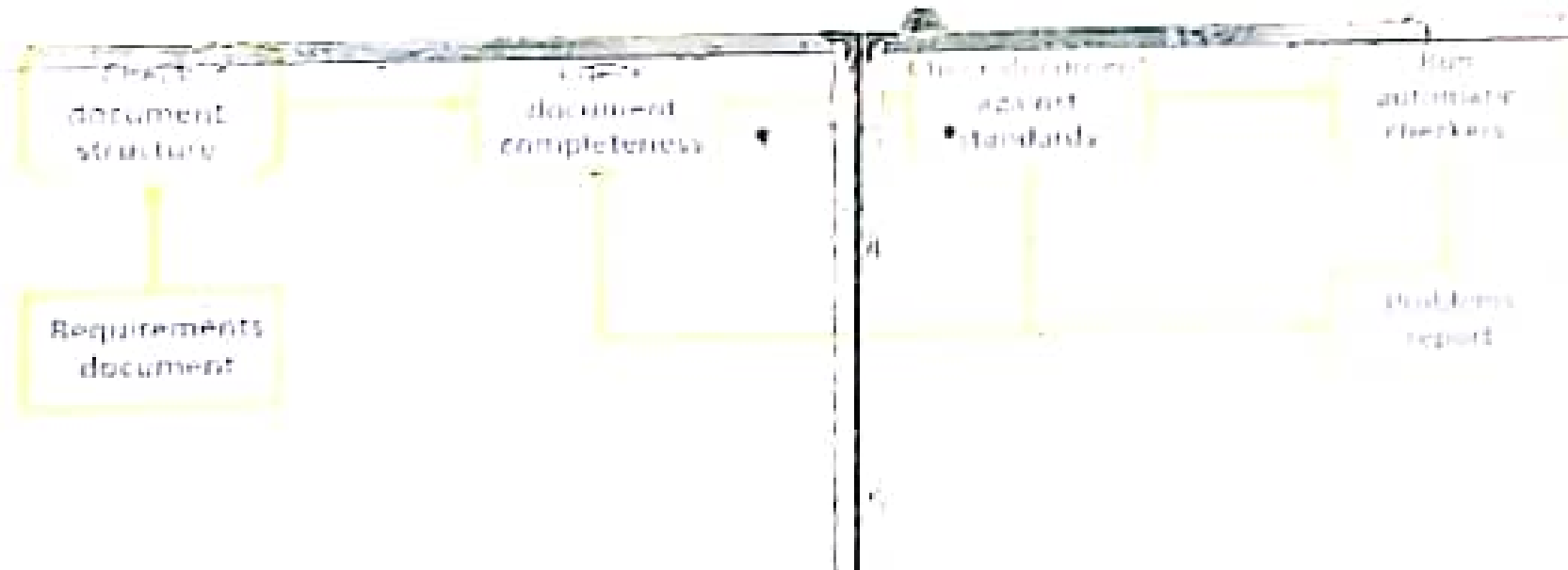- Unrealistic requirement

Pre-review Checking

- Reviews are expensive because they involve a number of people spending time reading and checking the requirements document.

- This expense can be reduced by using pre-review checking where one person checks the document and looks for straightforward problems such as missing requirements, lack of conformance to standards, typographical errors, etc.

- Document may be returned for correction or the list of problems distributed to other reviewers

Pre-review Checking Stages

Check
document
structure

Check
document
completeness

Check document
against
standards

Run
automatic
checkers

Requirements
document

Problems
report

Summary - 1

- Requirements validation should focus on checking the final draft of the requirements document for conflicts, omissions and deviations from standards.

- Inputs to the validation process are the requirements document, organizational standards and implicit organizational knowledge. The outputs are a list of requirements problems and agreed actions to address these problems

Summary - 2

- Reviews involve a group of people making a detailed analysis of the requirements
- Review costs can be reduced by checking the requirements before the review for deviations from organizational standards. These may result from more serious requirements problems