



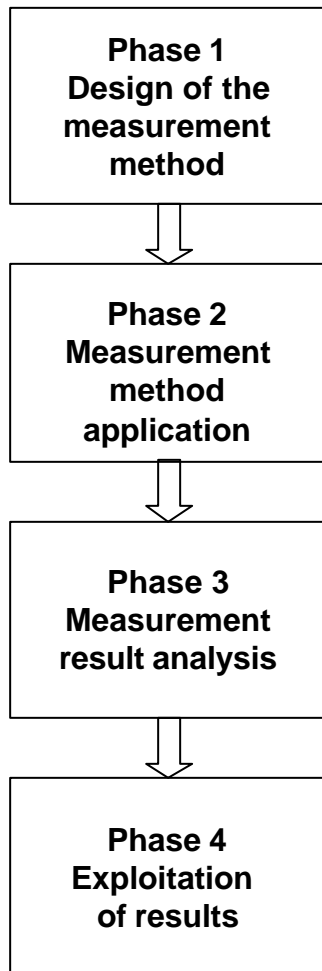
Applying a Functional Measurement Method

Cognitive Issues

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Measurement process



Phase 1 is about the construction of the measurement method. It was applied during the construction of the functional measurement method COSMIC-FFP

Phase 2 includes three activities:

- gathering the data
- modeling the software
- application of the numerical rules

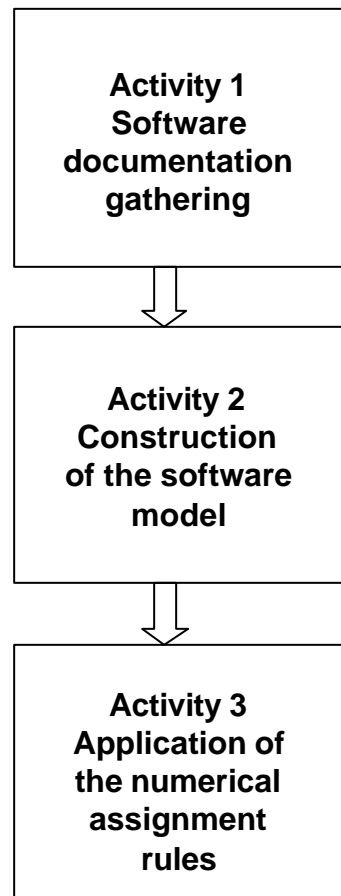
Phase 3 analyzes the results

- Checking the results
- Using a validation process

Phase 4 uses the results:

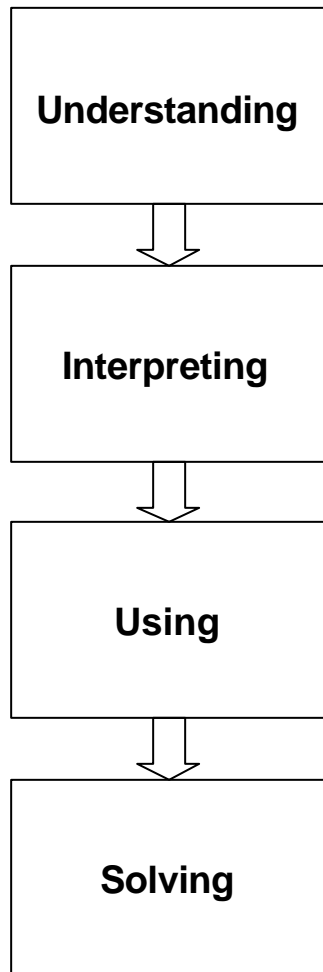
- Productivity models
- Estimation models
- Quality models

Activities



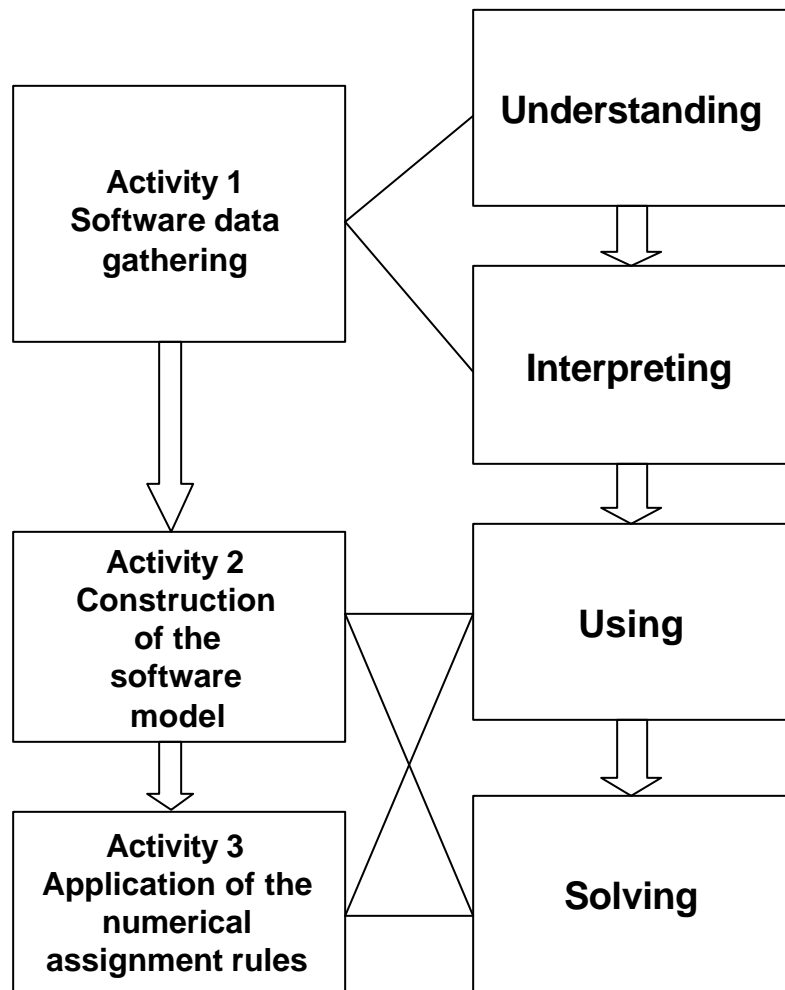
- Procedure of data-gathering:
 - Is specific to each organization
 - Not systematized in the measurement method documentation
 - The quality of the documentation about the software to be measured is a factor to consider
- Application of numerical rules is relatively easy

Path of the measurer



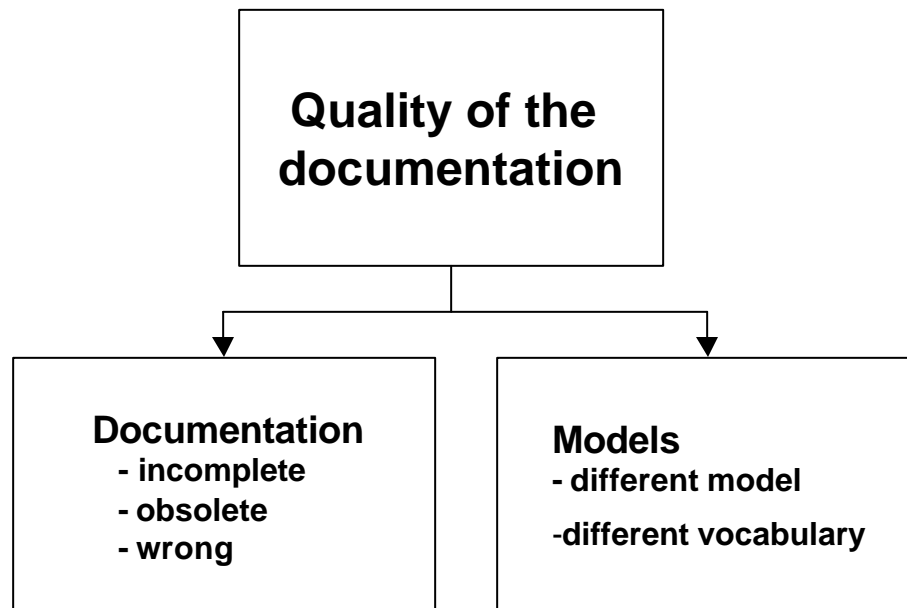
- Understanding the information (documentation and/or specialist)
- Finding the rules of the method the measurer will need to interpret the problem
- Using all that can be useful in the measurement method in connection with the problem to be solved (include local rules)
- Finding the solution

Phase 2 activities and path of the measurer



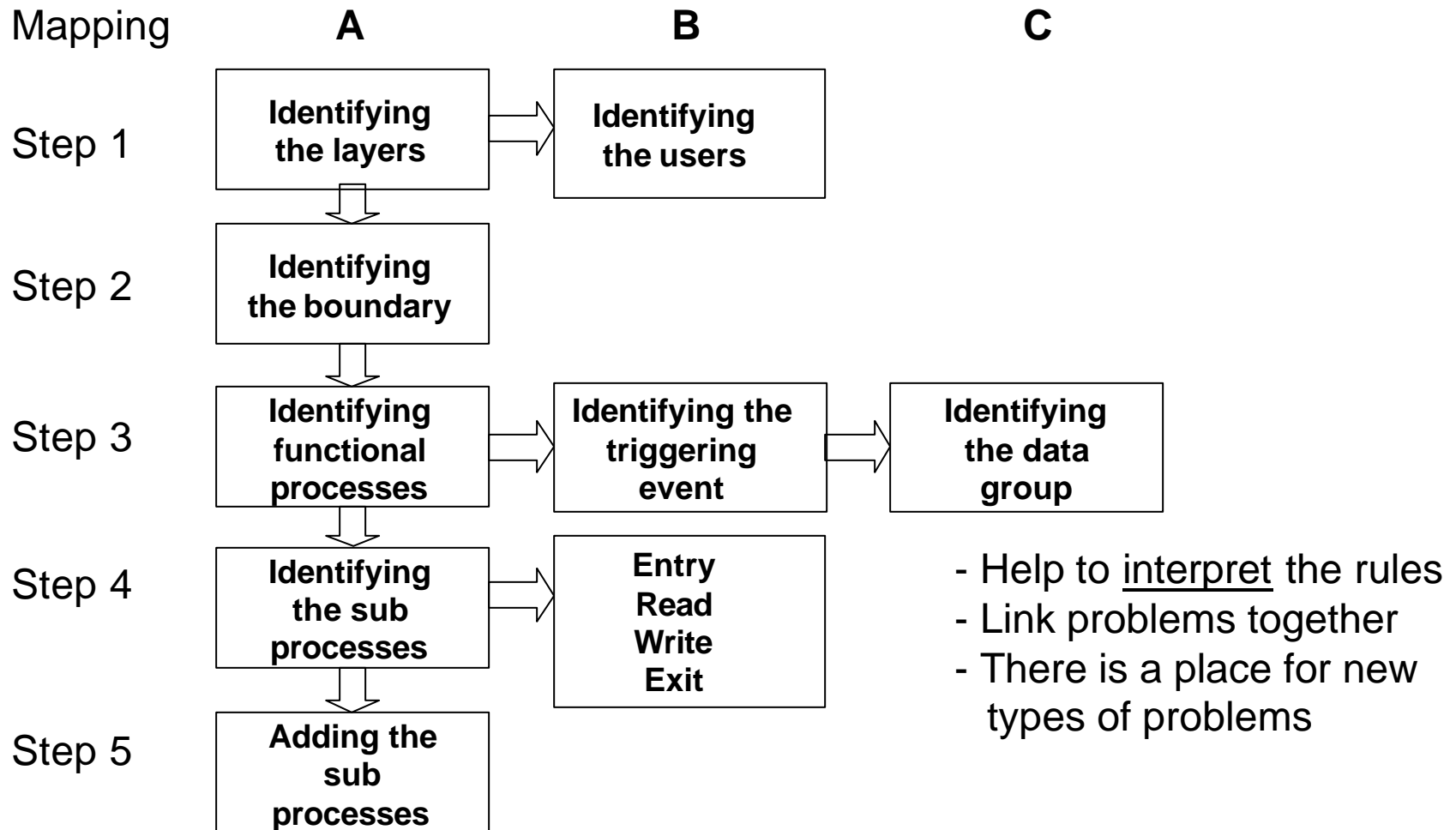
- Understanding and interpreting correspond to the activity of data-gathering
- Using and solving correspond with the activity of constructing the model of the software or with the activity of the numerical assignment rules

Quality of the documentation

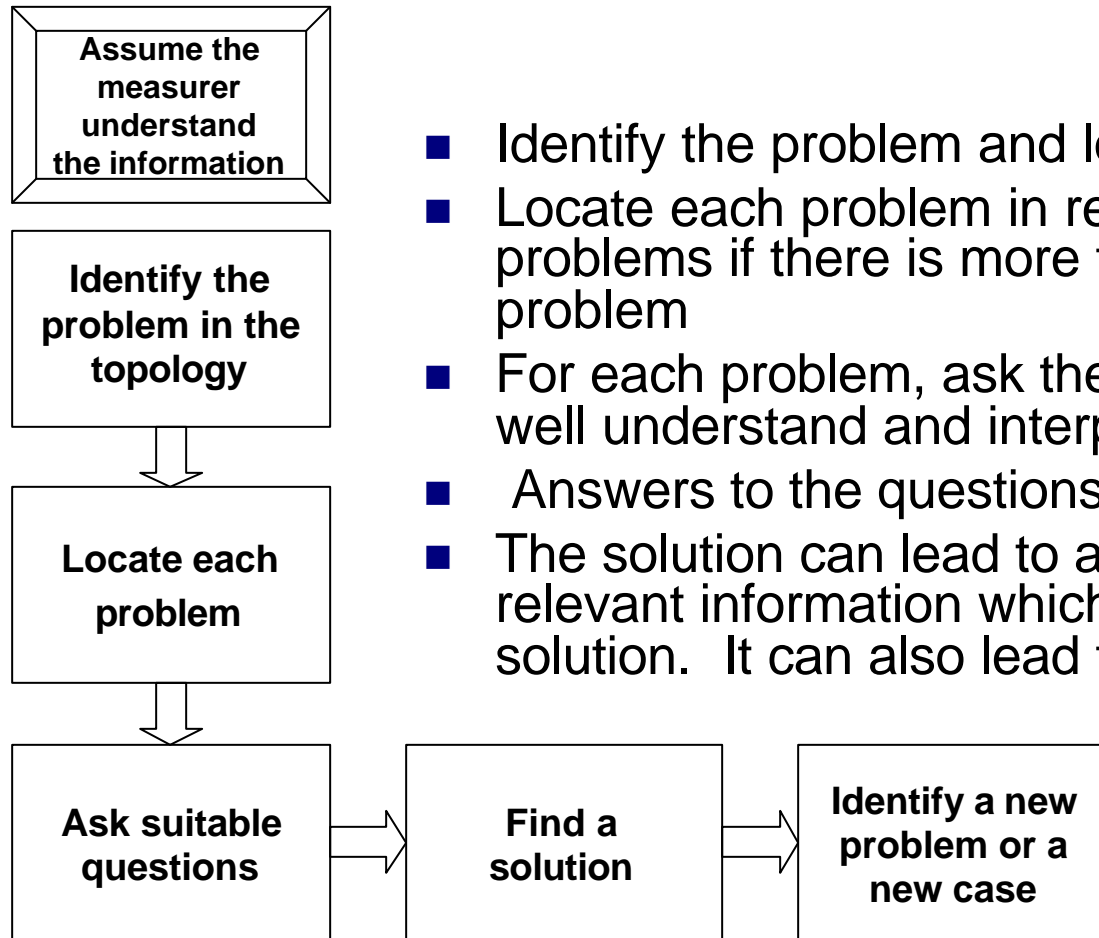


- The quality of the documentation facilitates (or not) the understanding of the software for the purpose of the measurement
- The measurer then must question the specialists who carried out the software in order to fill out the lack of information

Topology of COSMIC-FFP method

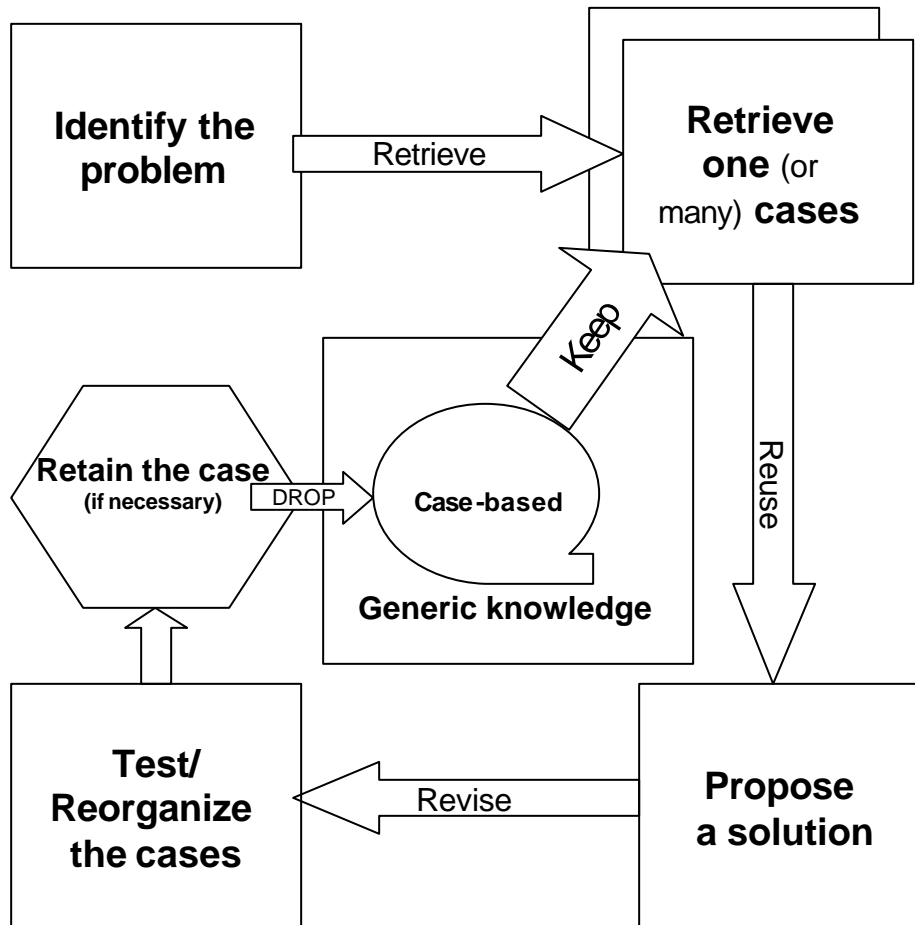


Application procedure



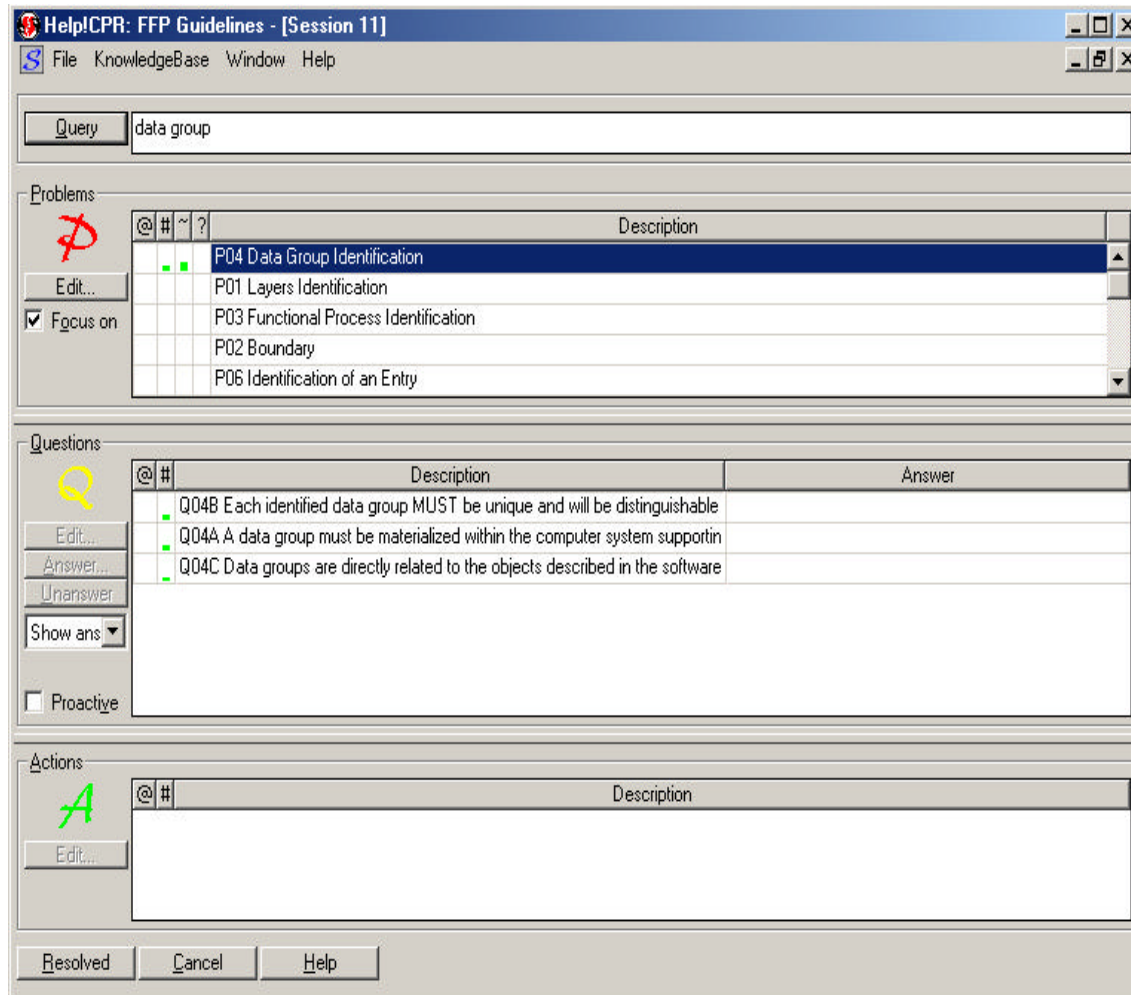
- Identify the problem and locate it in the topology
- Locate each problem in relation with others problems if there is more than one potential problem
- For each problem, ask the suitable questions to well understand and interpret the problem
- Answers to the questions lead to the solution
- The solution can lead to another problem or with relevant information which will contribute to the solution. It can also lead to a new potential case.

Case-Based Reasoning Cycle



- **RETRIEVE** the most similar case or cases that will help to solve the problem
- **REUSE** the information and knowledge in that case to solve the problem
- **REVISE** the proposed solution
- **RETAIN** the parts of this experience likely to be useful for future problem solving

User interface of Help CPR



- Query = identify
- Problems = retrieve
- Bar = solve
- Questions = retrieve
- Bar = priority
- Actions = solve or help

Help CPR versus CBR approach

