Reuse assignment

Support session 1

Industry case study

- Selection of case
  - Champion
  - More than one product

Outline

- Writing tips
- Reuse assignment

Importance

- Without good language and writing (lang/w):
  - NO one will read!
  - NO one will understand!
  - You are NOT thinking/seeing clearly!
- => NO CONTRIBUTION to knowledge
- Good lang/w REQUIRED even if good work!
- Good lang/w CANNOT cover sloppy work!

Loosely based on http://iaser.tek.bth.se/pa2403/feldt_lecture_language_and_writing_v1.2.4.pdf

Spelling

- Of course you should NOT do it!
- Tools available, dictionaires, thesaurus etc
- There is NO excuse for spelling errors
- Supervisors can refuse to read!
  - It is an offence to your readers to have many spelling errors!

Grammar

- Wrong verb tempus/tempi
  - *It is a huge world of internet and easy to **lost your actual path!***
  - *The Internet contains vast amounts of information and it is easy to lose your path.*
  - But there are more problems with this sentence (unclear language (what does "lose your path" mean in this context? We can only guess => imprecise))

Learning Grammar

- Read lots of english books!
  - Not only course text books, also prose!
- Buy a good english grammar book!
- Write, read and revise. Ask friends - review.
- Check online resources!
  - http://www.learnenglish.de/grammar/articlestext.htm
  - http://www.englishpage.com/grammar/
  - http://www.ego4u.com/

Wording

- Problems with wording = uses the wrong word/concept/term in the wrong context
  - *"...easy to lose your path. To avoid such **harassment...”***
  - *Harassment = intimidation, pressure, force, coercion. It implies an active agent, only rarely/informally can it be used to mean a "hassle", an annoyment.*
  - *"Either these log books may be in form of **natural memoization...”***
  - *There is nothing like "natural memoization". It is unclear what is meant. We can guess what is meant yes, but science and research requires PRECISION. What is it that you really mean? Exactly? Not in some vague sense!*

Bad Writing

- Using speech patterns:
  - The developers weren't there in the meeting, it'll be later when we could call them.
  - The developers were not in the meeting room, so it was not until later that we could call them.

Bad Writing

- Buzzword salad - full of fashionable buzzwords that does not really say something meaningful:
  - In this paper we apply the latest agile development process theories to find automated techniques for test case selection and pruning based on algorithms for non-local reasoning in Artificial Intelligence. Our results are validated using managerial organization techniques from Lean Production Management…

- Too much and too little substance.

Clarity - Focus on Reader

- Main problem: Lack of Clarity
- Purpose of report: Create knowledge in Reader
- Readers are busy, ease their task!
- Write with reader in mind
- Language and writing is unclear when it is:
  - ABSTRACT, and/or
  - DISJOINT, and/or
  - TECHNICAL

UnClarity

- Often because writer tries to make "too simple" ideas appear more complex than they are => Pretentious, Abstract, Indirect

- Reality is too complex anyway! Don't complicate it more!

- Language cannot really protect you; knowledgeable readers will see through it and be disappointed and/or angry!

- Ultimately you are judged on the quality of your contribution; not language!

Avoid Passive Verbs

- Style is more direct and easy to follow in active sentences:
  - The developers raised an objection.

    →

- Than in a passive sentence:
  - An objection was raised by the developers.
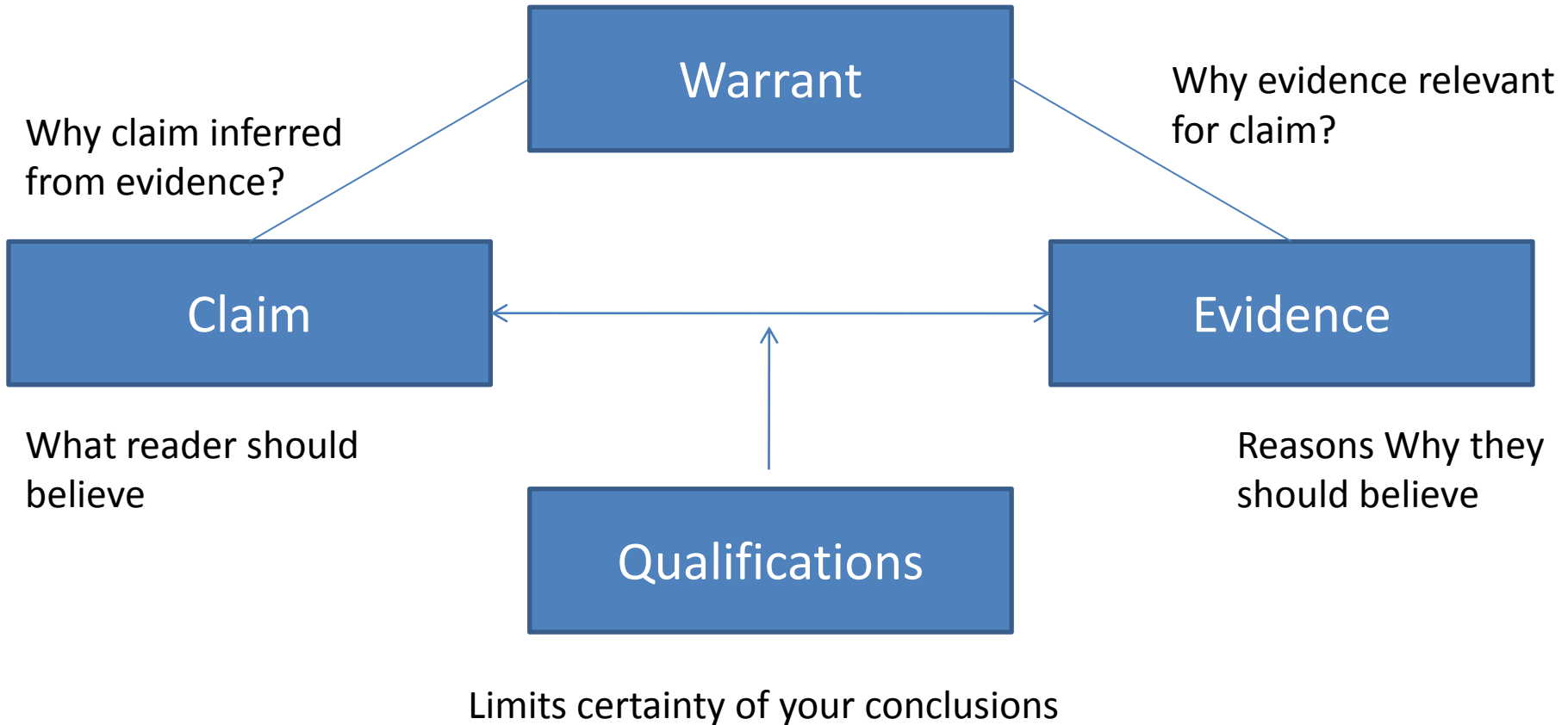
    ←

Claims & Arguments

- Language is a way for you to communicate

- So what is it that you want to communicate?

- A RESEARCH ARGUMENT!
  - making a CENTRAL CLAIM
  - supporting claim with your ARGUMENT

Expectations on Research Arguments

- Readers expect you to:
  - Make New & Important Claims
  - Explain Why you believe the claims
  - Support Claims with Evidence
  - Bridge Claims and Evidence with Warrants
  - Qualify your Evidence and Claims
- You must anticipate readers:
  - Views, Positions, Interests, Objections, Alternatives

Model of Arguments

Principle Linking/Connecting Claim & Evidence

Warrant

Why claim inferred from evidence?

Why evidence relevant for claim?

Claim

Evidence

What reader should believe

Reasons Why they should believe

Qualifications

Limits certainty of your conclusions

Reuse assignment

- 1 theme/topic – 3 papers
- Your report should at least contain:
  - Abstract
  - Introduction (to topic, why it is important, overview of rest of report)
  - Summary of relevant papers (with each paper being summarized in a sub-section)

Abstract

- Shorter than intro but shares same three features:
  - States research problem
  - Announces key themes
  - Ends with Main Point or Launching point
- Context + Problem + Main Point
  - 1-2 sentences of Context
  - 1-2 sentences states Problem
  - 1-2 sentences Main Point/Result
- Context + Problem + Launching Point (What has been done)

Reuse assignment

- Analysis, that answers the questions:
  - In which situations, and for what, can the sw reuse topic/method/technique/process be used?
  - What are the advantages of the topic/method/technique/process?
  - What are the disadvantages of the topic/method/technique/process?
  - How is it related, or not, to a software product line engineering approach?
  - What kind of evidence exists that it works?
  - What more do we need to know to successfully evaluate or use the topic/method/technique/process?

- In which situations, and for what, can the sw reuse topic/method/technique/process be used?

  - Situation

    – Domain – control systems, ERP, automotive, telecom, embedded

    – Technology – Object orientation, Functional, …

    – Process – agile, waterfall

  - What

    – Knowledge reuse, file, function, component …

    – Large scale, small scale

- What are the advantages of the topic/method/technique/process?

  - Be critical – does their claims hold?

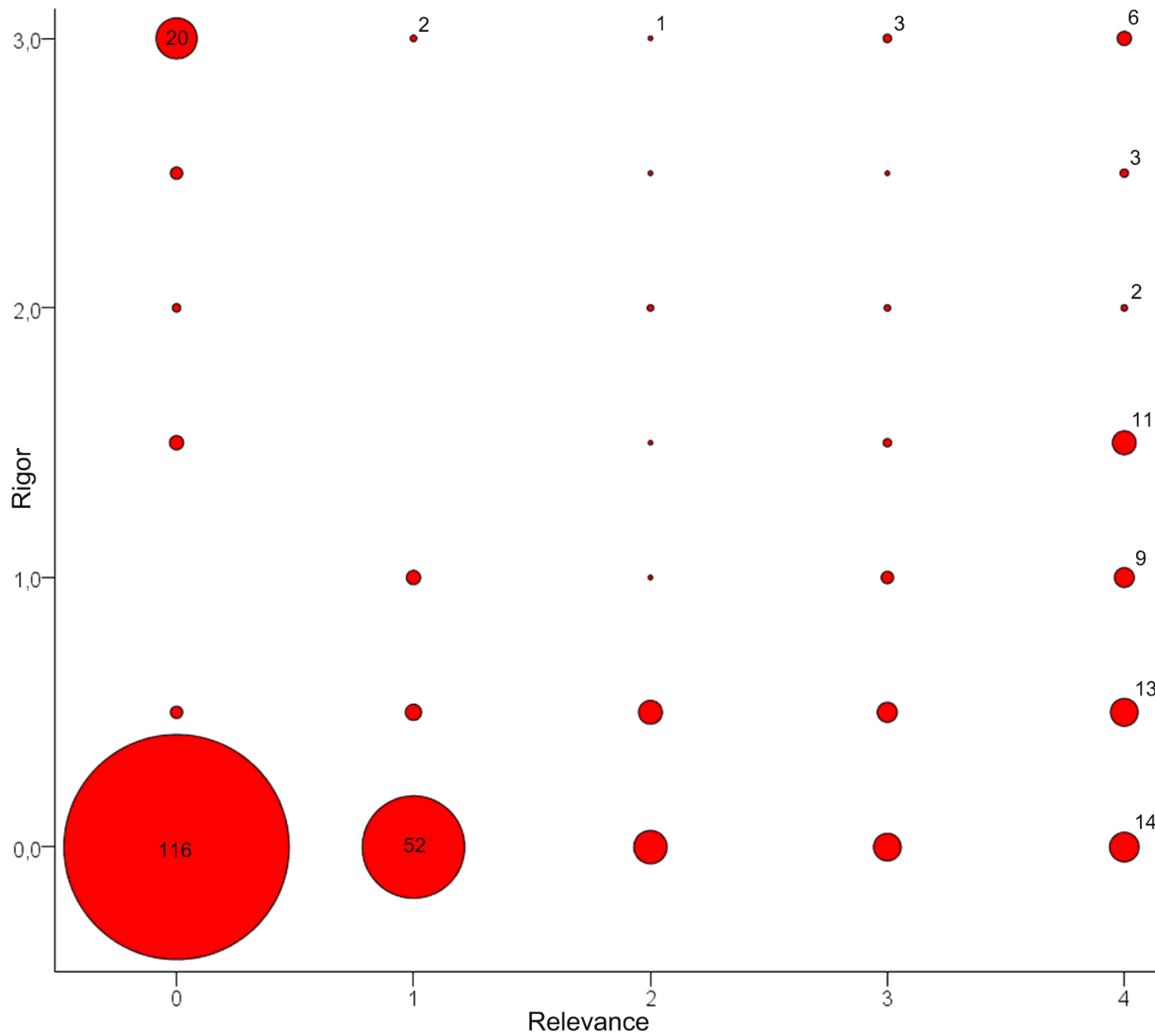- What are the disadvantages of the topic/method/technique/process?

- How is it related, or not, to a software product line engineering approach?

What kind of evidence exists that it works?

– Usability

– Usefulness – better alternative investment

– Scalability

What kind of evidence exists that it works?

- Evaluation
  - Type
    » Example
    » Experiment
    » Case study
    » ...
  - Scale
    » Toy
    » Real
  - Users
    » Researchers
    » Practitioners
    » Students

- Used in industry
  - Context?

Users, Context, Scale, Research method

- What more do we need to know to successfully evaluate or use the topic/method/technique/process?

- In one week you will have your next and **final** support session for the Reuse assignment
  - What do you need?
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