Software Engineering 2

A practical course in software engineering

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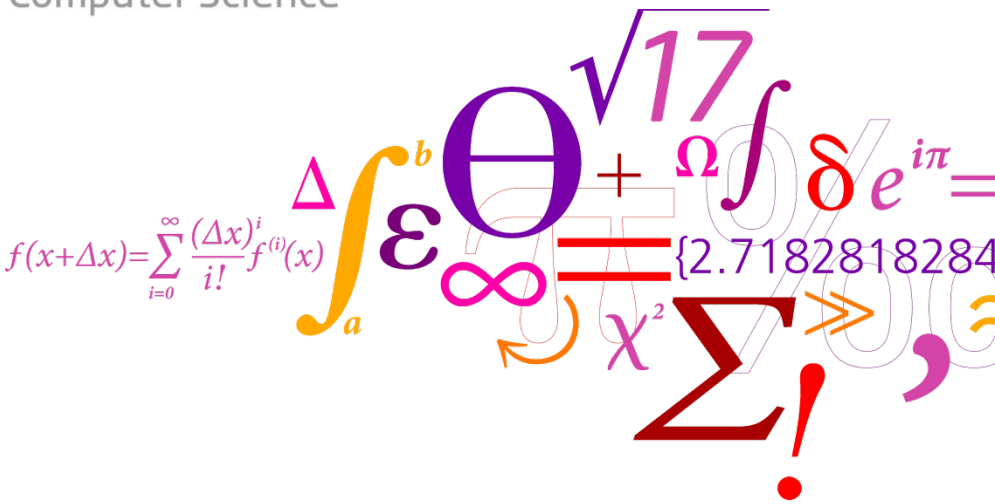

VIII. Writing Handbooks

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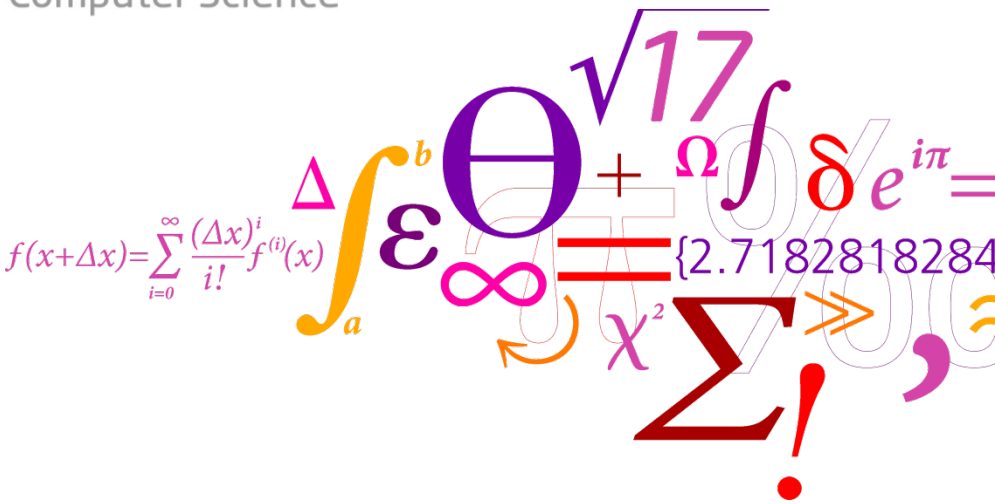
And a bit more on writing!



Handbooks

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- Presents the product from the user's point of view **only**

Typically:
No UML in it!

In some cases, there could be some technical notations or diagrams in the handbook! When?

e.g.:
- Handbook for a UML tool
- For explaining concepts (abstract syntax) to a technical audience

Handbooks

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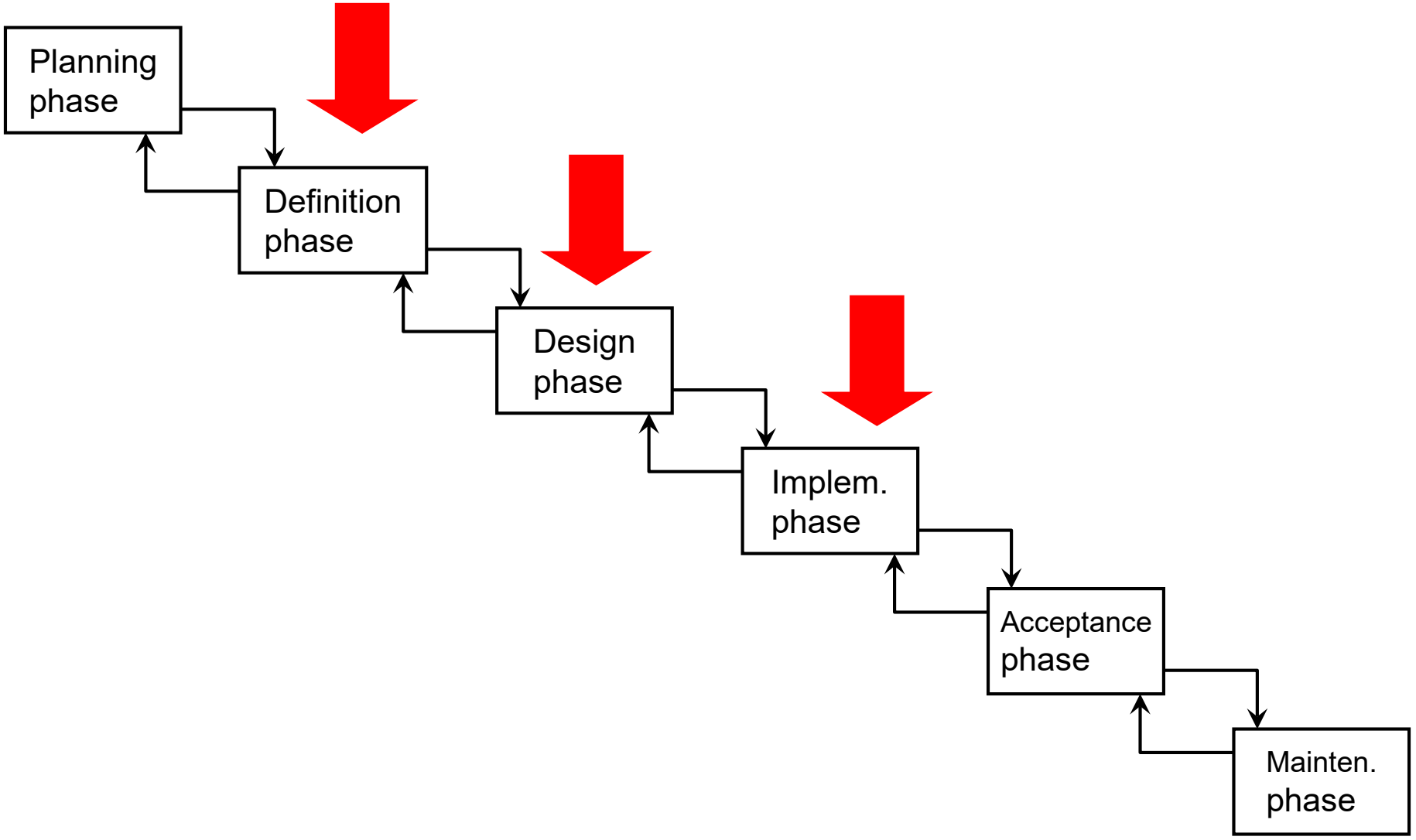

Handbooks

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- Presents the product from the user's point of view

The responsibility for completeness remains with the engineer!

Early version of handbook helps

- assuring that customer's and developer's understanding of the product coincide
- assuring the completeness of the product (in particular from the user point of view)
- defining acceptance tests

Outline

- On writing handbooks
  - Purpose
  - Kinds of handbooks
  - Principles
- On writing in general (again)
  - Principle
  - Guidelines
  - General rules

1. Handbook

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Purpose (originally):

Not exploiting the benefits during the development process.

Describes the behaviour and the use of the product from the user's perspective only

- complete
- accurate
- **comprehensible**
- entertaining

A user must be able to use the product without any other information.

Assuming some common places of course (→ pragmatics).

Audience

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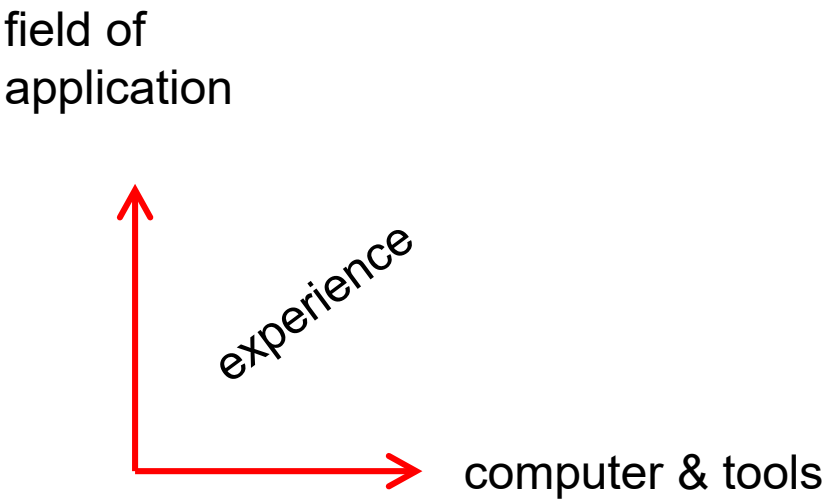
The user of a product:

- new user
- advanced user
- expert



Different users (audience) have different needs!

Be aware of (decide on) your audience!

Type of “handbooks”

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- Tutorial
- User guide
- Reference manual
- Quick reference

Tutorial

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- Must be worked through systematically
- Typically, worked through with the tool (“hands on”)
- Includes much motivation and explanation
- Subsequent parts build on each other

User guide

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- Subsequent parts built on each other
- But, can also be read independently of each other
- A compromise between different needs

Reference manual

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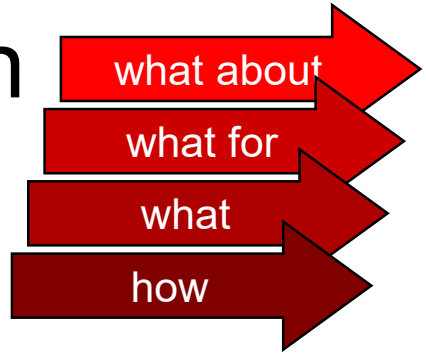
- Very detailed (all information covered)
- Cannot and will not be read from the first to the last page
- Parts need to be independent from each other
- Typically, almost no motivation (only what and how)



Quick reference

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- Not very detailed
- Covers all important information on a glance
- No motivation
- Needs prior knowledge
  (of general structure of GUIs and of application area)

Structuring a handbook

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Application oriented:

Along the tasks (business processes) the product is used for

Product oriented:

Along the structure of the product (functions and parts of the product; e.g. systematically explaining all elements on the GUI)

Structuring a handbook

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Application oriented:

+ good orientation for beginners
+ good readability
- Much redundancy (same function might occur in many use cases)

A user guide, typically, combines both structures.

Product oriented:

+ completeness can be easily achieved
+ no redundancy (every feature explained only once)
- user has no orientation and does not know how to put pieces together

Handbook: Outline

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- Preface
- Table of contents
- Introduction
- Installation
- Graphical user interface
- Product structure
- Tutorial
- Reference manual
- Bibliography
- Glossary
- Index

Context, motivation, purpose, …

Note: There could be other adequate structures.

E.g. example section for running example

2. Good Writing

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Most principles that apply for good talks apply to good writing too:

- Who is the audience?
- What is the goal?
- How do I achieve it?

Good Writing

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Some problems are even more serious:

the reader cannot interact with the author

- Which questions could arise for the reader?
- What could be misunderstood?

Other problems are less serious than in talks:

- The reader can go back!
- The reader can skip parts
  (if the document is well-structured)

A good index helps with that!!

Comprehensibility

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When is a text comprehensibility?

Are there criteria for comprehensibility?

See lecture 6 (Sect. 4)!

Criteria

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- Simplicity (-- - 0 + ++)
  - simple words
  - simple sentences
  - short sentences
  - concrete (e.g. by example)

- Structuring (-- - 0 + ++)
  - one idea after the other
  - form and content are coherent
  - conclusive

Criteria

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- Conciseness (-- - 0 + ++)
  - shortness
  - focussed on essentials
  - no empty words and sentences
- Inspiring Additions (-- - 0 + ++)
  - motivating
  - interesting
  - diversified

Rules

- Put important information first (early)

- Use short and simple sentences
- Use singular
- Use strong verbs
- Avoid nouns for actions
- Avoid using adjectives

- Think of good headlines
- Align inner and outer structure of the text (don't use one for the other)
- Build concepts on top of each other

- Address reader directly (do not use passive)

But, (rule of thumb): If all headlines are deleted, text should still be readable.

Writing in "spirals" (not too tight, not too wide)

Note: But, some people claim that this is "unscientific"!

Read

Old, simple, but very effective rules for writing in English.
The 1918 version is online
http://www.bartleby.com/141/

W. Strunk and E.B. White:
The Elements of Style (1935).

William Zinsser:
On Writing Well (1976).