

# Academic Skills in Software Engineering (ASiSE)

## Writing Abstracts and Creating Outlines

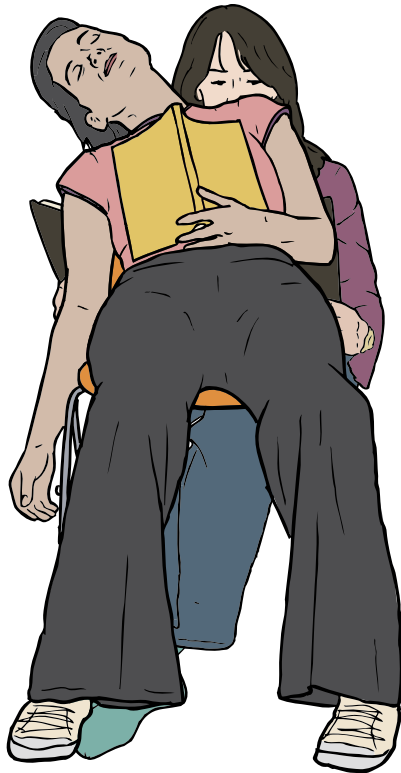
Exercise

Tuesday, 5. DS, APB/E001

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## Reading



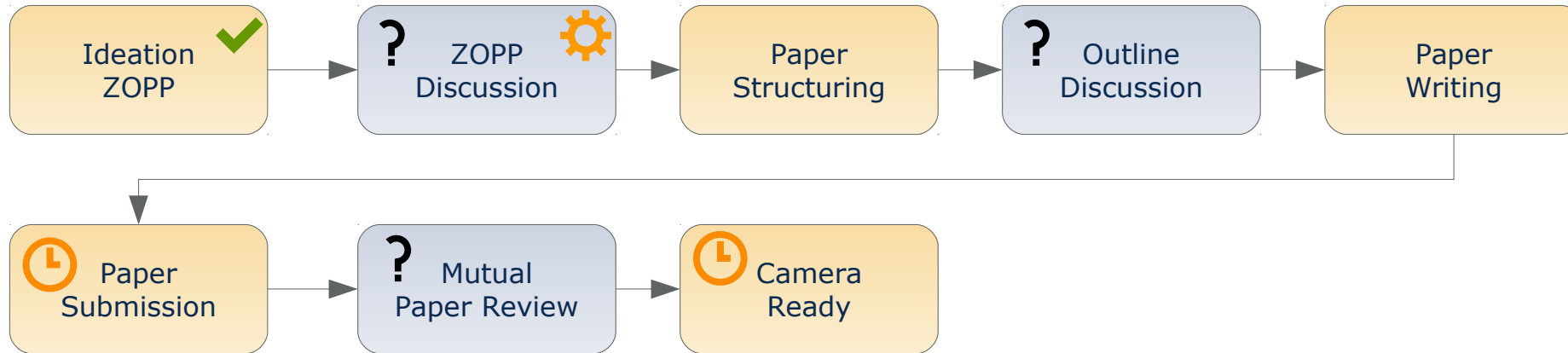
## Writing



## Organizing



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- Iterative process from idea to written paper
- Write an **abstract** early (after defining the ZOPP)
- **Structure** your paper (chapters, sections, paragraphs)
- Write **outlines** for each chapter, section, ...

- Derived from a ZOPP
- State the *problem* in one or two sentences including your *goal*
- Highlight your *solution* in one or two sentences
- State your *success criteria* or how you *evaluate* your solution

“Currently, CROM models can be created textual or graphically without taking the well-formedness rules for these models into account. Hence, the goal of this work is to create a Eclipse-based plugin, which validates CROM models with respect to well-formedness. Additionally, the plugin should be easy to integrate into the existing editors.”

– Kühn (2015)

- Includes the *problem definition* as crucial part
- Prepends a **background** of this research (*Why is it important?*)
- Summarizes the major **problems and goals**
- Appends a description of your evaluation (*success proof*)

“Modelling context-dependent domains is hard, as capturing multiple context-dependent concepts and constraints easily leads to inconsistent models or unintended restrictions. However, current semantic technologies not yet support reasoning on context-dependent domains. To remedy this, we introduced ConDL, a set of novel description logics tailored to reason on contextual knowledge, as well as JConHT, a dedicated reasoner for ConDL ontologies. ConDL enables reasoning on the consistency and satisfiability of context-dependent domain models, e.g., Compartment Role Object Models (CROM). We evaluate the suitability and efficiency of our approach by reasoning on a modelled banking application and measuring the performance on randomly generated models.”

– *Böhme et al. (2017)*

## Recurring structure of scientific papers in computer science

- Introduction / Motivation
- Background / Preliminaries / Contemporary Approaches
- Concept / Methodology
- Implementation / Realization
- Evaluation / Case Study / Illustration / Discussion
- Related work
- Conclusion / *Contributions*

- 1) Add **success criteria** to your ZOPP.
- 2) Write a **problem definition** for your paper.
- 3) Complete the problem definition to an **abstract**.
- 4) Structure your paper and create a **table of contents**.



