

Master Project; Writing an Abstract

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Abstract

An abstract is a brief description of the content of a paper to facilitate readers in deciding to read the paper. This presentation explains how to write an abstract. Normally, an abstract is written at the end of writing a paper. For the master project, we challenge students to write an abstract up front, to stimulate them to think through the entire project, including the expected outcome.

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logo
TBD

"A good abstract should answer three questions:

What did I do,

what did I learn,

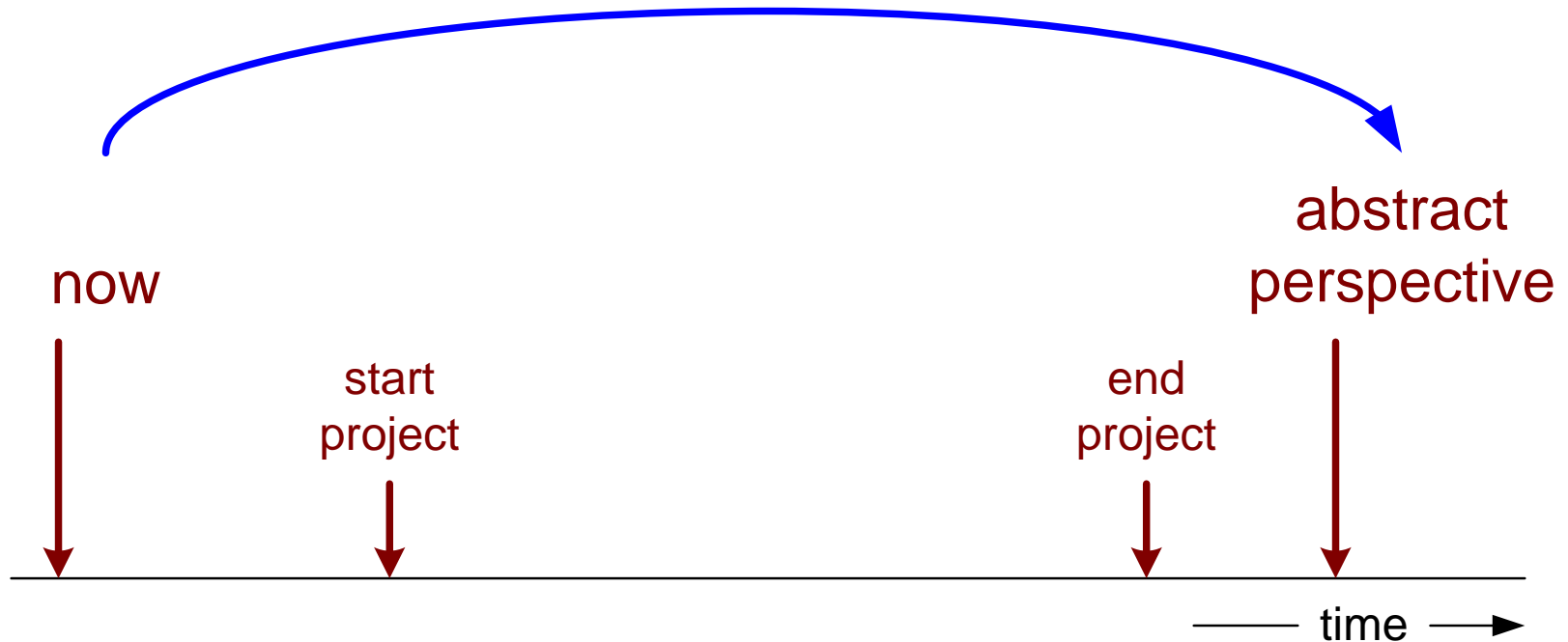
and why is that important?"

The key is to identify something or things that can be reused in the future."

[Prof. Michael Pennotti, Stevens Institute of Technology](#)

Needed: Time Machine

"fast forward" yourself into the future
what do you expect to be the project outcome?



Students write an initial abstract at the start to think through what can happen. At the end of writing the paper, you write the real abstract. The academic supervisor has to accept the initial abstract before starting the project.

Multiple Levels of Academic Abstraction

case

SE body of Knowledge

meta⁰

bottom line:
system-of-interest

work over system
missile
production line
turbine package
control system
tie-in system

meta¹

enabling:
systems engineering
methods

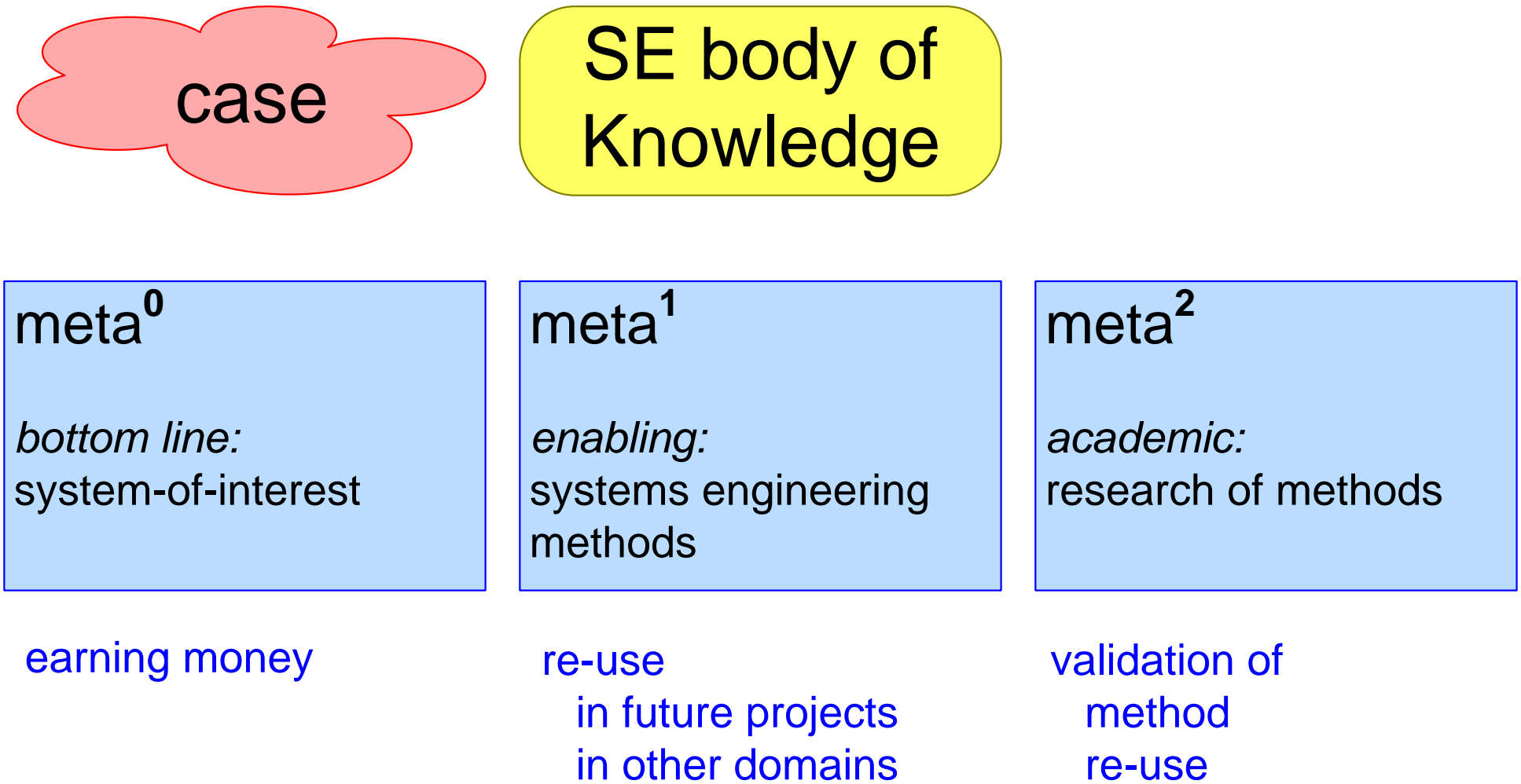
stakeholders and concerns
ConOps
operational needs
need statement
needs into requirements
SMART requirements
concept selection
partitioning and interfaces
documenting the architecture
knowledge management
conceptual modeling
budget based design
integration and verification plan
design of qualification program

meta²

academic:
research of methods

measuring
experimenting
modeling
surveys
interviews
referring to literature
argumenting

Value per Meta-level



Content of Paper

case

SE body of Knowledge

meta⁰
bottom line:
system-of-interest

set the context
where did you apply

domain
system-of-interest

meta¹
enabling:
systems engineering
methods

what did you apply and why

systems engineering
challenge/need
methods, expected benefit

meta²
academic:
research of methods

what can we learn
based on what findings

observations
argument

Write an abstract

in 3 paragraphs

use 2 sentences per paragraph

100..150 words in total