

02: A Conceptual Model of Software development

Software Project Management
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The Frog and the Octopus

A Conceptual Model of
Software Development

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fable | 'fābəl| (noun)

a short story, typically with animals as characters, conveying a moral.

- a story, typically a supernatural one incorporating elements of myth and legend.
- myth and legend : *the unnatural monsters of fable.*
- a false statement or belief.

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*Once upon a time, a frog and an octopus,
Met on a software project, that was deep in the bush.
The frog said, "you know, all these projects are the same;
Over time we fill with our work the gap that we find
Between the burgeoning product, and our dreamed intent."*



*"Oh, no" objected the octopus, "they cannot be the same;
They come in all forms or shapes and sizes and colours,
And we cannot use the same tools and techniques
Like in the cobbler shop, one size does not fit all."*

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Outline

- Motivation
- The model
- The frog part
 - Four key entities:
 - Intent, Product, People, Work
 - Three attributes
 - Uncertainty / Risk, Time, Quality
 - External influences
 - Two more attributes
 - Value and Cost
- Using the model
- Further ideas to explore

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"The purpose of science is not to analyze or describe but to make useful models of the world. A model is useful if it allows us to get use out of it."

Edward de Bono

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Motivation

- Software project management can turn into a long series of recipes
- Vast spectrum of possible projects
- Two models:
 - What is common across all software projects (*frog*)
 - What are the factors of variability (*octopus*)

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A Conceptual Model of Software Development

4 key concepts, 3 key attributes

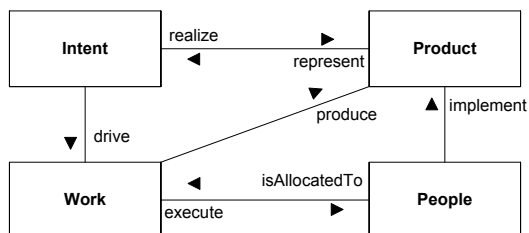
- Intent
- Product
- Work
- People
- Time
- Quality
- Risk

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Intent, Work, People, Product

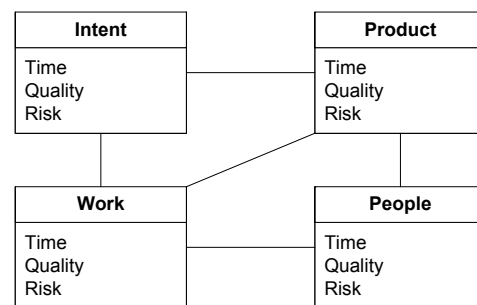


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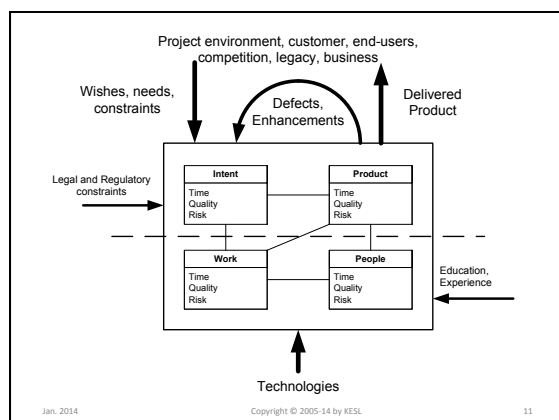
Adding Time, Quality & Risk



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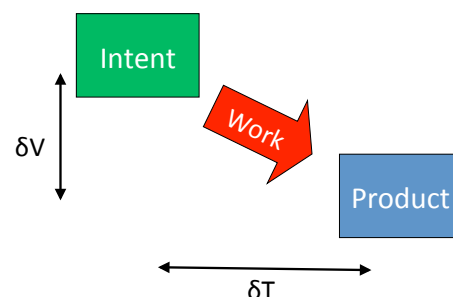


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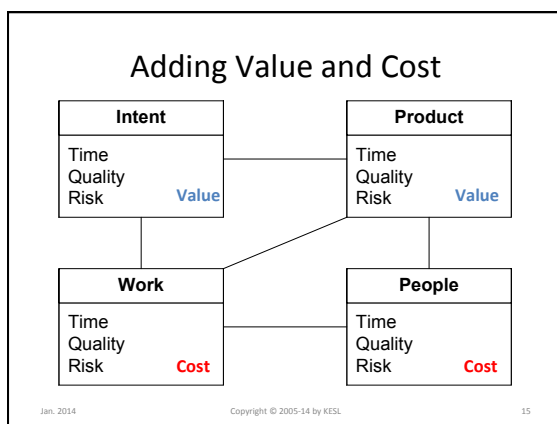
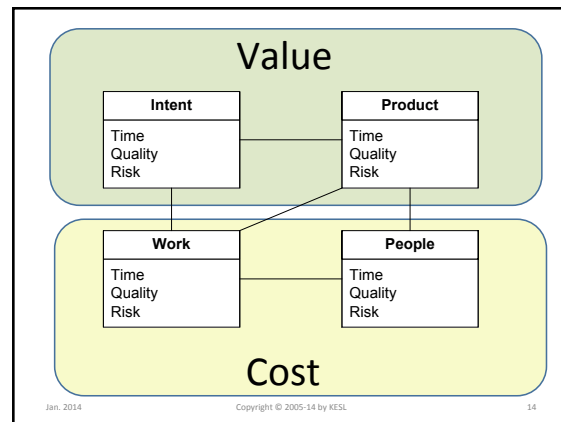
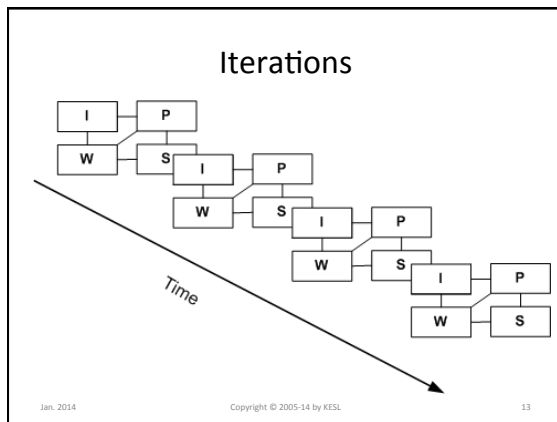

SW Dev. Project: Tension between Intent and Product



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A **project** is all the **work** that **people** have to accomplish over **time** to realize in a **product** some specific **intent**, at some level of **quality**, delivering **value** to the business at a given **cost**, while resolving many **uncertainties and risk**.

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Exercise: which concept is at play?

- If Christine were to resign today, we would be in serious trouble
- The customer want us to implement another use case, regarding costing with discount.
- I know this was not planned, but we will need to move the server farm out of the basement.
- Is our documentation compliant to IEEE 1540?
- When (in which release) will we have a complete implementation of the data entry GUI?
- Should we hire a senior tester, or a beginner that we will train?
- We have over 27 “show stopper” defects in Bugzilla.
- We have to schedule a retrospective for each major release.

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