Open Source Software Engineering

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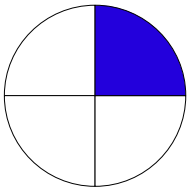
Alexander Dymo
adymo@kdevelop.org
odymo@acm.org
http://www.ki-inform.com/~adymo

Open Source Software Engineering

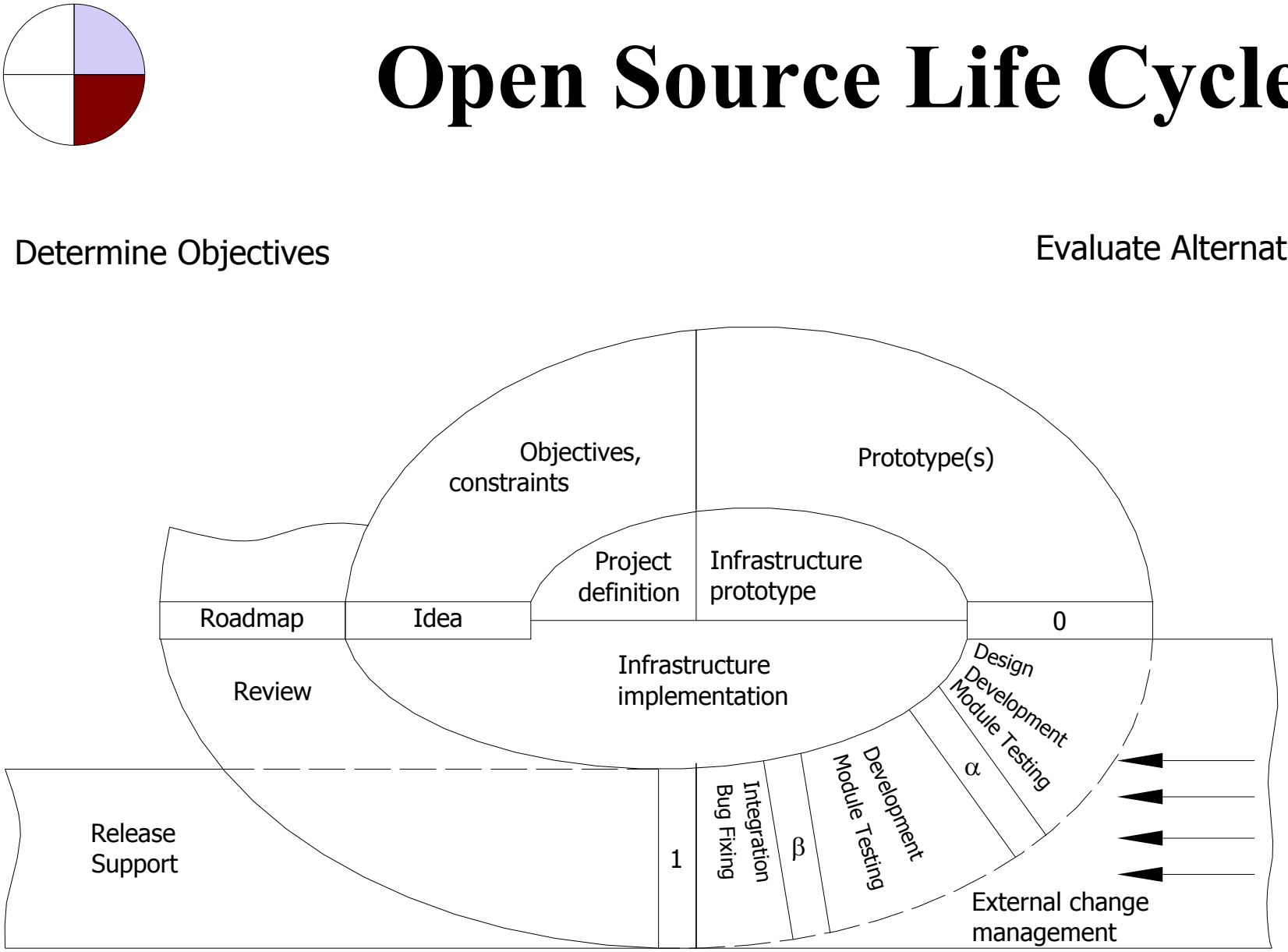
- Open Source as an Agile Method
- Life Cycle
- Team Management
- Cost Estimation Model



Open Source as an Agile Method

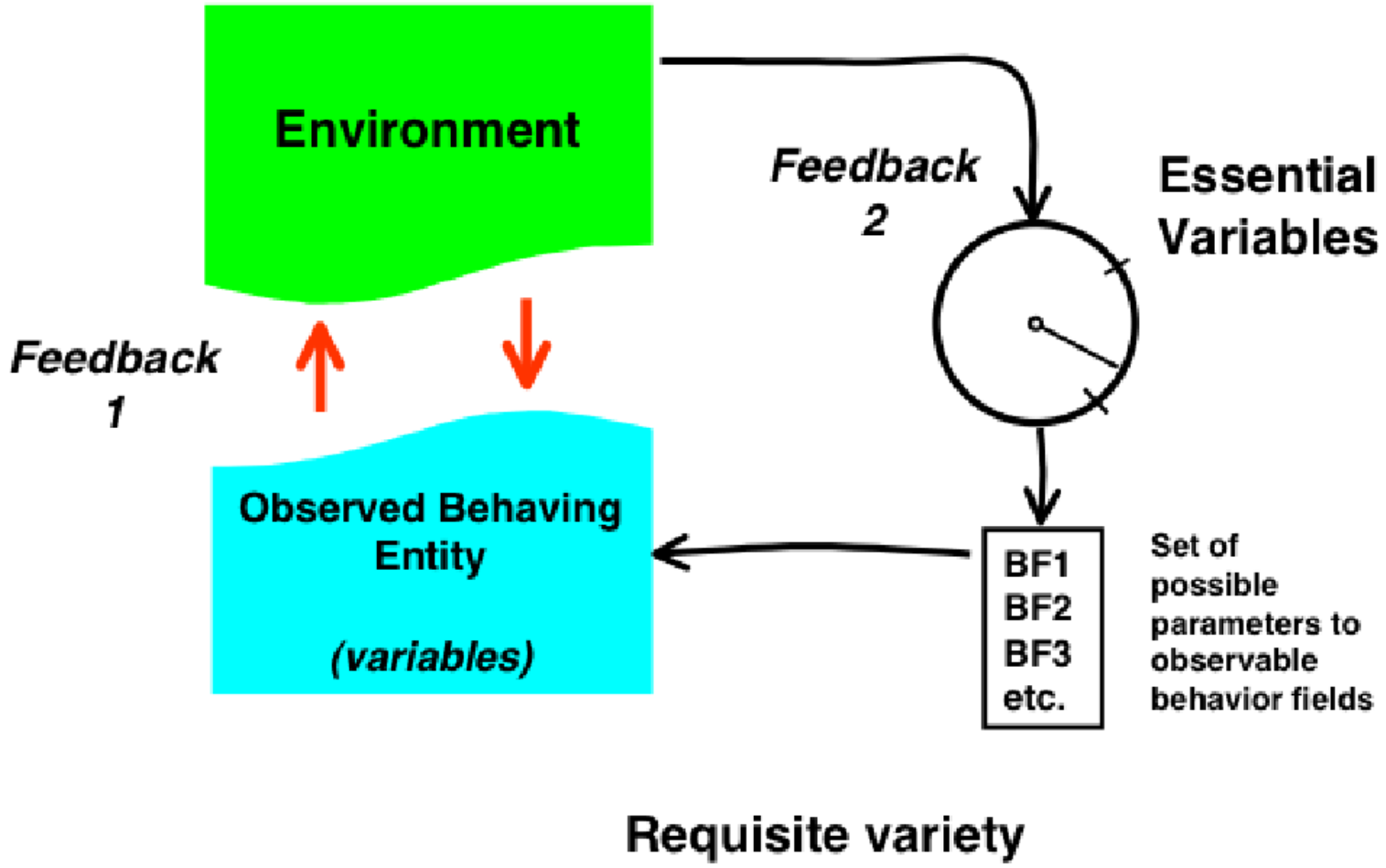
- Things that make open source Agile
  - individuals and interactions over processes and tools
  - working software over comprehensive documentation
  - customer collaboration over contract negotiation
  - responding to change over following a plan
- What makes it more agile?
  - embracing change
  - fast development cycle
  - YAGNI
  - tacit knowledge

Open Source Life Cycle



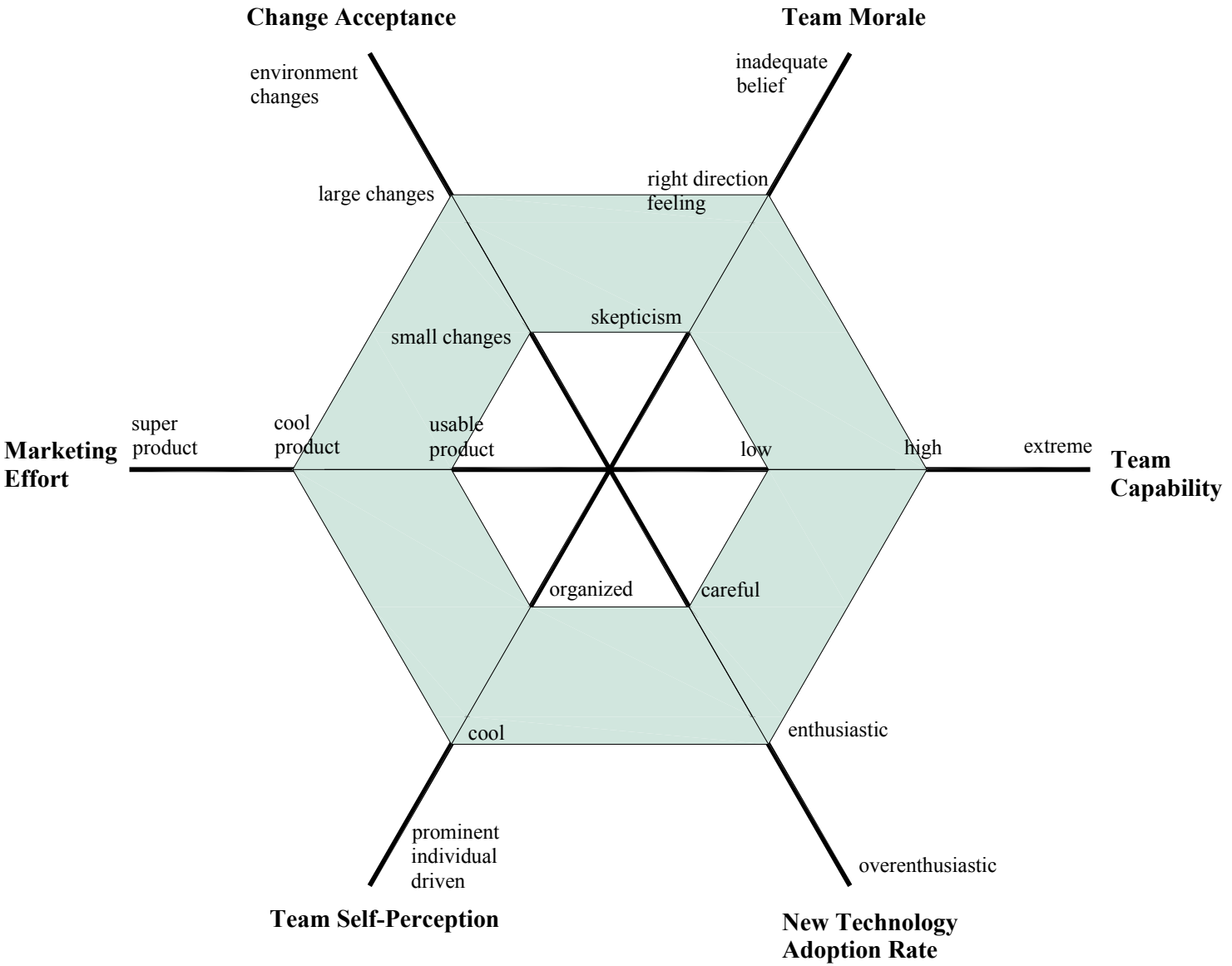
Team Management

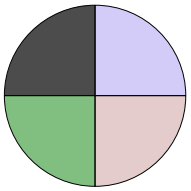
- Self-Organizing System (by Ashby):



Team Management

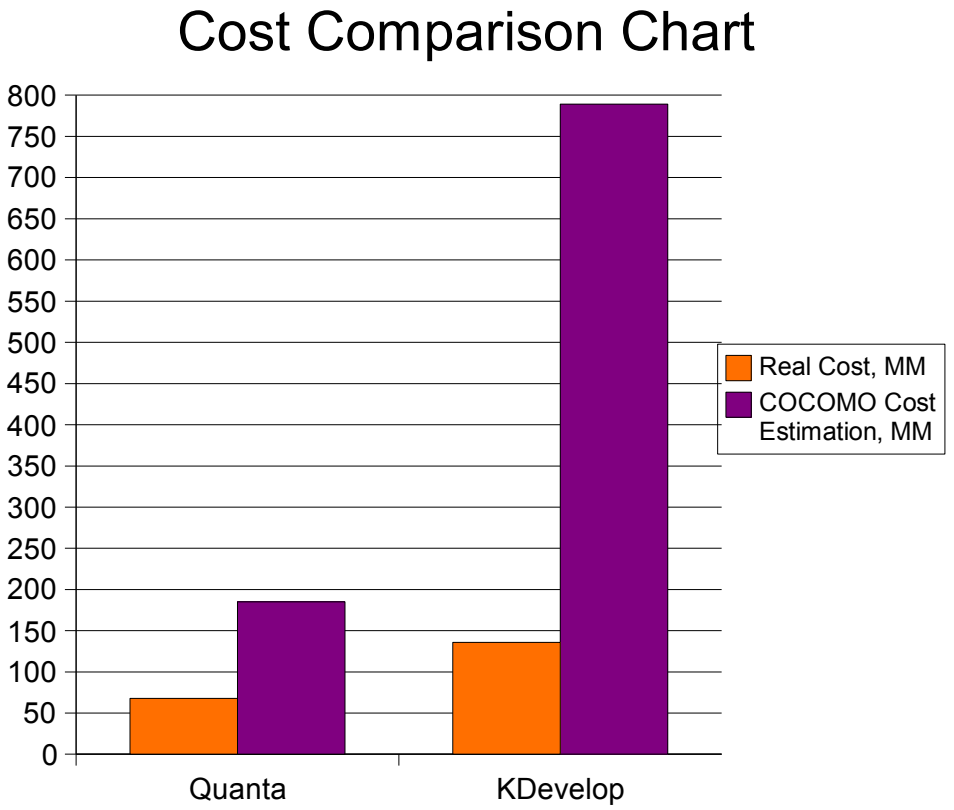
Essential variables
polar graph

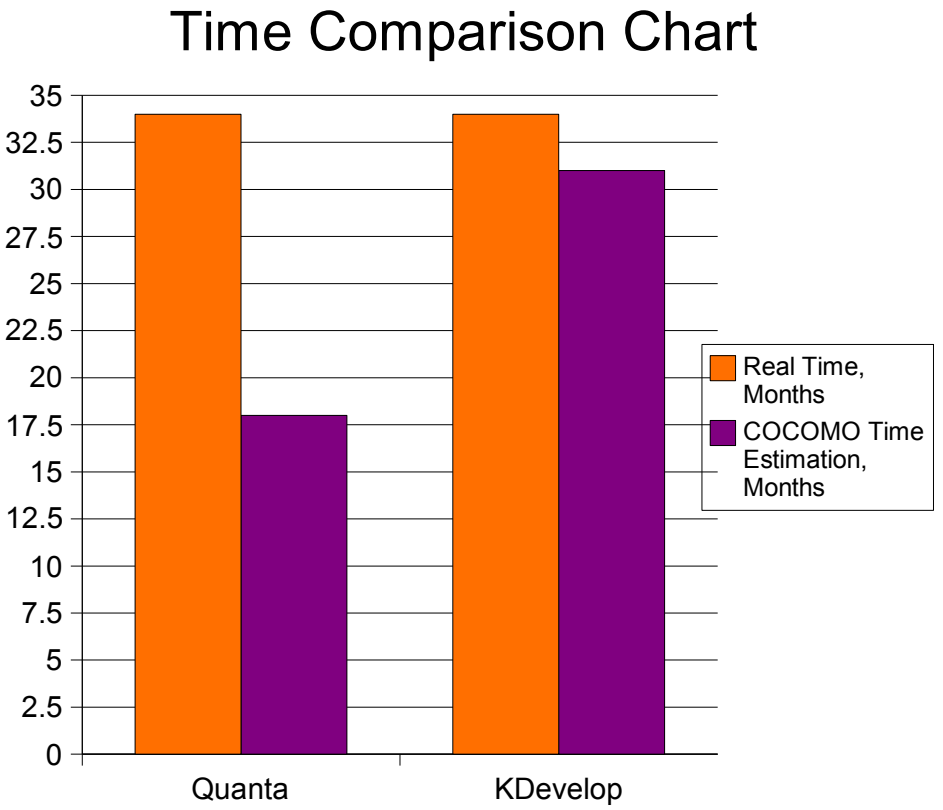




Cost Estimation Model

- COCOMO is not adequate for OSS projects





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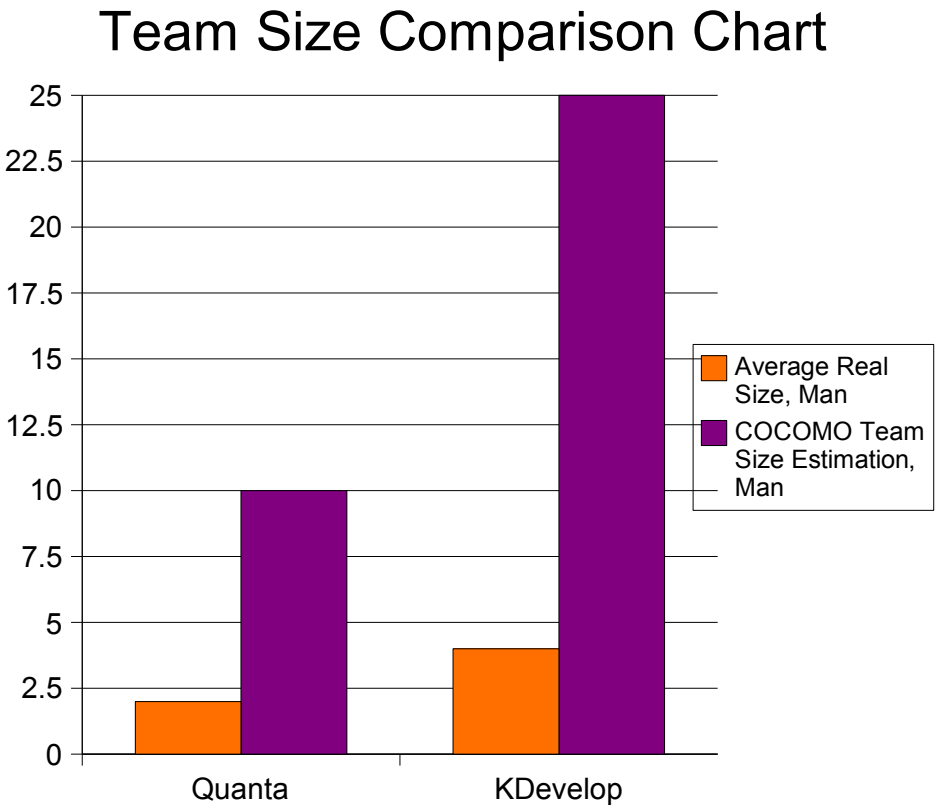

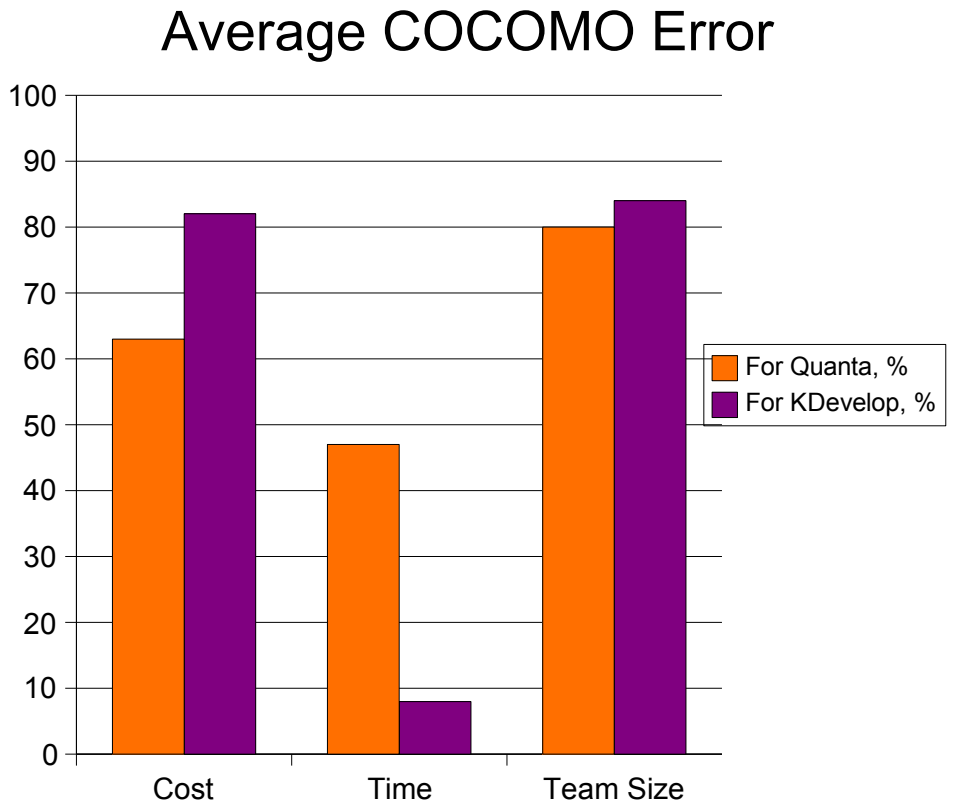

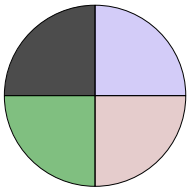

Cost Estimation Model

- New cost model is available:

$$Dts = A \cdot Dlcom^{e} \cdot Dprod^{f} \cdot Dreus^{j} \cdot Dqua^{i}$$

Dts – criterion of time and size
Dlcom – criterion of complexity
Dprod – criterion of productivity
Dreus – criterion of reusability
Dqua – criterion of quality

More information:

http://www.ki-inform.com/~adymo/similarity_en.pdf

Conclusions

- Open Source is an Agile development method
- Open Source life cycle is a spiral
- Open Source teams are self-organized
- There is a new cost model tailored for Open Source

Open source software engineering

Questions?

Alexander Dymo
adymo@kdevelop.org
odymo@acm.org
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