Scientific Software Success: Developing Metrics While Developing Community

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3rd Workshop on Sustainable Software for Science: Practice and Experiences (WSSSPE3) September 28-29, 2015, Boulder, CO, USA
Background

• Feb 17-18, 2015 NSF SI2\(^1\) PI workshop\(^2\) breakout team:
  – Framework for the creation of metrics
    • Define software success factors across different research domains
  – Improve both the software and the metrics (i.e. “eat their own dogfood”)
    • Stakeholders put up their own software for evaluation within the network to
  – Build community
    • Improve the cross-talk among different research domains of what makes software successful

\(^1\)http://www.nsf.gov/si2/
\(^2\)http://cococubed.asu.edu/si2pimeeting2015/
Developing Metrics while Developing Community

• Build an open framework by which to develop software success metrics
  – Software “peer review group”
    • Representative stakeholders who will self-review software works created by their respective communities; concurrently develop metrics
  – Community-governed; no single institution oversees the activity or infrastructure for this
    • No central “group of experts”!
  – Evolve into community generated and adopted standards
Framework

• Tie generation of metrics to actual evaluation of software
  – Incent though improving their own software; benchmarking; publishing opportunities
  – Volunteer, opt-in

• Infrastructure support
  – Code, code review; in contributors infrastructure
  – Social: forums for generation of software success metrics tied to code review
  – Can we fit metrics in a common template
Work Thus-far

• Wrote and submitted a 2-page white paper to CSESSP 2015²
  – Computational Science & Engineering Software Sustainability and Productivity Challenges
    • Organizers: Gabrielle Allen, Michael Heroux
  – Will be posted soon

• Plus this WSSSPE3 lightning talk
  – We have a lot of example metrics

WSSPE provides...a forum for the community to assemble and act.

²https://www.nitrd.gov/csessp/
Next Steps

• Use WSSSPE, CSESSP, other future events to build this community and framework
  – Continually take advantage of these venues
  – Collaborate with other metric & framework projects

• Consider proposal around this idea to give enough runway to build community & metrics
  – Encouraging the community to take up this idea and run with it
Contributors

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