Software Engineering
Lecture 10: Engineering Practices

Gregory S. DeLozier, Ph.D.

gdelozie@kent.edu

Best Practices

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- ***https://en.wikipedia.org/wiki/Best_practice***

  "A **best practice** is a method or technique that has consistently shown results superior to those achieved with other means, and that is used as a benchmark."

- **Best practices collections exist in all kind of areas.**
- **"PMBOK" is such a collection.**
- **"SWEBOK" is another such collection.**

What would an agile collection look like?

Barely Sufficient Software Engineering

- What constitutes a minimum set of best practices?
  - Following them should lead to success
  - Not following them exposes common problems
  - Available across a wide range of contexts.
  - Adaptable to a large range of situations.

- 10 practices identified.
- From Heroux and Willinbreng, at Sandia National Laboratories.
- http://www.sandia.gov/~maherou/docs/BarelySufficientSoftwareEngineering.pdf

Practice 0: Manage Source (the basics)

- Save your source code.
- Commit changes.

Practice 1:

Use issue-tracking software for requirements, features and bugs.

Practice 2:

Manage source (beyond the basics)

Practice 3:

Use mail lists to communicate

Practice 4:

Use checklists for repeated processes

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Use checklists for repeated processes
(or automation)

Practice 5:

Create barely sufficient, source-centric documentation

Practice 6:

Use configuration management tools

Practice 7:

Write tests first, then run them often.

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(for *everything* that's testable)

Practice 8:

Program tough stuff together

Practice 9:

Use a formal release process

Practice 10:

Perform continuous process improvement

Homework:

- Document all 10 practices to the extent possible in your project.
- Pick two practices that need to be improved and determine what benefit there might be to doing that.
- Implement those two practice improvements.