Agile Development Practices
Reading summaries

Tips:
• 1/3 page max summary
• Relate to project
• Opinion on concepts
Project teams
Outline

• Agile processes
• One last lifecycle – XP
• Team time
Agile principles

Agility is:

- **Observing** and **Adapting** to your environment. Moving faster than things that will harm your project.
- Keeping up with relevant changes
  - In requirements
  - In priorities
  - In environment
  - In budget

Goal of Agility - develop software in the face of changing environment and constrained resources
Agile principles

Satisfy the customer through early and continuous delivery
  o Studies show a strong correlation between final quality and frequent deliveries of increasing functionality. More frequent == higher quality.

Deliver *working* software frequently
  o Working software is the primary measure of progress
Agile principles

Welcome changing requirements, even late in development

- Statement of attitude
- Agile team works hard to keep the structure of software flexible
Agile principles

Customers, developers, stakeholders work together daily
  - An agile project must be continuously guided
Agile Principles

Build projects around motivated individuals
  - Other things may need to change to enable this

Promote self-organizing teams, and teams that reflect and adjust as needed
Agile Principles

Simplicity is essential
- Take the simplest path that is consistent with the goals (and be confident that it will be easy to change if needed)
- YAGNI (you ain’t gonna need it) (GA: shortsighted?)

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Standish data argues for simplicity…

54% of features were rarely or never used! That effort could have been productively spent elsewhere! (1994 report)
Agile Principles

Continuous attention to technical excellence
High quality is the key to high speed
“Do no harm” creed
Plug for refactoring
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Extreme Programming

- “Features” are the control variable of the triangle
  - Can deliver less, but on time and on budget

- Expert customer is part of the team, involved in all stages; No complete up-front analysis and design

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Extreme Programming

- Development cycle (2 week period)
  - Meet with client to elicit requirements
  - Planning – break requirements into tasks
  - Implementation
    - Write tests first
    - Simplest possible design to pass the tests
    - Can refactor occasionally
  - Evaluate progress
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Feels a little like evolutionary prototyping …

Focuses on employing a number of Agile practices
Pair Programming

WE'RE GOING TO TRY SOMETHING CALLED EXTREME PROGRAMMING.

FIRST, PICK A PARTNER. THE TWO OF YOU WILL WORK AT ONE COMPUTER FOR FORTY HOURS A WEEK.

THE NEW SYSTEM IS A MINUTE OLD AND I ALREADY HATE EVERYONE.

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When to use XP

• Use for:
  o A dynamic project done in small teams
  o Projects with requirements prone to change
  o Customer is available

• Not for:
  o Requirements are truly fixed
  o Cost of late changes is very high
  o Customer is not available