Agility, Refinement, & Integration

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- Royce’s 1970s paper against monolithic (waterfall) methods was used in support of waterfall....
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- This is not a secret
- Good developers & clients are not fooled
What really characterizes agile?

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- It is problematic enough that the DoD released guidelines on detective “Agile BS”
Some DoD points on agility

- Key *good* indicators for developers
  - Automated: testing (unit & regression), security scanning, deployment
  - Full CI/CD pipeline and infrastructure as code
  - Direct feedback from users & client visible issue tracking
  - Issue triage & assignment policies
  - Clear release cycle planning
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  - Users are not **continuously** able to try the product & provide feedback
  - Meeting a requirement has priority over getting feedback
  - Absence of DevSecOps
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Beware!
Additional buzzwords!
Agility at the development level

- Feedback & adaptation also guide “code construction”
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  - Top Down
  - Bottom Up
  - Sandwich
  - Risk Based
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What are the risks & benefits of these?
Dealing with incomplete modules

- All of these approaches may integrate components that do not yet exist!
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What strategies do you use to work around this?
Dealing with incomplete modules

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  - Just take care that the fake does not become production
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  - First design core API
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• Stub or fake implementations also aid in partitioning and team development!
  – First design core API
  – Independent work happens on different “physical” files
Let’s try it out (quickly)