

# Showstoppers for Continuous Delivery in Small Scale Projects

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# Context

- Small Scale Projects
- Different Customers
- Initial Problem
  - "How do we know when we are done testing?"
  - "We find bugs too late in development cycle."

Lack of documentation

"We find bugs too late in the development cycle"

Waterfall-like Development



Problem Domain

Manual testing

"How do we know when we are done testing?"

Ad Hoc Testing

# Discussion topics

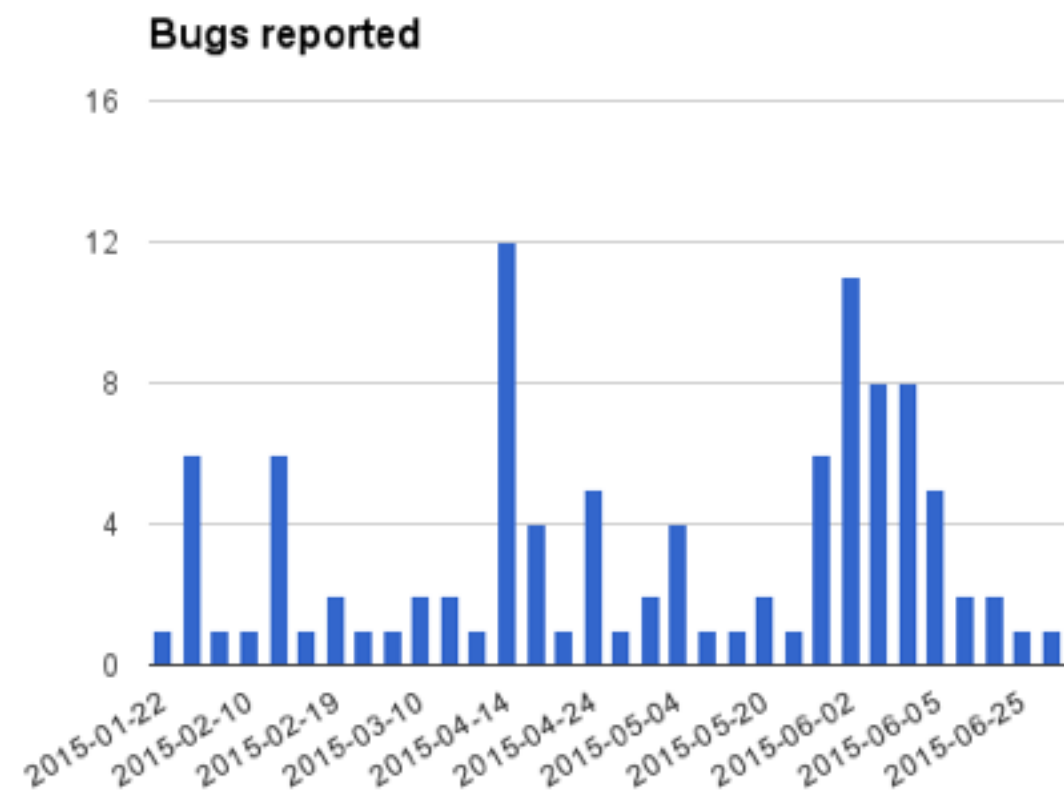
- Root Causes found:
  - Developers do not see an advantage with automating unit and integration testing
  - Quality Assurance is tied to Releases
  - Improving development practices are not prioritised

# Developers do not see an advantage with automating unit and integration testing

- Heavy focus on manual testing
- Undocumented testing
- No need to frequently verify functionality
- GUI testing prioritised
- Discussion: With automated testing being a big part of CoDe, what is perceived as most important, unit, system, gui testing?

# Quality Assurance is tied to releases

- Bugs found late in development
- Testing as an afterthought
  - Bugs slip through to the customer
- Acceptance tests have no clear link to original stories
- Discussion: What is a configuration managers role when trying to improve development?



# Improving development practices is not prioritised

- Focus is on things that can be delivered to the customer
- Most improvements give benefit over time
- Unclear who is responsible
- Discussion: What should come first, technical CoDe implementation or organisational changes?



# My solutions

- Improving Development
- Making Continuous Delivery Viable

# Improving Development

- Create an environment where small feedback cycles are used
  - Creating test cases is part of development
  - involve customer
- Ensure the product is stable enough to show to the customer
  - Use automation to test often and cheaply

# Making Continuous Delivery Viable

- One project may not be long enough to both implement and benefit from changes
- Focus on improvements that can persist between projects
- Have someone responsible for working on improvements

# Summary

- Overall recommendations:
  - Start automate testing on a smaller scale, unit and integration before GUI
  - Have the customer included in the validation process early on, not as a last stage
  - Set up clear goals for how development should be improved