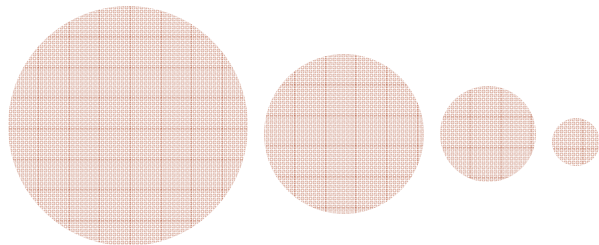


Continuous Integration



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Paulo Caroli
ThoughtWorks

About Paulo Caroli

The ThoughtWorks logo is displayed in white text on a dark purple rectangular background with a subtle, abstract pattern.

- A technologist at ThoughtWorks US
- Master's Degree in Software Engineering
- Sun Certified J2EE Architect
- More than 13 years in SW Development.
- Agile Techniques, such as XP, TDD, Continuous Integration
- Object Oriented development practices
- More at www.caroli.org



Agenda

- Motivation
- Demonstration
- Metrics
- Reminder
- Practices
- Conclusion
- Q & A

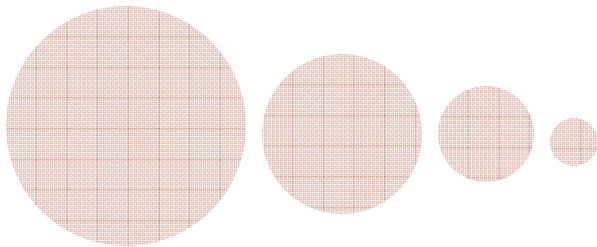


Motivation



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Traditionally, different modules are developed by different teams/developers

**Integrate modules
at late state of project**



Traditionally, different modules are developed by different teams/developers

**Integrate modules
at late state of project**



In Agile processes, any programmer
can change any part of the code

The earlier you can detect
problems, the easier it is
to resolve them

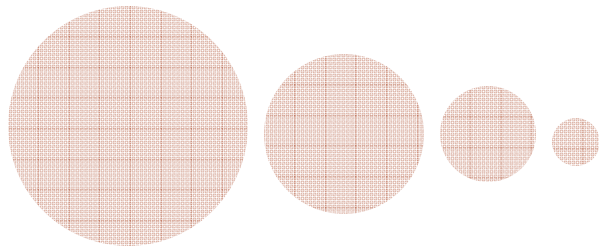


Demonstration



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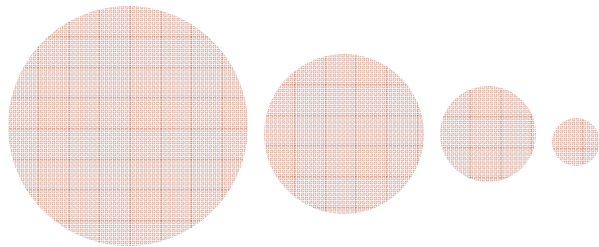


Metrics



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Metrics

Metrics generated by the CI server can be a useful indication of project “health”

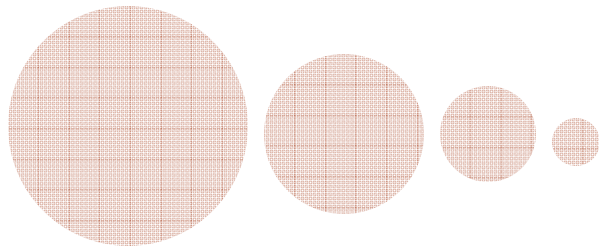


Reminder



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Continuous Integration Reminder

Check in frequently



Continuous Integration Reminder

**Don't check in broken
code**



Continuous Integration Reminder

**Don't check in untested
code**



Continuous Integration Reminder

**Don't check in
when the build is broken**



Continuous Integration Reminder

Don't go home after
checking in until the
system builds



Continuous Integration Reminder

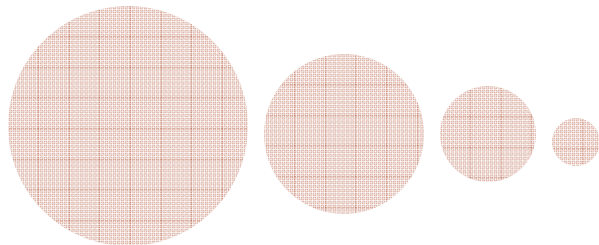
Peer pressure within team
ensures policies are
followed



Practices of Continuous Integration



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Practices of Continuous Integration

Maintain a Single Source Repository



Practices of Continuous Integration

Automate the Build



Practices of Continuous Integration

Make Your Build Self-Testable



Practices of Continuous Integration

**Every Commit Should
Build the Mainline on an
Integration Machine**



Practices of Continuous Integration

Keep the Build Fast



Practices of Continuous Integration

Test in a Clone of the Production Environment



Practices of Continuous Integration

Everyone can see what's
happening



Practices of Continuous Integration

Automate Deployment

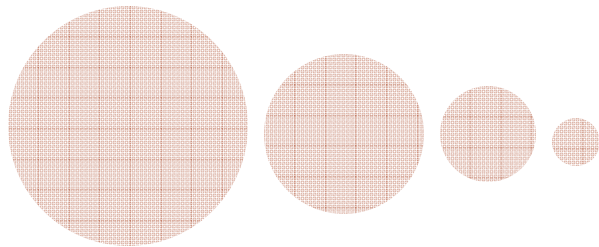


Conclusion



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Continuous Integration

Detect integration errors
as quickly as possible



Continuous Integration

Assumes a high degree of
tests



Continuous Integration

**Always have a deployable
build**



Continuous Integration

Generate metrics to guide
project management



Continuous Integration

Continuous Integration is Vital for Agile Development



Q & A



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