Software Development

A Crash Course for Non-Developers

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Who of you is NOT a Developer?

Don't worry, that's not a bad thing

I bet all of you still have heard some of the terms...

Agile Development

TDD

Continuous Delivery

Continuous Integration

Waterfall

User Stories

...at least once

But do you really know what all of these mean?

No problem, we'll figure this out together.

Disclaimer

This Brownbag is very limited in time and will force me to rush through stuff. In this Brownbag I will be oversimplifying stuff that is actually more complex. I will be opinionated. I will only scratch the surface of many topics. Some stuff I tell might be utterly wrong. Feel free to yell at me at the end of the Brownbag.

So what's behind this whole "Agile" buzzword?


In the beginning was the Waterfall
and it ~~was totally sh!t~~ had room for improvement

Waterfall was slow, clunky and not able to cope with change

Long, detailed specifications

Strict planning, sticking to the plan

Agile Software Development to the rescue!

The Agile Manifesto

Individuals and interactions over processes and tools

Working software over comprehensive documentation

Customer collaboration over contract negotiation

Responding to change over following a plan

Agile Methodologies for everyone!

Extreme Programming (XP)

Scrum

Lean Software Development

Kanban

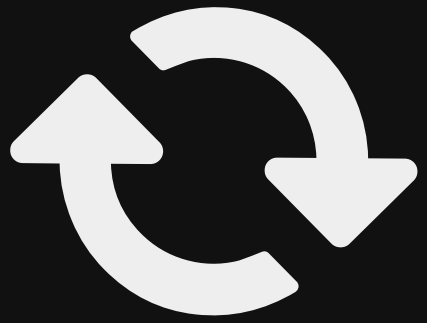
...

Agile vs. Waterfall

Iterative & Incremental Development	Developing everything in one big batch
Efficient face-to-face communication	contracts and process
Short Feedback loops, quick adaption	Long and detailed planning

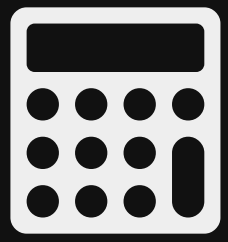
TDD

Test Driven Development



Red-Green-Refactor

Talk is cheap. Let's explore how this works.



calculat.io

Disrupt the Calculator Biz!

Look! A User Story!

#001 Add two numbers

"As a user I want to be able to add two numbers so that I can see the result of the addition."

#002 Add an arbitrary amount of numbers

"As a user I want to be able to add an arbitrary amount of numbers so that I can see the result of the addition."

#003 Multiply an arbitrary amount of numbers

"As a user I want to be able to multiply an arbitrary amount of numbers so that I can see the result of the multiplication."

The benefits of TDD

- Better code quality
- Fewer bugs
- A safety net for changing software

Continuous Integration

Merge the team's code changes as often as possible

Practices of Continuous Integration

Build the software automatically

Test the build automatically

Continuous Delivery

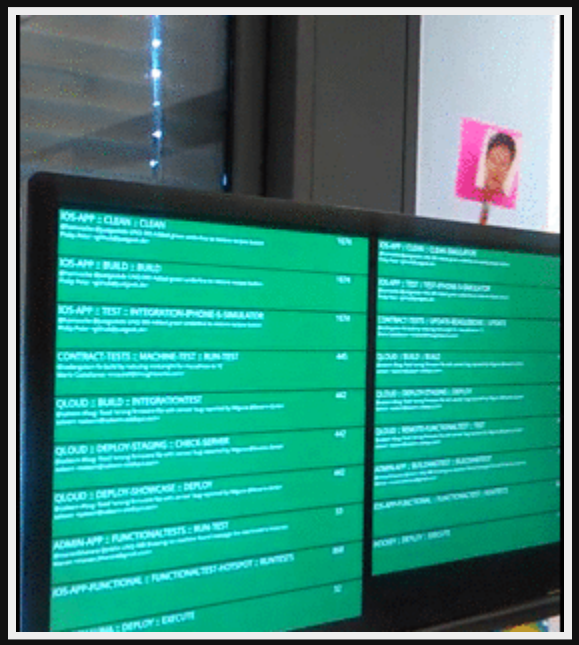
Continuous Integration on Steroids

Practices of Continuous Delivery

Everything that Continuous Integration does, plus:

Test the software automatically in **multiple stages**

Deploy the software automatically



Build Monitors

Make results visible

Why is CI/CD a good thing?

You test your application with every commit

"Good" versions will be deployed automatically

Fast feedback for the team

Features go from development to production insanely fast

Recap

What have we learned?

- The basics of Agile Software Development
- The madness of traditional Software Development
- TDD in Practice
- Basic Continuous Integration / Continuous Delivery
- Kanban for Dummies
- User Stories
- Git and Version Control