Introducing Software Engineering

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CMPUT 301 – Introduction to Software Engineering
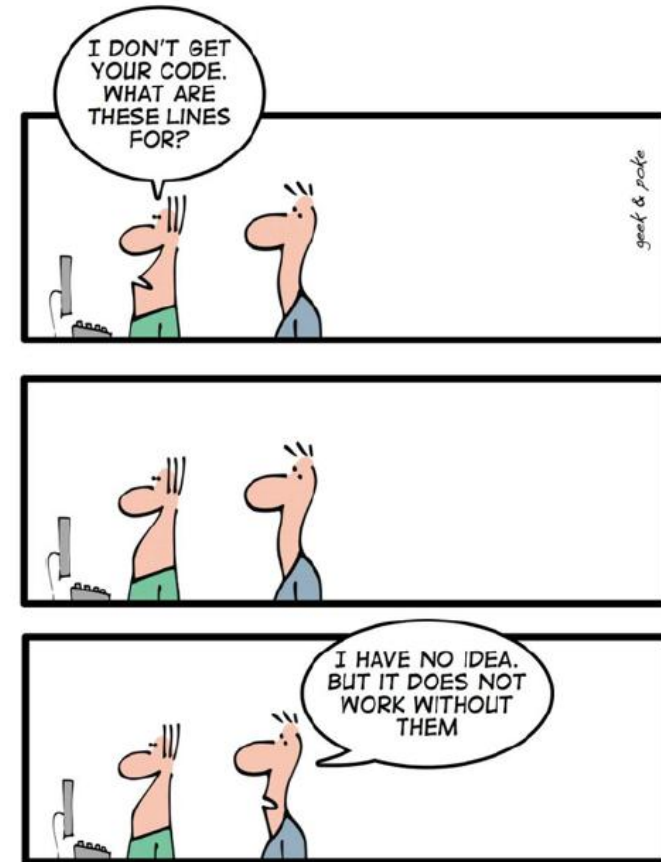Slides adapted from Dr. Hazel Campbell, Dr. Ken Wong

Motivation

https://cdn-icons-png.flaticon.com/512/226/226777.png

https://i.redd.it/myewf7wm51i61.png

https://ouzhang.me/slides/readable_code/img/self-explaining.PNG

Discussion

What is software engineering about?

Software Engineering

"It is a 'systematic approach to the analysis, design, assessment, implementation, test, maintenance and re-engineering of software, that is, the application of engineering to software.' "

https://en.wikipedia.org/wiki/Software_engineering

Weinberg's Second Law

"If builders built buildings the way programmers wrote programs, then the first woodpecker that came along would destroy civilization."
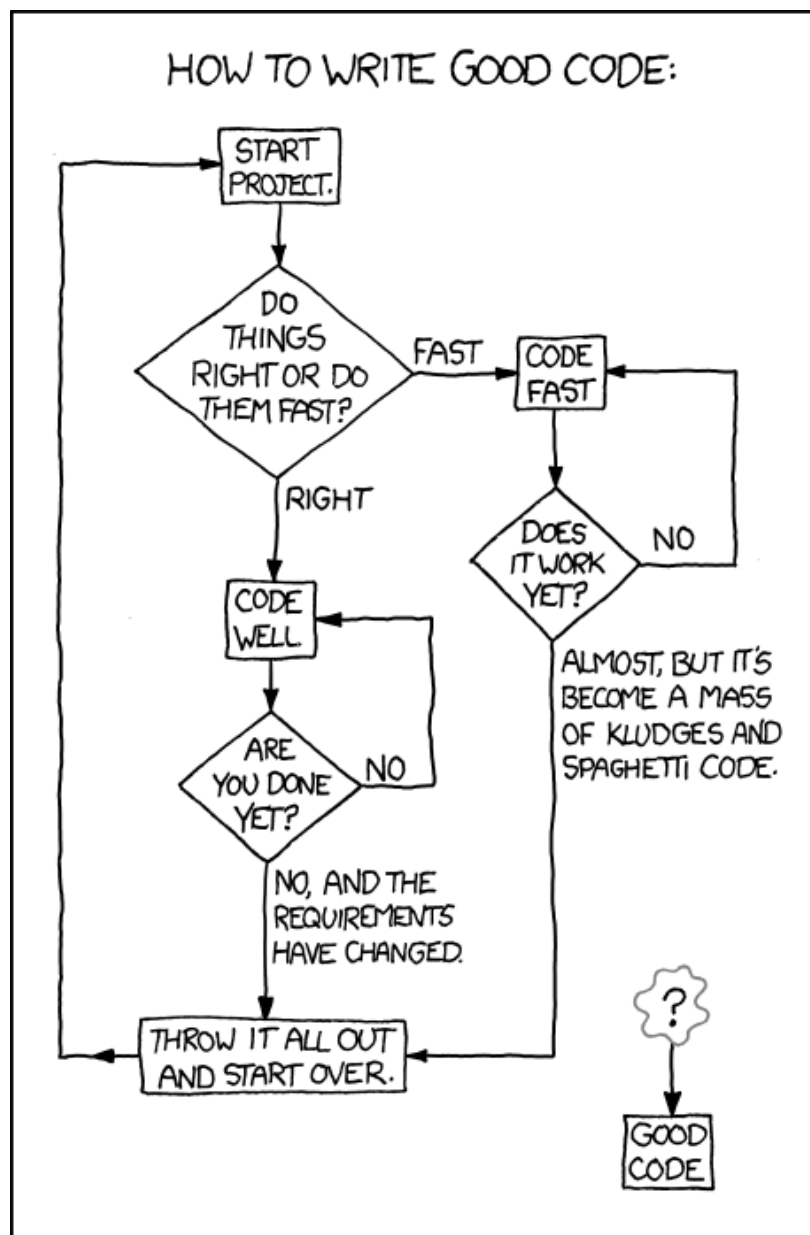
- Geralt Weinberg

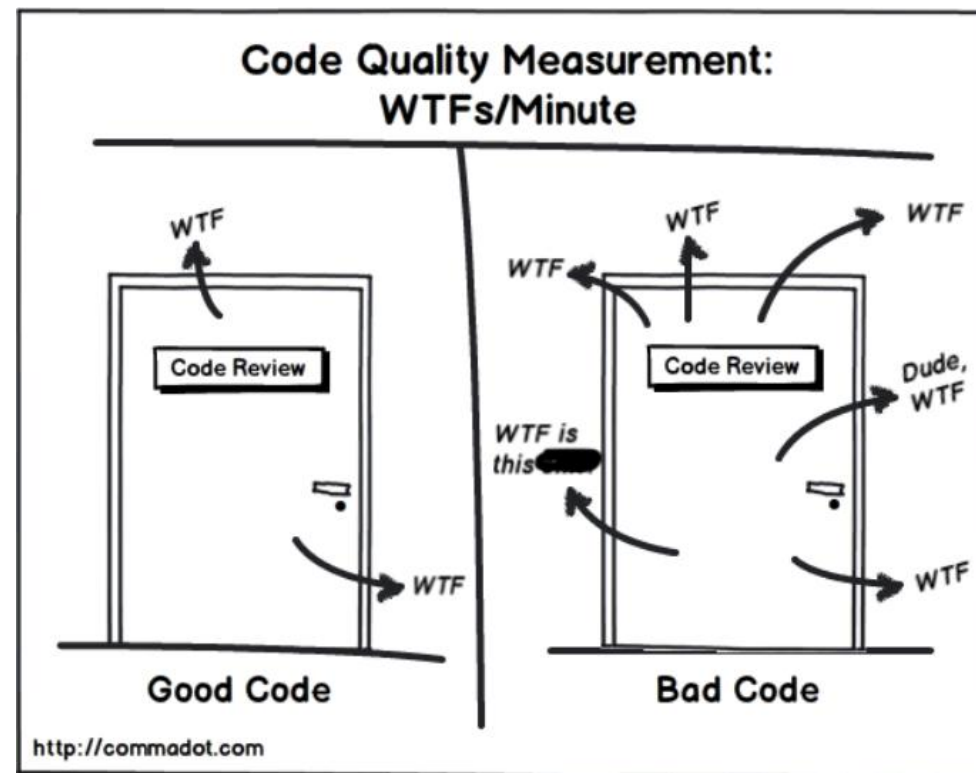"Software and cathedrals are much the same — first we build them, then we pray."

 - Sam Redwine

Discussion

Why is developing quality software on-time and under budget so difficult?

https://xkcd.com/844/

https://cdn.prod.website-files.com/5ef654d13ecc9cf65b188b10/61a677d1ef93444318b94913_Picture1.png

Goals

Learn and apply:

- Effective software development practices
- Focus on:
  - Team project
  - Design
  - Tools
  - Practicality

Project

We will be role-playing.

It's a popular system called Agile Software Development.

A little bit like D&D, except no combat phase.

I am the customer.

Your TAs will be the managers.

You will be the programmers.