

# CS360 - Introduction to Software Engineering

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Slides adapted from Dr. Hazel Campbell, Dr. Ken Wong, Dr. Abram  
Hindle, and Henry Tang

# Teaching team

# Motivation



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



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



THE ART OF PROGRAMMING - PART 2: KISS

[https://ouzhang.me/slides/readable\\_code/img/self-explaining.PNG](https://ouzhang.me/slides/readable_code/img/self-explaining.PNG)

# 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](https://en.wikipedia.org/wiki/Software_engineering)

# Motivation



<https://gdiengdesign.com/building-the-future-key-principles-of-structural-engineering-in-design/>

Engineer

.VS.



<https://uwt.org/projects/house-construction/>

Builder

# Motivation



Craftsmanship

.VS.





Engineering

# Discussion

## Coding .vs. Software Engineering

# Motivation



**Jacob Tomlinson**  · 3rd+  
Senior Software Engineer at NVIDIA  
3d · 

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I think GitHub should make an update so when someone positively reviews a PR it adds them as a coauthor. That way they would show up in the git blame.

In the age of AI development the reviewers are even more responsible than the committers for the code that gets merged.

   Sarah Nadi and 369 others

53 comments · 8 reposts

# Motivation



Microsoft

27,286,067 followers

1mo · 🌐



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👉 [msft.it/61104sCSuA](https://msft.it/61104sCSuA)

# Motivation



Google

40,215,600 followers

7mo • Edited •

Engineering problems?  
Reviews?

Peek into the world of Andres, a Senior Staff Research Scientist at Google Mexico. "Once I stepped into Google, I knew it was the right place for me as the magnitude of their research and engineering problems is unlike anywhere else — able to satisfy my childhood obsession with solving puzzles that provide meaningful changes to billions of users," Andres shares.

His days involve evaluating new system proposals for Chrome, diving into design work and ensuring top-notch code quality through thorough reviews.

"My goal is to provide users with a seamless experience in Chrome by making sure we make web content secure and accessible to everyone," he says.

"We are a new team and are eager to grow," he explains. "Mexico City presents a special opportunity as it has a thriving startup ecosystem solving exciting local problems." He's looking for collaborative engineers who, "can get things done, understand highly interactive systems and propose ideas that could make them better."

Ready to tackle exciting challenges with Andres and other teams in Mexico?  
Explore open roles → [goo.gle/3YNXcu7](https://goo.gle/3YNXcu7)

[#LifeAtGoogle](#)

# Motivation



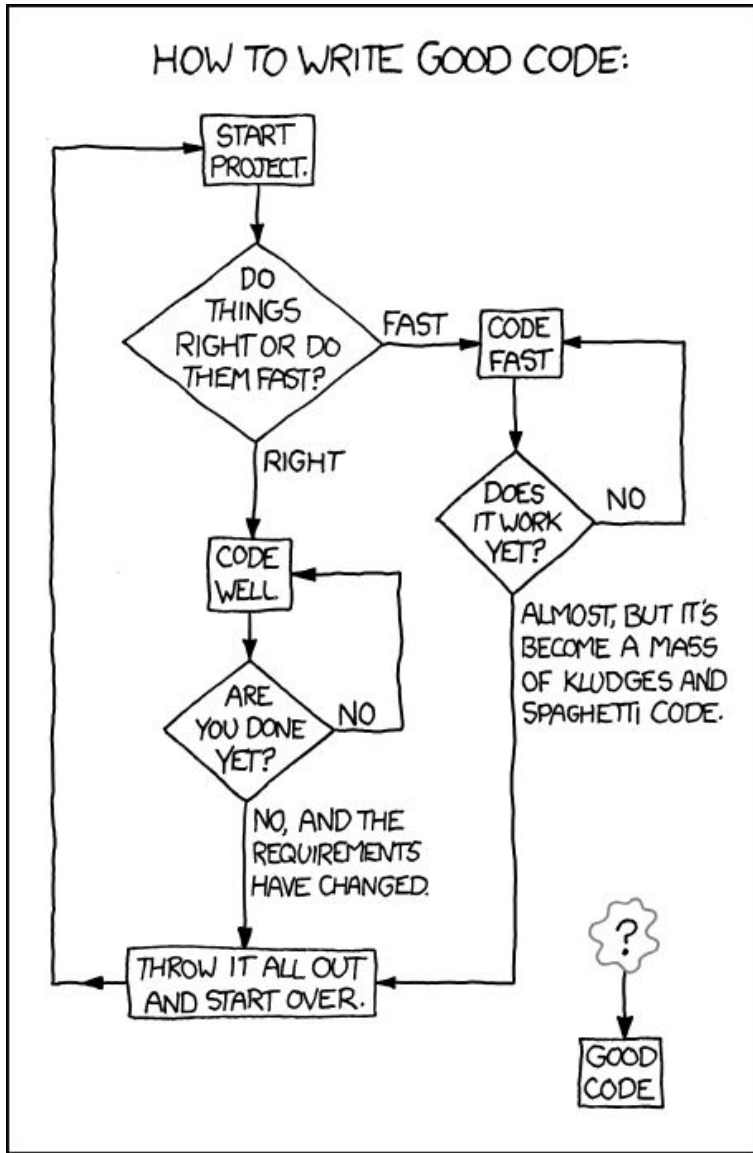
How are they marketing it!

Refactor smarter with GitHub Copilot! Free for personal GitHub accounts on VS Code, this [#AI](http://msft.it/6046qclE) tool boosts code quality and readability. Try AI-powered refactoring today! <http://msft.it/6046qclE>  
[#Developers](#)

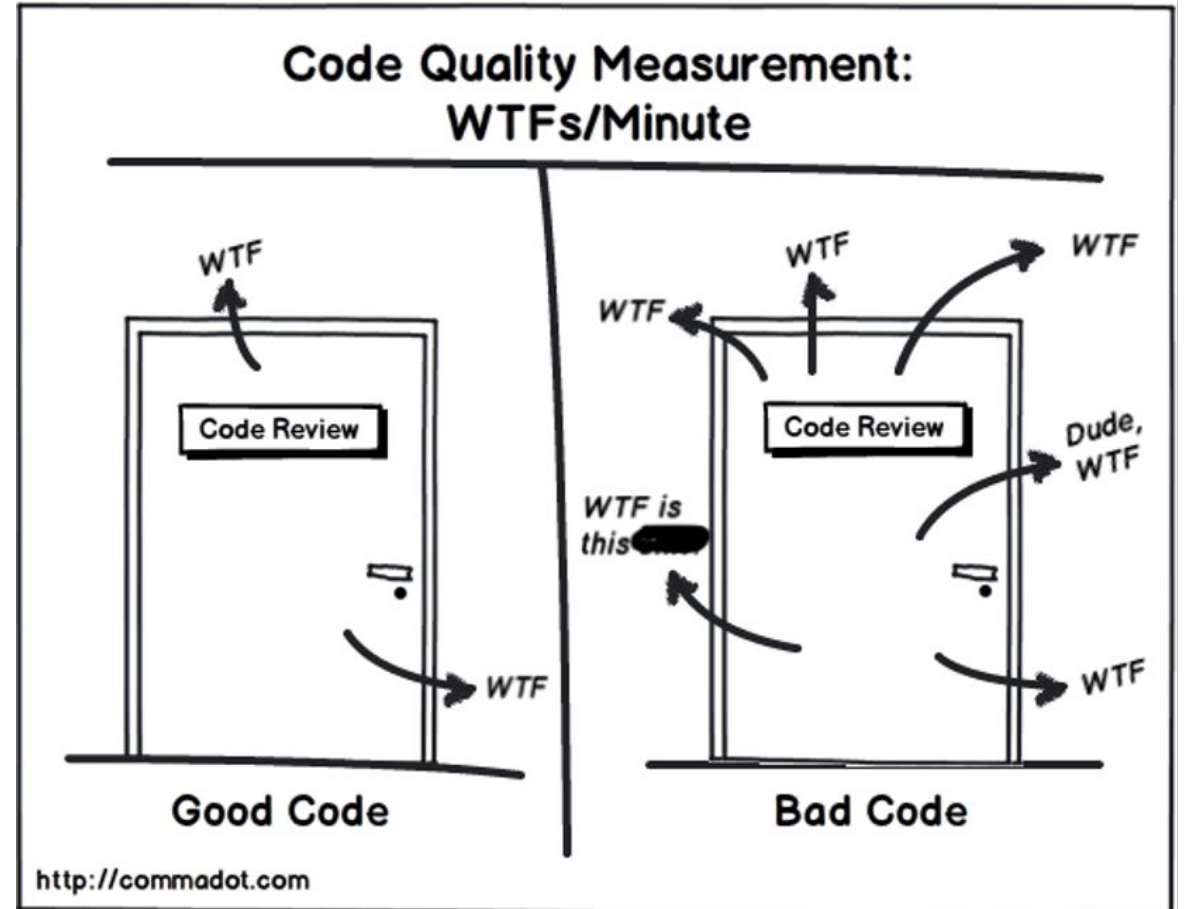


# Discussion

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



<https://xkcd.com/844/>



[https://cdn.prod.website-files.com/5ef654d13ecc9cf65b188b10/61a677d1ef93444318b94913\\_Picture1.png](https://cdn.prod.website-files.com/5ef654d13ecc9cf65b188b10/61a677d1ef93444318b94913_Picture1.png)



**Nir Boger** ✓ · 3rd+

Lead @ Microsoft

6d · Edited · 🌐

+ Follow

I'm hiring a Software Engineer to join my team at Microsoft. We work on high-scale, high-impact systems that sit at the core of Microsoft's platform, solving complex engineering challenges and building reliable, modern services used across the company.

If you're passionate about distributed systems, strong engineering fundamentals, and working with a talented group of engineers this could be a great fit.

🔗 Apply here: <https://lnkd.in/dUM6hvbs>

If you know someone who might be a great match, please share or tag them!

They need  
engineers, not  
coders!

# Goal

Learn and apply:

- Effective software development practices

Focus on:

- Team project
- Design
- Tools
- Practicality

# Labs

- Wednesday 6:15 pm to 8:30 pm
- Thursday 6:15 pm to 8:30 pm
- 14 TAs Office Hours: 2 hours per week
- Teaching Fellow Office hours will be announced soon.

Ramadan times will be different.

# Project

- Scrum Setting
- In person meetings with TAs beyond 8th week.

# 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.**

# AI Policy

Use AI as much as you want, **except during the exams and in-class assessments**, but the content must be cited!

# Grade Evaluation

Participation:	8%
Android Sprints:	5%
Assignment 0:	1%
Project Part 0:	1%
Assignment 1:	8%
Project Part 1:	1%
Project Part 2:	5%
Project Part 3:	10%
Project Part 4:	16%
Midterms	15% x 3 = 45%



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discussions!