Codesmith

Collaborative Engineering

Code Review & Collab Coding

Collaborative Engineering

Collaborative Engineering is one of the most important skills you will learn and strengthen during your residency

- **Code Review -** A senior or same-level engineer reviews the code you have already written to provide feedback, look for areas of improvement, and confer best practices
- **Collab Coding** - You and another pair of engineers work together to move forward. If one pair is “behind” the other, the group focuses on getting everyone to the same point.

Code Reviews

In Humanizing Peer Reviews, Karl W. starts with a powerful pronouncement:

- Peer review – an activity in which people other than the author of a software deliverable examine it for defects and improvement opportunities – is one of the most powerful software quality tools available. Peer review methods include inspections, walkthroughs, peer deskchecks, and other similar activities. After experiencing the benefits of peer reviews for nearly fifteen years, I would never work in a team that did not perform them.

Statistics

- Jet Propulsion Laboratories estimates that it saves about $25,000 per inspection by finding and fixing defects at an early stage.

- A study of an organization at AT&T with more than 200 people reported a 14 percent increase in productivity and a 90 percent decrease in defects after the organization introduced reviews.

Why We Do Code Reviews

- Walk another engineer through your code
- Space for constructive criticism
- Opportunity to connect with Seniors
  - Ask them questions!
- You WILL do code reviews at your job

What to Look for in a Code Review

- Consistency of code
- Quality of code
  - Appropriateness of labels
  - Commenting
- Data flow and efficiency
- Edge cases

Methods of Code Review

- Code Review sessions for units
  - Mostly verbal
- Team Projects
  - Verbal
  - Github Pull Request reviews
    - Overall review
    - Specific comments

Collaborative Coding

Aim to replicate what it is like to be on-site (e.g. grab a neighbor to chat, meet in the kitchen, etc.)

Collaborative Coding

- Two groups work together to make further progress
- If one group is “behind” the other, everyone works to get all members on the same page
- ONLY THEN the group moves forward toward solving the problem

Collaborative Coding

- Use same strategies as pairing, but with only one driver
- Focus on giving clear instruction to the driver and discussing approaches as a group
- Use probing questions, docs, and other resources as you normally would

Resources

Humanizing Peer Reviews PDF

Palantir Code Review Best Practices

Reflections on Code Review from former Google Engs.