



Frontend Best Practices 2022 Spring Event

Code Reviews

Markus Stolze

Director of Studies - CAS Frontend Engineering, MAS HCID, CAS FEE Advanced

Frontend Best Practices 2022 (Spring)

Code Reviews



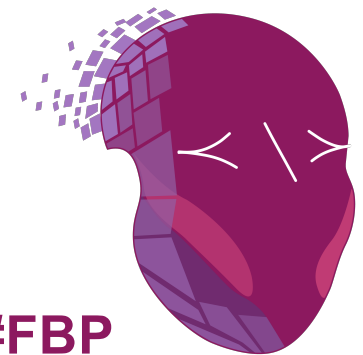
18:00 Presentations

- Intro: Markus Stolze, OST
- Code Reviews @ Snowflake (Web Agency): Nicolas Karrer
- Code Reviews @ Swisscom: Dominique Bartholdi
- ~~Code Reviews @ Axelra (Tech Venture Builder): Lucas Pelloni~~
- Code Reviews - Results from empirical research: Prof. Dr. Alberto Bacchelli (Univ. ZH, IFI)
- (Farhad Mehta, OST: CodePanorama.io; Frieder Loch, OST: CodeCity)

Event is recorded

19:45 General Q& A + Discussion

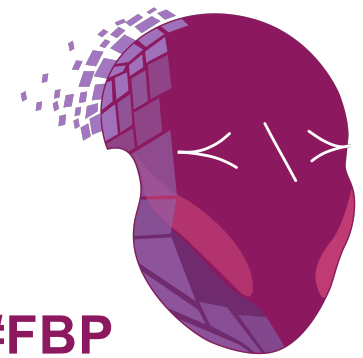
20:00 Meet the Speakers - Wonder.me (Open-End)



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Code of Conduct

- Online conference/meeting: Mute your mics, video if you want (network?)
- Using welcoming and inclusive language (also Chat)
- Being respectful of differing viewpoints and experiences (also Chat)
- Gracefully accepting constructive criticism (also Chat)
- Showing empathy towards other community members (also Chat)
- Focusing on what is best for the community (also Chat)
- **Q&A / Discussions**
Try to learn, not to prove something
Start with “QUESTION”
+ Short description in Chat



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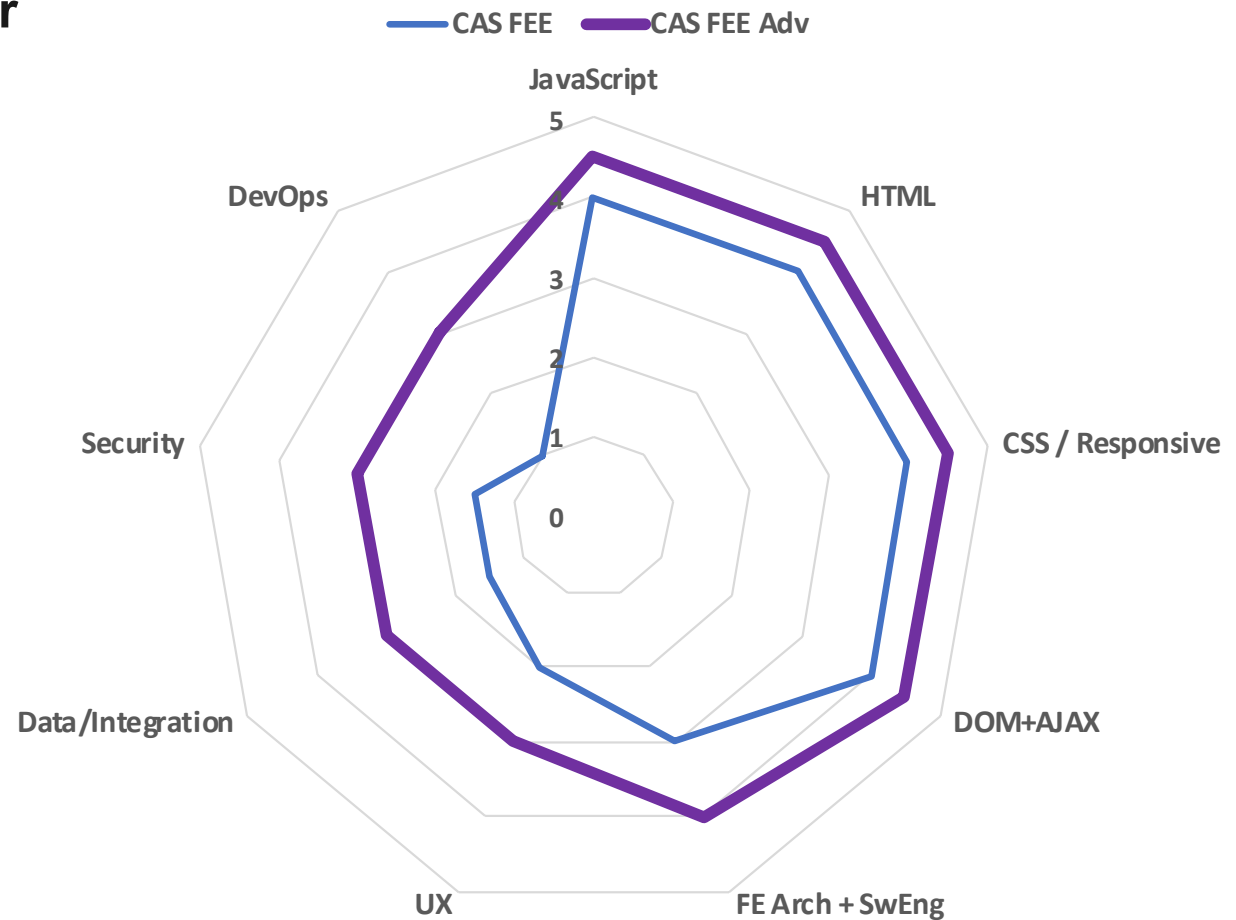
CAS FEE // CAS FEE Advanced

CAS FEE: Frontend Team Member

- Wednesdays 17:15 – 21:50 (Rapperswil)
- Start: KW 17: Wed. April 27th 2022
- End: KW 3: Wed. Jan. 18th 2022
- Reg. DL: March 27th 2022
- Duration: 38 Weeks / 9 Months

CAS FEE Advanced: Team Lead

- Tuesdays 17:15 – 21:50 (Rapperswil)
- Start: KW 37: Wed. Sept. 13th, 2022
- End: KW 16: Wed. April 18h, 2023
- Reg. DL: June 30th, 2022
- Duration: 32 Weeks / 8 Months



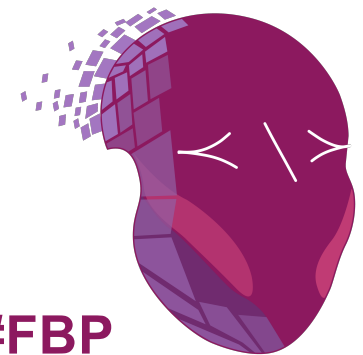
Mark Your Calendar

Frontend Best Practices 2022 (Fall) Tue. Sept. 6th 18:00 – 20:00

Frontend Best Practices '22 - 2

Tuesday Sept. 6th 2022; Dienstag 6 Sept. 2022 - 18:00 – 20:00

Topic Accessibility



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FBP 22 Spring: Code Reviews - Intro

Code Reviews are Important



aj @ajlkn

Best part of being a solo dev is never having to defend your decisions. Worst part of being a solo dev is never having to defend your decisions



Jen Kramer

@CAS_FEE; #FBP

4 Whys of Code Reviews

THE FOUR WHYS OF CODE REVIEWS

- 1 Sharing knowledge
- 2 Spreading ownership
- 3 Unifying development practices
- 4 Quality control

<https://www.swarmia.com/blog/a-complete-guide-to-code-reviews/>

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Expert Opinion

Why not “Code Reviews” (Thomas Kälin, OST & I-AG)



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FBP22-1

Traditional Code Reviews (F2F meetings)

- Always too late
- Create additional work
- Create additional (detached) documentation
- Frequently not acted on

Pull Requests (better alternative)

- Prerequisite: Linted, tested, ...
- Must be small
- Must be quickly reviewed
- Merge only when acted on

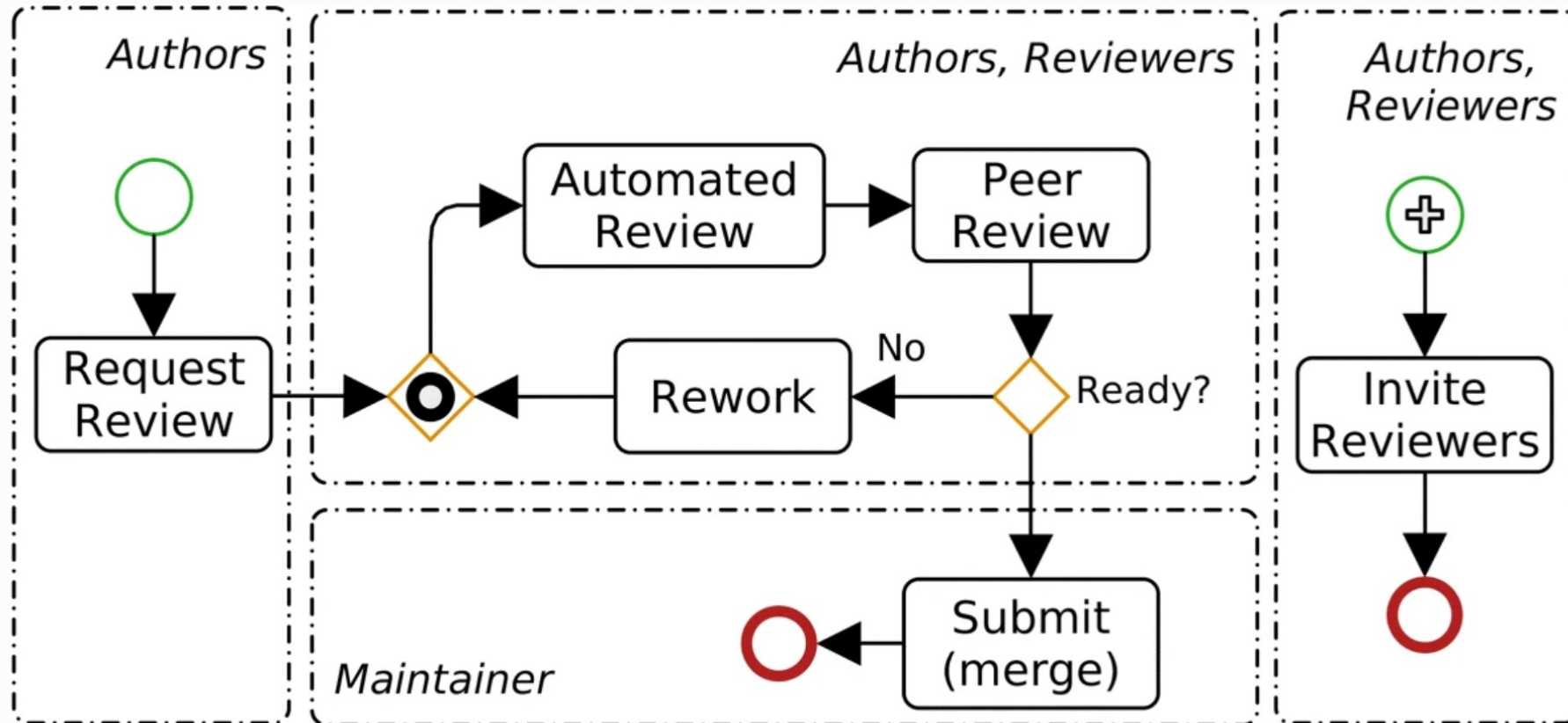
Pair Programming (best)

... AND don't forget other types of reviews & tests



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(Git-Based) Code Reviews - Basic Process



<https://www.unsify.com/code-review-not-so-magical-but-it-can-do-wonders>

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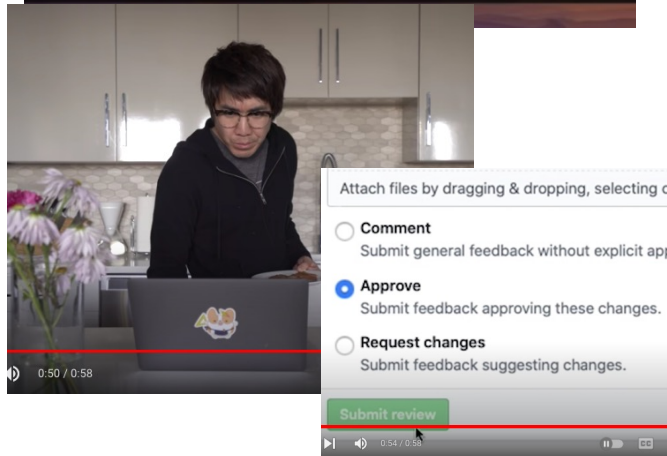
Code Reviews @ Big Tech

Joke: <https://www.youtube.com/watch?v=rR4n-0KYeKQ>



```
youtube-dl/extractor/vimeo.py
youtube-dl/extractor/weibo.py
youtube-dl/extractor/youtube.py

youtube-dl joma$ git commit -m "ASdfasdf"
Sdfasdf
assertions(+), 8 deletions(-)
youtube-dl joma$ git push -u origin fix_shit
```



Jr: Remove
Failing Unit
Tests



Jr: Commit



Sr: Review



Sr: Approve

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Code Reviews @ Big Tech

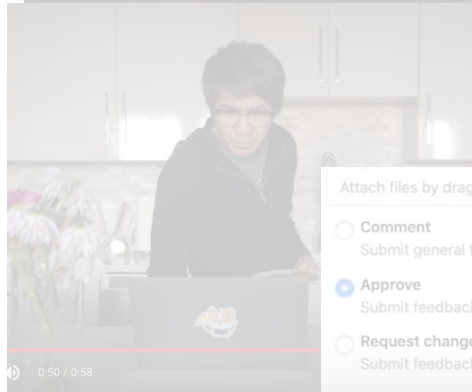
Joke: <https://www.youtube.com/watch?v=rR4n-0KYeKQ>



```

youtube-dl extractor/vimeo.py
youtube-dl/extractor/weibo.py
youtube-dl/extractor/youtube.py

youtube-dl joma$ git commit -m "ASdfasdf"
Sdfasdf
ertions(+), 8 deletions(-)
youtube-dl joma$ git push -u origin fix_shit
  
```



Attach files by dragging & dropping, selecting o

Comment
Submit general feedback without explicit app

Approve
Submit feedback approving these changes.

Request changes
Submit feedback suggesting changes.

Submit review

Jr: Remove
Failing Unit
Tests



Jr: Commit

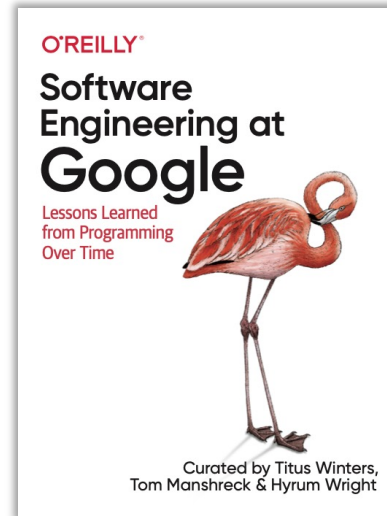


Sr: Review



Sr: Approve

Reality(?): <https://abseil.io/resources/swe-book>



Intro

- What is SwEng

Culture

- How to Work Well on Teams
- Knowledge Sharing
- Engineering for Equity
- How to Lead a Team
- ...

Processes

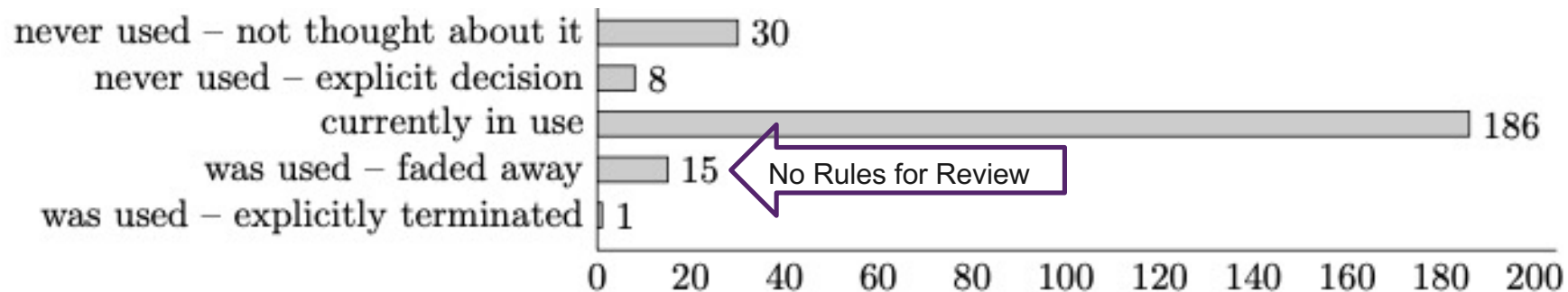
- **Style Guides and Rules**
- **Code Review**
- Documentation
- Testing Overview
- ...

Tools

- Version Control
- Code Search
- **Critique: Google Code Review Tools**
- Static Analysis

Code Reviews – Research Finding(s)

The Use of Code Reviews in Practice (240 German Teams)



Factor (Code Review Use)	Coefficient
(Intercept)	-4.3604
<i>Development process not “ad hoc”</i>	1.7857
<i>Use of static analysis (code quality culture)</i>	2.0575
Team size 5 or larger	1.6489
<i>Preference to “generalists” instead of “specialists”</i>	1.2725
Type of software is neither “games” nor “research”	18.4912
<i>Positive error culture</i>	2.4576
Team works spatially distributed	0.7652

Code Quality Culture

Severity of defect consequences

Code Quality Culture

Cognitive-Support Code Review Tools
 (Thesis 2019)

<https://d-nb.info/1204458936/34>

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Code Reviews – More Research Findings

“Unprompted” and unsupported Code Reviews tend to ...

... **FOCUS** on

- Understandability (Maintainability, Evolvability) (Ref1)

... **IGNORE**

- Security Issues (Ref2)
- Accessibility Issues

Ref1: What Types of Defects Are Really Discovered in Code Reviews?

<https://ieeexplore.ieee.org/abstract/document/4604671/>

Ref2: Code Reviewing as Methodology for Online Security Studies with Developers –
A Case Study with Freelancers on Password Storage

<https://www.usenix.org/system/files/soups2021-danilova.pdf>


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HTML Code Reviews



Mark Steadman @Steady5063

It amazes me how many dev teams do not include any real review of HTML during a code review. It is purely the JavaScript and the overall functionality of it. This, in my opinion, is a MAJOR reason #A11y issues continue to grow in agile environments #webdev #Accessibility

↻  Jen Kramer

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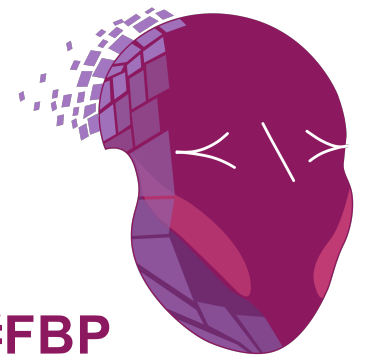
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