UI Engineering Studio. Day 13

Bootcamp:
Code Review

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Code Review

Is systematic examination (sometimes referred to as **peer review**) of computer source code.

-      Wikipedia

Cost of defects

Stages of feedback

Code Reviews? Why?

Strategies

Building a Culture

Participants

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Very good example of bad code

```c
#include <stdio.h>
main(t,_,a)char *a;{return!0<t?t<3?main(-79,-13,a+main(-87,1-_,
main(-86,0,a+1)+a)):1,t<_?main(t+1,_,a):3,main(-94,-27+t,a)&&t==2?_<13?
main(2,_+1,"%s %d %d\n"):9:16:t<0?t<-72?main(_,t,
"@n'+,#'/*{}w+/w#cdnr/+,{}r/*de}+,/*{*+,/w{%+,/w#q#n+,/#{l,+,/n{n+,/+#n+,/#\
;#q#n+,/+k#;*+,/'r :'d*'3,}{w+K w'K:'+}e#';dq#'l \
q#'+d'K#!/+k#;q#'r}eKK#}w'r}eKK{nl]'/#;#q#n')(){)#}w')(){){nl]'/+#n';d}rw' i;# \
){nl]!/n{n#'; r{#w'r nc{nl]'/#{l,+'K {rw' iK{;[{nl]'/w#q#n'wk nw' \
iwk{KK{nl]!/w{%'l##w#' i; :{nl]'/*{q#'ld;r'}{nlwb!/*de}'c \
;;{nl'-{}rw]'/+,}##'*}#nc,',#nw]'/+kd'+e}+;#'rdq#w! nr'/ ') }+}{rl#'{n' ')# \
}'+}##(!!/")
:t<-50?_==*a?putchar(31[a]):main(-65,_,a+1):main((*a=='/')+t,_,a+1)
  :0<t?main(2,2,"%s"):*a=='/'||main(0,main(-61,*a,
"!ek;dc i@bK'(q)-[w]*%n+r3#l,{}:\nuwloca-O;m .vpbks,fxntdCeghiry"),a+1);}
```
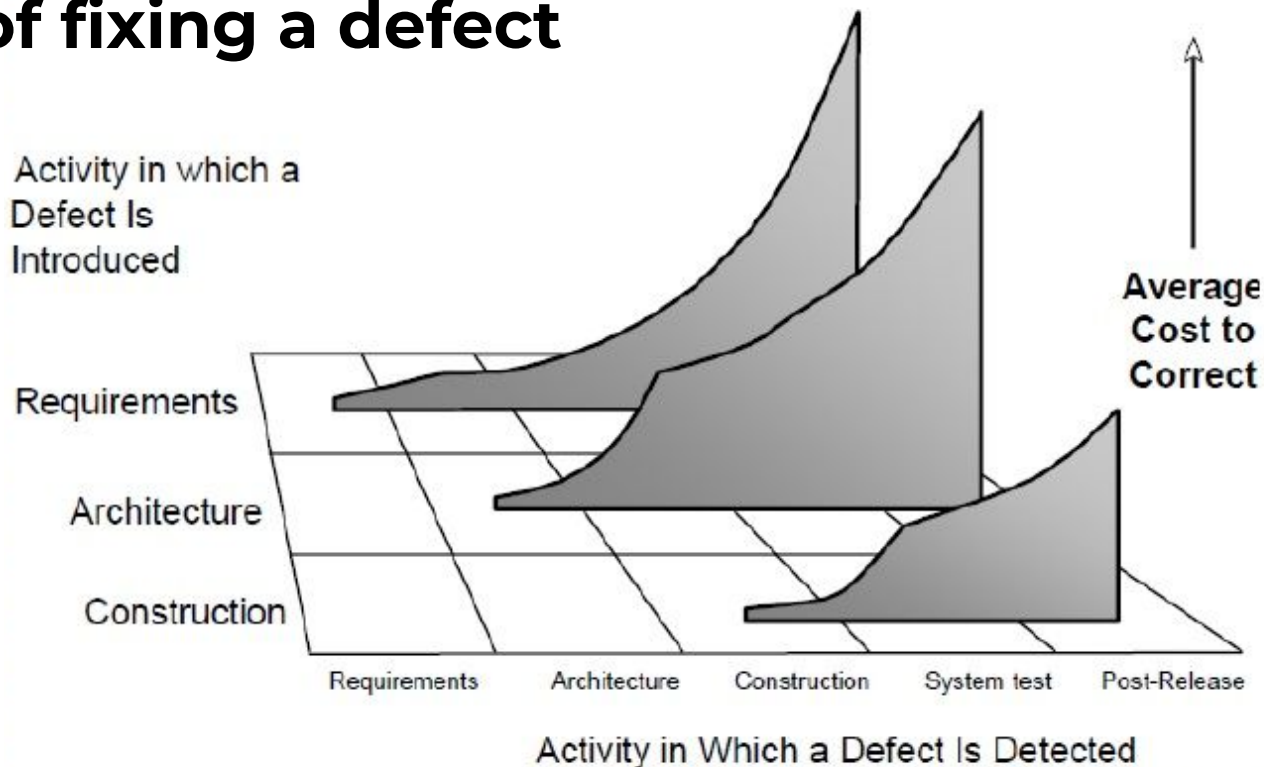
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Teams and feedback

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Formal code Inspections

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Cost of fixing a defect

Activity in which a
Defect Is
Introduced

Requirements

Architecture

Construction

Average
Cost to
Correct

Requirements   Architecture   Construction   System test   Post-Release
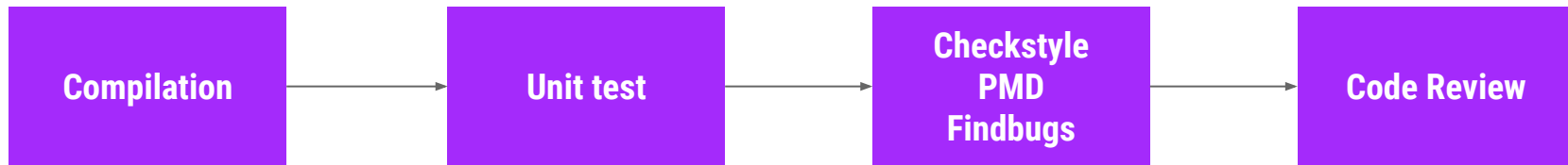
Activity in Which a Defect Is Detected

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Cost of fixing a defect

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Cost of fixing a defect

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Stages of coding feedback

1. **How** do you do code reviews?
2. **Why** do you do code reviews**?**
3. What **benefits** do you get from it or do you think you may get?

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Apparent Code Review frustrations

1. Adds **time** demand.

2. Adds **process**.

3. Can bring up team tensions.
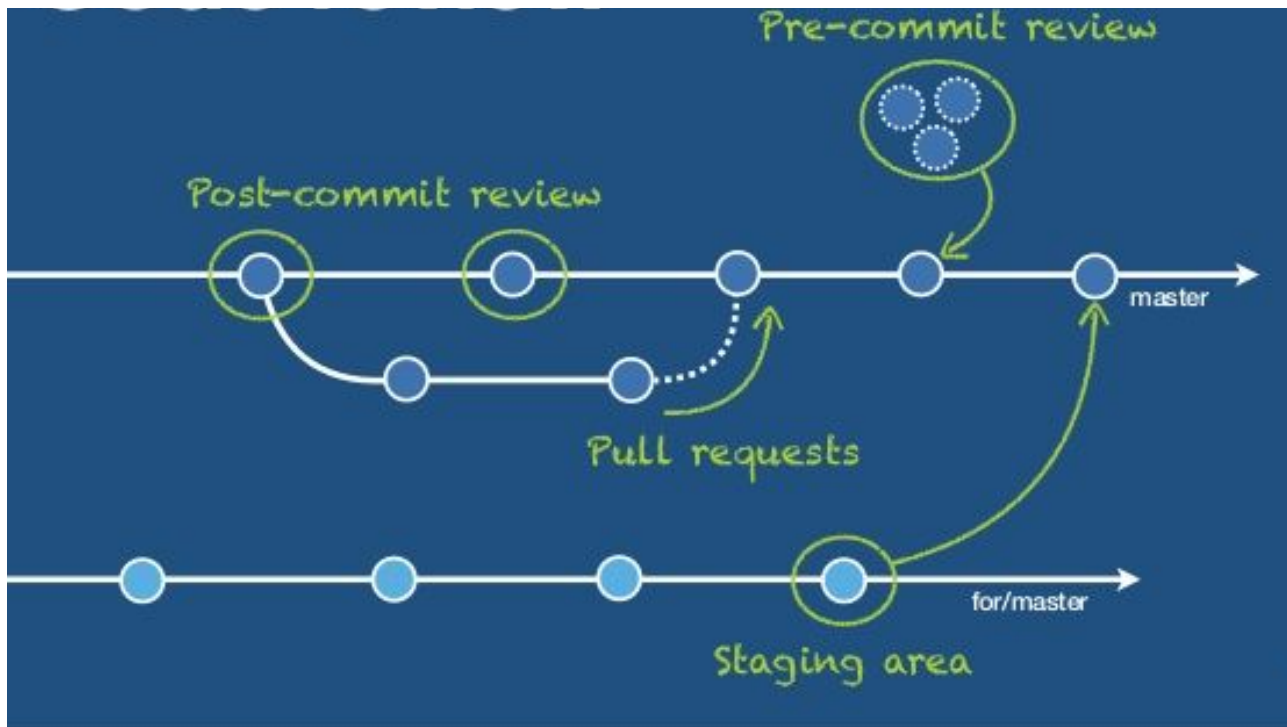
4. "**Smart**" devs think they don't need

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Code Review benefits

1. Find Bugs Before the Release
2. Share Ownership
3. Share knowledge
4. Reduce Bugs Factor
5. Leave paper trail

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Code Review Strategies

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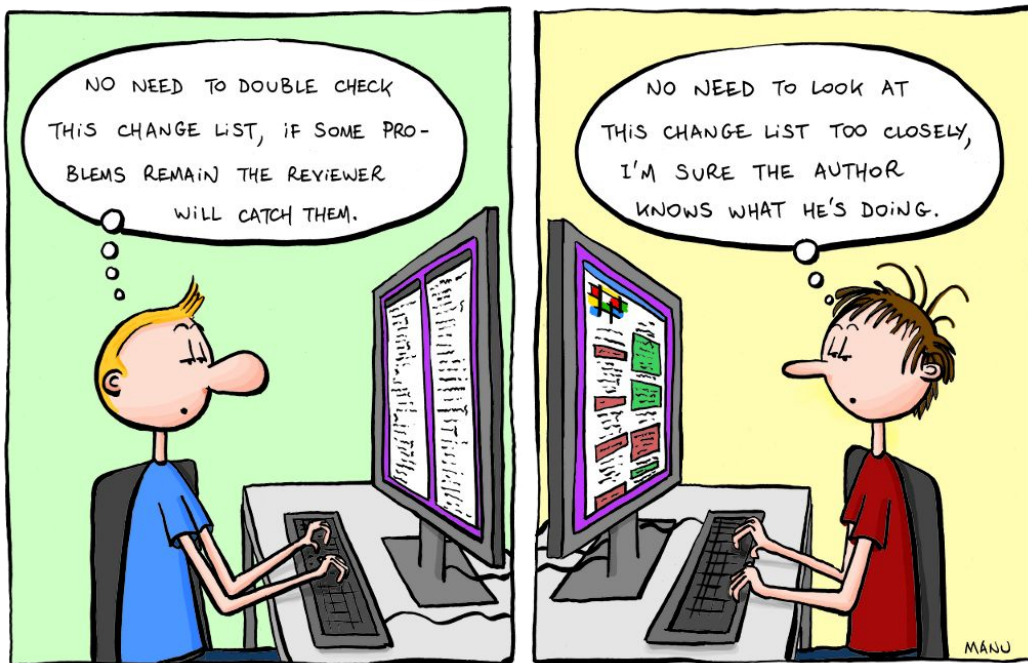# Building a Code Review Culture

Make a Commitment

Universal Code Review

Performed by Peers

Style Guide = Consistency

Orientated to **No Blame**

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How to be a Great Submitter

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Provide Context (The Why)

Link to the underlying ticket/issue.

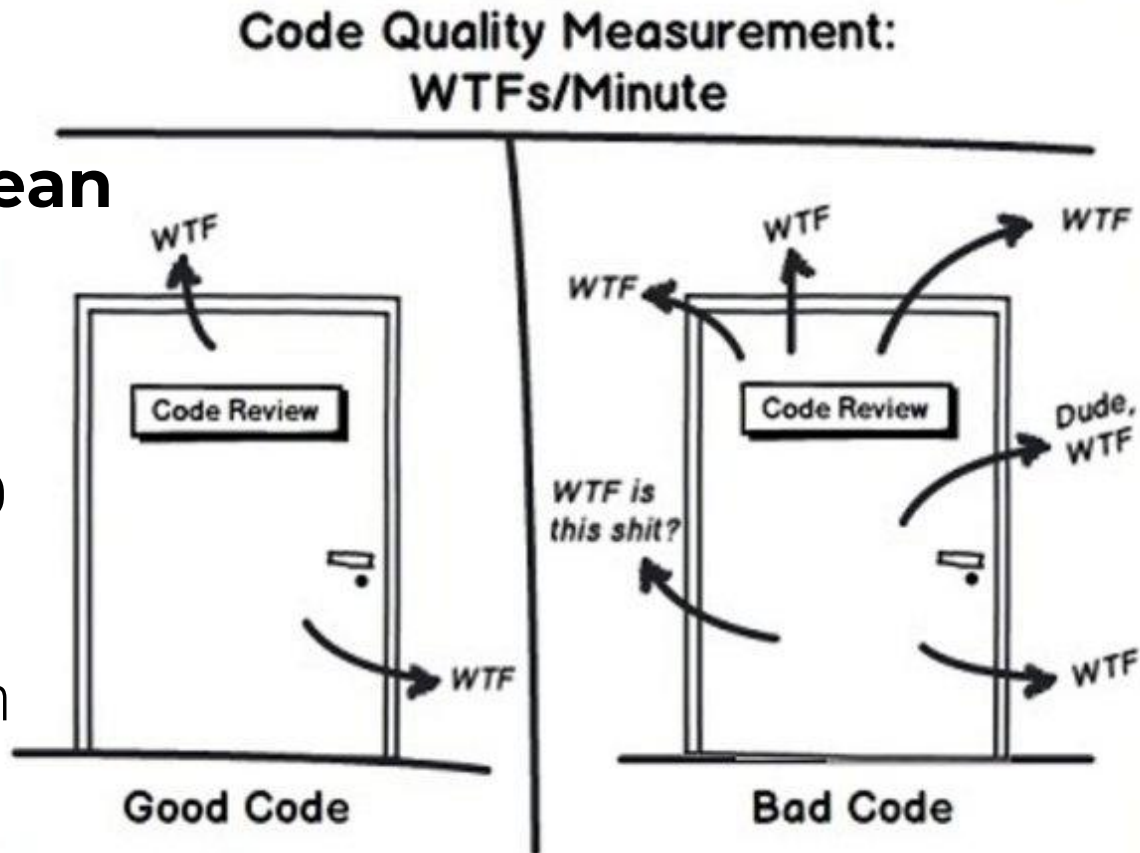Document why the change was needed.

Avoid longer PRs.

Point out any side-effects.

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Keep your code clean

Good code is like a good joke. It needs no explanation.

- Russ Olsen

Code Quality Measurement: WTFs/Minute

Good Code

Bad Code

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Review your own code

(you are your first reviewer)

Make sure your code works.

Don't rely on others to catch your mistakes.

Review your code with the same level of detail you would give giving reviews.

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Expect Conversation

You are starting a conversation.

Anticipate comments and feedback.

Acknowledge you will make mistakes.

Involve the reviewer.

Reply to every comment.

Be grateful.

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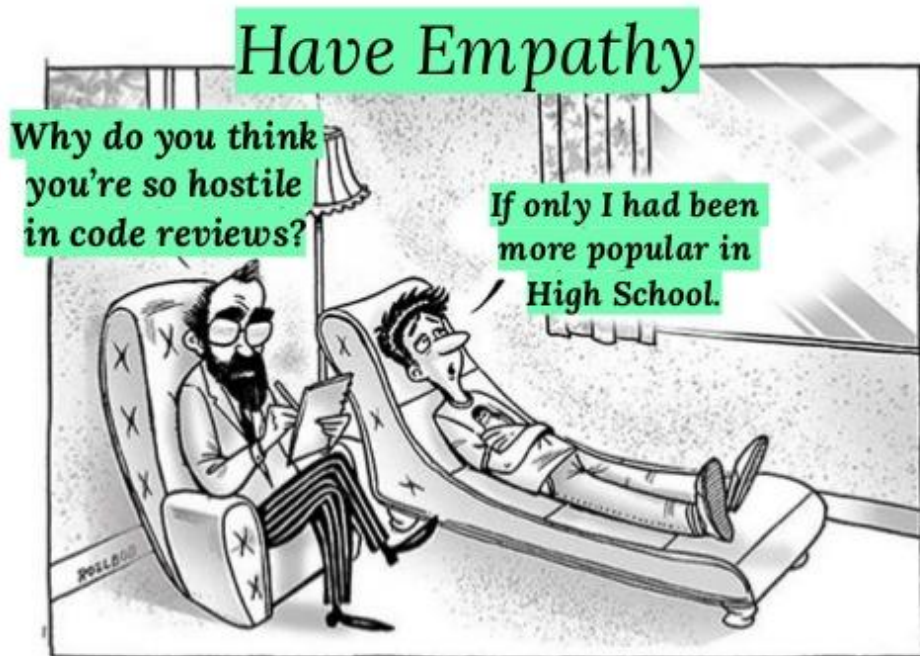**UI Boot Camp: Code Review**
Don't take it personally!

Reviews are about collaboration.

It's an opportunity for **growth**.

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How to be a Great Reviewer

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How to be a Great Reviewer

Be Objective: "this method is missing a docstring" instead of "you forgot to write a docstring"
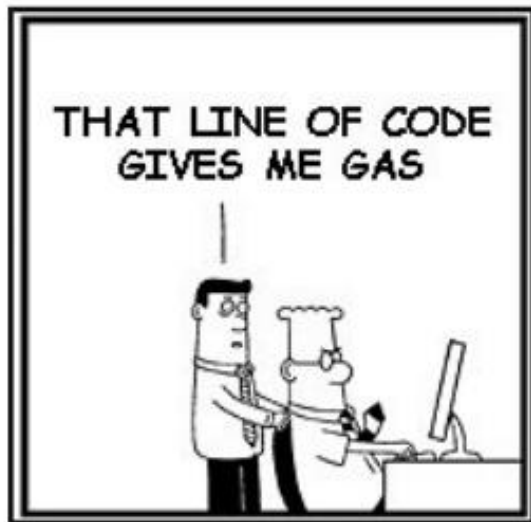
Ask questions. Don't give answers: "Would it make more sense if… ?" "Did you think about… ?" "Could be more clear if… ?" "Should be check if… ?"

Offer Suggestions: "What do you think about… ?" "it might be easier to" "we tend to do it this way"

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Give Clear Feedback

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Give Clear Feedback

Share **How** & **Why**

Be specific, it's best to provide examples in terms of code.

Link to supporting **blogs**, **stackoverflow** examples, or **documentation**.

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Compliment Good Work & Great Ideas

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Compliment Good Work & Great Ideas

The goal is better code, not "exactly the code you would have written".

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Early code review

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Conclusion - Why Code Review? Goals

Find Bugs early.

Shared Ownership.

Ensure code is readable and maintainable

Learn from others.

Leave a Paper Trail.

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Conclusion - How to be a Great Submitter?

Provide the Why

Keep your code clean

Review your own code (you are your first reviewer)

Submit in progress work/ Avoiding huge PRs

Expect Conversation

Not to take it personally!

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Conclusion - Process

Review your own code.

Peer Code Review

Internal Team code review.

TL/Architect

External Code Review.

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Conclusion - How to be a Great Reviewer?

Have Empathy

Give Clear Feedback

Give Compliments

Don't be a Perfectionist

Early Code Review

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