How Pinterest tracks the state of builds

A Journey through Pinterest’s build program

Manuel Nakamurakare
Engineering Manager @ Mobile Builds
@mnakamurakare
Our mission is to bring everyone the inspiration to create a life they love

460M+ Global Monthly Active Users
Mobile @ Pinterest

~ Millions lines of code

~ Hundreds contributors

~ Ten of Thousands builds / month

~ Thousands commits / month
Why should you care about builds?
Why is a build score important?
\[ \frac{\partial}{\partial a} \ln f_{\alpha,\sigma^2}(\xi) = \frac{\xi - a}{\sigma^2} f_{\alpha,\sigma^2}(\xi) = \frac{1}{\sqrt{2\pi}\sigma} \exp \left( -\frac{(\xi - a)^2}{2\sigma^2} \right) \]

\[ \int T(x) \cdot \frac{\partial}{\partial \theta} f(x, \theta) \, dx = M\left(T(\xi) \cdot \frac{\partial}{\partial \theta} \ln L(\xi, \theta) \right) \cdot \int \frac{\partial}{\partial \theta} \ln L(x, \theta) \cdot f(x, \theta) \, dx = T(x) \cdot \left( \frac{\partial}{\partial \theta} \ln f(x, \theta) \right) \cdot f(x, \theta) \, dx \]

\[ \frac{\partial}{\partial \theta} \int T(x) f(x, \theta) \, dx = \int \frac{\partial}{\partial \theta} T(x) f(x, \theta) \, dx \]

\[ \frac{\partial}{\partial \theta} M_T(\xi) = \frac{\partial}{\partial \theta} \int T(x) f(x, \theta) \, dx = \int \frac{\partial}{\partial \theta} T(x) f(x, \theta) \, dx \]
What are some ways to measure the state of builds?
DORA

Deployment frequency
Change failure rate
Time to restore
Build dev experience
Local
CI Builds

Build Metrics
Android 85% (B)

iOS 70% (C)
- **Code Yellow**: less than 59%
- **Lots of issues**: 60% to 69%
- **Needs work**: 70% to 79%
- **Acceptable**: 80% to 89%
- **Good**: 90% to 100%
How is it calculated?
Local / CI Build time

Metrics
Pipelines
CI Uptime

Pipelines
Multiply all of the following:
- % of local builds times below a threshold
- % of CI builds times below a threshold
- CI Uptime
Tips

- Use existing metrics
- Iterate
- Remember the objective
The Build Score in Action!
Thank you