Accelerating Development at Airbnb
Agenda

Development at Airbnb
High value recent investments
What’s next?
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Airbnb
Development at Airbnb
What does development look like at Airbnb?
Multi-monorepo

Backend  Web  Native  Data
Multi-monorepo

- **Backend**: Java + Kotlin, some Scala
- **Web**: TypeScript
- **Native**: Swift, Kotlin
- **Data**: Python
Development Infrastructure

Backend
- Java + Kotlin, some Scala

Web
- TypeScript

Native
- Swift, Kotlin

Data
- Python

Product Infrastructure

Developer Platform
Developer Platform

- Service Platform
- Web Platform
- iOS Platform
- Android Platform

- GitHub
- Buildkite
- Spinnaker
- Gradle/Bazel
- Custom tools
- k8s
- AWS
7k PRs per week

50k CI builds per week

Sept 2023
Work From Anywhere
Service owners carry the pager
High Value
Recent Investments
Challenges

Lack of clear paved path
Slow builds & IDE
Hard to test code changes
Successful Investments

Cloud development environment
More opinionated paved path
Understanding developers better
Cloud Development Environment
AirDev Test Env
Private cloud developer environment

Web & Mobile clients testing

Test data creation

Staging
AirDev Test Env
Private cloud developer environment

Inner Loop
- Preview UI
- Integration tests
- Integration/E2E tests

Outer Loop
- VSCod
- IntelliJ
- Jupiter

GitHub

Staging
Prod

Web & Mobile clients testing
Test data creation
2-4x Faster Deploys

2.2x Faster Builds

Early-mid 2022
Opinionated
Paved Path
Paved path

Opinionated
Platformized
Explicit standards
Developer Testing

- SDE
- Mir
- Airlab
- Test boxes
- AirDev
- Next
- Prod
- Yak local

Diagram showing the flow from SDE to Prod with stages in between.
Understanding Our Developers Better
Collaboration
X-org partnerships
Early prototypes
Alpha users

DevX Metrics
Quantitative data
DORA metrics
SPACE Framework

DevX Survey
Bi-annual
<5 min to complete
Consistent structure
Summarize with AI
What’s Next?
Goals

- Faster feedback loops
- Lower failure rates
- Happier developers
What’s Next?

Migrating to Bazel
Faster inner loop
Safe testing against production
AI-powered development
Migrating to Bazel
Bazel

Parallelized and incremental

Automation and incentives

Forked IntelliJ Bazel plugin

Custom Bazel files generator
Faster inner loop
Safe testing against production
Current paved path

API calls

AirDev
Unreviewed code

Service-A
Service-B

Staging
Reviewed, tested

Service-A-staging
Service-B-staging
Service-C-staging

Staging DBs

Prod
Fully vetted

Service-A
Service-B
Service-C

Prod DBs
AI-powered development
AI-powered

ChatGPT

Github Copilot

Build your own
Review GPT

Change summary:

Proven simulator to avoid spurious timeouts when trying to launch the simulator.

How was it tested?

https://artifact Harden::ios::tests::detail?142

Please review:

分歧 review-gpt

Preview Simulator

分歧board commented 3 hours ago

ReviewGPT AI-Generated Code Review

1. While this PR seems to make sense conceptually, it's worth considering that Apple's Simulator app may not be running by the opening of the simulator before the tests since killing the simulator processes is part of the test workflow. The opening of the simulator might be ignored, or the workspace might have some unexpected state when the tests run. Moreover, the open -i command returns without any message, and there is no clearly the simulator app is ready when the tests start running.

I propose a more robust way handling simulator prelaunch by utilizing xcrun's `xcrun` command which provides direct capabilities for interacting with iOS simulators. For example, you can directly test a simulator device using xcrun's `xcrun` tool:

classicwhere `classic` is the id of the simulator, and you can ensure the simulator compiles before running the tests.

Here is my recommendation:

```bash
xcrun and log "gsim Simulator | xcrun kill | true"
```

This command lists all devices, filters the ones that are shut down, extracts the id, and boots them.

Note: This command attempts to boot all shut down simulators. If you want to boot a specific simulator, you would need to identify it by its identifier instead of the `gsim" command.
Thank you!