

MTSC2018

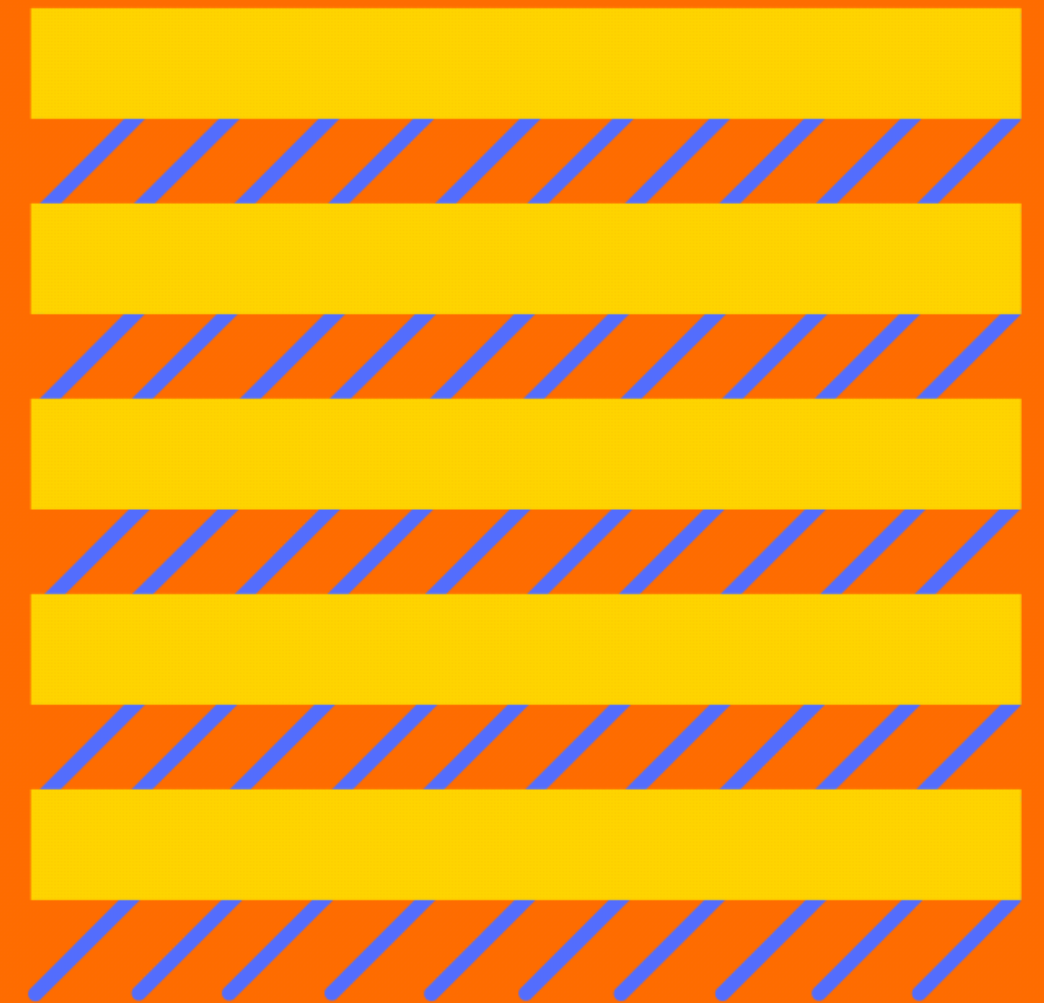
Google Testing Practices and How You Too Can Benefit



Justin Broughton

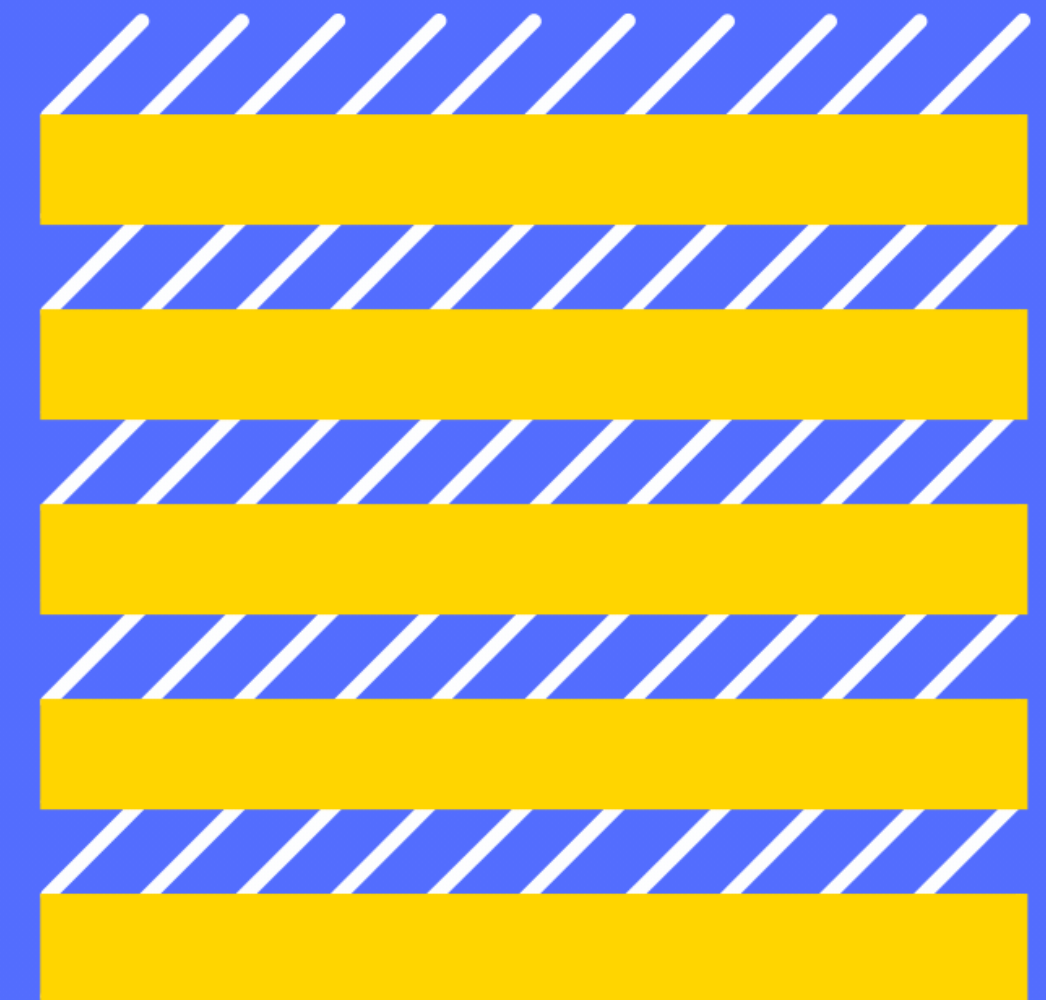


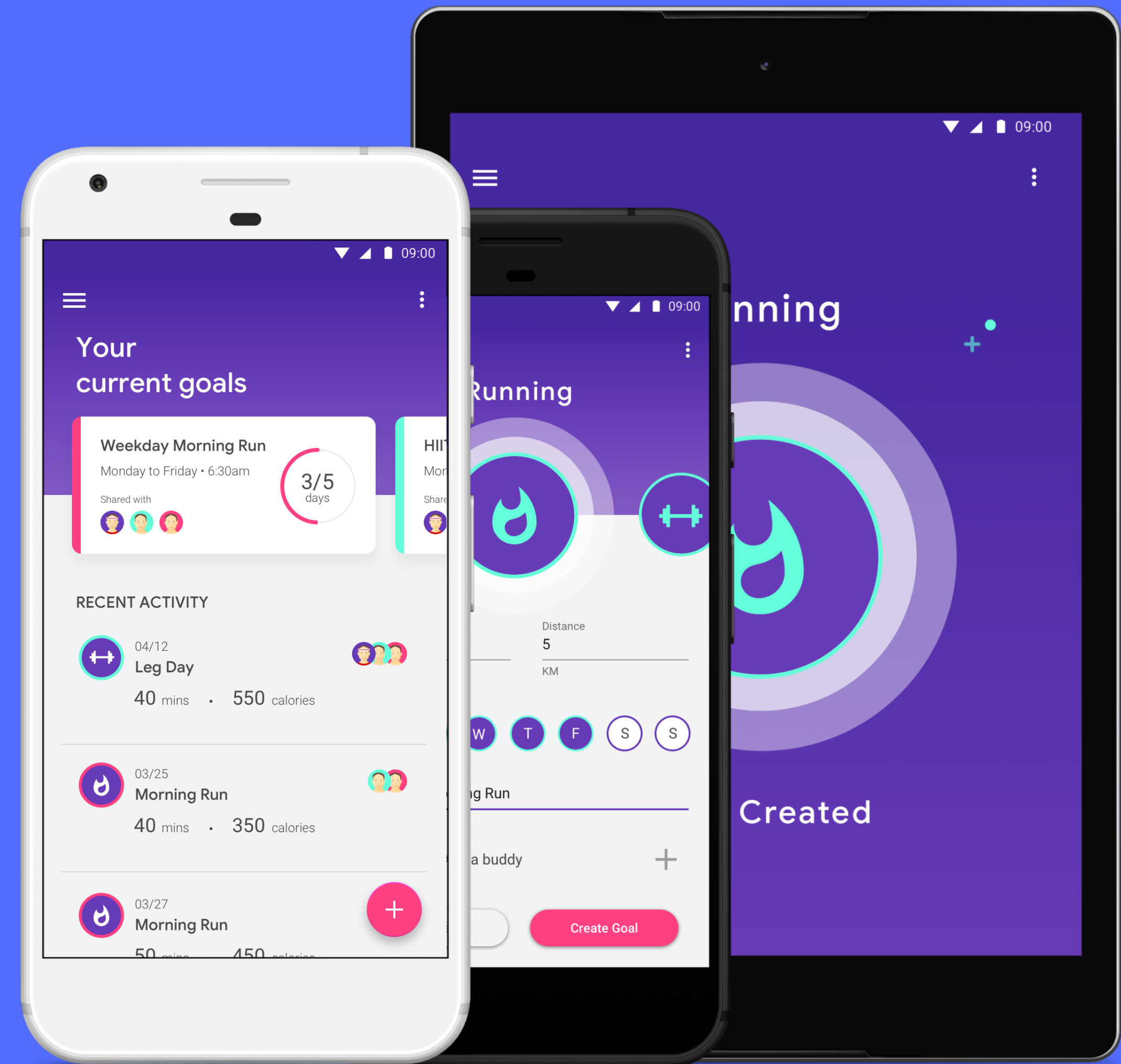
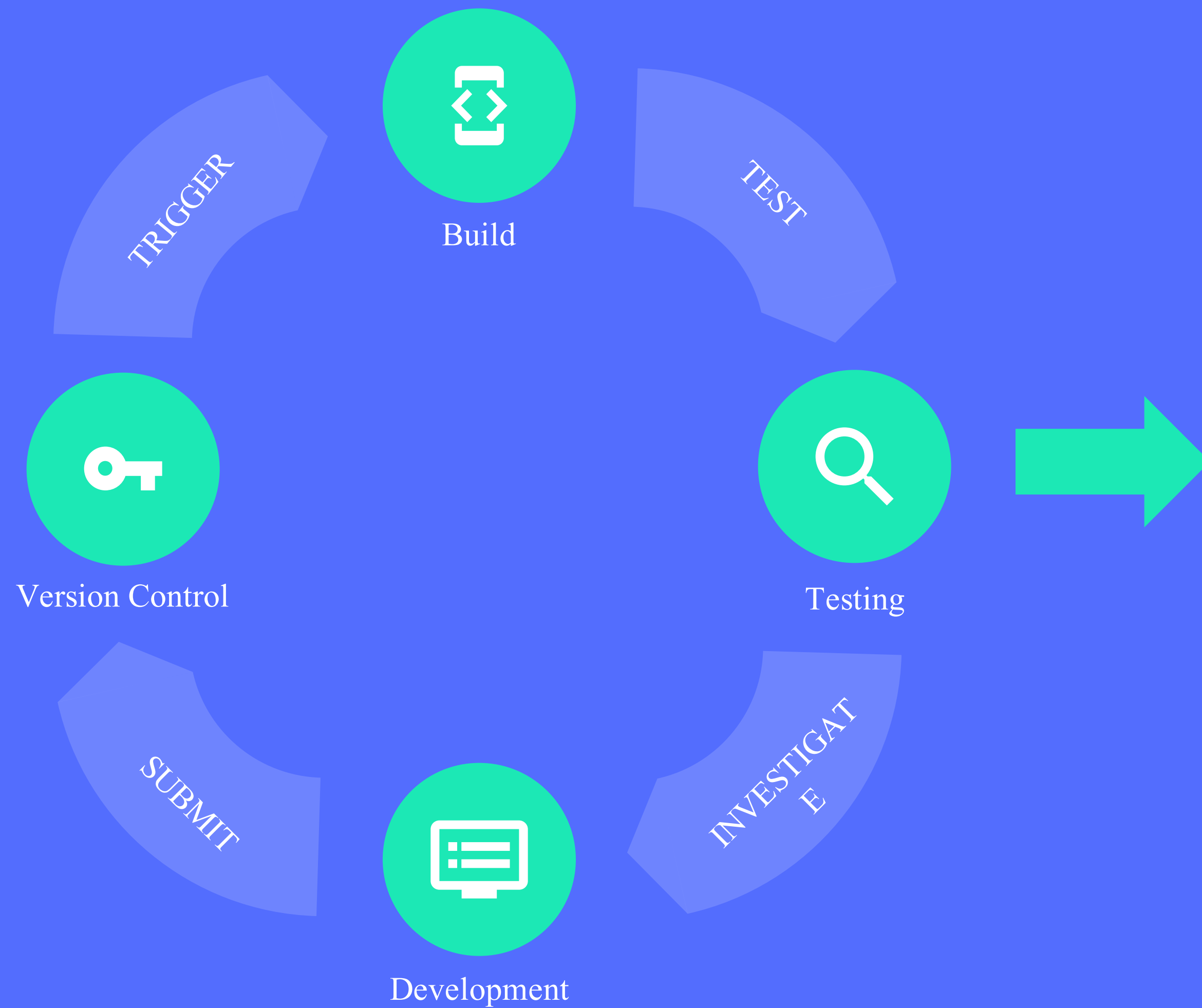
Denis Krupennikov



Goals

Improve Android Ecosystem
Many Devices - Lots from China



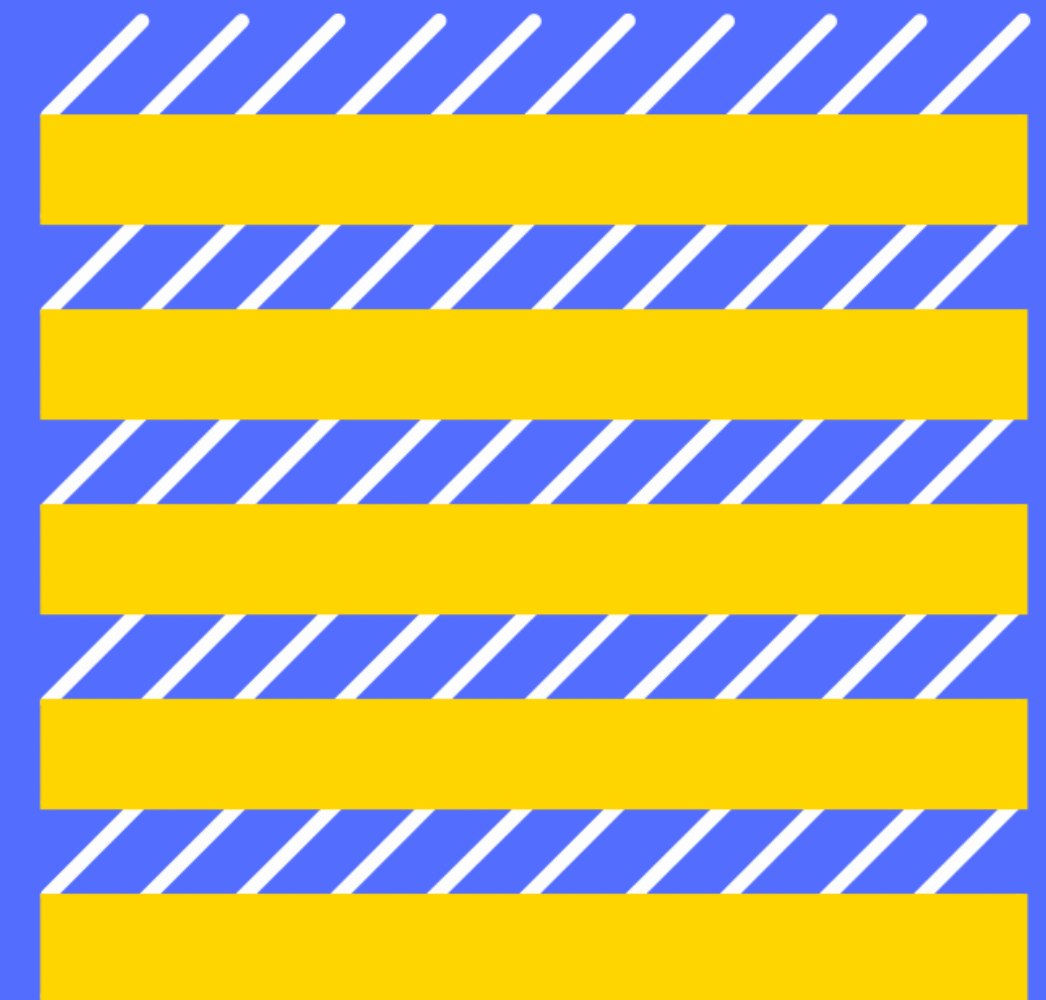


When does Google Test?



How does Google Test?

Running device infrastructure is hard



Pick the right devices

Today there are > 20K Android models
worldwide



Clean up devices

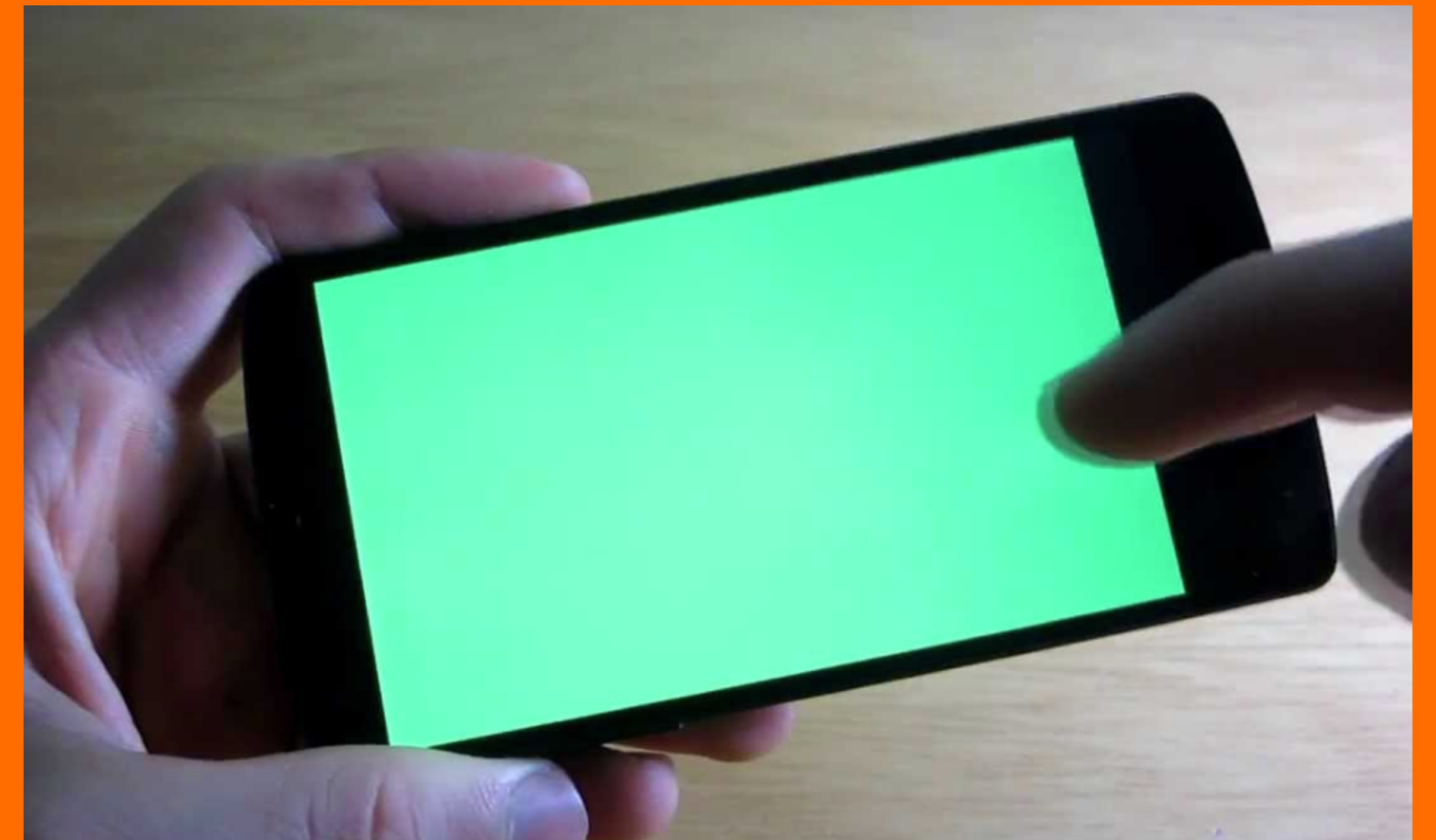
Bring devices to a known state



Devices are not reliable

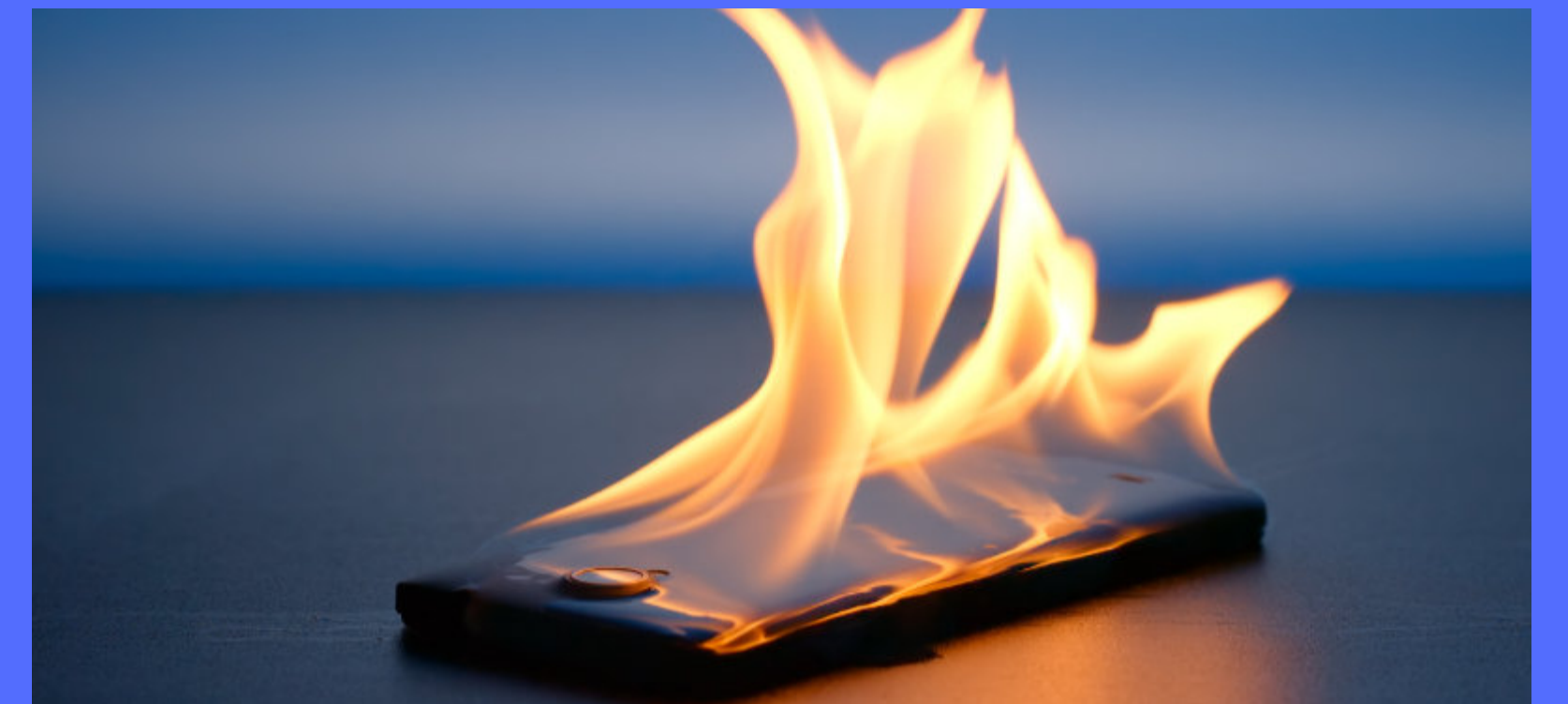
Consumer grade devices

Not designed for intensive use



Fire !!!

Battery swells potentially causing fire



Use non-certified devices

Pre-released devices

Devices from another countries

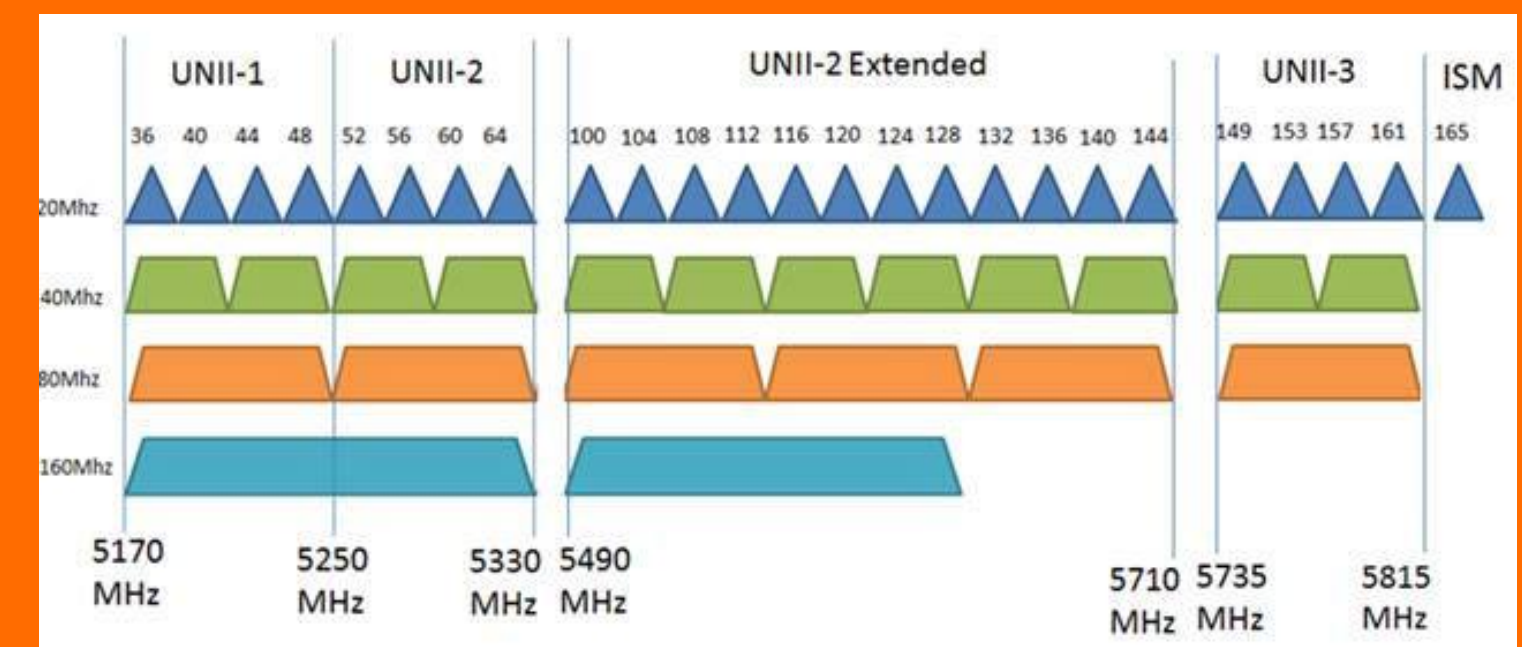
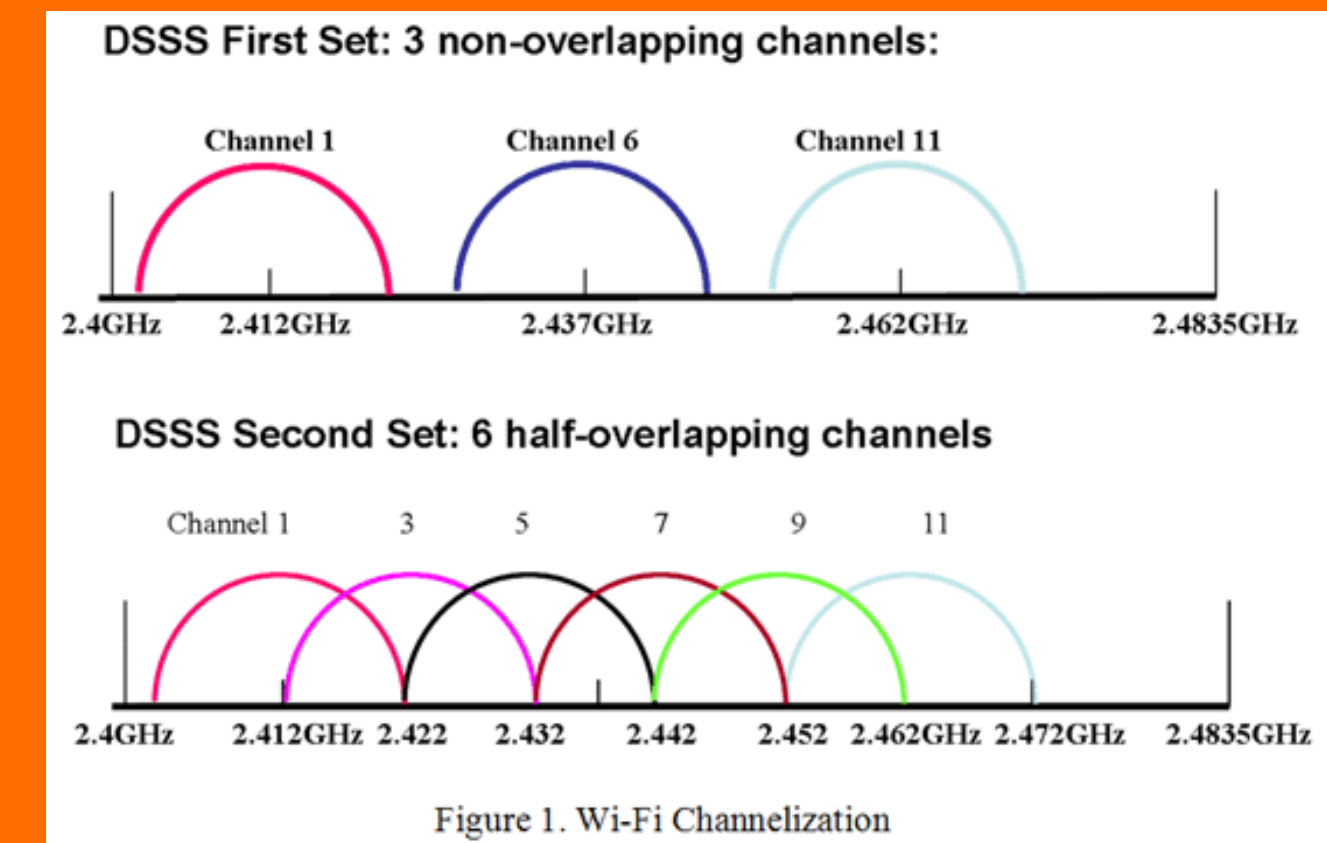




WiFi

Interference everywhere

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2.4 GHz band - 3 non-overlapping channel

5 GHz band - 24 US, 19 EU non-overlapping channel

Electromagnetic (EM) Pulse insulation

Divide and conquer !

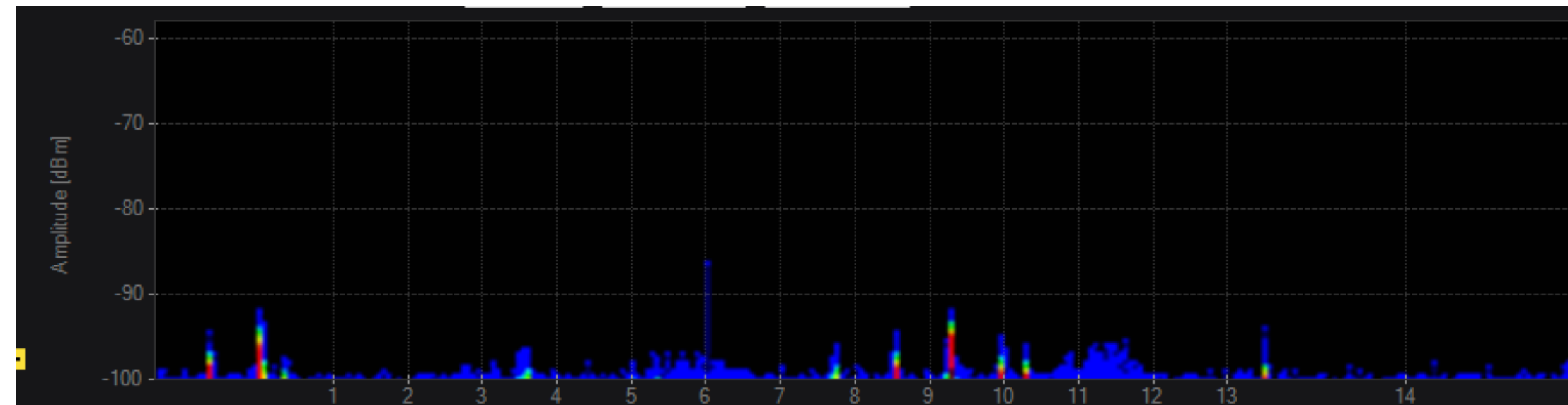


Chart 1

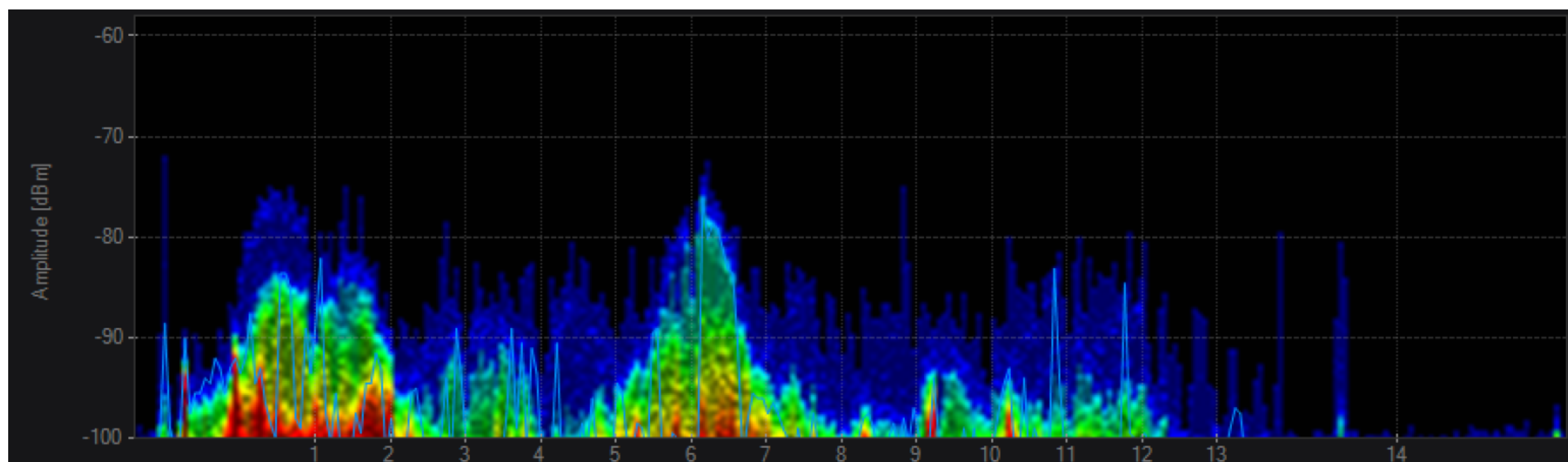


Chart 2

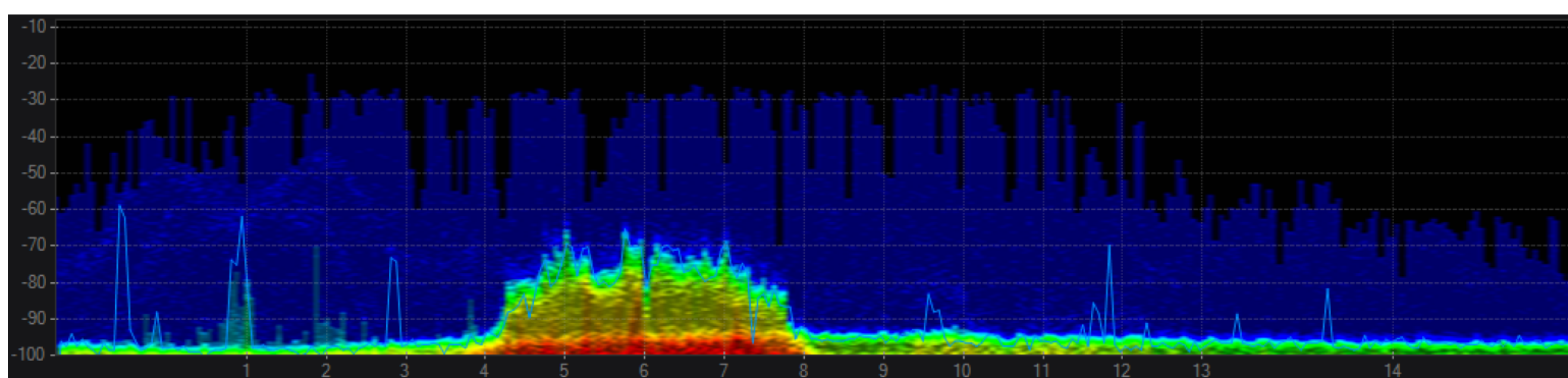
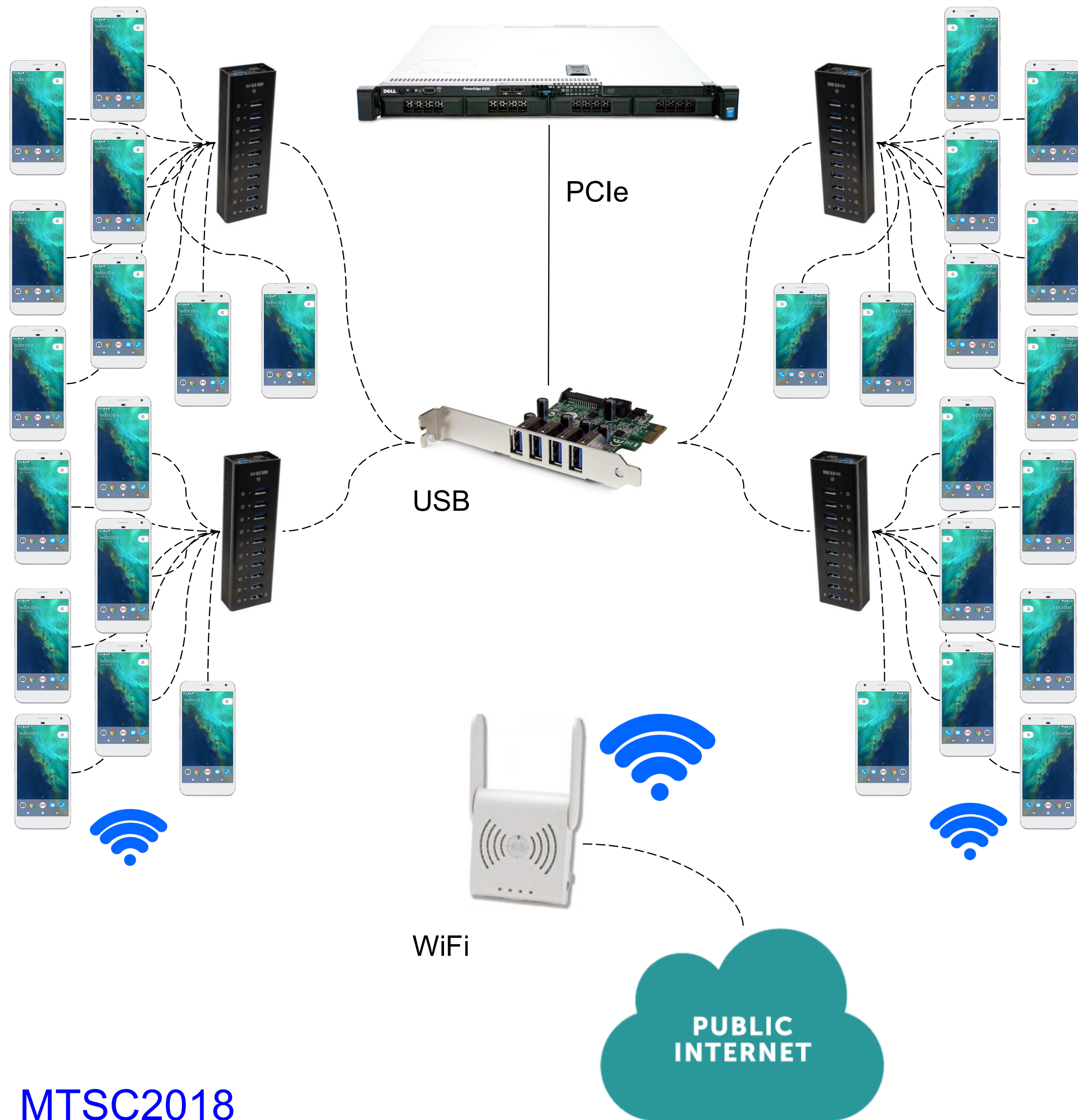


Chart 3





Google test infrastructure



Pre-launch report

FitnessBud
Published

Pre-launch report for APK 1234123458

Select APK: 1234123458 - Dec 13, 2017

OVERVIEW

CRASHES

PERFORMANCE

ACCESSIBILITY

SCREENSHOTS

SECURITY

SETTINGS

Pre-launch reports summarize issues found when testing your app on a wide range of devices. Keep in mind, Google can't guarantee that tests will identify all issues.

Learn more

Summary

Recommendation: Resolve errors & review warnings

Category	Errors ?	Warnings ?	Minor issues ?
All issues	4	1	10
Crashes	4	0	0
Performance	0	1	3
Usability & Accessibility	0	0	7
Security & Privacy	0	0	0

Add the sign-in credentials of a test account to explore your app beyond its login screen.

SET CREDENTIALS

Test results

This APK was tested on 10 different devices. The devices are selected on a range of criteria, including popularity, crash frequency, manufacturers, and more.


Learn more



Crashes

4 errors identified




Crash-free apps have greater promotability, which raises their ranking in Google Play Store searches.

VIEW ALL ISSUES

 **Firebase**

 Project Overview 

DEVELOP
Authentication, Database, Storage, H...



STABILITY
 Crashlytics
 Performance
 **Test Lab**

ANALYTICS
Dashboard, Events, Audiences, Attrib...

ADVERTISING
AdMob, Display Advertising, Remarketing

Blaze
Pay as you go **MODIFY**


CloudTestExternal1 ▾

Go to docs  

Test Lab

?

TESTS **TEMPLATES**

 Snake on a Phone ▾

Test matrix	Test type	Started		
✓ matrix-1q8k7jm2vrypm	Robo	1 hour ago		
✓ matrix-3gcu6l2wqu9xg	Robo	3 hours ago		
✓ matrix-8nxvhuphq3hr	Robo	6 hours ago	1	—
✓ matrix-1l7u77pb0rim6	Robo	8 hours ago	1	—
✓ matrix-17x423o4vlje3	Robo	11 hours ago	1	—

Run a Robo test

Run an Instrumentation test

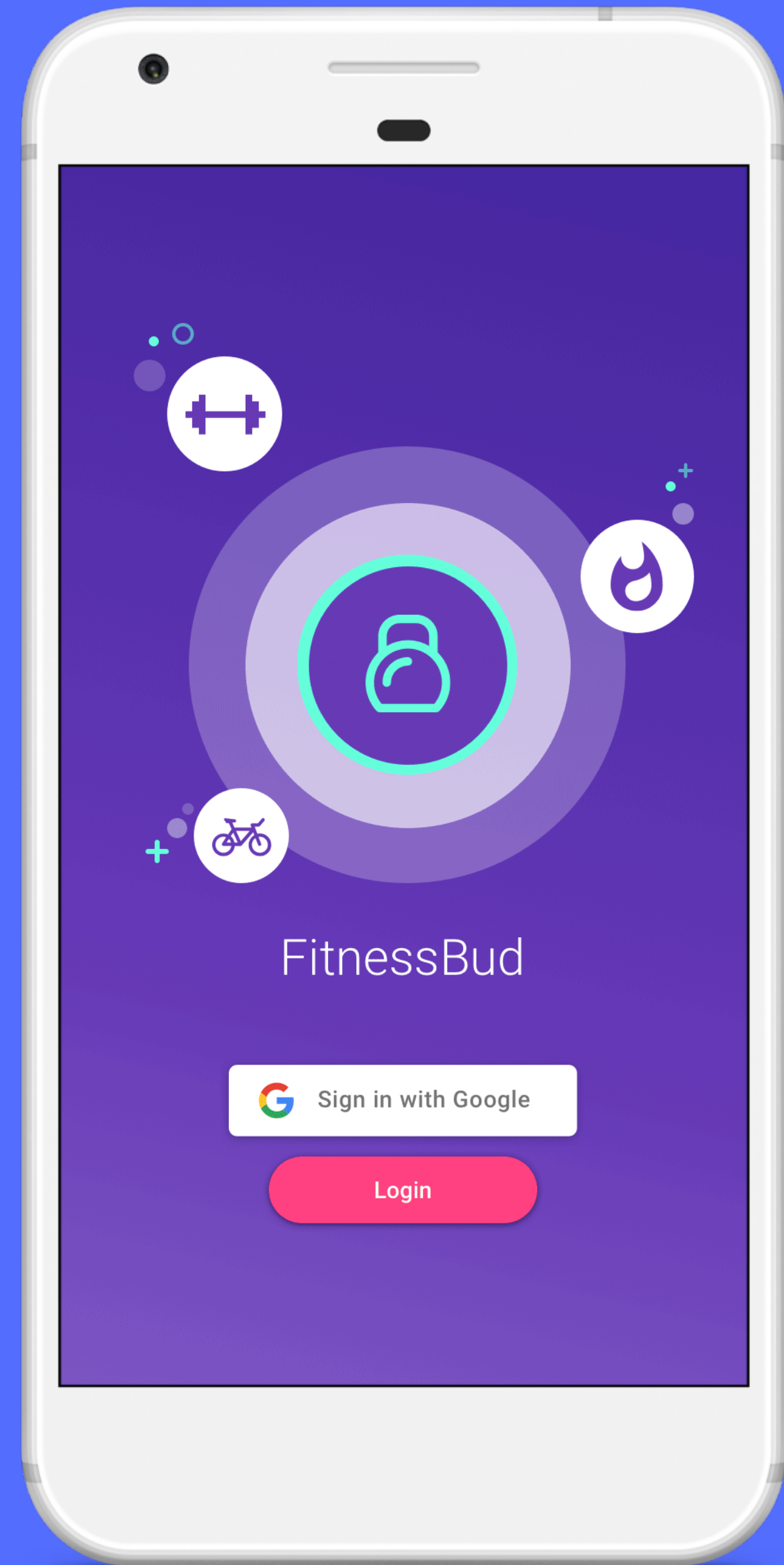
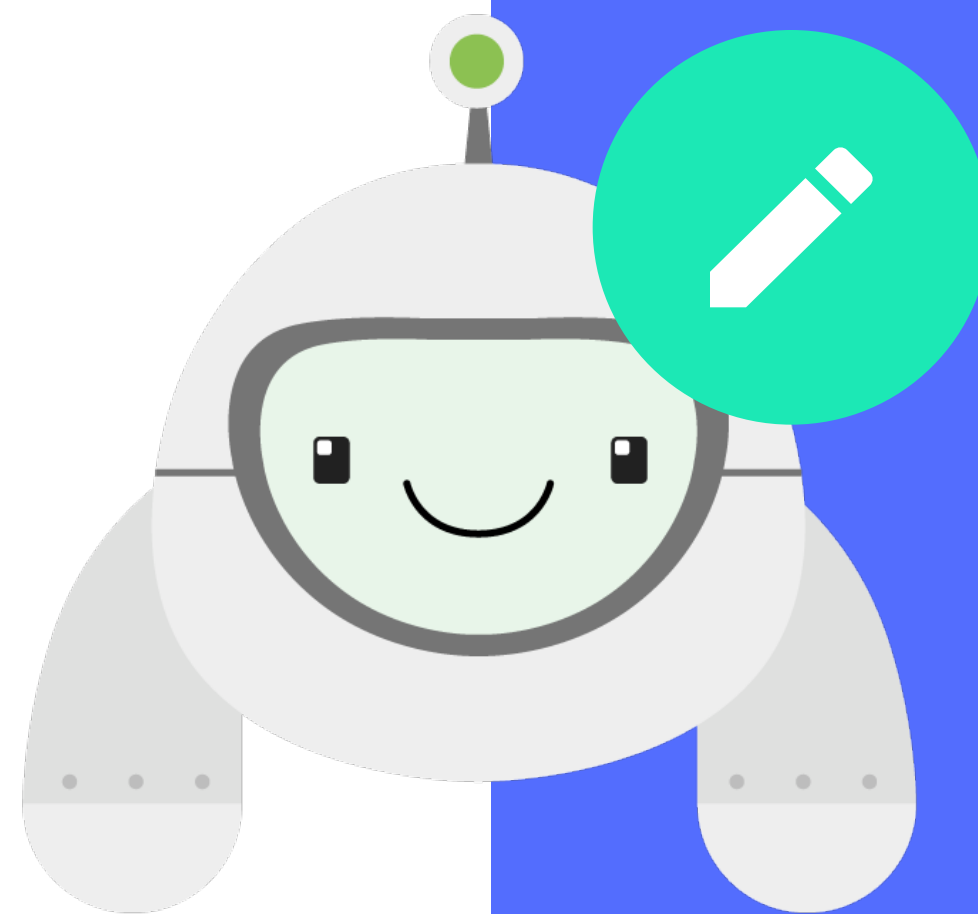
Run a Game Loop

Help me choose

Controlling your Crawl

Login Credentials

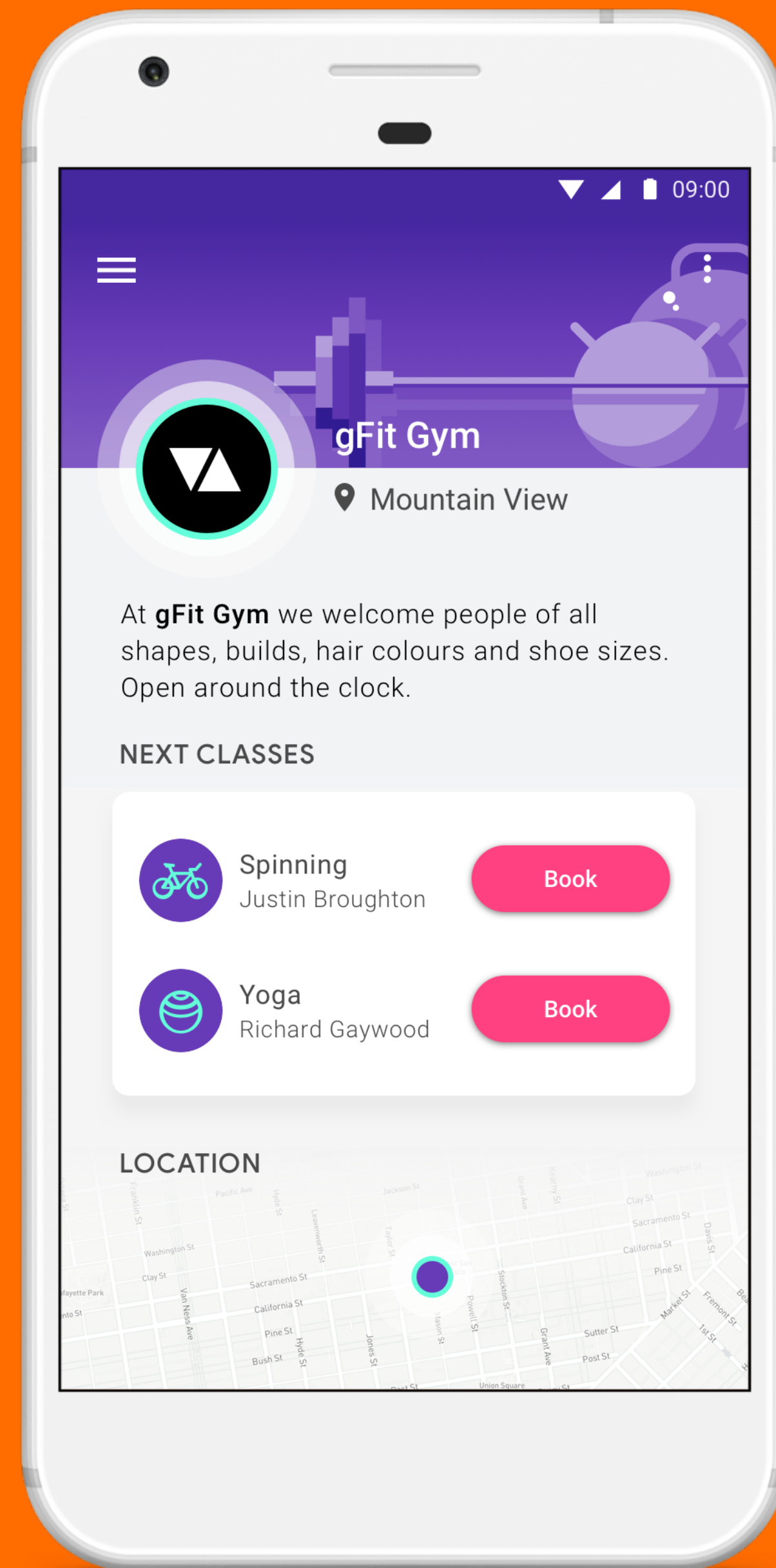
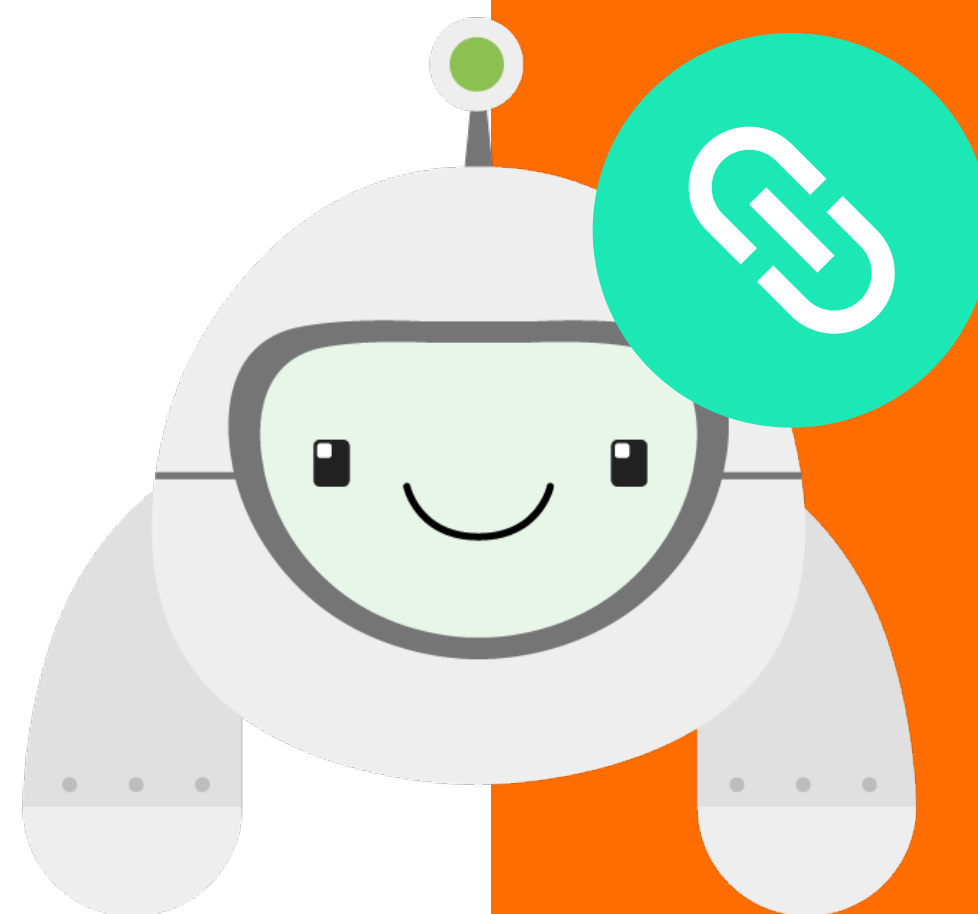
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Controlling your Crawl

Deep Links

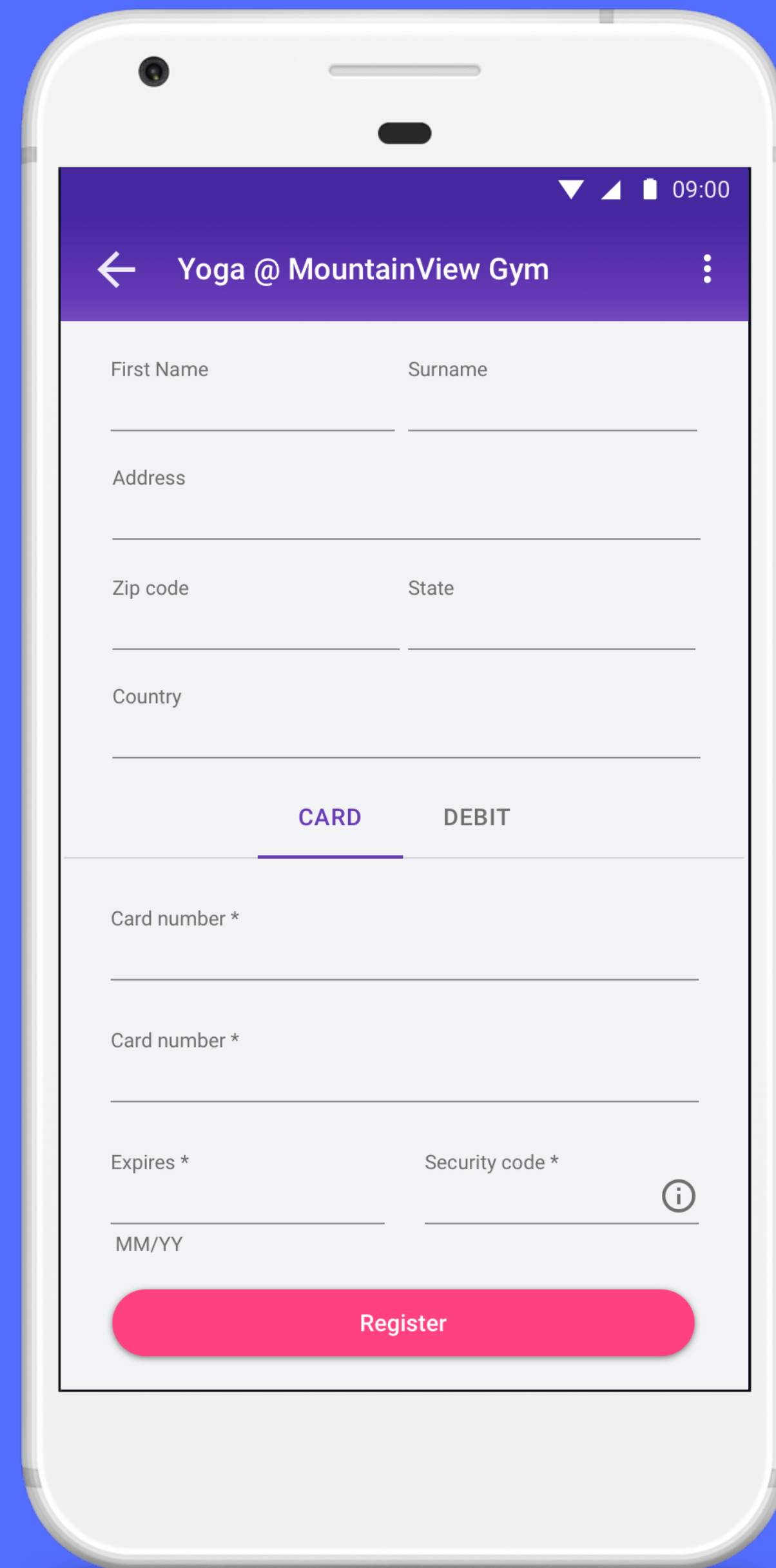
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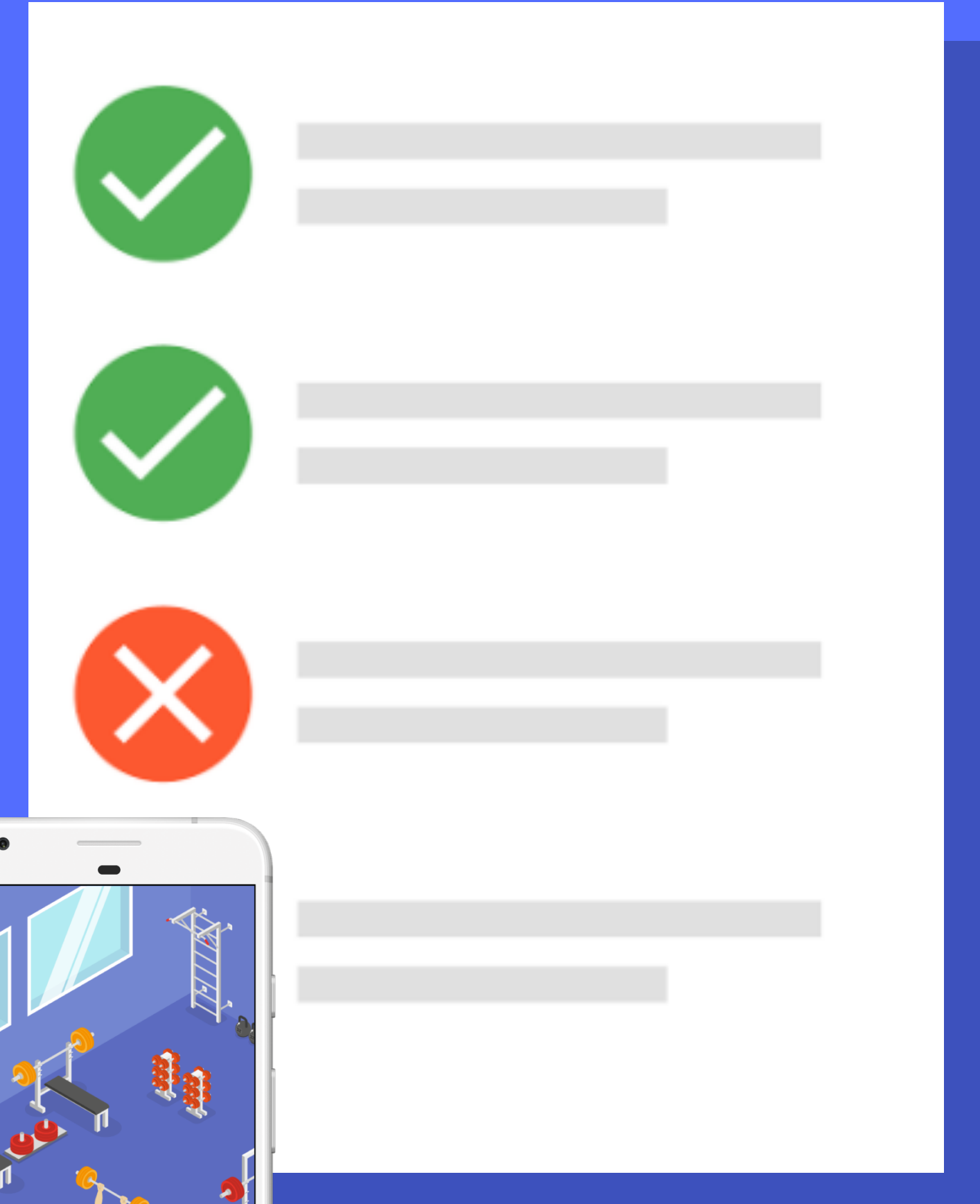
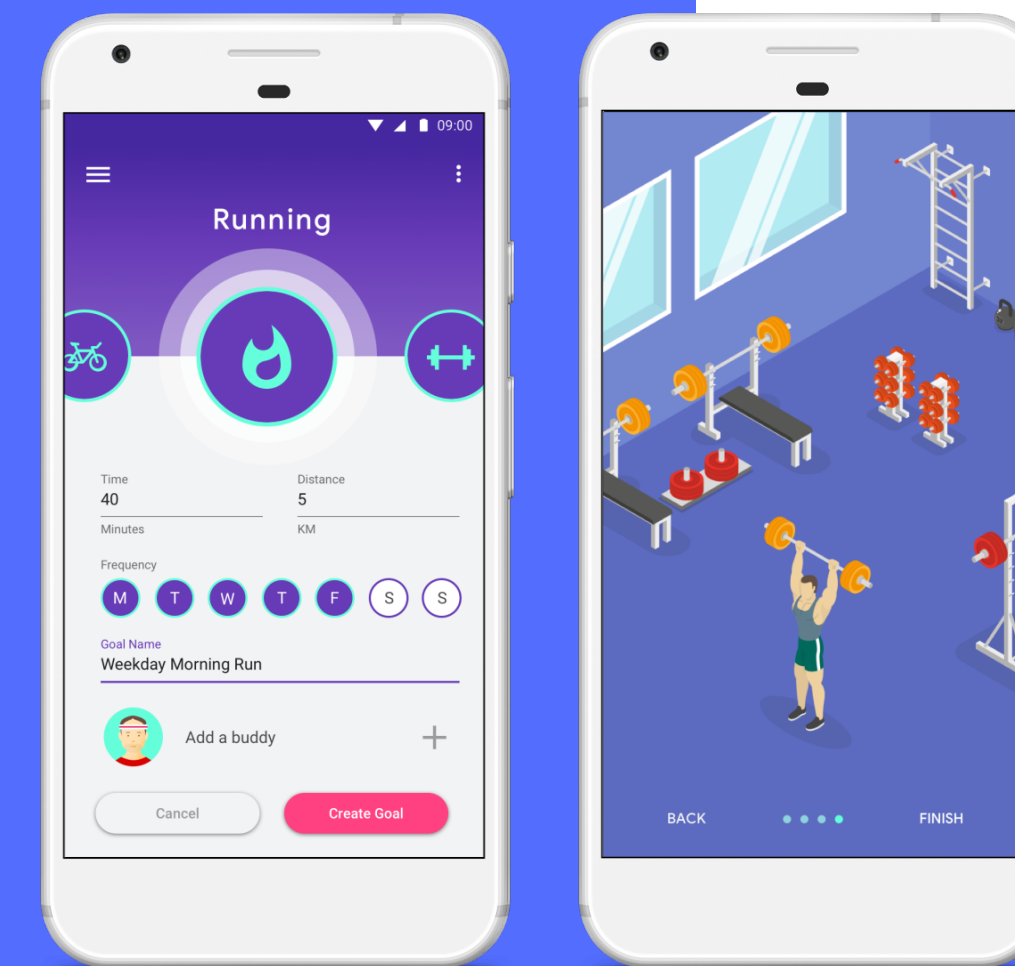
Controlling your Crawl

Robo Script

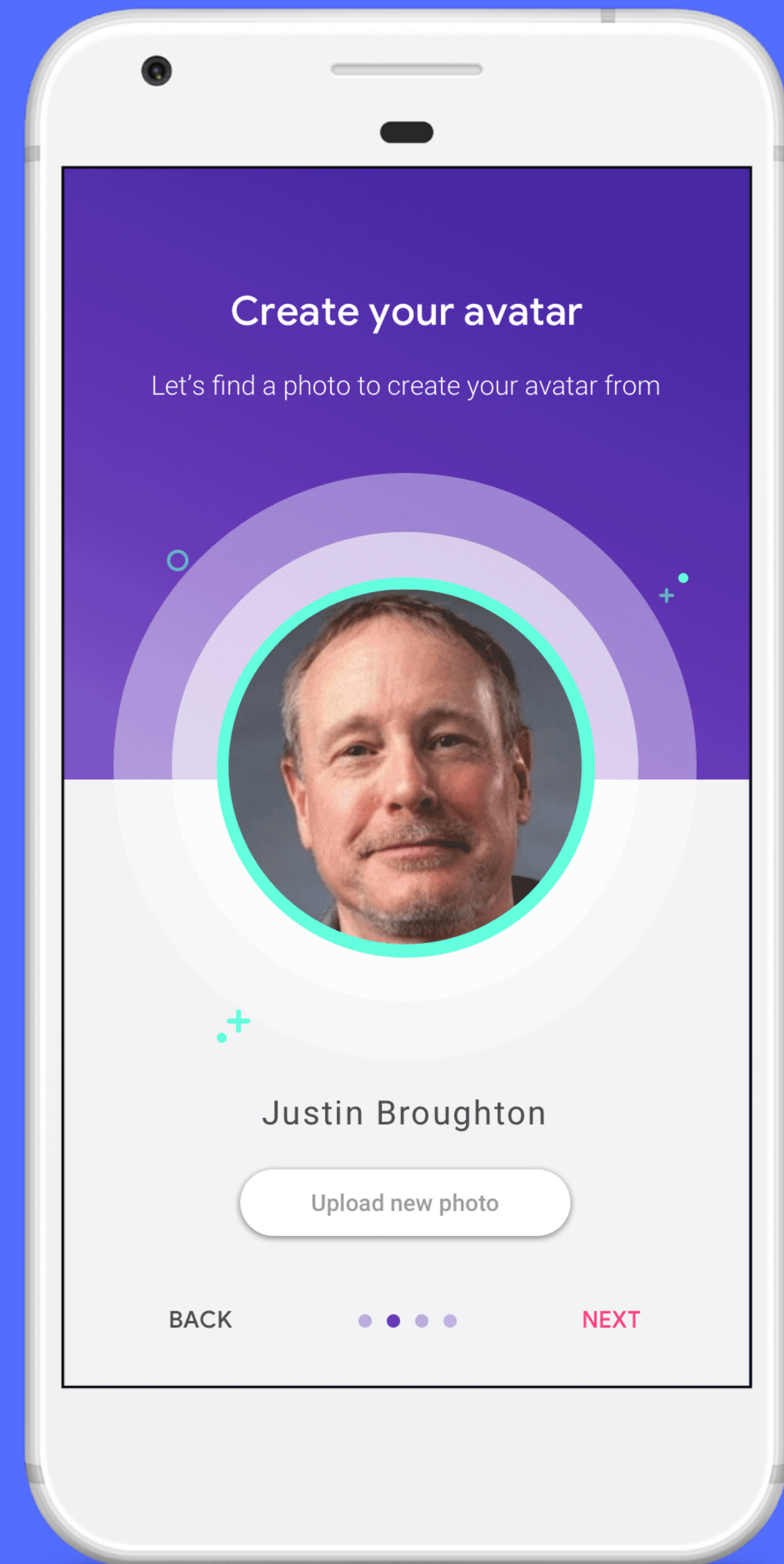
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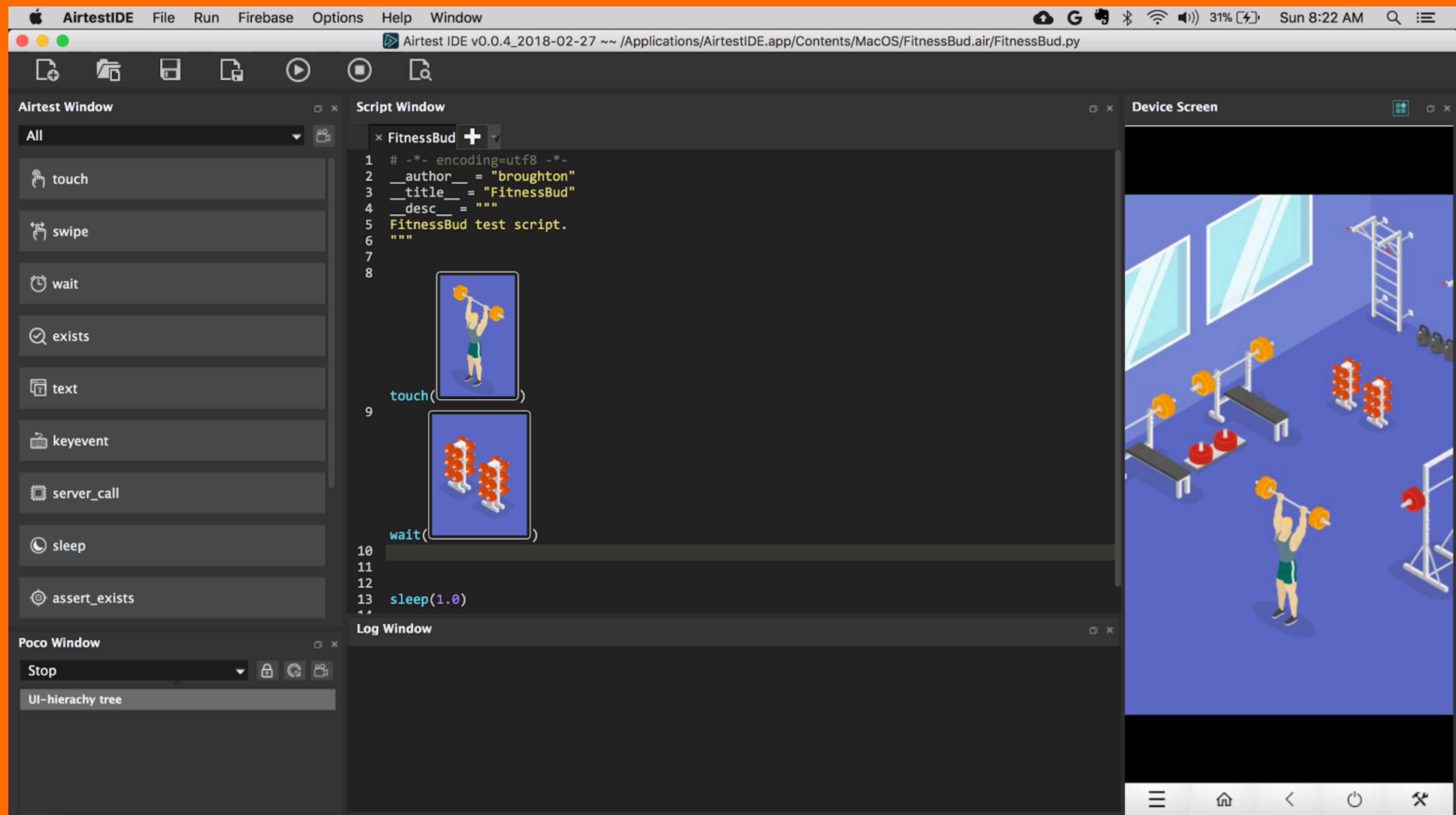


Creating Tests for Apps and Games

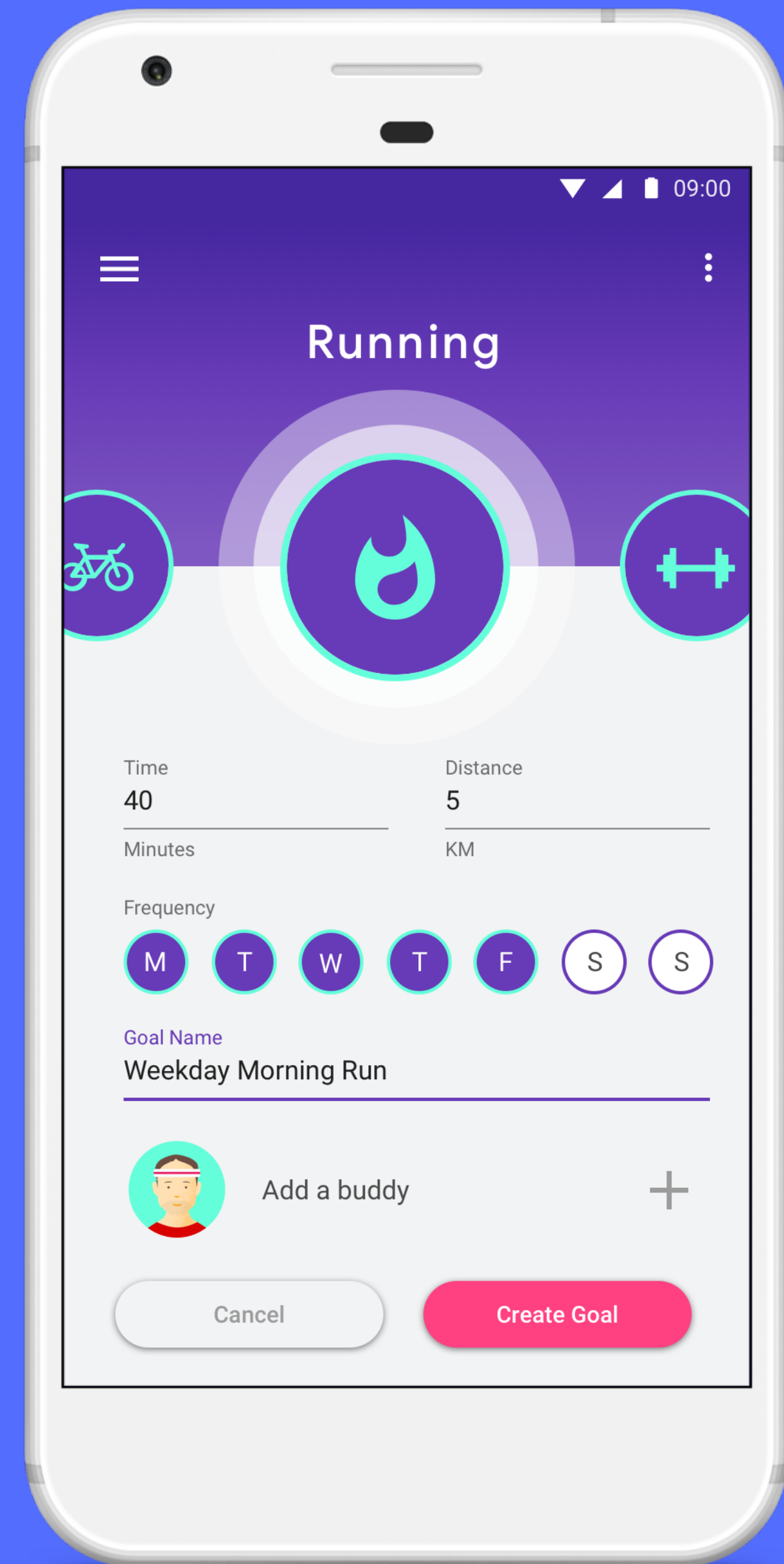


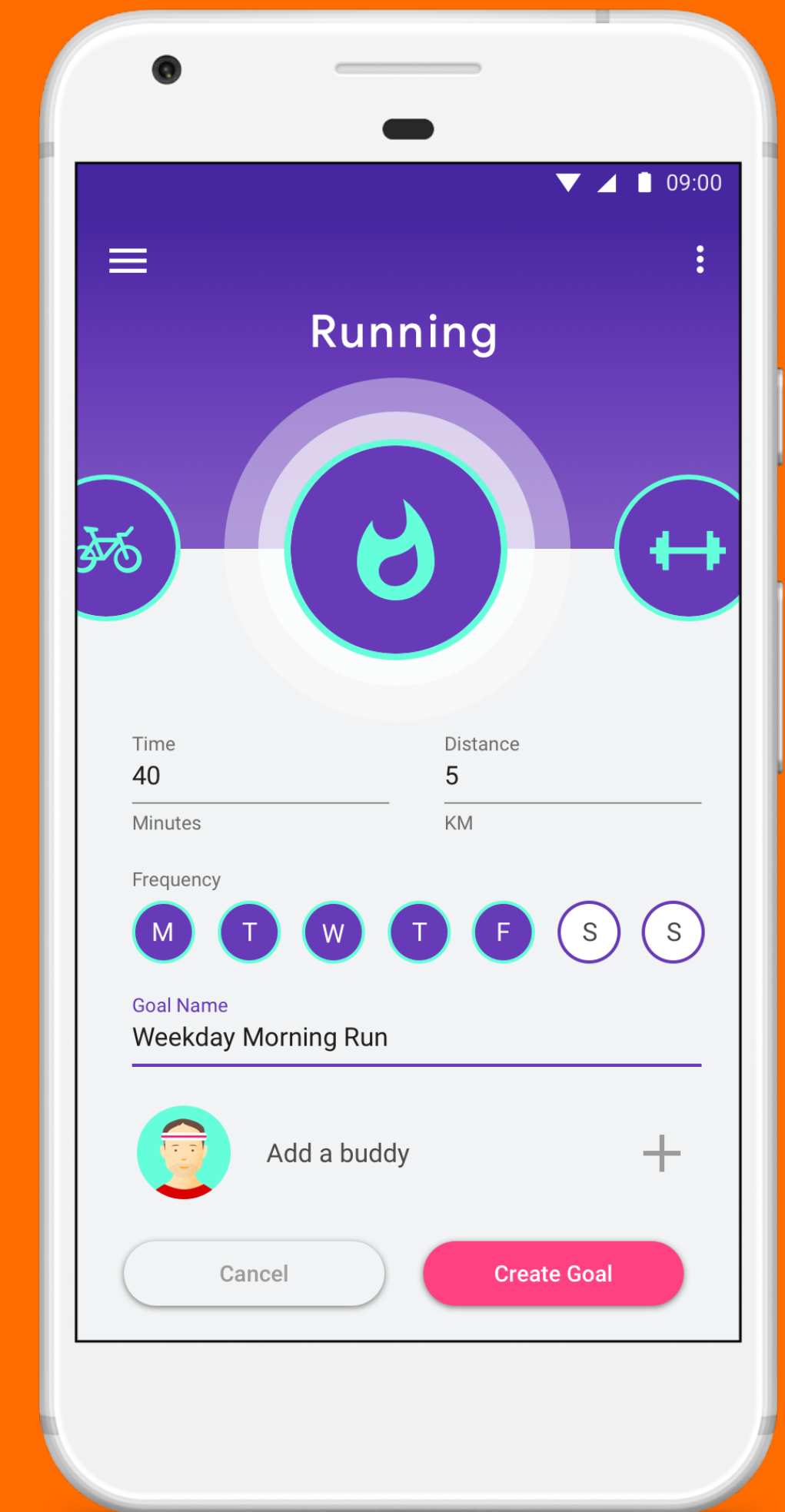
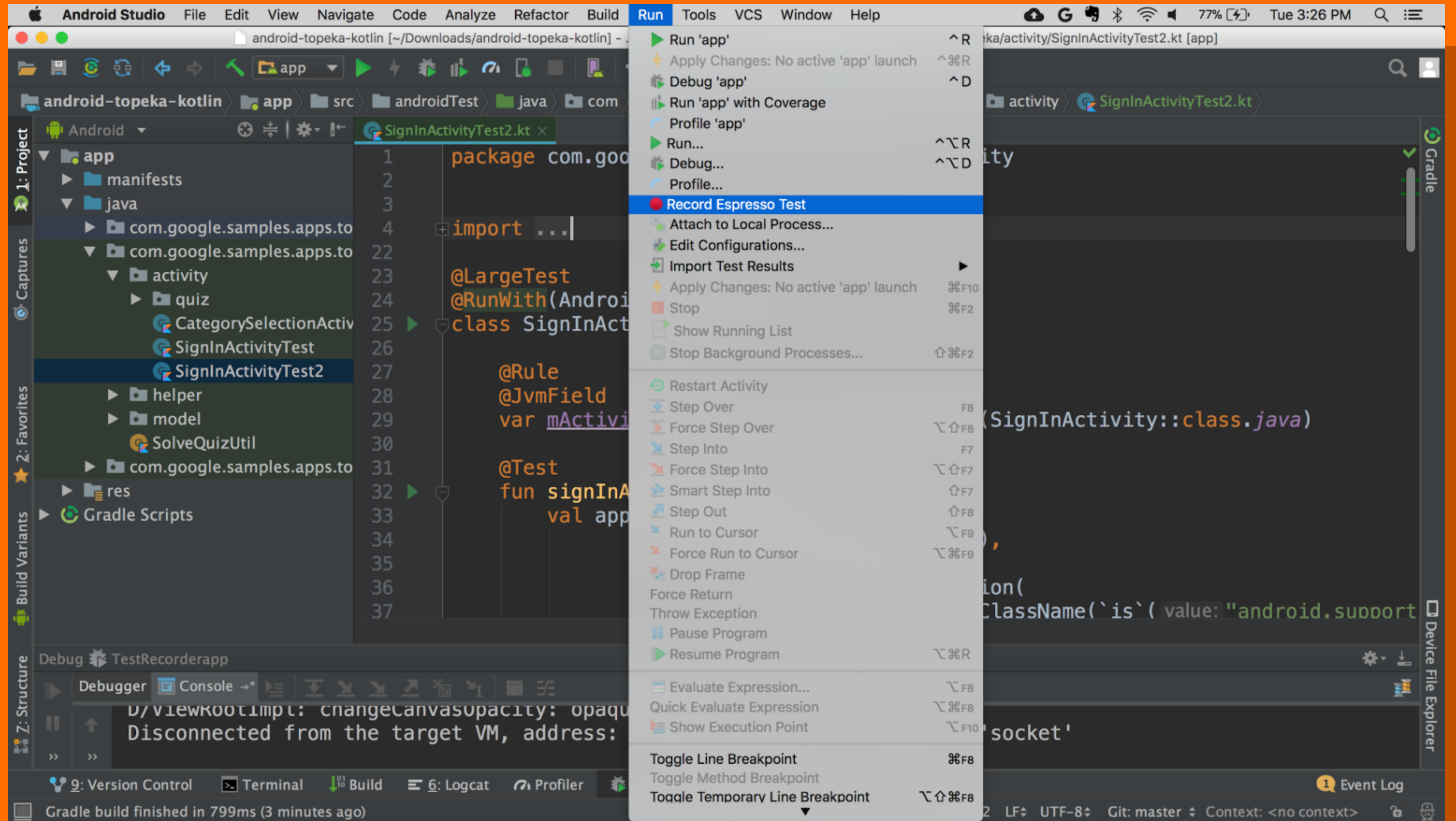
Demo Loops





Instrumentation Tests

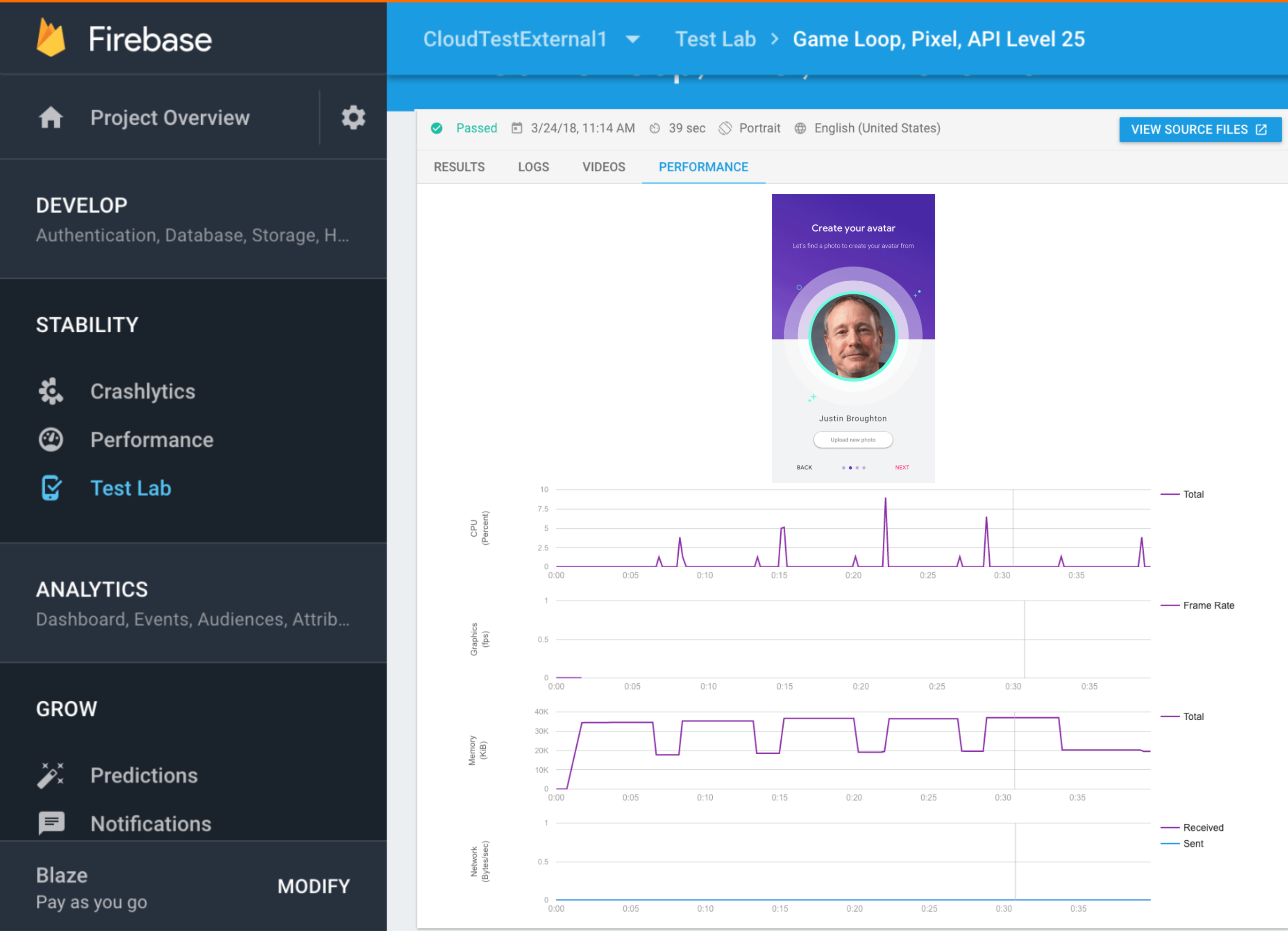




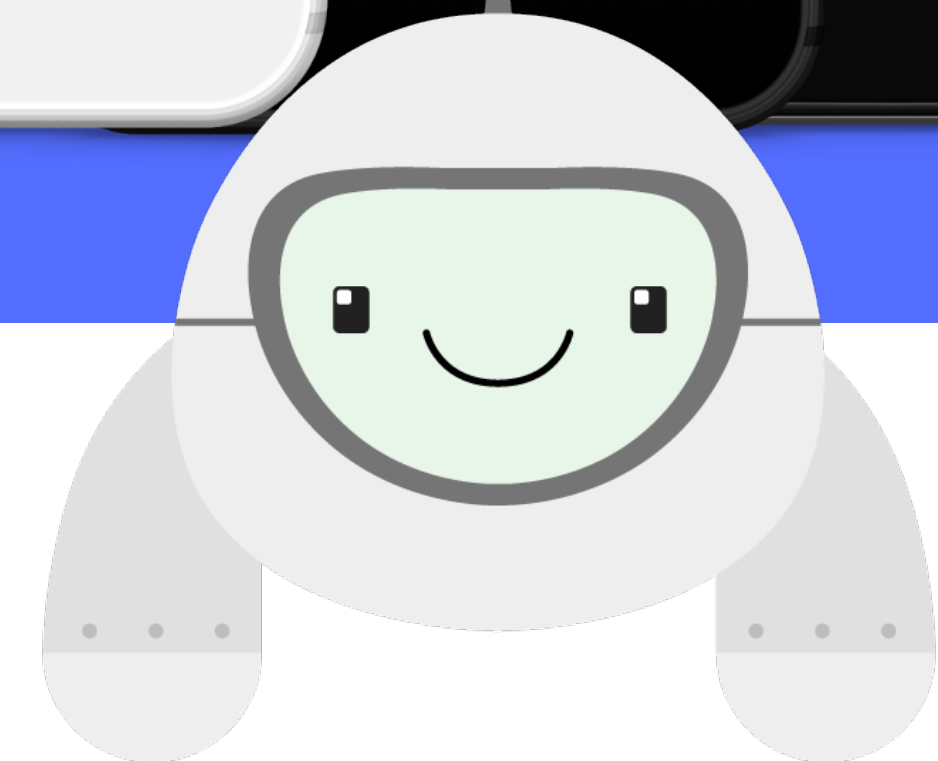
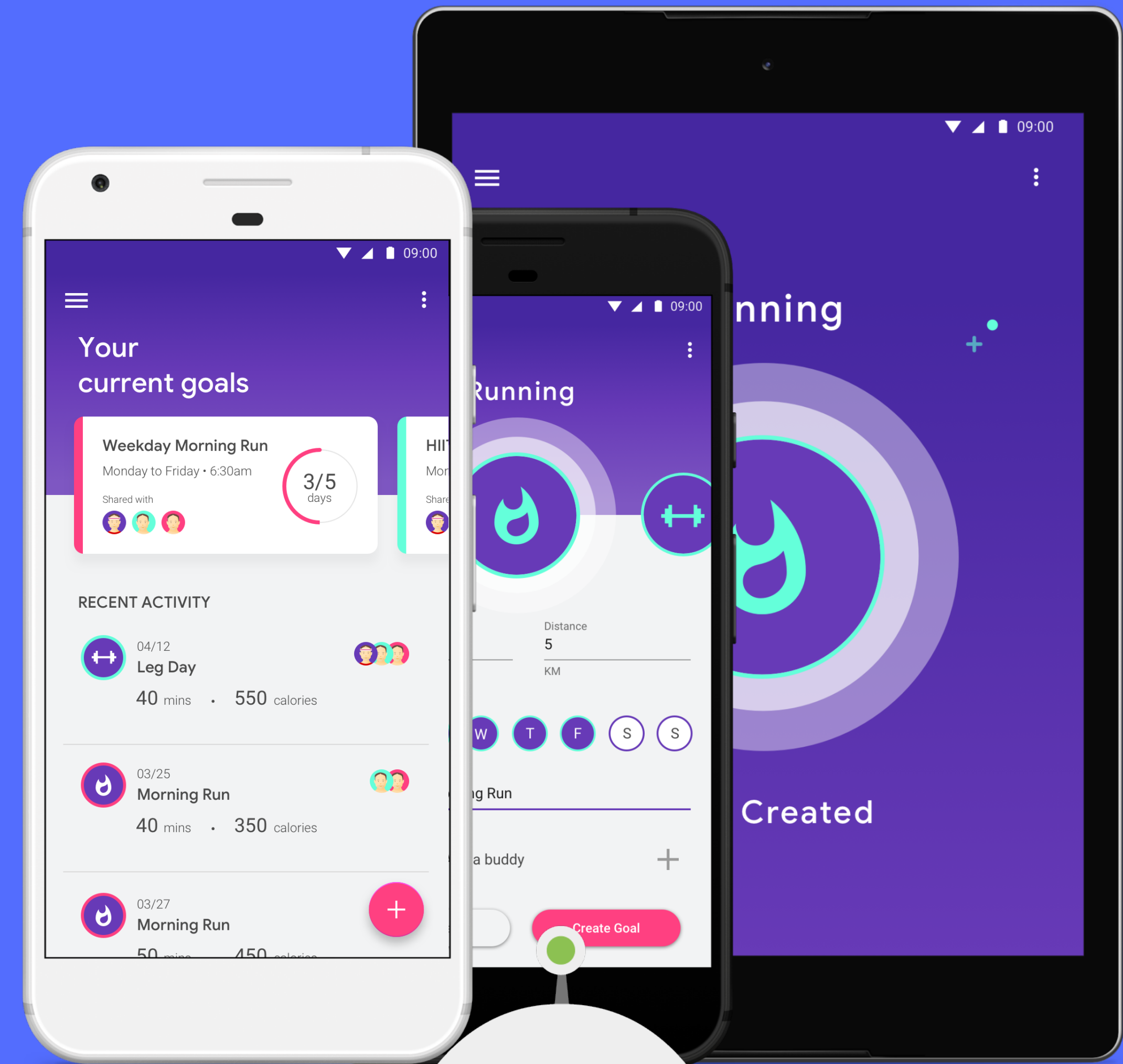
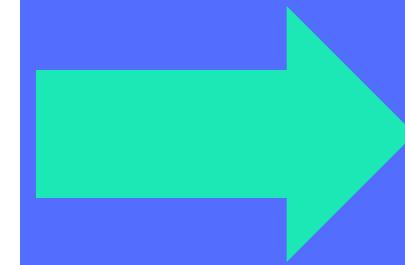
Espresso Test Recorder



Firestore Test Lab



Comprehensive Test Results



Summary

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