@ROBWALKERCO

ROB WALKER HE/HIM

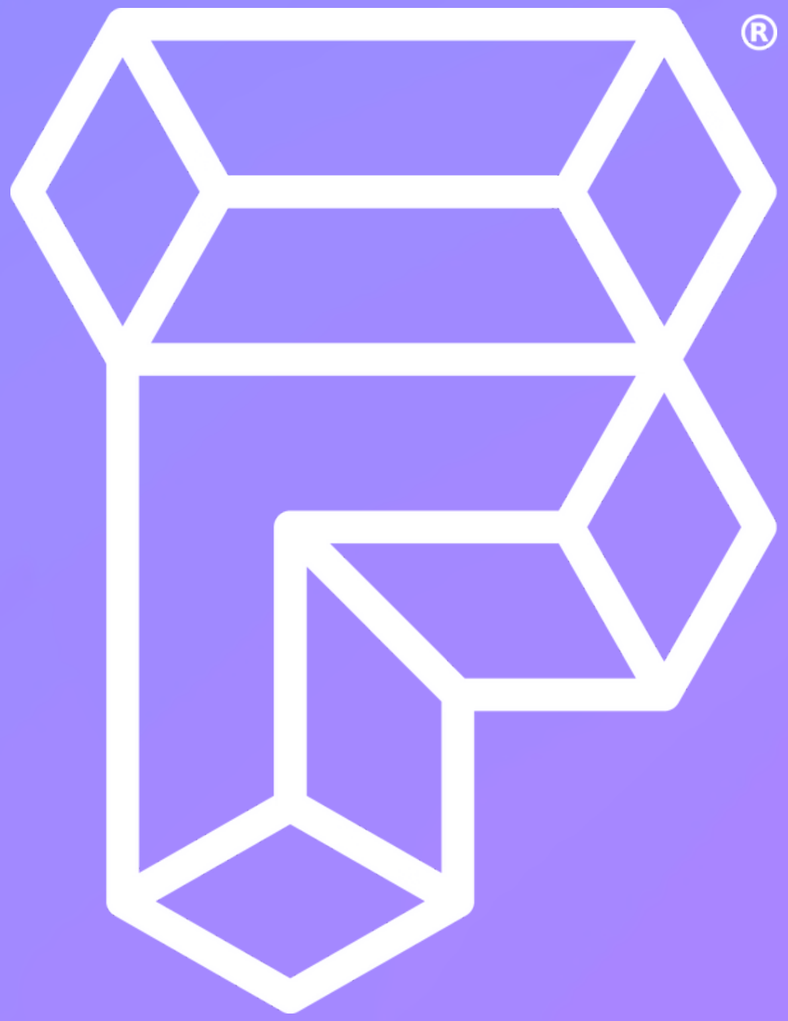
SENIOR SOFTWARE ENGINEER @ FORMIDABLE

Try Pitch

@ROBWALKERCO

VISUAL REGRESSION TESTING IN REACT NATIVE

bit.ly/rn-vrt



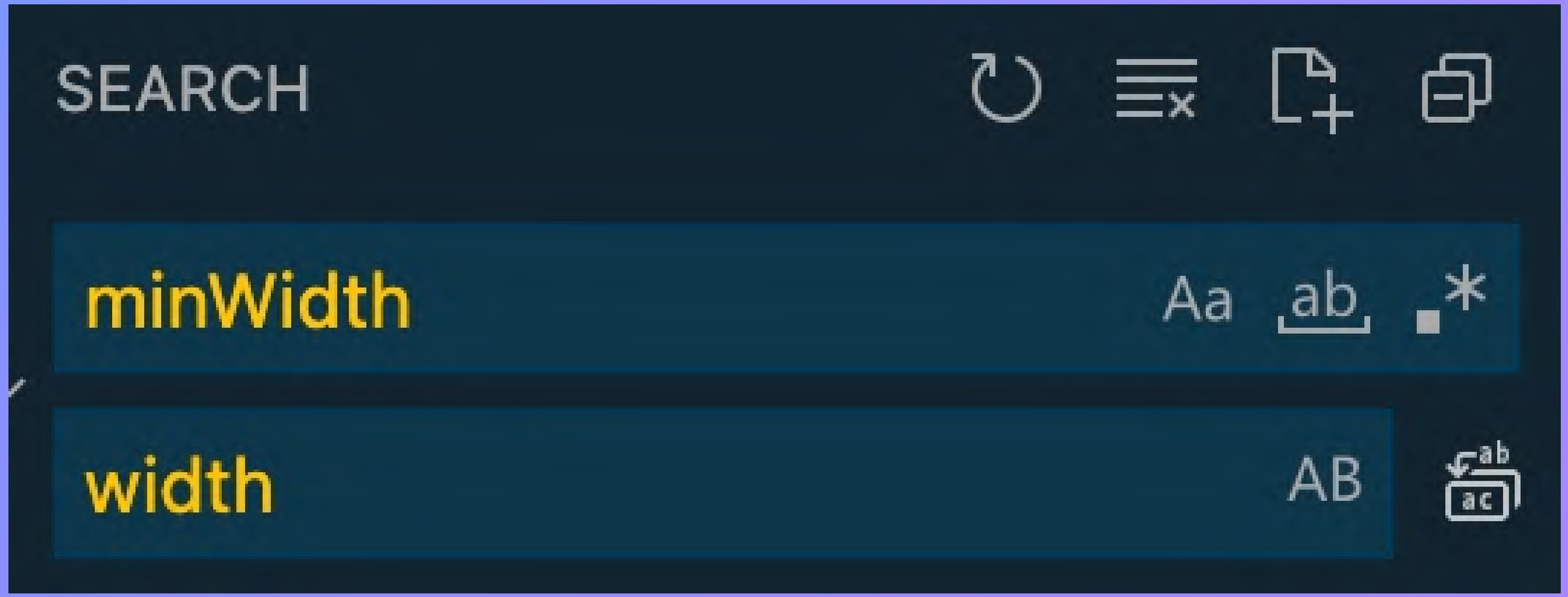
Try Pitch

GRAND TOTAL £82.99

CHECKOUT

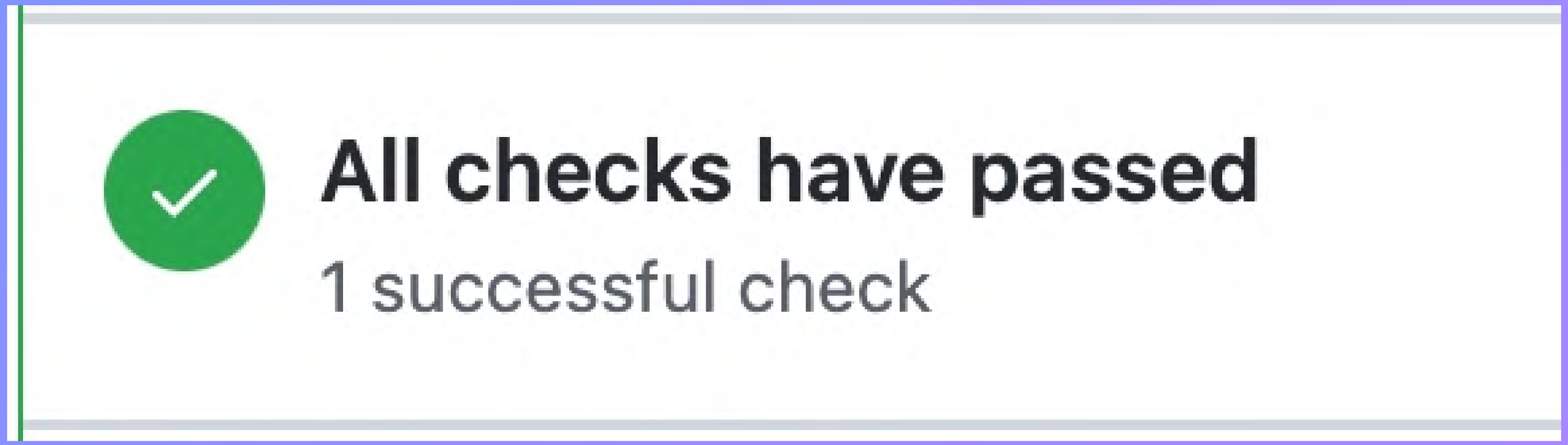
Try Pitch

@ROBWALKERCO



Try Pitch

@ROBWALKERCO



Try Pitch

@ROBWALKERCO

Try Pitch

@ROBWALKERCO

Try Pitch

@ROBWALKERCO

GRAN £82.9

D 9

TOTAL

CH

ECK

Try Pitch

@ROBWALKERCO

VISUAL REGRESSION TESTING

Try Pitch

@ROBWALKERCO

VISUAL

- Layout
- Styles
- Colours
- Images
- Text
- Flows

Try Pitch

@ROBWALKERCO

VISUAL

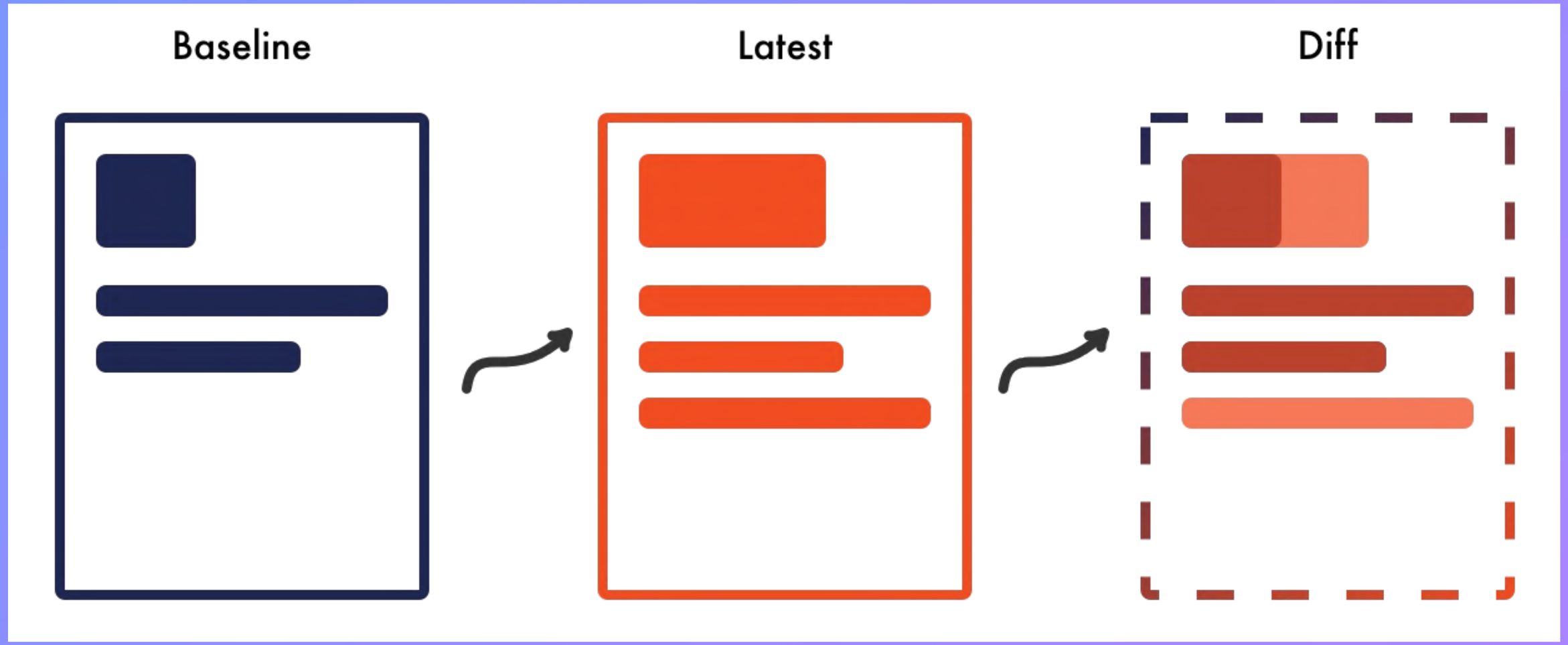
- Layout
- Styles
- Colours
- Images
- Text
- Flow

REGRESSION TESTING

- Accidental changes
- Unexpected changes
- Broken flow

Try Pitch

@ROBWALKERCO



Try Pitch

SO, HOW DO WE PREVENT ISSUES?

Manual testing

- Great for exploratory testing
- Very flexible
- Can be outsourced

Try Pitch

SO, HOW DO WE PREVENT ISSUES?

Manual testing

- Easy to miss things
- Time-consuming
- Hard to catch small changes

Try Pitch

SO, HOW DO WE PREVENT ISSUES?

Manual testing

Jest snapshot tests

@ROBWALKERCO

- Fast to implement
- Fast to run
- Runs on CI

Try Pitch

SO, HOW DO WE PREVENT ISSUES?

Manual testing

Jest snapshot tests

- Only tests in isolation
- Does not test flow
- Only comparing JSX

Try Pitch

SO, HOW DO WE PREVENT ISSUES?

Manual testing

Jest snapshot tests

Visual regression tests

- Tests entire UI
- Checks multi-step flows
- Runs on CI

Try Pitch

SO, HOW DO WE PREVENT ISSUES?

Manual testing

Jest snapshot tests

Visual regression tests

- Can be difficult to setup
- Slower to run
- Potentially flakey

Try Pitch

Manual testing

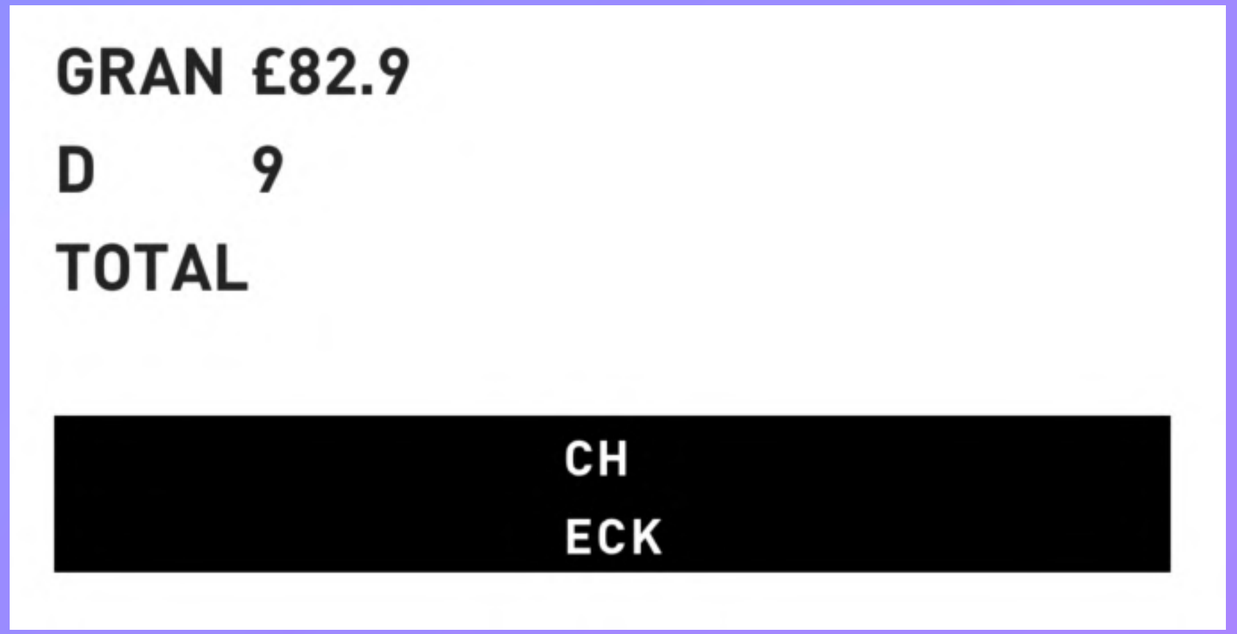
✓

Jest snapshot tests

✓

Visual regression tests

✓



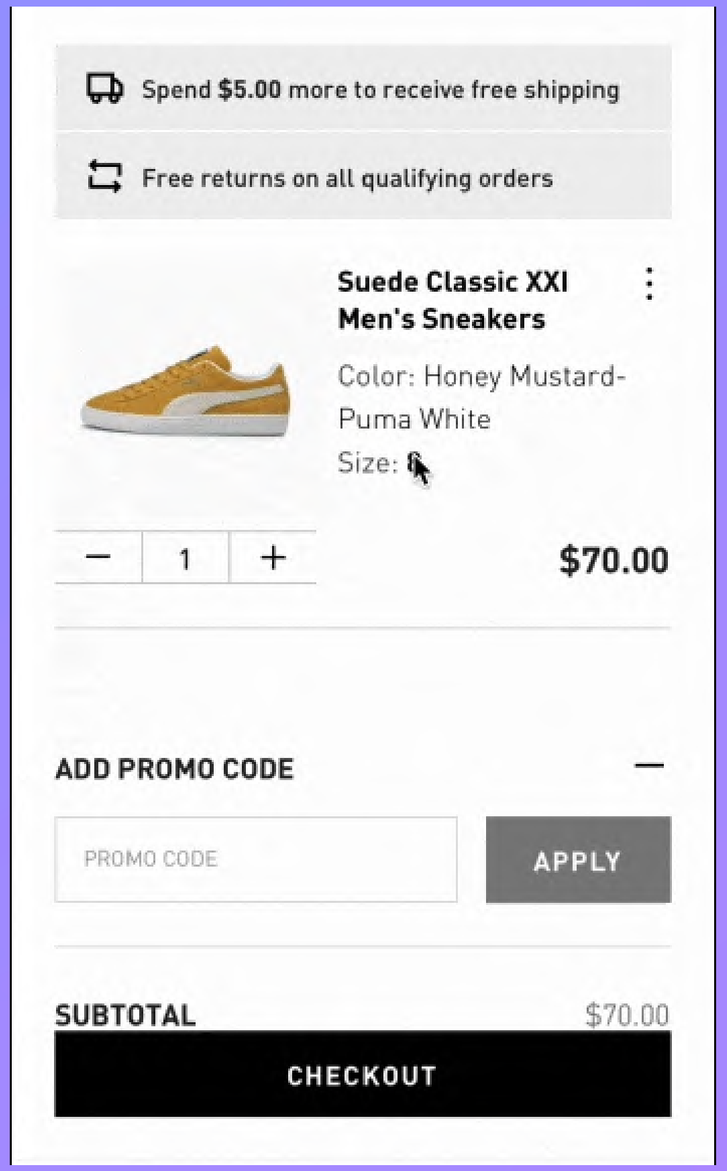
Try Pitch

@ROBWALKERCO

Manual testing

Jest snapshot tests

Visual regression tests



Try Pitch

Manual testing

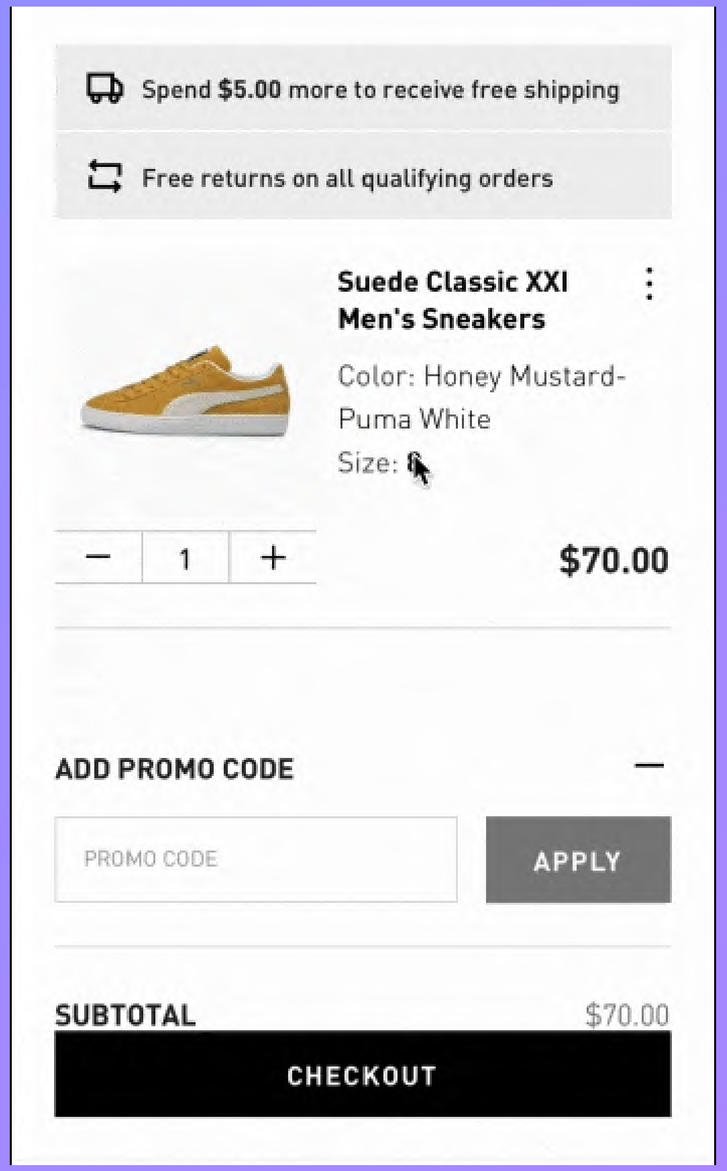
❗

Jest snapshot tests

❗

Visual regression tests

✅



Try Pitch

@ROBWALKERCO

REACT NATIVE OWL

VISUAL REGRESSION TESTING FOR REACT NATIVE

Try Pitch

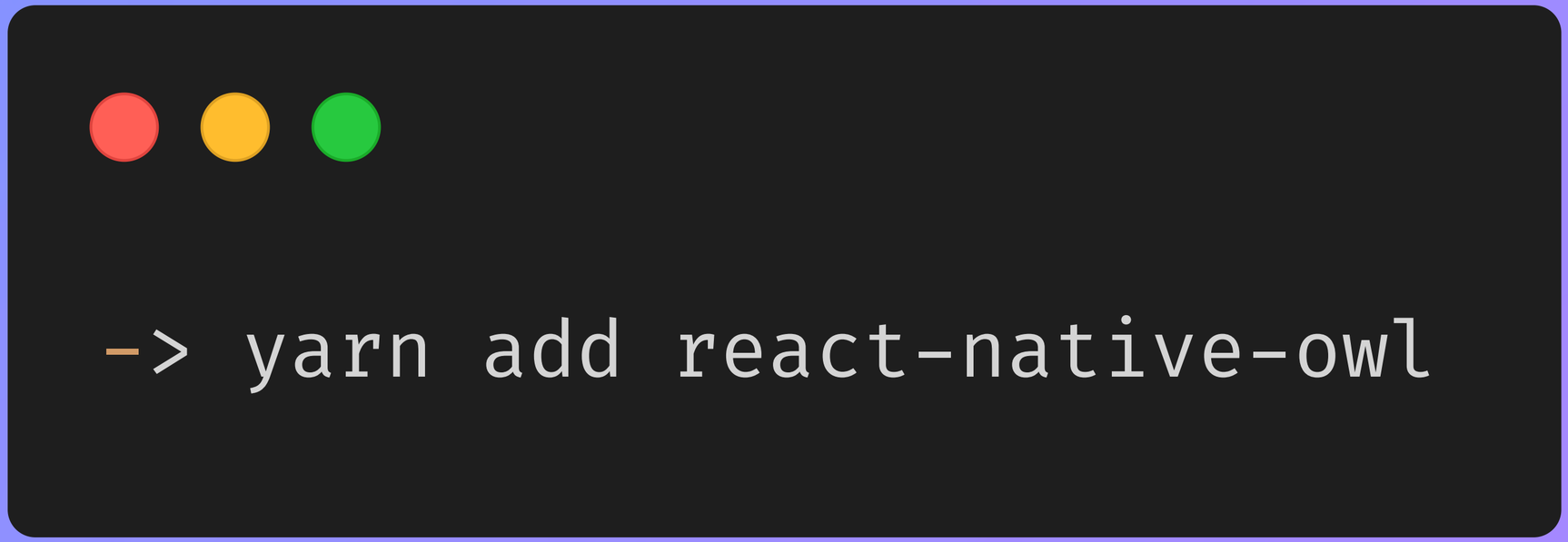
- CLI to build and run
- Jest matcher
- Interaction API
- Report generator

@ROBWALKERCO

REACT NATIVE OWL

VISUAL REGRESSION TESTING FOR REACT NATIVE

Try Pitch



Try Pitch

```
{
  "ios": {
    "workspace": "ios/OwlDemo.xcworkspace",
    "scheme": "OwlDemo",
    "configuration": "Release",
    "device": "iPhone 13"
  },
  "android": {
    "packageName": "com.owldemo"
  }
}
```

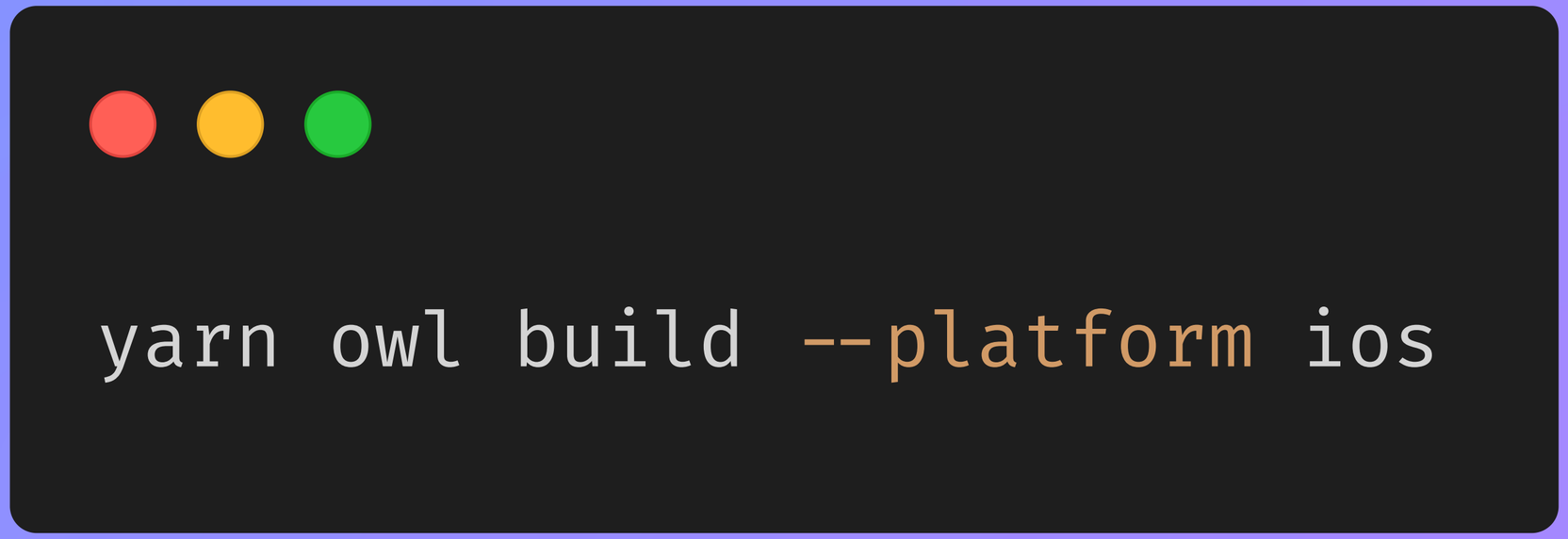
Try Pitch

```
it("presses continue button", async () ⇒ {
  await press("next-screen-button")
  const screen = await takeScreenshot("demo-screen")

  expect(screen).toMatchBaseline()
})
```

Try Pitch

```
import { press, scrollToEnd, takeScreenshot } from "react-native-owl"

describe("App", () => {
  it("takes a screenshot of the welcome screen", async () => {
    const screen = await takeScreenshot("welcome-screen")

    expect(screen).toMatchBaseline()
  })

  it("presses continue button", async () => {
    await press("next-screen-button")
    const screen = await takeScreenshot("demo-screen")

    expect(screen).toMatchBaseline()
  })

  it("presses list button", async () => {
    await press("demo-screen-button")
    const screen = await takeScreenshot("demo-list-screen")

    expect(screen).toMatchBaseline()
  })

  it("scrolls to the end of the screen", async () => {
    await scrollToEnd("demo-list")
    const screen = await takeScreenshot("demo-list-scrolled")

    expect(screen).toMatchBaseline()
  })
})
```

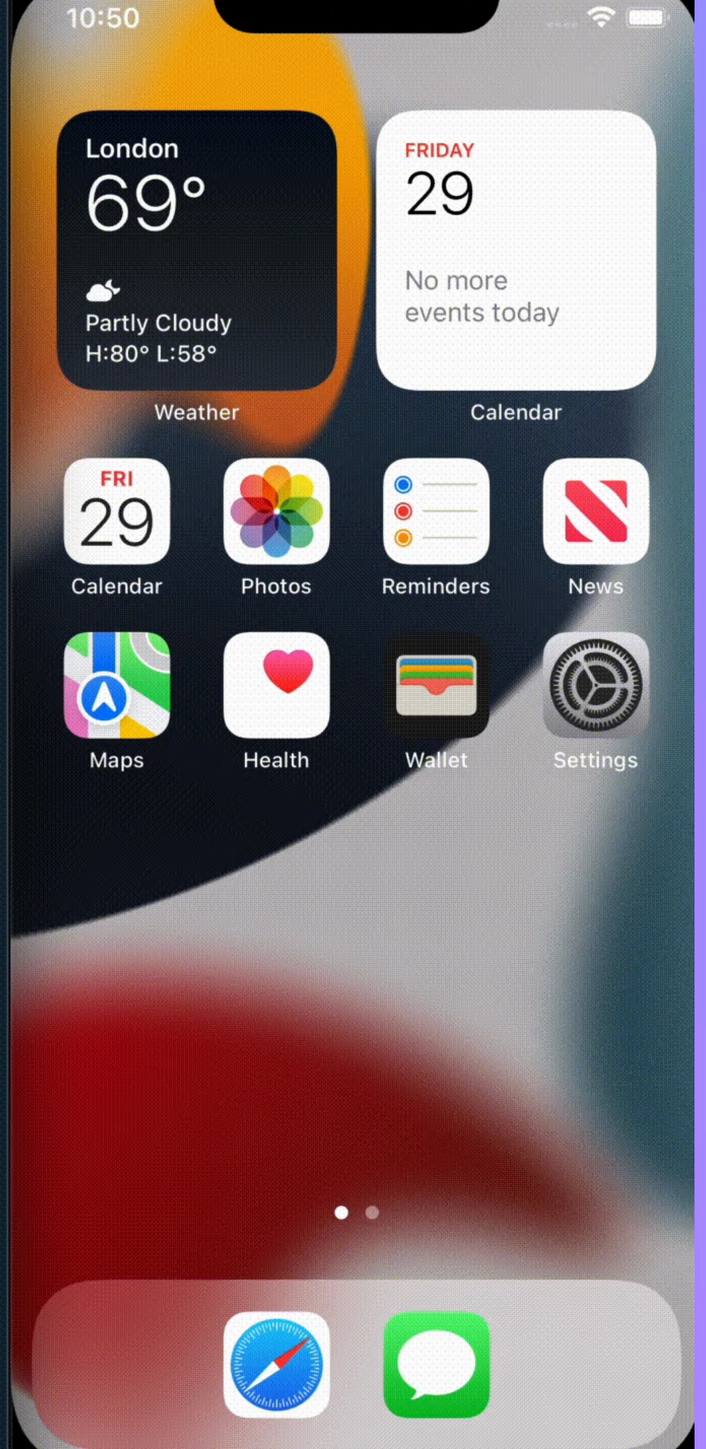
Try Pitch



Try Pitch

Try Pitch

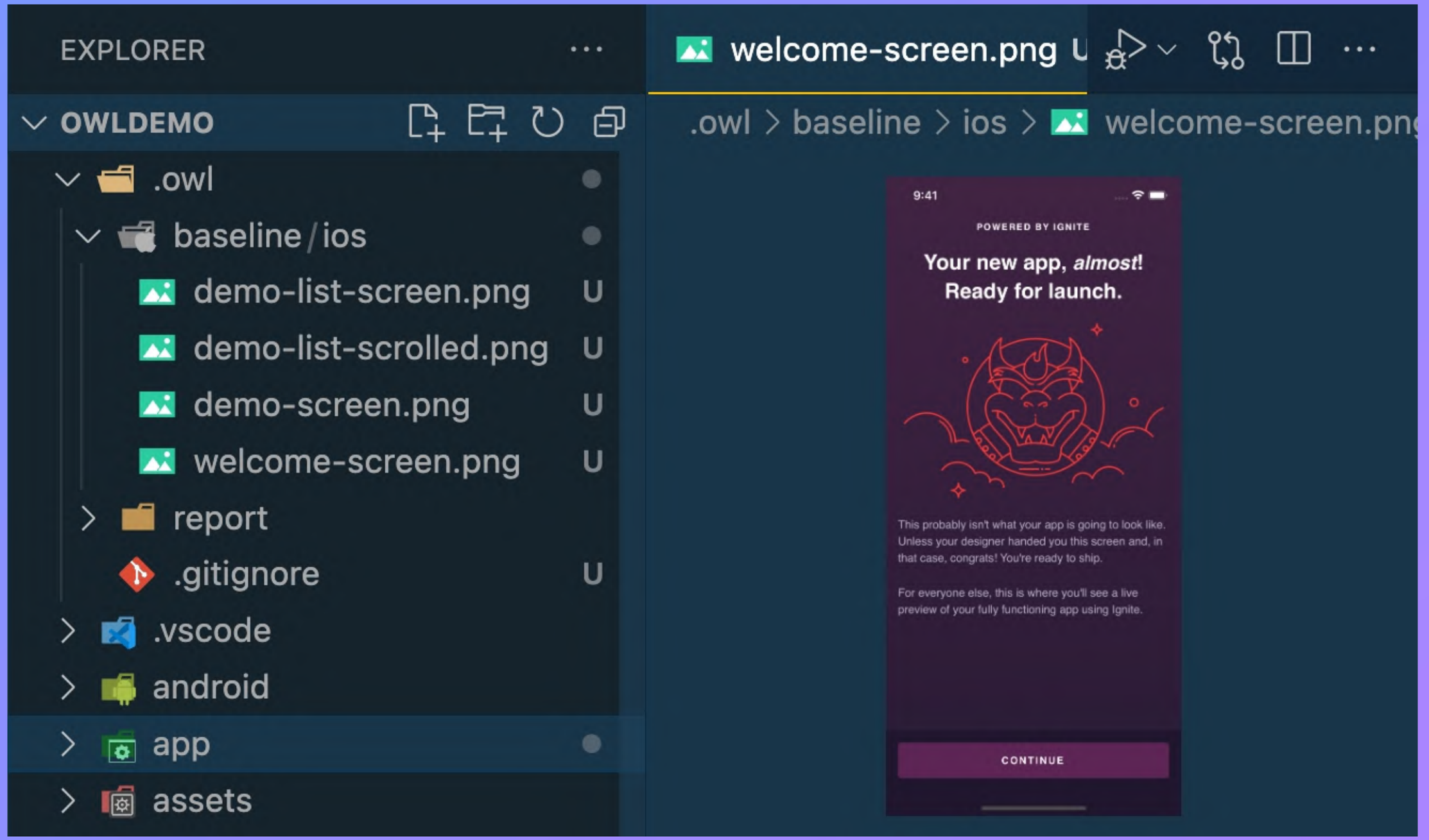
```
➜  OwlDemo git:(main) ✗ yarn owl test --platform ios
```



Try Pitch

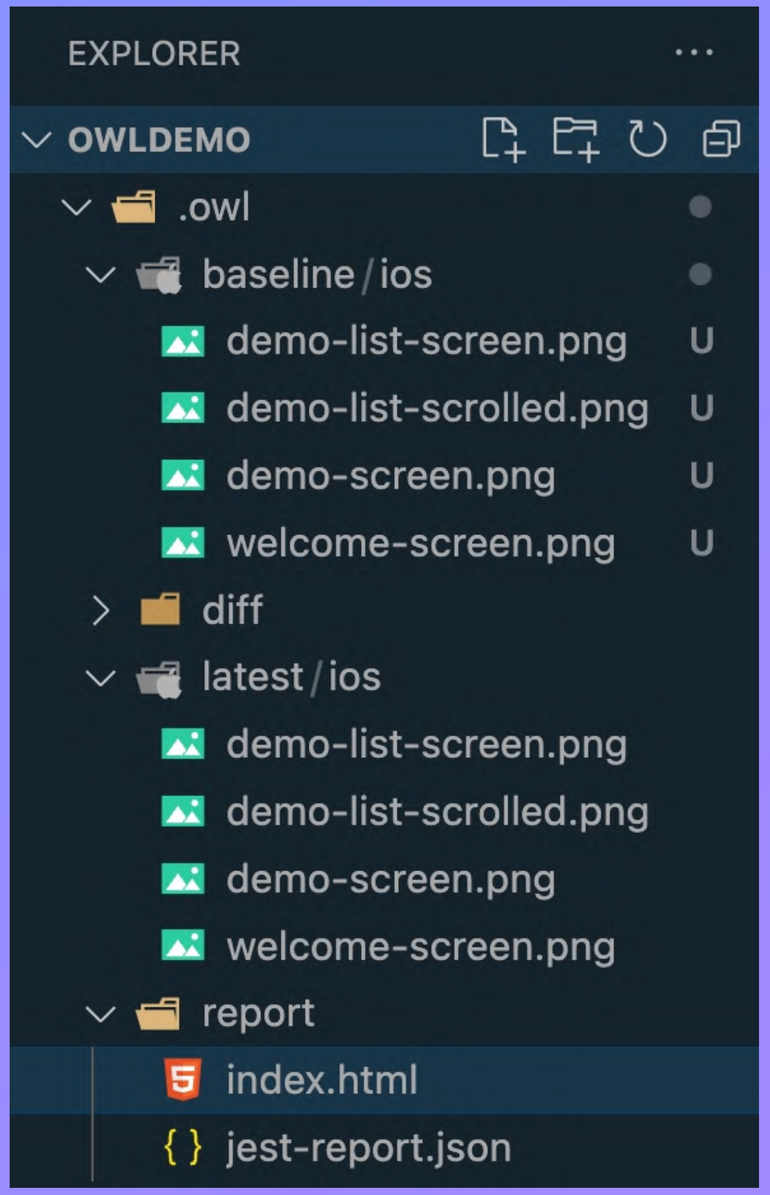
```
  console.log
    [OWL - CLI] demo-list-screen.png baseline screenshot created.

      at Logger.Object.<anonymous>.Logger.print (logger.js:54:21)

  console.log
    [OWL - CLI] demo-list-scrolled.png baseline screenshot created.

      at Logger.Object.<anonymous>.Logger.print (logger.js:54:21)

 PASS  app/app.owl.tsx (5.757 s)
  App
    ✓ takes a screenshot of the welcome screen (180 ms)
    ✓ presses continue button (1773 ms)
    ✓ presses list button (1775 ms)
    ✓ scrolls to the end of the screen (1736 ms)

Test Suites: 1 passed, 1 total
Tests:       4 passed, 4 total
Snapshots:   0 total
Time:        6.04 s
Ran all test suites.
Test results written to: .owl/report/jest-report.json
[OWL - CLI] Report was built at /Users/robwalker/Code/OwlDemo/.owl/
report/index.html
[OWL - CLI] Restored status bar time
[OWL - CLI] Tests completed on ios.
✨  Done in 9.87s.
```

Try Pitch


EXPLORER
welcome-screen.png U
OWLDEMO
.owl > baseline > ios > welcome-screen.png
.owl
baseline / ios
demo-list-screen.png U
demo-list-scrolled.png U
demo-screen.png U
welcome-screen.png U
report
.gitignore U
.vscode
android
app
assets
9:41
POWERED BY IGNITE
Your new app, almost!
Ready for launch.
This probably isn't what your app is going to look like. Unless your designer handed you this screen and, in that case, congrats! You're ready to ship.
For everyone else, this is where you'll see a live preview of your fully functioning app using Ignite.
CONTINUE

Try Pitch

Try Pitch


EXPLORER
OWLDEMO
.owl
baseline / ios
demo-list-screen.png U
demo-list-scrolled.png U
demo-screen.png U
welcome-screen.png U
diff
latest / ios
demo-list-screen.png
demo-list-scrolled.png
demo-screen.png
welcome-screen.png
report
index.html
jest-report.json

Try Pitch

Report PASSED

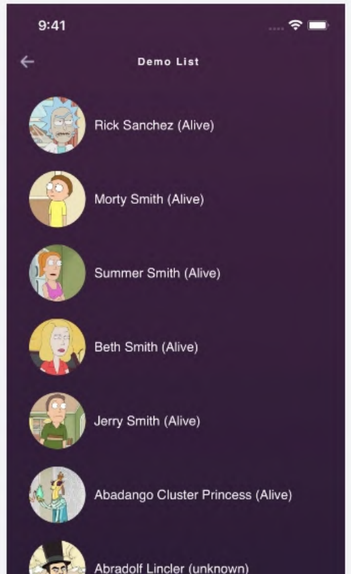
Stats

Total Test Suites: 1
Failed Test Suites: 0
Passed Test Suites: 1
Duration: 15.57 seconds
Total Tests: 4
Failed Tests: 0
Passed Tests: 4
Status: Passed

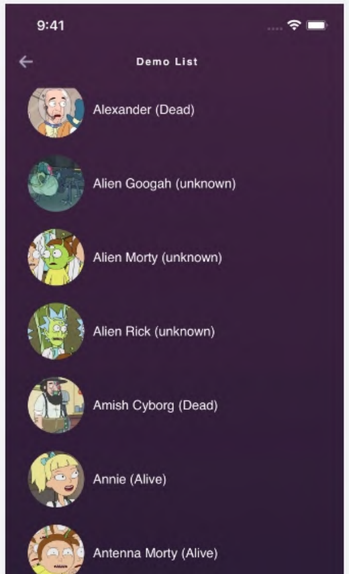
Generated on Fri, 29 Jul 2022 21:57:08 GMT.

Passing Screenshots - 4

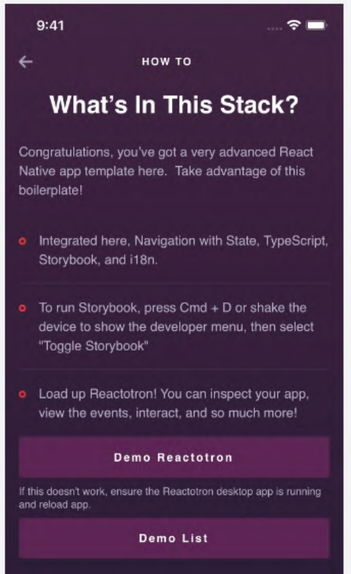
demo-list-screen.p…



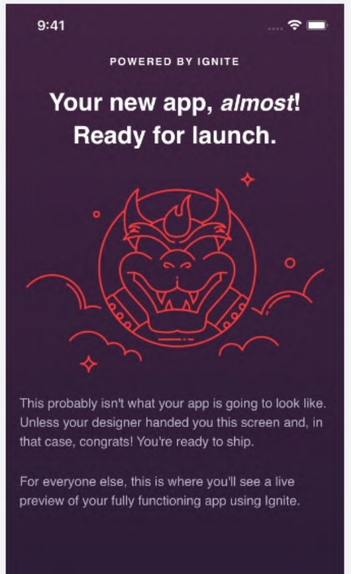
demo-list-scrolled…



demo-screen.png



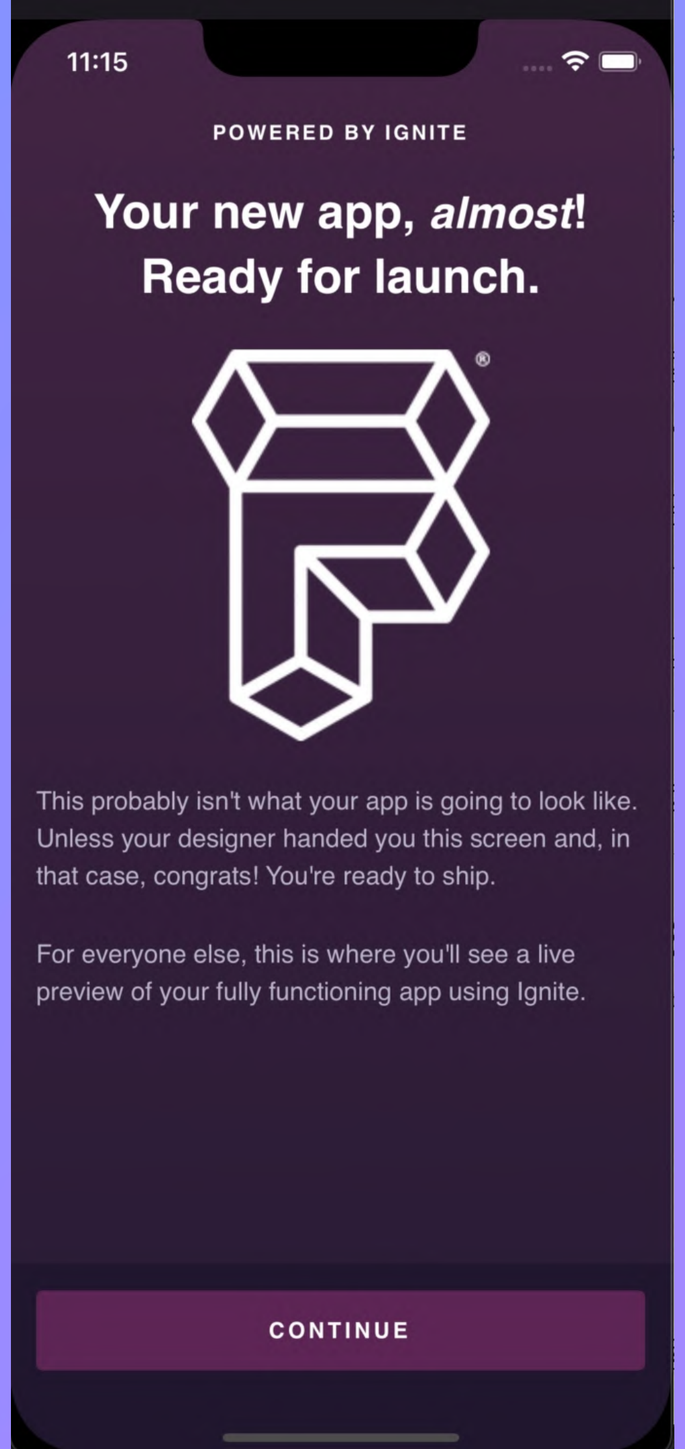
welcome-screen.png



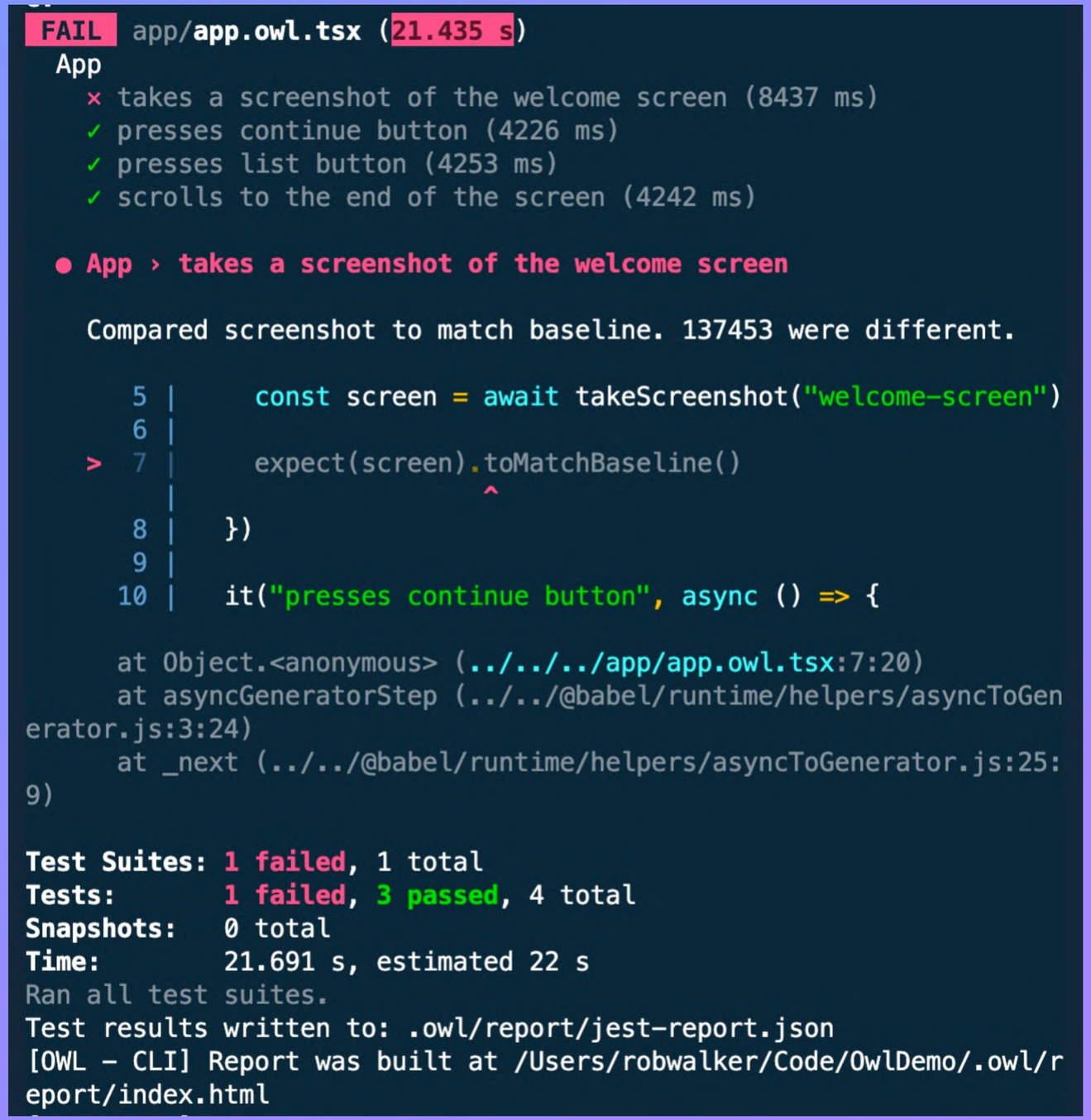
Try Pitch

@ROBWALKERCO

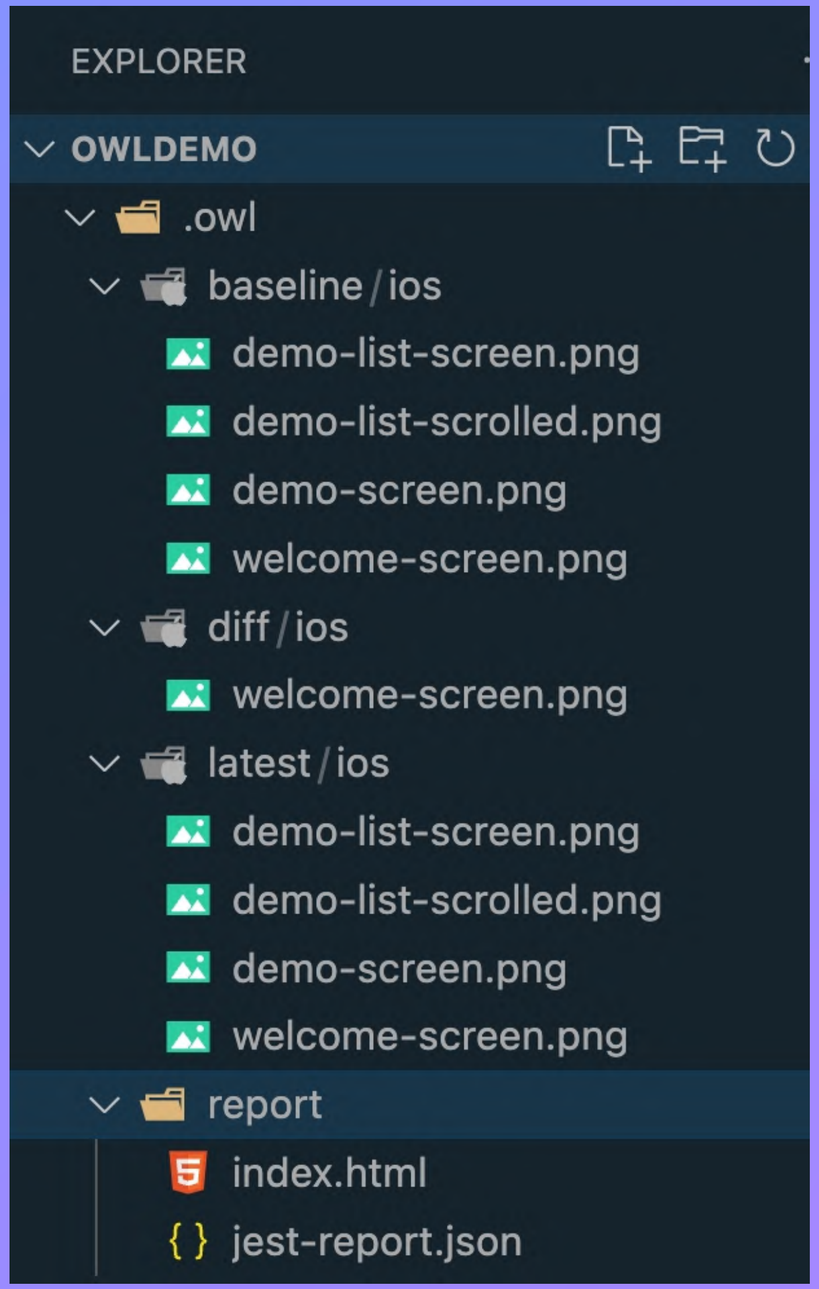
Try Pitch


11:15
POWERED BY IGNITE
Your new app, *almost*!
Ready for launch.
This probably isn't what your app is going to look like. Unless your designer handed you this screen and, in that case, congrats! You're ready to ship.
For everyone else, this is where you'll see a live preview of your fully functioning app using Ignite.
CONTINUE

Try Pitch


FAIL app/app.owl.tsx (21.435 s)
App
× takes a screenshot of the welcome screen (8437 ms)
✓ presses continue button (4226 ms)
✓ presses list button (4253 ms)
✓ scrolls to the end of the screen (4242 ms)
● App › takes a screenshot of the welcome screen
Compared screenshot to match baseline. 137453 were different.
5 | const screen = await takeScreenshot("welcome-screen")
6 |
> 7 | expect(screen).toMatchBaseline()
| ^
8 | })
9 |
10 | it("presses continue button", async () => {
at Object.<anonymous> (../../../app/app.owl.tsx:7:20)
at asyncGeneratorStep (../../@babel/runtime/helpers/asyncToGenerator.js:3:24)
at _next (../../@babel/runtime/helpers/asyncToGenerator.js:25:9)
Test Suites: 1 failed, 1 total
Tests: 1 failed, 3 passed, 4 total
Snapshots: 0 total
Time: 21.691 s, estimated 22 s
Ran all test suites.
Test results written to: .owl/report/jest-report.json
[OWL - CLI] Report was built at /Users/robwalker/Code/OwlDemo/.owl/report/index.html

Try Pitch


EXPLORER
OWLDEMO
.owl
baseline / ios
demo-list-screen.png
demo-list-scrolled.png
demo-screen.png
welcome-screen.png
diff / ios
welcome-screen.png
latest / ios
demo-list-screen.png
demo-list-scrolled.png
demo-screen.png
welcome-screen.png
report
index.html
jest-report.json

Try Pitch

9:41

POWERED BY IGNITE

Your new app, *almost*! Ready for launch.

This probably isn't what your app is going to look like. Unless your designer handed you this screen and, in that case, congrats! You're ready to ship.

For everyone else, this is where you'll see a live preview of your fully functioning app using Ignite.

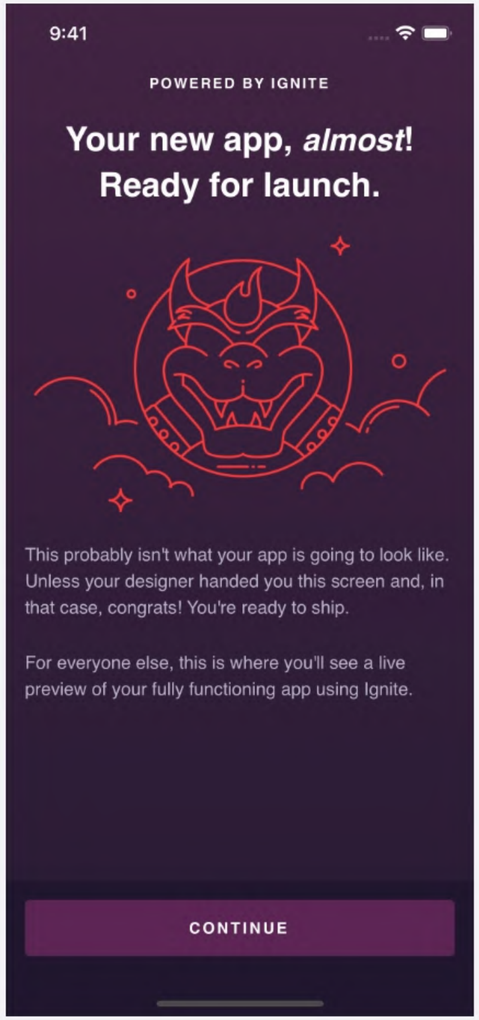
CONTINUE

Try Pitch

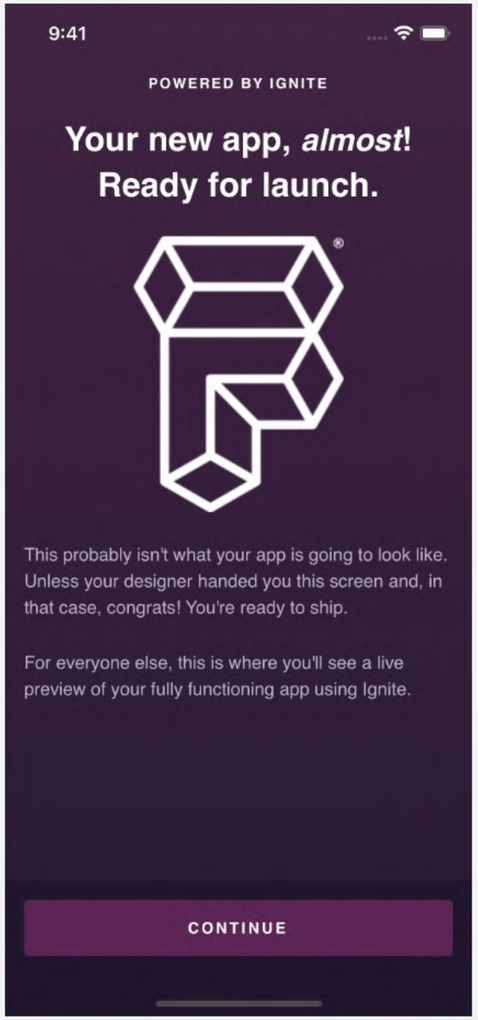
Failing Screenshots - 1

welcome-screen.png

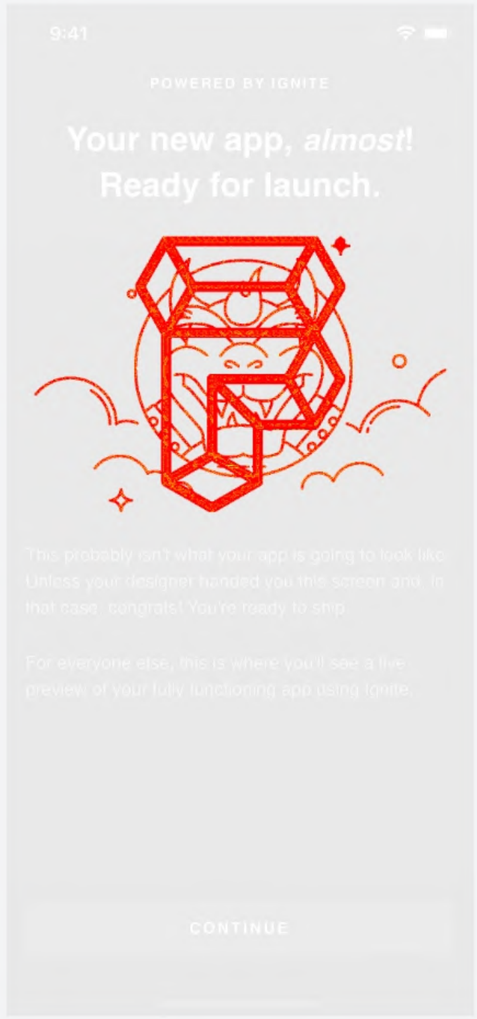
Baseline



Latest



Diff



Try Pitch

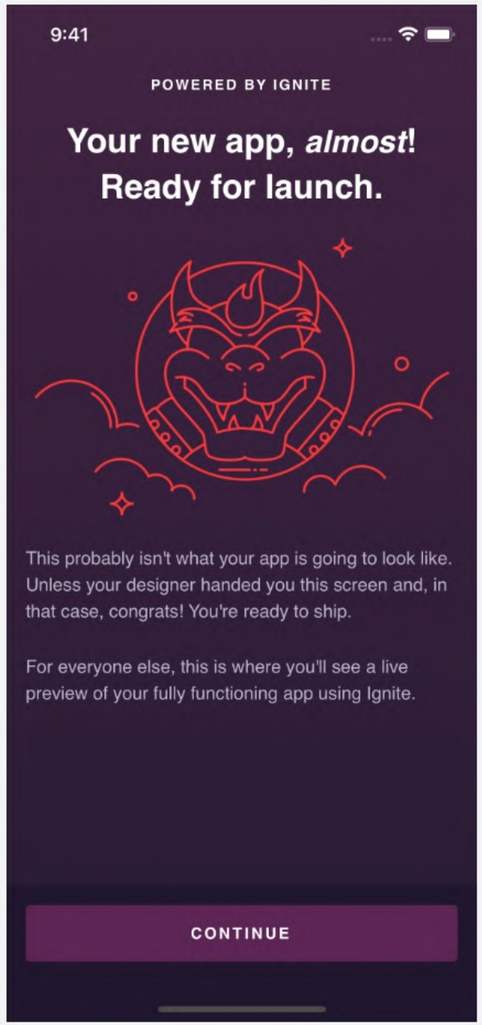
```
<Text style={CONTENT}>
  This probably isn't what your app is going to loo
  this screen and, in that case, congrats! You're r
  this screen and, in that case, congrats. You're r
</Text>
```

Try Pitch

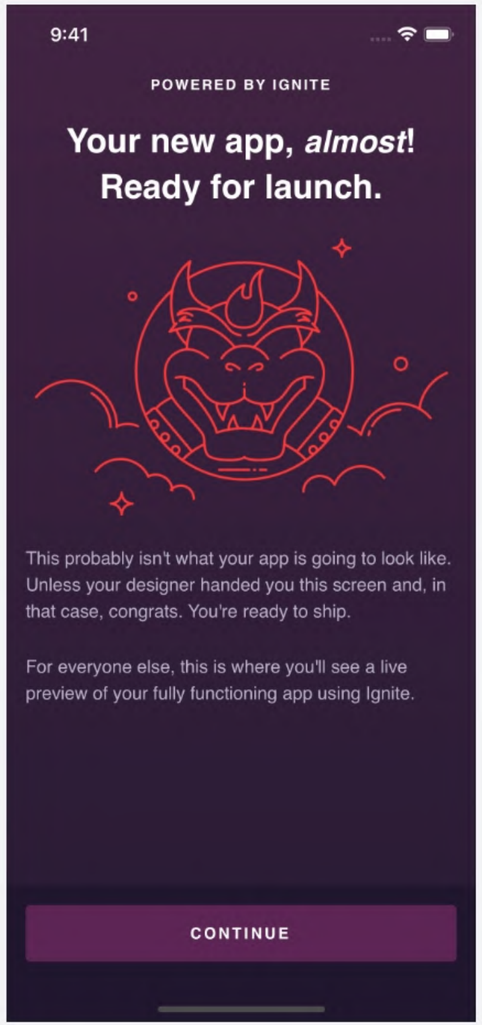
Failing Screenshots - 1

welcome-screen.png

Baseline



Latest



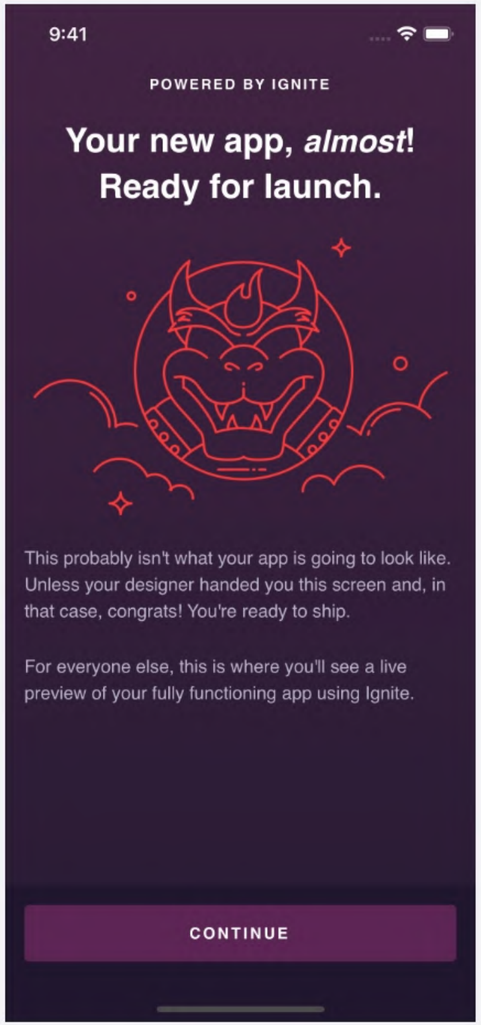
Diff

Try Pitch

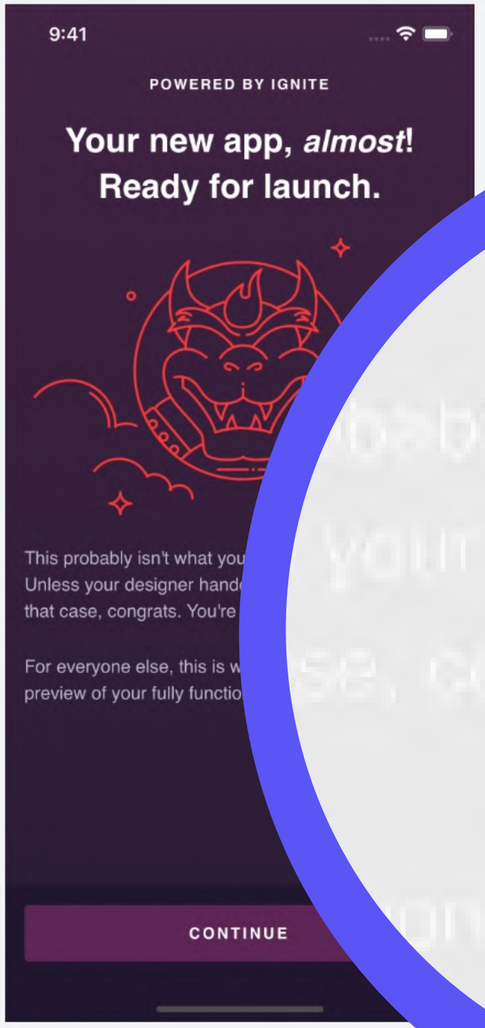
Failing Screenshots - 1

welcome-screen.png

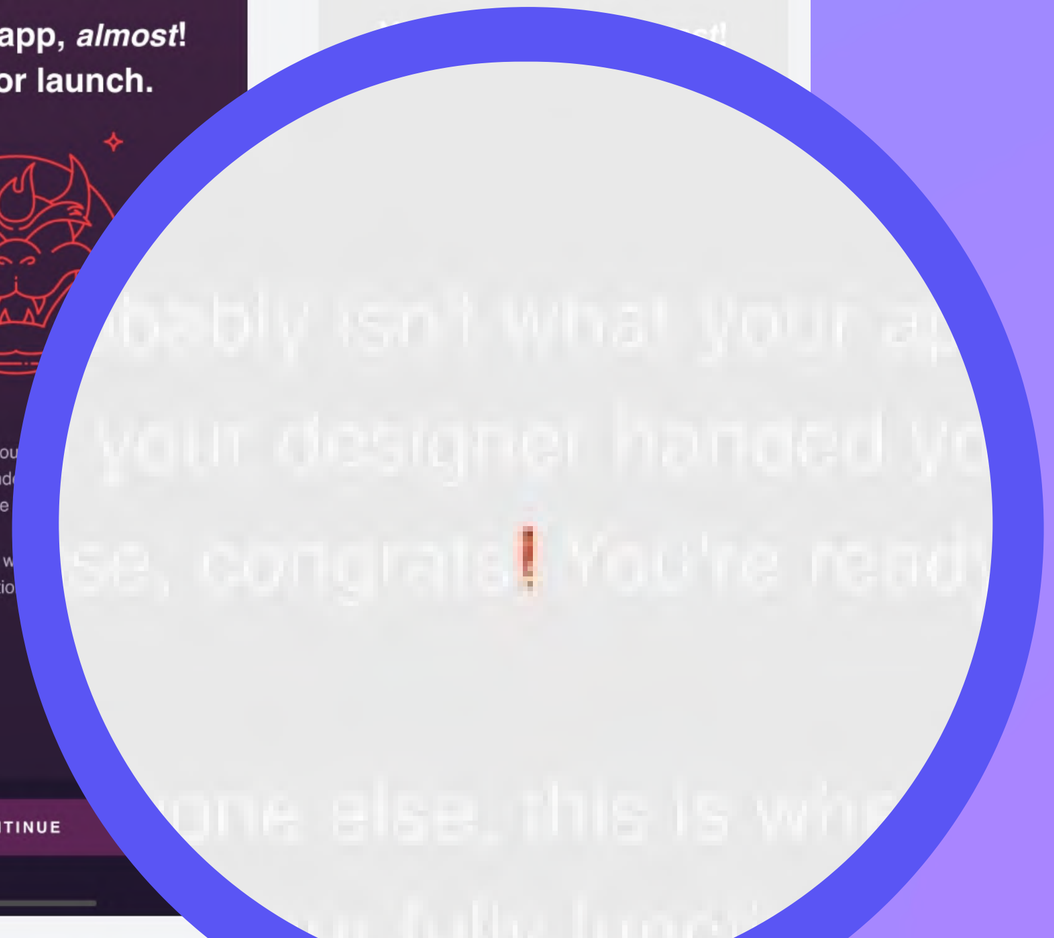
Baseline



Latest



Diff

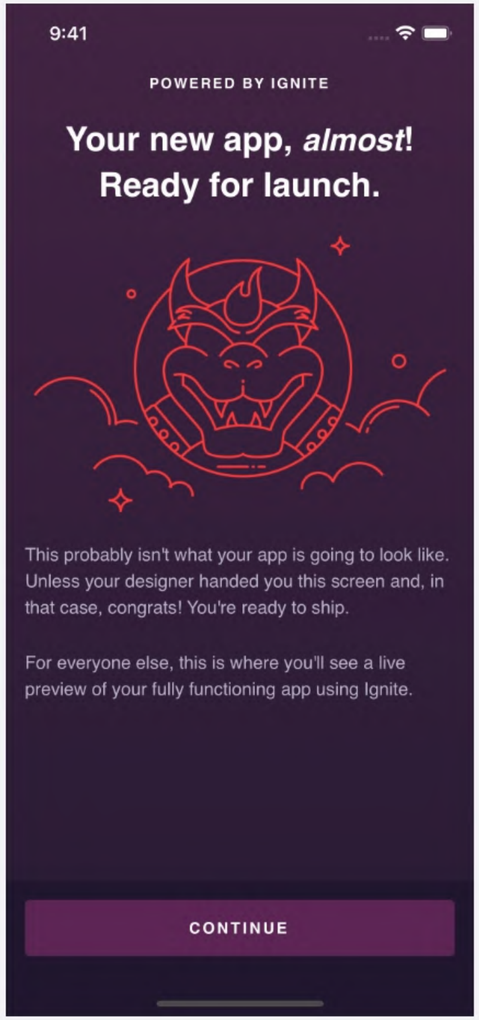


Try Pitch

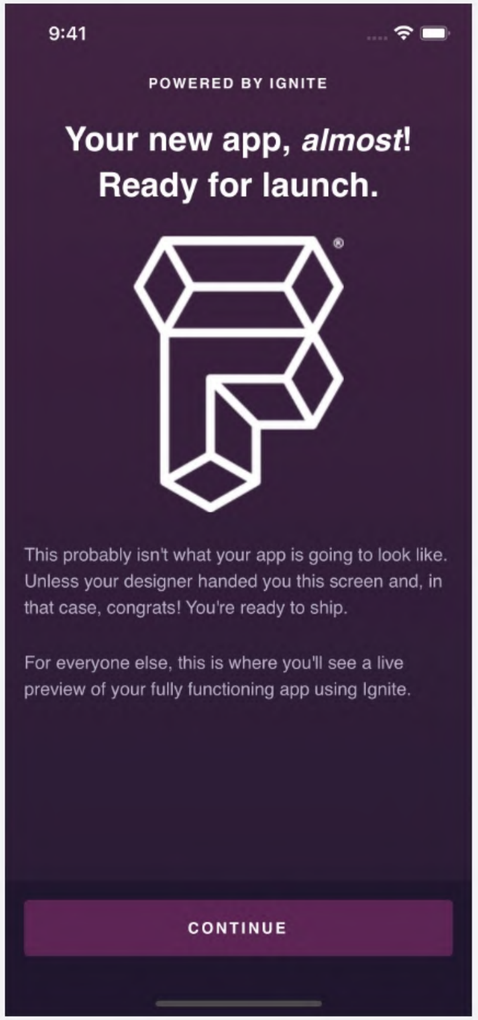
Failing Screenshots - 1

welcome-screen.png

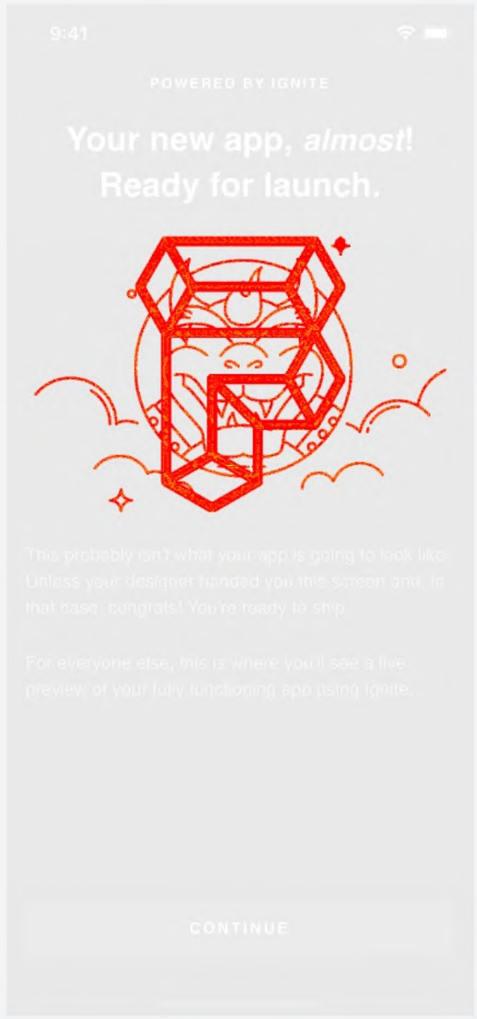
Baseline



Latest

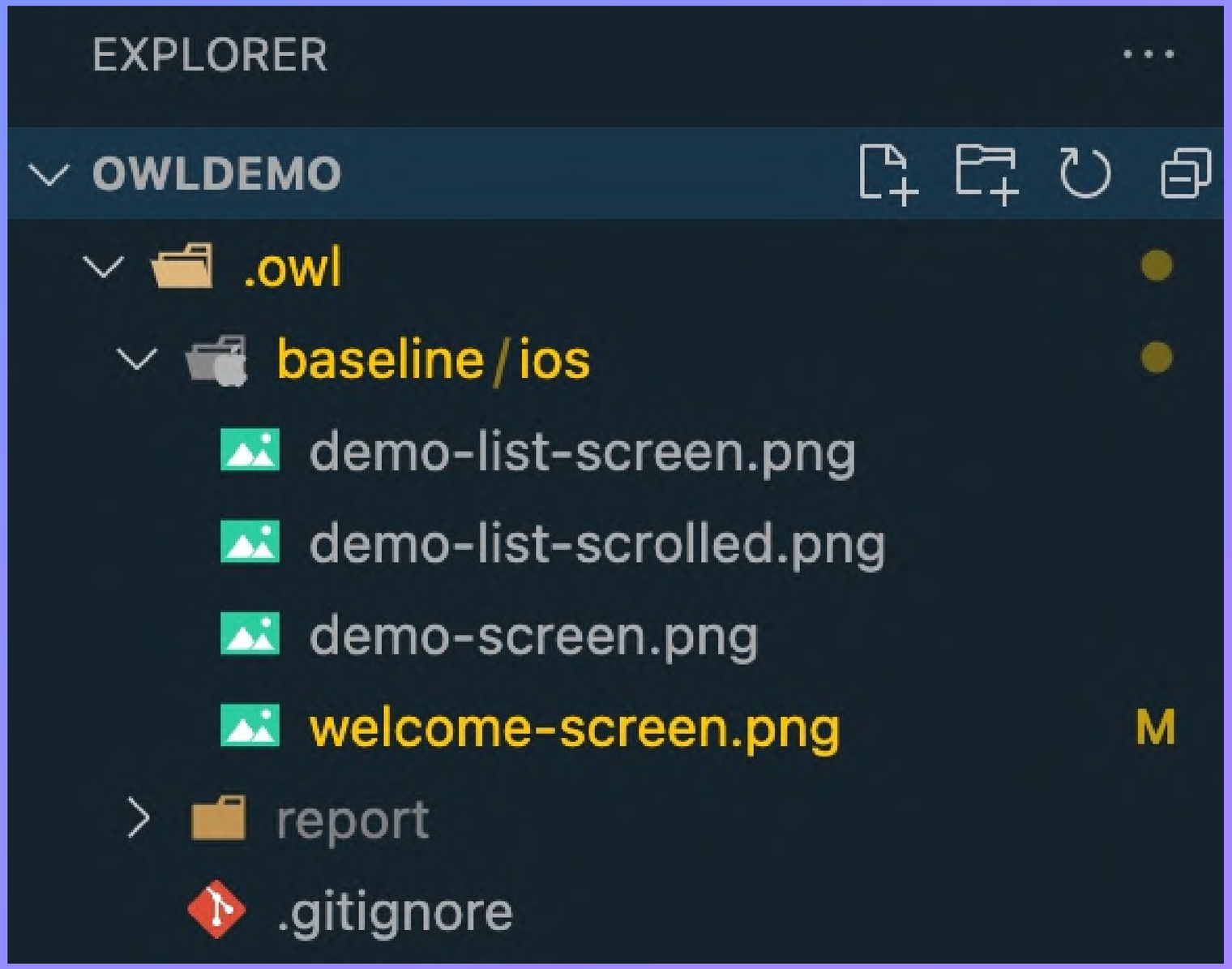


Diff



Try Pitch

Try Pitch


EXPLORER
OWLDEMO
.owl
baseline / ios
demo-list-screen.png
demo-list-scrolled.png
demo-screen.png
welcome-screen.png
M
report
.gitignore

Try Pitch

Some checks were not successful
1 failing and 1 successful checks
App / run-visual-regression (pull_request) Failing after 8m
Run Tests / run-unit-tests (push) Successful in 26s

Try Pitch

@ROBWALKERCO

BONUS FEATURE!

FOR FREE!

Try Pitch

Conversation 0 | Commits 1 | Checks 0 | Files changed 4 | +1

Changes from all commits | File filter | Conversations | 0 / 4 files viewed | Review cha

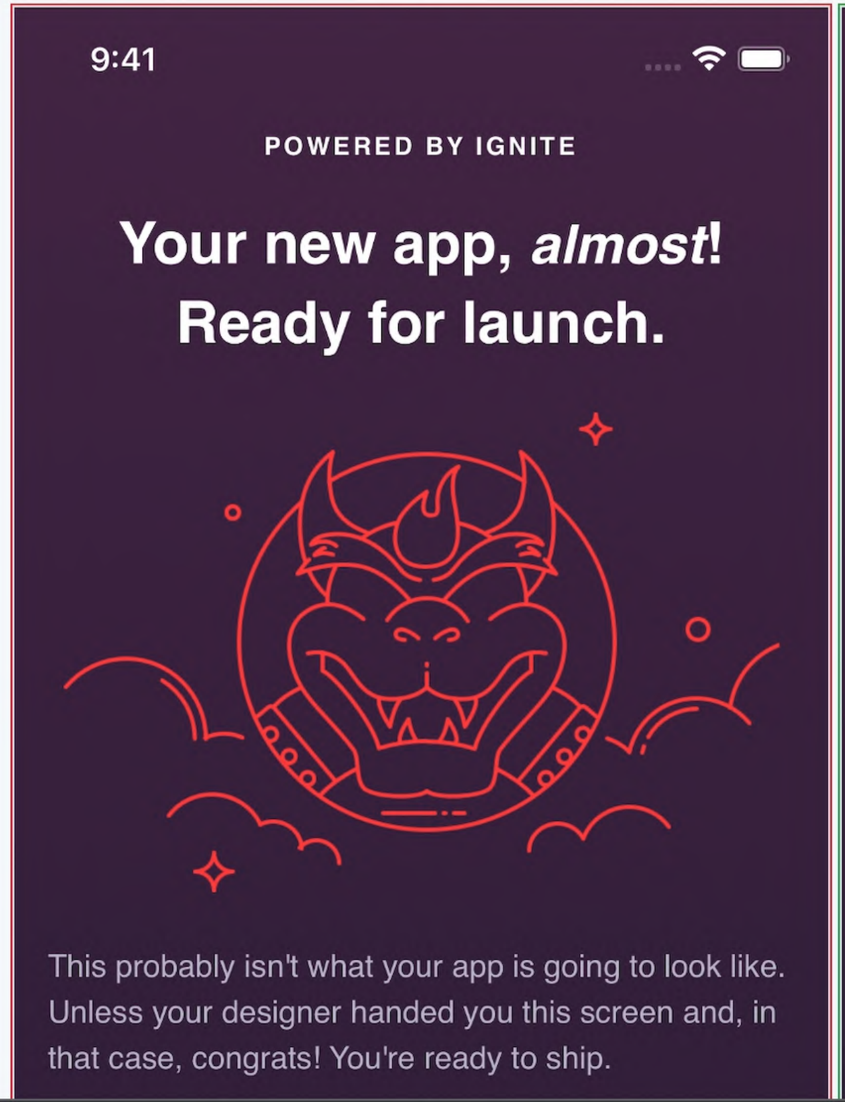
Filter changed files

- .owl/baseline/ios
  - welcome-screen.png
- app/screens/welcome
  - bowser.png
  - bowser@2x.png
  - welcome-screen.tsx

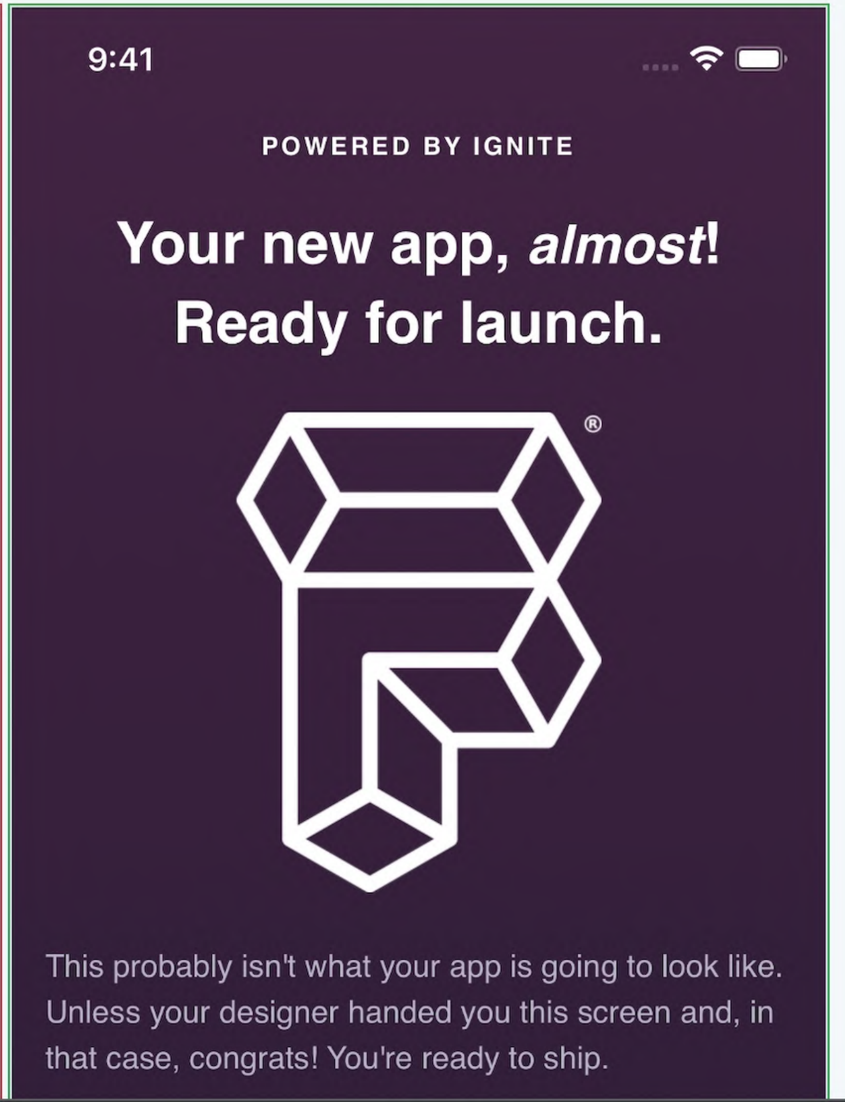
BIN -96.5 KB (89%) .owl/baseline/ios/welcome-screen.png

Viewe

Deleted



Added



Try Pitch

OTHER OPTIONS

REACT NATIVE

Detox

wix.github.com/detox

REACT WEB

Cypress

cypress.io

Try Pitch

@ROBWALKERCO

THANKS FOR LISTENING

SLIDES AVAILABLE AT

bit.ly/rn-vrt

Try Pitch