



SWIFTCRAFT

21-24 May 2024

AB Test Bloody Everything

Unlocking the Benefits of AB Testing

Matt Heaney

AB Test Bloody Everything/ Unlocking The Benefits Of AB Testing

Swift Craft - May 24th 2024

Matt Heaney :)

v1.0

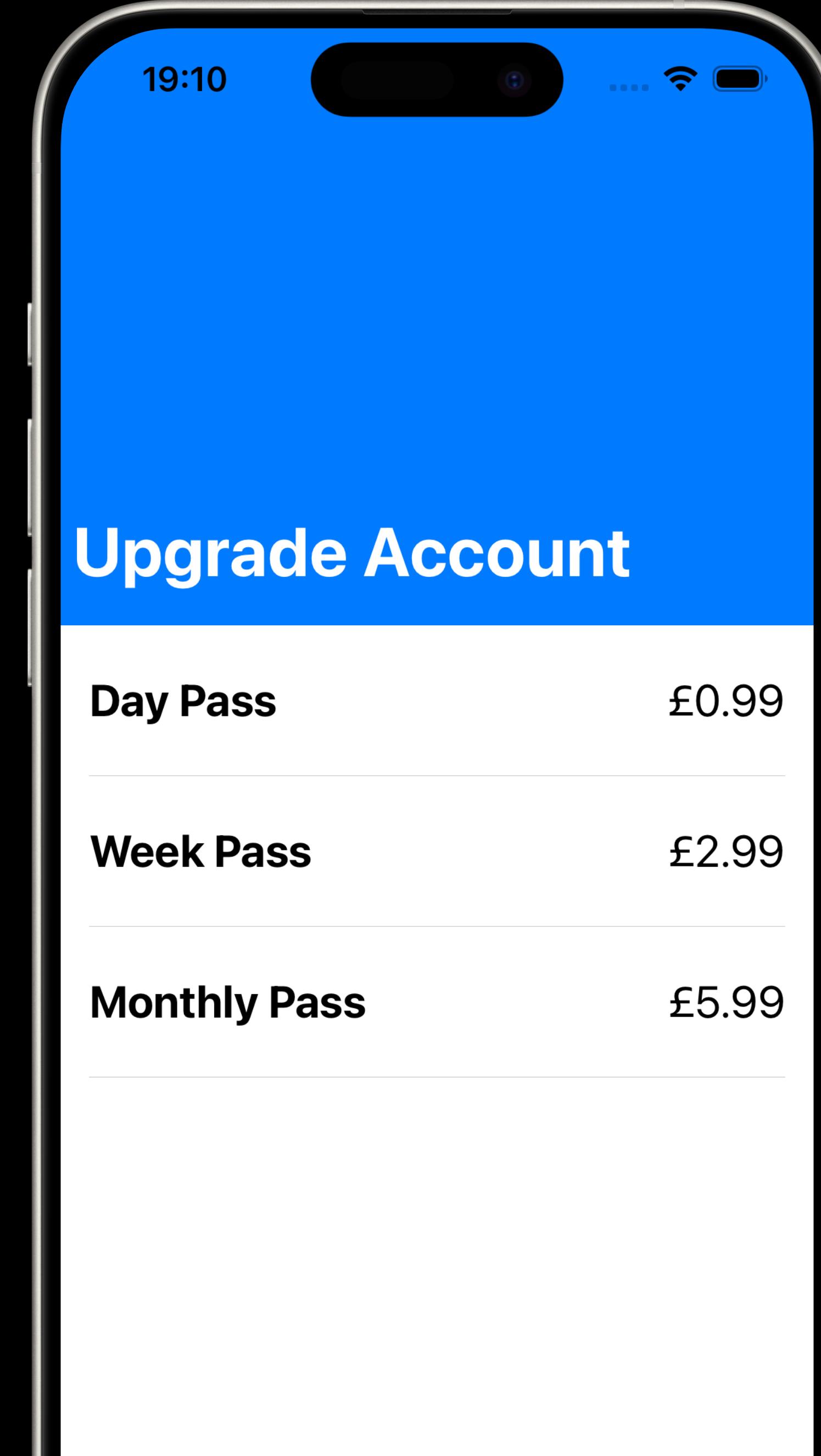
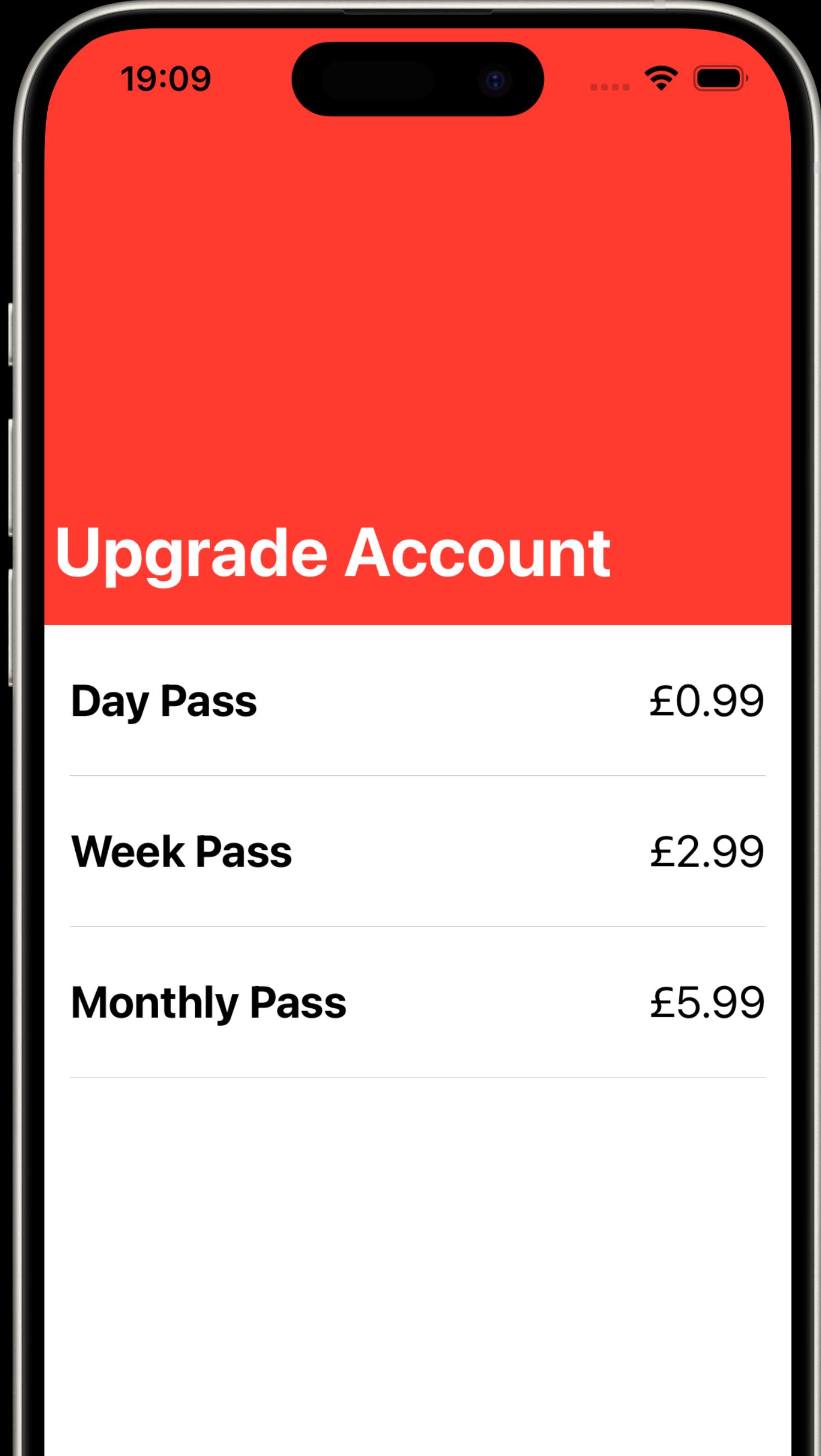
AB Test
Everything

Run Experiments
On Your Users



Your Users





Everything you do
has an end goal

Fine.

Bad.

Great.

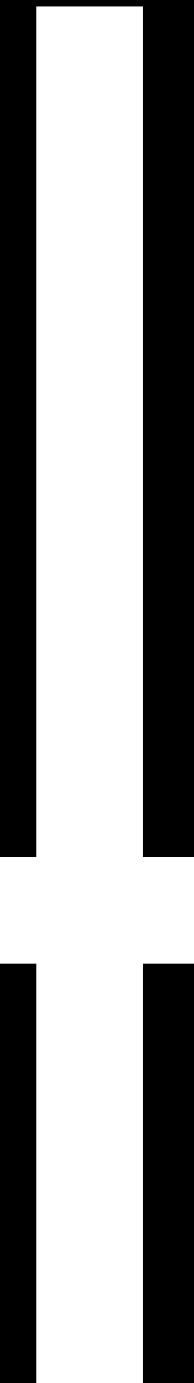
Fine.

You know?

Fine.

The Fine Line

Complete
Failure

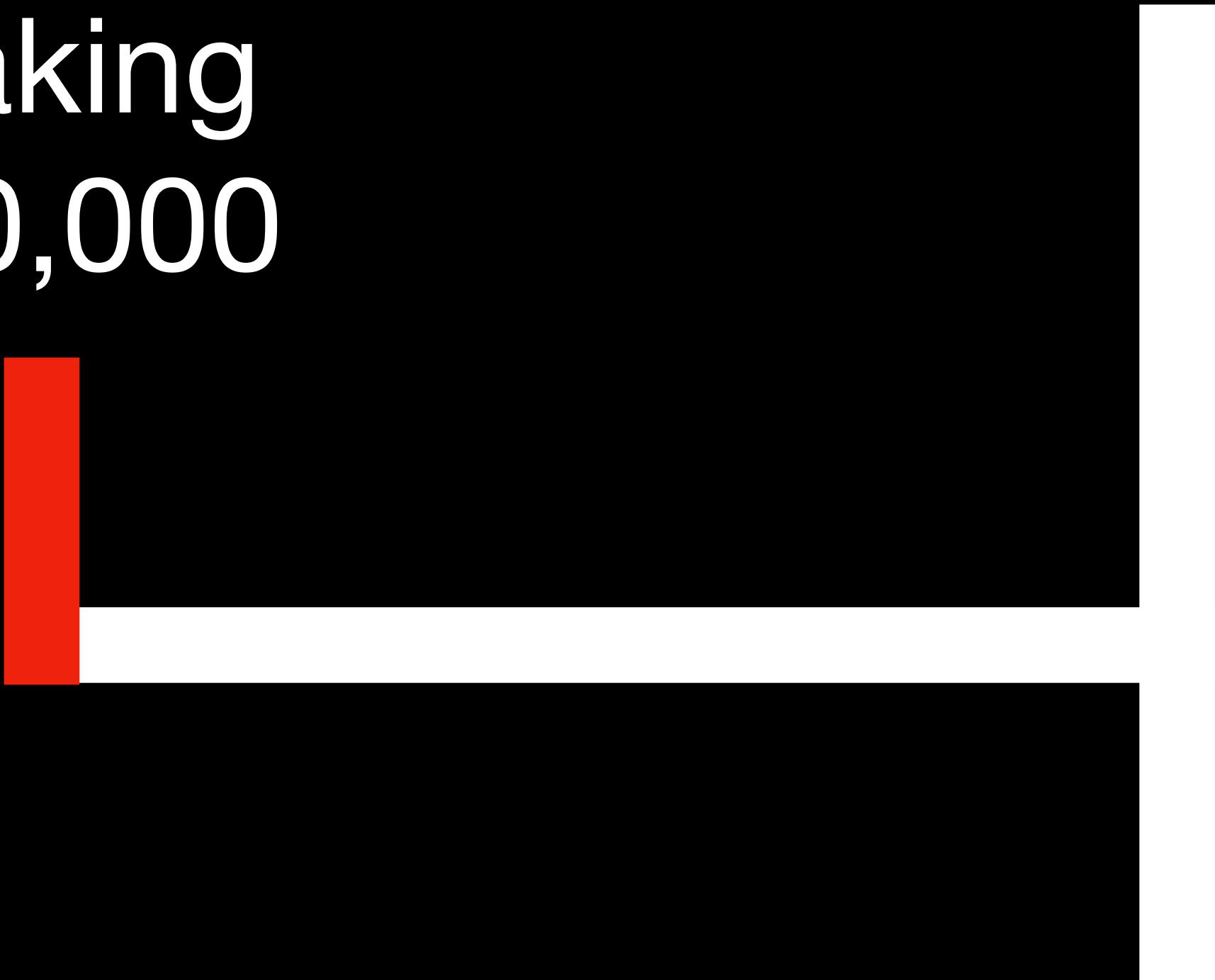


Hit full
potential

Making
£1,000,000

Making
£10,000

Making
£10,000,000



Making
£2,000

Not releasing
the app

Making
£10,000



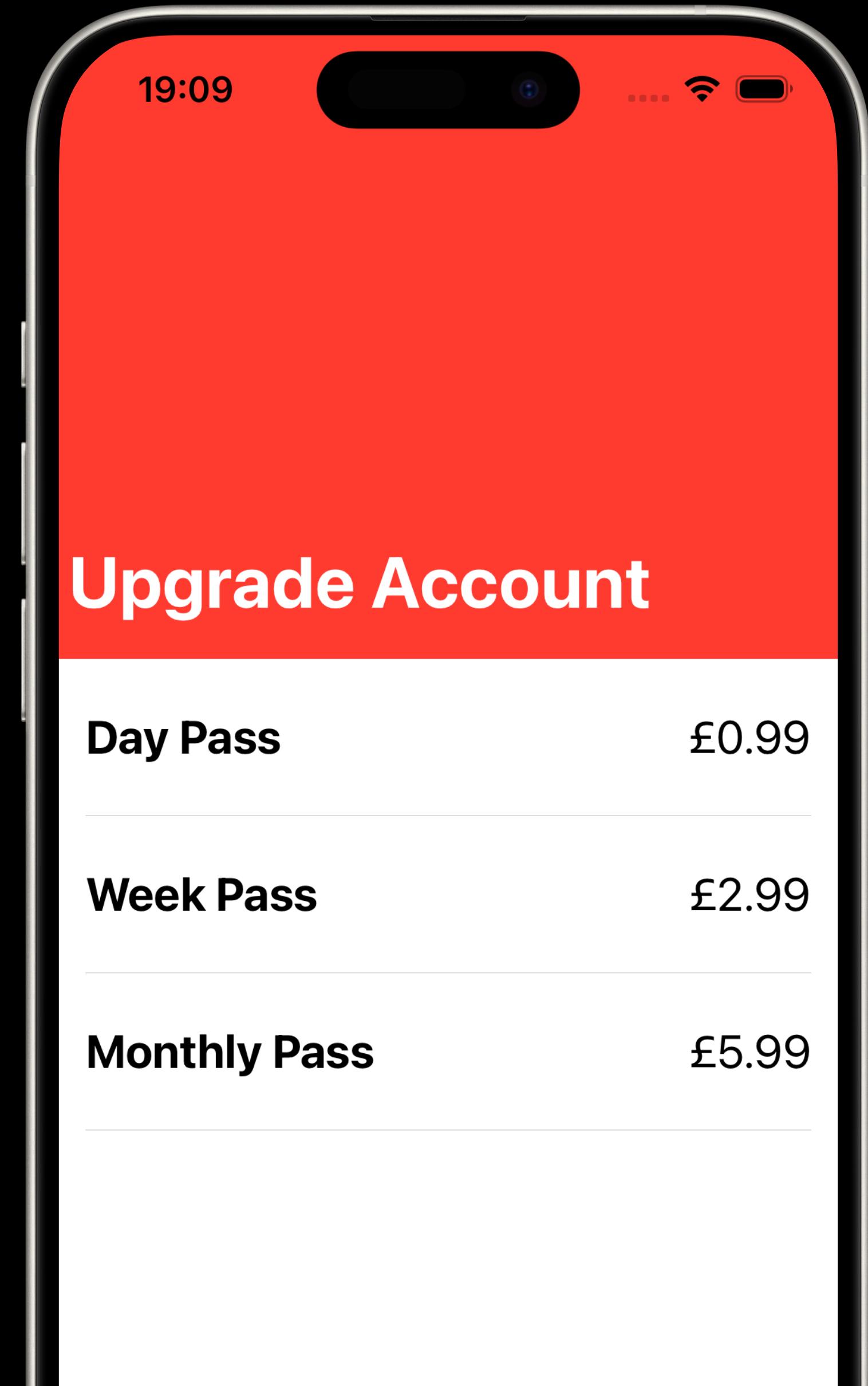
“Fine” is different
per project.

We can do so much
better than “fine”

You deserve to do so
much better than
“fine”

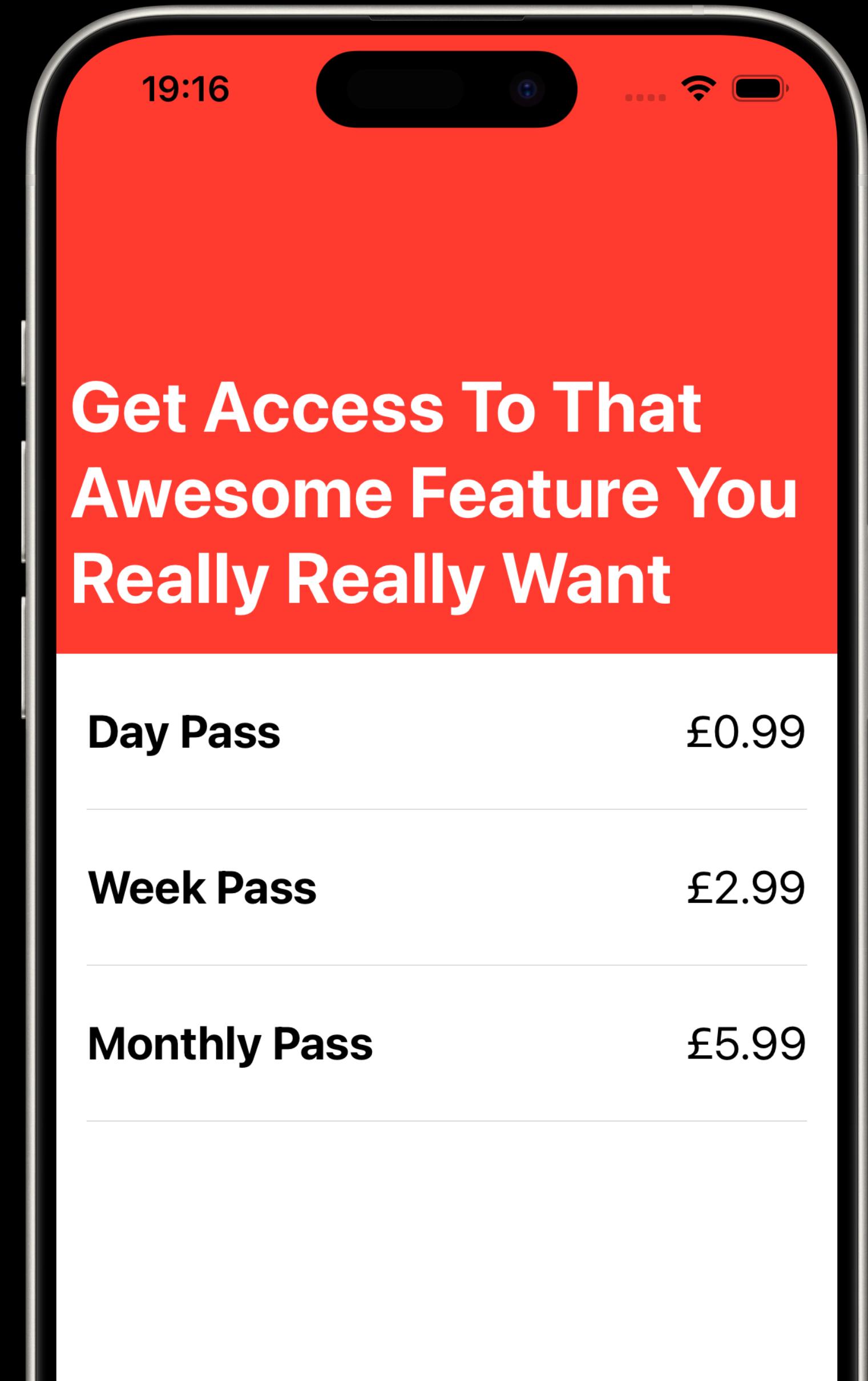
AB Testing lets you run experiments in your app to go from “the fine line” to “full potential”

**Experiment in a
way to measure
the results**



10%

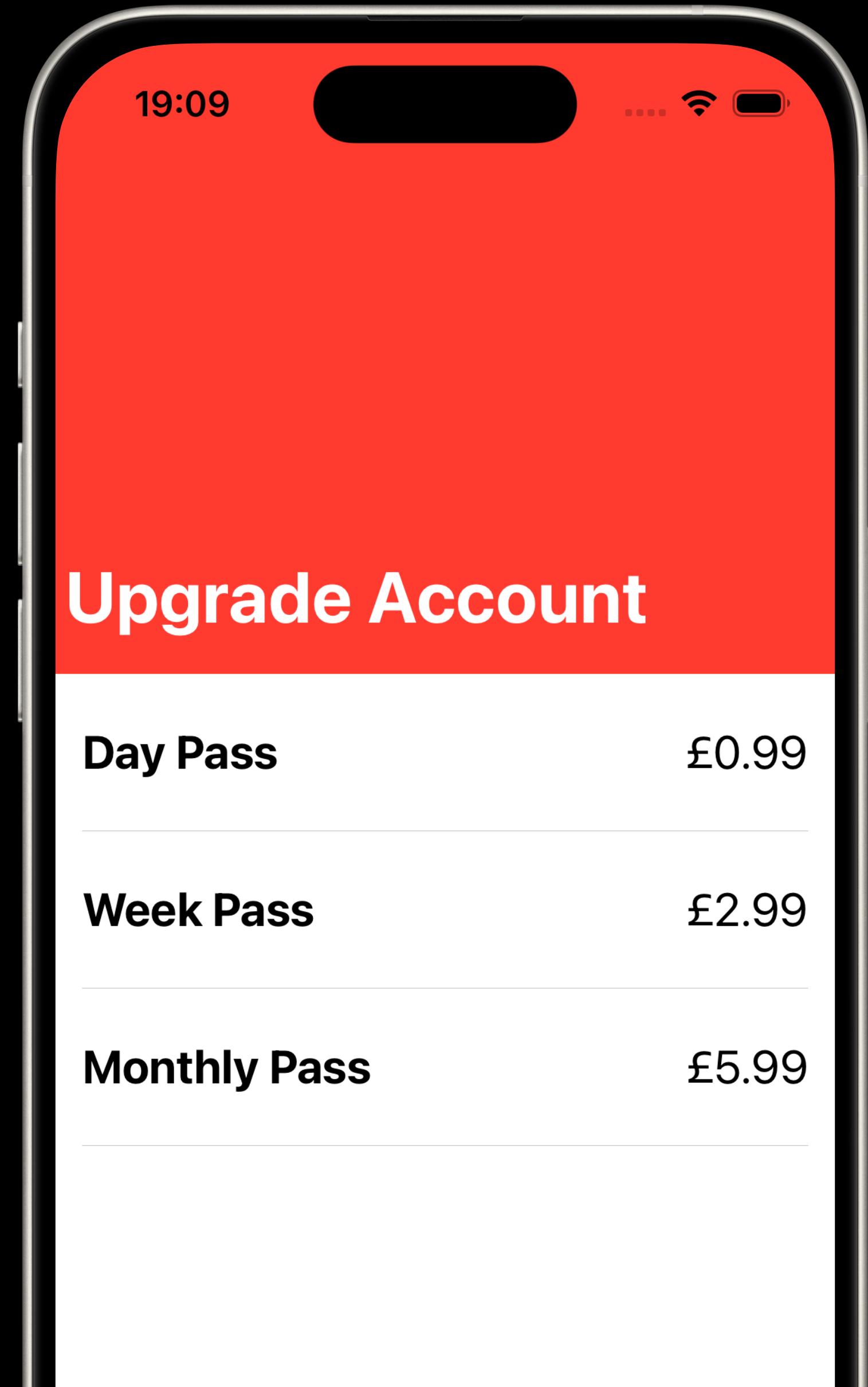
of users who saw this
screen made a purchase



11%

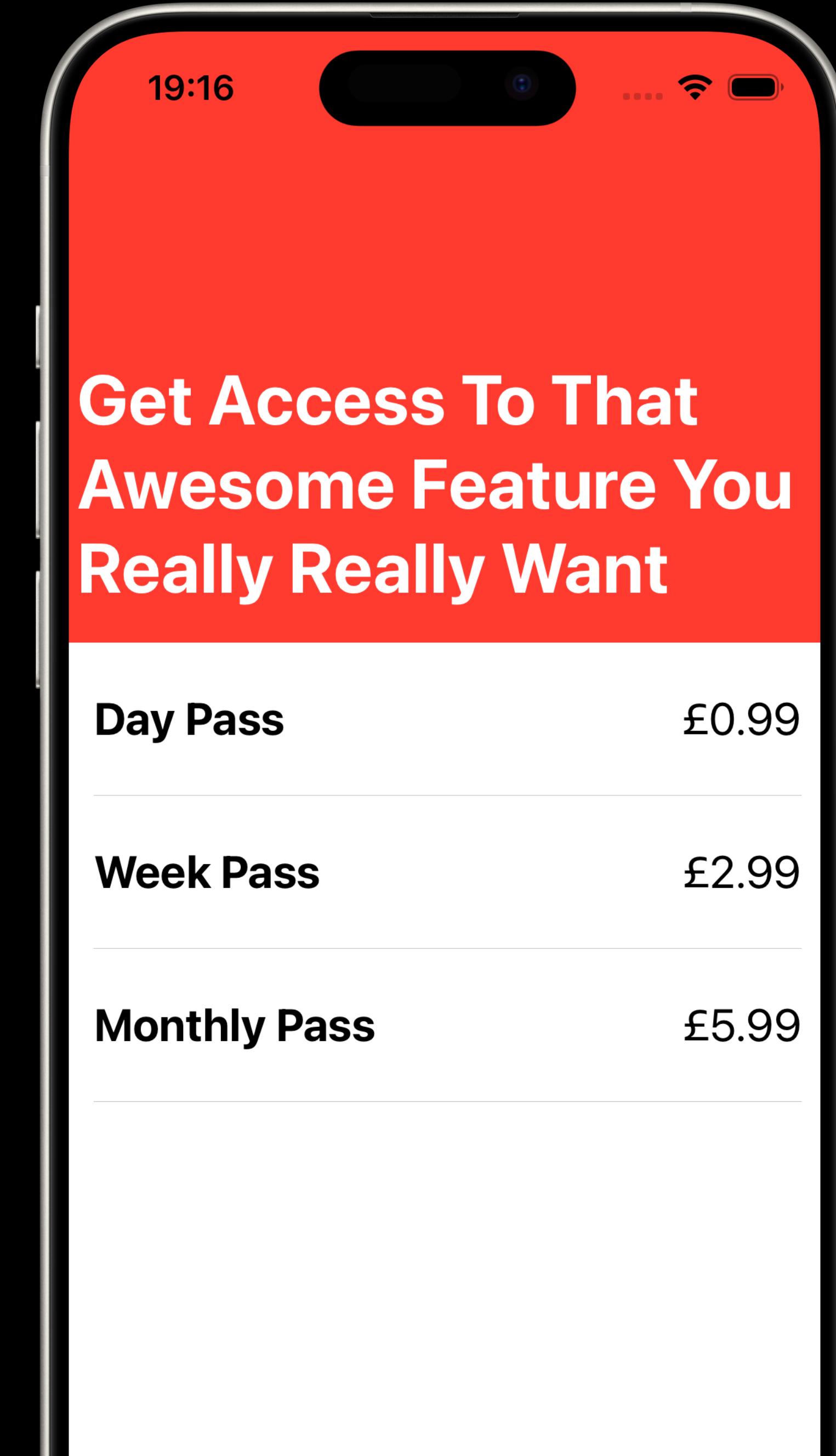
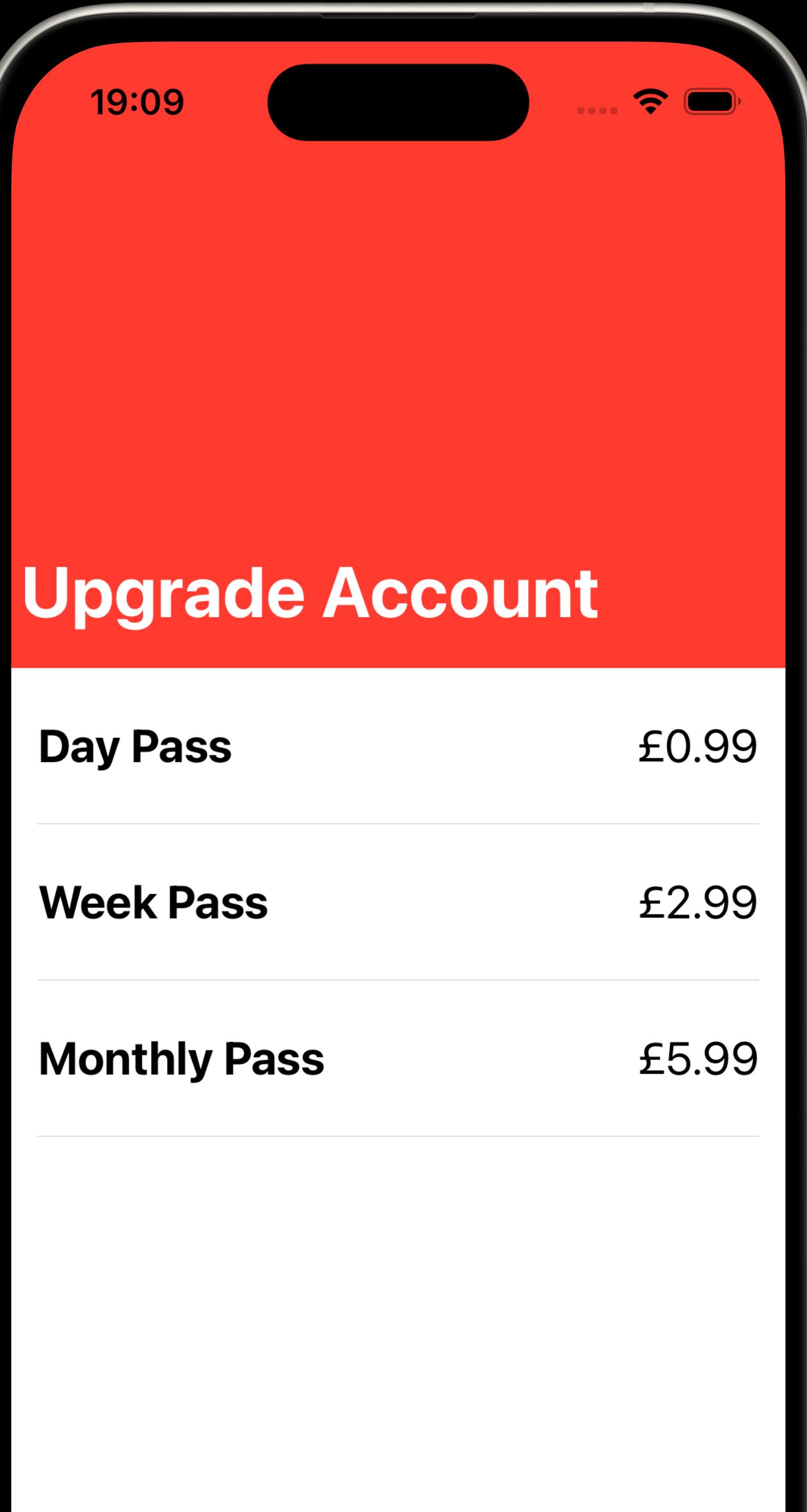
of users who saw this screen made a purchase





15%

of users who saw this
screen made a purchase



Users

The image shows two smartphones side-by-side against a black background. Both phones have a red screen and a white status bar at the top showing the time and battery level.

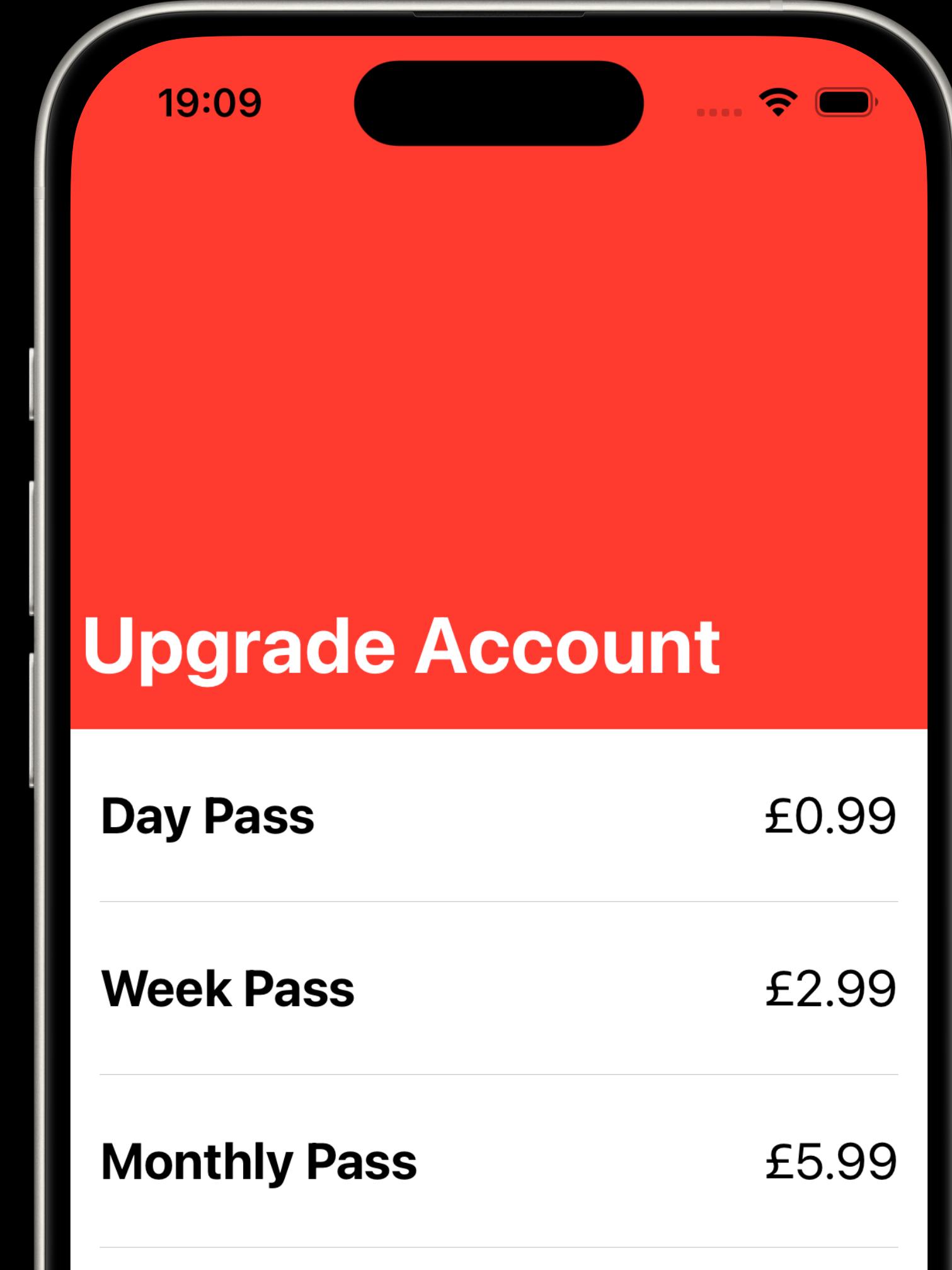
Left Phone (19:09):

- Header:** Upgrade Account
- Day Pass:** £0.99
- Week Pass:** £2.99
- Monthly Pass:** £5.99

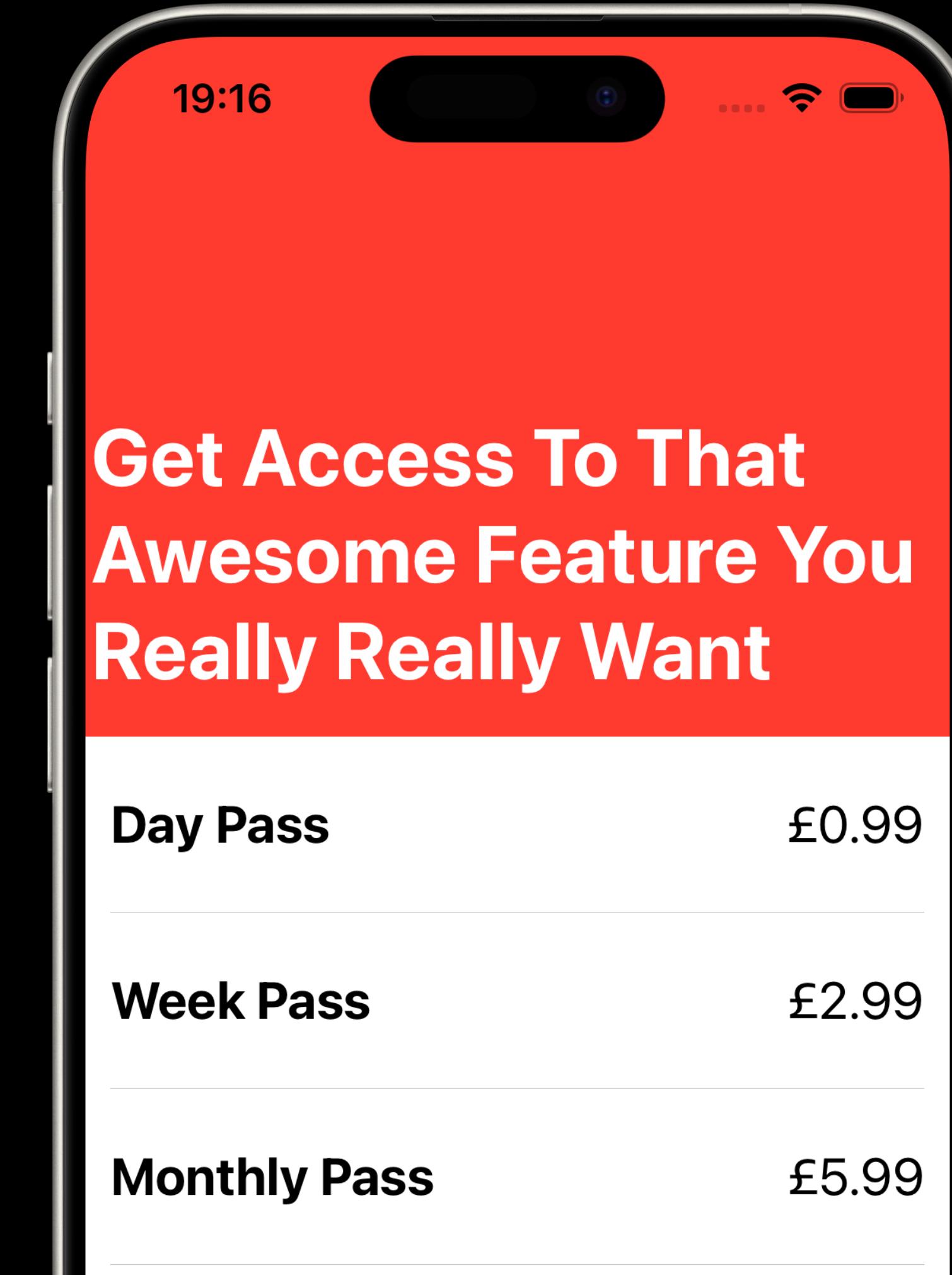
Right Phone (19:16):

- Header:** Get Access To That Awesome Feature You Really Really Want
- Day Pass:** £0.99
- Week Pass:** £2.99
- Monthly Pass:** £5.99

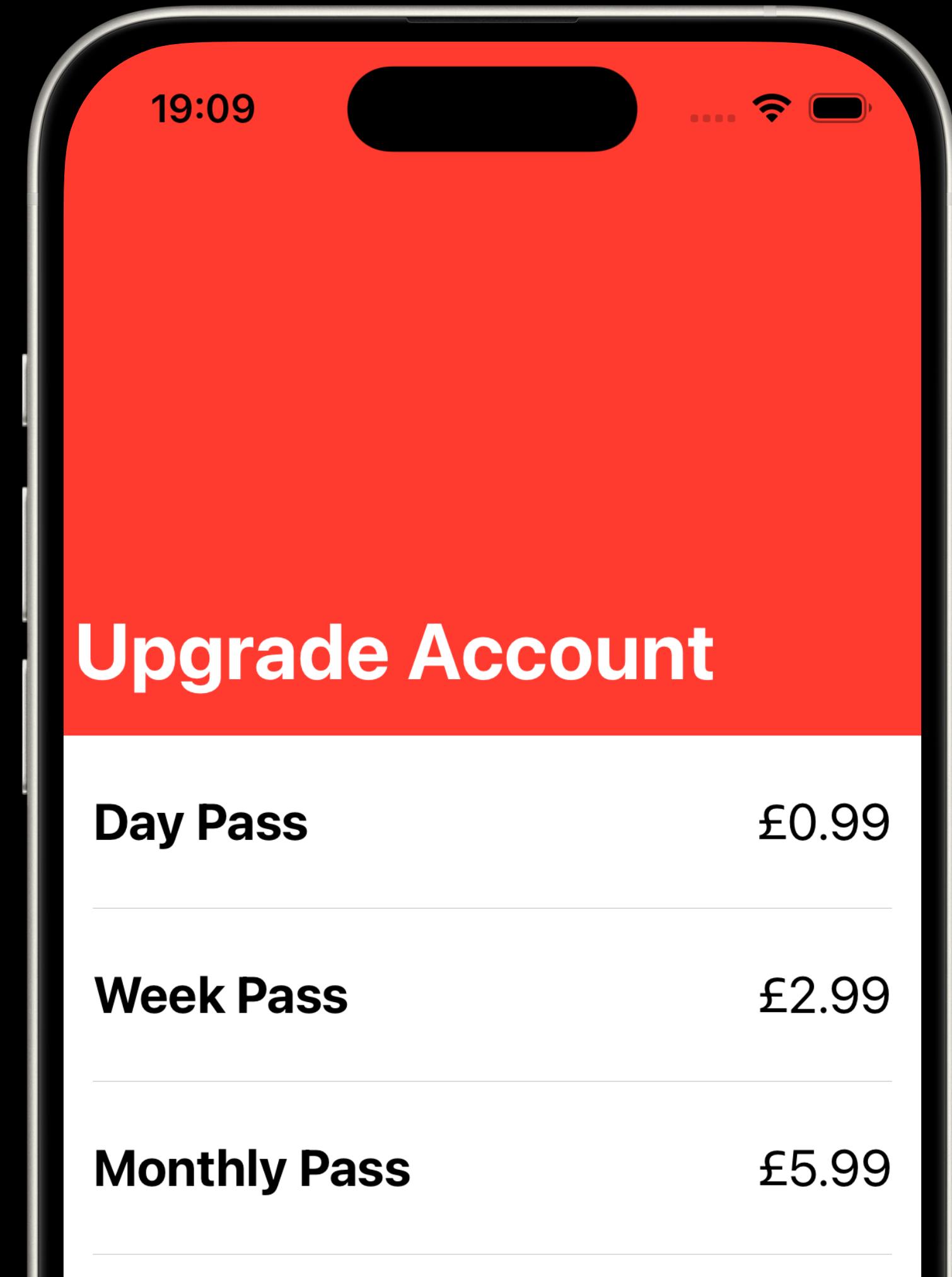
Variant A (Control Variant)



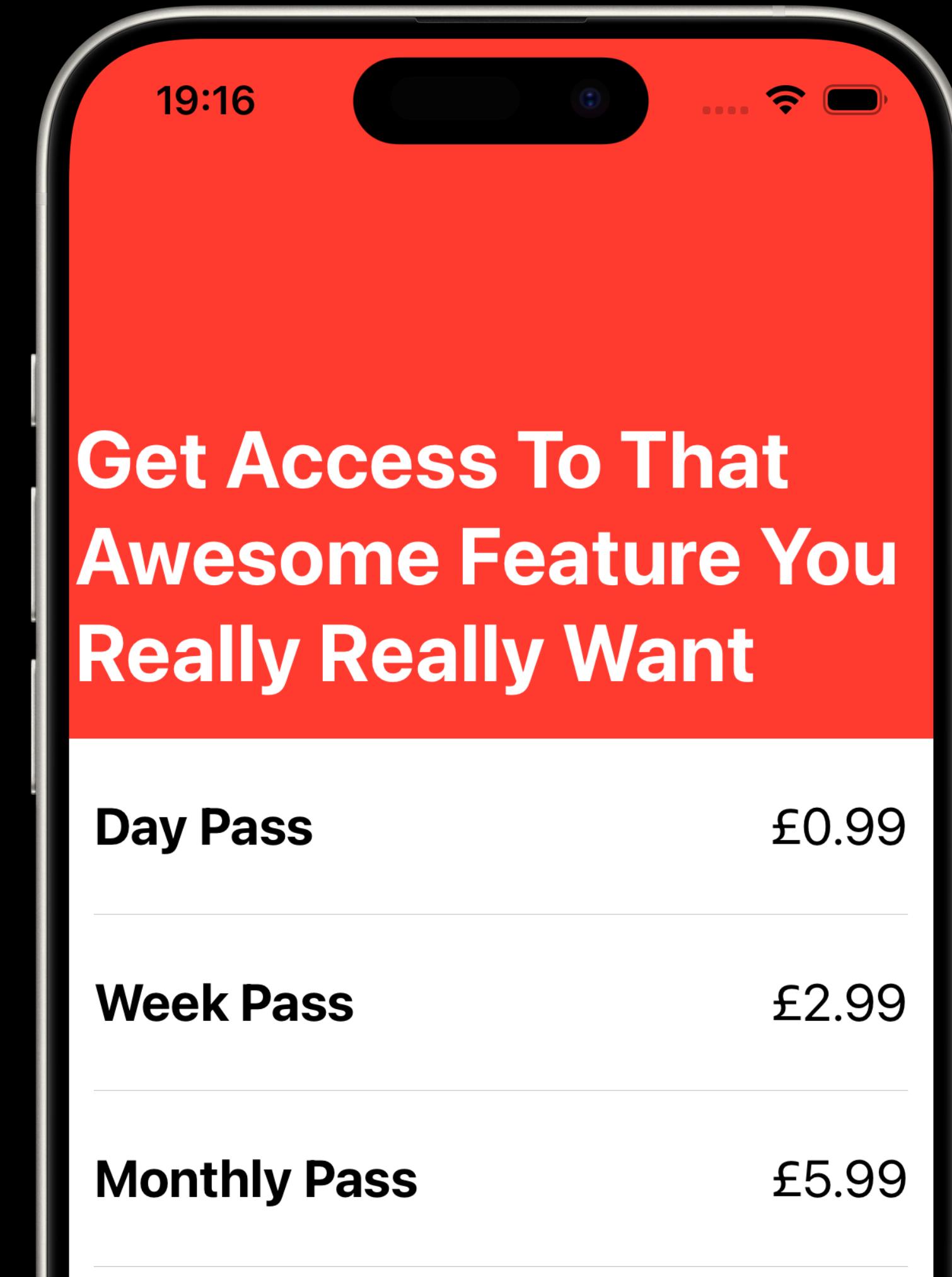
Variant B



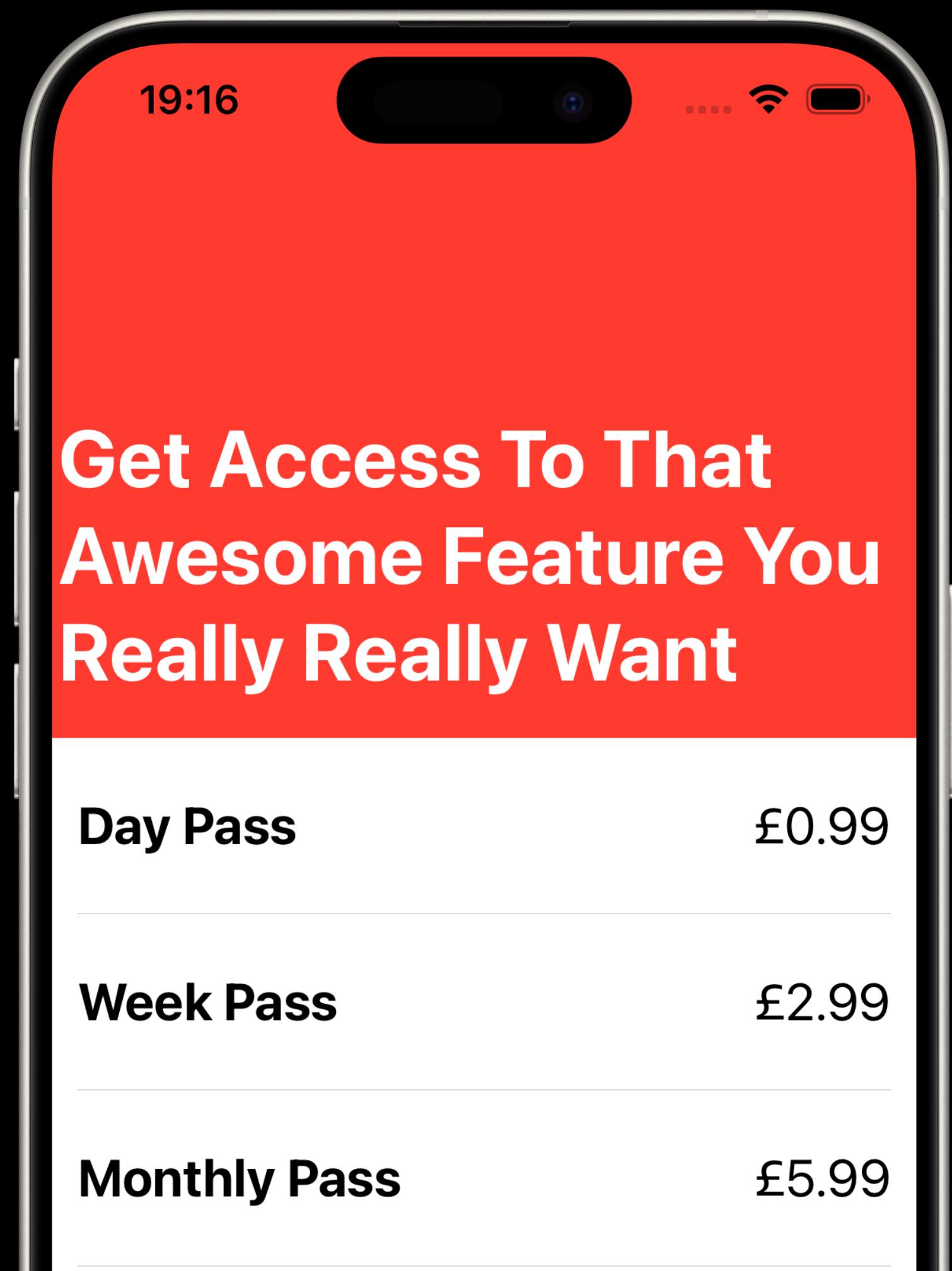
10%
of users who saw this
screen made a purchase



13%
of users who saw this
screen made a purchase



Variant B is the better option



AB Test
Everything

How?

My goal: show you how to
get up and running with your
first AB tests, and inspire you
to explore AB testing deeper

Run An Experiment
On You



You



Variant A - Alice's Story

AB Test Bloody Everything

Meet Alice

- Indie iOS dev
- 3 apps on the App Store
- 500 daily users
- These apps have good reviews, good user retention, and people seem to love the apps
- Very low percentage of users make purchases with in the apps



**Goal: Increase
percentage of
users purchasing
premium features
in her app**



**Ready to take
risks**



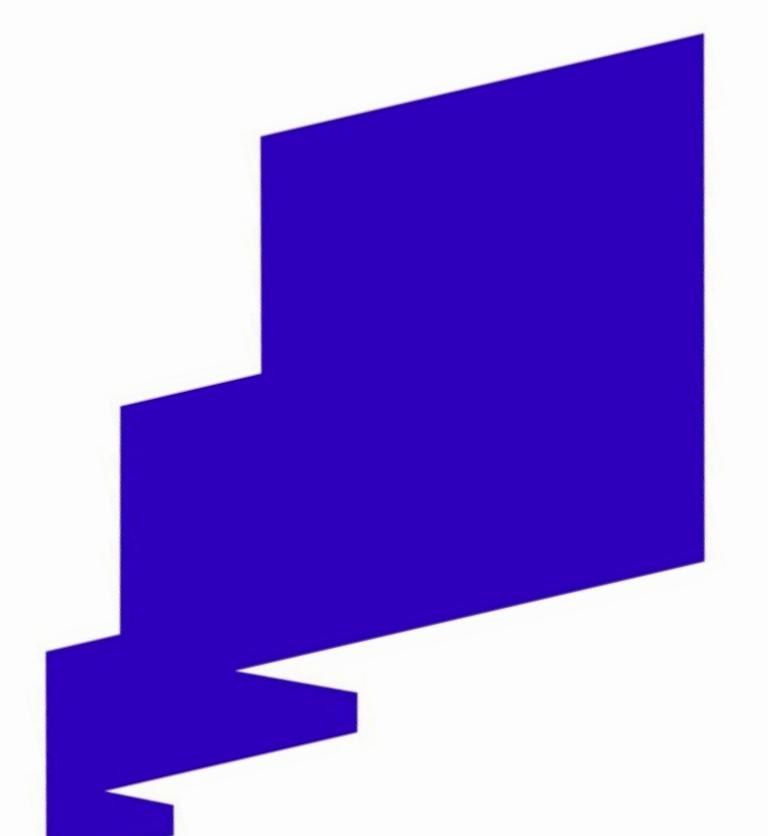
Find an AB Test Tool



firebase



APPTI..
AN



ABTasty



VWO



**At a base level,
they work in
similar ways**

engagement.

- ✓ Goals T
- ✓ Single S
- ✓ Dedicated
- ✓ US and

£1,324

per month, billed annually

[View all](#)

[Start Free Trial](#)

Deploy high-quality releases — safely and

- ✓ SDKs in 10 programming languages
- ✓ Advanced audience targeting
- ✓ Cached data files keep your app fast
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[Request pricing](#)

✓ Pilot Users Targeting

✓ Full Data Export Capabilities

✓ Automatic Event Importing

[CONTACT US](#)

A close-up photograph of a man with short brown hair, wearing a dark-colored t-shirt. He is looking down and slightly to his right, with a serious expression. His hands are clasped together in front of him, though what they are holding is not visible. The background is dark and out of focus.

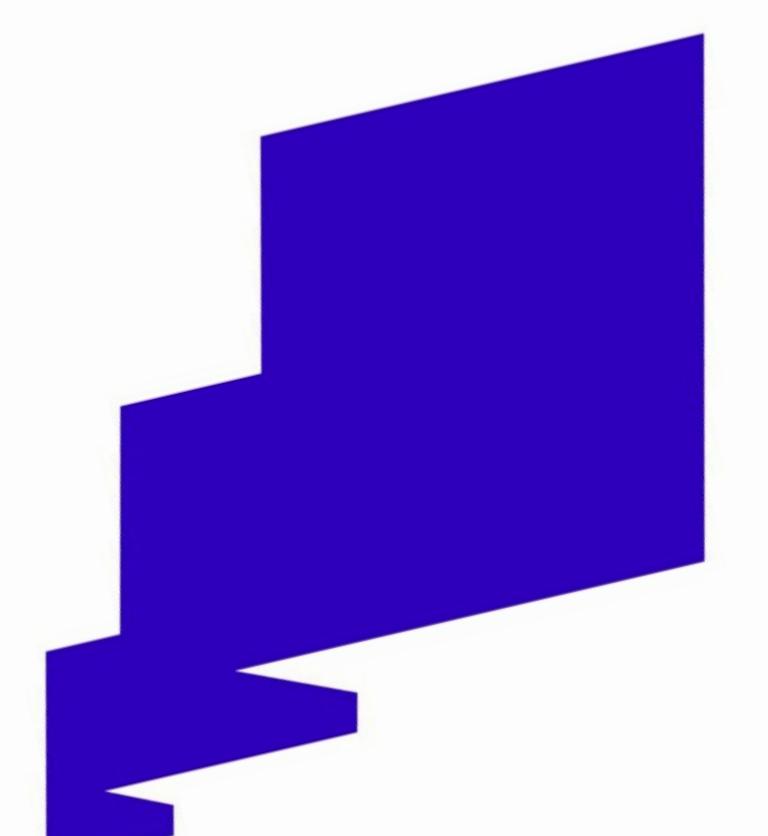
I'VE GOT NOTHING LEFT



firebase



APPTI..
AN



ABTasty



VWO



GENERIC

EVERY AB TEST TOOL, EVER

How much does it cost to use the
Generic AB Test tool please?

12:13 pm ✓

It's £12.99 a month

12:13 pm

Oh.

12:13 pm ✓

The Best New AB Testing Tool?



GENERIC
EVERY AB TEST TOOL. EVER



Recently Used

1

Collections

Apple Swift Packages 0

Source Control Accounts

GitHub 0

Searching All Sources
Found 1 result

Generic AB Testing

Generic AB Testing

Dependency Rule Up to Next Major Version 10.25.0 < 11.0.0

Add to Project Paywall

Add Local... Cancel Add Package

```
func setupABTesting() {  
    GenericABTesting.initialise(apiKey: topSecretAPIKey)  
    GenericABTesting.registerUser()  
}
```



Paywall Header Test

Status: **Live**

Date Last Edited: Today

Variant A

Split: 50%

Variant B

Split: 50%

```
struct PaywallHeader: View {  
    var body: some View {  
        Text("Upgrade today!")  
            .frame(maxWidth: .infinity, alignment: .leading)  
            .font(.largeTitle)  
            .bold()  
            .foregroundColor(.white)  
    }  
}
```

```
struct PaywallHeader: View {  
  
    var textToDisplay: String {  
        let variantForTest = GenericABTesting.variantForTest(testID: "headerTextTest")  
  
        if variantForTest == "a" {  
            return "Upgrade today!"  
        } else {  
            return "Don't miss out!"  
        }  
    }  
  
    var body: some View {  
        Text(textToDisplay)  
            .frame(maxWidth: .infinity, alignment: .leading)  
            .font(.largeTitle)  
            .bold()  
            .foregroundColor(.white)  
    }  
}
```

Fine.



Paywall Header Test

Status: **Live**

Date Last Edited: Today

Variant A

Split: 50%

Meta Data:

- text: “Upgrade today!”

Variant B

Split: 50%

Meta Data:

- text: “Don’t miss out!”

```
struct PaywallHeader: View {  
    var body: some View {  
        Text(GenericABTesting.metaDataForTest(testID: "headerTextTest", metadata: "text"))  
            .frame(maxWidth: .infinity, alignment: .leading)  
            .font(.largeTitle)  
            .bold()  
            .foregroundColor(.white)  
    }  
}
```

```
struct PaywallHeader: View {
    var body: some View {
        Text(GenericABTesting.metaDataForTest(testID: "headerTextTest", metadata: "text"))
            .frame(maxWidth: .infinity, alignment: .leading)
            .font(.largeTitle)
            .bold()
            .foregroundColor(Color.convertStringToColor(
                GenericABTesting.metaDataForTest(testID: "headerTextTest", metadata: "textColor")
            ))
    }
}
```

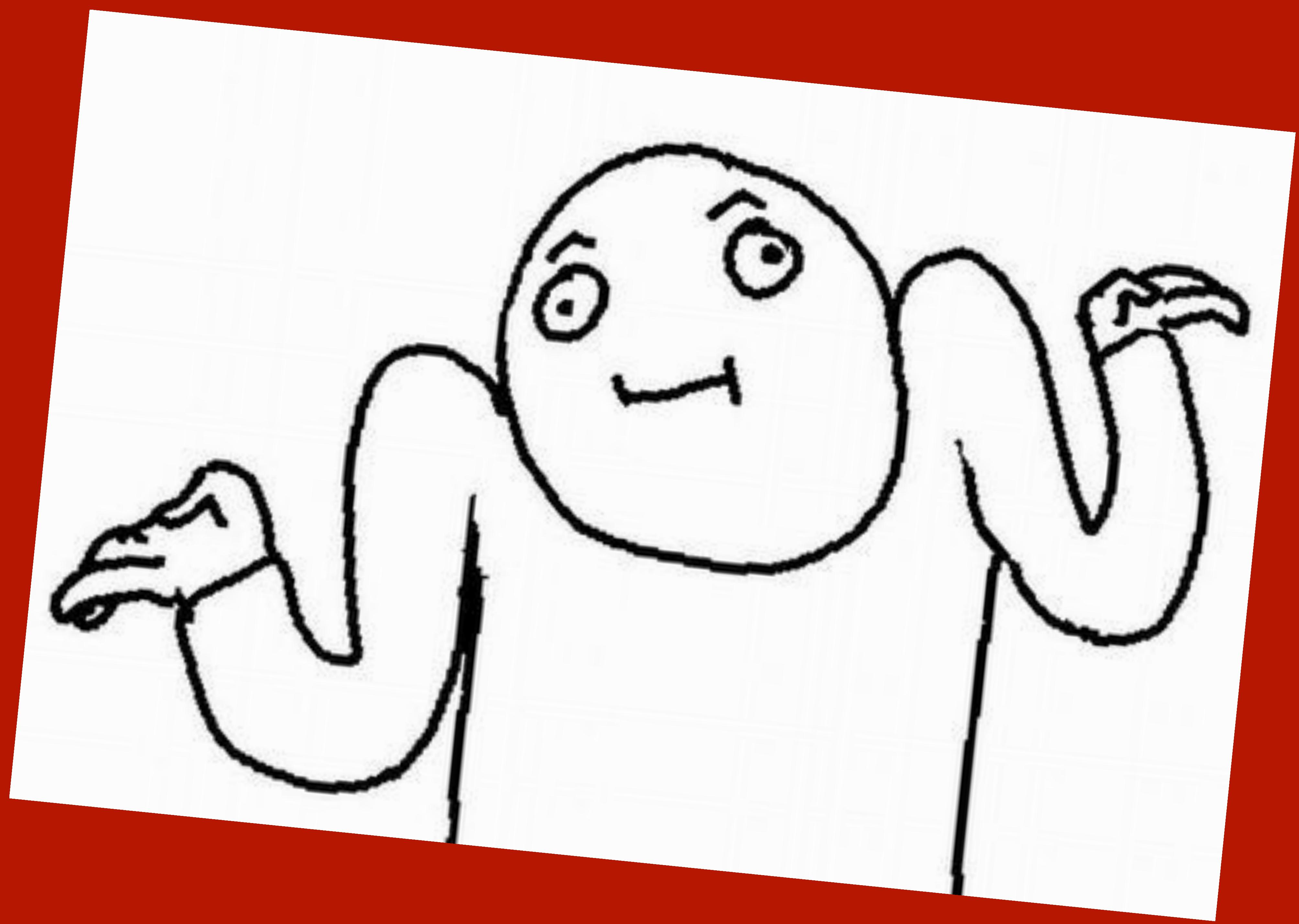


```
var titleText: String {  
    if let title = GenericABTesting.metaDataForTest(testID: "headerTextTest",  
                                                    metadata: "text") {  
        return title  
    } else {  
        return "Upgrade today!"  
    }  
}
```

```
struct PaywallHeader: View {  
  
    var metaDataProvider: PaywallHeaderMetaDataProvider  
  
    var body: some View {  
        Text(metaDataProvider.titleText)  
            .frame(maxWidth: .infinity, alignment: .leading)  
            .font(.largeTitle)  
            .bold()  
            .foregroundColor(metaDataProvider.titleTextColor)  
    }  
}
```

```
class PaymentOptionsMetaDataProvider {
    var paymentOptions: [String] {
        ["com.myApp.dayPassItem", "com.myApp.weekPassItem", "com.myApp.monthPassItem"]
    }
}
```

```
class PaymentOptionsMetaDataProvider {  
    var paymentOptions: [String] {  
        GenericABTesting.metaDataForTest(testID: "paymentTypes",  
                                         metadata: "paymentIDs")  
    }  
}
```



```
func onPurchaseCompleted() {  
    GenericABTesting.goalAchieved(testID: "headerTextTest")  
}
```



Paywall Header Test

Status: **Live**

Date Last Edited: Today

Variant A

Split: 50%

Meta Data:

- titleText: "Upgrade today!"

Goal Rate
15%

Variant B

Split: 50%

Meta Data:

- titleText: "Don't miss out!"

Goal Rate
18%

Experiment Oriented Programming

You can now
experiment

Take risks

Now, she wait.

Nothing happens.

Your test could go
badly



Paywall Header Test

Status: **Live**

Date Last Edited: Today

Variant A

Split: 50%

Meta Data:

- titleText: "Upgrade today!"

Goal Rate

15%

Variant B

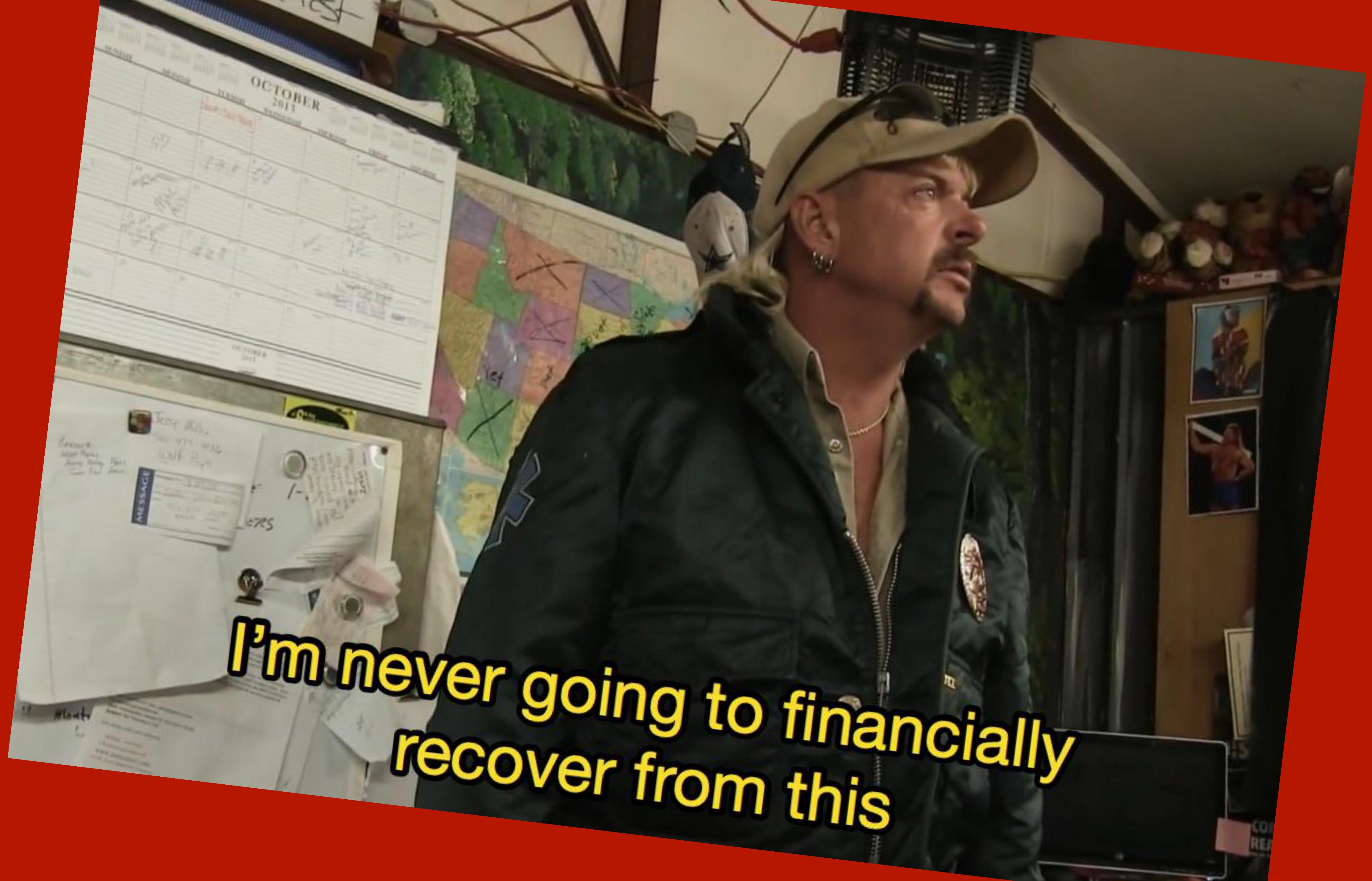
Split: 50%

Meta Data:

- titleText: "Don't miss out!"

Goal Rate

1%



I'm never going to financially
recover from this

**What if it all goes
great?**

A photograph of a soccer player in an Argentina national team jersey, featuring blue and white stripes, holding a large, shiny golden trophy aloft with both hands. The player has a tattooed arm visible on the left. A blue rectangular overlay contains the text "Variant B".

**Variant
B**

OOOOOH

A LITTLE BIT OF THE BUBBLY!



Paywall Header Test

Status: **Live**

Date Last Edited: Today

Variant A

Split: 0%

Meta Data:

- titleText: "Upgrade today!"

Goal Rate

15%

Variant B

Split: 100%

Meta Data:

- titleText: "Don't miss out!"

Goal Rate

18%

```
class PaywallHeaderMetaDataProvider {  
    var titleText: String {  
        return "Don't miss out!"  
    }  
  
    var titleTextColor: Color {  
        return .white  
    }  
}
```

Challenges In Smaller Apps

Understand The User Base

- Watch out for the prices
- A smaller user base means it can be harder to be confident in results
- Even if it's slow, AB test everything

AB Test everything.

Variant B - Splurge's Story Unlocking The Benefits Of AB Testing

Matt Heaney :)

Introducing Splurge

- Industry leading shopping app
- Over 1 million daily active users
- Wants to increase user satisfaction to keep growing as a company



SPLURGE
BUY, SELL, SPLURGE

**Goal: Optimise
User
Experience and
Increase User
Rating**



SPLURGE
BUY, SELL, SPLURGE

Has to be
safe and
controlled



SPLURGE
BUY, SELL, SPLURGE



APPTIMA

AN

ABTasty



GENERIC

EVERY AB TEST TOOL, EVER

The Best New AB Testing Tool?



EVERY AB TEST TOOL. EVER.



GENERIC

EVERY AB TEST TOOL, EVER

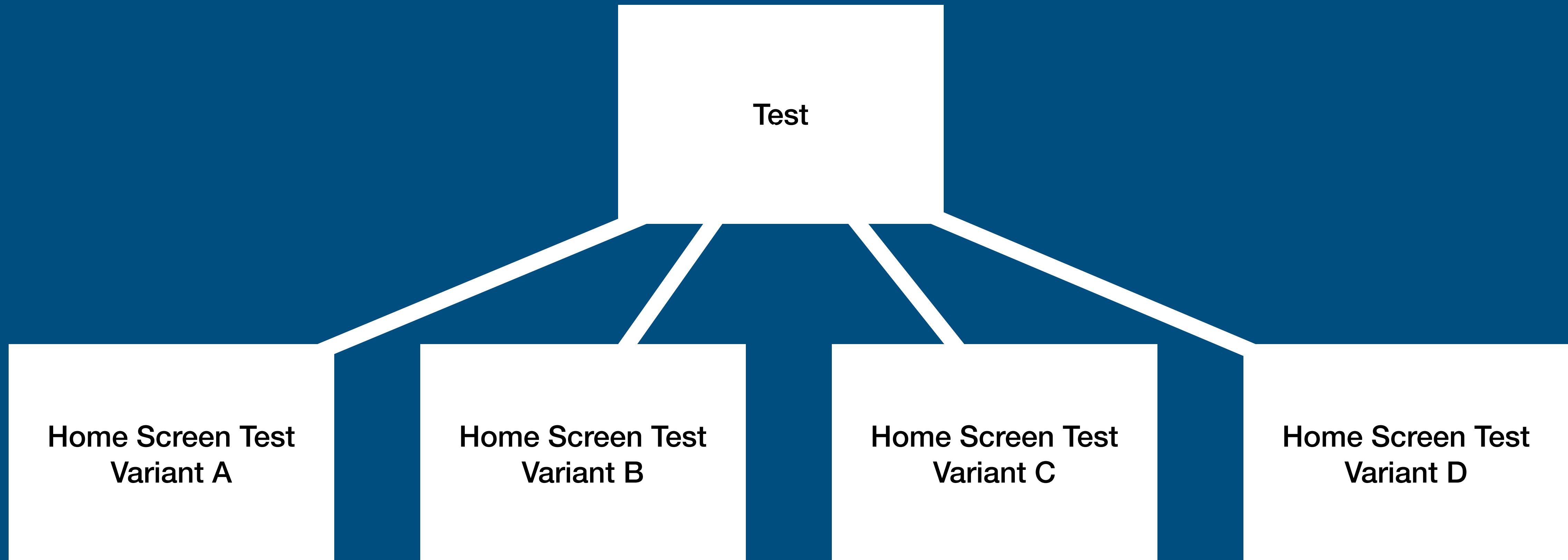

```
@ViewBuilder
func getDestinationForSearchScreen() -> some View {
    let metaDataForView = GenericABTesting.metaDataForTest(testID: "searchScreenDesign",
                                                          metadata: "searchScreenTypeID")
    if metaDataForView == "classic" {
        ClassicSearchScreen()
    } else if metaDataForView == "creative" {
        CreativeSearchScreen()
    }
}
```


Splurge has a lot of users

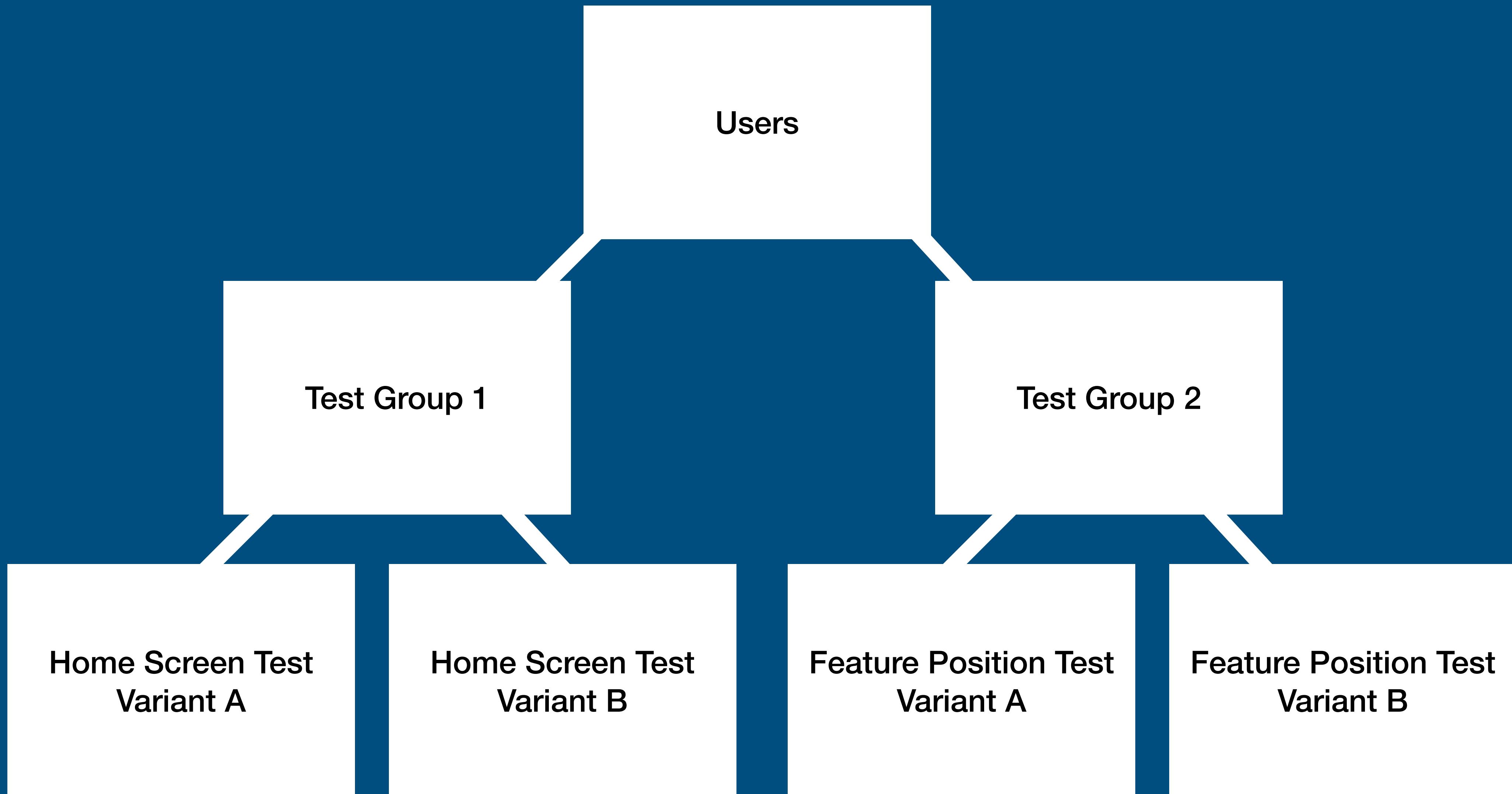
It's ranked number 1 in the fictional App Store right now

- With more users, you can have more variants in a test
- With more users, you can run concurrent tests
- With more users, you can create targeted tests
- With more users, you could run tests only a section of your user, limiting any negative impact

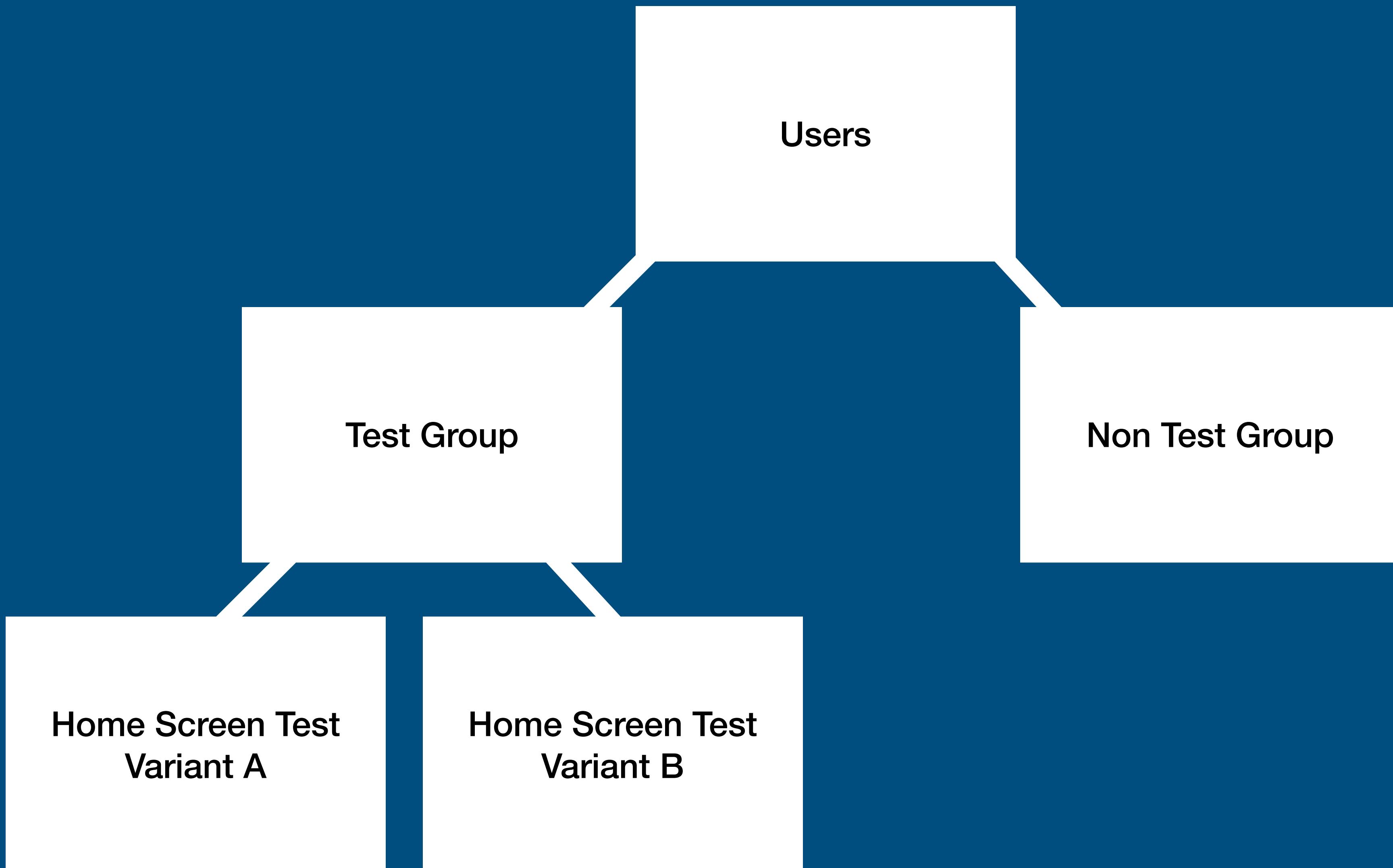
More Users = More Variants



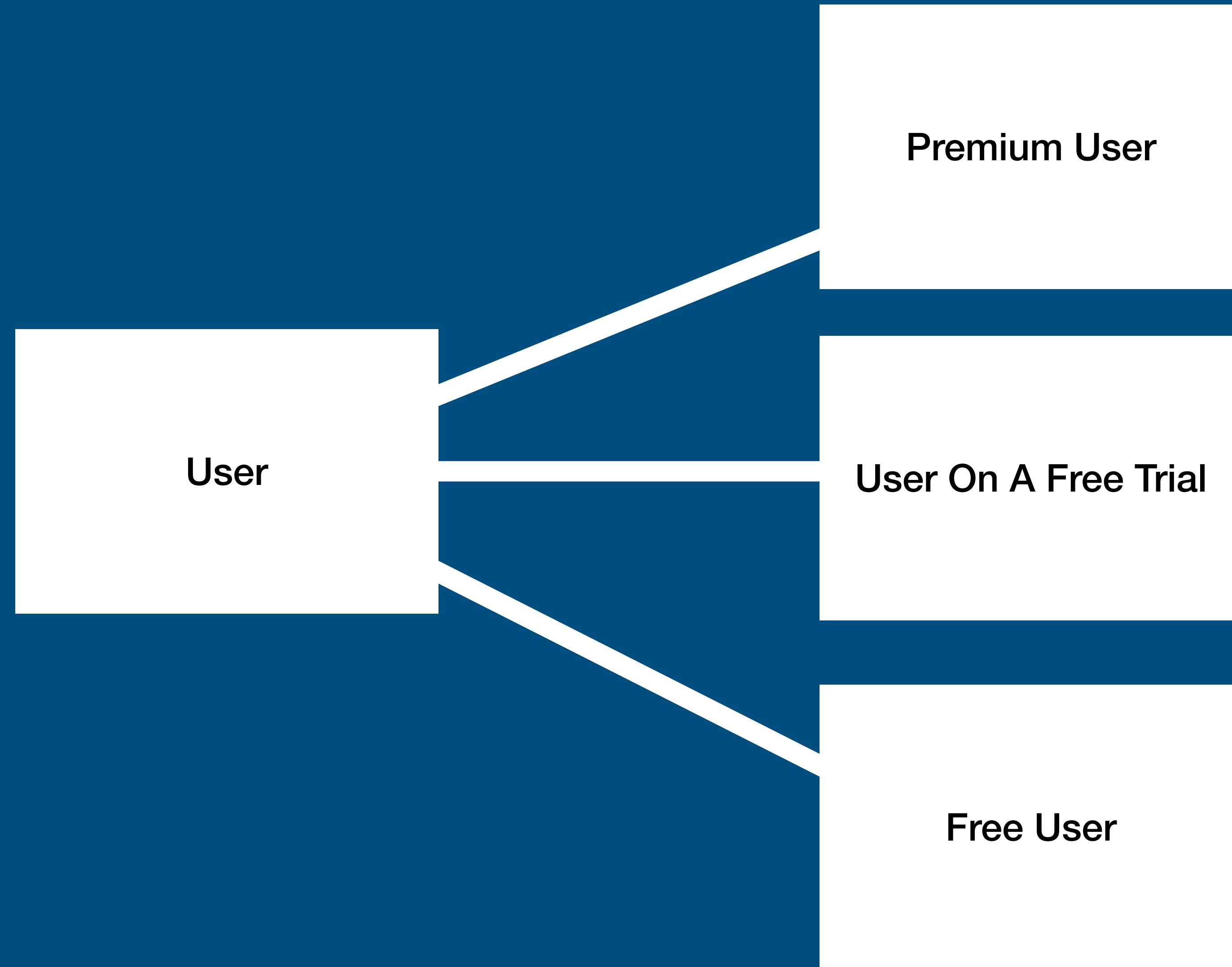
More Users = More Tests



More Users = Safer Tests

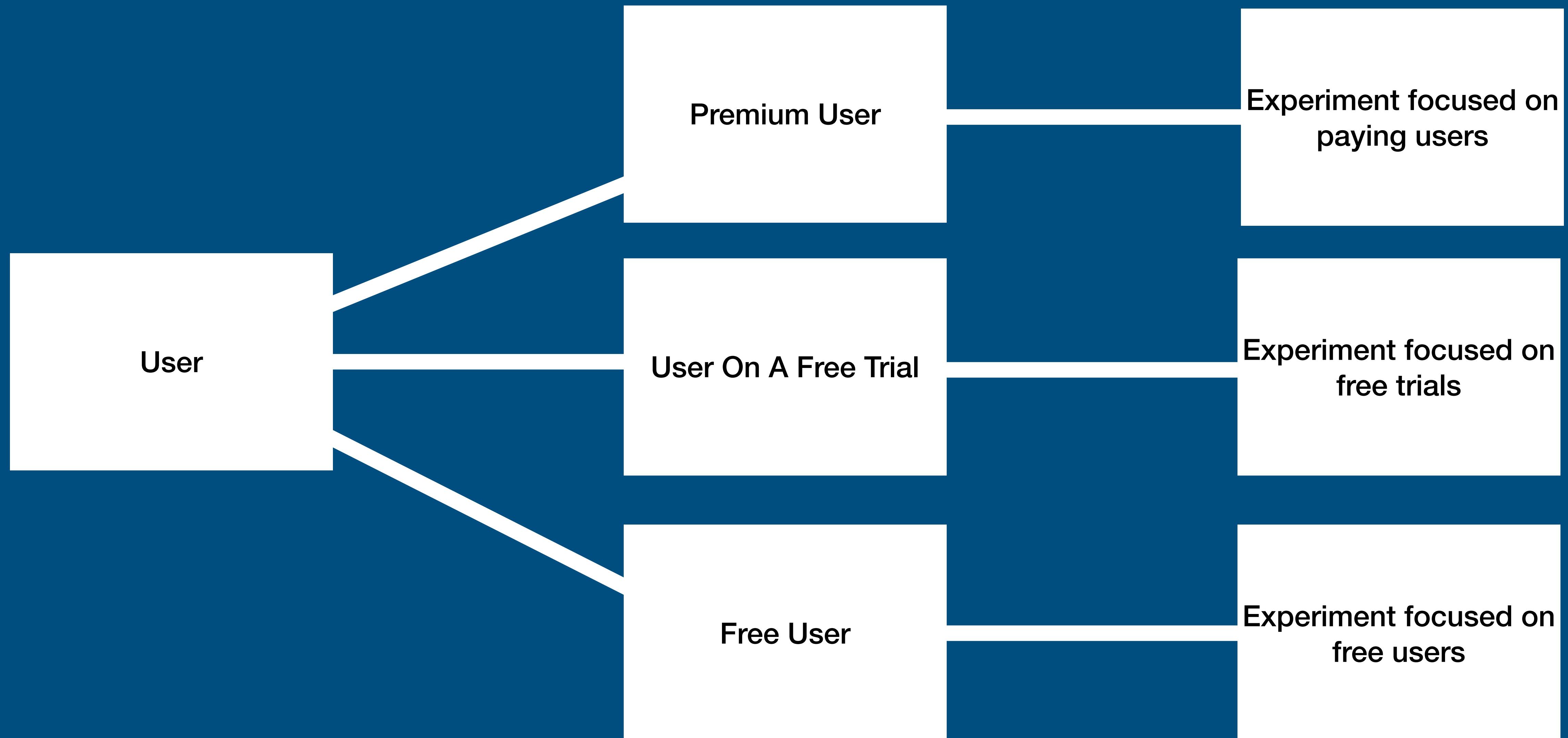


Targeting Testing



```
GenericABTesting.setUserTrait(userTrait: "AccountType",  
                               value: "Premium")
```

Targeting Testing



Legal/ Privacy Considerations

- Any form of user tracking in your app needs to be done legally and ethically
- Keep users anonymous
- They were transparent with what they were tracking and why
- They let users opt out

Keep Apple's Rule In Mind

- AB testing should never be used to slip past Apple's App Store rules
- Create groups/ accounts for Apple to show them all features during

Automated Testing The Tests

Unit Tests/ UI Tests

- Automated testing is critical of larger codebases with AB testing
- A lot of ongoing tests, a lot of changes
- But this can be difficult

We're working with
metadata that can
change in the future

**How can we
test that?**

How to Test

Unit Tests/ UI Tests

- If you know the meta data that will be used in the variants, start there
- Test as many examples as possible
- Test extreme variants
 - What if the text provided has 1 character?
 - What if the text provided has 10,000 characters?
- Test error states
 - What if the meta data doesn't convert to a colour object?

Manual Future Testing

- Use targeted testing to only include QA members in AB tests before they go live
- Test every variant

AB Test Bloody Everything

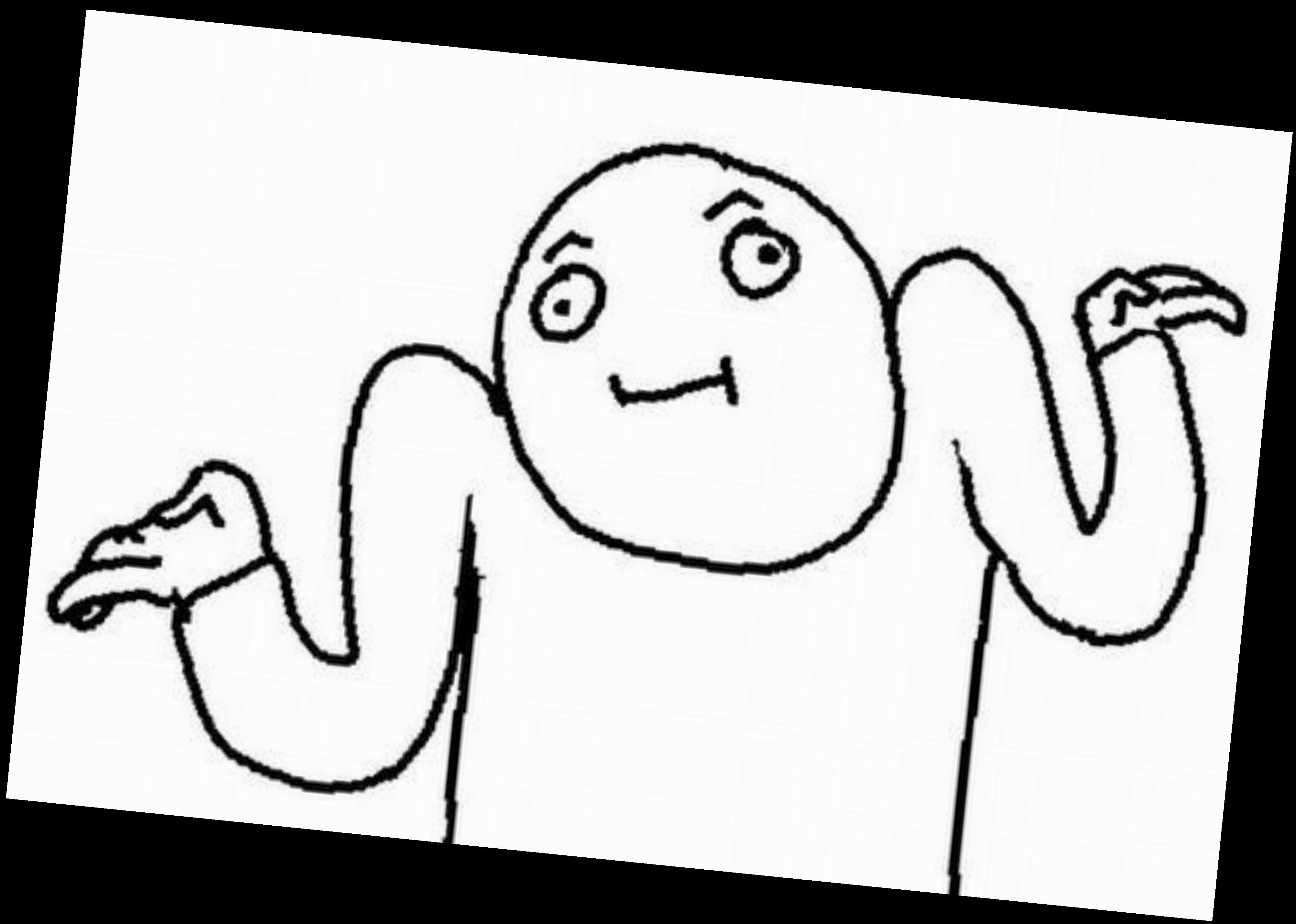
Unlocking the
Benefits of AB Testing

Recap

AB test everything

- Experiment on users to increase results to your end goal
- Experiment in a measurable way
- Using an AB test tool
- Creating your AB test system
- Rolling out your winner when you're confident
- Making use of multi-variant testing where possible
- Making use of targeted testing where possible
- Testing your testing

**“Scan my Linktree
QR code and follow
me on social media!”**



Which variant
did you prefer?



SWIFTCRAFT

21-24 May 2024

AB Test Bloody Everything

Unlocking the Benefits of AB Testing

Matt Heaney