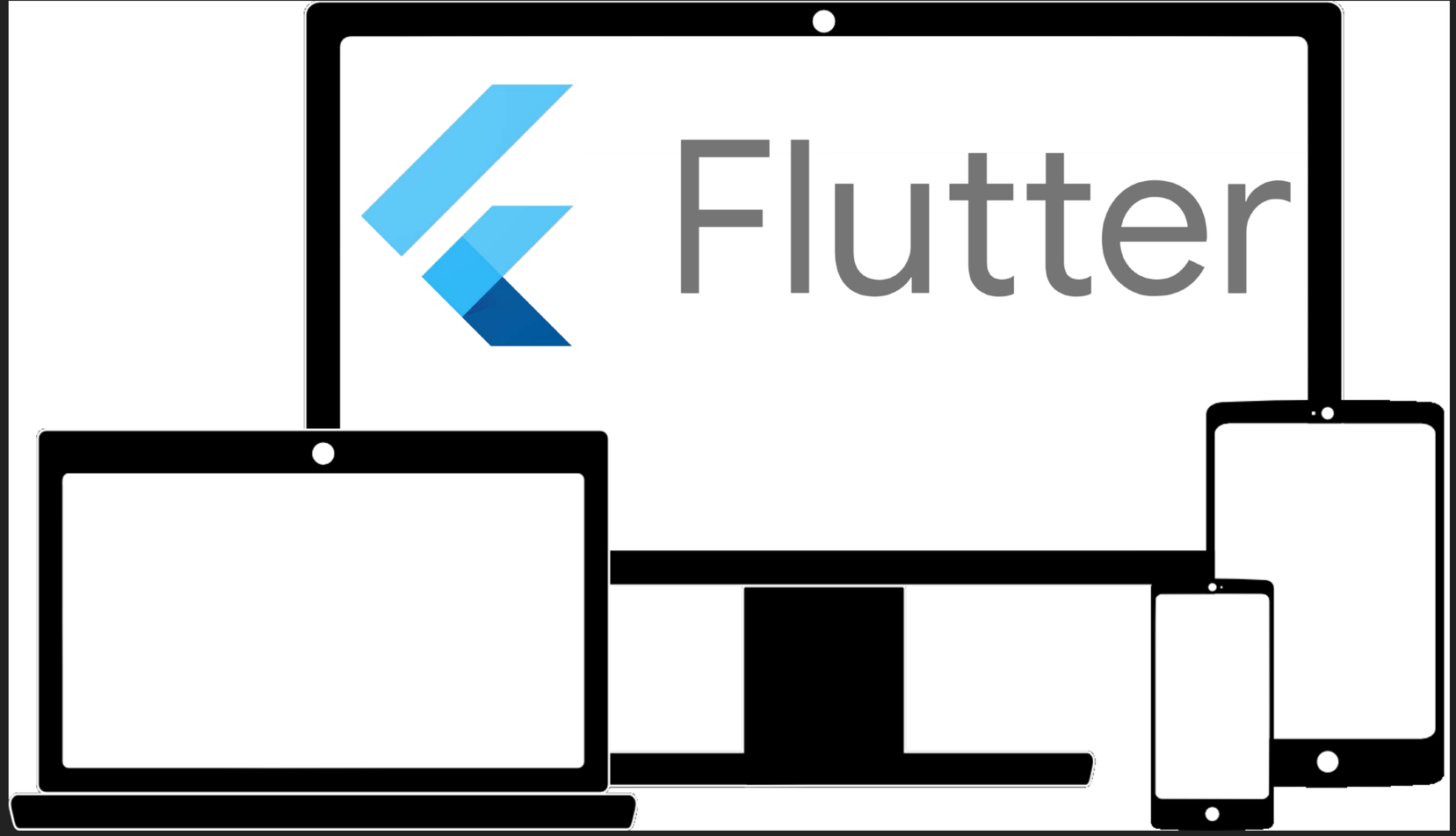


BETTER PROJECTS
FASTER

QCon
LONDON by InfoQ



KARSTEN SILZ

APRIL 4, 2022

GOOGLE'S FLUTTER: MOBILE, WEB & DESKTOP FRONTENDS WITH 1 CODEBASE?

BUILD MOBILE, WEB & DESKTOP FRONTENDS WITH FLUTTER & 1 CODEBASE?

YES, WE CAN

I'LL SHOW YOU

BUT WE GENERALLY
SHOULDN'T

I'LL TELL YOU WHY

FLUTTER ON MOBILE:



I'LL ALSO TELL YOU WHY

WHY CROSS-PLATFORM?

HOW CROSS-PLATFORM?

HOW FLUTTER WORKS

MY FLUTTER EXPERIENCES

WHY AM I HERE?



FLUTTER APP IN APP STORES

INFOQ JAVA EDITOR, PC QCON LONDON

JAVA DEVELOPER FOR 23 YEARS

USE JAVA, ANGULAR & FLUTTER –
NOT ASSOCIATED

I GIVE YOU OPTIONS...

. . . BUT YOU DECIDE!



SLIDES & MORE

BPF.LI/QCN

WHY CROSS-PLATFORM

HOW CROSS-PLATFORM

HOW FLUTTER WORKS

MY FLUTTER EXPERIENCES

WHY CROSS-PLATFORM FRONT-ENDS?

USERS ARE MULTI-PLATFORM

PC



.NET
C#



SWIFTUI
SWIFT



GTK/KDE
C++

MOBILE



SWIFTUI
SWIFT



JETPACK
COMPOSE
KOTLIN

PC

MOBILE











.NET
C#

S
S++

SWIFTUI
SWIFT

JETPACK
COMPOSE
KOTLIN

TOO EXPENSIVE!

PLATTFORM SDK FRONT-ENDS: TOO EXPENSIVE

PC







MOBILE





1 FRAMEWORK, 1 LANGUAGE
CROSS-PLATFORM

CROSS-PLATFORM FRONT-ENDS: CHEAPER & GOOD ENOUGH

GOOD ENOUGH:
ENTERPRISE & CONSUMER APPS – NOT GAMES

THAT'S WHY CROSS-PLATFORM FRONT-ENDS!

~~WHY CROSS-PLATFORM~~

HOW CROSS-PLATFORM

HOW FLUTTER WORKS

MY FLUTTER EXPERIENCES

HOW CROSS-PLATFORM FRONT-ENDS?

BIGGEST SOFTWARE ECOSYSTEM EVER

MANY & CHEAP DEVELOPERS

REACT, ANGULAR, VUE

HARD TO LEARN

WEB

PC







MOBILE





HTML, CSS
JAVASCRIPT/TYPESCRIPT

MISSING ON IOS: PUSH NOTIFICATIONS, BACKGROUND SYNC

RESTRICTED: LOCAL STORAGE, NOT ALL NATIVE FEATURES

OFTEN SLOWER & LESS COMFORTABLE

DOESN'T HAVE "PREMIUM FEEL" OF NATIVE APP

ISSUES: WEB ON MOBILE

WHY NATIVE LOOK & FEEL?

NON-NATIVE LOOK & FEEL: SOME USERS CONFUSED, SOME COMPLAIN

GOOGLE APPS ON IOS:
MATERIAL UI =>
NATIVE IOS UI

"REALLY MAKE PRODUCTS FEEL GREAT ON APPLE PLATFORMS"

JEFF VERKOEYEN, GOOGLE

CROSS-PLATFORM X 2:
WEB + NATIVE

PC







HTML, CSS
JAVASCRIPT/TYPESCRIPT

MOBILE





NATIVE CROSS-
PLATFORM

ADDING MOBILE APP TO EXISTING WEB APP . . .

. . . OFTEN HAS NO BUSINESS CASE – UNLESS HARD RESTRICTION

DEFINE: "NATIVE"

RUNS NATIVELY, IN APP STORES

NATIVE LOOK & FEEL

ACCESS TO NATIVE PLATFORM FEATURES

NATIVE X 3

NATIVE CROSS-PLATFORM FRAMEWORKS?

FLUTTER (GOOGLE)

XAMARIN/.NET MAUI (MICROSOFT)

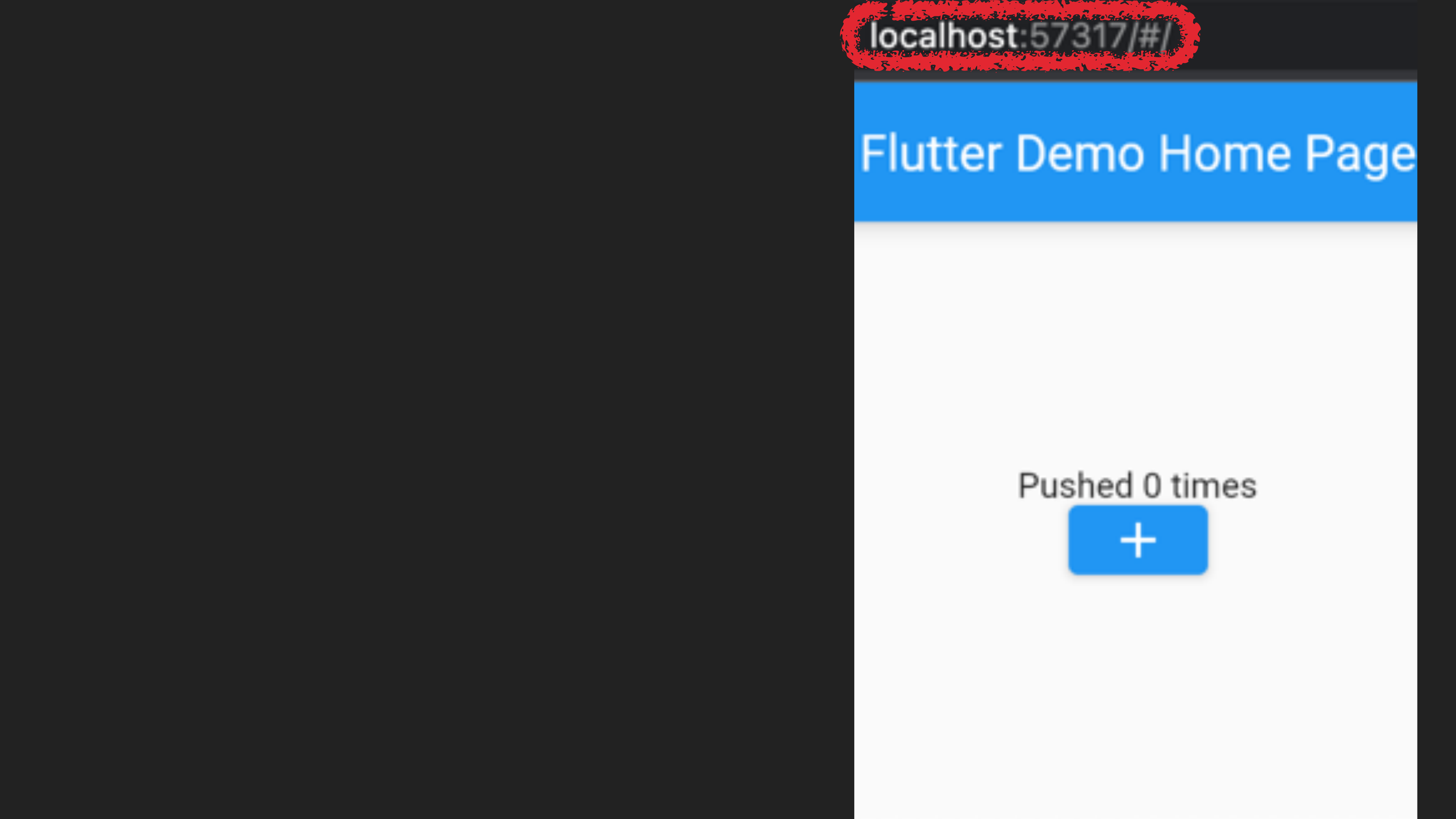
REACT NATIVE (META)

JAVAFX (GLUON)

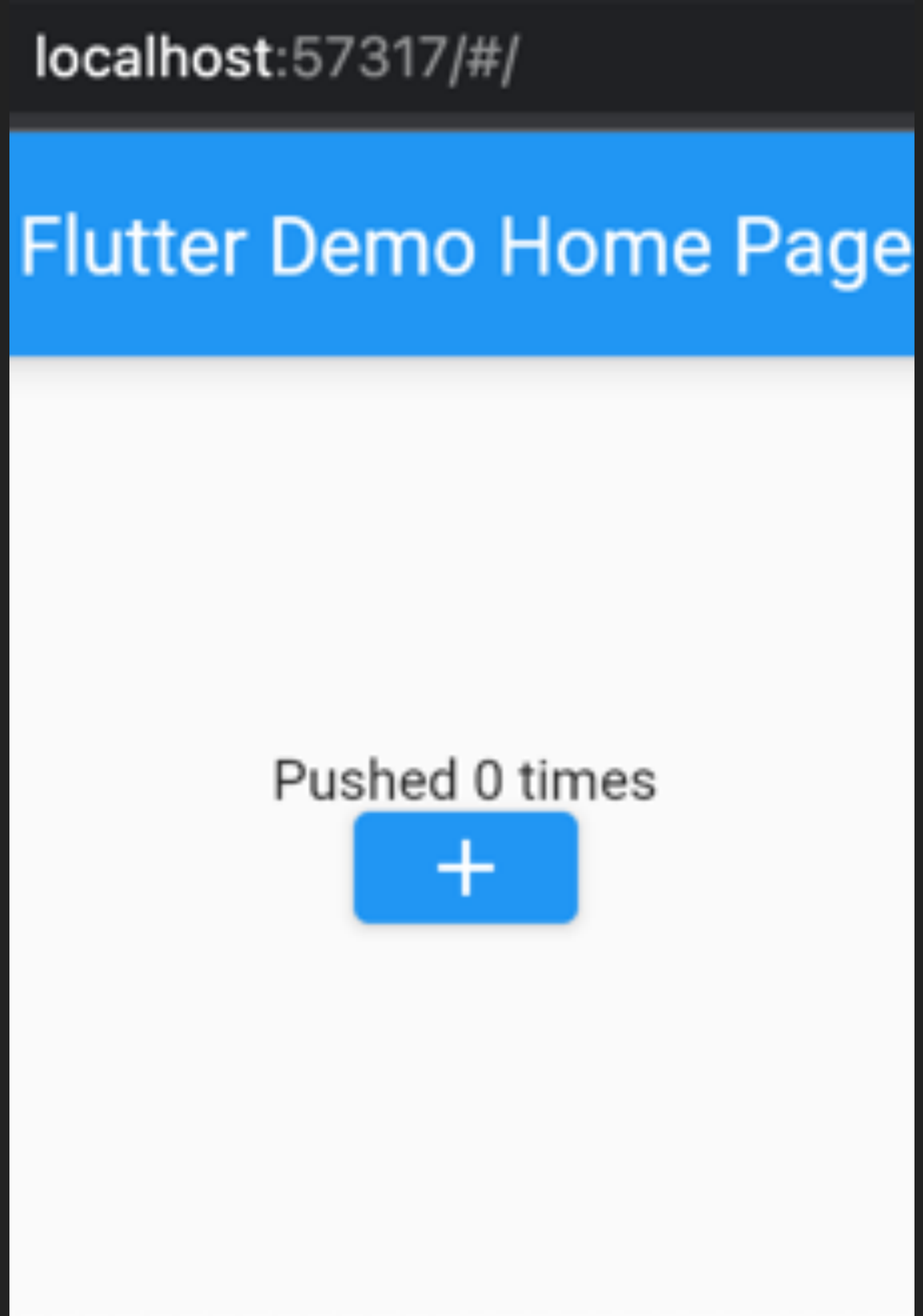
OPEN-SOURCE & JAVA-LIKE

DECLARATIVE UI MODEL

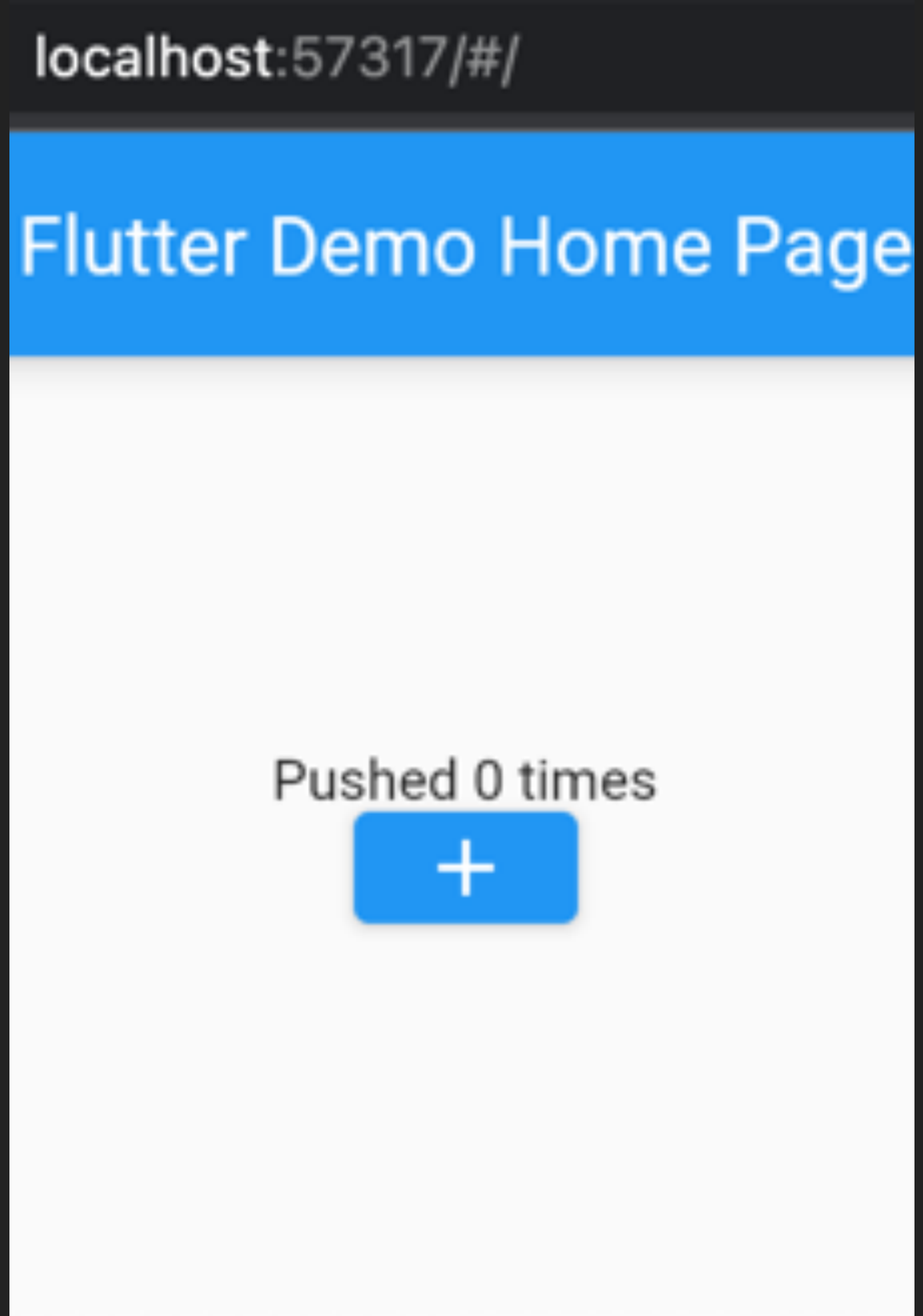
STANDARD FLUTTER APP (MODIFIED)


localhost:57317/#/
Flutter Demo Home Page
Pushed 0 times
+

```
int _counter = 0;
[…]
Column(
  mainAxisAlignment:
    MainAxisAlignment.center,
  children: <Widget>[
    Text('Pushed $_counter times'),
    ElevatedButton(
      onPressed: () ⇒
        setState(() ⇒ _counter++),
      child: Icon(Icons.add),
    )
  ],
)
```



```
int _counter = 0;
[…]
Column(
  mainAxisAlignment:
    MainAxisAlignment.center,
  children: <Widget>[
    Text('Pushed $_counter times'),
    ElevatedButton(
      onPressed: () ⇒
        setState(() ⇒ _counter++),
      child: Icon(Icons.add),
    )
  ],
)
```



```
int _counter = 0;
[…]
Column(
  mainAxisAlignment:
    MainAxisAlignment.center,
  children: <Widget>[
    Text('Pushed $_counter times'),
    ElevatedButton(
      onPressed: () ⇒
        setState(() ⇒ _counter++),
      child: Icon(Icons.add),
    )
  ],
)
```

UI AS CODE

```
int _counter = 0;
[…]
Column(
  mainAxisAlignment:
    MainAxisAlignment.center,
  children: <Widget>[
    Text('Pushed $_counter times'),
    ElevatedButton(
      onPressed: () ⇒
        setState(() ⇒ _counter++),
      child: Icon(Icons.add),
    )
  ],
)
```

UI AS CODE

```
int _counter = 0;
[…]
Column(
  mainAxisAlignment:
    MainAxisAlignment.center,
  children: <Widget>[
    Text('Pushed $_counter times'),
    ElevatedButton(
      onPressed: () ⇒
        setState(() ⇒ _counter++),
      child: Icon(Icons.add),
    )
  ],
)
```

UI AS CODE

```
int _counter = 0;
[…]
Column(
  mainAxisAlignment:
    MainAxisAlignment.center,
  children: <Widget>[




  ],
)
```

UI AS CODE

```
int _counter = 0;
[…]
Column(
  mainAxisAlignment:
    MainAxisAlignment.center,
  children: <Widget>[
    Text('Pushed $_counter times'),
    ElevatedButton(
      onPressed: () ⇒
        setState(() ⇒ _counter++),
      child: Icon(Icons.add),
    )
  ],
)
```

STATUS & EVENTS

```
int _counter = 0;
[…]
Column(
  mainAxisAlignment:
    MainAxisAlignment.center,
  children: <Widget>[
    Text('Pushed $_counter times'),
    ElevatedButton(
      onPressed: () ⇒
        setState(() ⇒ _counter++),
      child: Icon(Icons.add),
    )
  ],
)
```

FRAMEWORK UPDATES UI

UI AS CODE

STATUS & EVENTS

FRAMEWORK UPDATES UI

DECLARATIVE MODEL



.NET MAUI (Q2/2022)



SWIFTUI (2019)

REACT NATIVE (2015)



REACT (2013)

FLUTTER (2017)



SWIFTUI (2019)



JETPACK COMPOSE (JULY 2021)

XAMARIN – OLD: OLD .NET, C#, UI WITH PLATFORM SDKS

.NET MAUI – NEW: NEW .NET, C#, UI IN MAUI

XAMARIN/.NET MAUI

WHICH FRAMEWORK IS POPULAR?

EASIER TO USE

EASIER TO CONVINCE TEAMMATES/BOSSES

ALL ELSE EQUAL: USE MOST POPULAR

VERY UNPOPULAR: DON'T USE IT

WHY POPULARITY?

I MEASURE TECHNOLOGY POPULARITY

TALK PAGE: GOOGLE SEARCHES & QUESTIONS @ STACK OVERFLOW

FLUTTER WINS

JOB MARKET – DEMAND & SUPPLY?

TEAMMATES &
BOSSES LOOK THERE!

DEVELOPER SUPPLY PROXY: COURSES BOUGHT @ UDEMY


FLUTTER: 2.06M
FLUTTER: 1.3M
REACT NATIVE: 812K
REACT NATIVE: 1.12M
XAMARIN: 241K
XAMARIN: 288K
JAVAFX: 109K
JAVAFX: 181K
MAR 21
APR 21
MAY 21
AUG 21
SEP 21
OCT 21
NOV 21
DEC 21
JAN 22
FEB 22
MAR 22

FLUTTER: +700K

REACT NATIVE: +300K

TECHNOLOGY DEMAND PROXY: MENTIONED IN JOB ADS @ INDEED (62 COUNTRIES)


REACT NATIVE: 19.2K
REACT NATIVE: 22.8K
FLUTTER: 8.4K
FLUTTER: 10.9K
XAMARIN: 5.2K
XAMARIN: 5K
JAVAFX: 0.6K
JAVAFX: 2K
AUG 21
SEP 21
OCT 21
NOV 21
DEC 21
JAN 22
FEB 22
MAR 22

REACT NATIVE: +3.6K

FLUTTER: +2.5K

GOOGLE, STACK OVERFLOW, DEVELOPER SUPPLY:
FLUTTER WINS, PULLING AWAY FROM REACT NATIVE

TECHNOLOGY DEMAND: REACT NATIVE WINS,
HOLDING STEADY AGAINST FLUTTER

POPULARITY

NEWSLETTER: ALSO JVM LANGUAGES & FRAMEWORKS, DATABASES, WEB FRAMEWORKS

SECTION SUMMARY

WEB: BIGGEST, MANY DEVS, HARD TO LEARN – REACT, ANGULAR, VUE

NATIVE: MOBILE, DECLARATIVE, FLUTTER (DEVELOPERS), REACT NATIVE (EMPLOYERS), XAMARIN

THAT'S HOW CROSS-PLATFORM FRONT-ENDS!

~~WHY CROSS-PLATFORM~~

~~HOW CROSS-PLATFORM~~

HOW FLUTTER WORKS

MY FLUTTER EXPERIENCES

HOW FLUTTER WORKS

WILL GOOGLE KILL FLUTTER?

Killed by Google

Search

All (264)

Follow @killedbygoogle on Twitter.

March 2023

Google Currents (2019)

Running out of juice in 12 months, Google Currents was service that provided social media features similar to Google+ for Google Workspace customers. It will be almost 4 years old.

December 2022

YouTube Originals

Dead as a doorknob in 9 months, YouTube Originals was a variety of original content including scripted series, educational videos, and music and celebrity programming. It will be over 6 years old.

December 2022

Google OnHub

Expiring in 9 months, Google OnHub was a series of residential wireless routers manufactured by Asus and TP-Link that were powered by Google software, managed by Google apps, and offered enhanced special features like Google Assistant. It will be over 7 years old.

June 2022

Google Chrome Apps

Off to the glue factory in 3 months, Google Chrome Apps were hosted or packaged web applications that ran on the Google Chrome browser. It will be over 11 years old.

May 2022

G Suite (Legacy Free Edition)

Expiring in 29 days, G Suite (Legacy Free Edition) was a free tier offering some of the services included in Google's productivity suite. It will be over 15 years old.

- IN-HOUSE COMPETITION: ANGULAR, JETPACK COMPOSE
- POPULAR: WINS WITH DEVS, 2ND PLACE IN JOBS
- EXTERNAL COMMITMENT: TOYOTA, UBUNTU

WE DON'T KNOW!

WHICH PLATFORM
STABLE SINCE WHEN?

PC



MAR
2022





2022?

WEB



MAR
2021

MOBILE





DEC
2018

PROGRAMMING LANGUAGE: DART

```
class MyClass extends AnotherClass {
  String firstName = "Karsten";
  int yearsOfJava = 23;
  List<String> myList = new LinkedList<>();

  String sayHello(String name) {
    var feedback = "Hello, " + name;
    return feedback;
  }
}
```

THIS IS JAVA

```
class MyClass extends AnotherClass {
  String firstName = "Karsten";
  int yearsOfJava = 23;
  List<String> myList = List.empty();

  String sayHello(String name) {
    var feedback = "Hello, " + name;
    return feedback;
  }
}
```

THIS IS DART

```
class MyClass extends AnotherClass {
  var firstName = "Karsten";
  var yearsOfJava = 23;
  var myList = <String>[];

  sayHello(String name) => "Hello, $name";
}
```

CONCISE DART

```
class MyClass extends AnotherClass {
  String firstName = "Karsten";
  int yearsOfJava = 23;
  List<String> myList = new LinkedList<>();

  String sayHello(String name) {
    var feedback = "Hello, " + name;
    return feedback;
  }
}
```

THIS IS JAVA

ORIGINALLY FOR BROWSER

"SIMPLIFIED JAVA FOR UI DEVELOPMENT"

SOUND NULL SAFETY & ASYNC/AWAIT

1 MAIN THREAD, CREATE THREADS (ISOLATES)

DART

GOOGLE TUNES
DART FOR FLUTTER

```
return Column(
  children: [
    Text("First name: $firstName"),
    Text("Last name: $lastName"),
    if (isAdmin) Text("Password: $password"),
  ],
);
```

SYNTACTIC SUGAR

```
return Column(
  children: [
    Text("First name: $firstName"),
    Text("Last name: $lastName"),
    if (isAdmin) Text("Password: $password"),
  ],
);
```

INSTEAD OF SEPARATE ARRAY

WITH IF STATEMENT

SYNTACTIC SUGAR

LIBRARIES: PLUGINS

PLUGINS – FLUTTER: 16K, DART: 14K

MOST ARE OPEN-SOURCE

GOOD "PLUGIN SURVIVAL RATIO"

FORKING PLUGINS IS EASY

PLUGINS

UI ELEMENTS: WIDGETS

```
Column(
  mainAxisAlignment:
    MainAxisAlignment.center,
  children: <Widget>[
    Text('Pushed $_counter times'),
    ElevatedButton(
      onPressed: () ⇒
        setState(() ⇒ _counter++),
      child: Icon(Icons.add),
    )
  ],
)
```

WIDGETS ARE CLASSES

CONFIGURE BUILT-IN WIDGETS, CREATE YOUR OWN

EMULATED WITH GRAPHIC ENGINE SKIA (CHROME, FIREFOX)

NO NATIVE SDK UI ELEMENTS: "FLUTTER PAINTS PIXELS"

WIDGETS

LOOK & FEEL:
WIDGET SETS

BASE: CONTAINER, ROW, COLUMN, TEXT, IMAGES, SHAPES, . . .

BUILT-IN LOOK & FEEL: MATERIAL DESIGN, IOS

3RD-PARTY LOOK & FEEL: MACOS, WINDOWS, LINUX

WIDGETS SETS

SAMPLE FLUTTER APP:
5 NATIVE LOOK & FEEL
WITH 1 CODEBASE

LIVE DEMO

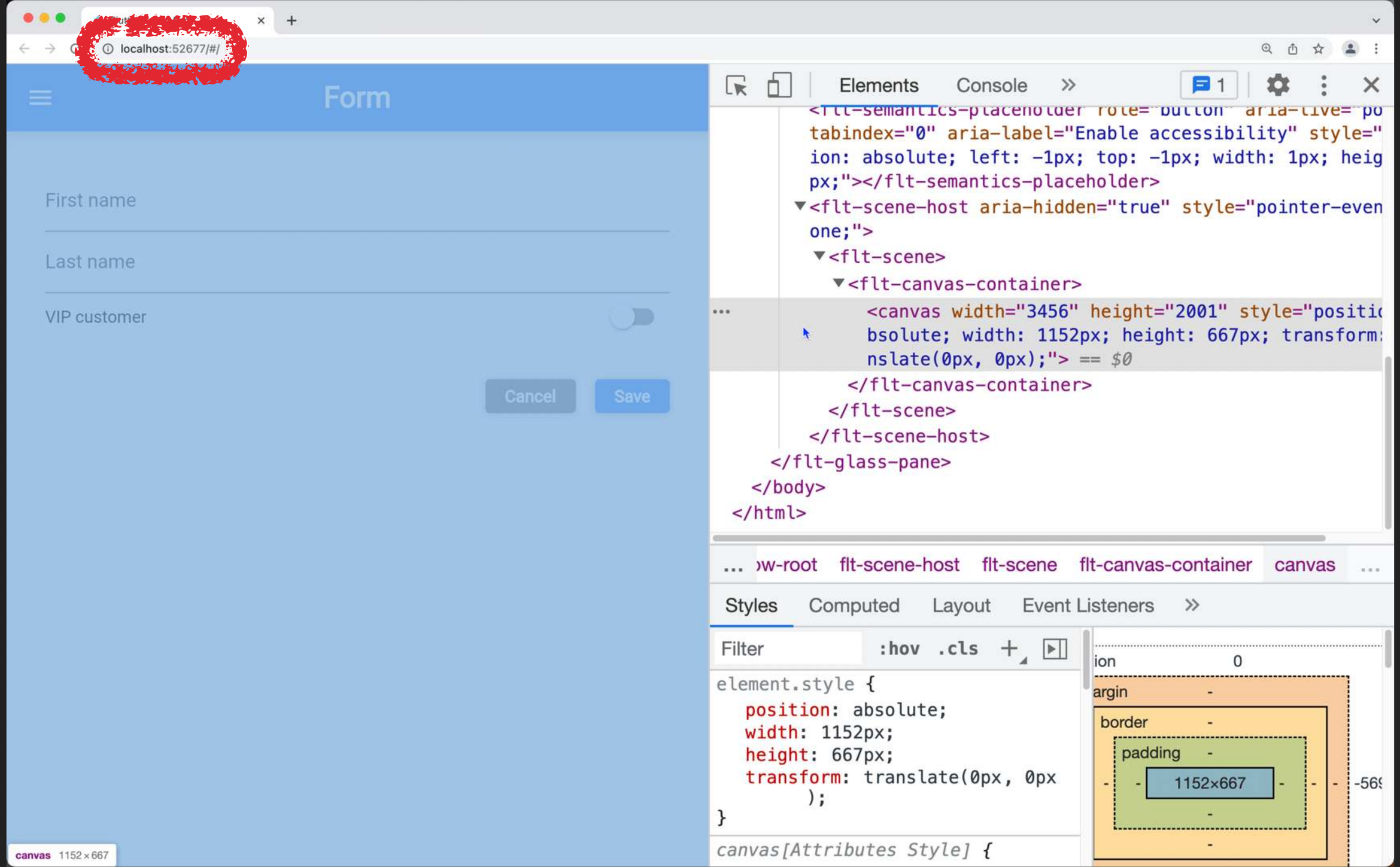
SAMPLE FLUTTER APP

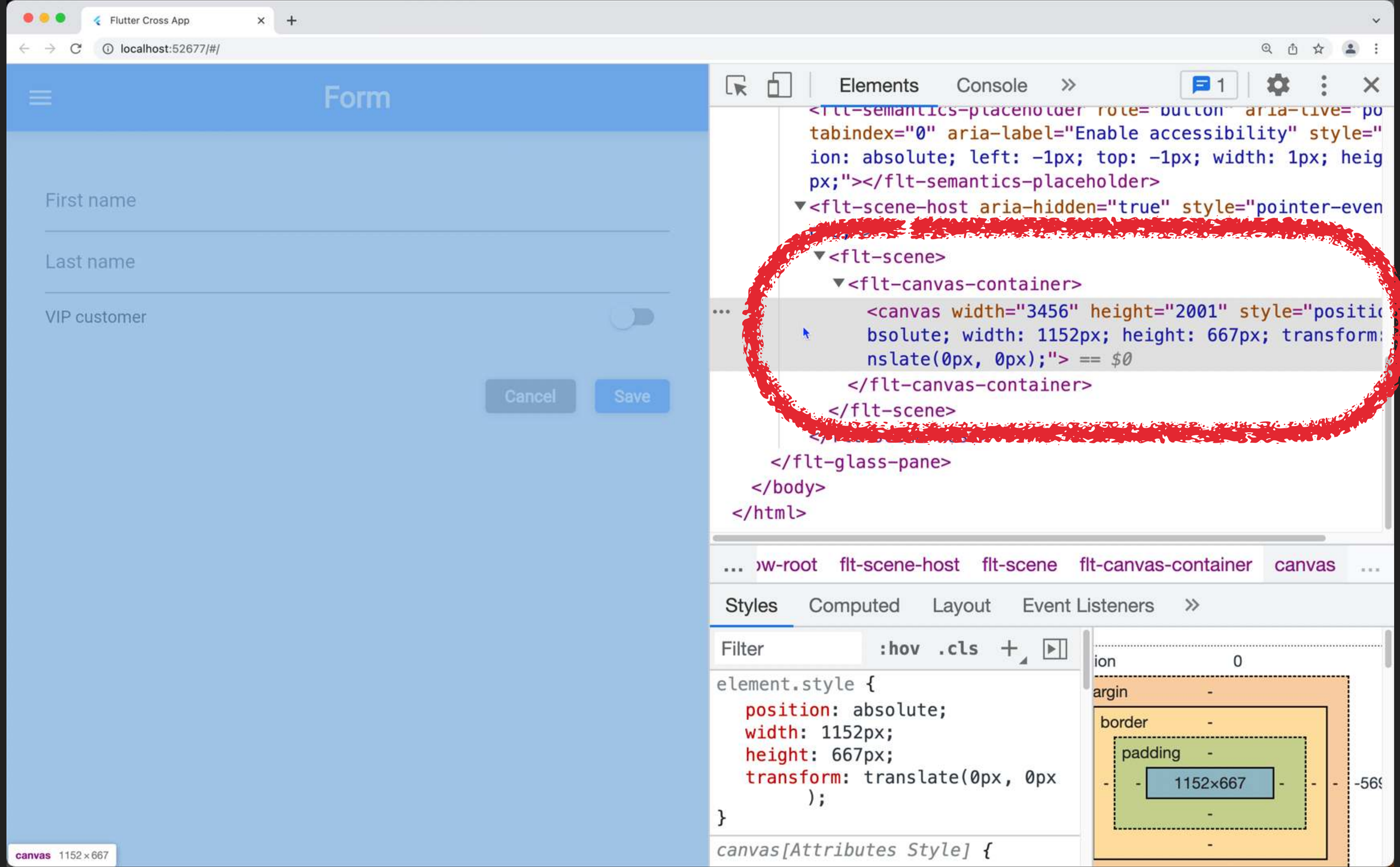


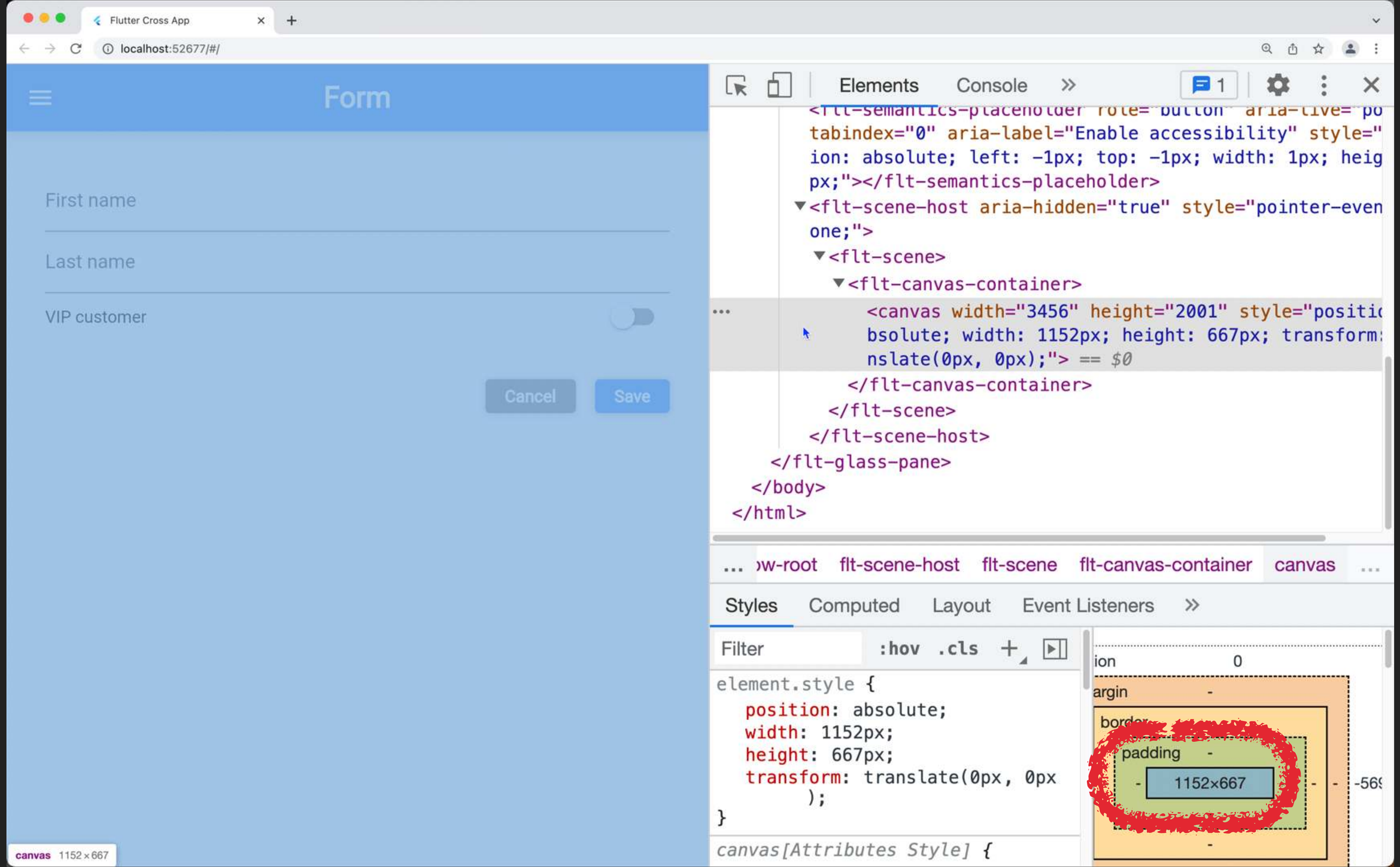
5 NATIVE LOOK & FEEL

SWITCH LOOK & FEEL

SWITCH LOOK & FEEL BECAUSE "FLUTTER PAINTS PIXELS"


localhost:52677/#/
Form
First name
Last name
VIP customer
Cancel
Save
canvas 1152 × 667
Elements
Console
1
<flt-semantics-placeholder role="button" aria-live="po
tabindex="0" aria-label="Enable accessibility" style="
ion: absolute; left: -1px; top: -1px; width: 1px; heig
px;"></flt-semantics-placeholder>
<flt-scene-host aria-hidden="true" style="pointer-even
one;">
<flt-scene>
<flt-canvas-container>
<canvas width="3456" height="2001" style="positi
bsolute; width: 1152px; height: 667px; transform:
nslate(0px, 0px);"> == $0
</flt-canvas-container>
</flt-scene>
</flt-scene-host>
</flt-glass-pane>
</body>
</html>
flt-scene-host
flt-scene
flt-canvas-container
canvas
Styles
Computed
Layout
Event Listeners
Filter
:hov .cls
element.style {
position: absolute;
width: 1152px;
height: 667px;
transform: translate(0px, 0px
);
}
canvas[Attributes Style] {
ion 0
argin -
border -
padding -
1152×667


Flutter Cross App
localhost:52677/#/
Form
First name
Last name
VIP customer
Cancel
Save
canvas 1152 × 667
Elements
Console
1
<flt-semantics-placeholder tabindex="0" aria-label="Enable accessibility" style="
ion: absolute; left: -1px; top: -1px; width: 1px; heig
px;"></flt-semantics-placeholder>
<flt-scene-host aria-hidden="true" style="pointer-even
<flt-scene>
<flt-canvas-container>
<canvas width="3456" height="2001" style="positi
bsolute; width: 1152px; height: 667px; transform:
nslate(0px, 0px);"> == $0
</flt-canvas-container>
</flt-scene>
</flt-glass-pane>
</body>
</html>
flt-scene-host
flt-scene
flt-canvas-container
canvas
Styles
Computed
Layout
Event Listeners
Filter
:hov .cls
element.style {
position: absolute;
width: 1152px;
height: 667px;
transform: translate(0px, 0px
);
}
canvas[Attributes Style] {
ion 0
argin -
border -
padding -
1152×667


Flutter Cross App
localhost:52677/#/
Form
First name
Last name
VIP customer
Cancel
Save
canvas 1152 × 667
Elements
Console
1
<flt-semantics-placeholder role="button" aria-live="po
tabindex="0" aria-label="Enable accessibility" style="
ion: absolute; left: -1px; top: -1px; width: 1px; heig
px;"></flt-semantics-placeholder>
<flt-scene-host aria-hidden="true" style="pointer-even
one;">
<flt-scene>
<flt-canvas-container>
<canvas width="3456" height="2001" style="positi
bsolute; width: 1152px; height: 667px; transform:
nslate(0px, 0px);"> == $0
</flt-canvas-container>
</flt-scene>
</flt-scene-host>
</flt-glass-pane>
</body>
</html>
flt-scene-host
flt-scene
flt-canvas-container
canvas
Styles
Computed
Layout
Event Listeners
Filter
:hov .cls
element.style {
position: absolute;
width: 1152px;
height: 667px;
transform: translate(0px, 0px
);
}
canvas[Attributes Style] {
ion 0
argin -
border
padding -
1152×667

SAMPLE APP ON GITHUB

CREATED MY OWN WIDGETS

WIDGETS HAVE SWITCH STATEMENT =>
CREATES WIDGET FOR CURRENT PLATFORM

HOW DOES IT WORK?

GLOBAL STATE MANAGEMENT: "PROVIDER"

WIDGET SET: MATERIAL/NATIVE/CUSTOM

ROUTING: SIMPLE ("NAVIGATOR")/COMPLEX ("ROUTER")

LAYOUT: NO DEFAULT – 3RD PARTY PLUGIN

ARCHITECTURAL CHOICES

NATIVE INTEGRATION

IOS/ANDROID: STABLE

WEB/DESKTOP: UNDER CONSTRUCTION?

FLUTTER IN NATIVE APPS

PLUGINS: CAMERA, PICTURES, LOCATION, . . .

MOBILE: SHOW NATIVE SCREENS + WEB VIEWS

MOBILE: CHANNELS (PUBLISH & SUBSCRIBE) TO NATIVE CODE & C-API

NATIVE CODE IN FLUTTER

RUN NATIVELY

ANDROID: ANDROID STUDIO, IOS/MACOS: MACOS + XCODE,
WINDOWS: WINDOWS + VISUAL STUDIO

FLUTTER ENGINE: C/C++

FLUTTER APP: NATIVE ARM LIBRARY (MOBILE), JAVASCRIPT (WEB), C++ (WINDOWS, LINUX), OBJECTIVE-C (MACOS)

PLATFORM TOOL CHAINS

CODE, BUILD & DEPLOY

"EXCELLENT DEV EXPERIENCE"

IDE: INTELLIJ/ANDROID STUDIO & VISUAL STUDIO CODE

DEV TOOLS: INSPECTOR, PROFILER FOR MEMORY, CPU & NETWORK, "JANK" DIAGNOSIS, WORK IN TERMINAL

CODE

MONOREPO: CODE FOR ALL PLATFORMS IN 1 GIT PROJECT

1 FOLDER FOR DART, 1 FOLDER PER PLATFORM (SOME PROJECTS – XCODE, ANDROID STUDIO)

PLATFORM: NATIVE SHELLS (`APPDELEGATE.SWIFT`, `MAINACTIVITY.KT`)

PROJECT STRUCTURE

SLOW IOS/ANDROID BUILDS

DART VM DURING DEVELOPMENT

HOT RESTART: APP STARTS OVER IN 3 SECONDS

HOT RELOAD: 1 SECOND FROM "SAVED" TO "RUNNING"

FAST BUILD & DEPLOY

PLATFORM CHECK

FLUTTER VS. WORLD

- NATIVE LOOK & FEEL
- ACCESS TO NATIVE OS LIBRARIES
- FAST BUILD & DEPLOY

MOBILE: 👍 👍

- ONLY MATERIAL UI
- NO ACCESS TO PLATFORM LIBRARIES (JAVASCRIPT)
- TINY AMOUNT OF LIBRARIES VS. JAVASCRIPT

WEB: 👎

⊖ WHY NOT WEB?

⊖ ONLY WINDOWS STABLE, MAC & LINUX NOT

⊕ ACCESS TO NATIVE OS LIBRARIES

◯ WINDOWS & MACOS UI: INCOMPLETE, MAINTAINED?

DESKTOP: 👎

JAVASCRIPT	DART
SLOWER	FASTER
NATIVE UI ELEMENTS	PAINTS PIXEL
SEPARATE PROJECTS	MONOREPO
(WINDOWS & MACOS)	WINDOWS, MAC, LINUX

REACT NATIVE VS. FLUTTER

NO NEED TO LEARN WEB STACK

DART = SIMPLER JAVA

UI AS CODE WITH CLASSES

USE 2 OF THE 3 TOP JAVA IDES

FLUTTER FITS JAVA

SECTION SUMMARY

DART

PLUGINS

WIDGETS

WIDGET SETS

NATIVE INTEGRATION

RUNS NATIVELY

CODE, BUILD & DEPLOY

PLATFORM CHECK

THAT'S HOW FLUTTER WORKS

~~WHY CROSS-PLATFORM~~

~~HOW CROSS-PLATFORM~~

~~HOW FLUTTER WORKS~~

MY FLUTTER EXPERIENCES

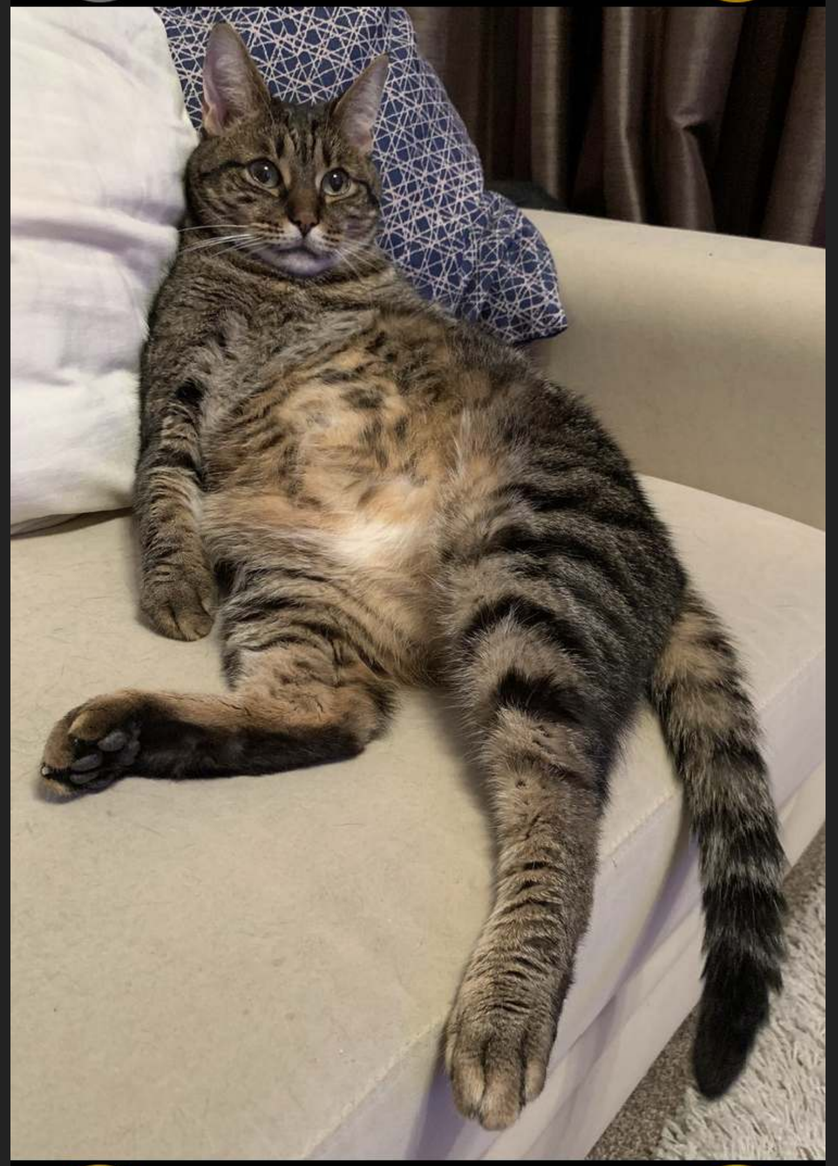
MY FLUTTER EXPERIENCES

B2B SAAS FOR COMPANIES WITH CAT-SITTERS

REMOVE FRICTION & SAVE TIME

I WROTE THE CODE

MY START-UP



CAT-
SITTER

FRONT-
END

MANA-
GER

FLUTTER

IOS & ANDROID

ANGULAR

BROWSER

AUTHENTICATION

FILES

FIREBASE

JAVA & SPRING

DB

BACK-
END

UNLIMITED STORAGE, PUSH NOTIFICATIONS

AS FAST & EASY TO USE AS POSSIBLE => NATIVE UI

PRODUCTIVITY: DART + FAST CODE, BUILD & DEPLOY

FLUTTER BUSINESS CASE

WORKS AS DESIGNED: "2 APPS FOR PRICE OF 1.2"

MINOR QUIBBLES (E.G. SIMULATOR DOESN'T STOP)

APPLE TROUBLE (E.G., NO PASTE INTO SIMULATOR)

FLUTTER LISTENS (BUG FIXES, DEV SURVEYS)

FLUTTER ON MOBILE 👍🏻

WORKS WELL ON IOS & ANDROID

IOS QUIBBLES (NO LIST TILE)

FLUTTER TEAM: "CUSTOMIZE MATERIAL"

FLUTTER PAINTS PIXELS

GOOGLE'S "BACK-END AS A SERVICE" FOR MOBILE, WEB, SERVER

MOSTLY FREE SERVICES, SOME PAID

1 SERVICE INSTEAD OF 2 (IOS + ANDROID): CRASH LOGGING, TEST VERSIONS, . . .

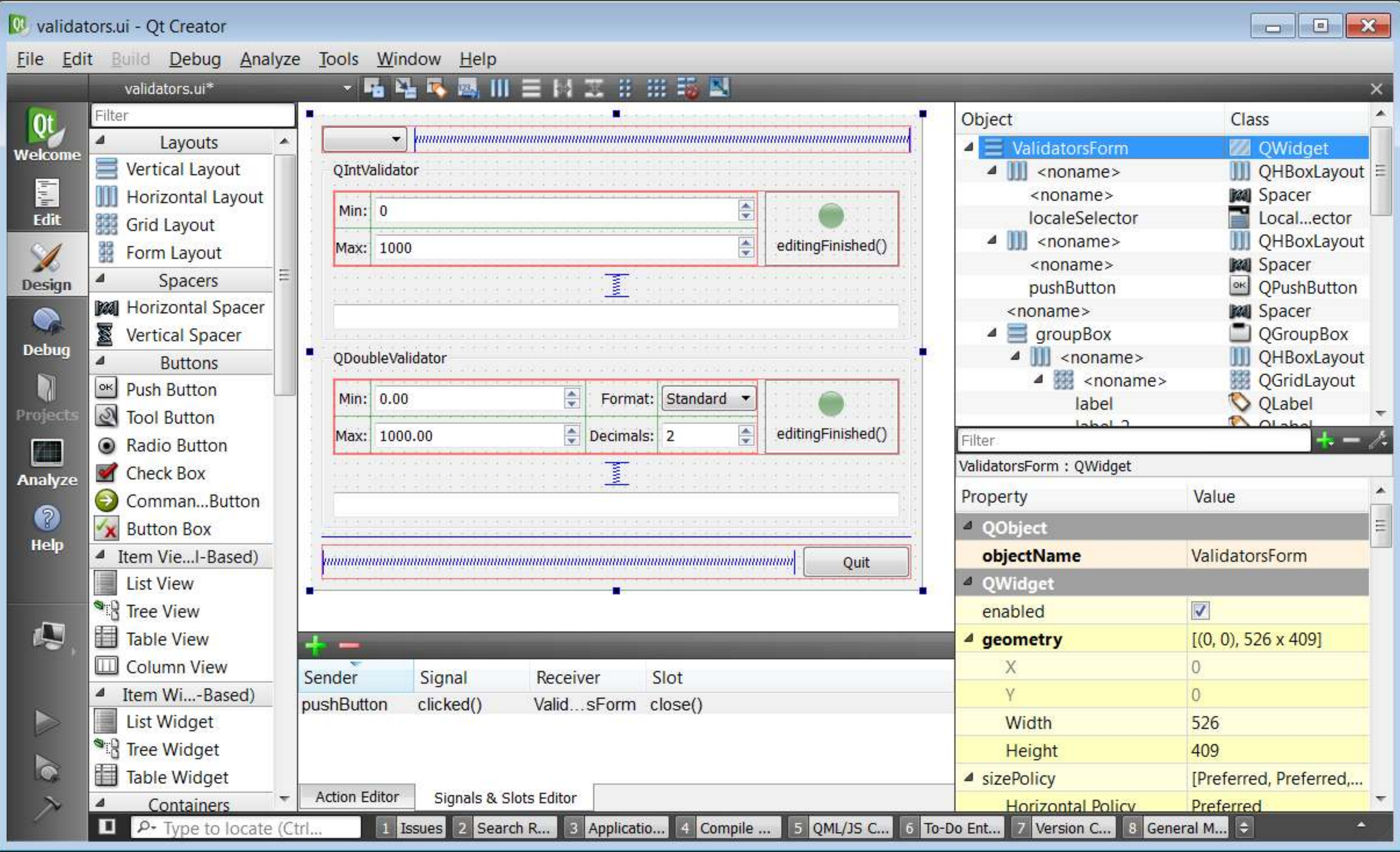
FIREBASE 👍🏻

MOBILE POWER


TikTok

EDIT VIDEOS ON PHONES!

THINK MORE
"DESKTOP CLIENT" . . .


validators.ui - Qt Creator
File Edit Build Debug Analyze Tools Window Help
validators.ui*
Welcome
Edit
Design
Debug
Projects
Analyze
Help
Filter
Layouts
Vertical Layout
Horizontal Layout
Grid Layout
Form Layout
Spacers
Horizontal Spacer
Vertical Spacer
Buttons
Push Button
Tool Button
Radio Button
Check Box
Comman...Button
Button Box
Item Vie...l-Based)
List View
Tree View
Table View
Column View
Item Wi...-Based)
List Widget
Tree Widget
Table Widget
Containers
QIntValidator
Min: 0
Max: 1000
editingFinished()
QDoubleValidator
Min: 0.00
Max: 1000.00
Format: Standard
Decimals: 2
editingFinished()
Quit
Sender Signal Receiver Slot
pushButton clicked() Valid...sForm close()
Action Editor
Signals & Slots Editor
Object Class
ValidatorsForm QWidget
<noname> QHBoxLayout
<noname> Spacer
localeSelector Local...ector
<noname> QHBoxLayout
<noname> Spacer
pushButton QPushButton
<noname> Spacer
groupBox QGroupBox
<noname> QHBoxLayout
<noname> QGridLayout
label QLabel
Filter
ValidatorsForm : QWidget
Property Value
QObject
objectName ValidatorsForm
QWidget
enabled
geometry [(0, 0), 526 x 409]
X 0
Y 0
Width 526
Height 409
sizePolicy [Preferred, Preferred,...
Horizontal Policy Preferred
Type to locate (Ctrl...
1 Issues 2 Search R... 3 Applicatio... 4 Compile ... 5 QML/JS C... 6 To-Do Ent... 7 Version C... 8 General M...

. . . AND LESS
"SIMPLE WEB BROWSER"

Sign up for Last.fm

Desired username: lukew

Try another name

(max 15 characters, no spaces)

Email: mail@mail.com

The occasional newsletter to keep me up-to-date.

Password: •

Confirm password: ••••

IOS & ANDROID POWERFUL

STORE DATA LOCALLY – HELPS OFFLINE

LOAD & SAVE DATA IN BACKGROUND

WEB: LIMITED & HARDER

MOBILE POWER

ONE SOURCE OF UI TRUTH

AVOID "UI OUT OF SYNC"

GERMANY BIGGEST SPORTS APP "KICKER"

Bundesliga, 27. Spieltag

0 : 0

Bayern

1. Platz

1:0 – OR 0:0?

tipico

…nfe unter www.spielerambulanz.de.

…oman 16' 1 : 0

16' Tor für Bayern

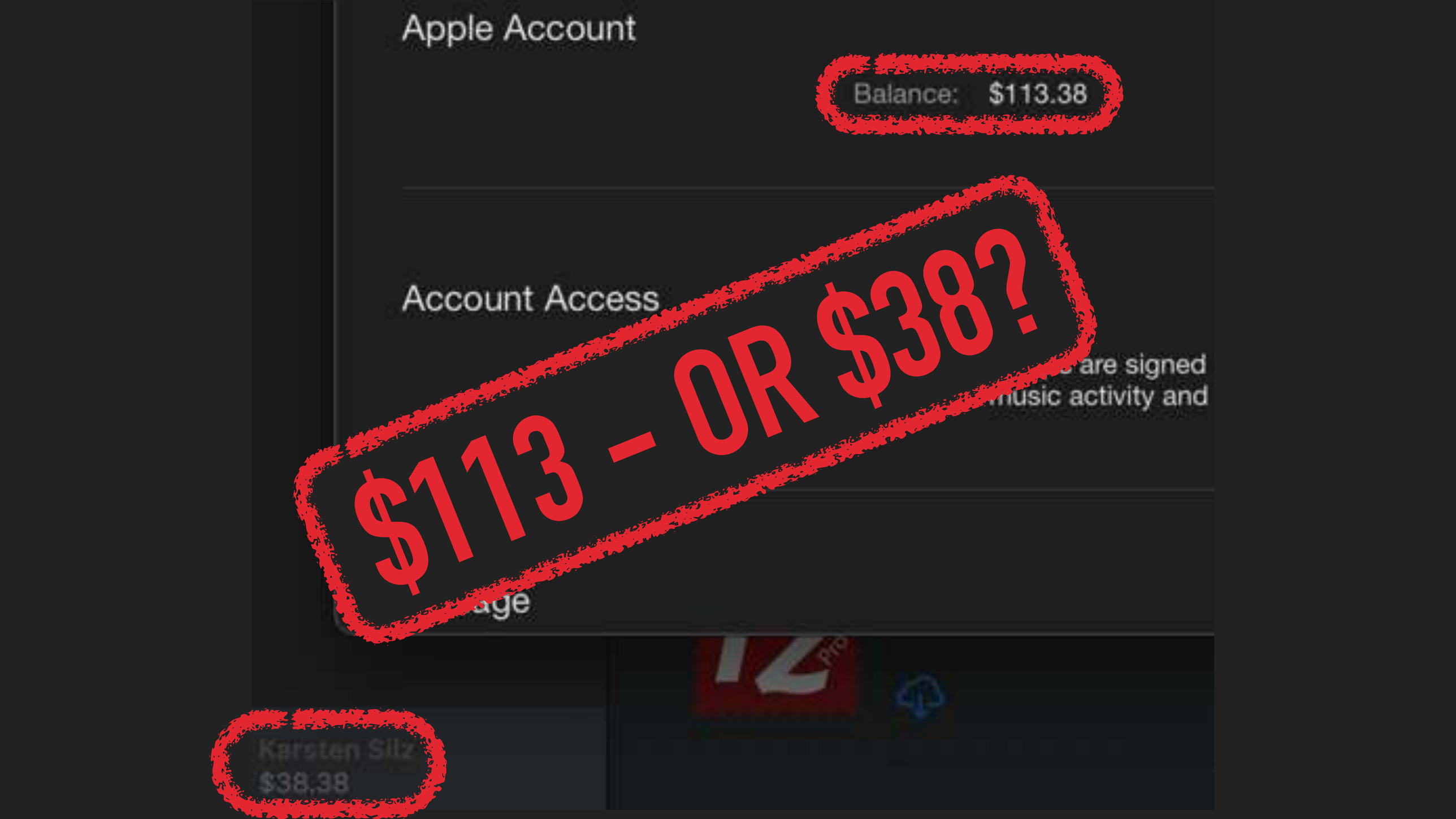


Kingsley
Coman

Rechtsschuss

1 : 0

MACOS APP STORE


Apple Account
Balance: $113.38
Account Access
$113 - OR $38?
are signed
music activity and
age
Karsten Silz
$38.38

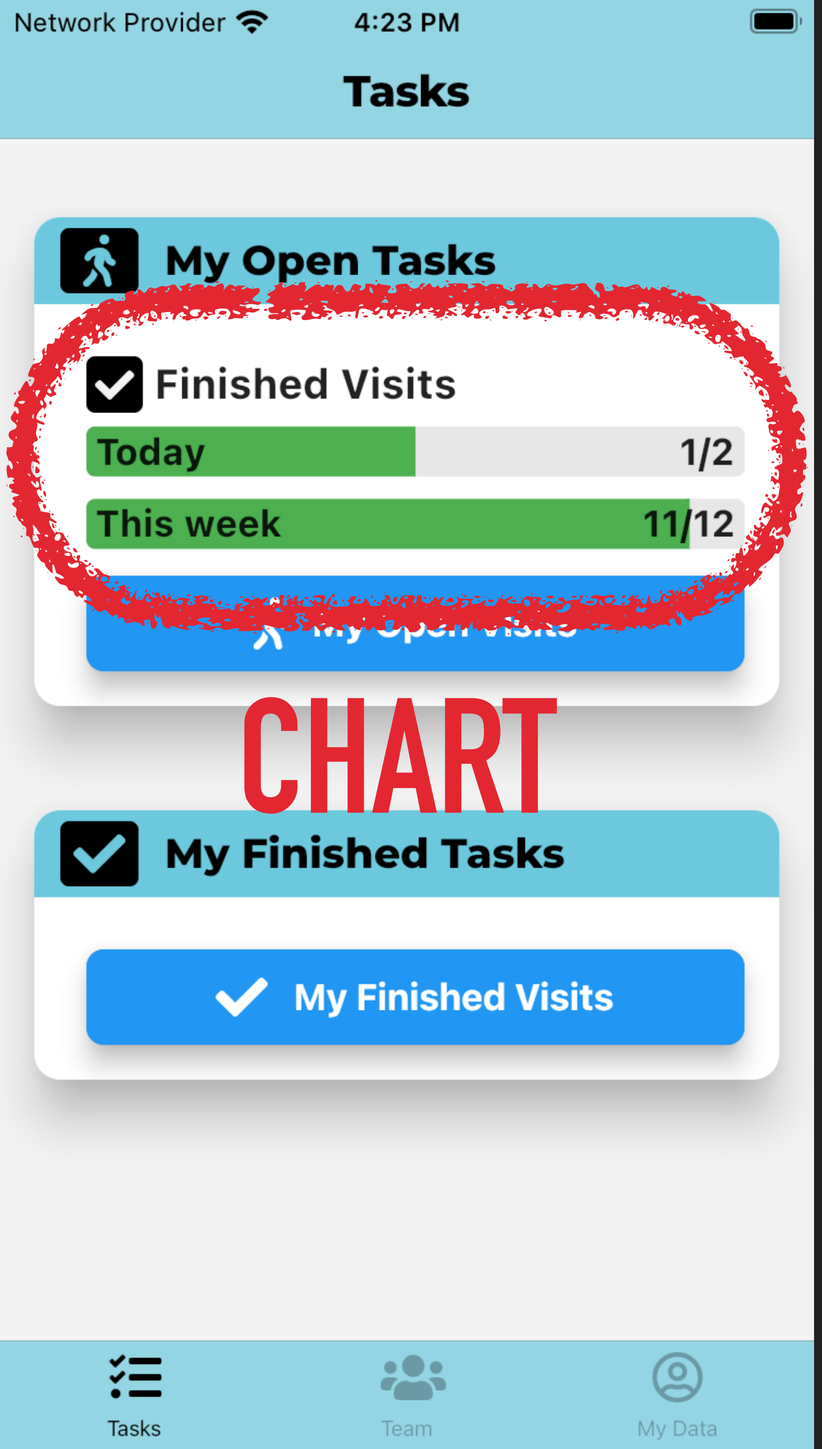
HOW TO AVOID "UI OUT OF SYNC"?

ONE GLOBAL DATA STORE

DATA STORE CHANGES => ENTIRE UI UPDATES

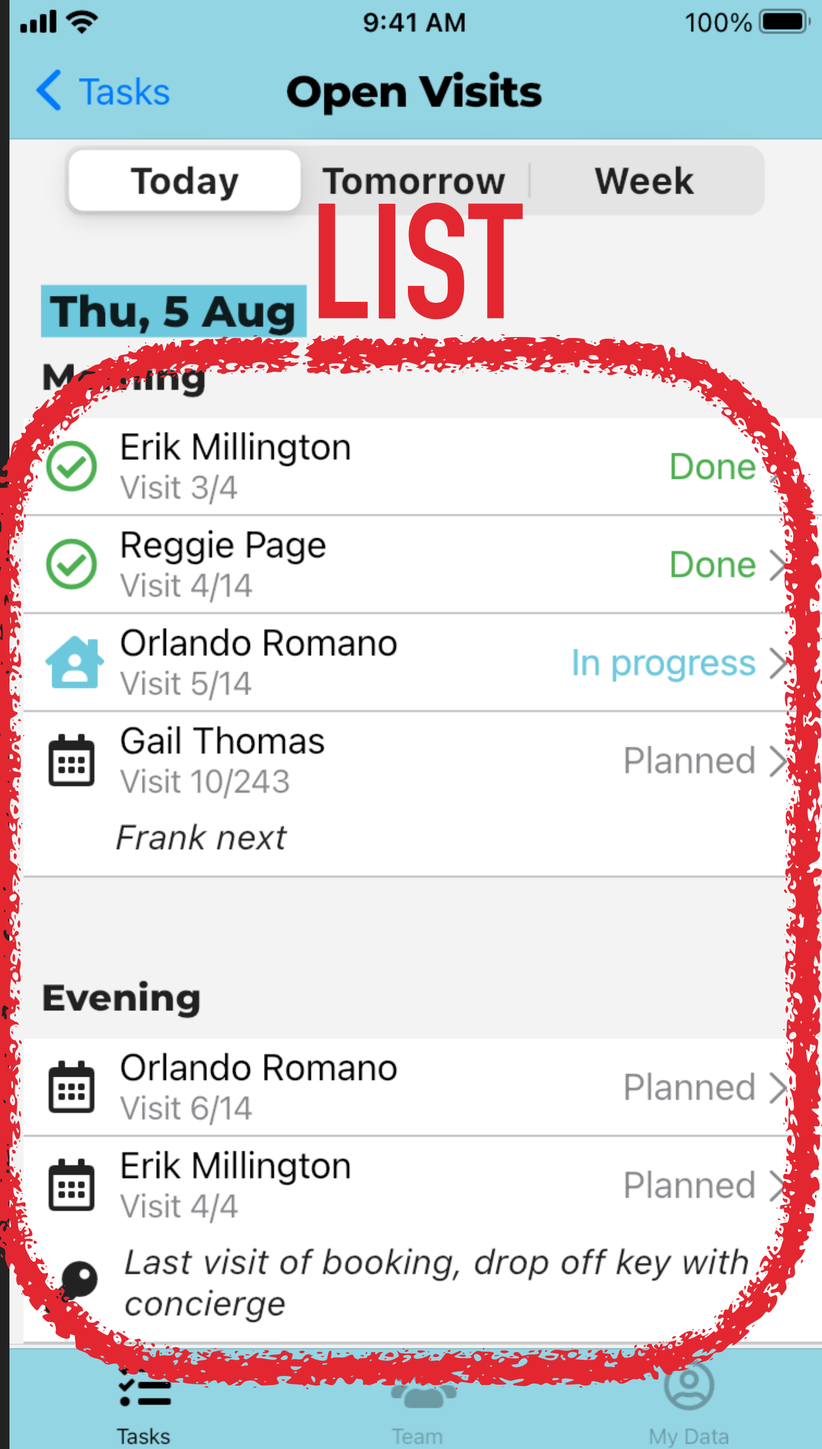
NO "STATUS DUPLICATES" IN DATA STORE

ONE SOURCE OF UI TRUTH



INITIALLY: TWO DIFFERENT OBJECTS => OUT OF SYNC

NOW: CHART = REAL-TIME CALCULATION OVER LIST



"STATUS DUPLICATES"
=> REAL-TIME
CALCULATION

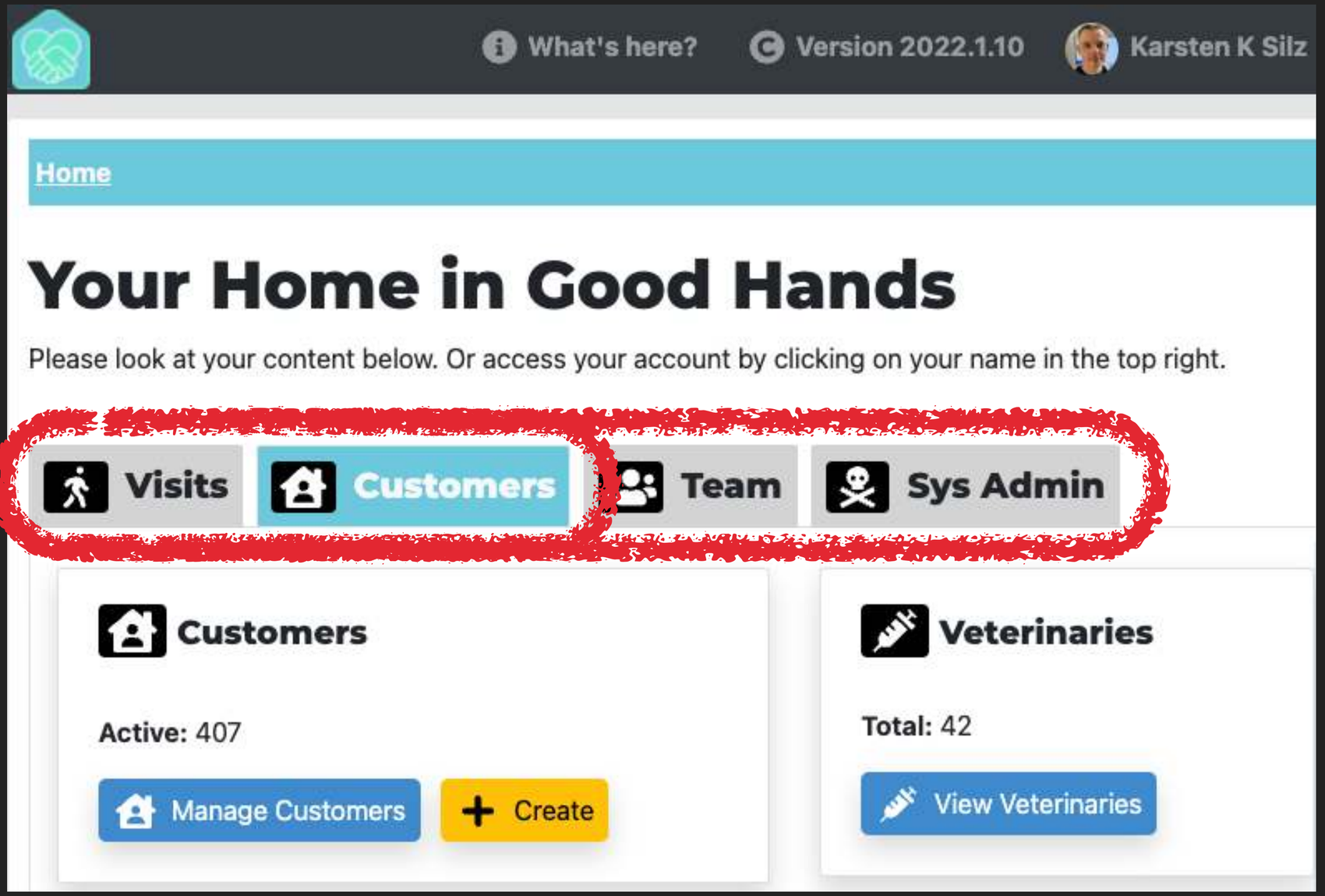
MOBILE POWER

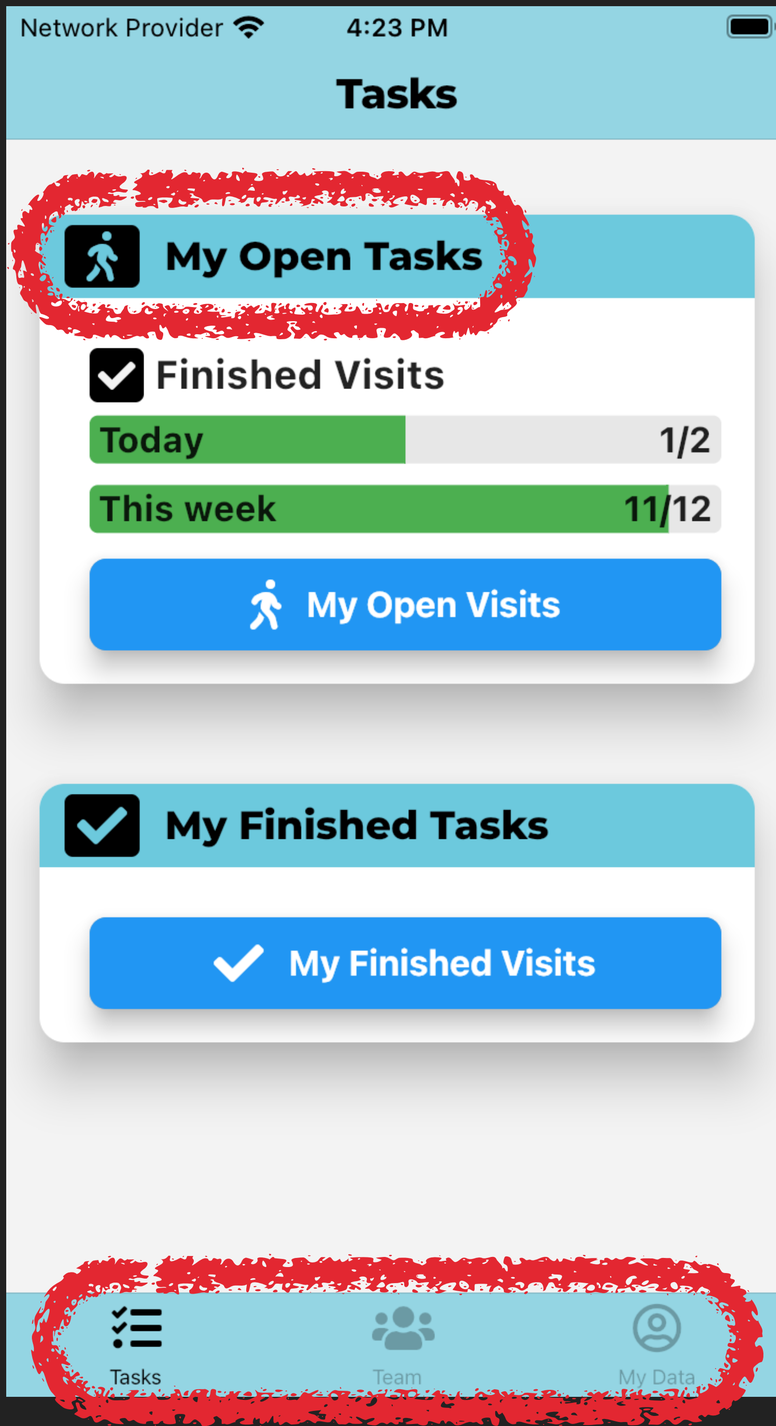
NO "STATUS DUPLICATES" IN DATA STORE

WORKS OFFLINE – BUT DUPLICATES SERVER CODE

ONE SOURCE OF UI TRUTH

BE CONSISTENT


What's here?
Version 2022.1.10
Karsten K Silz
Home
Your Home in Good Hands
Please look at your content below. Or access your account by clicking on your name in the top right.
Visits
Customers
Team
Sys Admin
Customers
Active: 407
Manage Customers
Create
Veterinaries
Total: 42
View Veterinaries


Network Provider
4:23 PM
Tasks
My Open Tasks
Finished Visits
Today 1/2
This week 11/12
My Open Visits
My Finished Tasks
My Finished Visits
Tasks
Team
My Data

RESPECT PLATFORM PARADIGMS

SHARE COLORS (BRAND & BOOTSTRAP)

SHARE FONTS (GOOGLE FONTS)

SHARE ICONS (FONTAWESOME)

BE CONSISTENT

REUSE CODE: USE FLUTTER PLUGINS

DRY: WRITE YOUR OWN COMPONENTS

STRUCTURE: VERTICAL & HORIZONTAL LAYERS

BACK TO BASICS

SECTION SUMMARY

BUSINESS CASE

FLUTTER 👍🏻

FLUTTER PAINTS PIXELS

FIREBASE 👍🏻

MOBILE POWER

1 SOURCE OF UI TRUTH

BE CONSISTENT

BACK TO BASICS

MY FLUTTER EXPERIENCES

~~WHY CROSS-PLATFORM~~

~~HOW CROSS-PLATFORM~~

~~HOW FLUTTER WORKS~~

~~MY FLUTTER EXPERIENCES~~

SUMMARY

CROSS-PLATFORM FRONT-ENDS: CHEAPER & GOOD ENOUGH

WEB: BIGGEST, MANY DEVS, HARD TO LEARN – REACT, ANGULAR, VUE

NATIVE: MOBILE, DECLARATIVE – FLUTTER (DEVELOPERS), REACT NATIVE (EMPLOYERS), XAMARIN

DART

PLUGINS

WIDGETS

WIDGET SETS

NATIVE INTEGRATION

RUNS NATIVELY

CODE, BUILD & DEPLOY

PLATFORM CHECK

BUSINESS CASE

FLUTTER 👍🏻

FLUTTER PAINTS PIXELS

FIREBASE 👍🏻

MOBILE POWER

1 SOURCE OF UI TRUTH

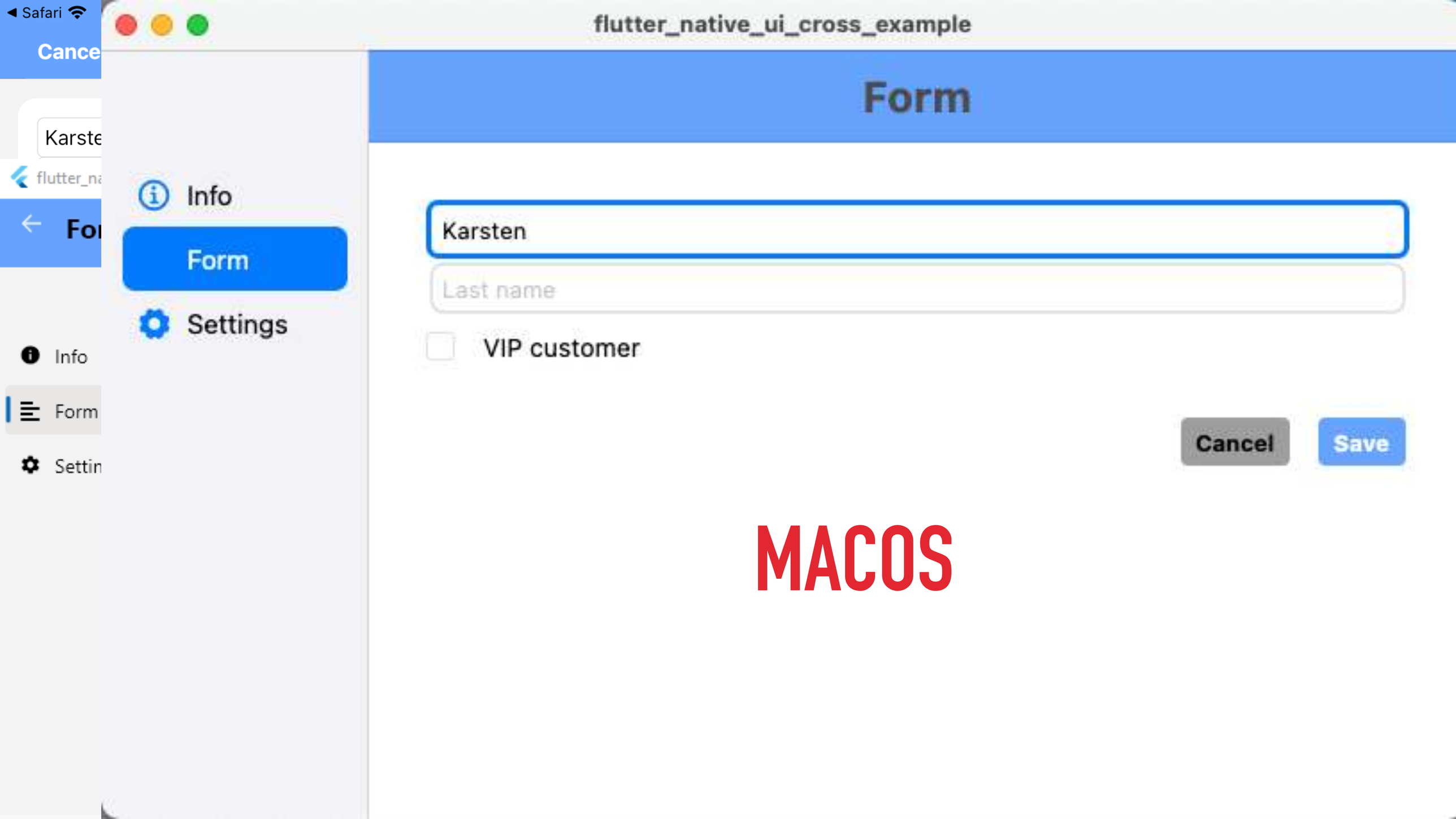
BE CONSISTENT

BACK TO BASICS

BACK TO THE BIG QUESTION

BUILD MOBILE, WEB & DESKTOP FRONTENDS WITH FLUTTER & 1 CODEBASE?

YES, WE CAN


Safari
Cance
Karste
flutter_na
Fo
Info
Form
Settin
flutter_native_ui_cross_example
Info
Form
Settings
Form
Karsten
Last name
VIP customer
Cancel
Save
MACOS

BUT WE GENERALLY
SHOULDN'T

WEB: ONLY MATERIAL UI, NO NATIVE LIBRARIES, FEW PLUGINS

DESKTOP: WHY NOT WEB, ONLY WINDOWS STABLE, WIDGET SETS MAINTAINED

FLUTTER VS. WORLD

FLUTTER ON MOBILE:



"2 APPS FOR THE PRICE OF 1.2"

ALL NATIVE CAPABILITIES

FAST BUILD & DEPLOY

FLUTTER ON MOBILE


The End

MY TALK DOESN'T STOP WHEN I STOP TALKING!™



SLIDES & VIDEOS

ADDITIONAL INFORMATION

NATIVE UI SAMPLE APP

GET STARTED WITH FLUTTER

FEEDBACK & NEWSLETTER

BPF.LI/QCN