

## Chapter 1: Getting Started with Flutter

Set up an editor >

# Install

Get started > Install

Select the operating system on which you are installing Flutter:



Windows



macOS



Linux



Chrome OS

```
simonealessandria@MacBook-Air-di-Simone ~ % which flutter
/Users/Shared/flutter/bin/flutter
simonealessandria@MacBook-Air-di-Simone ~ %
```

## System Properties



Computer Name    Hardware    Advanced    System Protection    Remote

You must be logged on as an Administrator to make most of these changes.

### Performance

Visual effects, processor scheduling, memory usage, and virtual memory

[Settings...](#)

### User Profiles

Desktop settings related to your sign-in

[Settings...](#)

### Startup and Recovery

System startup, system failure, and debugging information

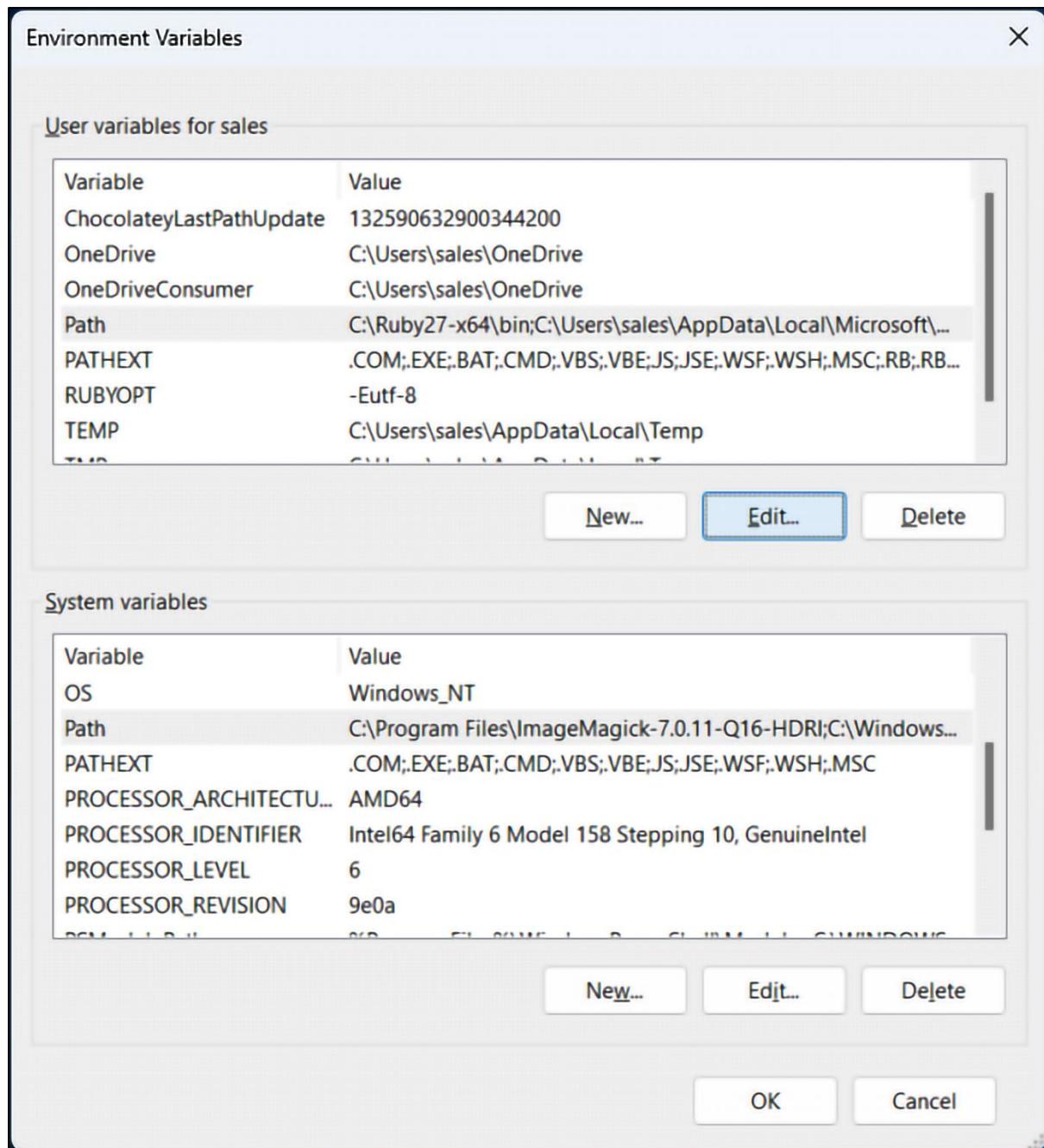
[Settings...](#)

[Environment Variables...](#)

OK

Cancel

Apply



## Edit environment variable

X

C:\Ruby27-x64\bin  
%USERPROFILE%\AppData\Local\Microsoft\WindowsApps  
C:\Users\sales\AppData\Local\Programs\Microsoft VS Code\bin  
**c:\flutter\bin**  
c:\flutter\.pub-cache\bin  
C:\flutter\bin\cache\dart-sdk\bin  
%USERPROFILE%\.dotnet\tools  
C:\Users\sales\AppData\Roaming\npm  
C:\Users\Sales\AppData\Local\Pub\Cache\bin  
C:\Program Files\Azure Data Studio\bin

New

Edit

Browse...

Delete

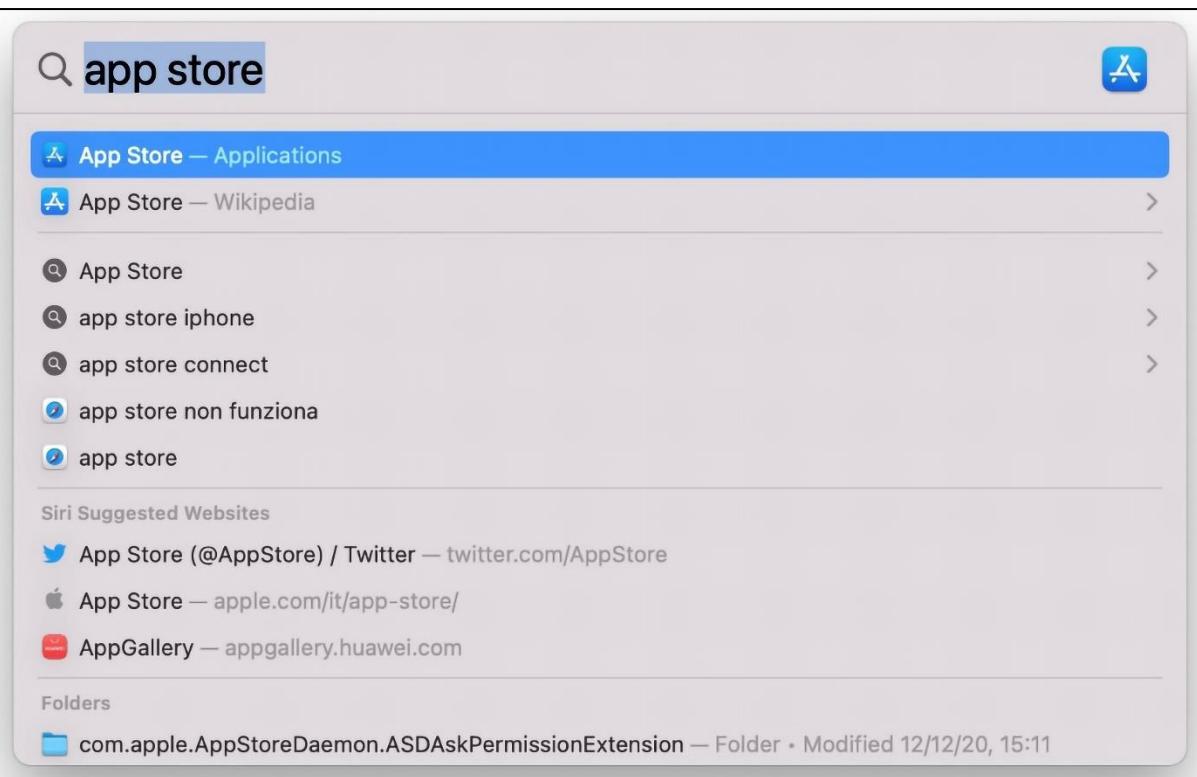
Move Up

Move Down

Edit text...

OK

Cancel





# Welcome to Xcode

Version 13.4.1 (13F100)



## Create a new Xcode project

Create an app for iPhone, iPad, Mac, Apple Watch, or Apple TV.



## Clone an existing project

Start working on something from a Git repository.



## Open a project or file

Open an existing project or file on your Mac.



Show this window when Xcode launches

```
bkayfitz — -bash — 81x23
[X] Xcode – develop for iOS and macOS (Xcode 10.3)
[!] iOS tools – develop for iOS devices
  ✘ Verify that all connected devices have been paired with this computer in
     Xcode.
  If all devices have been paired, libimobiledevice and iDeviceInstaller may
     require updating.
  To update with Brew, run:
    brew update
    brew uninstall --ignore-dependencies libimobiledevice
    brew uninstall --ignore-dependencies usbmuxd
    brew install --HEAD usbmuxd
    brew unlink usbmuxd
    brew link usbmuxd
    brew install --HEAD libimobiledevice
    brew install iDeviceInstaller
```



Android Studio provides the fastest tools for building apps on every type of Android device.

[Download Android Studio](#)

Android Studio Dolphin | 2021.3.1 Patch 1 for Windows 64-bit (912 MiB)

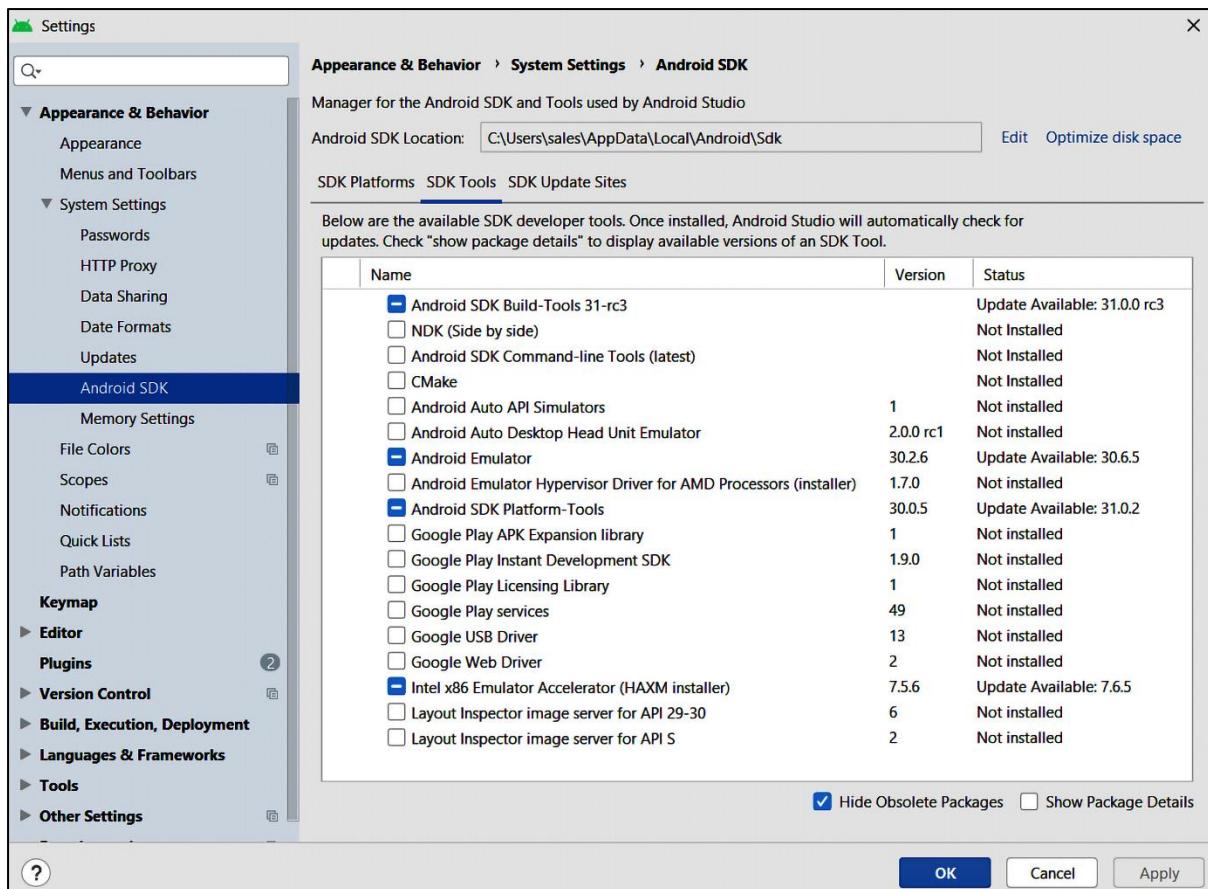
[Download options](#)

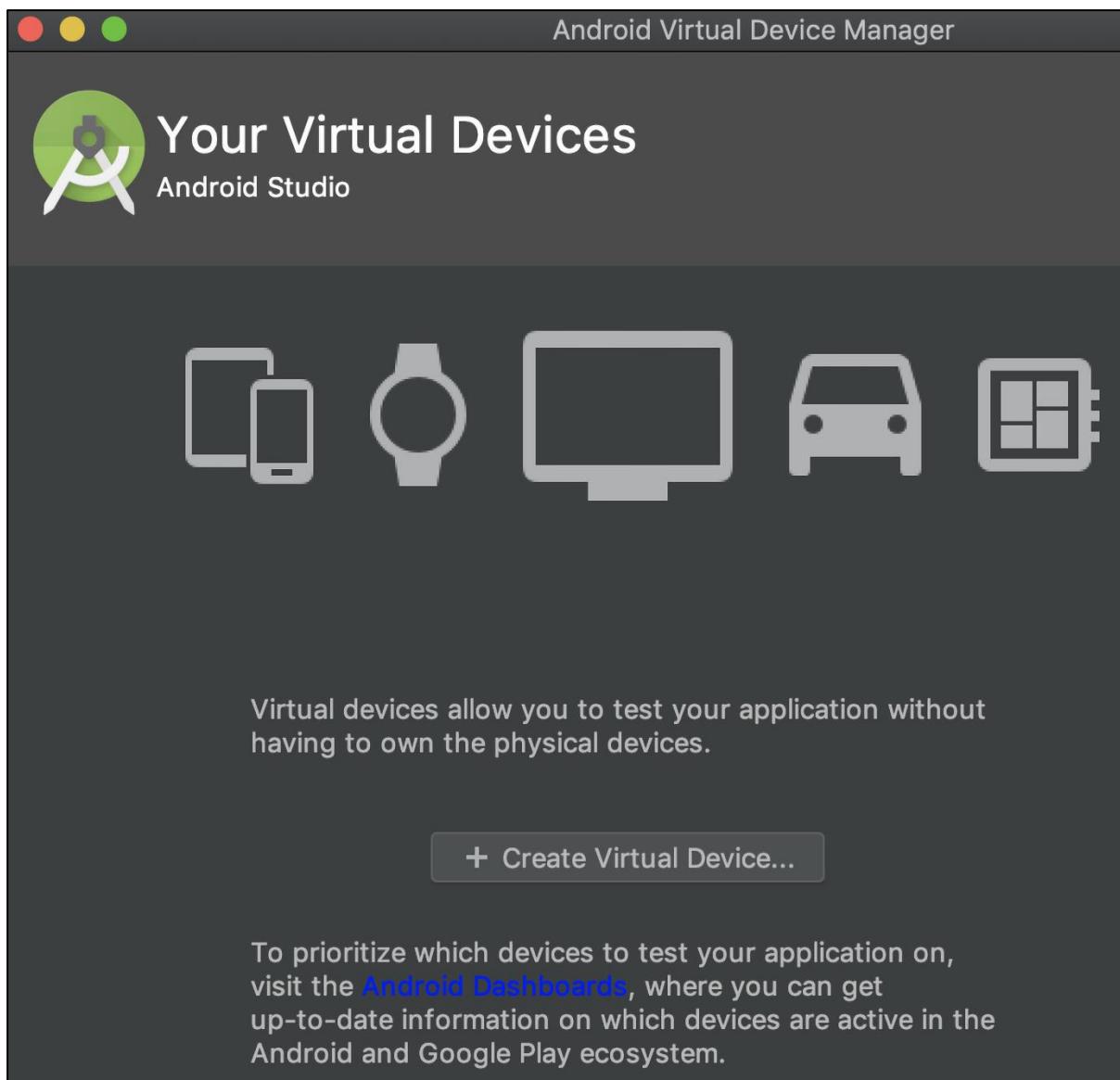
[Release notes](#)

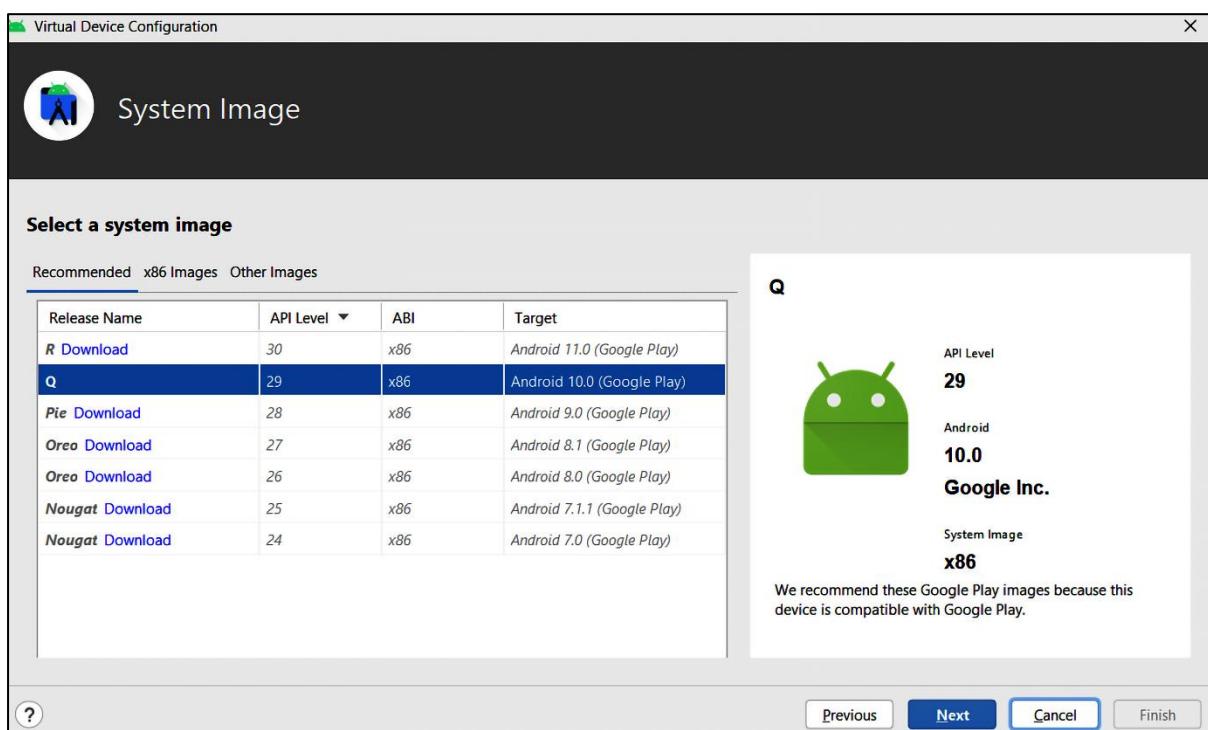
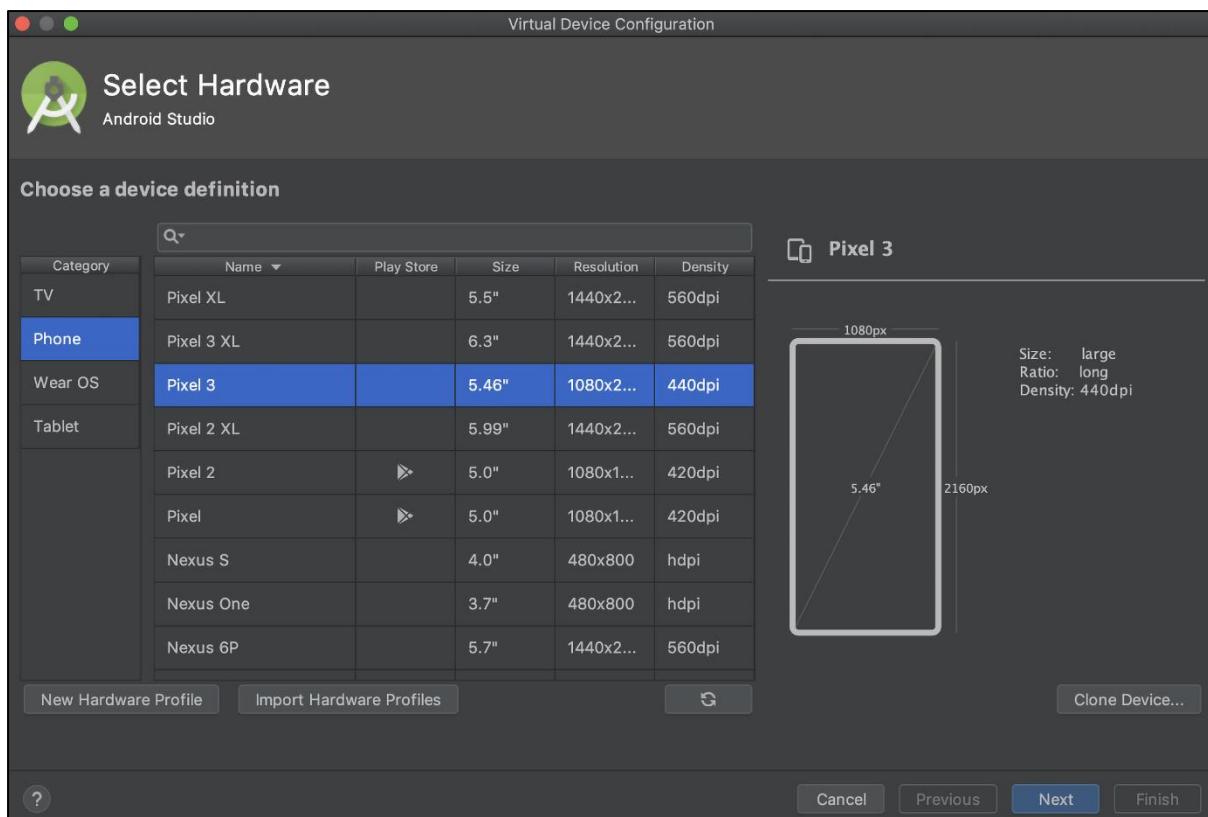
The screenshot shows the 'Settings' window of Android Studio. The left sidebar has a tree view with 'Appearance & Behavior' expanded, showing 'Appearance', 'Menus and Toolbars', 'System Settings' (with 'SDK Platforms', 'SDK Tools', and 'SDK Update Sites' listed), 'Android SDK' (which is selected and highlighted in blue), 'Memory Settings', 'File Colors', 'Scopes', 'Notifications', 'Quick Lists', 'Path Variables', 'Keymap', 'Editor', 'Plugins' (with a '2' badge), 'Version Control', 'Build, Execution, Deployment', 'Languages & Frameworks', 'Tools', and 'Other Settings'. The main content area is titled 'Appearance & Behavior > System Settings > Android SDK' and says 'Manager for the Android SDK and Tools used by Android Studio'. It shows the 'Android SDK Location' as 'C:\Users\sales\AppData\Local\Android\Sdk'. There are 'Edit' and 'Optimize disk space' buttons. Below this is a table of available SDK platforms:

Name	API Level	Revision	Status
Android S Preview	S	3	Not installed
Android 11.0 (R)	30	3	Installed
Android 10.0 (Q)	29	5	Partially installed
Android 9.0 (Pie)	28	6	Partially installed
Android 8.1 (Oreo)	27	3	Not installed
Android 8.0 (Oreo)	26	2	Not installed
Android 7.1.1 (Nougat)	25	3	Not installed
Android 7.0 (Nougat)	24	2	Not installed
Android 6.0 (Marshmallow)	23	3	Not installed
Android 5.1 (Lollipop)	22	2	Not installed
Android 5.0 (Lollipop)	21	2	Not installed
Android 4.4W (KitKat V 20)		2	Not installed
Android 4.4 (KitKat)	19	4	Not installed
Android 4.3 (Jelly Bean 18)		3	Not installed
Android 4.2 (Jelly Bean 17)		3	Not installed
Android 4.1 (Jelly Bean 16)		5	Not installed
Android 4.0.3 (Ice Cream Sandwich)		5	Not installed
Android 4.0 (Ice Cream Sandwich)		4	Not installed

At the bottom, there are buttons for 'OK', 'Cancel', and 'Apply', and checkboxes for 'Hide Obsolete Packages' and 'Show Package Details'.







Settings

Plugins

Marketpl

Flutter

Search Results (48) Sort By: Relevance

Flutter 9M 4.3 flutter.dev Installed

flutter-img-sync 45,6K 4.6 Lihaha Install

FlutterJsonBeanFactory 184,4K 4.8 ruiyu-QQGroup(963752388) Install

Flutter Enhancement Suite 112,2K 4.8 Marius Höfler Install

FlutterAssetAutoCompletion 53K 4.5 ixigua.com Install

Flutter Pub Version Checker 60,3K 4.7 Paulina Szklarska Install

Flutter Intl 154,3K 4.9 Localizey Install

flutter\_add\_image Install

Clang-Tidy  
Clangd  
Kotlin Compiler

Appearance & Behavior  
Keymap  
Editor  
Version Control  
Build, Execution, Deployment  
Languages & Frameworks  
Tools  
Other Settings  
Experimental

?



**Flutter** v3.56.0

Dart Code

Flutter support and debugger for Visual Studio Code.

[Disable](#) [Uninstall](#) [Report Issue](#) [Feedback](#)

This extension is enabled globally.

[Details](#) [Feature Contributions](#) [Changelog](#) [Dependencies](#) [Runtime Status](#)

---

## Introduction

This [VS Code](#) extension adds support for effectively editing, refactoring, running, and reloading [Flutter](#) mobile apps. It depends on (and will automatically install) the [Dart extension](#) for support for the [Dart](#) programming language.

Note: Projects should be run using [F5](#) or the [Debug](#) menu for full debugging functionality. Running from the built-in terminal will not provide all features.

## Installation

[Install from the Visual Studio Code Marketplace](#) or by [searching within VS Code](#). The Dart extension will be installed automatically, if not already installed.

## Documentation

Please see the [Flutter documentation](#) for using VS Code.

## Reporting Issues

Issues for both Dart and Flutter extensions should be reported in the [Dart-Code issue tracker](#).

>Flutter

---

**Flutter:** Run Flutter Doctor recently used

**Flutter:** New Project other commands

**Flutter:** New Project From Docs

**Flutter:** New Web Project

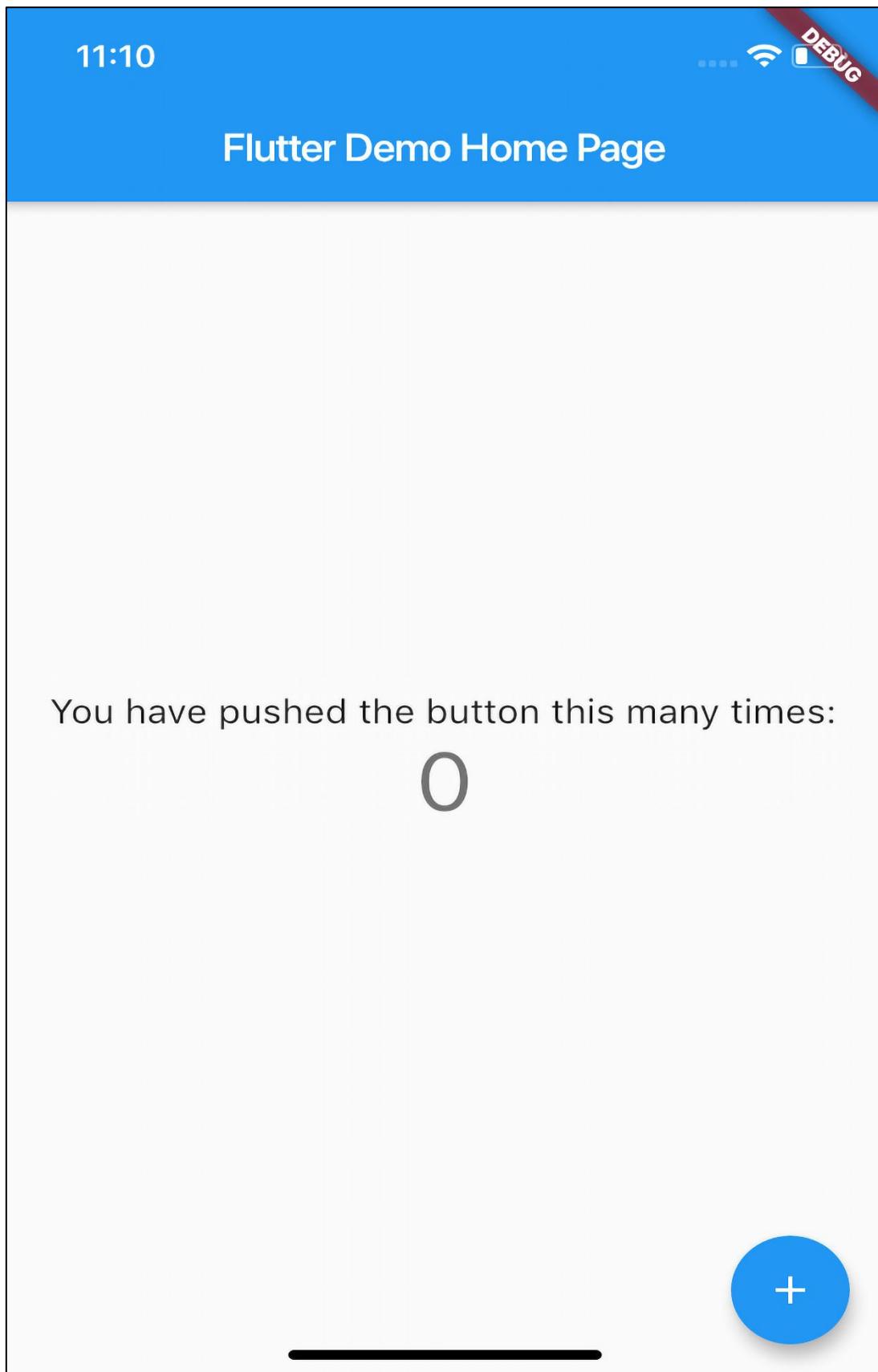
**Flutter:** Run Flutter Upgrade

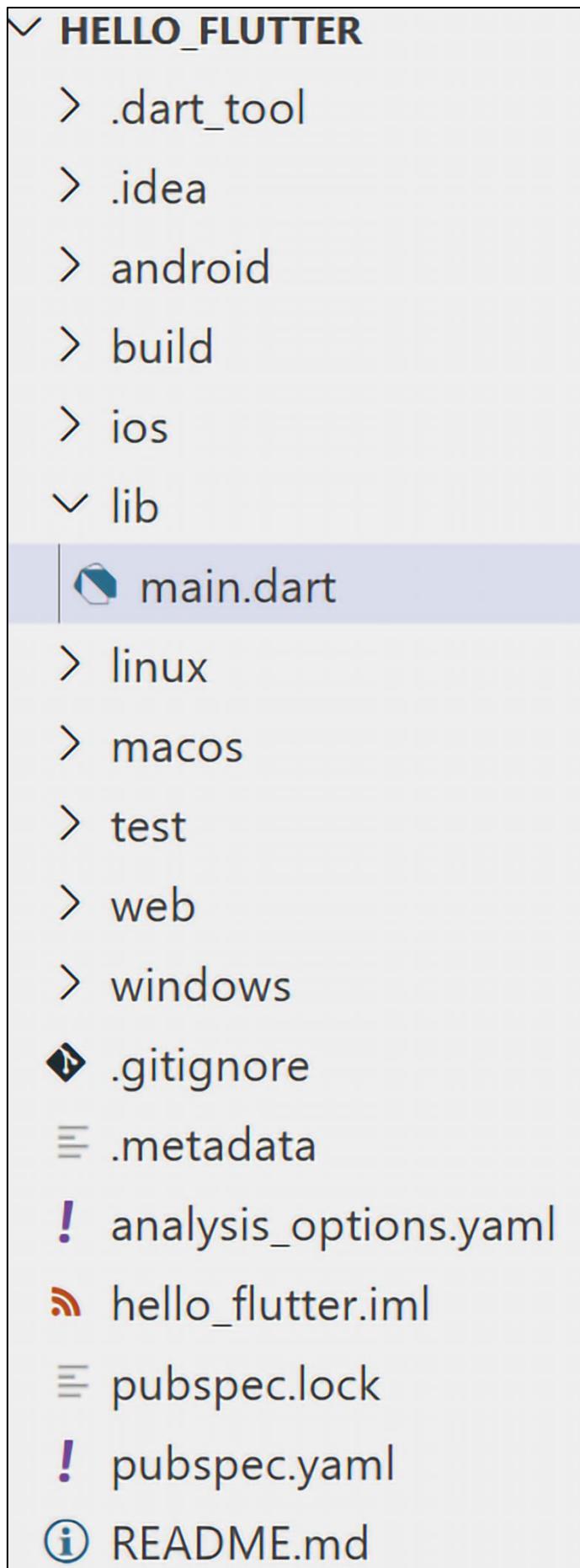
Test: Focus on Dart & **Flutter** View

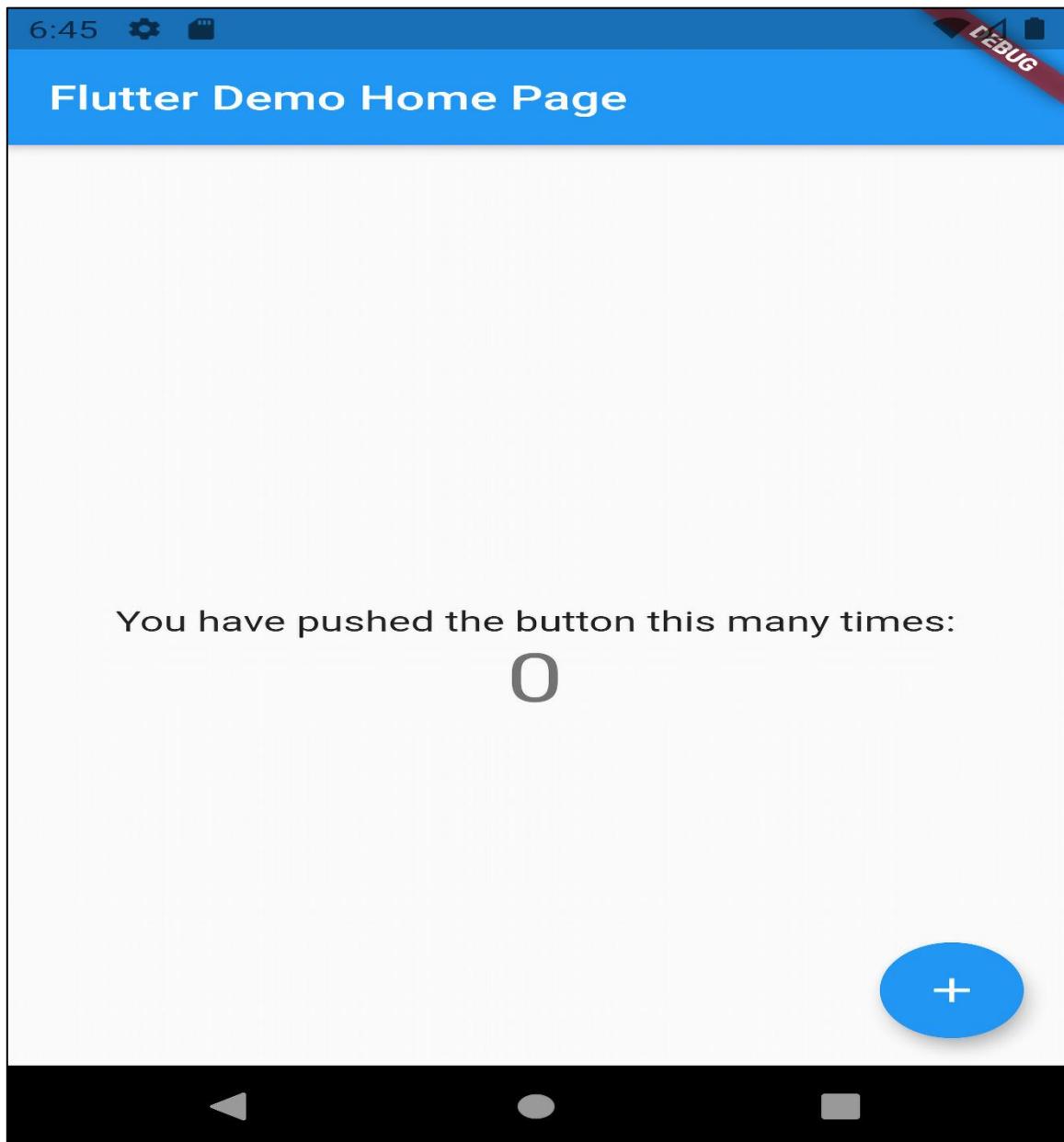
```
C:\ Select Command Prompt
C:\Users\sales>flutter channel
Flutter channels:
  master
  beta
* stable

C:\Users\sales>
```

## Chapter 2: Creating Your First Flutter App







6:46 ⚙️ 📡

DEBUG

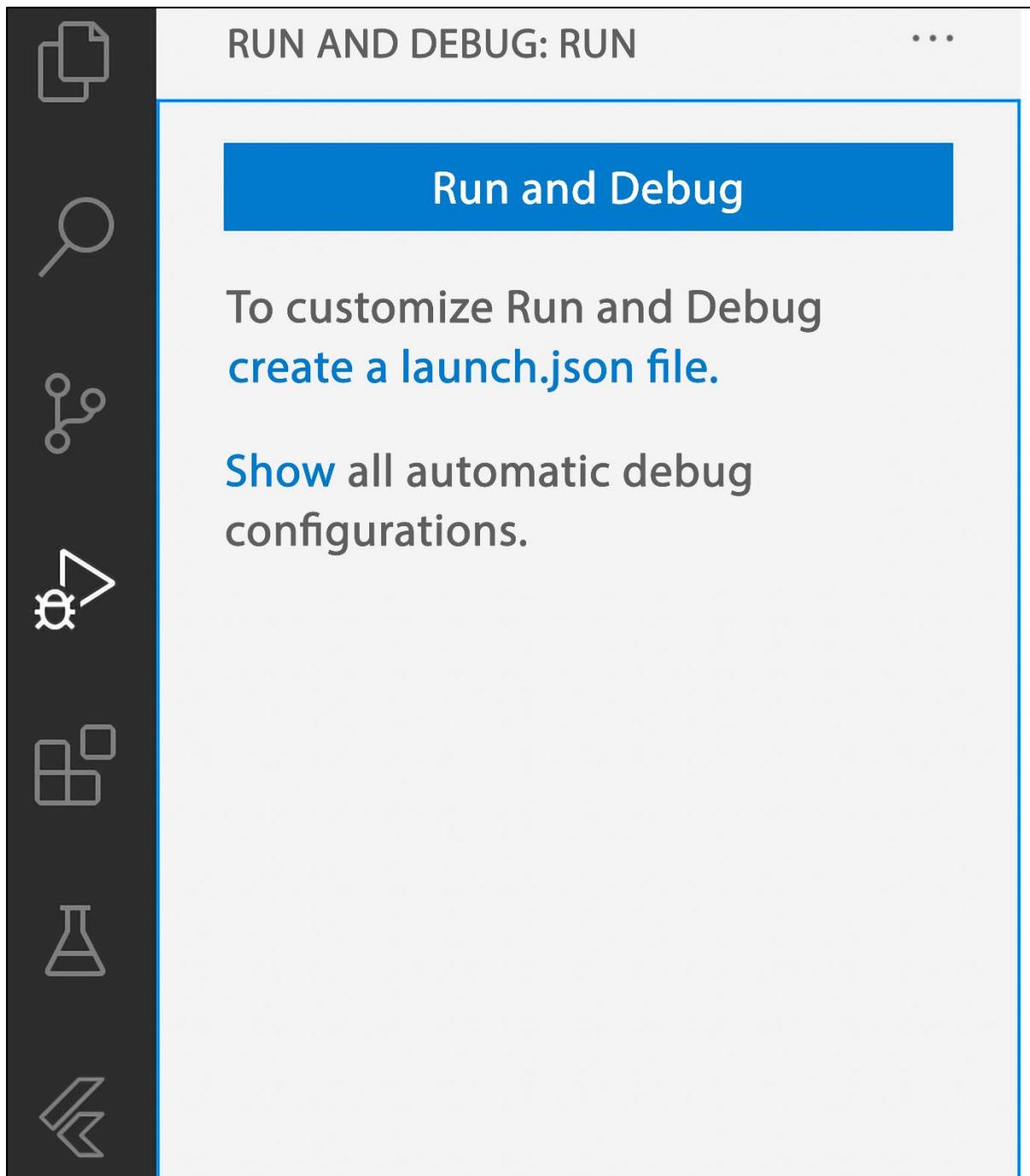
## Flutter Demo Home Page

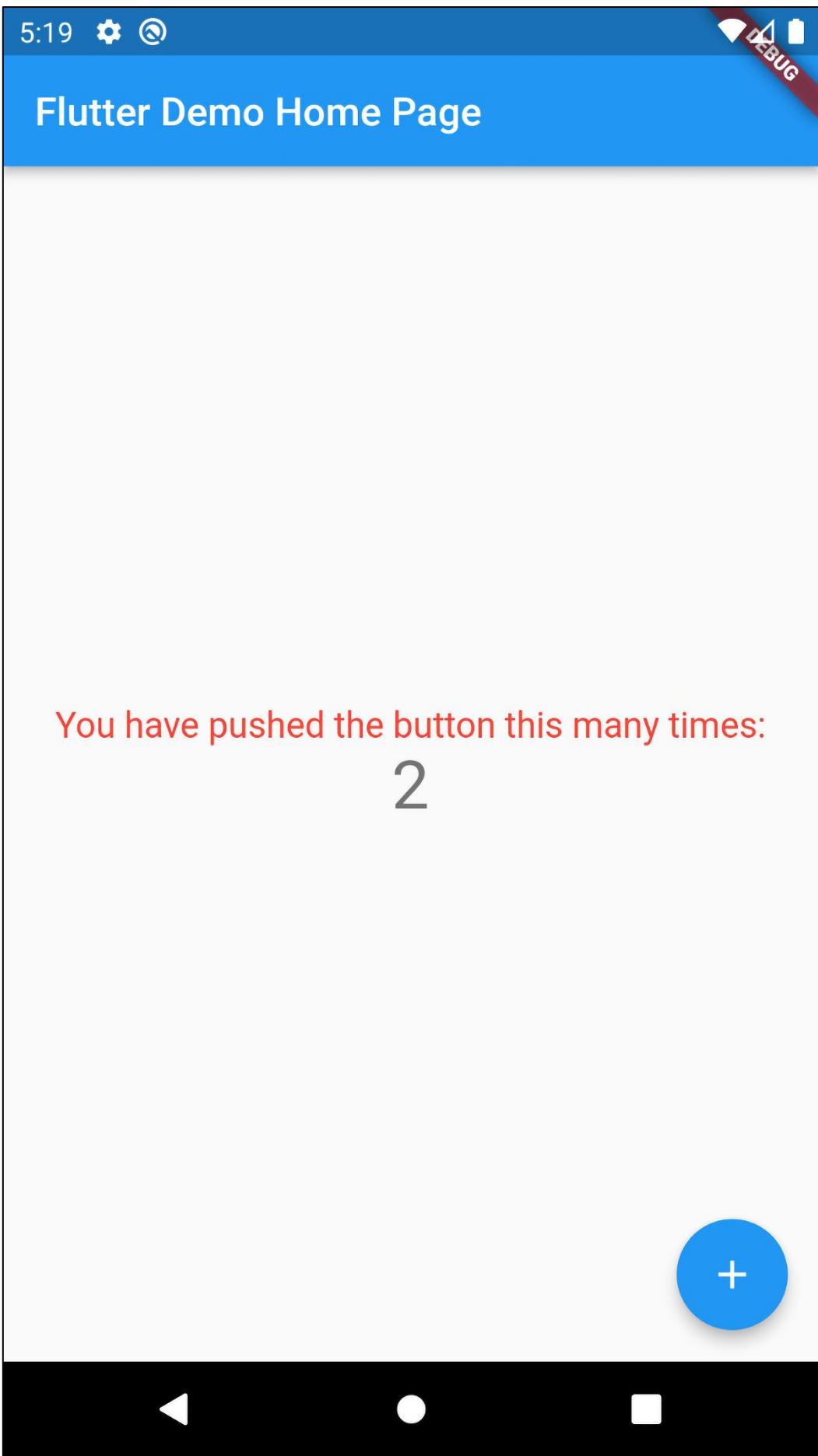
You have pushed the button this many times:

0

+







# Chapter 3: Dart: A Language You Already Know

A screenshot of the DartPad interface. The code editor shows a Dart script named `variablePlayground.dart` with the following content:

```
1 void main() {
2     variablePlayground();
3 }
4
5 void variablePlayground() {
6     basicTypes();
7 }
8
9 void basicTypes() {
10    int four = 4;
11    double pi = 3.14;
12    num someNumber = 24601;
13    bool yes = true;
14    bool no = false;
15    int? nothing;
16    print(four);
17    print(pi);
18    print(someNumber);
19    print(yes);
20    print(no);
21    print(nothing == null);
22 }
```

The `Run` button is highlighted. The console output shows:

```
4
3.14
24601
true
false
true
```

A warning message is displayed in the bottom right corner:

warning line 21 • The operand can't be null, so the condition is always 'true'. ([view docs](#))  
Remove the condition.

At the bottom, there are links for [Privacy notice](#), [Send feedback](#), [stable channel](#), [1 issue](#), [hide](#), and [Based on Flutter 3.10.1 Dart SDK 3.0.1](#).

A screenshot of the DartPad interface. The code editor shows a Dart script named `variablePlayground.dart` with the following content:

```
1 void main() {
2     variablePlayground();
3 }
4
5 void variablePlayground() {
6     //basicTypes();
7     //untypedVariables();
8     typeInterpolation();
9 }
10
11 void basicTypes() { ... }
12
13 void untypedVariables() { ... }
14
15 void typeInterpolation() {
16     var anInteger = 15;
17     var aDouble = 27.6;
18     var aBoolean = false;
19     print(anInteger.runtimeType);
20     print(anInteger);
21     print(aDouble.runtimeType);
22     print(aDouble);
23     print(aBoolean.runtimeType);
24     print(aBoolean);
25 }
```

The `Run` button is highlighted. The console output shows:

```
int
15
double
27.6
bool
false
```

At the bottom, there are links for [Privacy notice](#), [Send feedback](#), [stable channel](#), [no issues](#), [Based on Flutter 3.10.1 Dart SDK 3.0.1](#).

DartPad interface showing code execution results.

Code:

```
1 void main() {  
2     classPlayground();  
3 }  
4 void classPlayground() {  
5     final name = OfficialName('Mr', 'Clark', 'Kent');  
6     final message = name.toString();  
7     print(message);  
8 }  
9 class Name {  
10    final String first;  
11    final String last;  
12    Name(this.first, this.last);  
13    @override  
14    String toString() {  
15        return '$first $last';  
16    }  
17 }  
18 class OfficialName extends Name {  
19    // Private properties begin with an underscore  
20    final String _title;  
21    OfficialName(this._title, String first, String last)  
22    @override  
23    String toString() {  
24        return '${_title} ${super.toString()}';  
25    }  
26 }
```

Run button

Console output:

```
Mr. Clark Kent
```

Documentation

Privacy notice Send feedback stable channel ▾ no issues Based on Flutter 3.10.1 Dart SDK 3.0.1 ⓘ

DartPad interface showing extension method execution results.

Code:

```
1 void main() {  
2     testExtension();  
3 }  
4  
5 extension StringExtensions on String {  
6     bool toBool() {  
7         return isNotEmpty;  
8     }  
9 }  
10  
11 void testExtension() {  
12     String emptyString = "";  
13     String nonEmptyString = "Hello Extensions!";  
14     print(emptyString.toBool()); //--> false  
15     print(nonEmptyString.toBool()); //--> true  
16 }  
17
```

Run button

Console output:

```
false  
true
```

Documentation

Privacy notice Send feedback stable channel ▾ no issues Based on Flutter 3.10.1 Dart SDK 3.0.1 ⓘ

The screenshot shows the DartPad interface. In the top left, there's a logo and the text "DartPad". To its right are buttons for "New Pad", "Reset", "Format", and "Install SDK". The top center displays the session name "celestial-sunshine-5930" and a "local edits" button. On the far right, there are "Samples" and other navigation icons.

The main area contains a code editor with the following Dart code:

```
1 void main() {  
2     int someNumber;  
3     increaseValue(someNumber);  
4 }  
5  
6 void increaseValue(int value) {  
7     value++;  
8     print(value);  
9 }
```

Below the code editor is a "Run" button. To the right of the code editor is a "Console" area which is currently empty. Below the code editor is a "Documentation" section.

A prominent error message is displayed in the center-right of the screen:

**error** line 3 • The non-nullable local variable 'someNumber' must be assigned before it can be used. ([view docs](#))

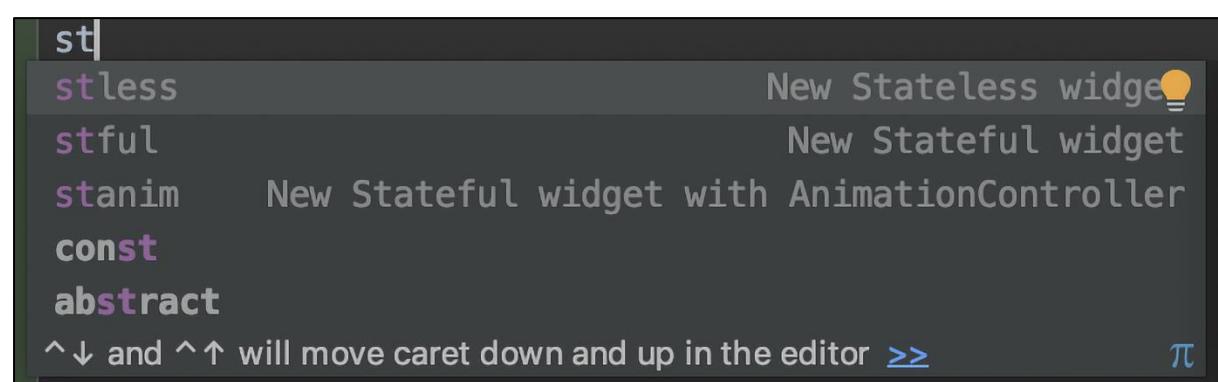
Try giving it an initializer expression, or ensure that it's assigned on every execution path.

At the bottom of the interface, there are links for "Privacy notice", "Send feedback", and "stable channel". It also shows "1 issue", a "hide" button, and the text "Based on Flutter 3.10.1 Dart SDK 3.0.1".

## Chapter 4: Introduction to Widgets

```
void main() => runApp(StaticApp());  
  
class StaticApp extends StatelessWidget {  
  @override  
  Widget build(BuildContext context)  
    return MaterialApp(  
      home: ImmortalWidget()  
    );  
}  
}
```

Import library 'package:flutter/cupertino.dart'  
Import library 'package:flutter/material.dart'  
Import library 'package:flutter/widgets.dart'  
Create class 'StatelessWidget'  
Create mixin 'StatelessWidget'

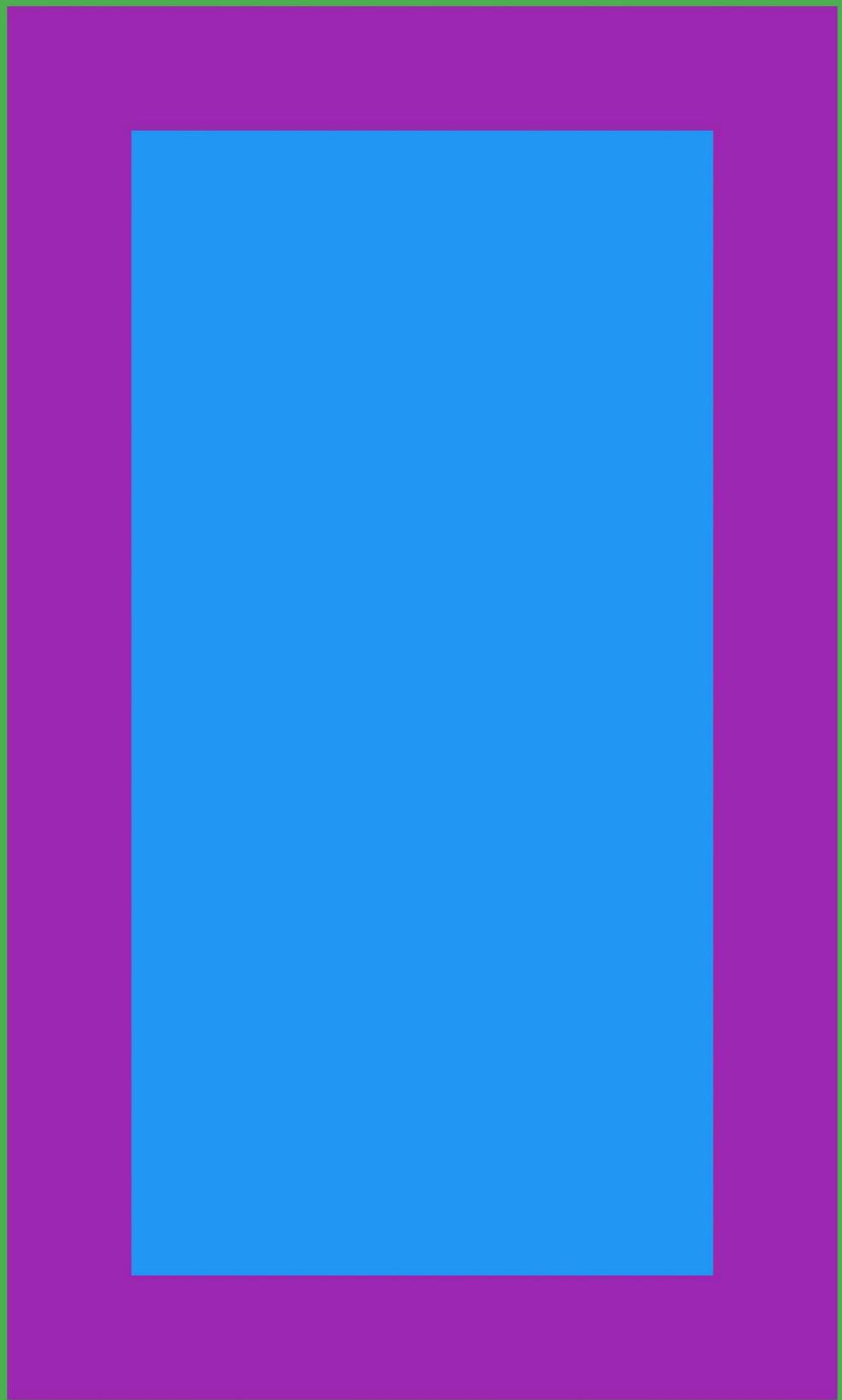


8:52

....



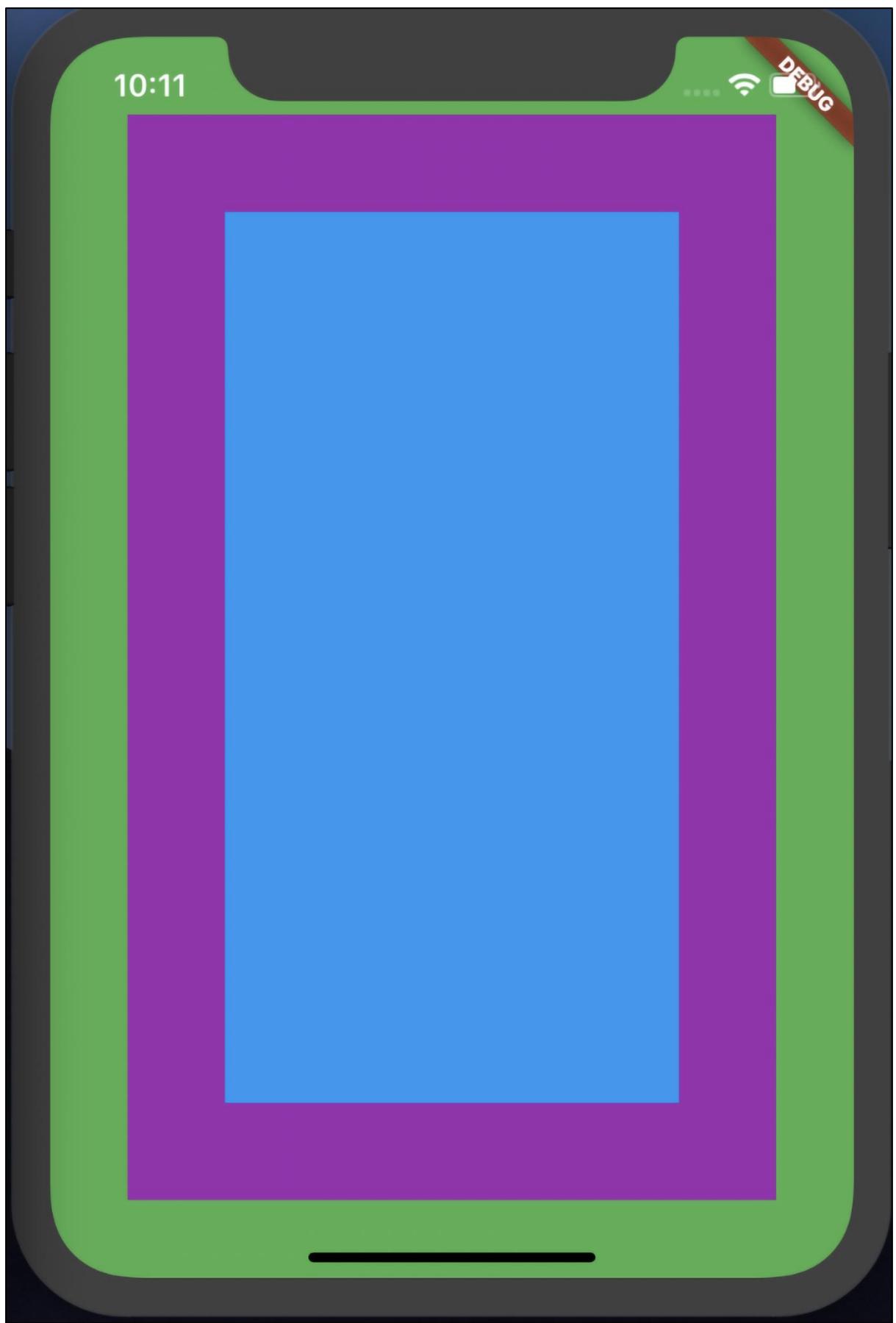
DEBUG

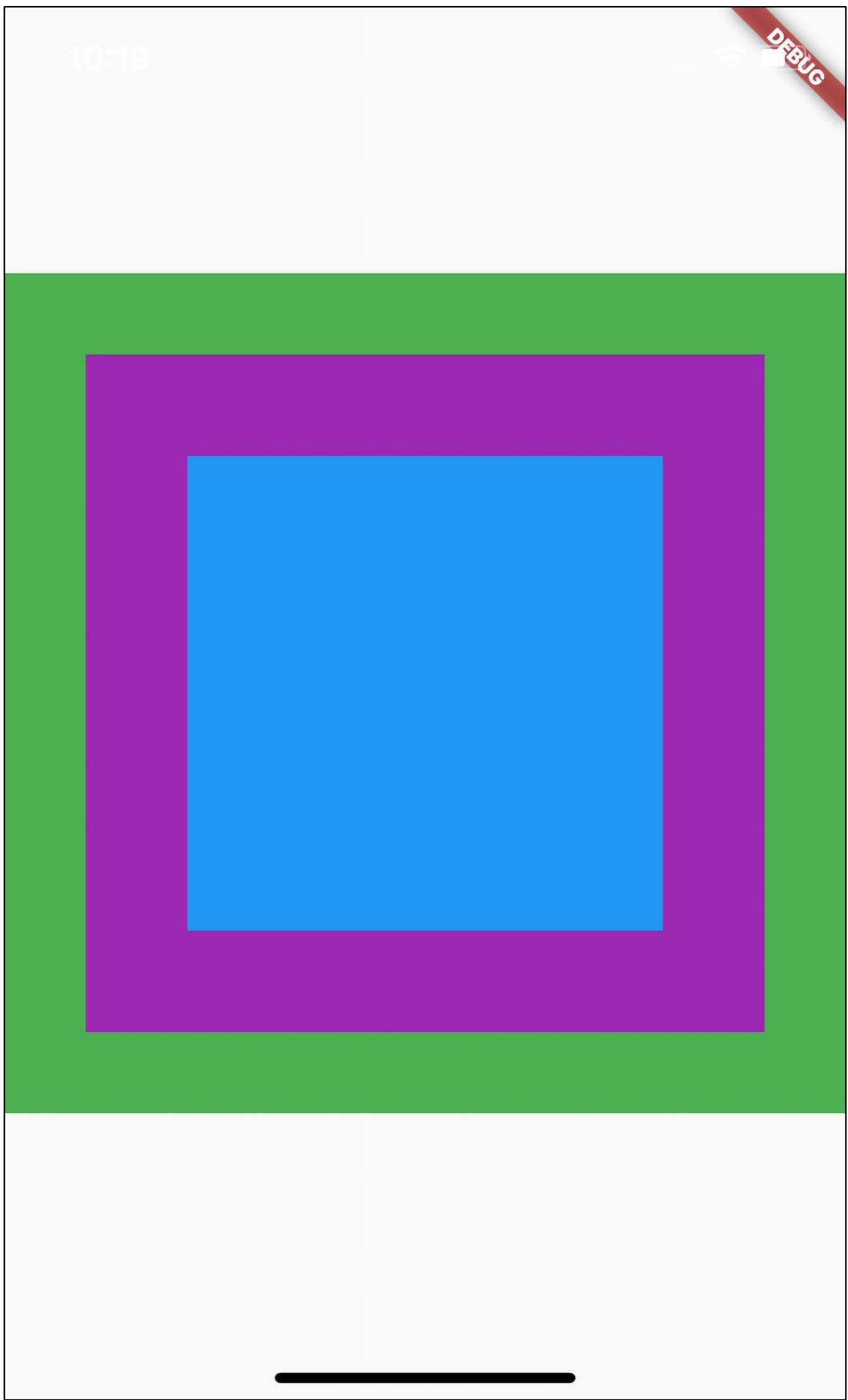


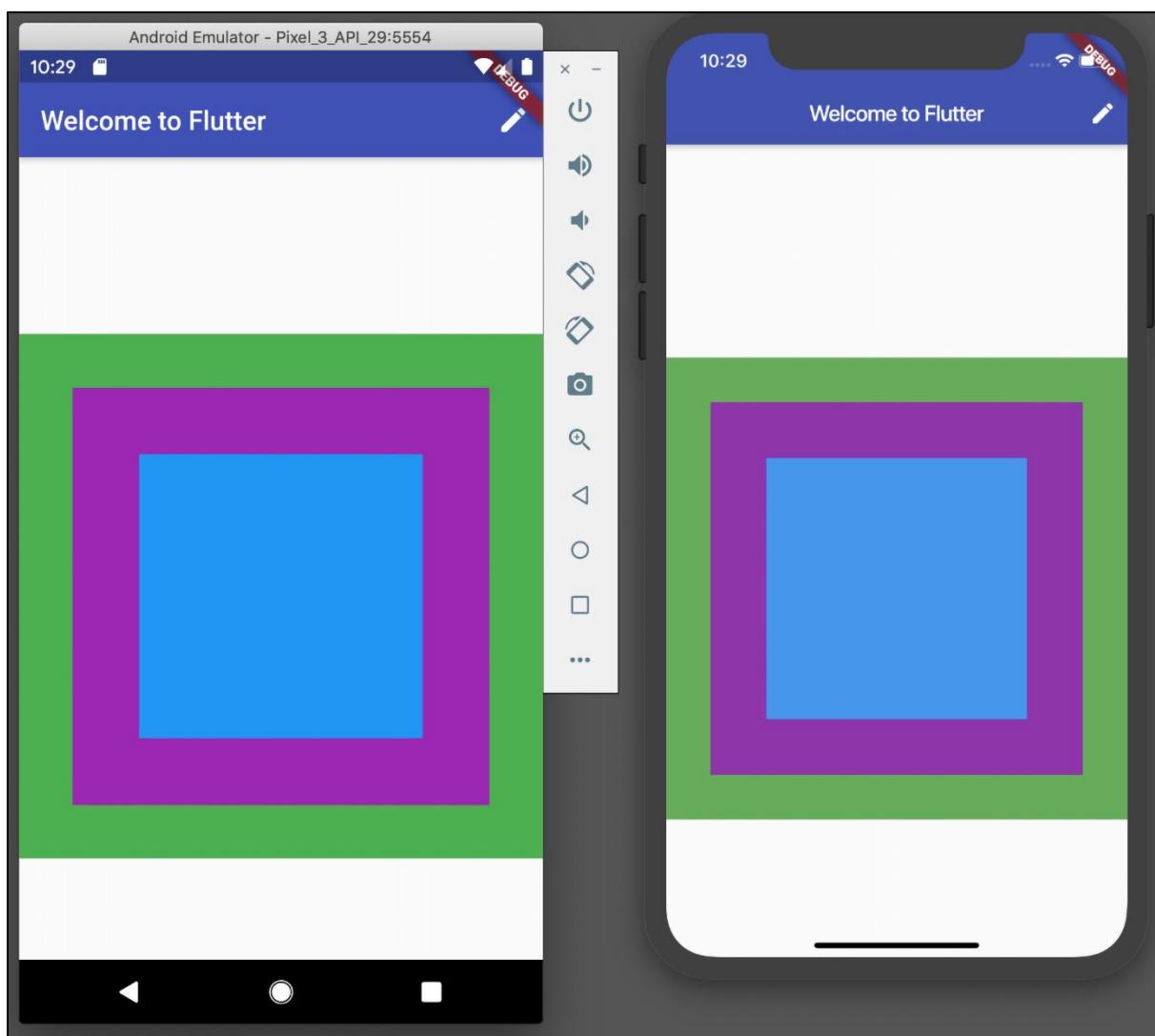
The screenshot shows the Flutter Inspector interface. At the top, there's a toolbar with icons for zooming, refresh, and other settings. Below the toolbar, there are three tabs: "Widgets", "Render Tree", and "Performance". The "Widgets" tab is selected. On the right side of the main window, there are two vertical panels: "Flutter Outline" and "Flutter Inspector".

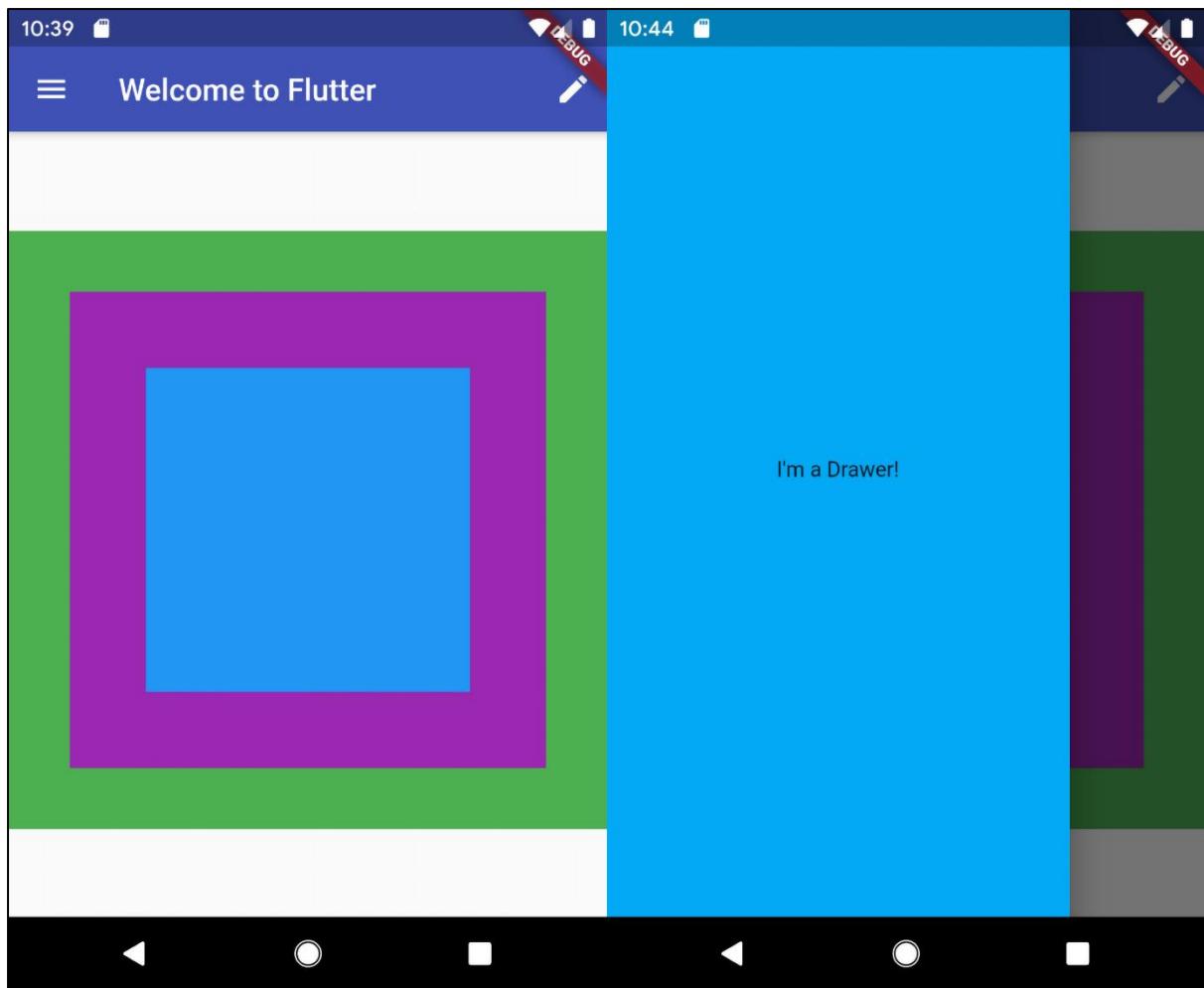
The main content area displays a hierarchical list of widgets:

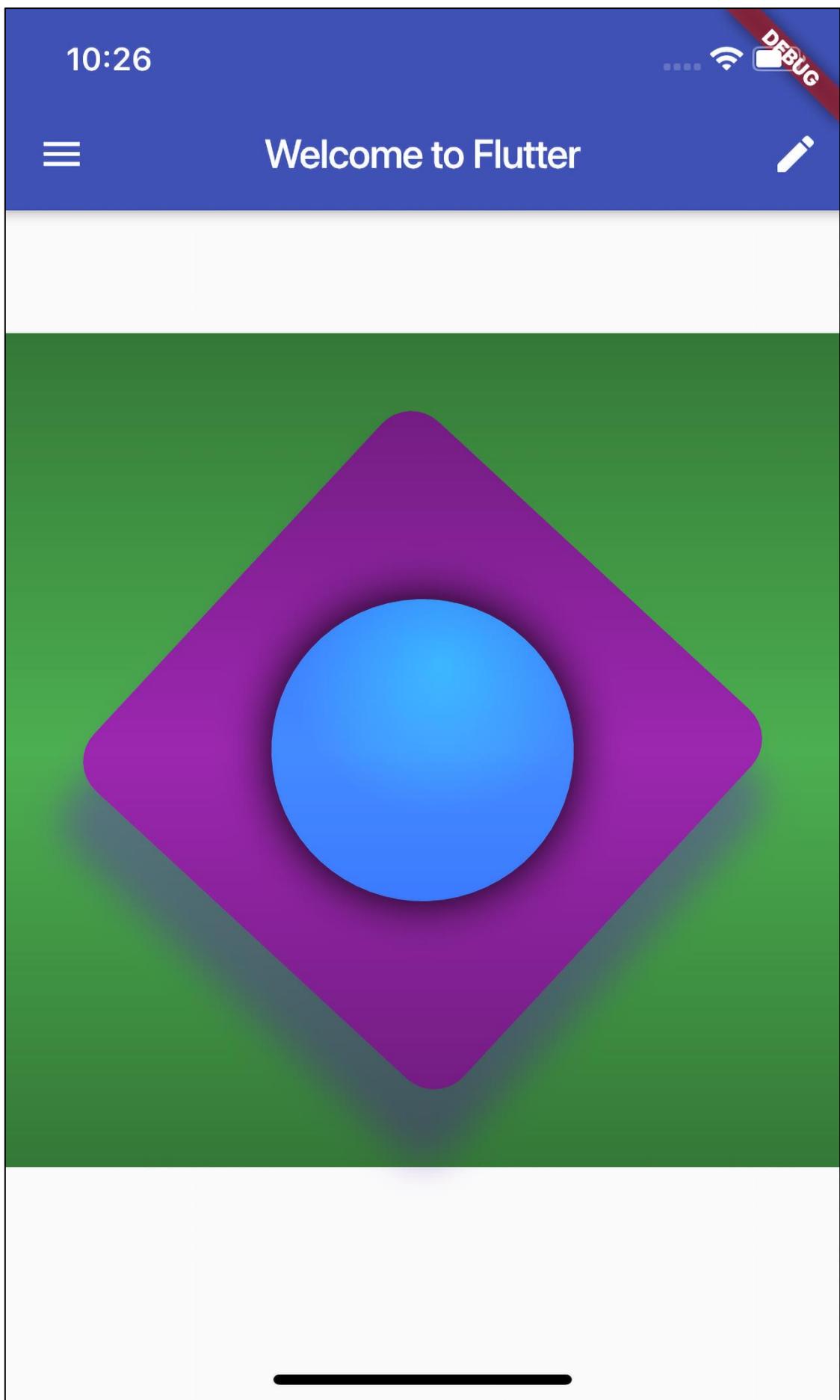
- ▼ **S** StaticApp
  - ▼ **M** MaterialApp
    - ▼ **I** StatelessWidget
      - ▼ **C** Container
        - ▼ **@** Padding
        - ▼ **C** Container
          - ▼ **@** Padding
        - C** Container



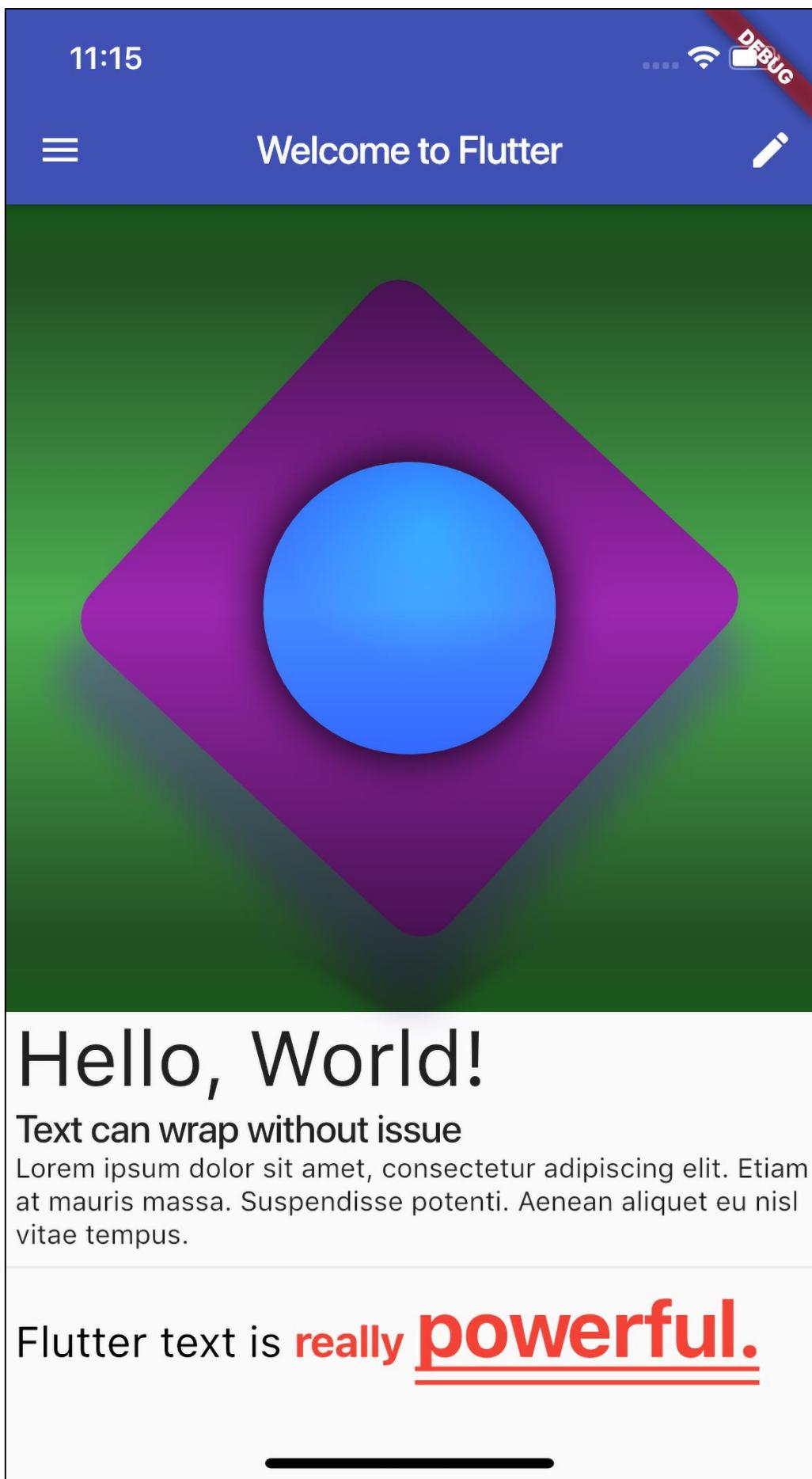


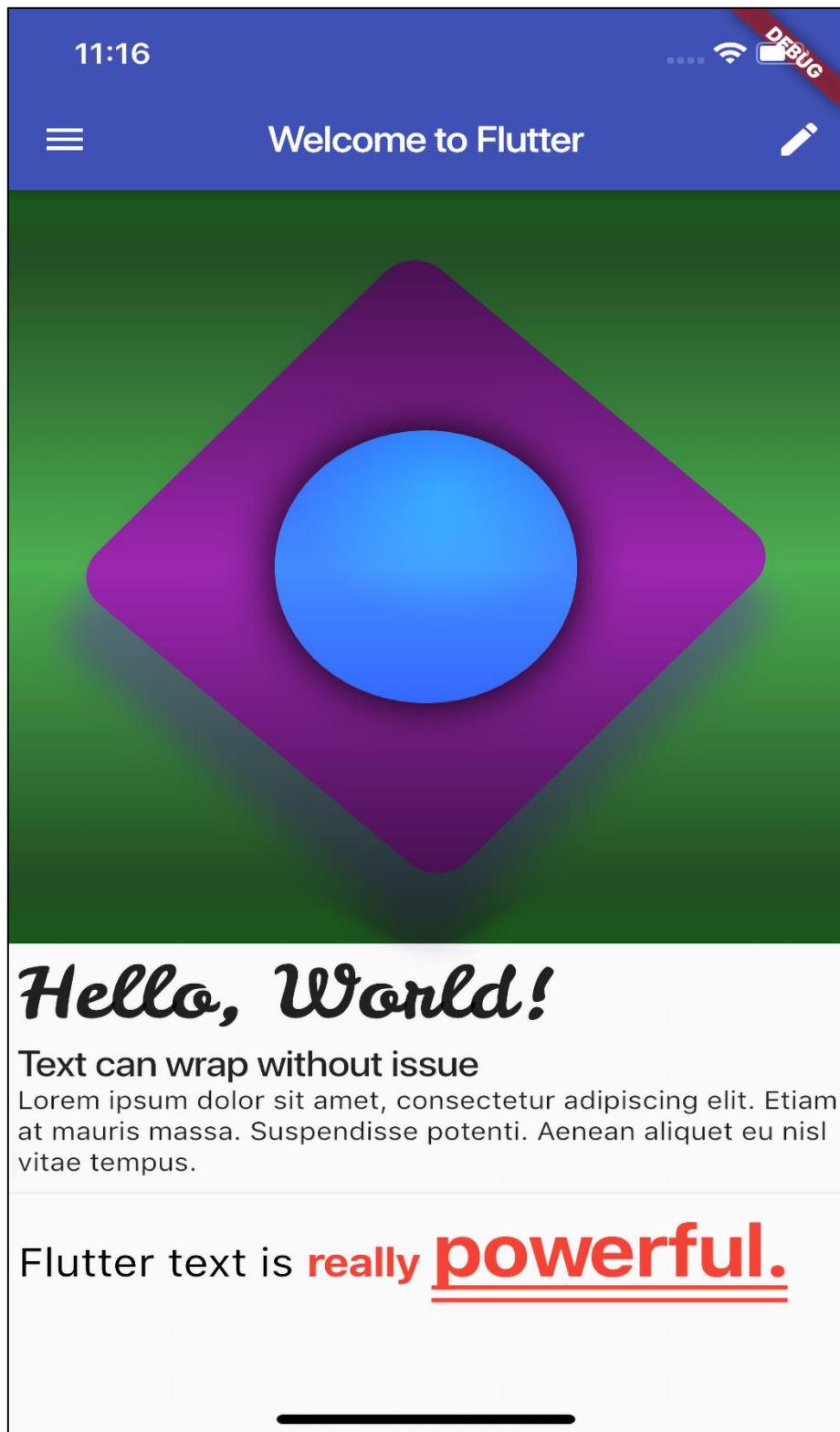










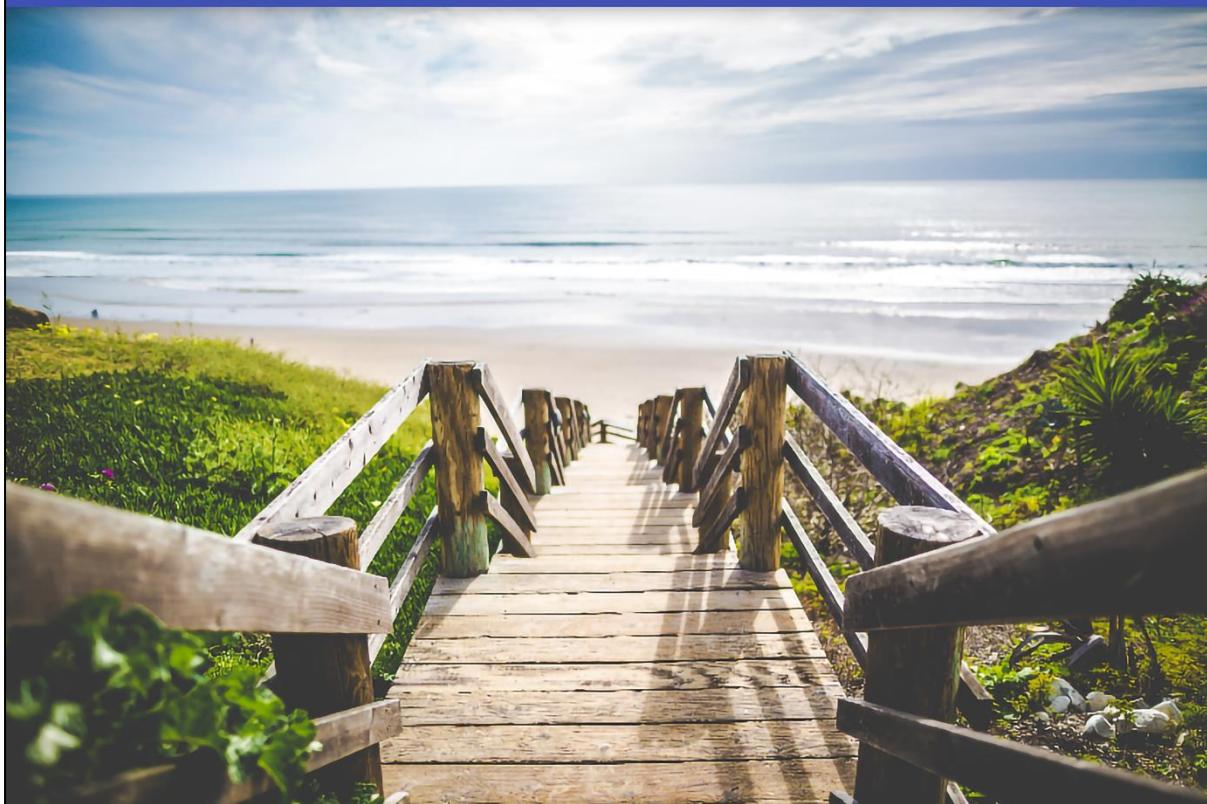


11:33

.... ⚡ DEBUG



Welcome to Flutter



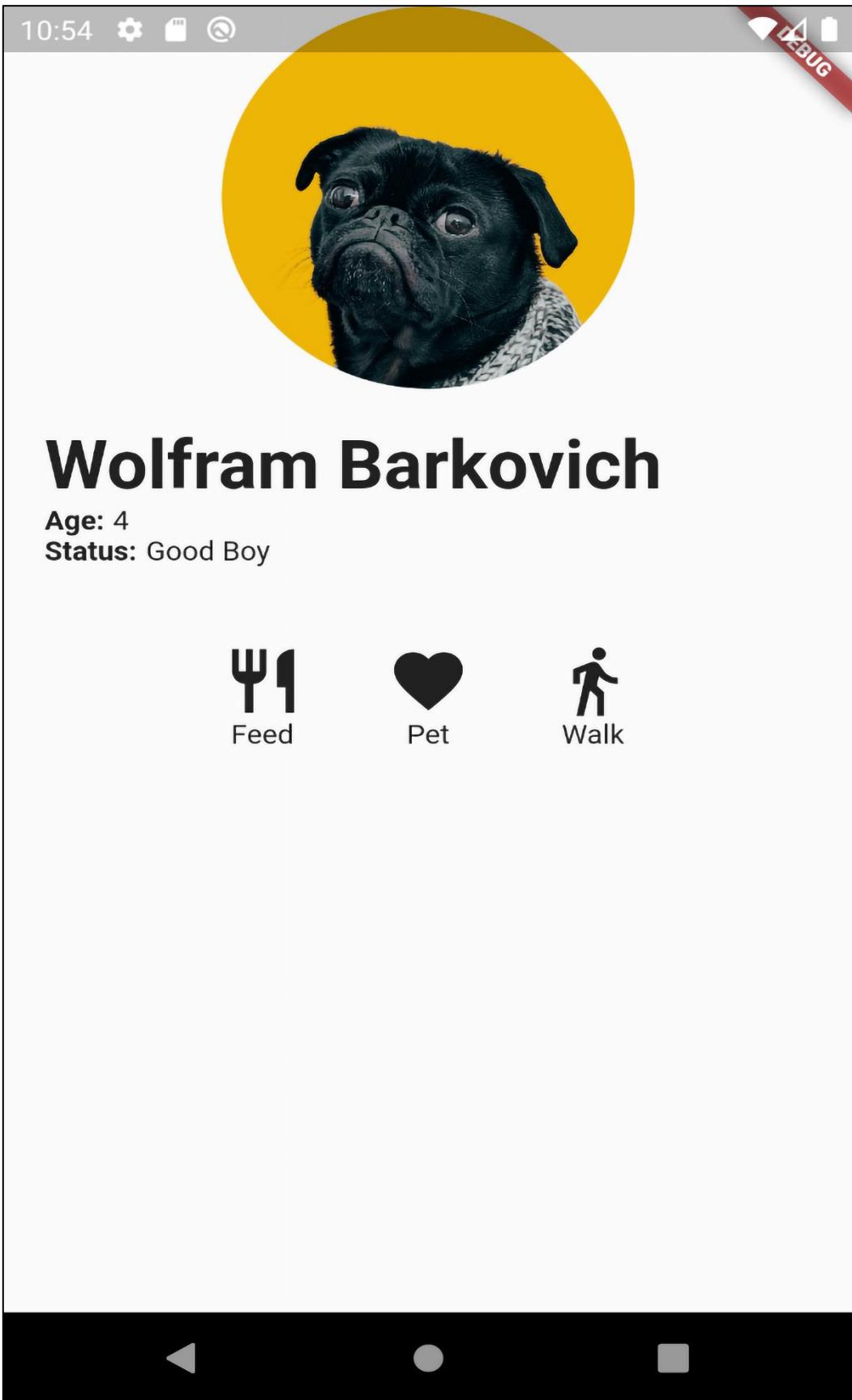
# Hello, World!

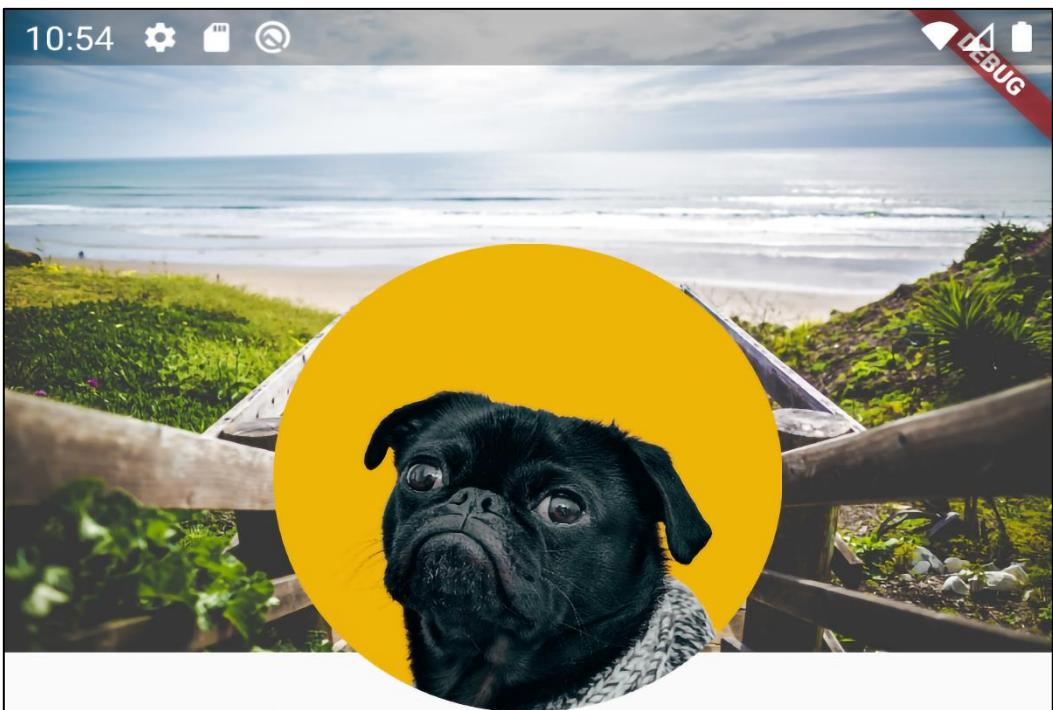
**Text can wrap without issue**

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Etiam at mauris massa. Suspendisse potenti. Aenean aliquet eu nisl vitae tempus.

Flutter text is **really powerful.**

## Chapter 5: Mastering Layout and Taming the Widget Tree





# Wolfram Barkovich

Age: 4

Status: Good Boy



Feed

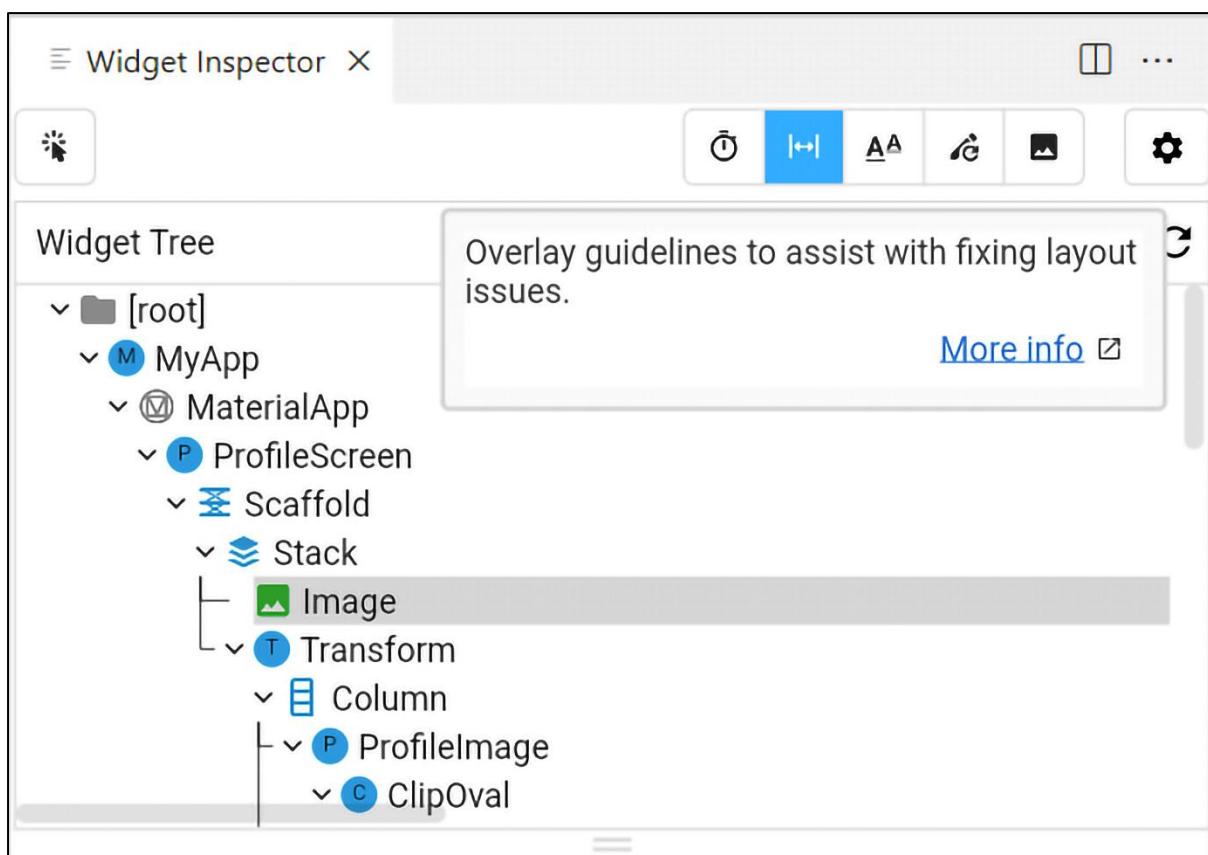
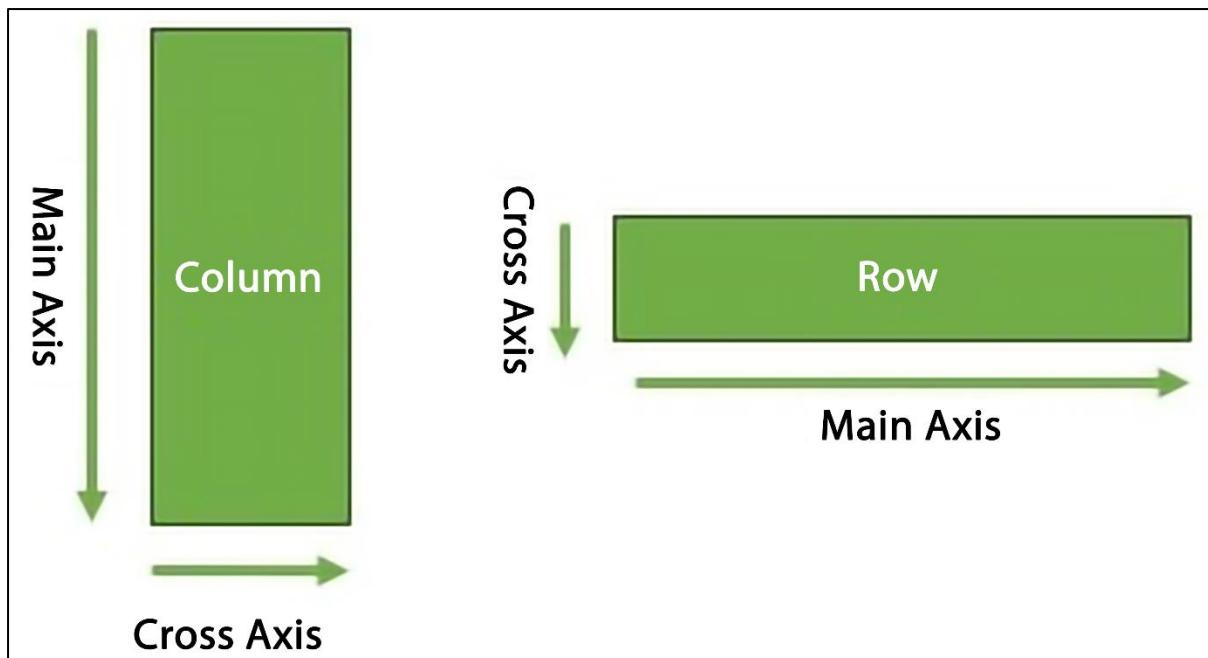


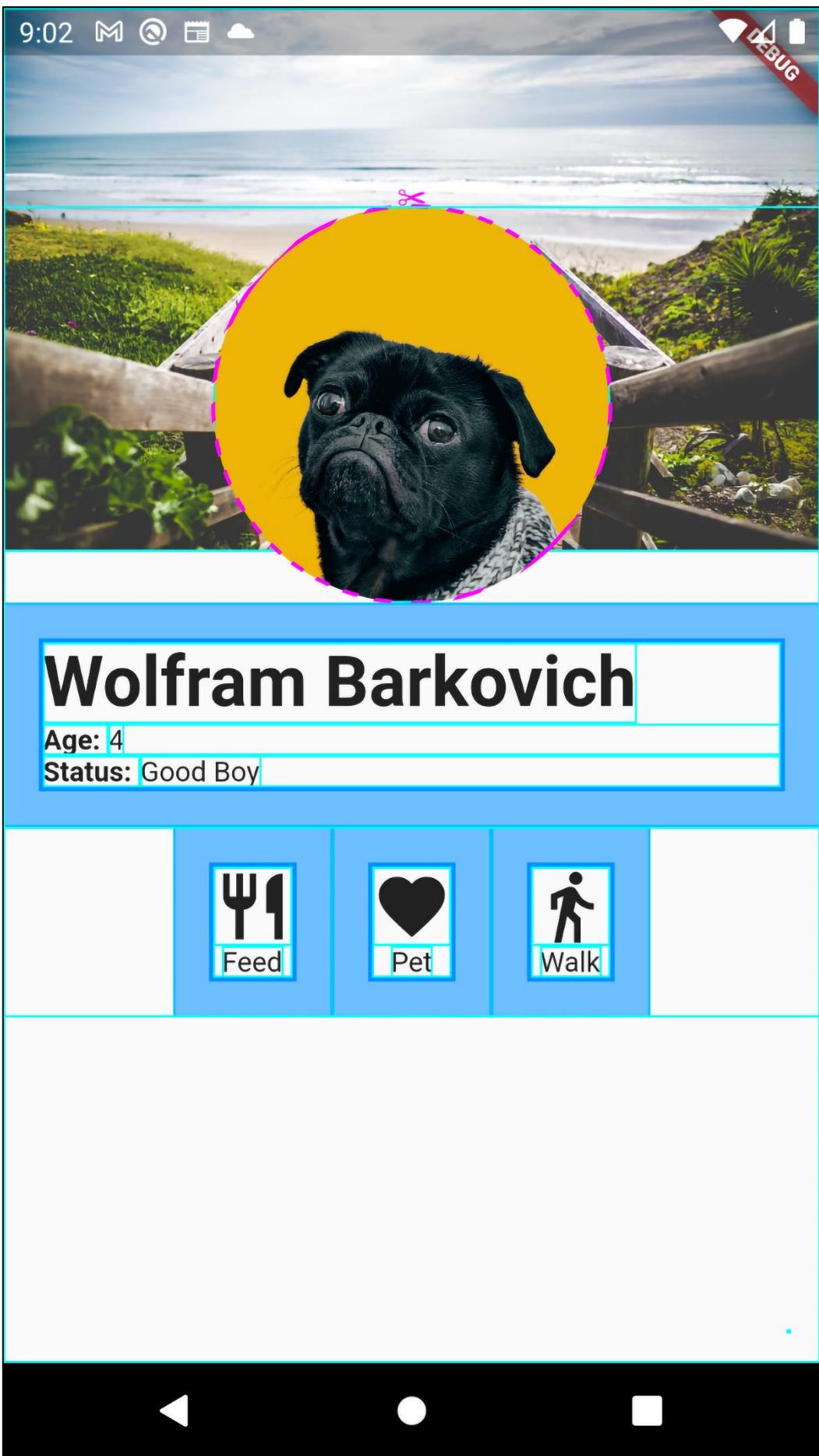
Pet



Walk







9:37



DEBUG

## Flexible and Expanded

Expanded

100

The Remainder

40

Flexible

25%

25%

50%

Pinned to the Bottom

9:43

.....  
Wi-Fi  
DEBUG

## Flexible and Expanded

Expanded

100

The Remainder

40

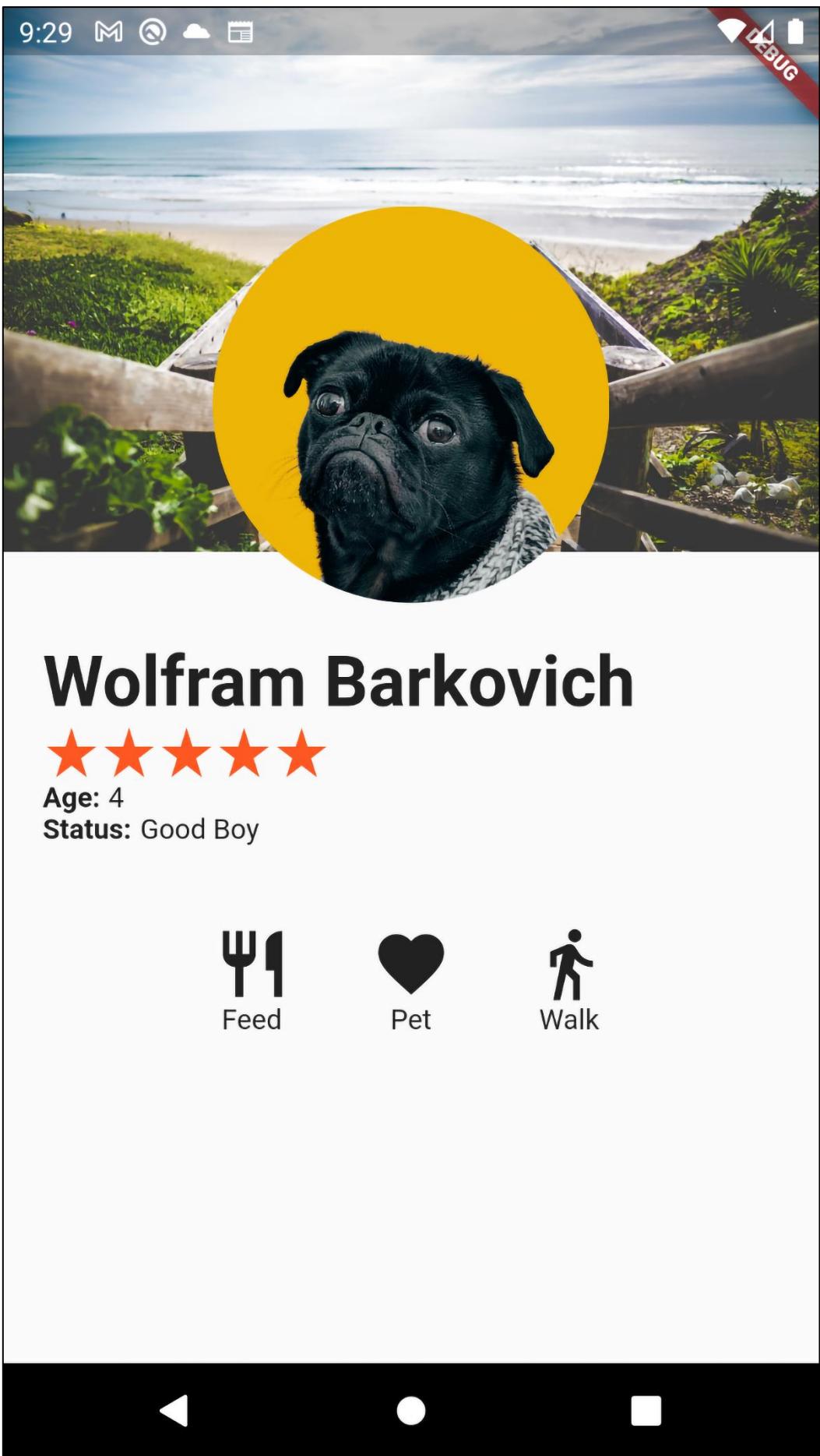
Flexible

25%

25%

50%

Pinned to the Bottom



Its all widgets!

7:02

....



A screenshot of the Android Studio code editor showing a context menu for a `Row` widget in a `build` method of a `StatelessWidget`. The menu is open at the end of the `Row` declaration, with the option `Move widget up` highlighted in blue.

```
class DeepTree extends StatelessWidget {
    @override
    Widget build(BuildContext context) {
        return Scaffold(
            body: Center(
                child: Column(
                    mainAxisAlignment: MainAxisAlignment.center,
                    children: <Widget>[
                        Text('Its all widgets!'),
                        Row(
                            // ...
                        ),
                    ],
                )));
    }
}
```

The context menu options are:

- Add padding
- Center widget
- Move widget down
- Move widget up**
- Replace widget with its children
- Wrap with Column
- Wrap with Container
- Wrap with Row
- Wrap with StreamBuilder
- Wrap with new widget

Text on the right side of the screen reads: "rabbit hole goes.") ,

A screenshot of the Android Studio code editor showing code completion for the `body` parameter of a `Scaffold` widget. The suggestion `widget` is highlighted with a red rectangle.

```
class DeepTree extends StatelessWidget {
    @override
    Widget build(BuildContext context) {
        return Scaffold(
            body: widget( // ...
                child: Center(
                    child: Column(
                        // ...
                    )));
    }
}
```

```
14   Image.asset('assets/woman_shopping.jpg'),  
15   SizedBox(height: 15),  
16   Row(  
17     children: <Widget>[  
18       Expanded(  
19         child: Container(  
20           height: 80,
```

A screenshot of the Android Studio code editor. The code is identical to the one above, but the Container widget at line 19 is selected, highlighted with a blue background. A context menu is open to the right of the selected code, featuring four items: "Wrap with Column", "Flip ''", "Wrap with Row", and "Adjust code style settings". The "Wrap with Column" option is highlighted with a blue background.

```
14   Image.asset('assets/woman_shopping.jpg'),  
15   SizedBox(height: 15),  
16   Row(...), // Row  
17   SizedBox(height: 15),  
18   Row(...), // Row  
19   SizedBox(height: 15),  
20   Container(  
    height: 200,  
    color: Colors  
    child: Row(  
      children:  
        Image.asset(
```

- Wrap with Column
- Flip ''
- Wrap with Row
- Adjust code style settings

9:52

DEBUG

Let's go shopping!

Recommended Formal Wear Casual Wear



Best Sellers

Daily Deals

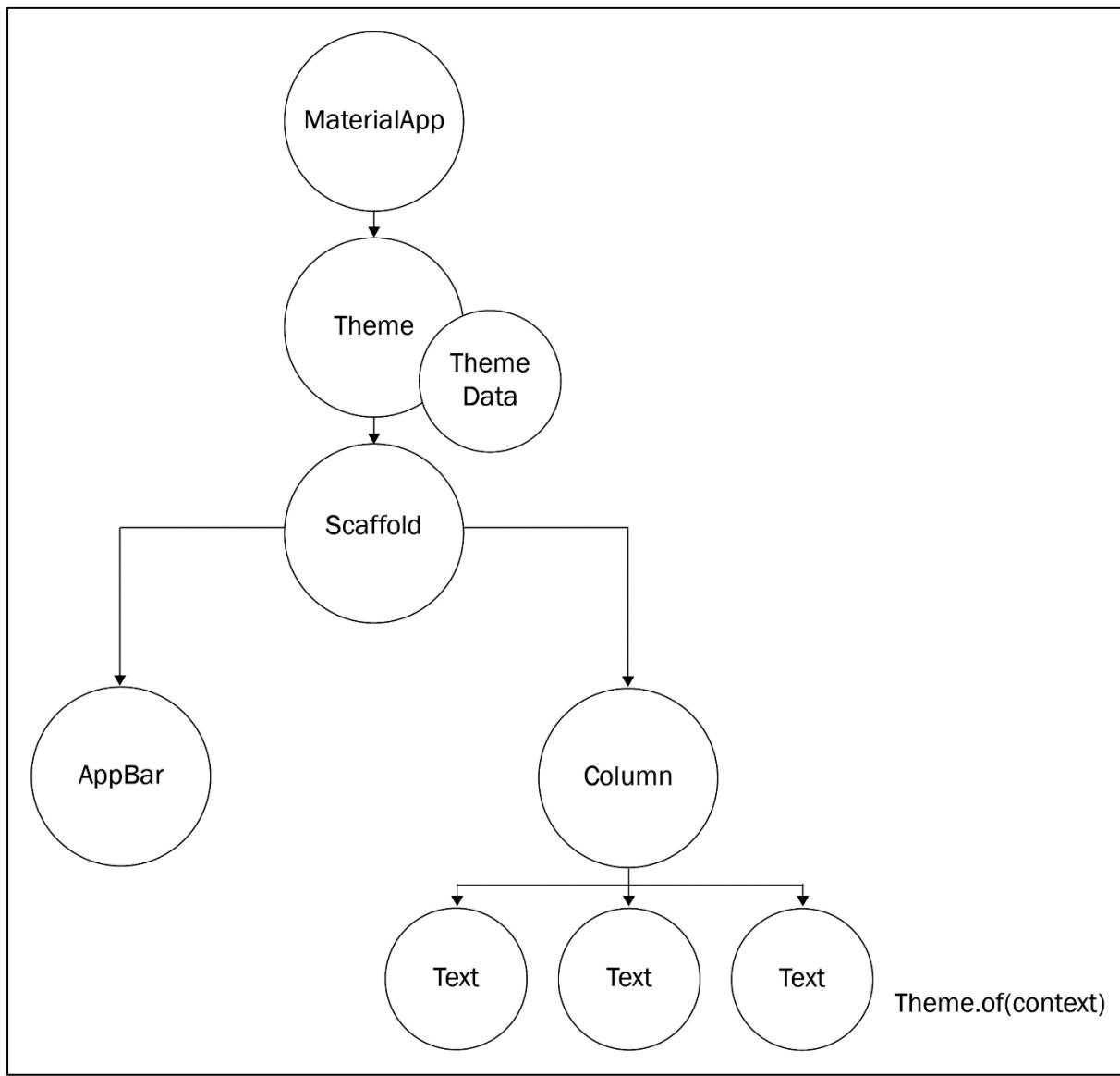
Must buy in summer

Last Chance

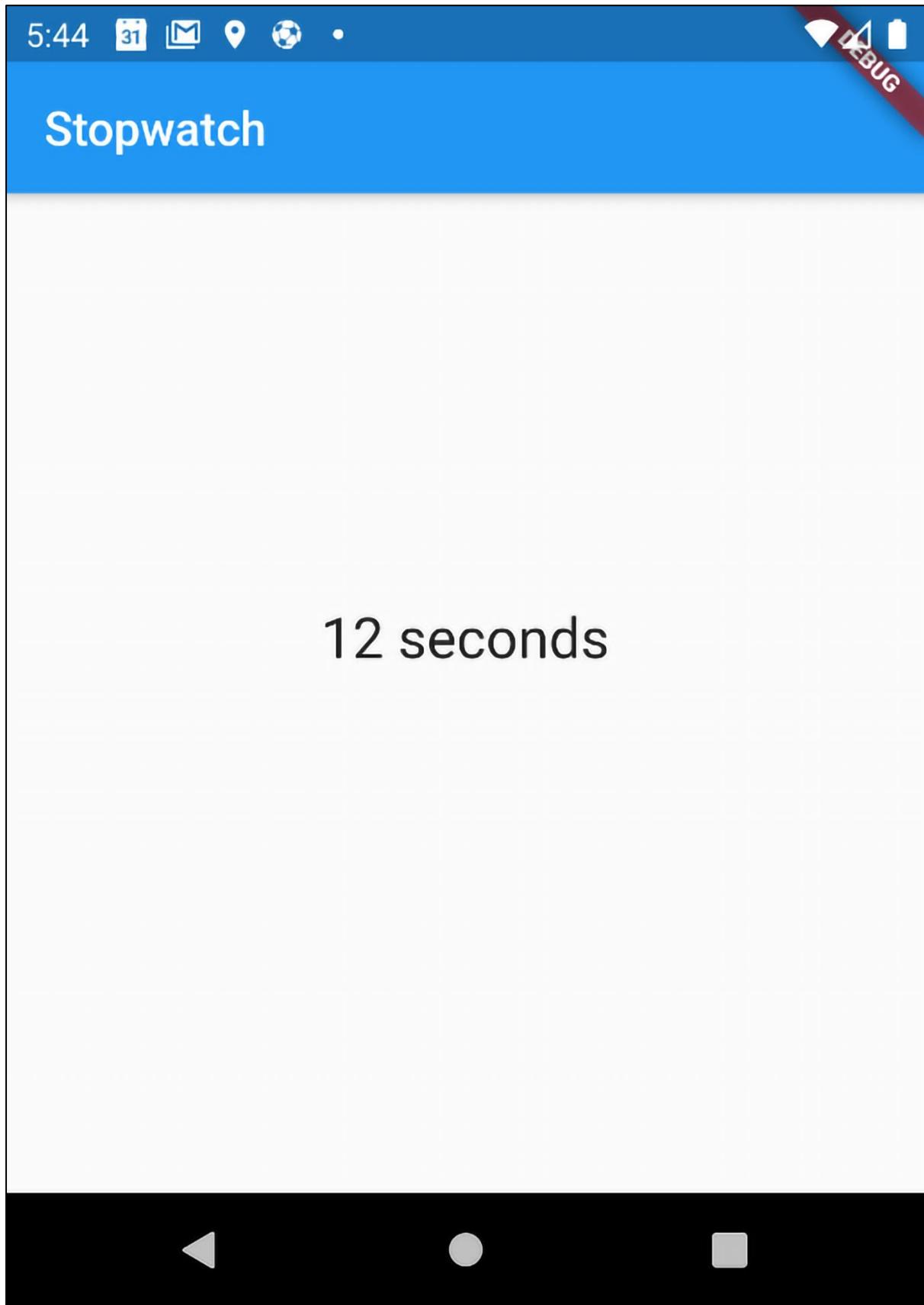


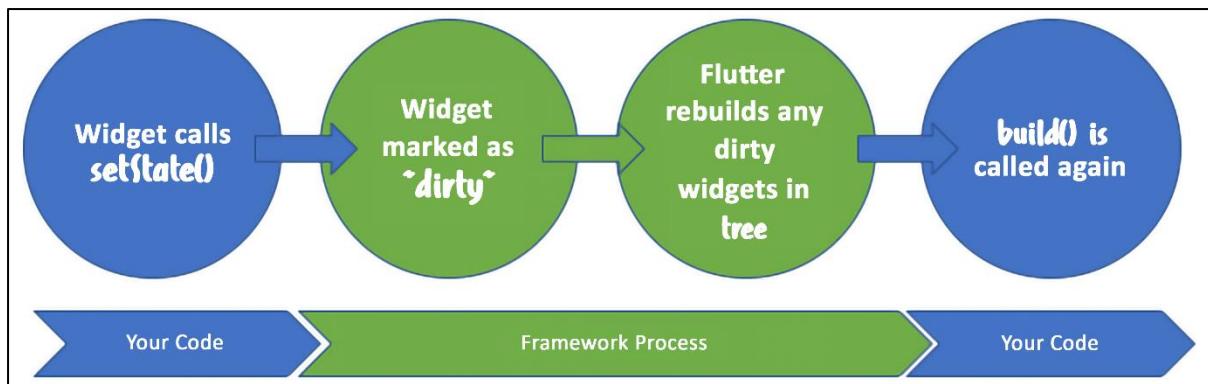
**Lorem Ipsum**

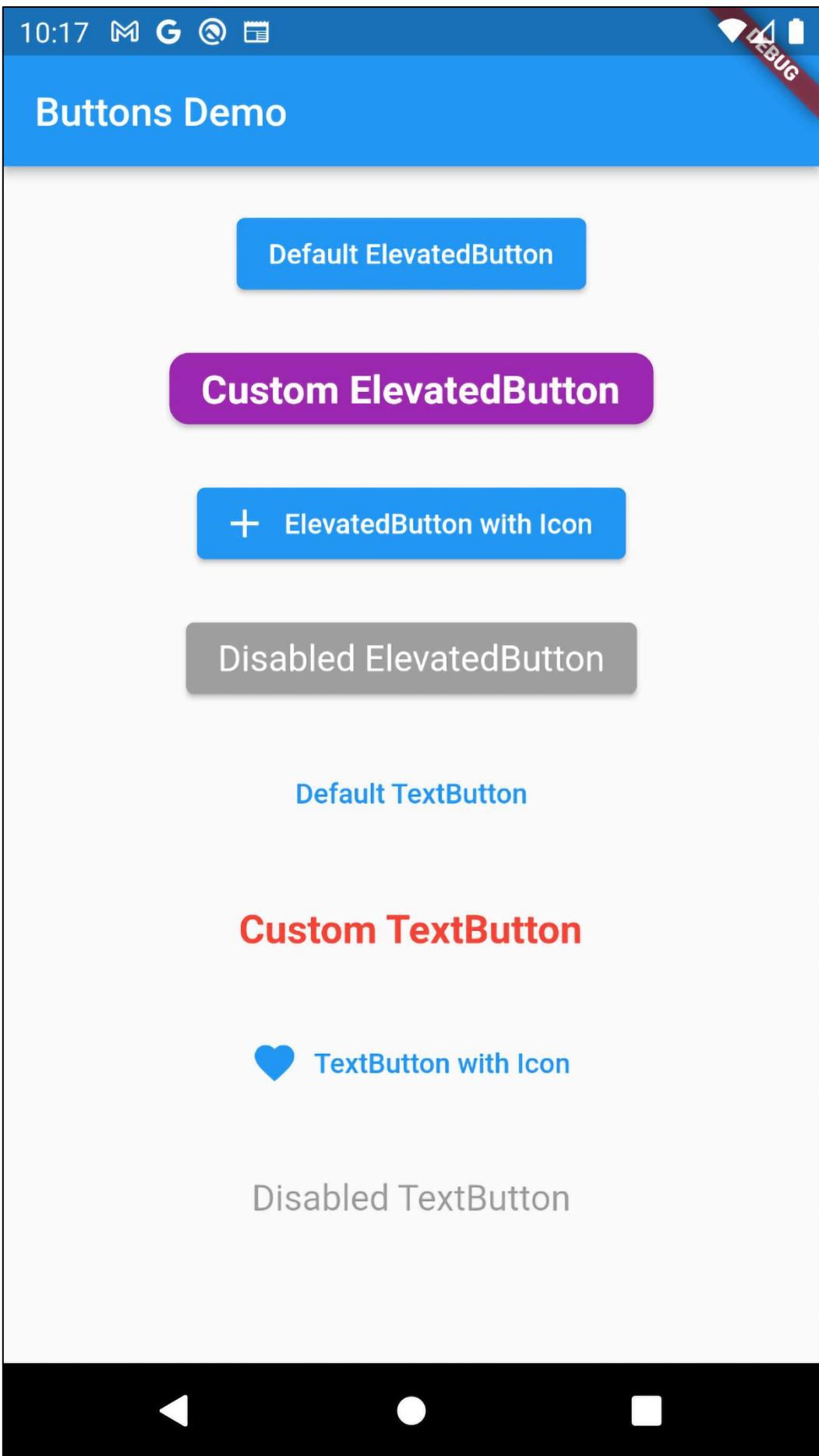
Dolor sit amet, consectetur adipiscing elit. Quisque faucibus.

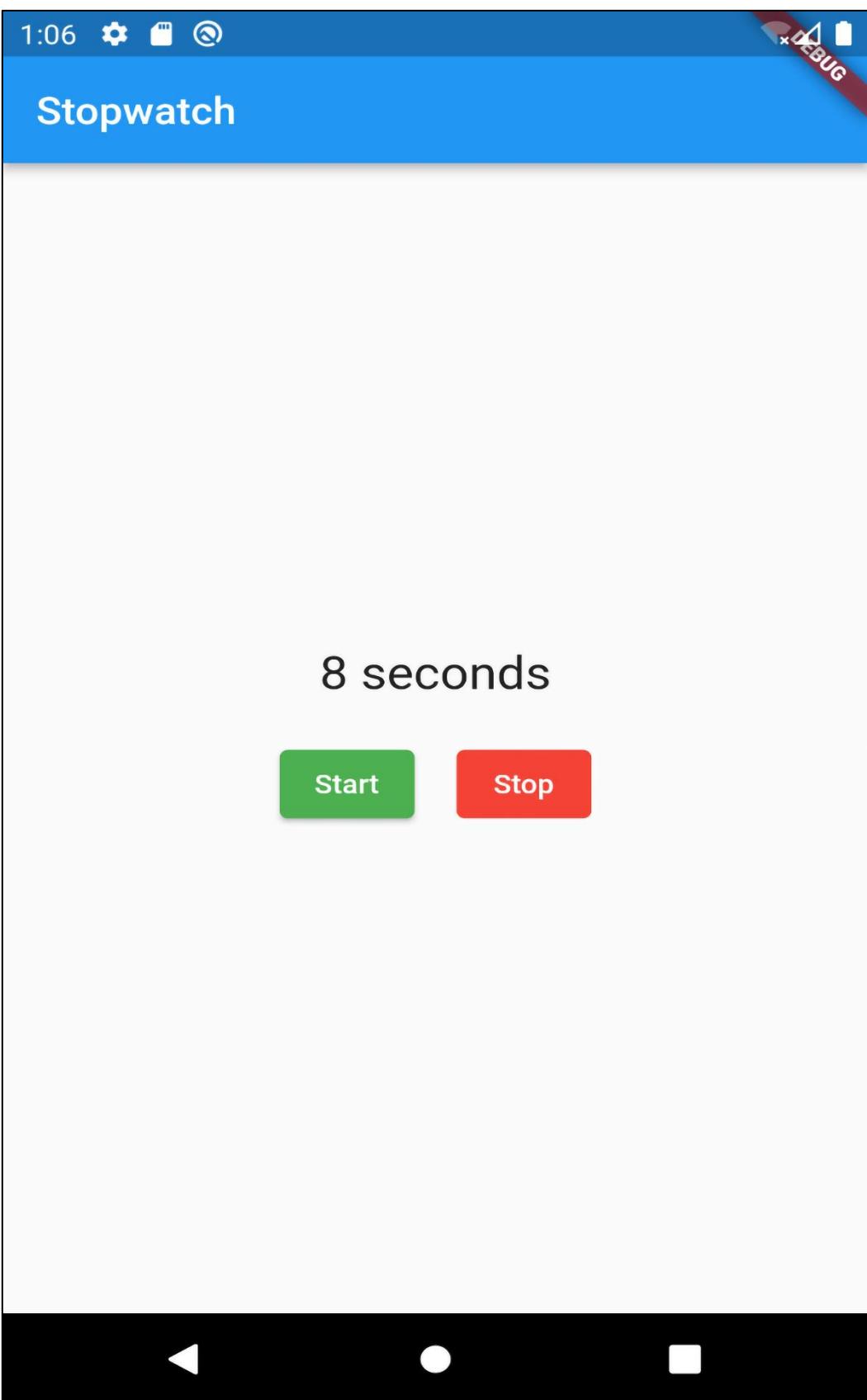


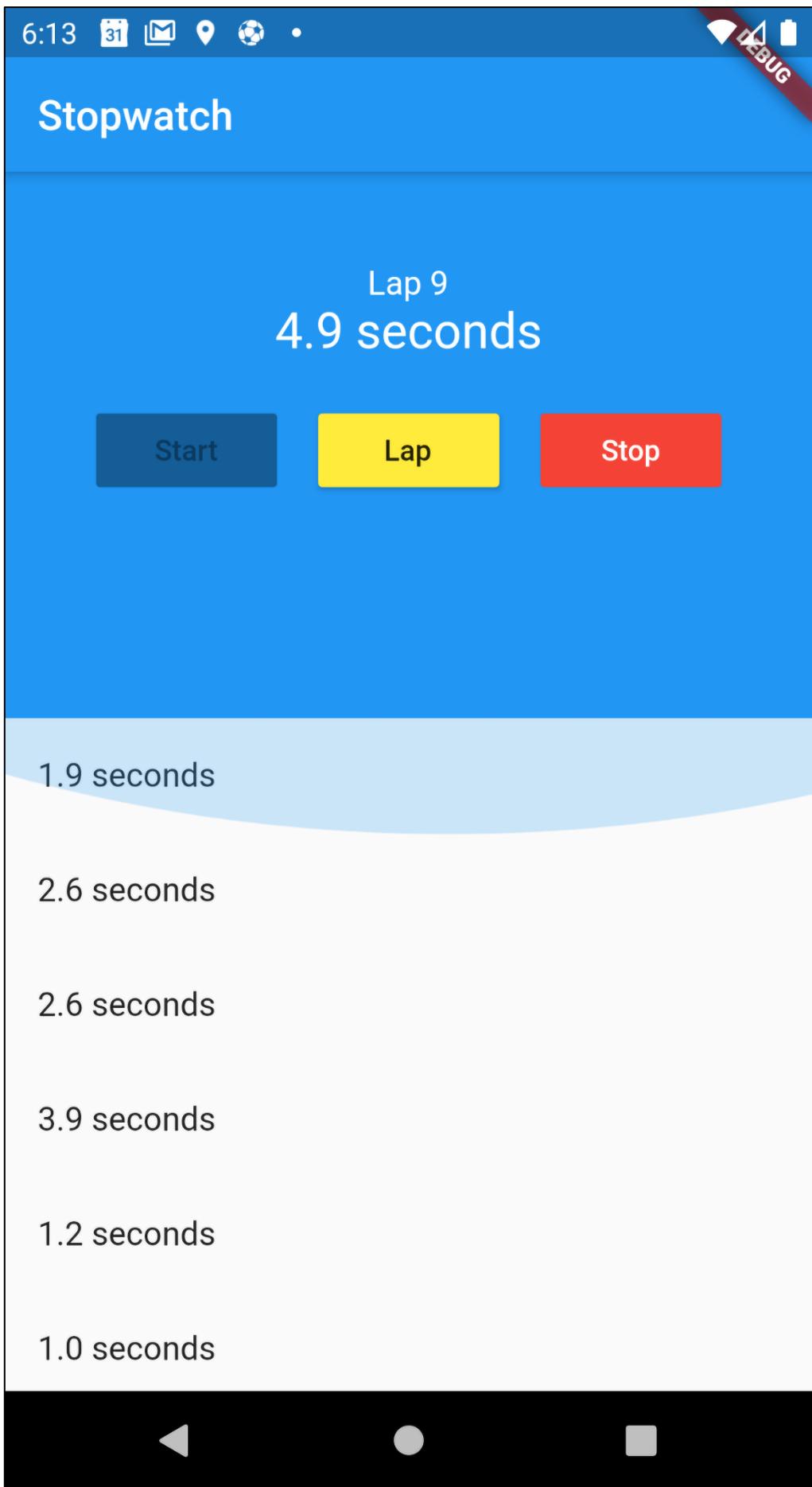
## Chapter 6: Adding Interactivity and Navigation to Your app



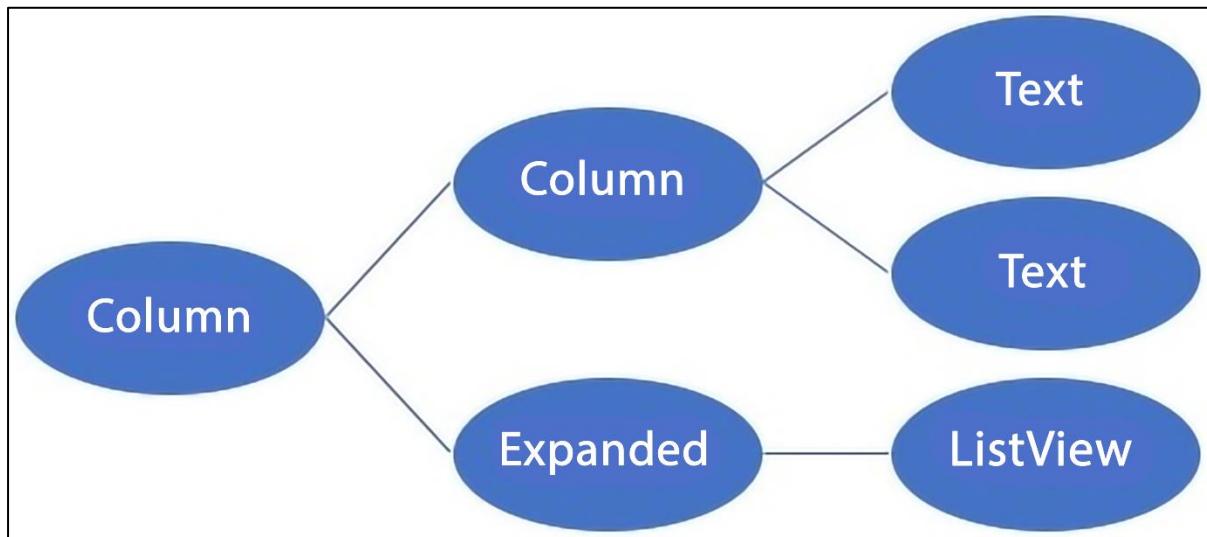


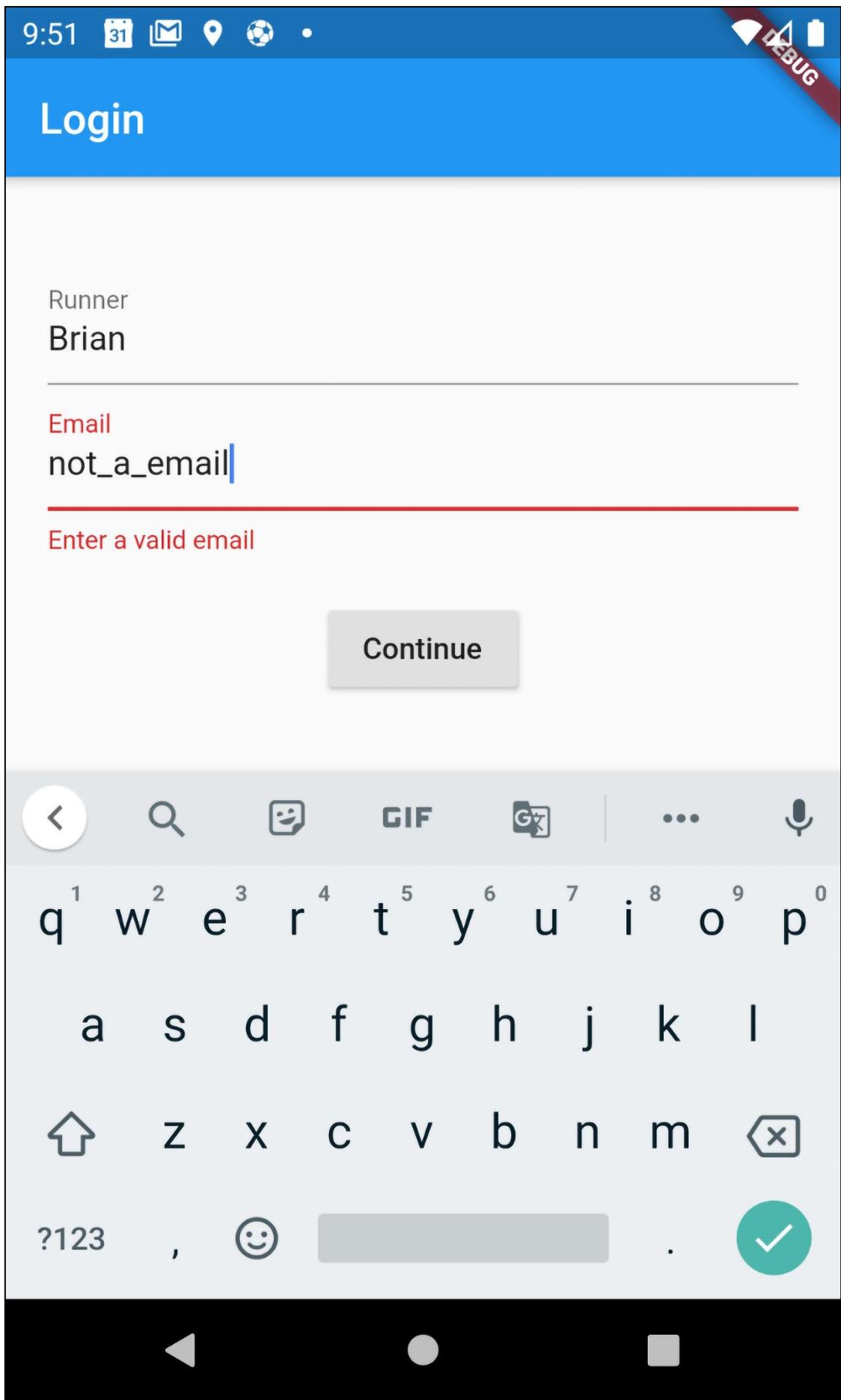






```
I/flutter (28416): └─ EXCEPTION CAUGHT BY RENDERING LIBRARY ━━━━━  
I/flutter (28416): The following assertion was thrown during performResize():  
I/flutter (28416): Vertical viewport was given unbounded height.  
I/flutter (28416): Viewports expand in the scrolling direction to fill their container. In this case, a vertical  
I/flutter (28416): viewport was given an unlimited amount of vertical space in which to expand. This situation  
I/flutter (28416): typically happens when a scrollable widget is nested inside another scrollable widget.  
I/flutter (28416): If this widget is always nested in a scrollable widget there is no need to use a viewport because  
I/flutter (28416): there will always be enough vertical space for the children. In this case, consider using a Column  
I/flutter (28416): instead. Otherwise, consider using the "shrinkWrap" property (or a ShrinkWrappingViewport) to size  
I/flutter (28416): the height of the viewport to the sum of the heights of its children.  
I/flutter (28416):  
I/flutter (28416): When the exception was thrown, this was the stack:  
I/flutter (28416): #0      RenderViewport.performResize.<anonymous closure> (package:flutter/src/rendering/viewport.dart:1147:15)  
I/flutter (28416): #1      RenderViewport.performResize (package:flutter/src/rendering/viewport.dart:1200:6)  
I/flutter (28416): #2      RenderObject.layout (package:flutter/src/rendering/object.dart:1604:9)
```





# Android

# iOS

**Android Default Alert**

Uh Oh, something has gone wrong!

Close

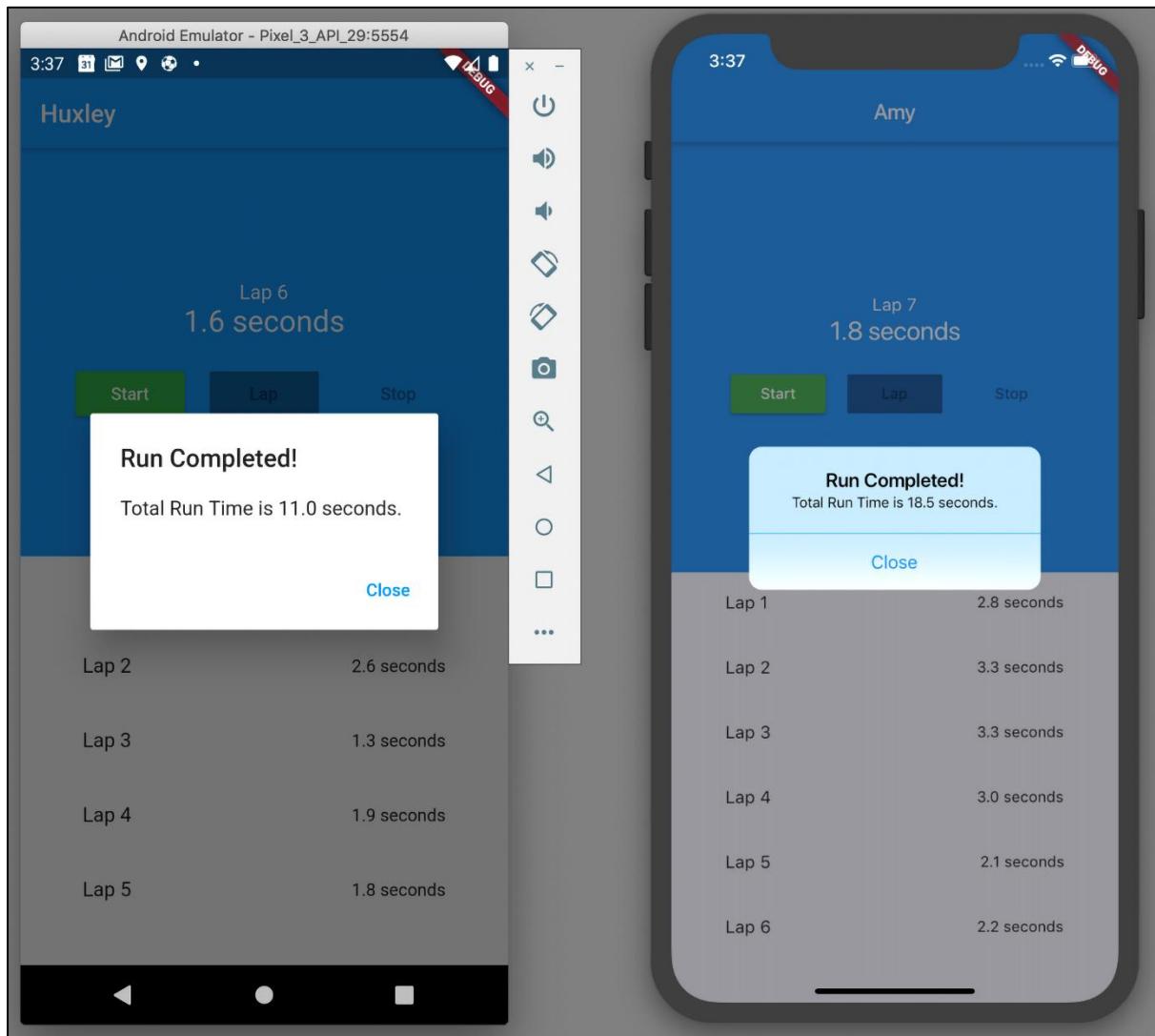
**iOS Default Alert**

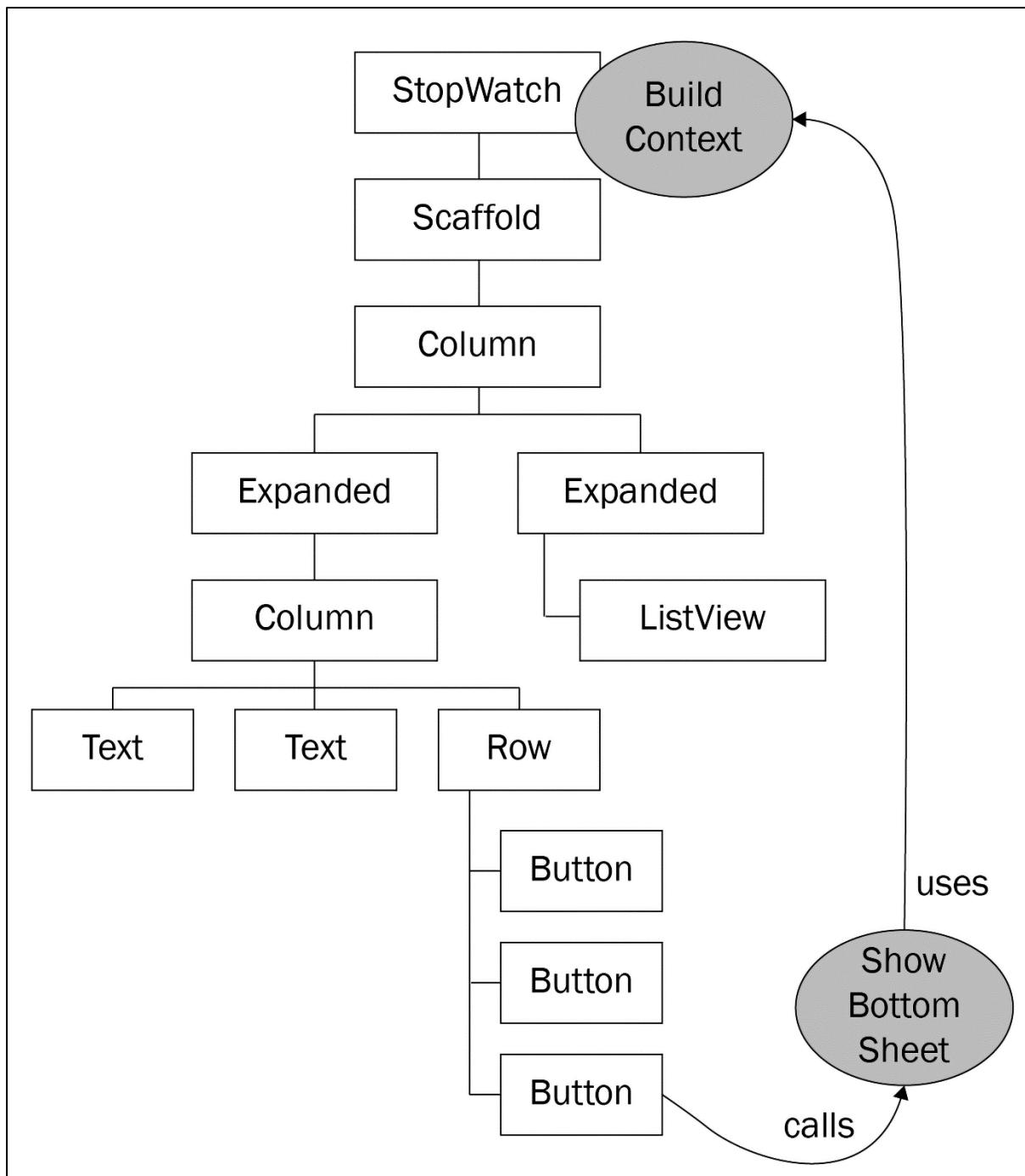
Uh Oh, something has gone wrong!

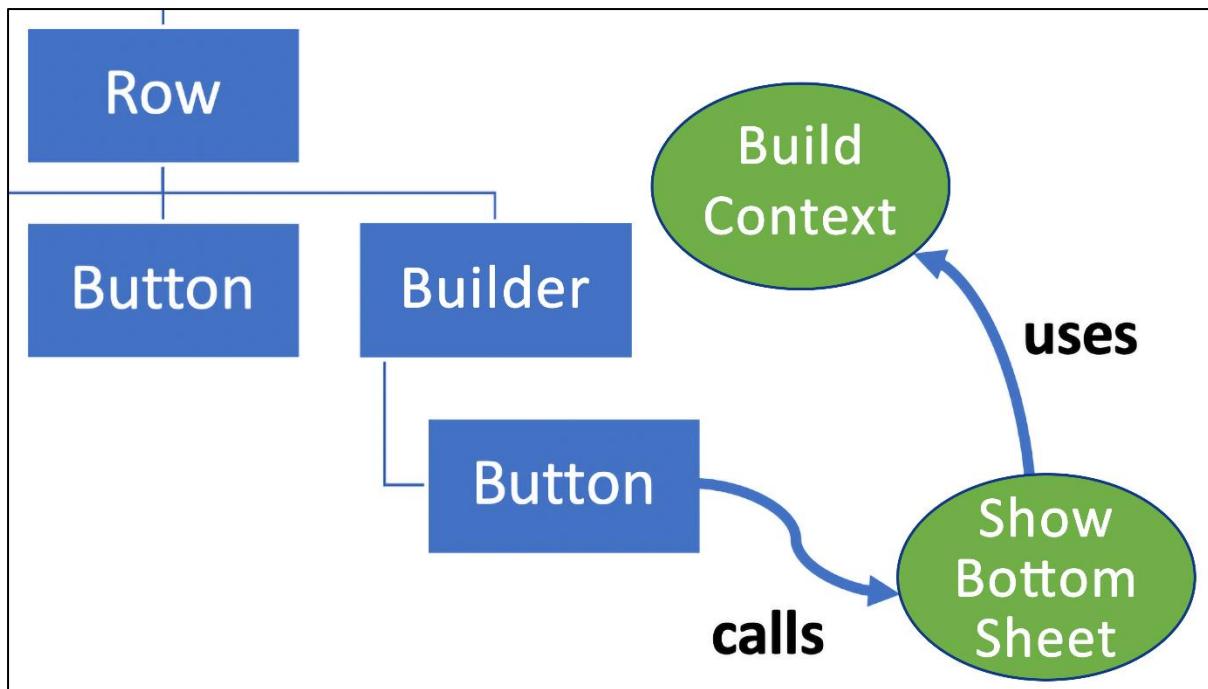
Close

Material Design

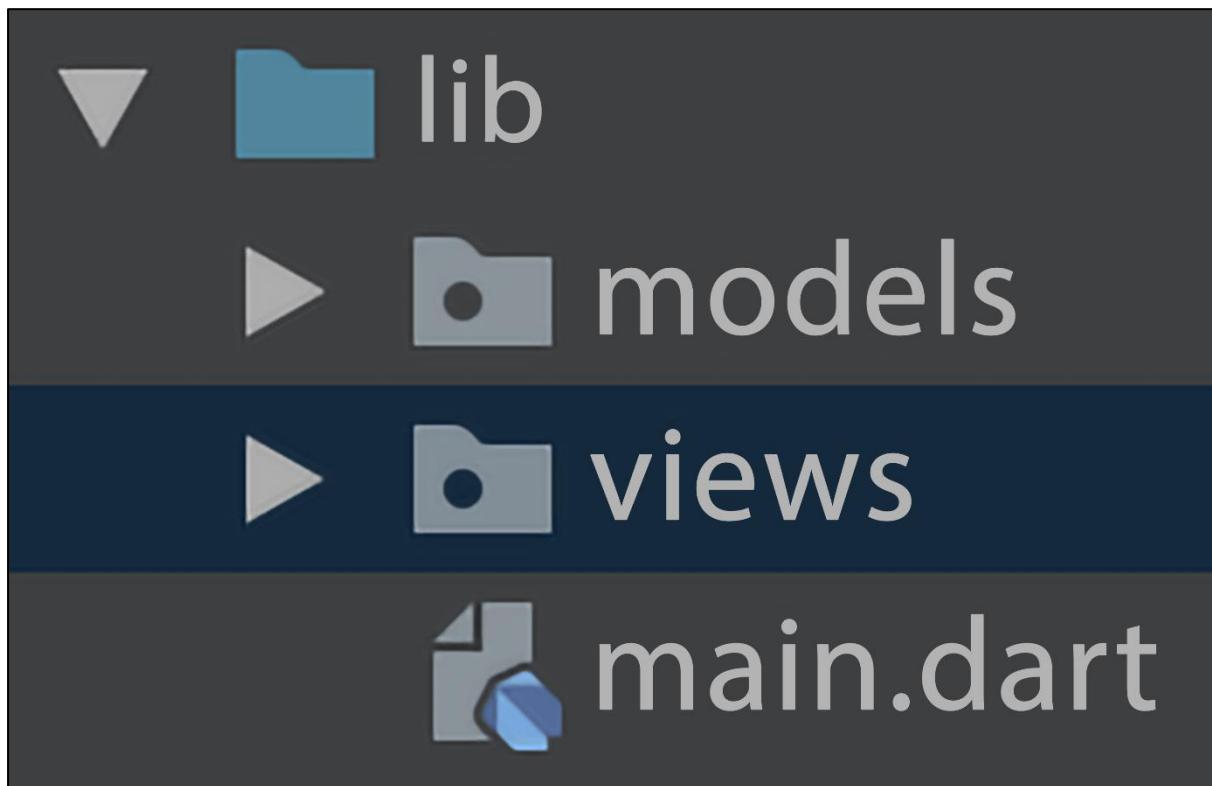
Cupertino Design

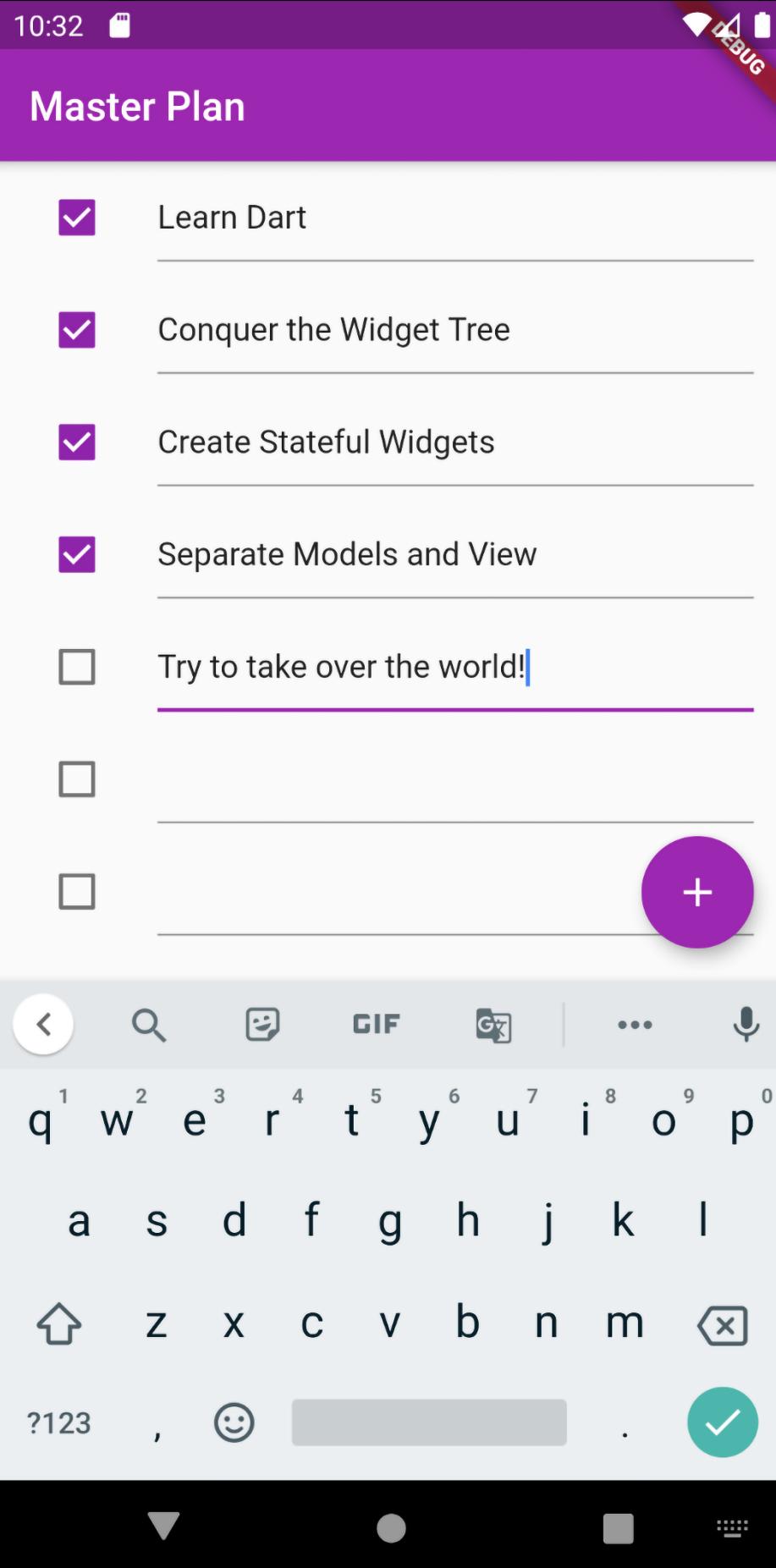






## Chapter 7: Basic State Management





9:50



DEBUG

## Master Plans

Add a plan

Try to take over the world

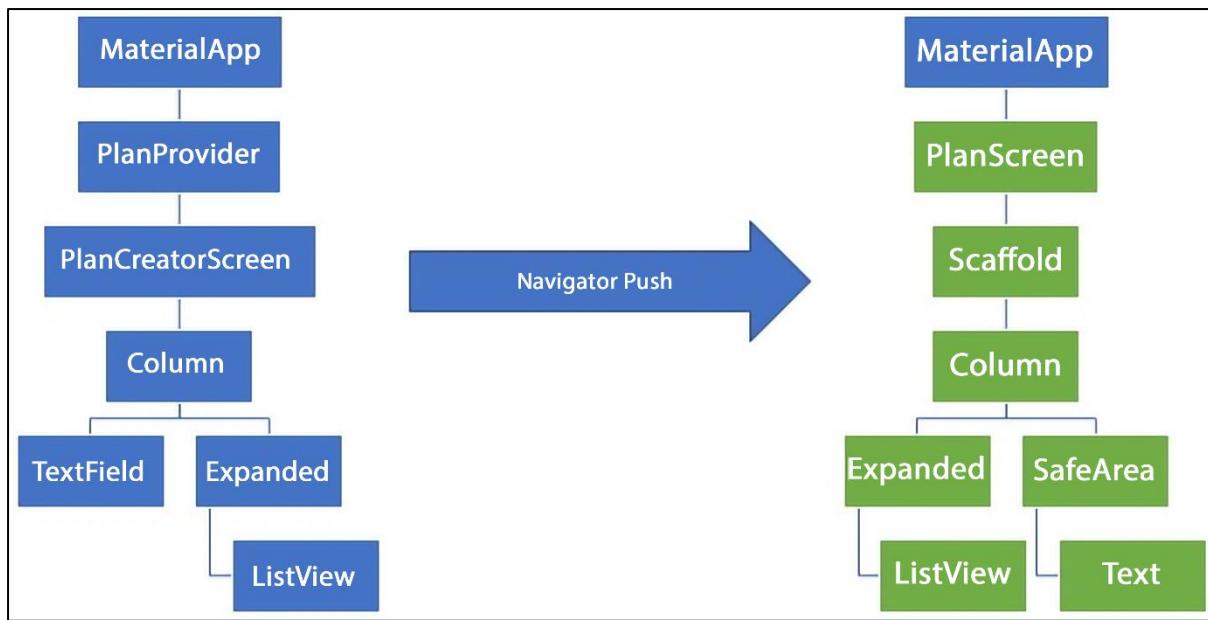
1 out of 3 tasks

Invent New Form of Cheese

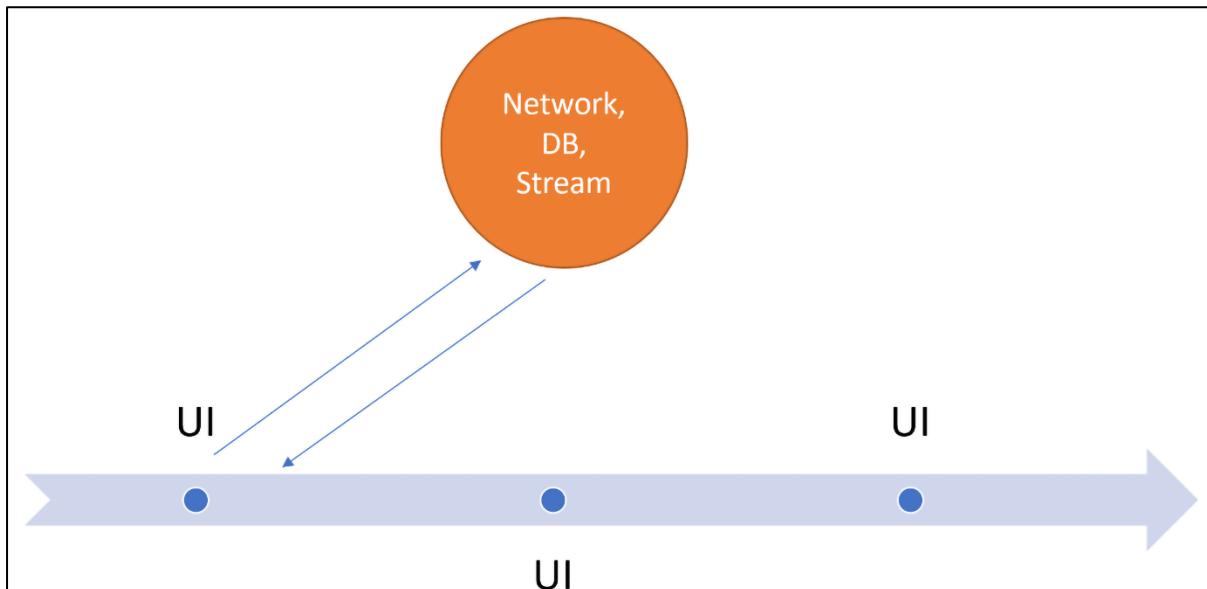
0 out of 14 tasks

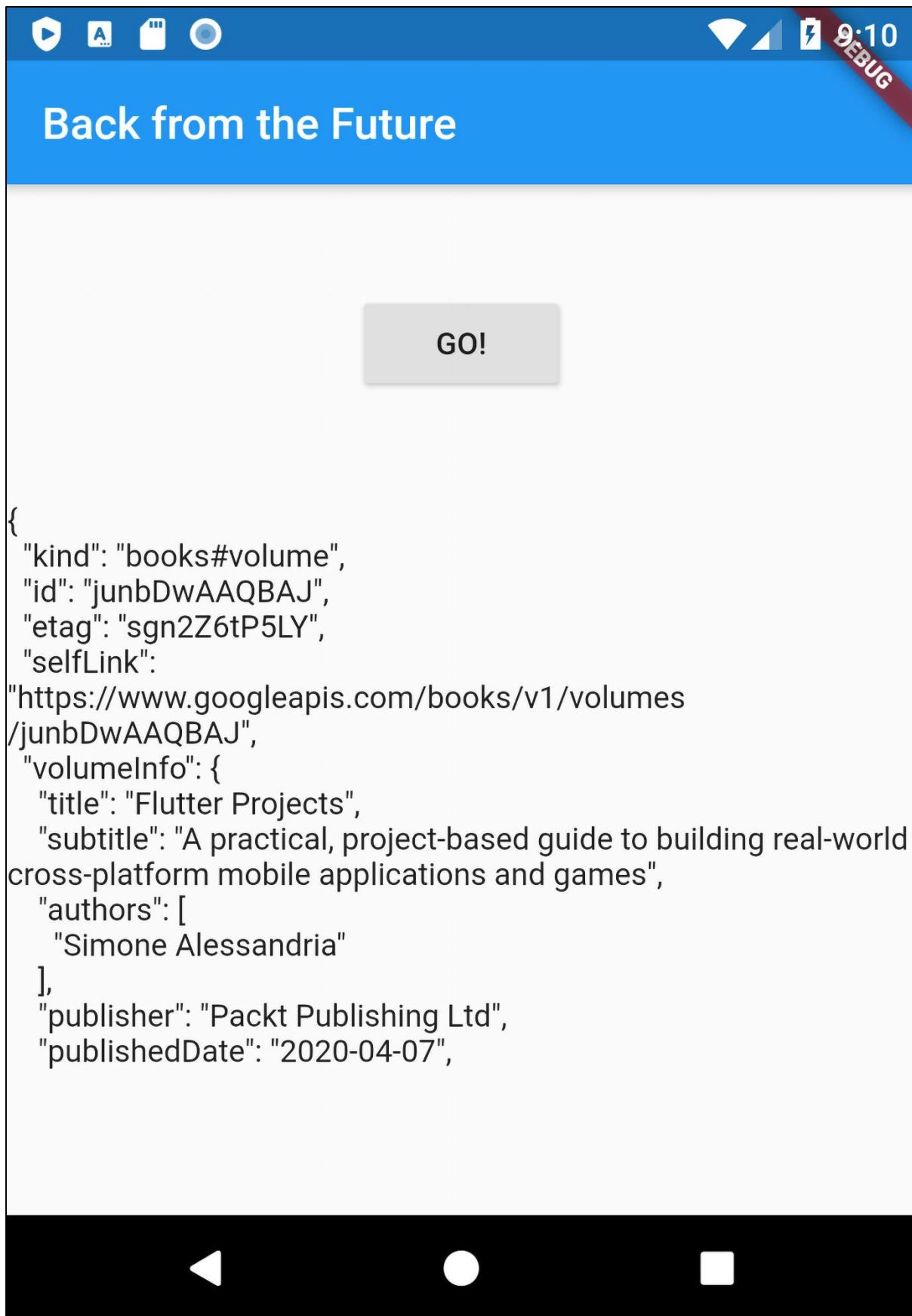
Learn Flutter

6 out of 14 tasks



## Chapter 8: The Future is Now: Introduction to Asynchronous Programming





```
//Future with then
```

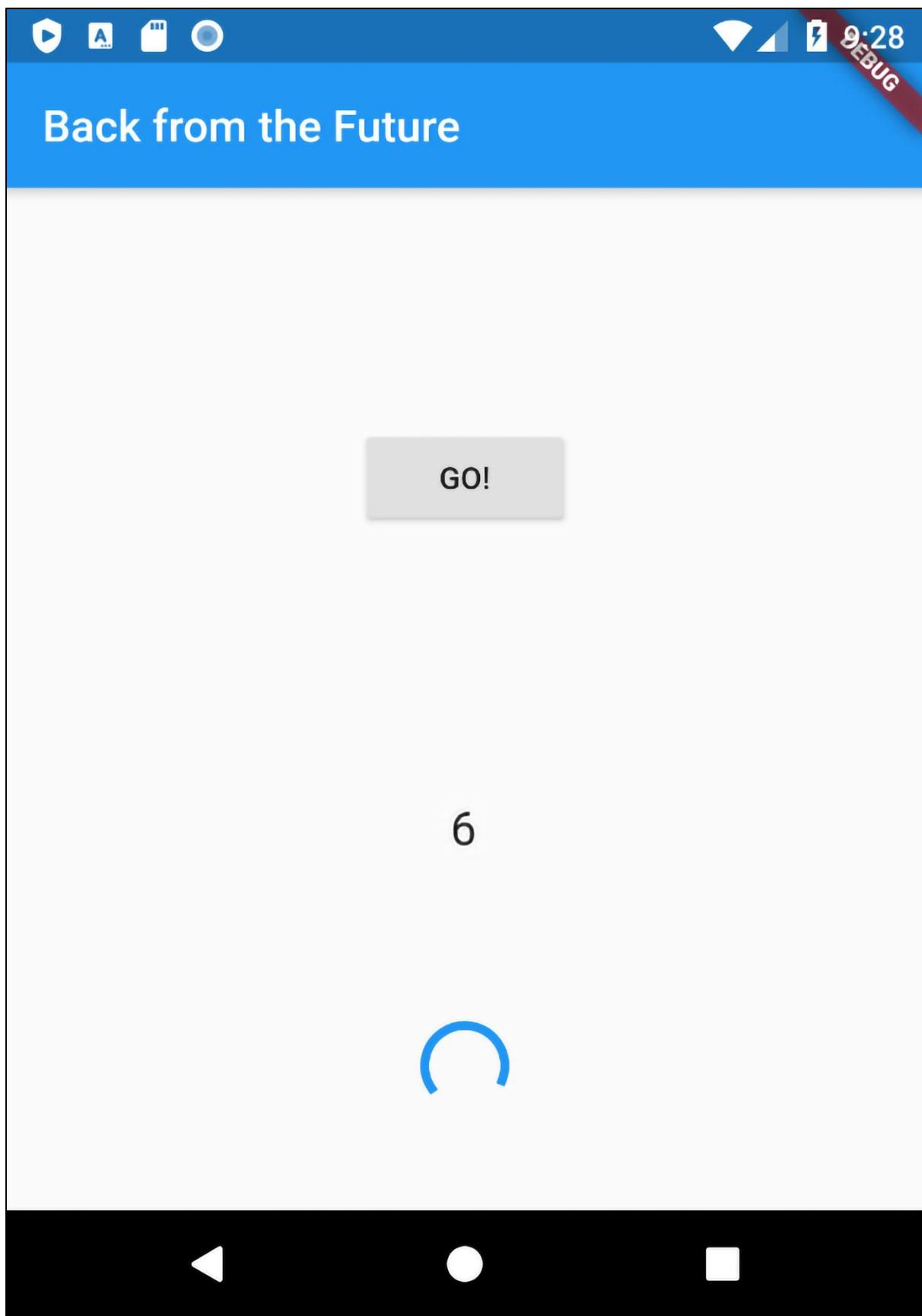
```
Future<Response> getData() {  
    String url = https://myaddress.com';  
    return http.get(url);  
}
```

```
void someMethod() {  
  
    getData()  
        .then((value) {  
            //do something with value  
        });  
  
}
```

```
//Future with async / await
```

```
Future<Response> getData() {  
    String url = https://myaddress.com';  
    return http.get(url);  
}
```

```
Future someMethod() async {  
  
    var value = await getData();  
    //do something with value  
}
```



11:43 M Q

DEBUG

# Back from the Future

GO!

42

C



# Back from the Future

Go!

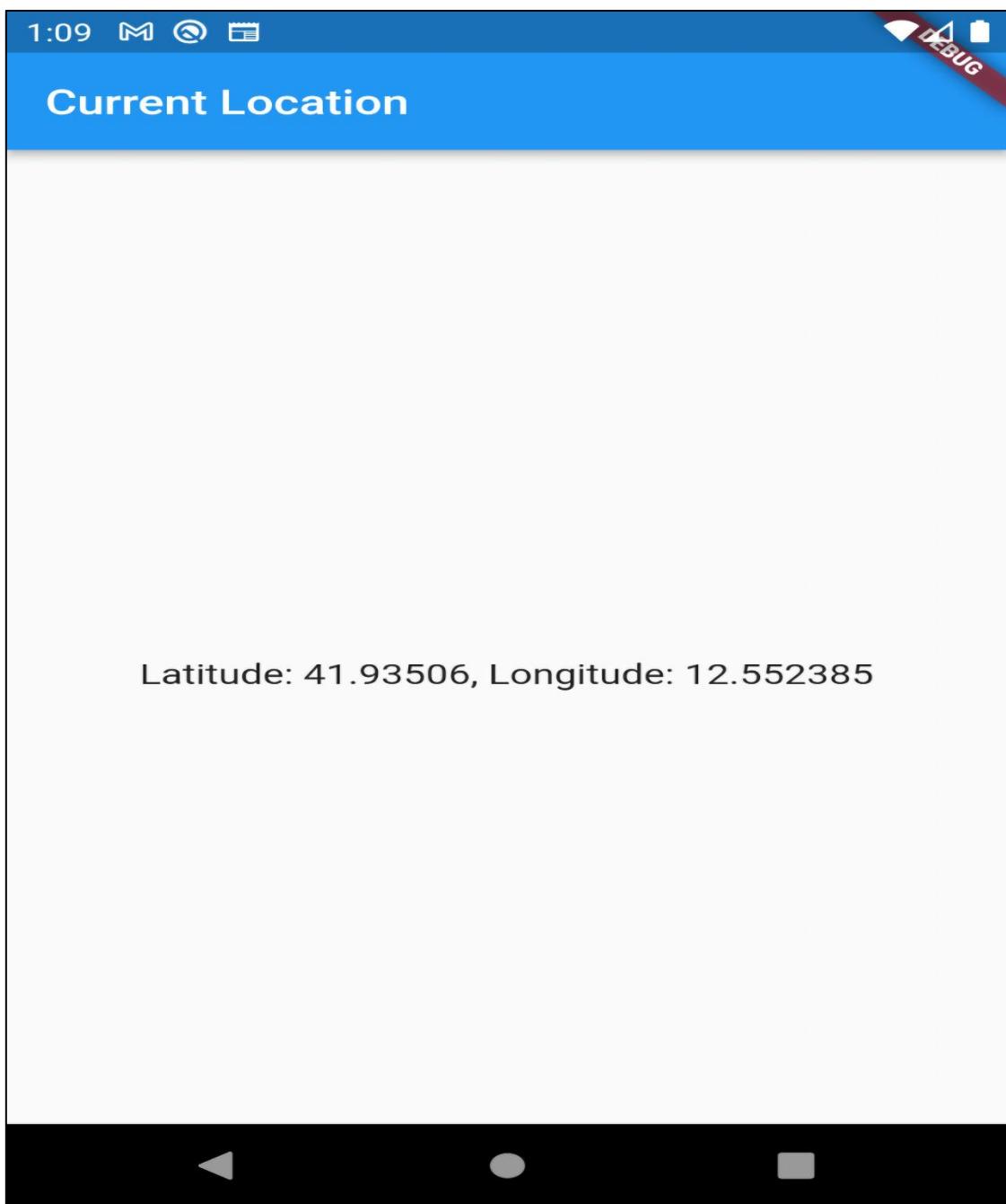
Something terrible happened!

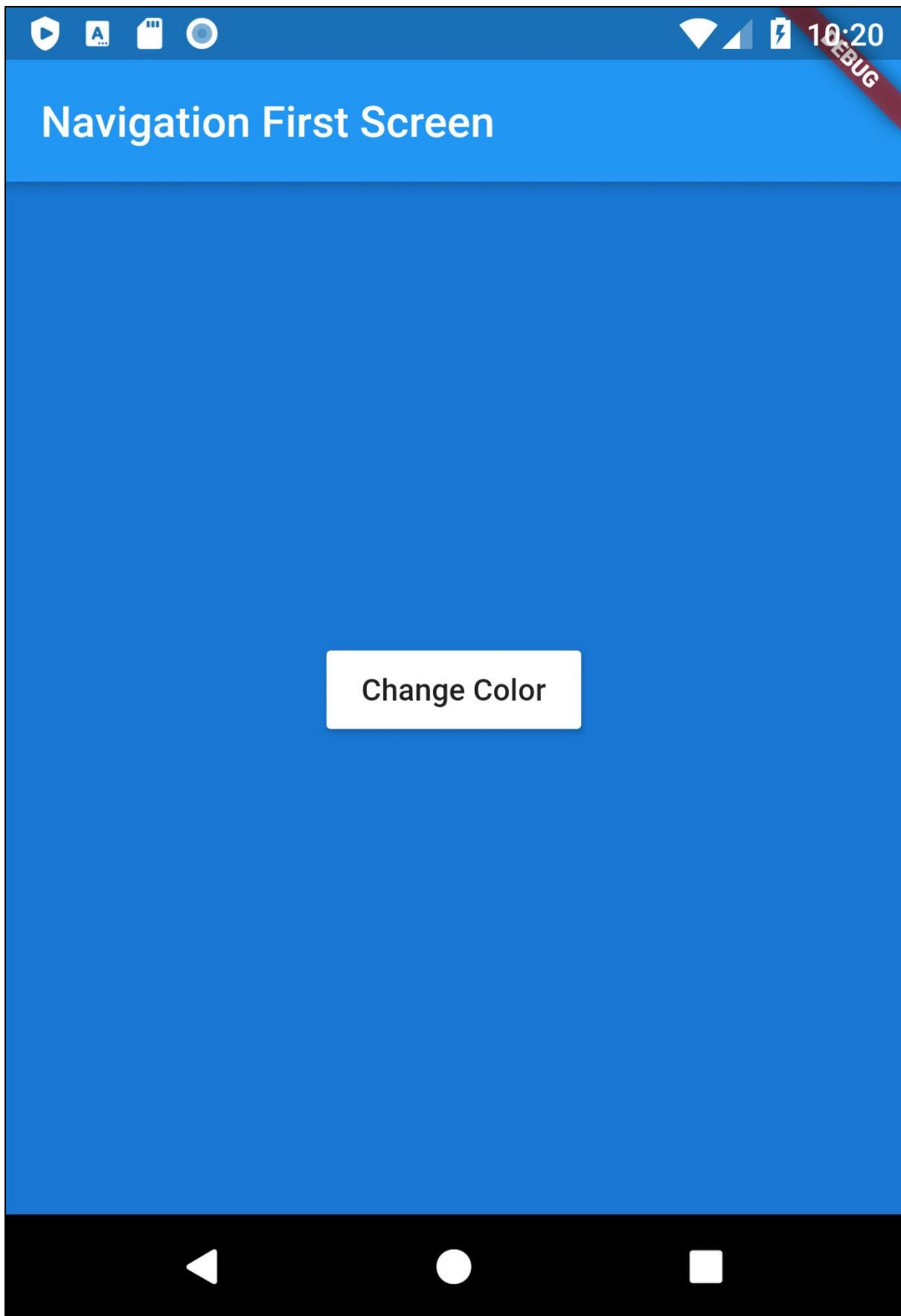


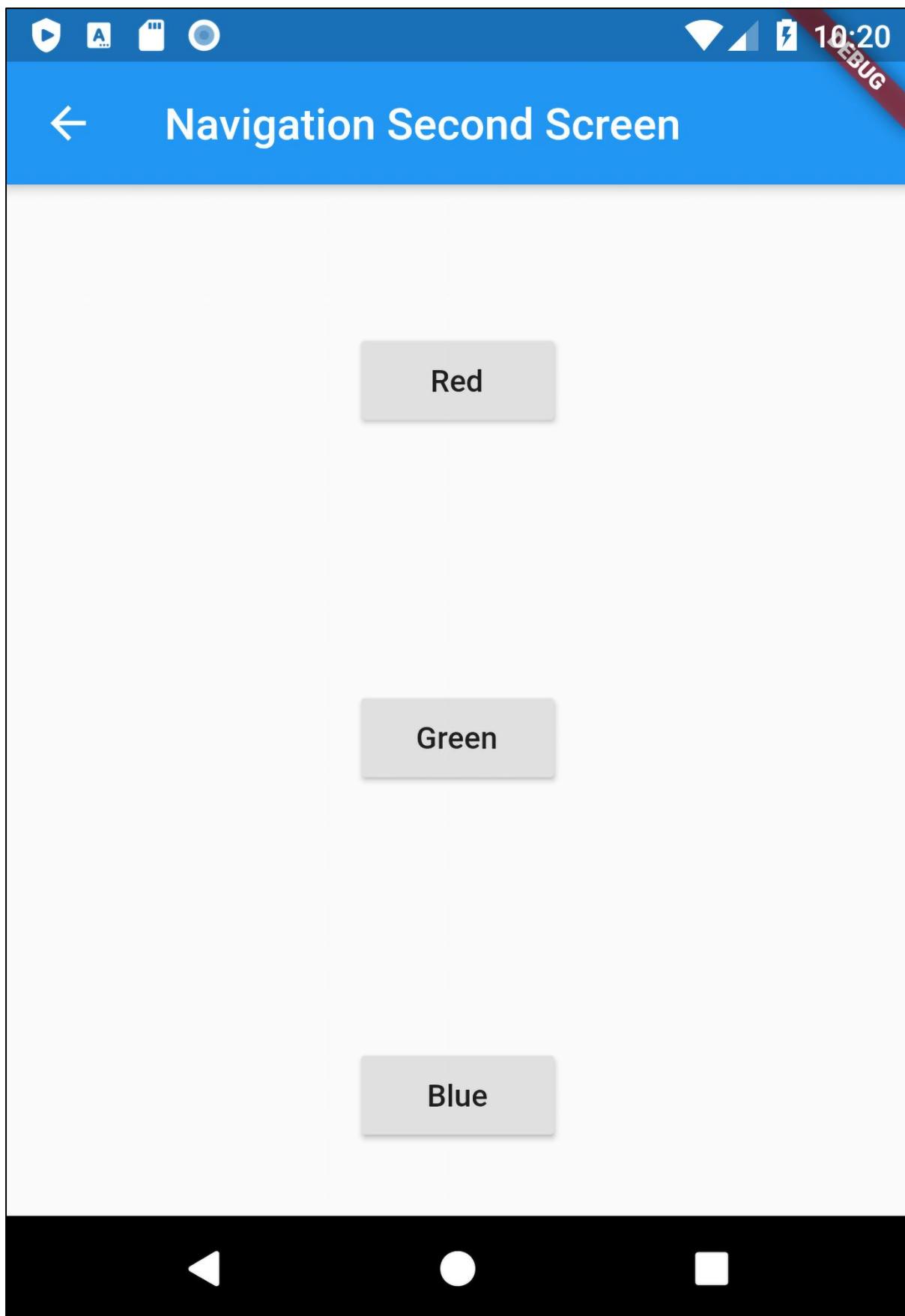
PROBLEMS    OUTPUT    TERMINAL    DEBUG CONSOLE

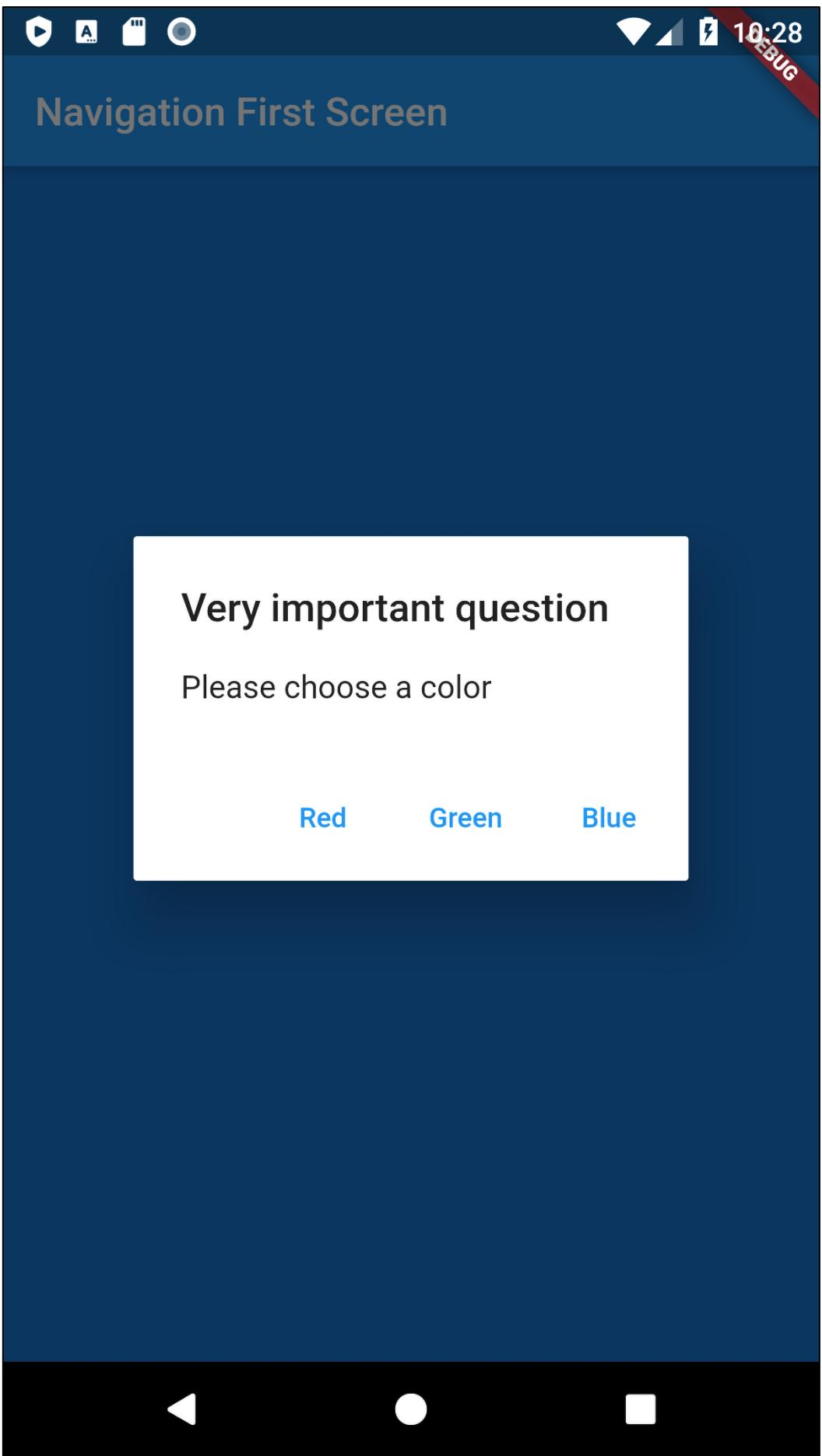
---

I/flutter (27854): Complete









## Chapter 9: Data Persistence and Communicating with the Internet

```
[  
 {  
   "id": 1,  
   "pizzaName": "Margherita",  
   "description": "Pizza with tomato, fresh  
   mozzarella and basil",  
   "price": 8.75,  
   "imageUrl": "images/margherita.png"  
 },  
 {  
   "id": 2,  
   "pizzaName": "Marinara",  
   "description": "Pizza with tomato, garlic  
   and oregano",  
   "price": 7.50,  
   "imageUrl": "images/marinara.png"  
 }  
 ]
```

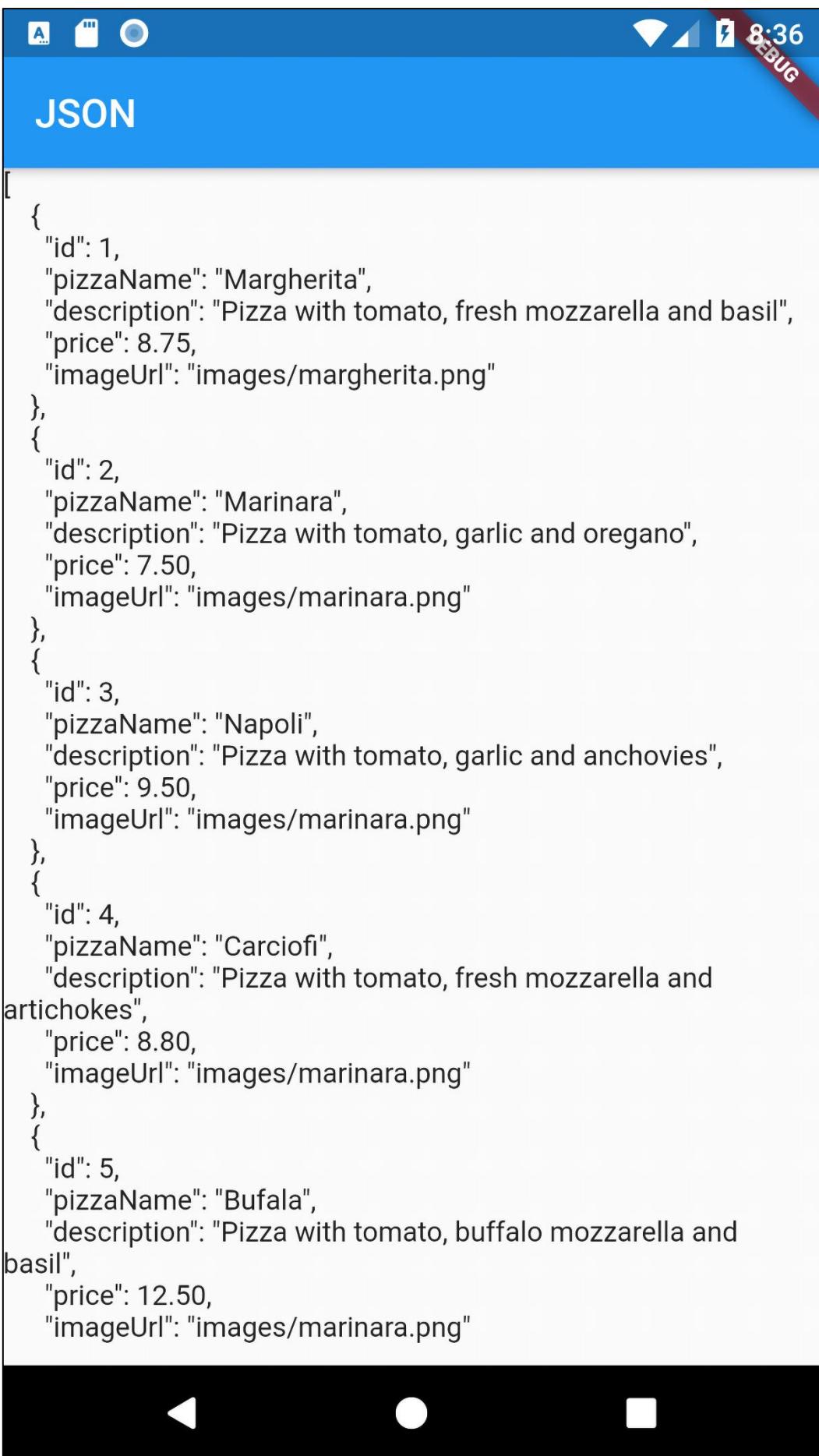
Opening square bracket: begin array / list

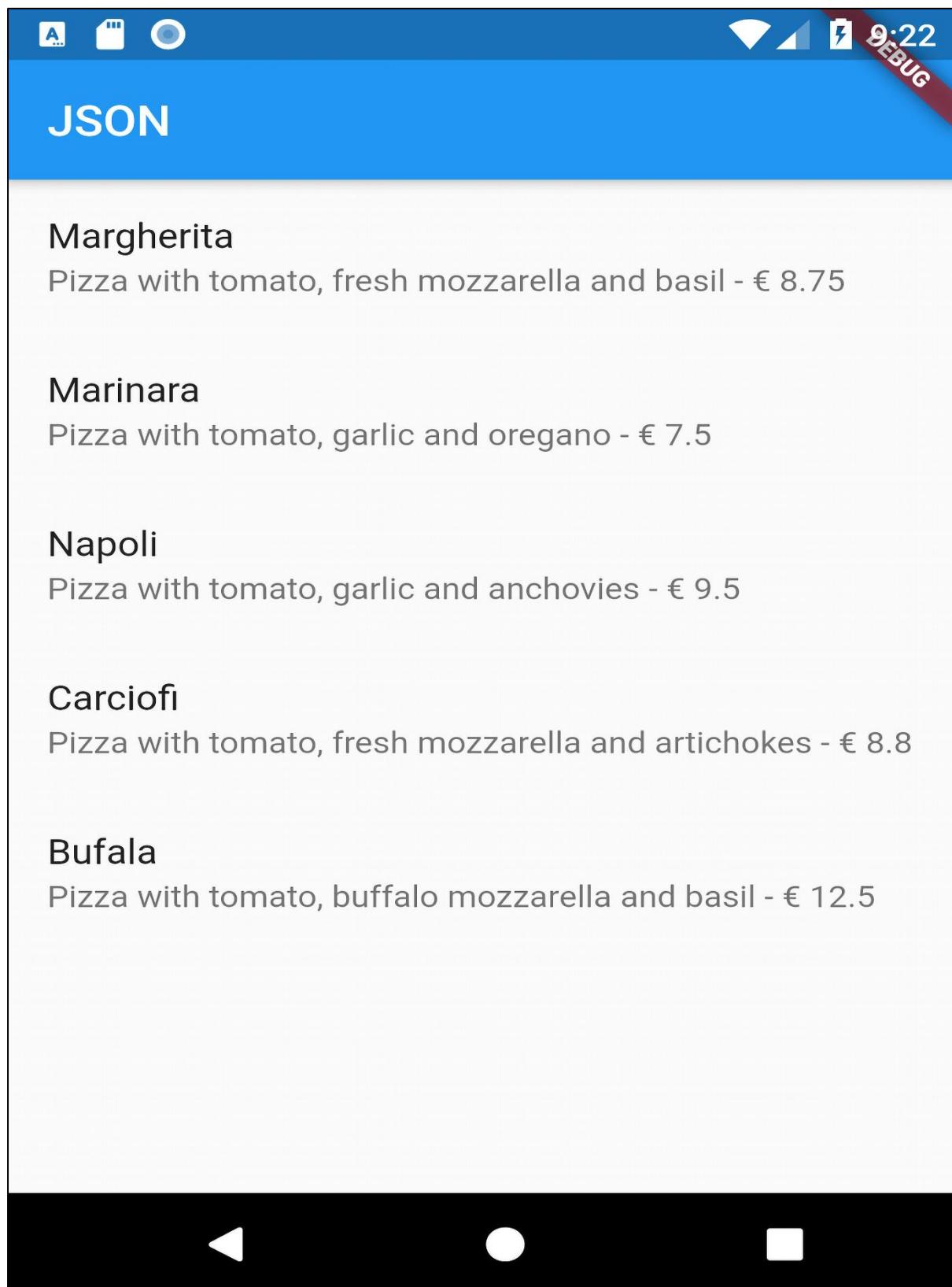
Opening curly bracket: begin object

Key – Value Pairs: keys and string values are included in quotes

Closing curly bracket: end of object;  
Use commas to separate objects

Closing square bracket: end array/list





PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL Filter (e.g. text, !exclude) ✖

```
Restarted application in 1.863ms.  
I/flutter ( 5353): [{id: 1, pizzaName: Margherita, description: Pizza with tomato, fresh mozzarella and  
basil, price: 8.75, imageUrl: images/margherita.png}, {id: 2, pizzaName: Marinara, description: Pizza w  
ith tomato, garlic and oregano, price: 7.5, imageUrl: images/marinara.png}, {id: 3, pizzaName: Napoli,  
description: Pizza with tomato, garlic and anchovies, price: 9.5, imageUrl: images/marinara.png}, {id:  
4, pizzaName: Carciofi, description: Pizza with tomato, fresh mozzarella and artichokes, price: 8.8, im  
ageUrl: images/marinara.png}, {id: 5, pizzaName: Bufala, description: Pizza with tomato, buffalo mozzar  
ella and basil, price: 12.5, imageUrl: images/marinara.png}]
```

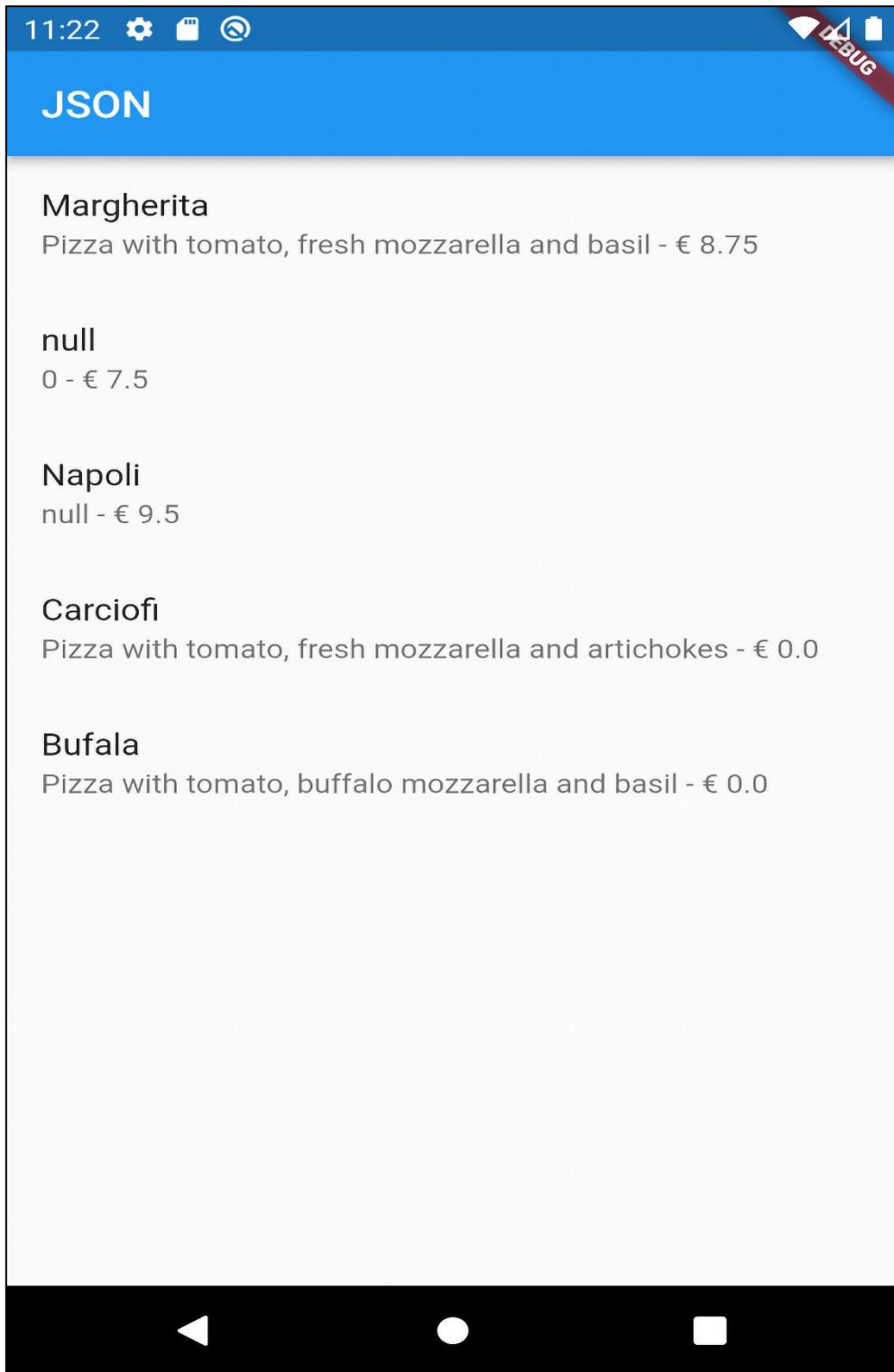
```
16     Pizza.fromJson(Map<String, dynamic> json) {  
D 17         this.id = json['id'];  
  
Exception has occurred. ×  
_TypeError (type 'String' is not a subtype of type 'int')
```

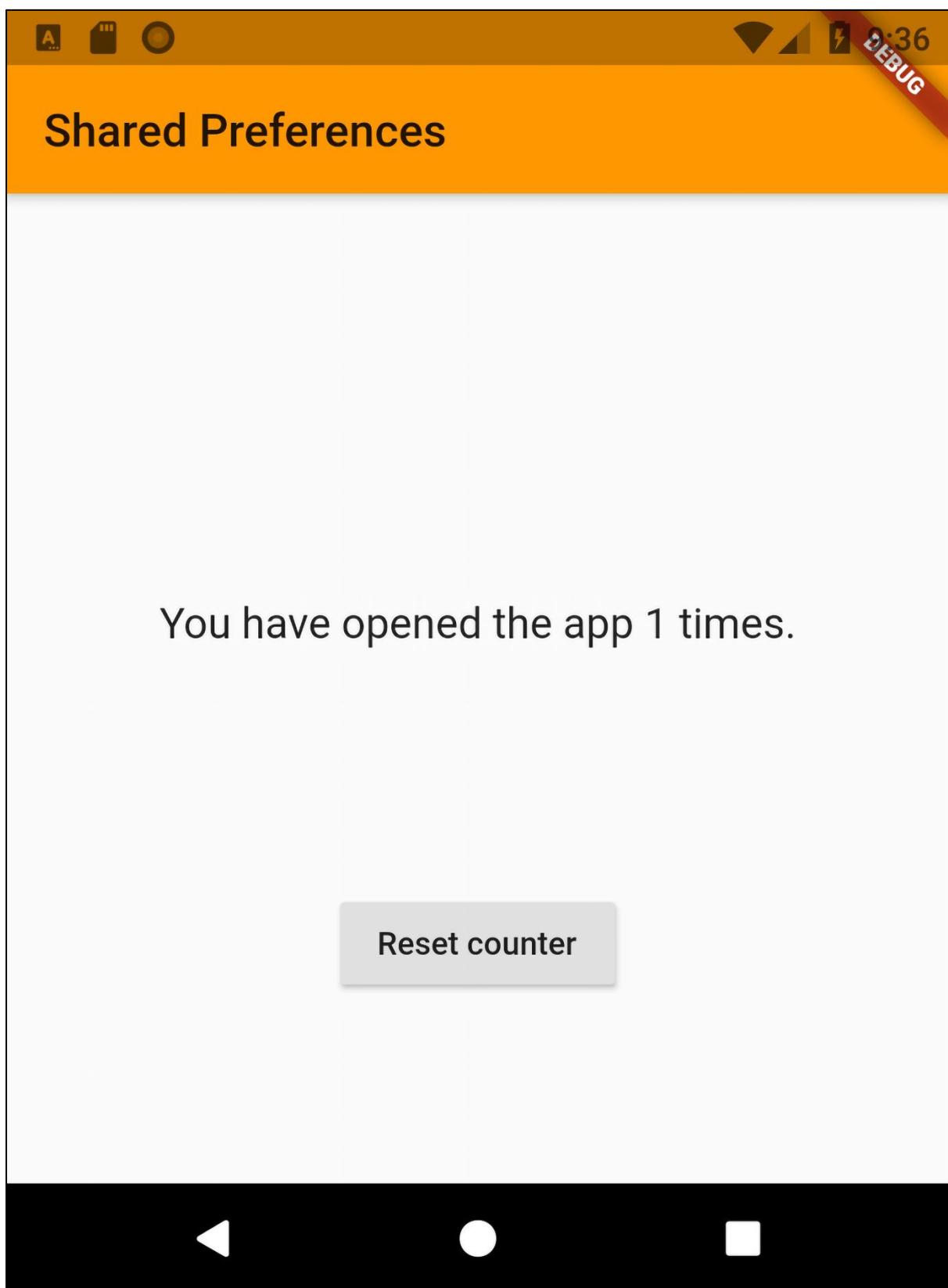
```
8      Pizza.fromJson(Map<String, dynamic> json) {  
9          id = int.tryParse(json['id']) ?? 0;  
10         pizzaName = json['pizzaName'];  
11         description = json['description'];  
12         price = json['price'];  
D 13         ImageUrl = json['imageUrl'];  
  
Exception has occurred. ×  
_TypeError (type 'Null' is not a subtype of type 'String')
```

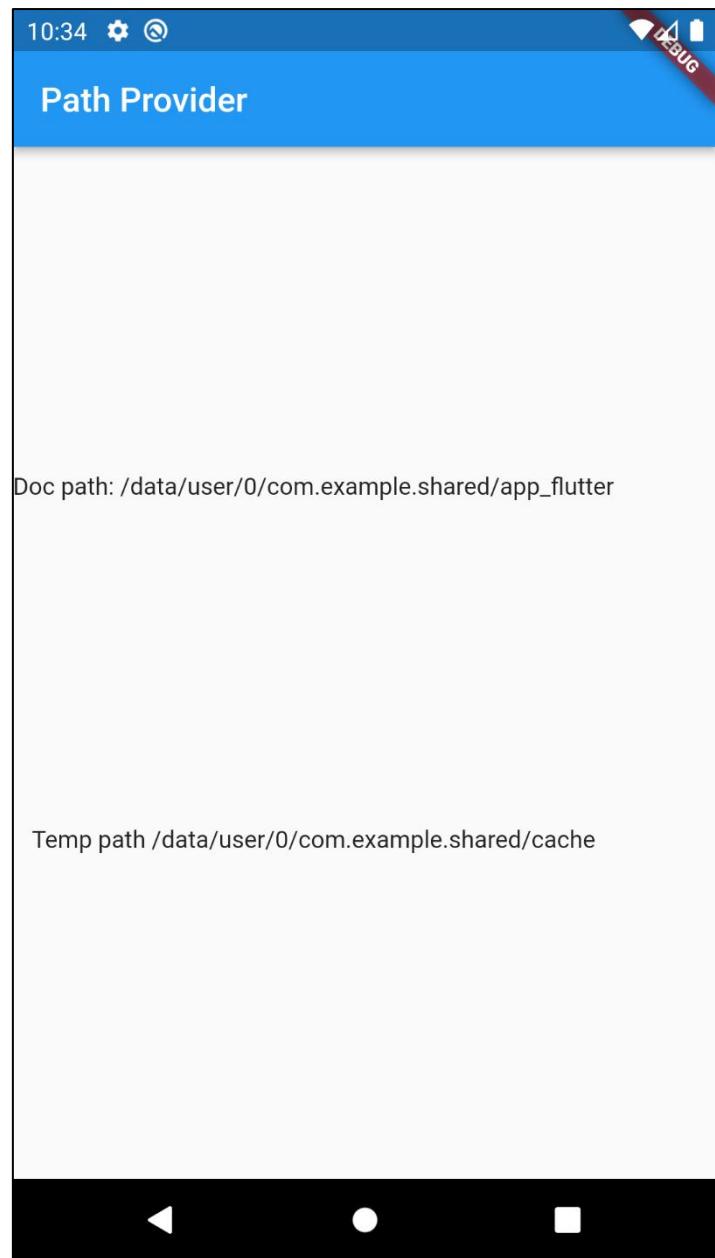
```
D 10     pizzaName = json['pizzaName'];  
  
Exception has occurred.  
_TypeError (type 'Null' is not a subtype of type 'String')  
  
11     description = json['description'];  
12     price = json['price'];  
13     ImageUrl = json['imageUrl'] ?? '';  
14 }  
15
```

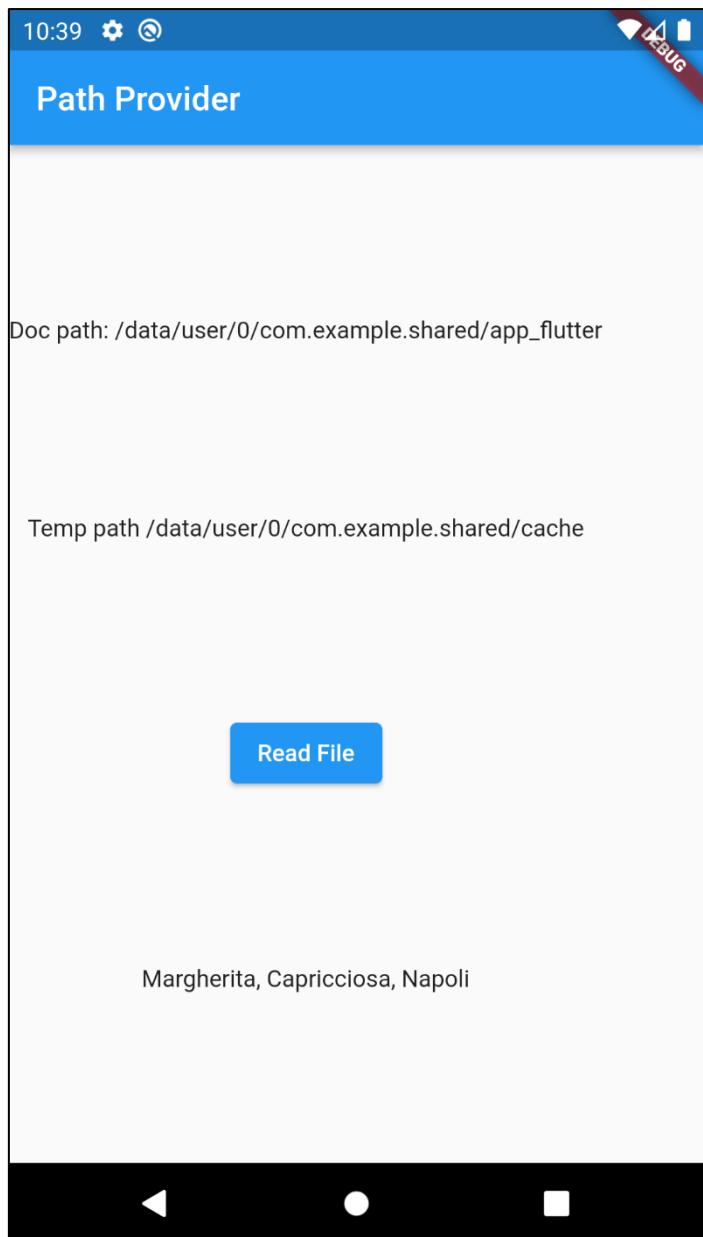
```
26     this.price = json[keyPrice];
```

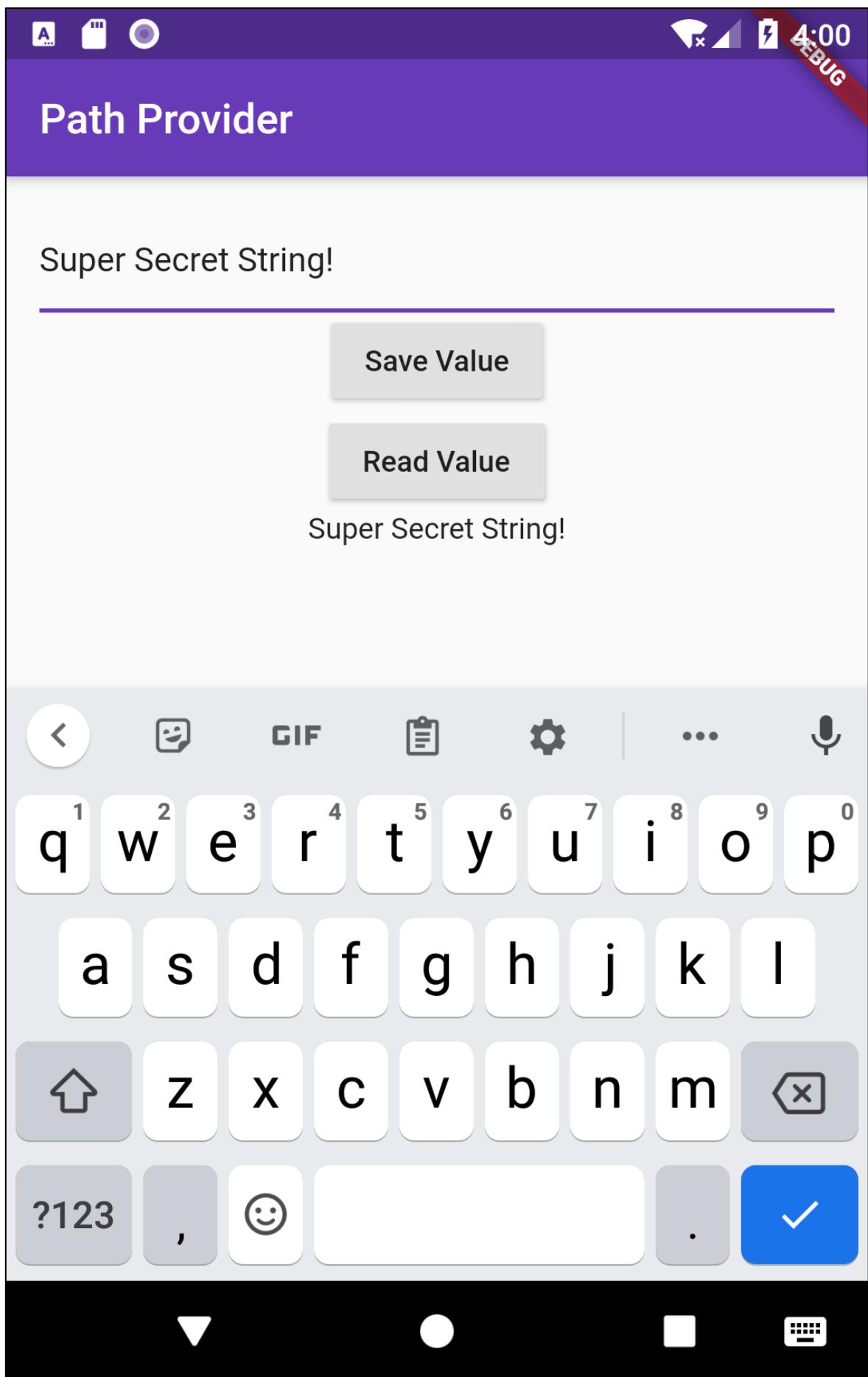
Exception has occurred. ×  
\_TypeError (type 'String' is not a subtype of type 'double')

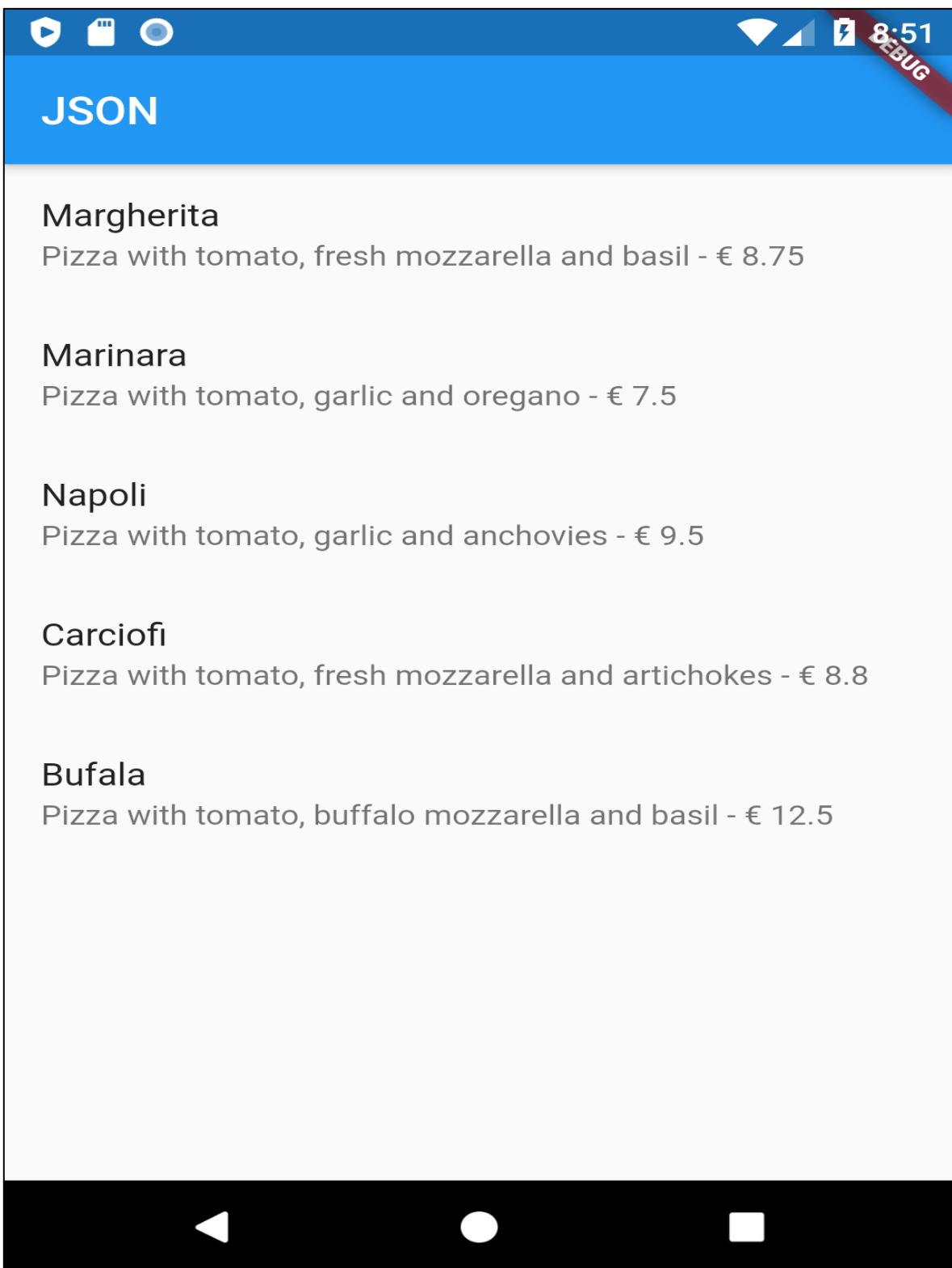












## Margherita

Pizza with tomato, fresh mozzarella and basil - € 8.75

## Marinara

Pizza with tomato, garlic and oregano - € 7.5

## Napoli

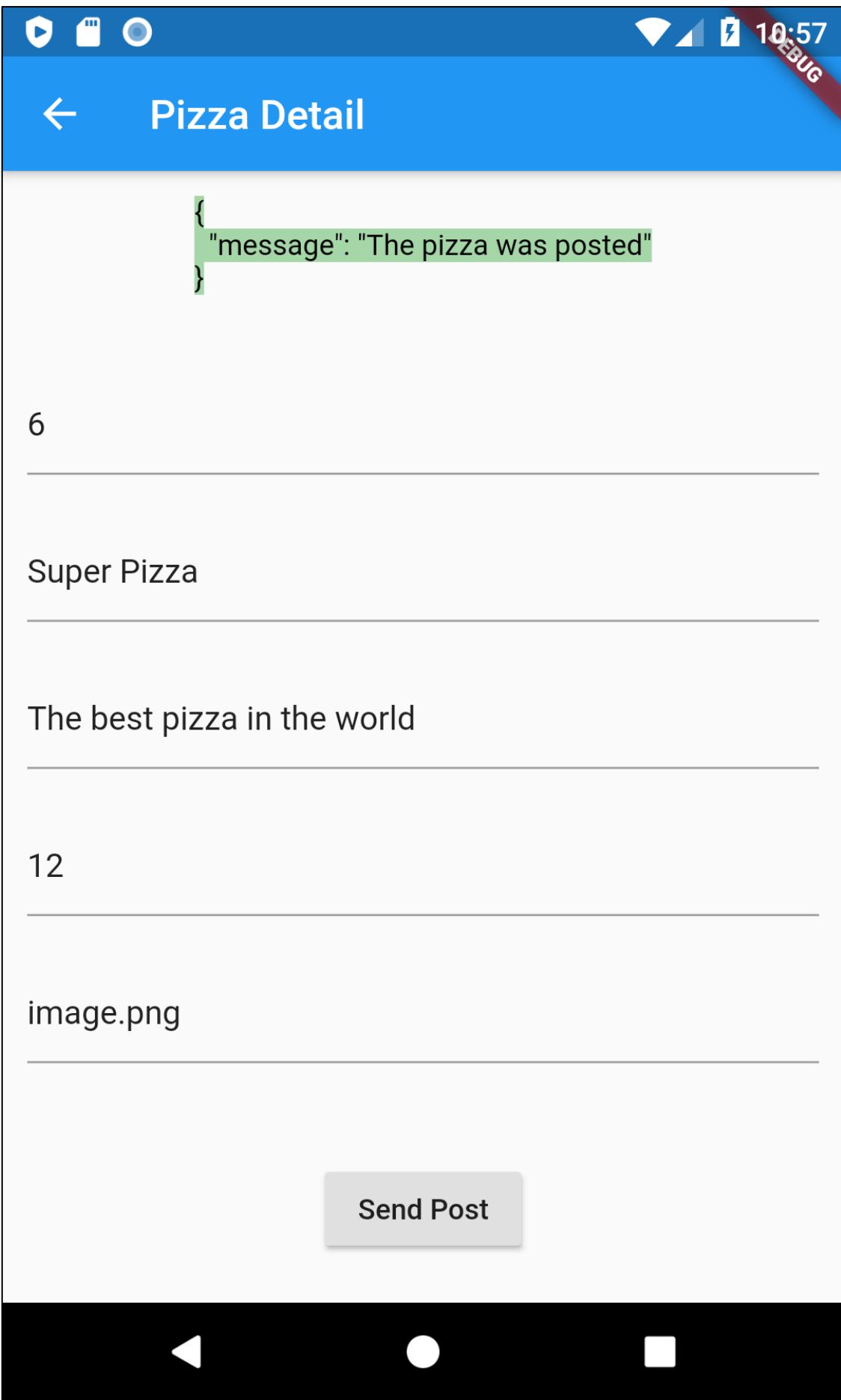
Pizza with tomato, garlic and anchovies - € 9.5

## Carciofi

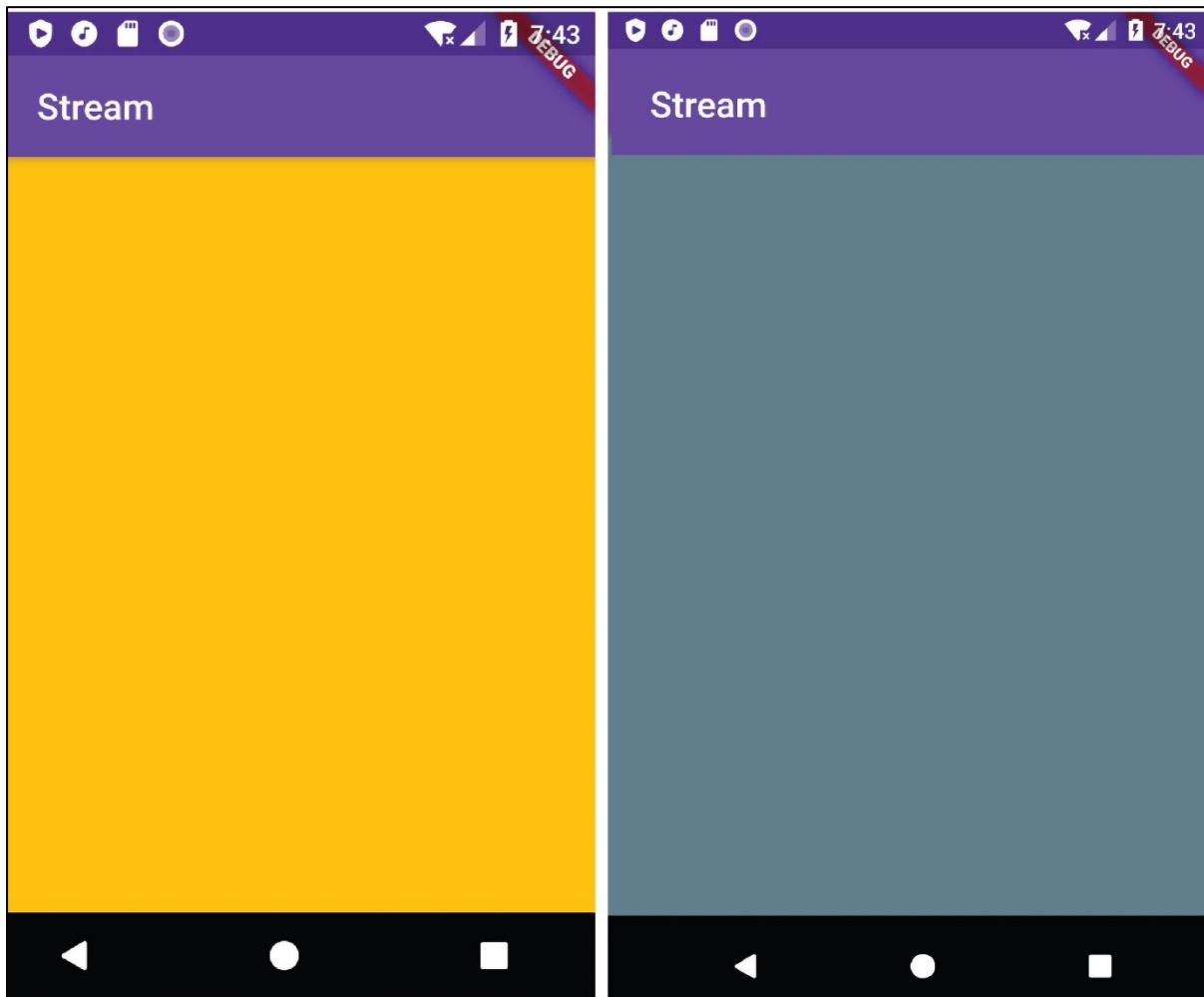
Pizza with tomato, fresh mozzarella and artichokes - € 8.8

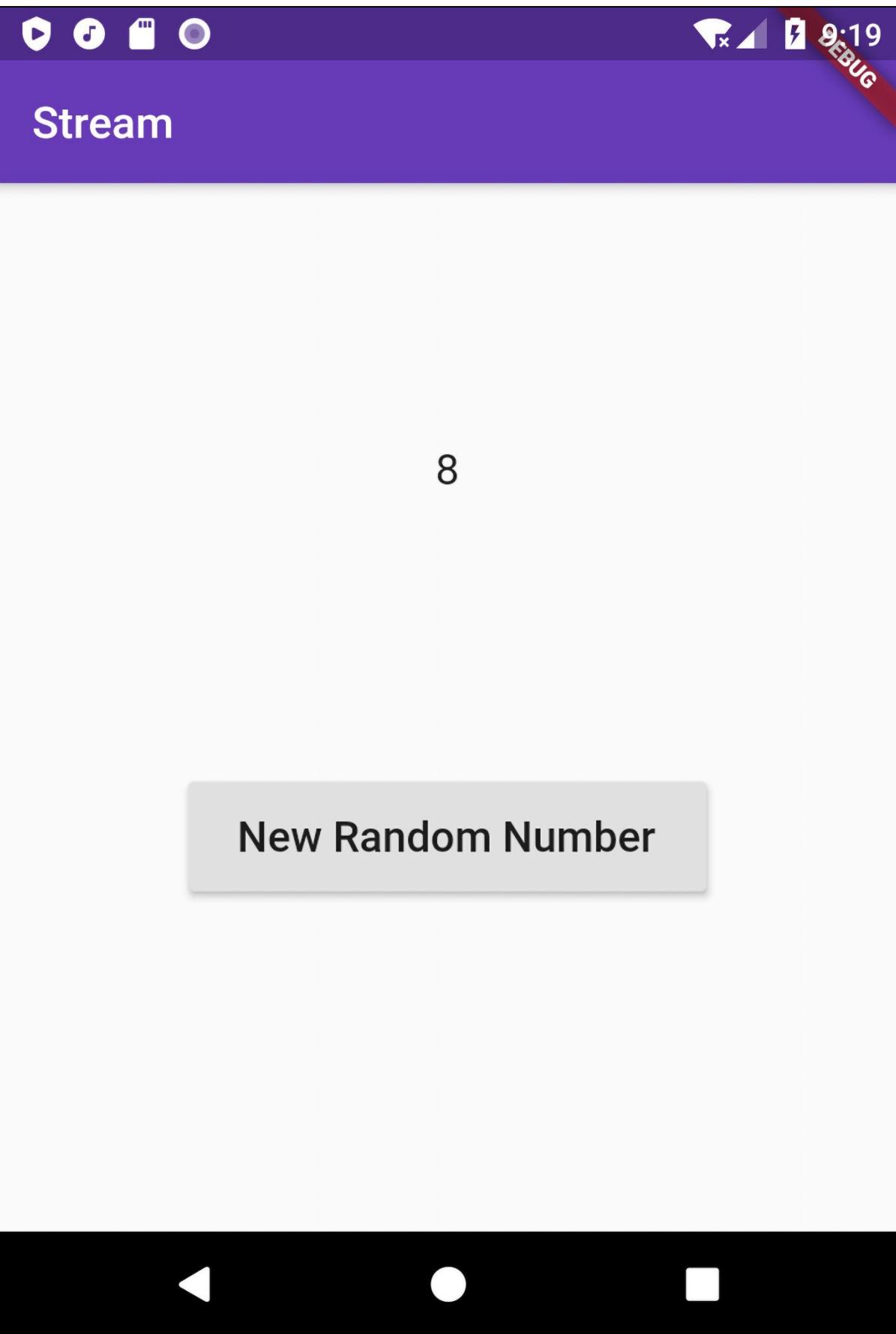
## Bufala

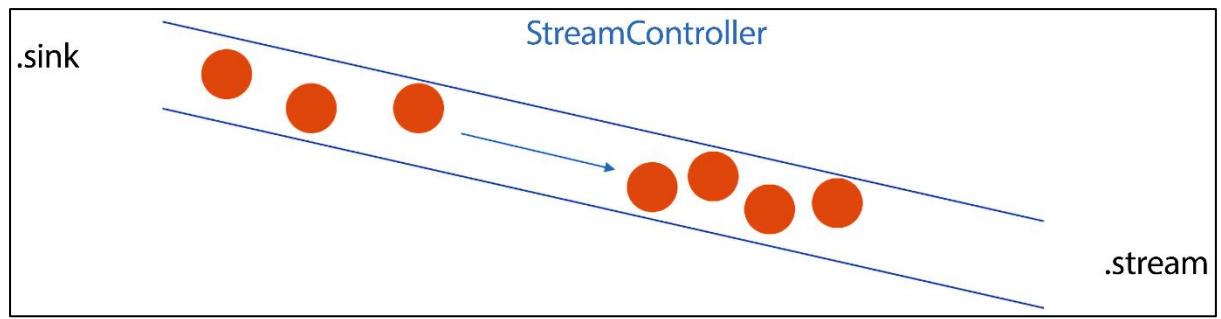
Pizza with tomato, buffalo mozzarella and basil - € 12.5

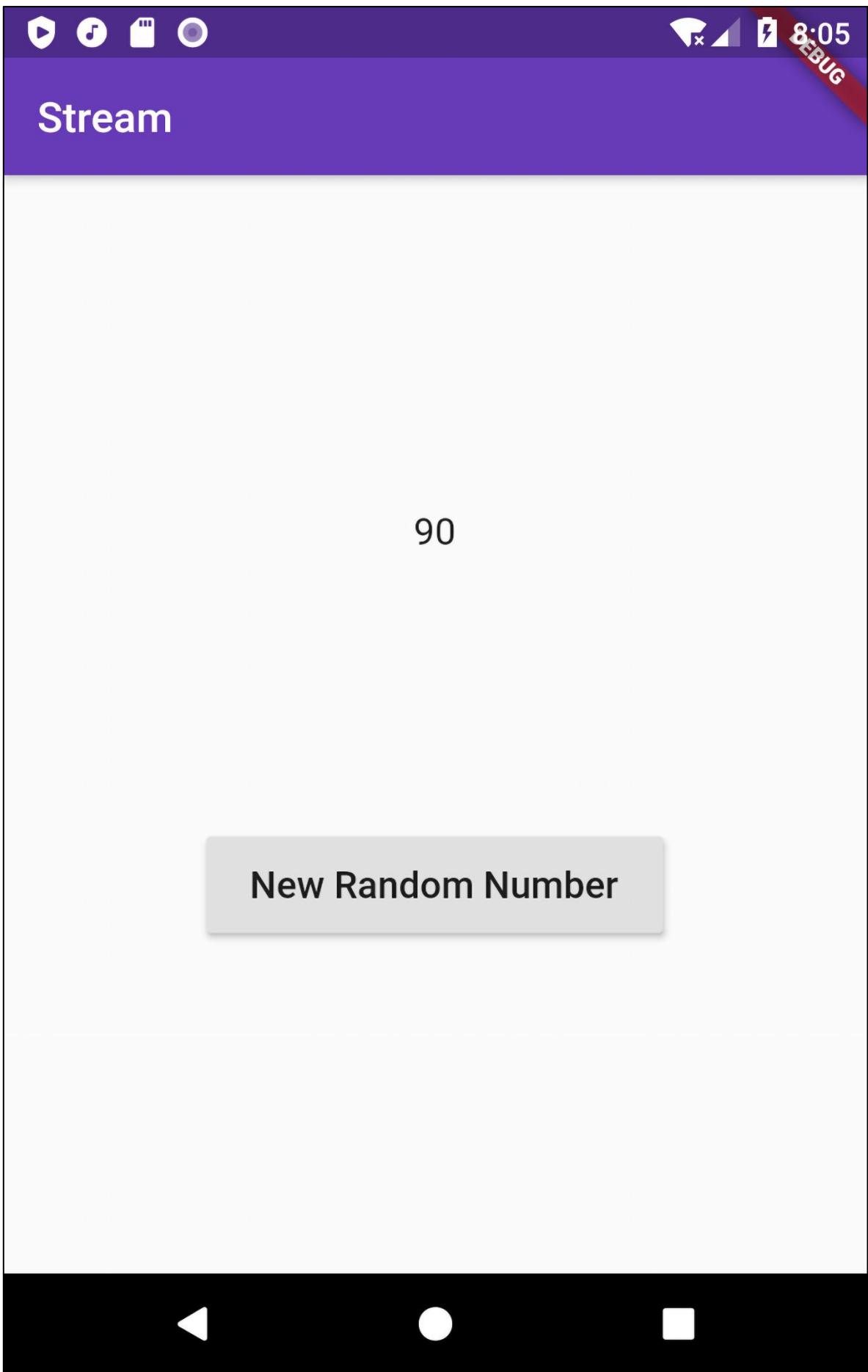


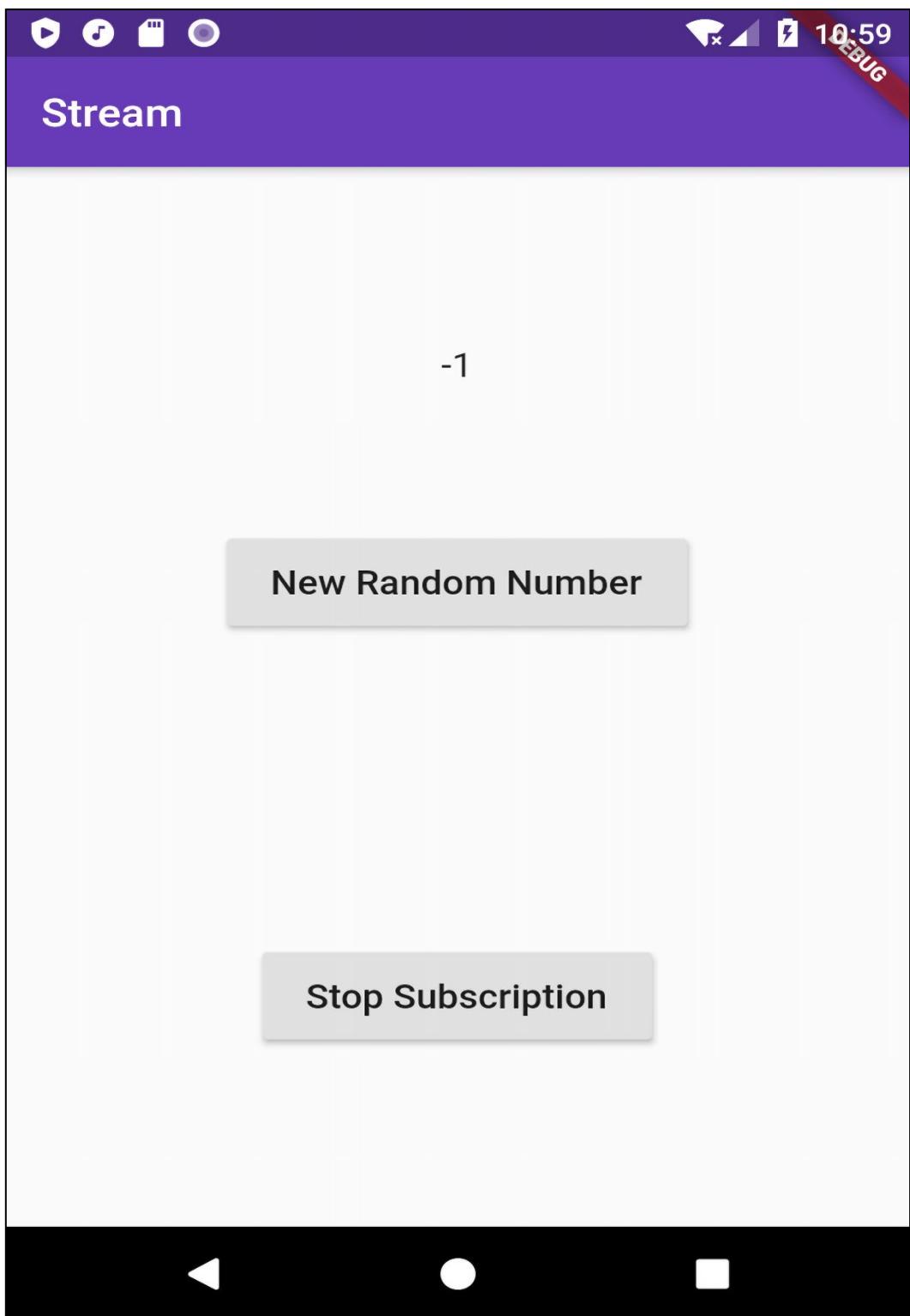
## Chapter 10: Advanced State Management with Streams











PROBLEMS

3

OUTPUT

TERMINAL

DEBUG CONSOLE

---

Restarted application in 1,009ms.

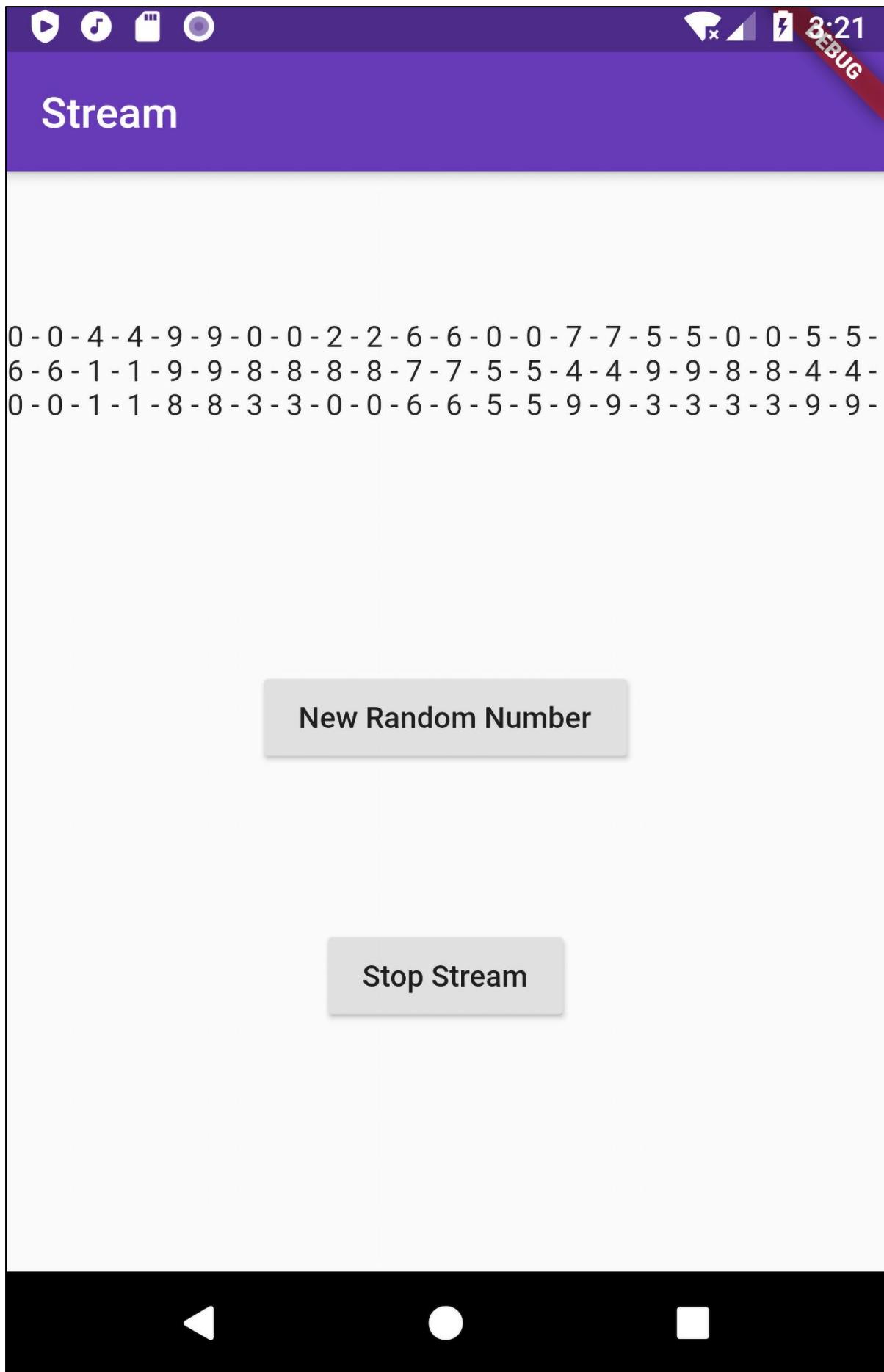
I/flutter ( 5570): OnDone was called

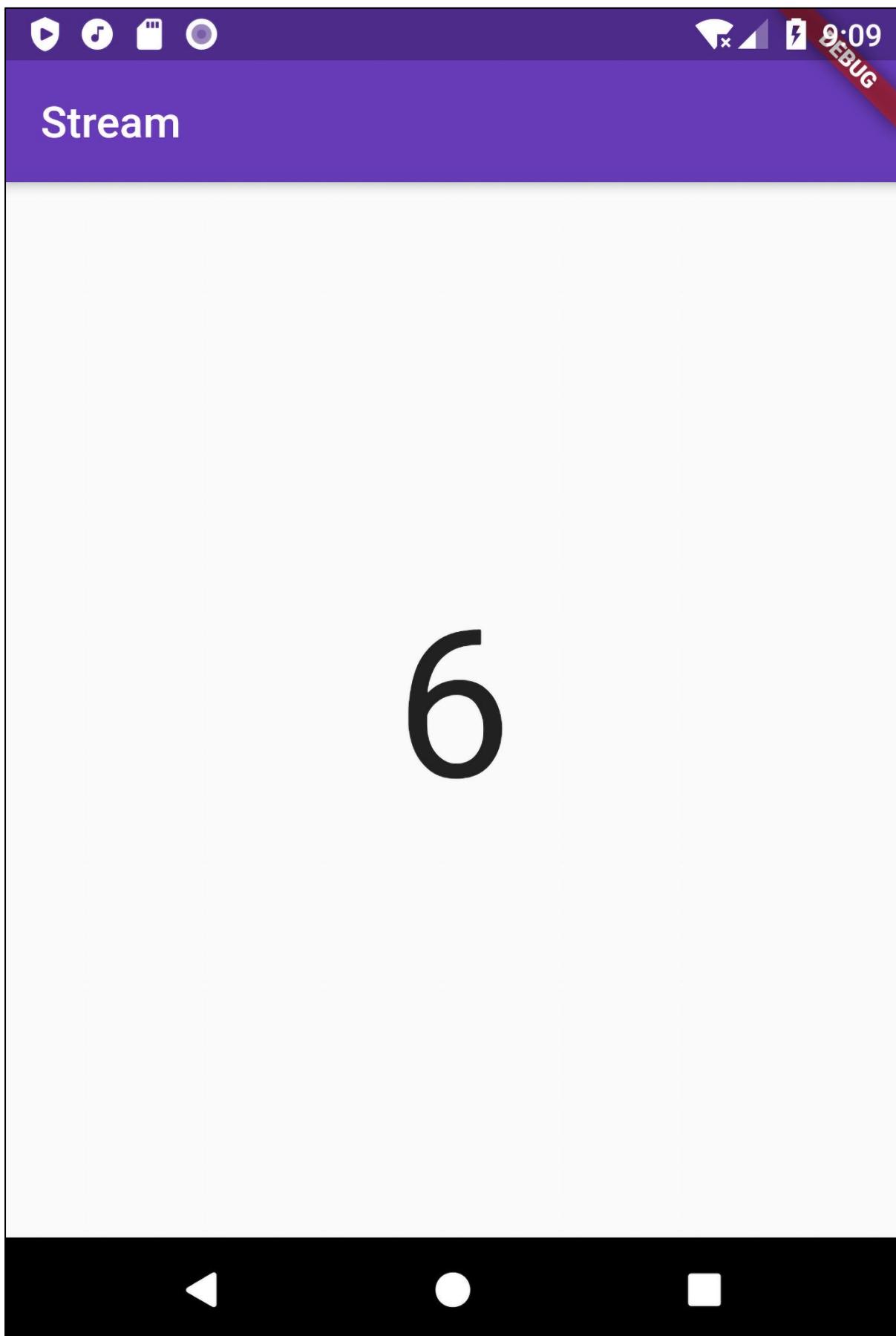


8:15  
DEBUG

**Bad state: Stream has already  
been listened to.  
See also:  
<https://flutter.dev/docs/testing/errors>**







**Events**

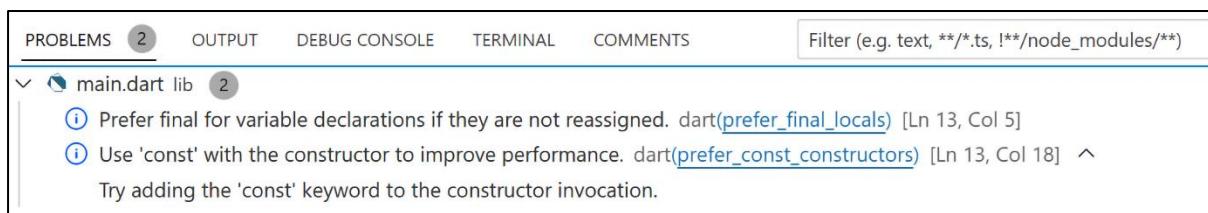
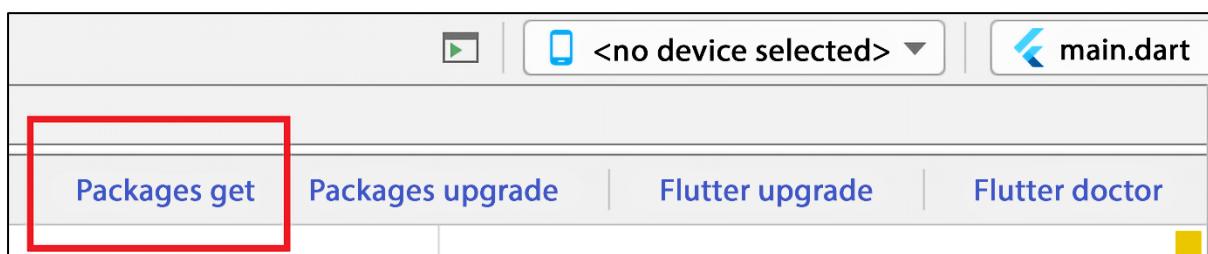


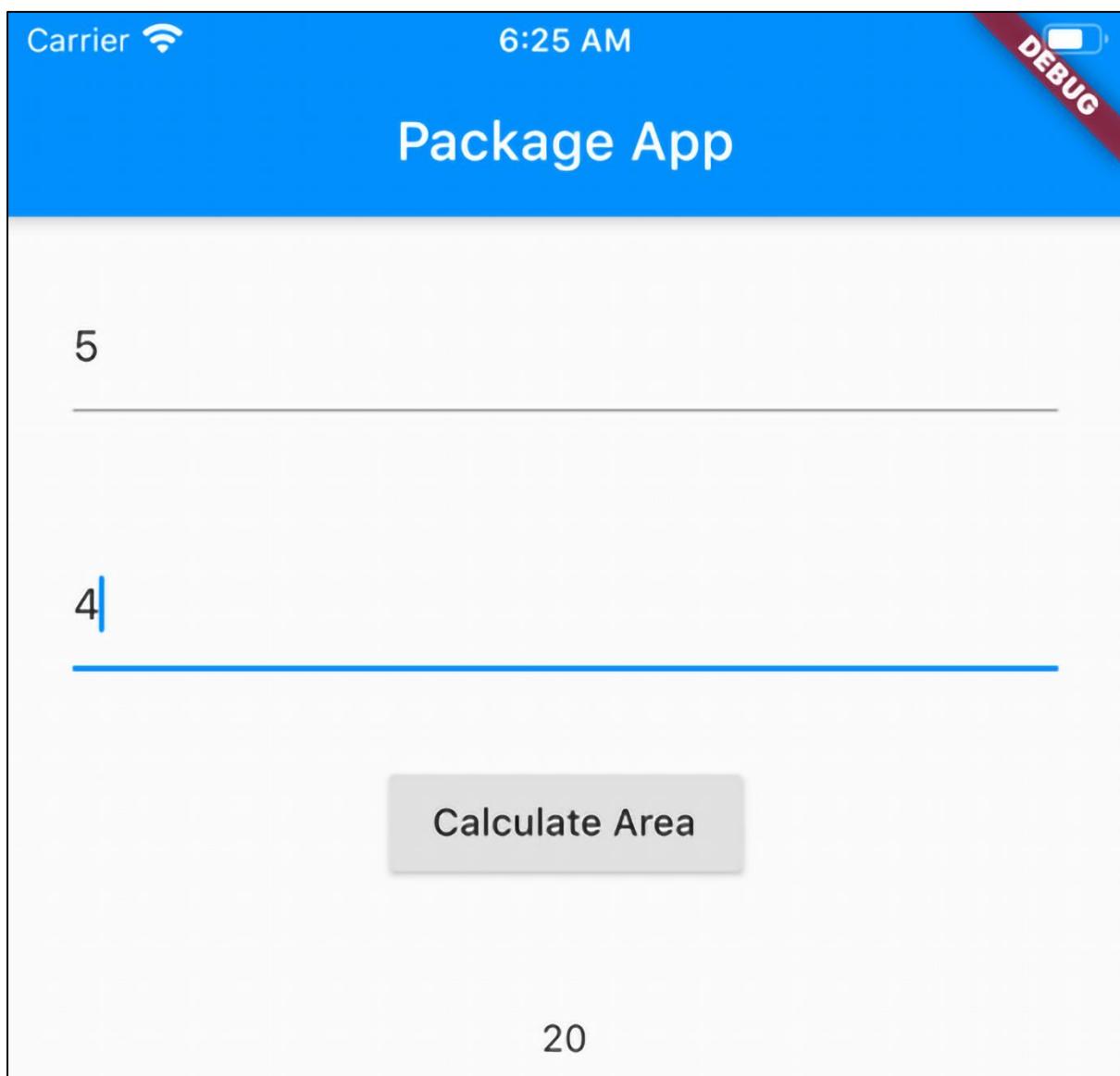
**BLoC**



**State**

## Chapter 11: Using Flutter Packages





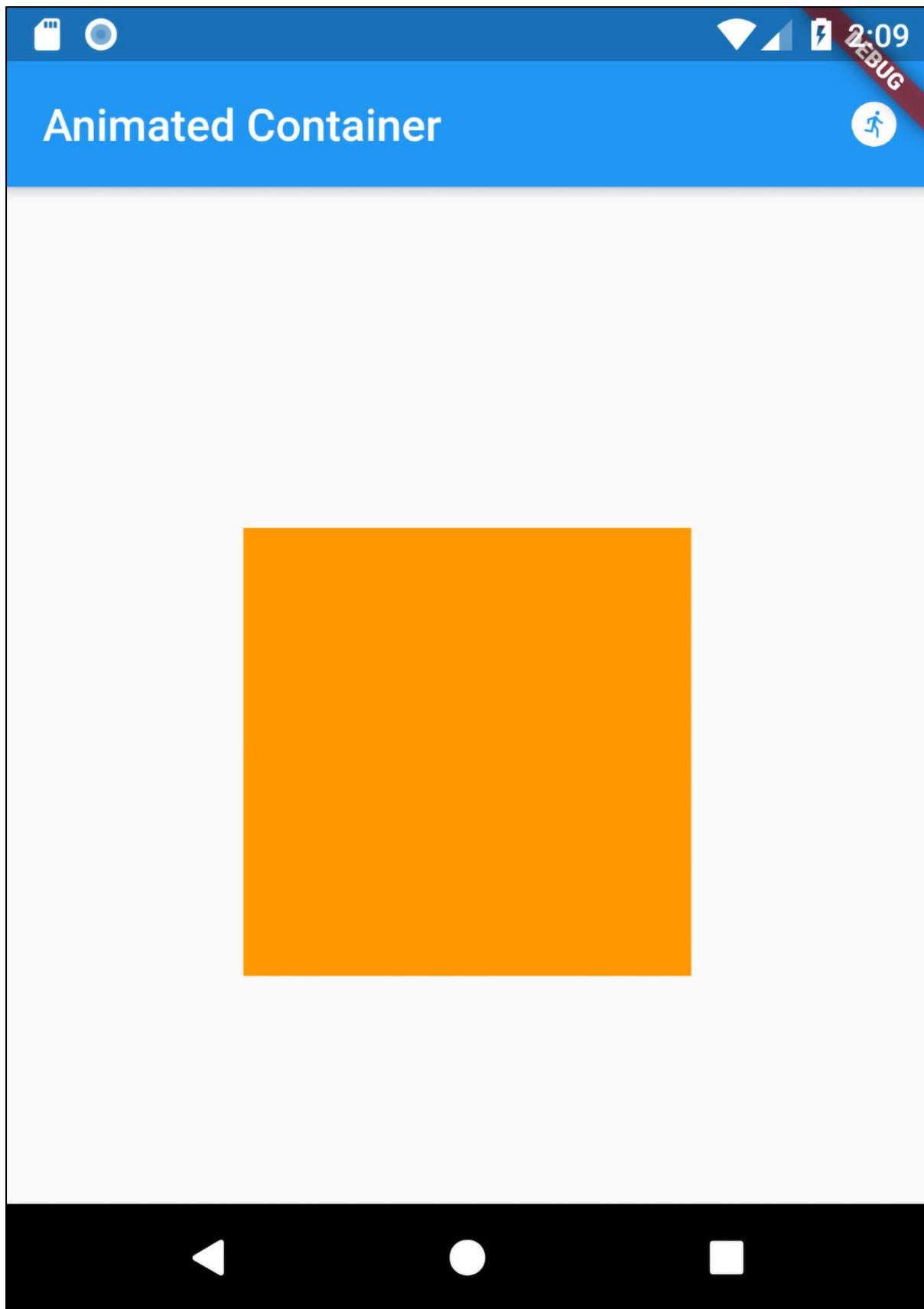
## Enabled APIs

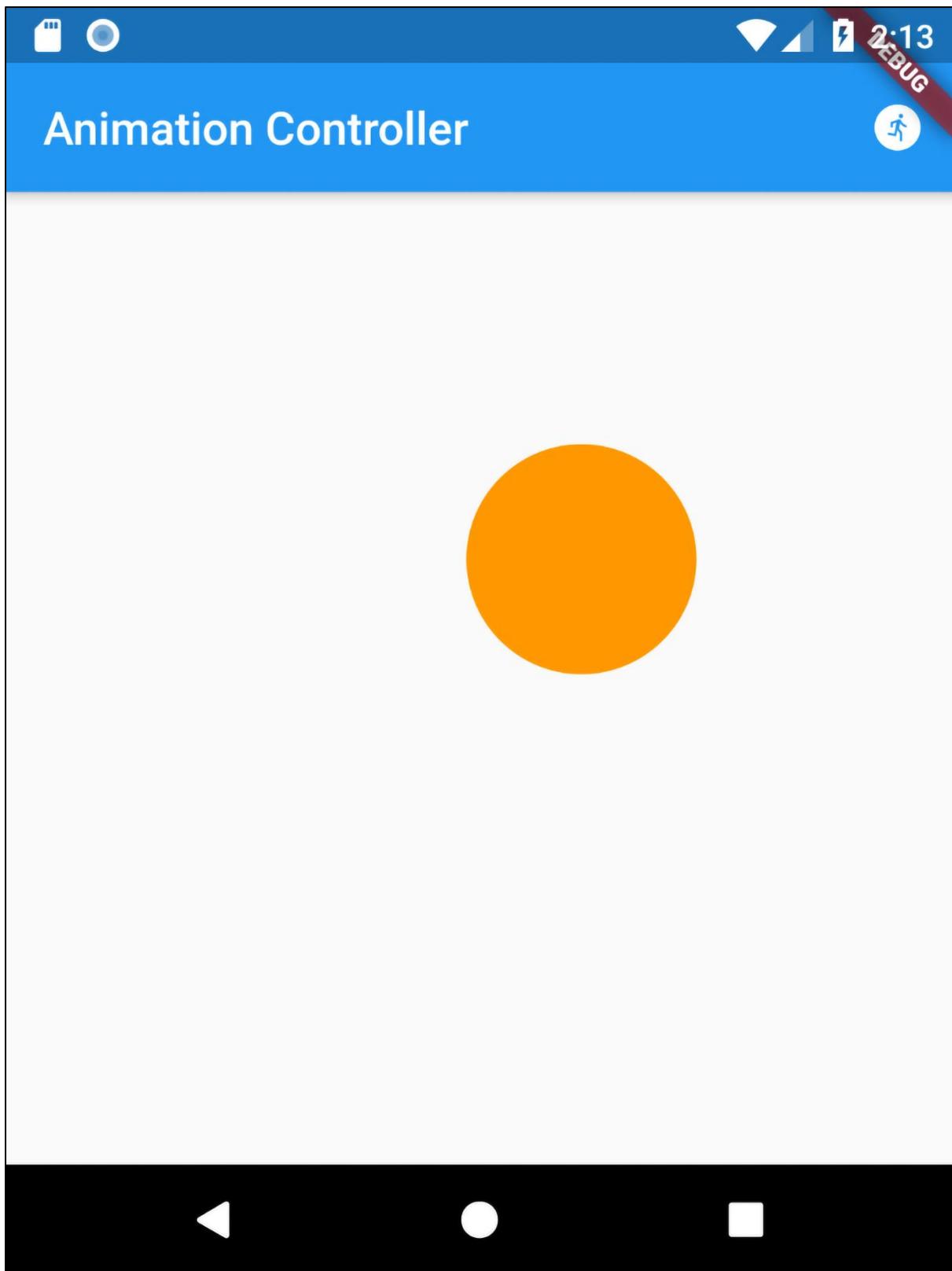
Select an API to view details. Figures are for the last 30 days.

API ↑	Requests	Errors	Avg latency (ms)	
Maps SDK for Android	0	0	-	<a href="#">Details</a>
Maps SDK for iOS	0	0	-	<a href="#">Details</a>



## Chapter 12: Adding Animations to Your app

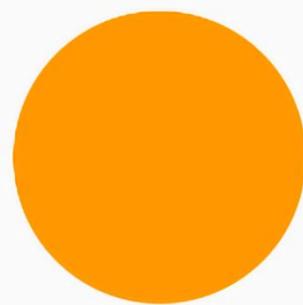


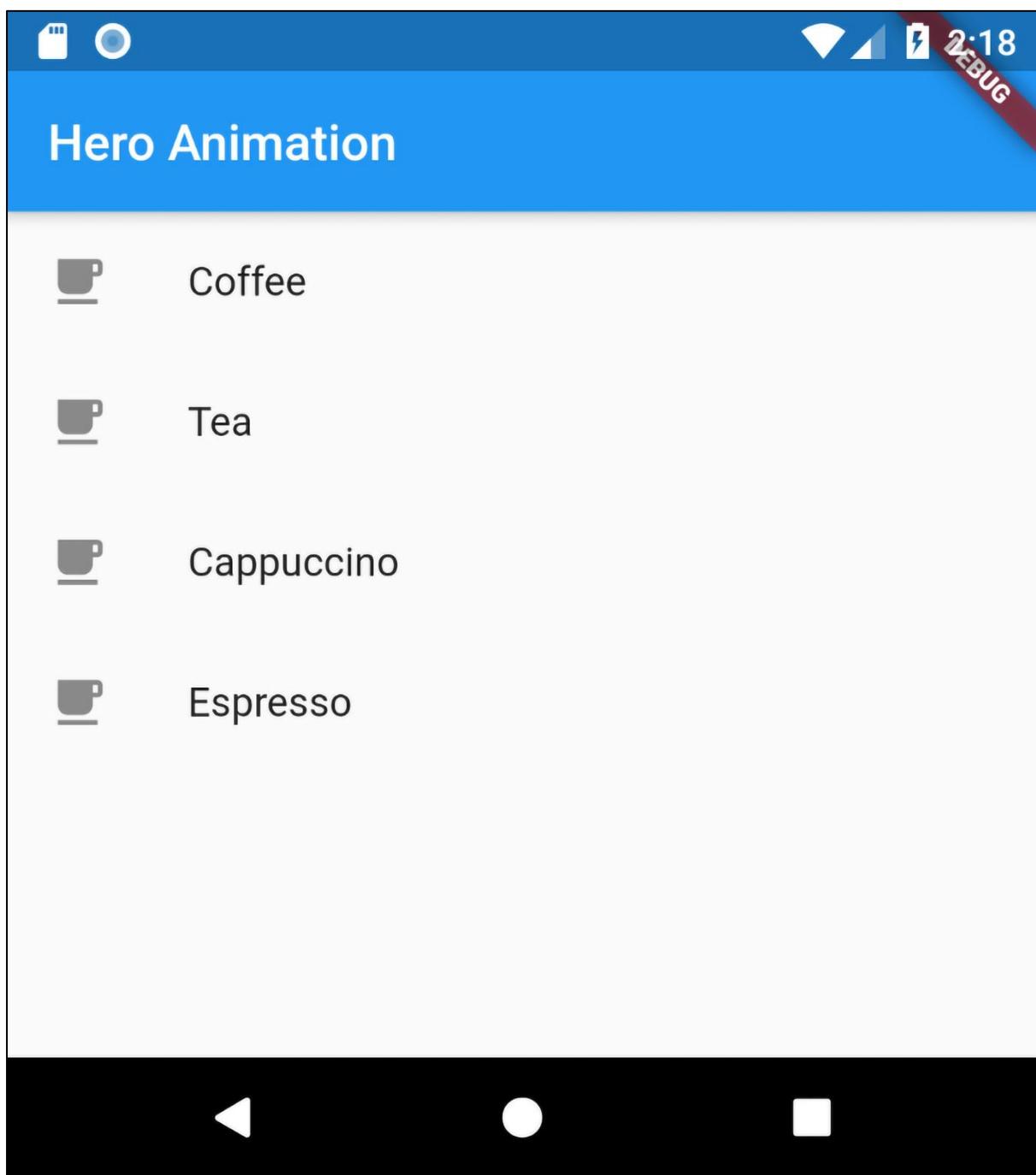


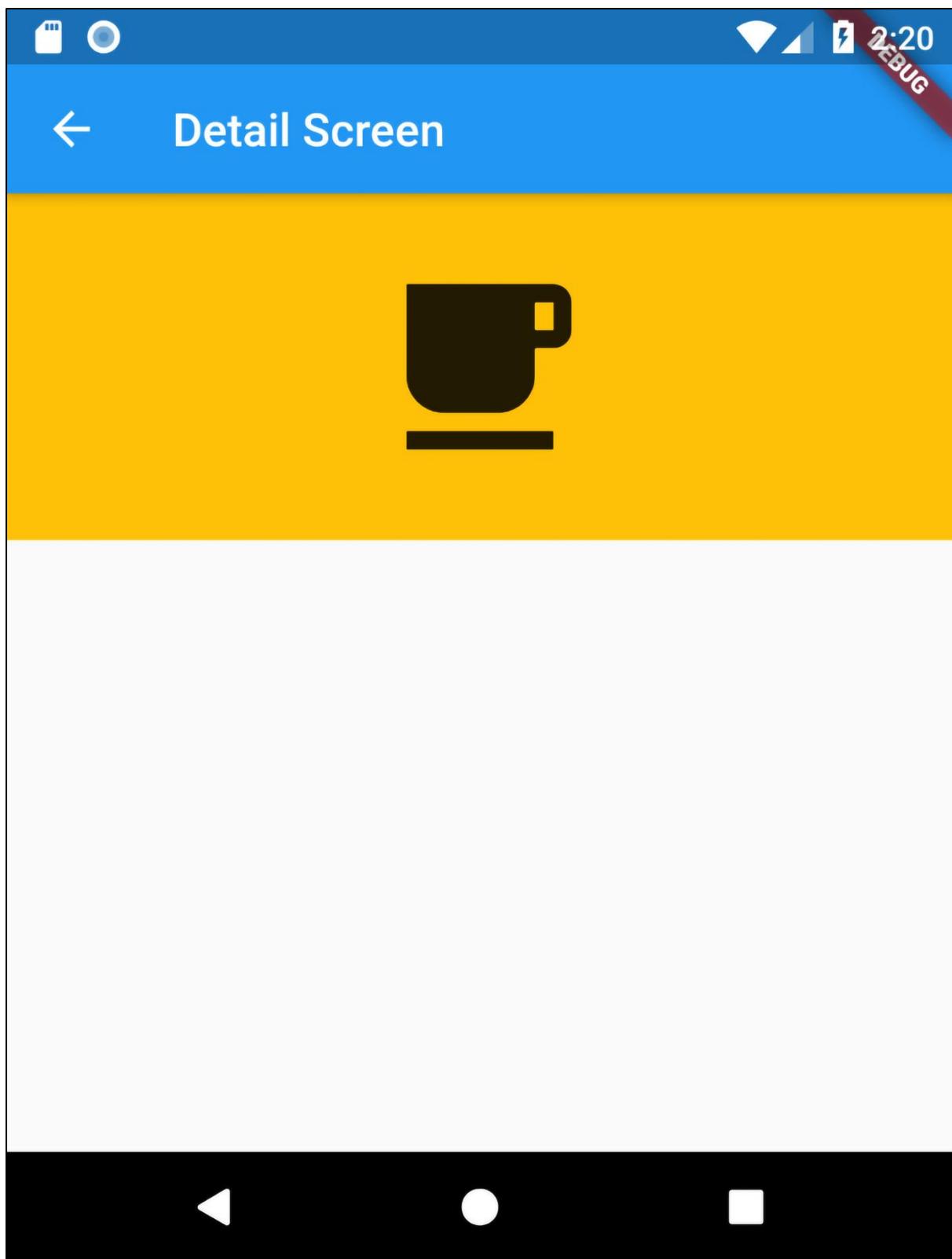
1:19 ⚙️ ⚡

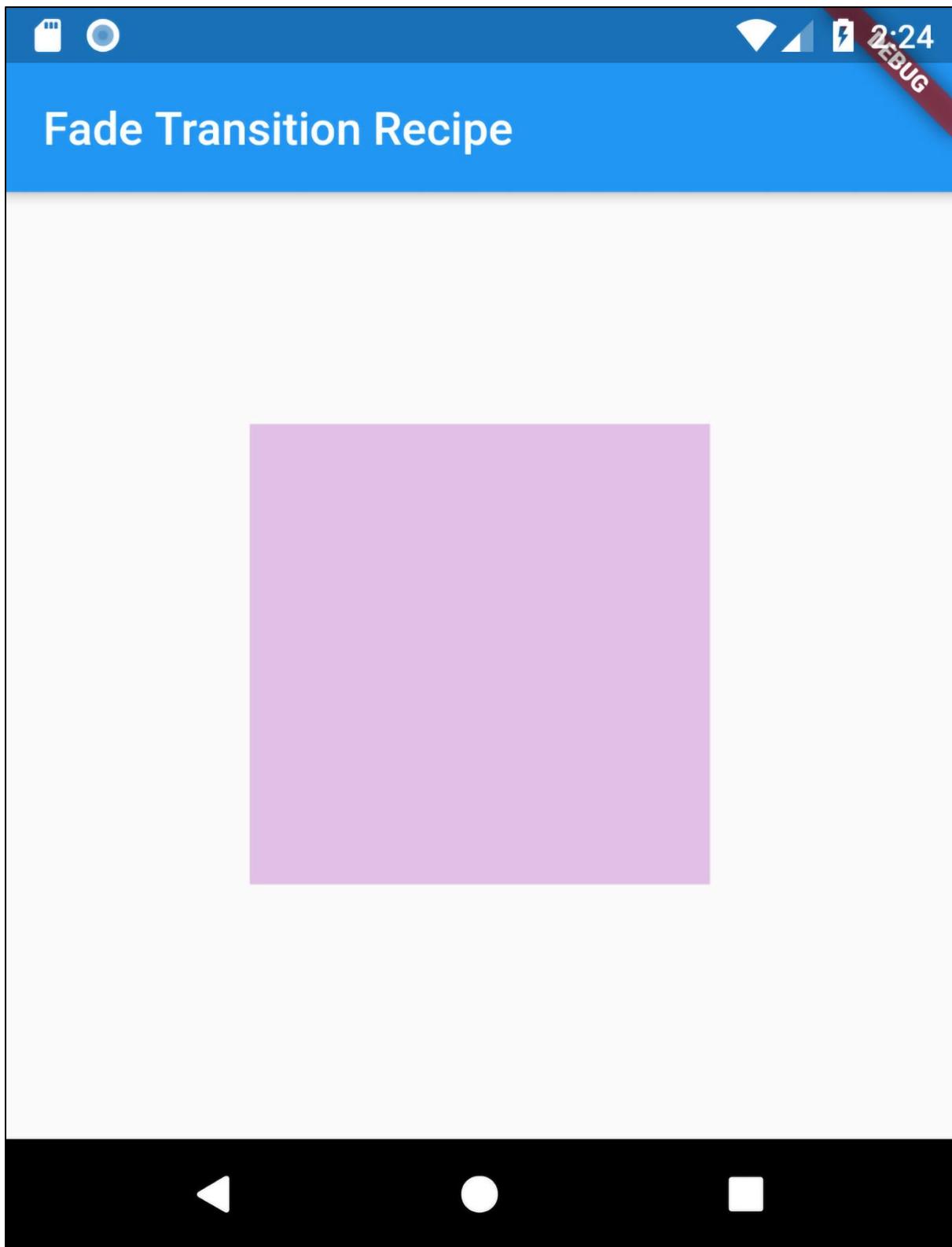
DEBUG

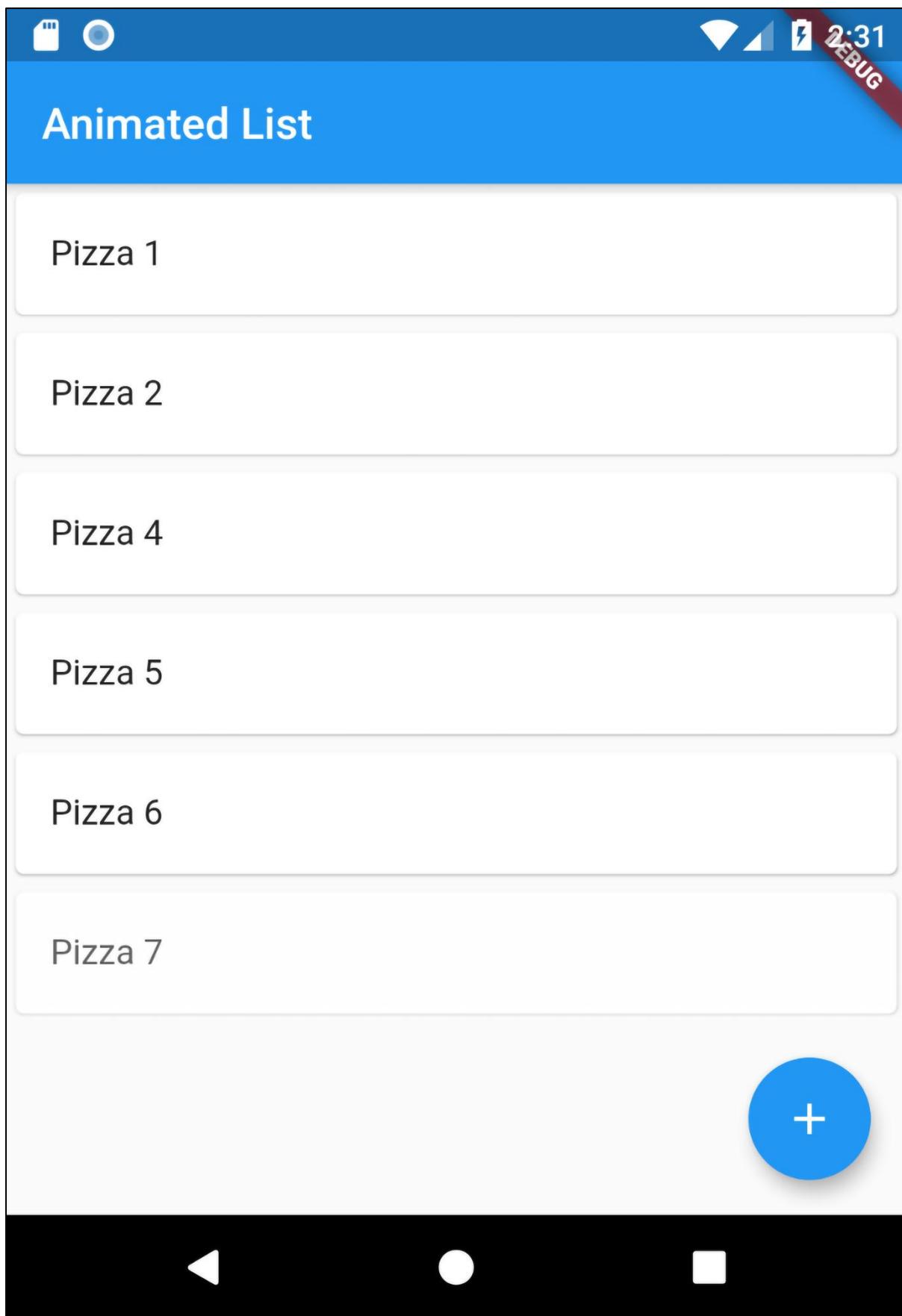
# Animation Controller













2:35

DEBUG

## Dismissible Example

Petit Four



Cupcake



Gingerbread



← Gingerbread



Gingerbread

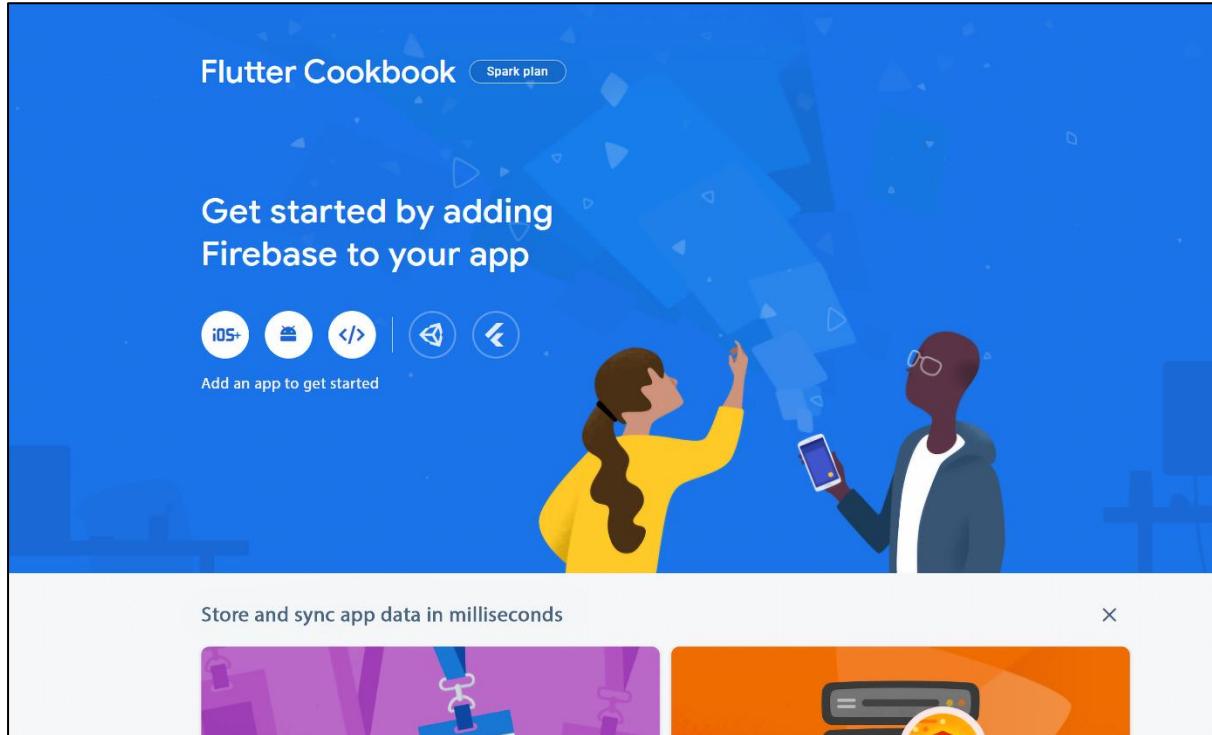
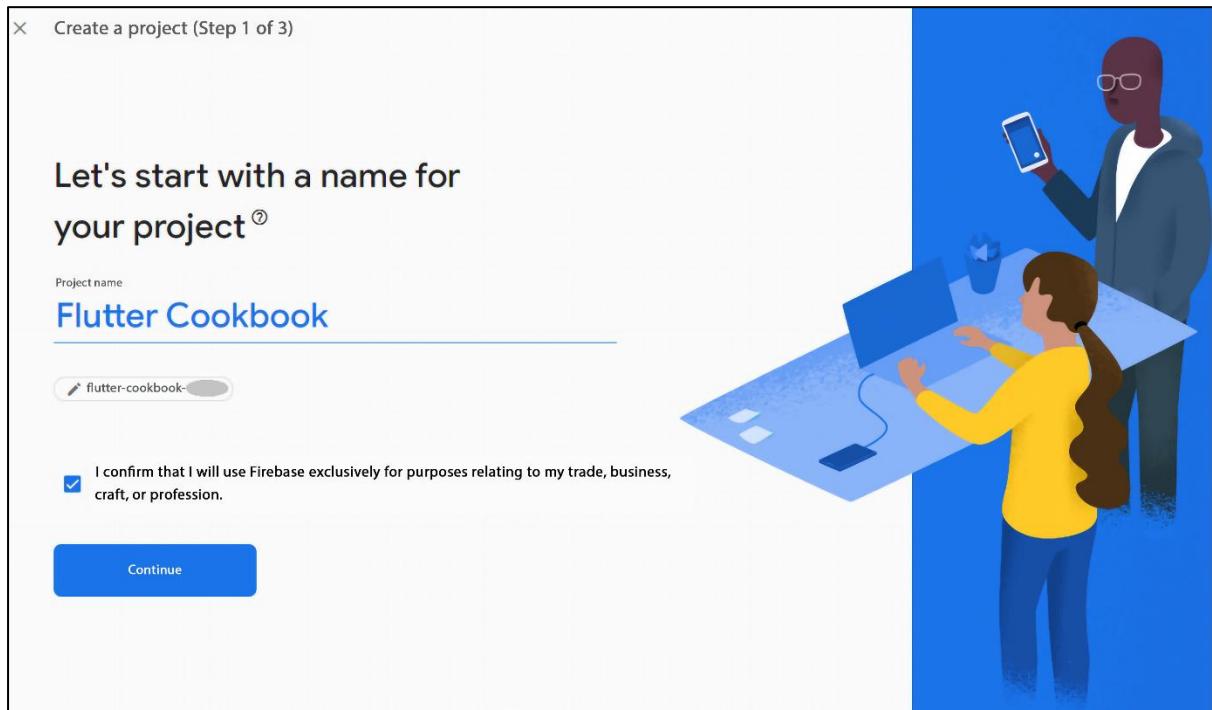
Jelly Bean



KitKat



## Chapter 13: Using Firebase



```
i Found 4 Firebase projects.
✓ Select a Firebase project to configure your Flutter application with • flutter-cookbook-1
? Which platforms should your configuration support (use arrow keys & space to select)? >
✓ android
✓ ios
macos
web
```

The screenshot shows the Firebase Project Overview screen. At the top, there's a navigation bar with the Firebase logo and a "Flutter Cookbook" dropdown. Below it is a "Project Overview" section with a house icon and a gear icon. The main area is titled "Product categories" and contains a "Build" section with three items: "Authentication" (with a people icon), "App Check" (with a shield icon), and "Firestore Database" (with a document icon). A small upward arrow icon is located next to the "Build" title.

The screenshot shows the "Sign-in providers" settings screen. It lists two providers: "Email/Password" and "Email link (passwordless sign-in)". Both have "Enable" toggle switches. The "Email/Password" provider has a descriptive text below it: "Allow users to sign up using their email address and password. Our SDKs also provide email address verification, password recovery, and email address change primitives. [Learn more](#)". At the bottom right are "Cancel" and "Save" buttons.

5:55 ⚒ ⚒

DEBUG

# Sign in

Don't have an account? [Register](#)

Email

---

Password

---

[Forgotten password?](#)

[Sign in](#)



The screenshot shows the 'Authentication' section of the Flutter CookBook. At the top, there are navigation links for 'Users', 'Sign-in method', 'Templates', and 'Usage'. Below this is a search bar with placeholder text 'Search by email address, phone number, or user UID'. To the right of the search bar are buttons for 'Add user', a refresh icon, and a more options icon. A table lists two users:

Identifier	Providers	Created	Signed In	User UID
s.alessandria@inwin...	✉	Apr 29, 2...	Apr 29, 2...	EAuC05N1SmODxbVD4a6B...
simone@softwarehou...	✉	Jan 4, 20...	Jan 12, 2...	UgZloabFtKfmHsnh8rTfgnE...

The screenshot shows the configuration for Google sign-in. It includes a 'Google' logo and an 'Enable' toggle switch which is turned on. Below this, a note states: 'Google sign-in is automatically configured on your connected Apple and web apps. To set up Google sign-in for your Android apps, you need to add the [SHA1 fingerprint](#) for each app on your [Project Settings](#)'. A callout box contains instructions: 'Update the [project-level setting](#) below to continue'. It shows fields for 'Project public-facing name' (set to 'The CookBook Project') and 'Project support email' (set to 'softwarehouse.it@gmail.com').

## Add fingerprint

## Certificate fingerprint

SHA1

SHA256

Cancel

Save

11:57 ⚏ M G ⚓

DEBUG

# Sign in

Don't have an account? [Register](#)

Email

---

Password

---

[Forgotten password?](#)

[Sign in](#)



[Sign in with Google](#)



5:13



G

•



DEBUG



## Sign in

Don't have an account? [Register](#)

Email

---

Password

---

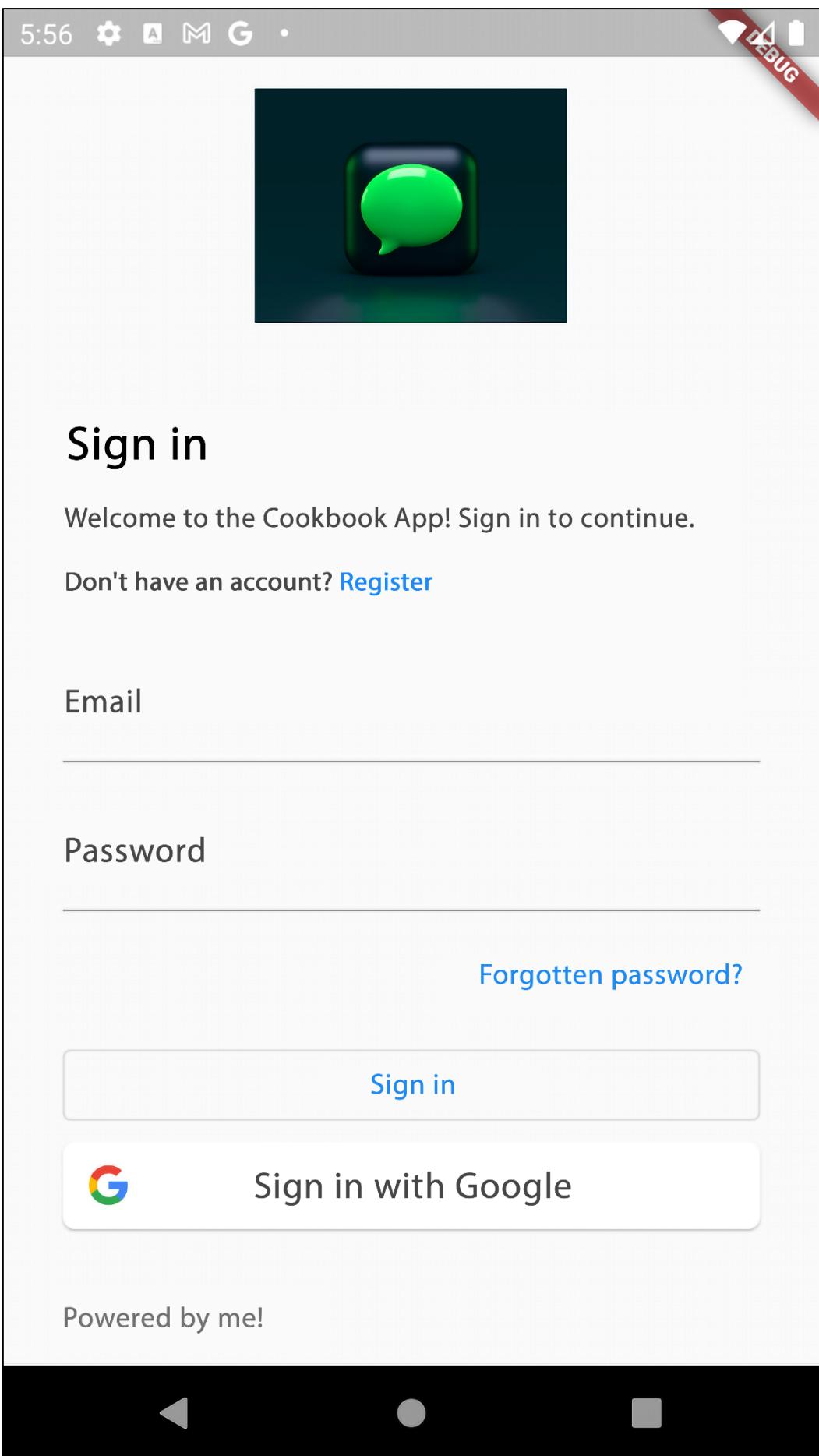
[Forgotten password?](#)

[Sign in](#)



[Sign in with Google](#)





Firebase

Flutter Cookbook ▾

Analytics | DebugView

View more in Google Analytics

Project Overview | Settings

Project shortcuts

- Authentication
- Analytics Dashboard
- Realtime
- Events
- DebugView

Product categories

- Build
- Release & Monitor
- Analytics
- Engage

All products

Spark No-cost \$0/month Upgrade

Debug Device 0

0 new

11:24 AM 6 Happy

11:23 AM 2s Happy

11:22 AM 3s Happy

11:21 AM 10s Happy

11:20 AM screen\_view

11:19 AM

11:18 AM

11:17 AM

11:16 AM

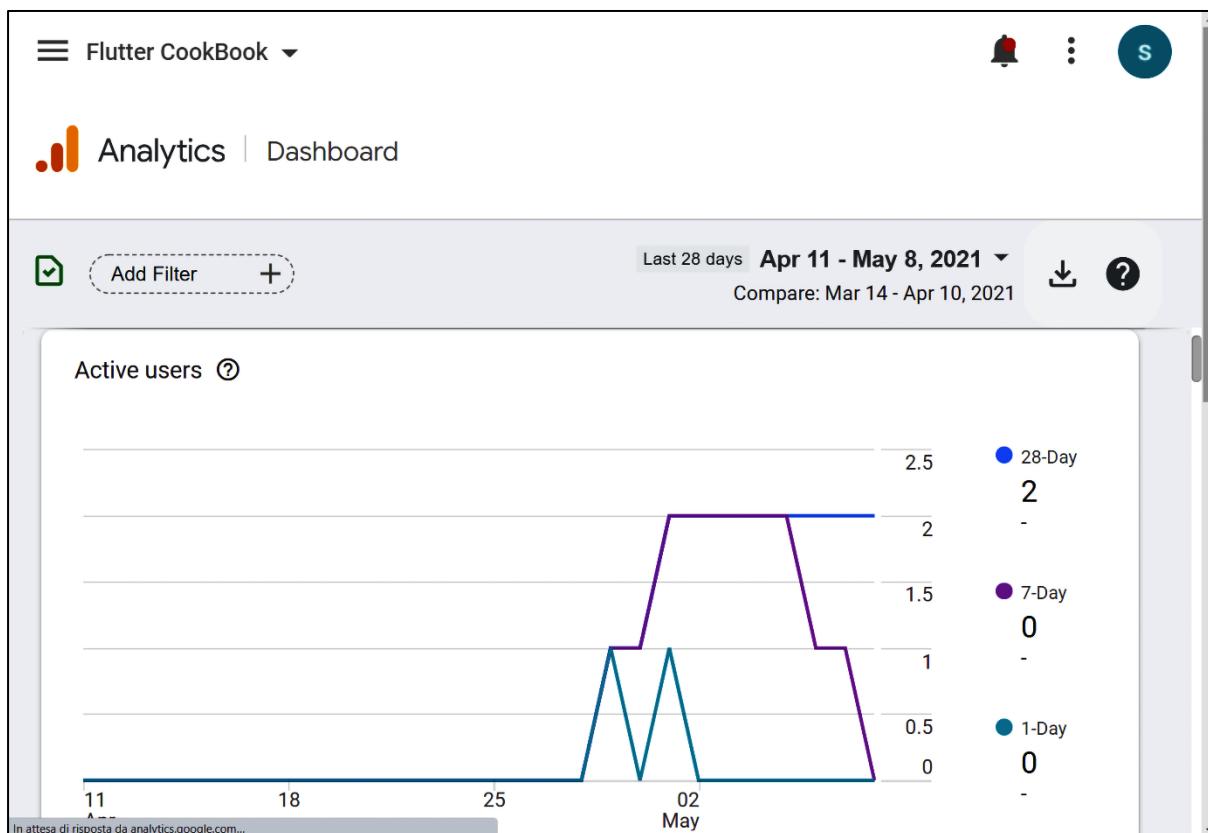
TOP EVENTS LAST 30 MINS 6 TOTAL

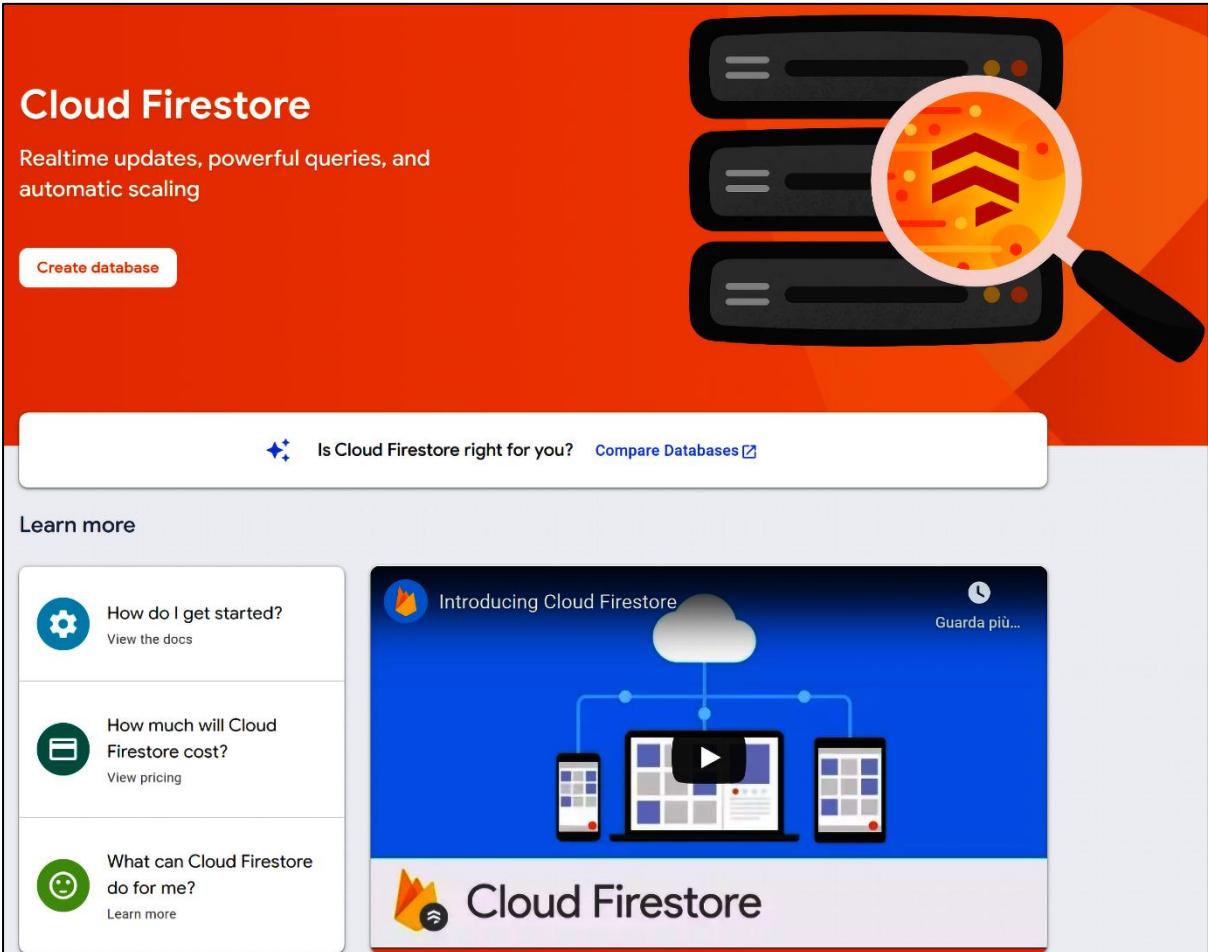
Event	Count
Happy	5
screen_view	1

USER PROPERTIES ACTIVE NOW

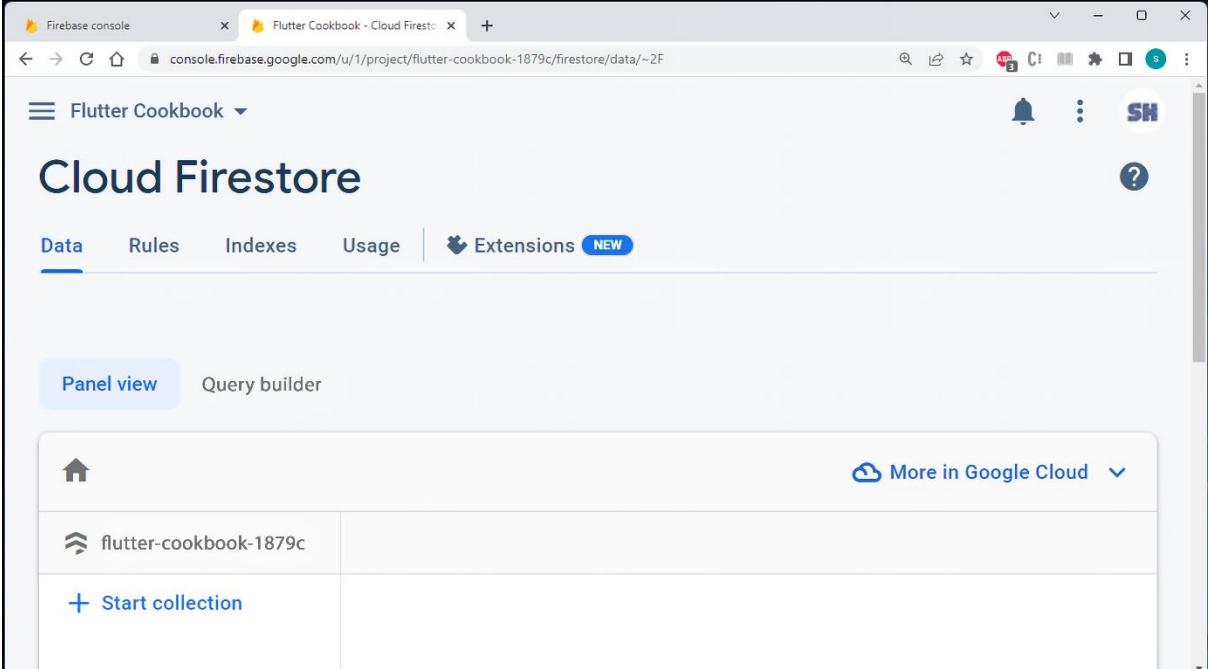
Property	Value
first_open_time	11:00 AM

This screenshot shows the Firebase Analytics DebugView interface. On the left, a sidebar lists project shortcuts and product categories. The main area displays a timeline of user interactions on a 'Debug Device'. Each interaction is represented by a blue circle with a timestamp and an icon indicating the event type (e.g., 'Happy' or 'screen\_view'). To the right of the timeline, a summary section titled 'TOP EVENTS LAST 30 MINS' shows the most frequent events with their counts. Below this, a table lists active user properties. The bottom of the screen indicates an ongoing request to 'analytics.google.com'.





The image shows the Cloud Firestore landing page. At the top, there's a large orange header with the title "Cloud Firestore" and a subtext: "Realtime updates, powerful queries, and automatic scaling". Below this is a "Create database" button. To the right is a graphic featuring a magnifying glass over a server icon, with a red arrow pointing upwards. A callout box contains the text "Is Cloud Firestore right for you? Compare Databases". The main content area has a "Learn more" section with three cards: "How do I get started?", "How much will Cloud Firestore cost?", and "What can Cloud Firestore do for me?". To the right of these cards is a "Cloud Firestore" video thumbnail titled "Introducing Cloud Firestore" showing a cloud connected to various devices.



The image shows the Cloud Firestore Data tab in the Firebase console. The URL in the browser is "console.firebaseio.google.com/u/1/project/flutter-cookbook-1879c.firebaseio.com/firestore/data/~2F". The interface includes a navigation bar with "Flutter Cookbook" and a search bar. The main area has tabs for "Data", "Rules", "Indexes", "Usage", and "Extensions (NEW)". Below this is a "Panel view" section with a "Query builder" button. The main content area shows a collection list with a home icon, the name "flutter-cookbook-1879c", and a "Start collection" button. There's also a "More in Google Cloud" button.

## Start a collection



Give the collection an ID

2

Add its first document

Document parent path

/poll

Document ID

jRp7PQcFhOVUMICIJg03

A collection must contain at least one document, Cloud Firestore's unit of storage. Use an auto-generated ID or enter a custom ID if needed. Documents store your data as fields.

Field

Type

Value

icecream

= number

0



Field

Type

Value

pizza

= number

0



Cancel

Save

## Cloud Firestore

Data    Rules    Indexes    Usage

❖ Prototype and test end-to-end with the Local Emulator Suite, now with Firebase Authentication [Get started](#)

flutter-cookbook-43242 > poll > jRp7PQcFhOVU...

+ Start collection

poll

poll



jRp7PQcFhOVUMICIJg03

+ Add document

+ Start collection

+ Add field

icecream: 7

pizza: 10

1

## Notification

Notification title 

Your First Notification

Notification text

Flutter is your friend!

Notification image (optional) 

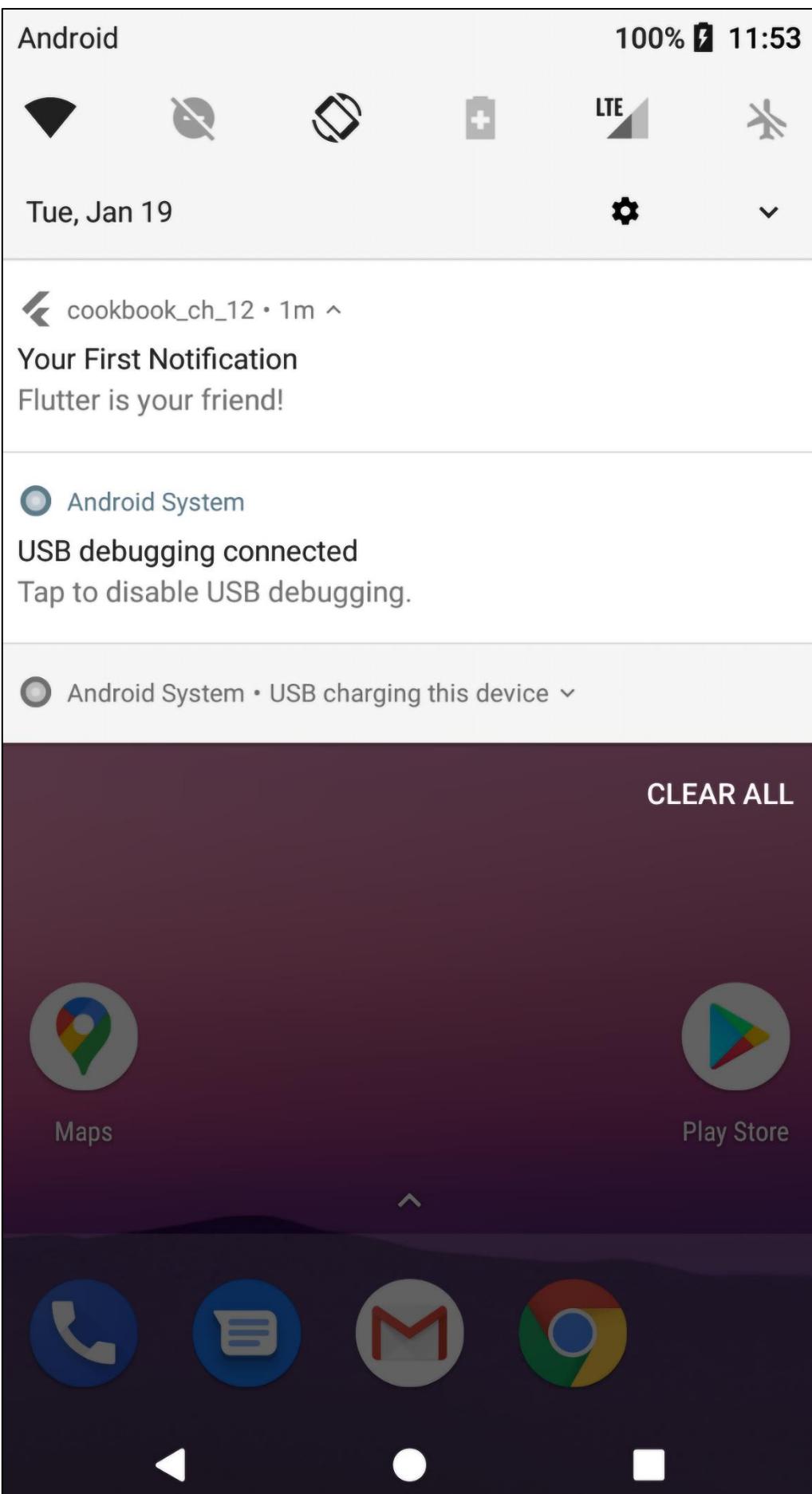
Example: <https://yourapp.com/image.png>



Notification name (optional) 

Enter optional name

Next



4:37

DEBUG

## Upload To FireStore

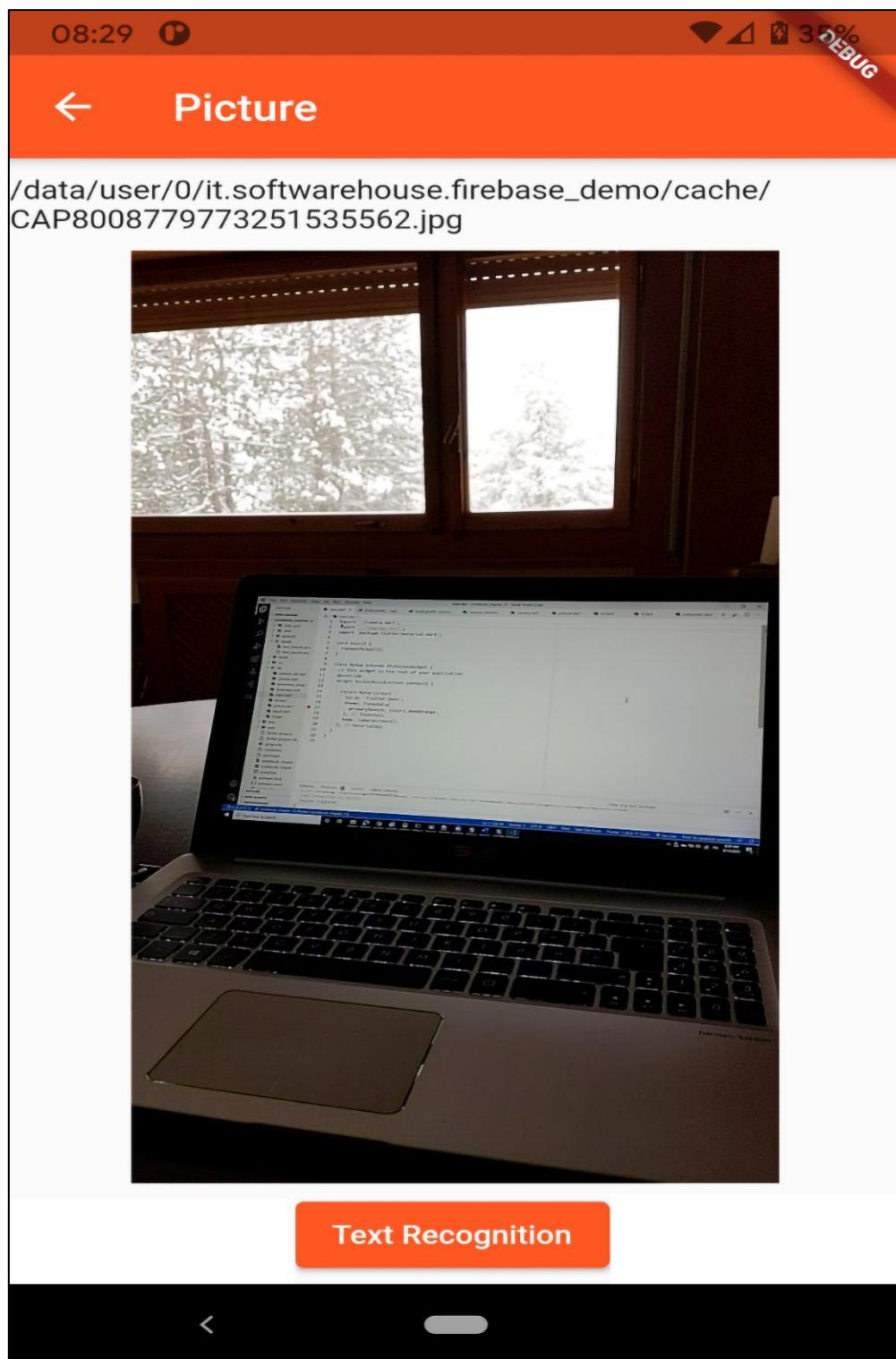
Choose Image



Upload Image

File Uploaded Successfully

## Chapter 14: Firebase Machine Learning



08:39 M

32% DEBUG



## Result

Uoled- Notepad  
ile Edit Format View Help  
Flutter is  
Google's UI  
toolkit for  
building  
beautiful,  
natively  
Compiled  
applications  
Desktop  
0180517  
4 tems  
DType here to search

17:16



74%

DEBUG



## Result

9798699322091



18:11 ⓘ ⚡

100% DEBUG



## Result

236: Tableware - 94.20831799507141%  
315: Cup - 93.30531358718872%  
26: Porcelain - 78.54384779930115%  
215: Saucer - 66.637521982193%  
391: Flowerpot - 66.00725054740906%

10:36 ☺ ⚡

69% DEBUG



## Result

There are 1 face(s) in your picture

Face #1:

Smiling: 99.37315583229065% Left Eye Open:  
94.72037553787231% Right Eye Open:  
8.88165831565857% Height: 706.0 Width: 706.0

08:27

35% DEBUG

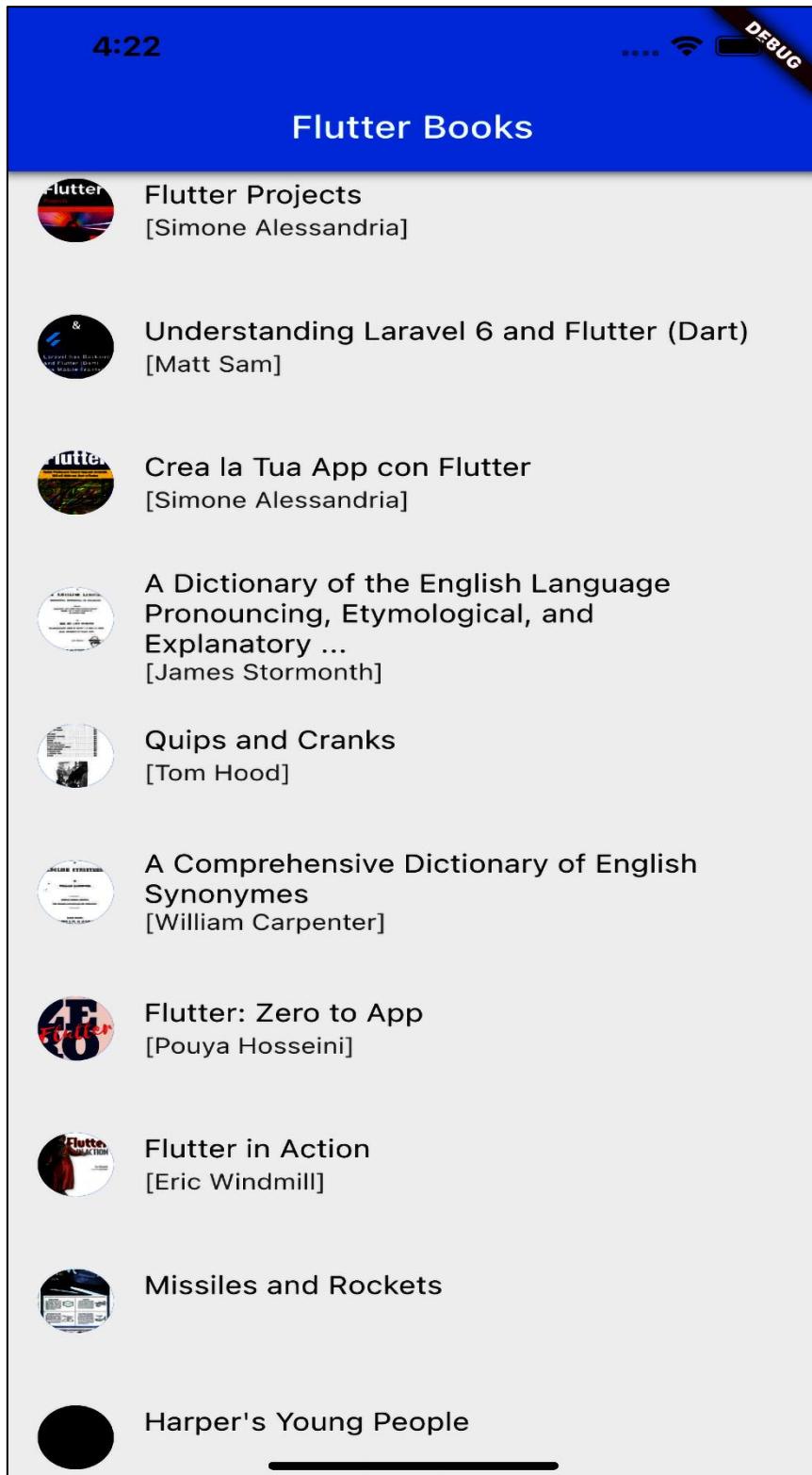


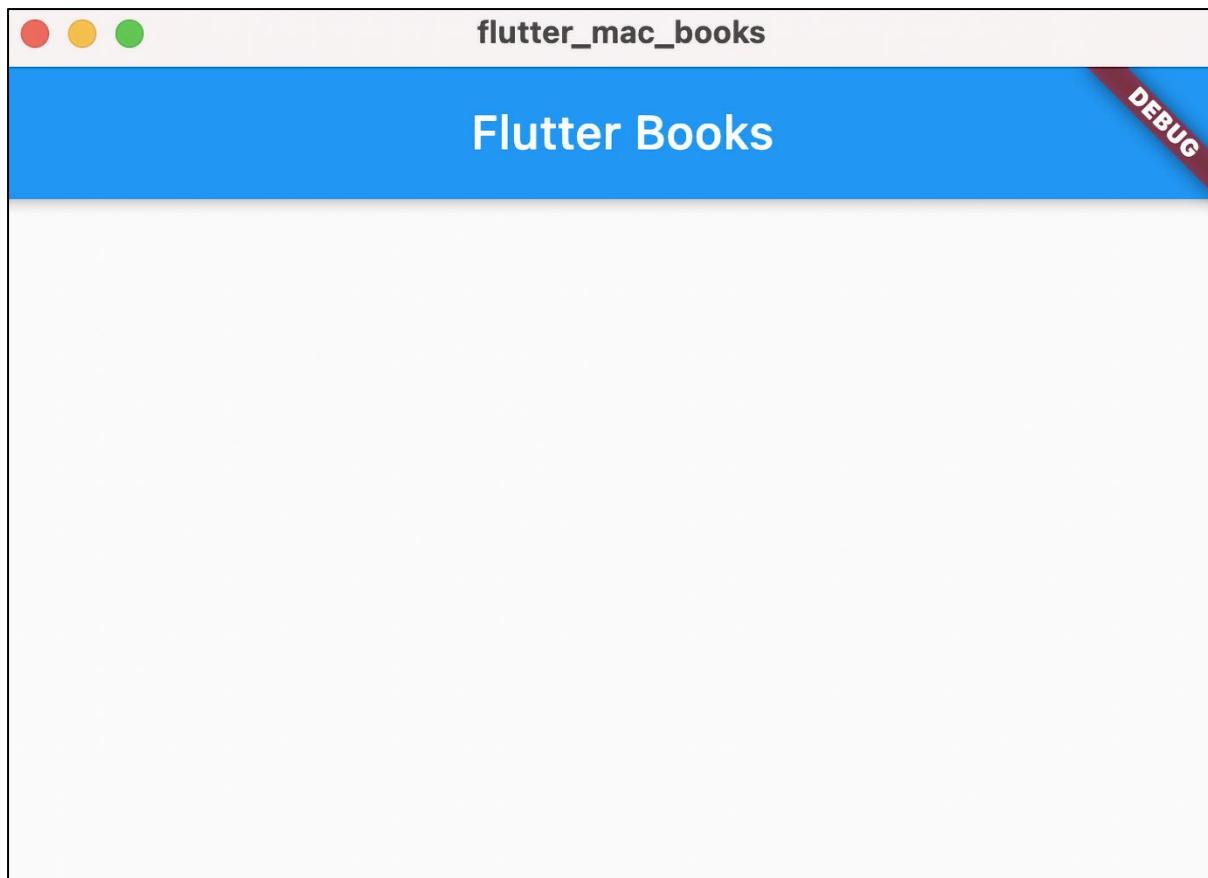
## Result

Language: it - Confidence: 99.8610258102417%



## Chapter 15: Flutter Web and Desktop





```
13 | Future<List<Book>> getFlutterBooks() async {
14 |
15 |   Uri uri = Uri.https(authority, path, params);
16 |   Response result = await http.get(uri);
```

Exception has occurred.  
SocketException (SocketException: Connection failed (OS Error: Operation not permitted, errno = 1), address = www.googleapis.com, port = 443)

```
[!] Command Prompt
Microsoft Windows [Version 10.0.18363.1440]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\sales>flutter devices
3 connected devices:

Windows (desktop) • windows • windows-x64    • Microsoft Windows [Version 10.0.18363.1440]
Chrome (web)       • chrome   • web-javascript • Google Chrome 89.0.4389.90
Edge (web)         • edge     • web-javascript • Microsoft Edge 89.0.774.54

C:\Users\sales>flutter doctor
Doctor summary (to see all details, run flutter doctor -v):
[✓] Flutter (Channel beta, 2.1.0-12.2.pre, on Microsoft Windows [Version 10.0.18363.1440], locale en-US)
[✓] Android toolchain - develop for Android devices (Android SDK version 29.0.0)
[✓] Chrome - develop for the web
[✓] Visual Studio - develop for Windows (Visual Studio Community 2019 16.4.3)
[✓] Android Studio (version 3.4)
[✓] VS Code, 64-bit edition (version 1.54.3)
[✓] Connected device (3 available)

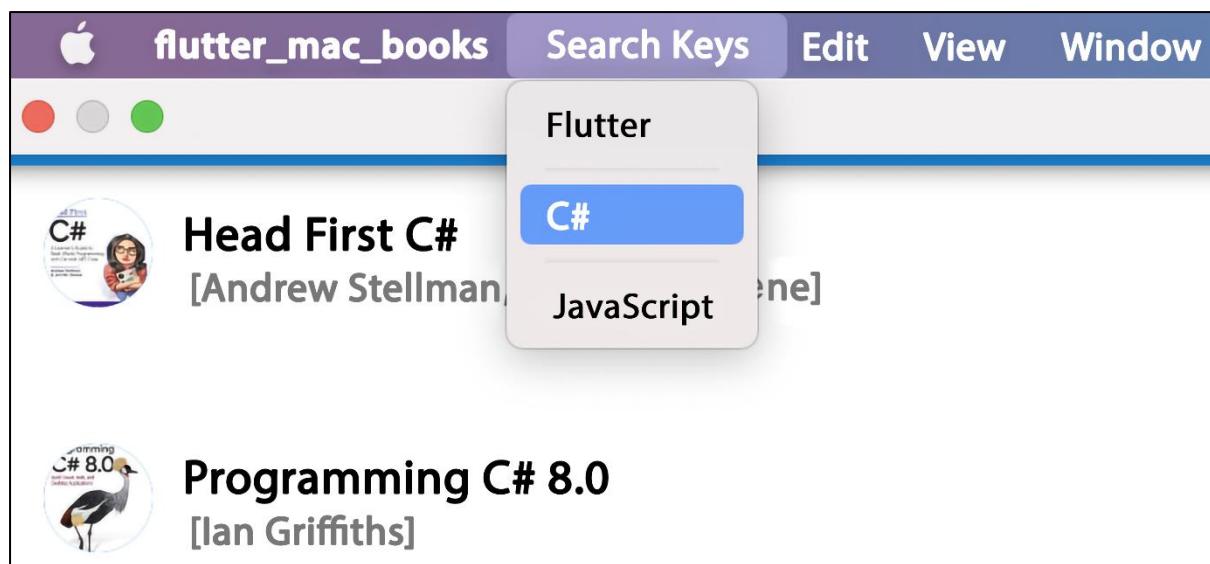
• No issues found!

C:\Users\sales>
```

**Woohoo!**

## Firebase CLI Login Successful

You are logged in to the Firebase Command-Line interface. You can immediately close this window and continue using the CLI.





books\_windows

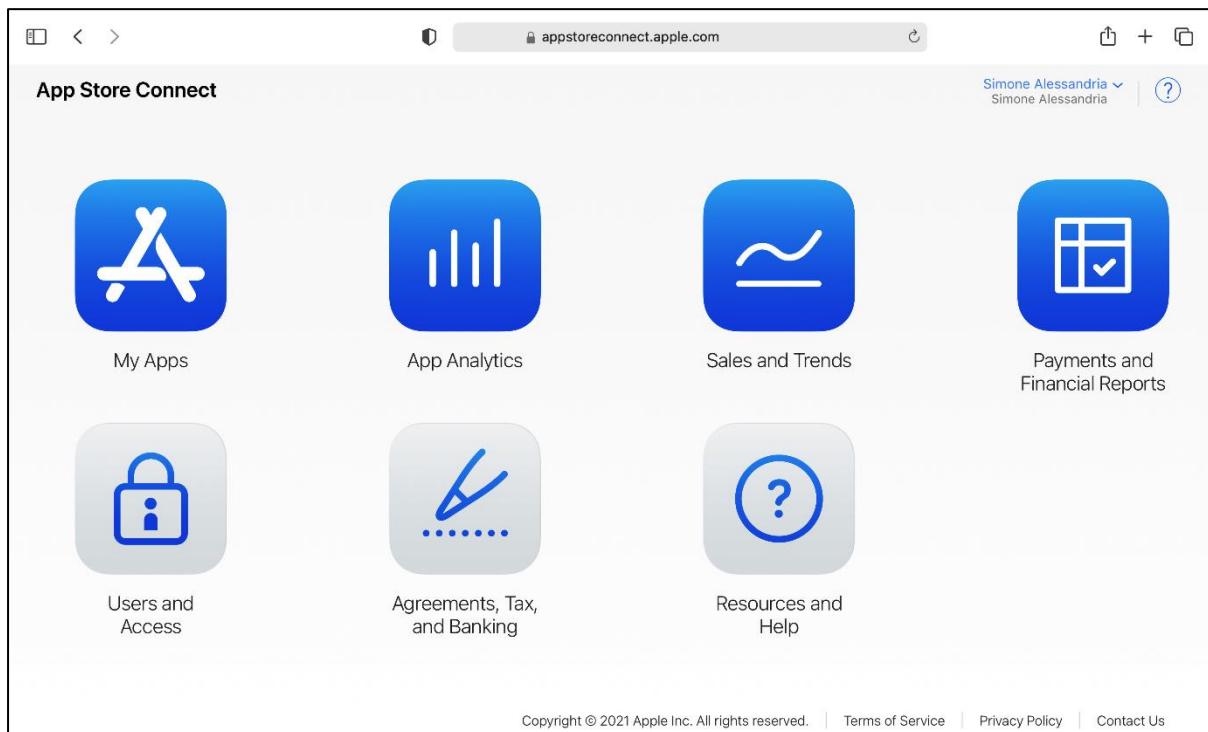
Search Keys

Flutter

C#

JavaScript

# Chapter 16: Distributing Your Mobile app



[« All Identifiers](#)

## Register a new identifier

[Continue](#)

### App IDs

Register an App ID to enable your app, app extensions, or App Clip to access available services and identify your app in a provisioning profile. You can enable app services when you create an App ID or modify these settings later.

### Services IDs

For each website that uses Sign in with Apple, register a services identifier (Services ID), configure your domain and return URL, and create an associated private key.

### Pass Type IDs

Register a pass type identifier (Pass Type ID) for each kind of pass you create (i.e. gift cards). Registering your Pass Type IDs lets you generate Apple-issued certificates which are used to digitally sign and send updates to your passes, and allow your passes to be recognized by Wallet.

### Website Push IDs

Register a Website Push Identifier (Website Push ID). Registering your Website Push IDs lets you generate Apple-issued certificates which are used to digitally sign and send push notifications from your website to macOS.

### iCloud Containers

Registering your iCloud Container lets you use the iCloud Storage APIs to enable your apps to store data and documents in iCloud, keeping your apps up to date automatically.

# Certificates, Identifiers & Profiles

[All Identifiers](#)

## Register an App ID

[Back](#)

[Continue](#)

### Platform

iOS, macOS, tvOS, watchOS

### App ID Prefix

MRHET26894 (Team ID)

### Description

BMI Calculator

You cannot use special characters such as @, &, \*, !, ", -, .

### Bundle ID

Explicit

Wildcard

it.softwarehouse.bmicalculator

We recommend using a reverse-domain name style string (i.e., com.domainname.appname). It cannot contain an asterisk (\*).

## Capabilities

### ENABLED NAME

 Access WiFi Information [\(i\)](#)

 App Attest [\(i\)](#)

 App Groups [\(i\)](#)

 Apple Pay Payment Processing [\(i\)](#)

# New App

Platforms ?

iOS  macOS  tvOS

Name ?

BMI Calculator

16

Primary Language ?

English (U.S.)



Bundle ID ?

BMI Calculator - it.softwarehouse.bmicalculator



SKU ?

it.softwarehouse.bmicalculator

User Access ?

Cancel

Create

Google Play Console

Search Play Console

All apps

Inbox 19

Policy status

Users and permissions

Order management

Download reports

Settings

Developer account

- Account details
- Developer page
- Activity log
- API access
- Linked accounts
- Payments settings
- Benchmarking preferences
- Preferences
- Email lists
- License testing

## Create app

### App details

App name: it.softwarehouse.fluttercookbook  
This is how your app will appear on Google Play. It should be concise and not include price, rank, 32 / 50 any emoji or repetitive symbols.

Default language: English (United States) – en-US

App or game: You can change this later in Store settings

App

Game

Free or paid: You can edit this later on the Paid app page

Free

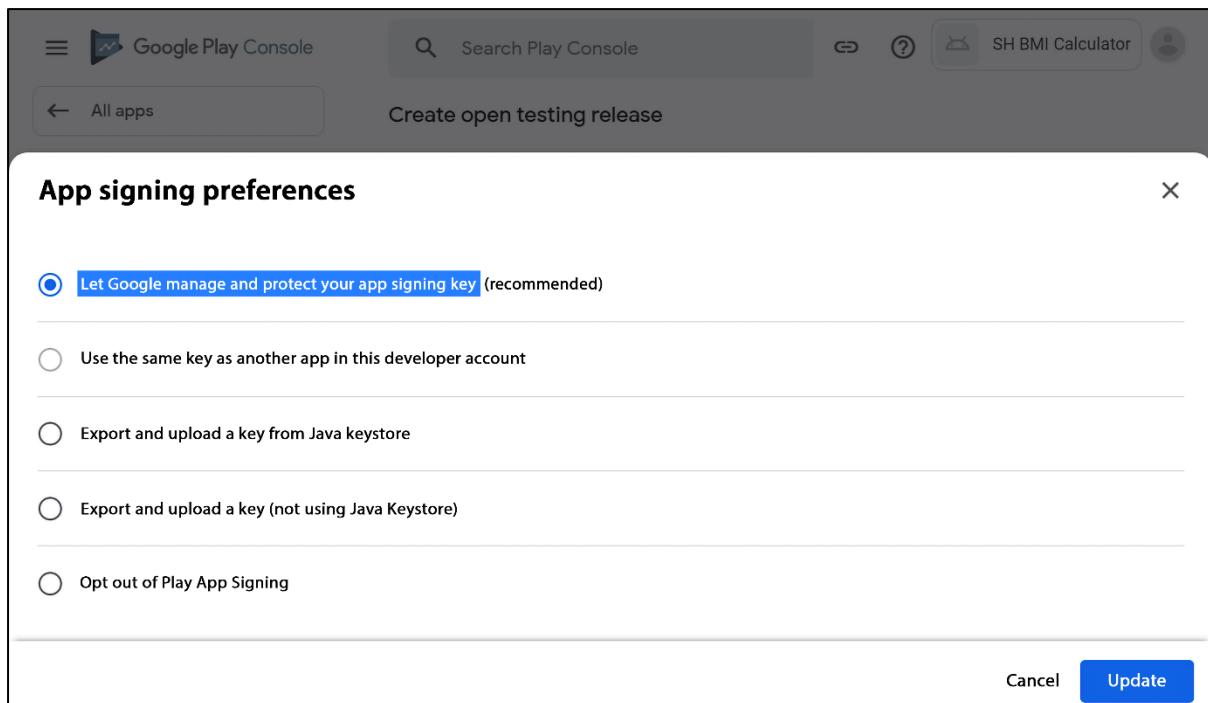
Paid

*(i)* You can edit this until you publish your app. Once you've published, you can't change a free app to paid.

Cancel Create app

<p><b>IAM &amp; Admin</b></p> <ul style="list-style-type: none"><li><a href="#"> IAM</a></li><li><a href="#"> Identity &amp; Organization</a></li><li><a href="#"> Policy Troubleshooter</a></li><li><a href="#"> Policy Analyzer</a></li><li><a href="#"> Organization Policies</a></li><li><a href="#"> Service Accounts</a></li><li><a href="#"> Labels</a></li><li><a href="#"> Settings</a></li><li><a href="#"> Privacy &amp; Security</a></li><li><a href="#"> Identity-Aware Proxy</a></li><li><a href="#"> Roles</a></li><li><a href="#"> Audit Logs</a></li></ul>	<p><a href="#">← publish_sa</a></p> <p><a href="#">DETAILS</a> <a href="#">PERMISSIONS</a></p> <p><b>Service account details</b></p> <table border="1"><tr><td><b>Name</b></td><td>publish_sa</td></tr><tr><td><b>Description</b></td><td>Publishing Service Account</td></tr><tr><td><b>Email</b></td><td>publish-sa@firebase-demo-305209.iam.gserviceaccount.com</td></tr><tr><td><b>Unique ID</b></td><td>108784229501087015862</td></tr></table> <p><b>Service account status</b></p> <p>Disabling your account allows you to preserve your policies without having to delete it</p> <p><input checked="" type="checkbox"/> <b>Account currently active</b></p> <p><a href="#">DISABLE SERVICE ACCOUNT</a></p>	<b>Name</b>	publish_sa	<b>Description</b>	Publishing Service Account	<b>Email</b>	publish-sa@firebase-demo-305209.iam.gserviceaccount.com	<b>Unique ID</b>	108784229501087015862
<b>Name</b>	publish_sa								
<b>Description</b>	Publishing Service Account								
<b>Email</b>	publish-sa@firebase-demo-305209.iam.gserviceaccount.com								
<b>Unique ID</b>	108784229501087015862								

```
Removed unused resources: Binary resource data reduced from 125KB to 100KB: Removed 19%
Running Gradle task 'bundleRelease'...
Running Gradle task 'bundleRelease'... Done                                32,6s
✓ Built build\app\outputs\bundle\release\app-release.aab (80.6MB).
```



The screenshot shows the 'Create open testing release' screen. At the top, there is a header bar with the Google Play Console logo, a search bar, and account information. Below the header, the title 'Create open testing release' is displayed. A message indicates 'We found some problems with your release'. The 'Prepare' step is marked as complete (indicated by a checkmark), while the 'Review and release' step is incomplete (indicated by a number '2'). On the left, a sidebar shows navigation links: 'Dashboard', 'Inbox' (4 notifications), 'Statistics', 'Publishing overview', 'Release', 'Releases overview', 'Production', 'Testing', 'Open testing' (selected), 'Closed testing', 'Internal testing', and 'Pre-registration'. On the right, under 'Errors, warnings and messages', three errors are listed: 1. Error (3 Errors, Show less), 2. Error (Your app cannot be published yet. Complete the steps listed on the Dashboard. Go to Dashboard), and 3. Error (You need to add a full description). A note at the bottom states 'No countries or regions have been selected for this track. Add at least 1 country or region to roll out this release.' with a 'Learn more' link.

## Rollout to open testing?

X

This release will be available to testers. Anyone can join your tests on Google Play.

Cancel

Rollout

← Releases overview

### 1 (2.0.0)

#### Release summary

Available to unlimited testers • Open testing • Released on Mar 4 11:43 AM • Available on 16,896 devices

Promote release ▾ View track

Closed testing →  
Production

#### App bundles and APKs