

FRAVEL

Flutter based Travel App

@noumaanshah

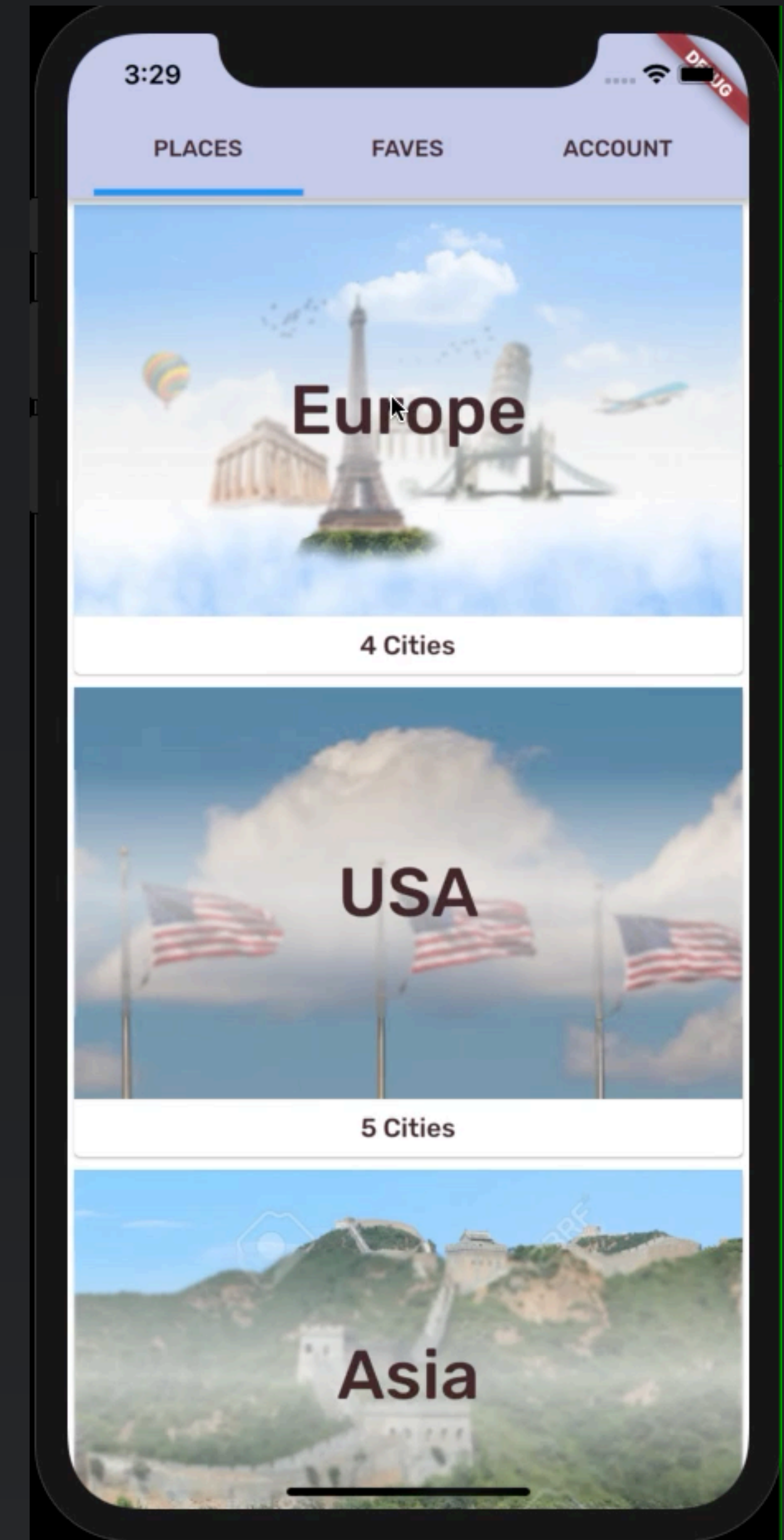
+NoumaanShah

github.com/noumaans/fravel

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- Single codebase development for iOS and Android
- Do more with less code
- Prototype and iterate easily (hot-reload)
- Focus on UX



Top Active Software Repos on GitHub

Rank	Repo	Stars
1	twbs/bootstrap	127,344
2	vuejs/vue	113,839
3	facebook/react	111,154
4	tensorflow/tensorflow	109,412
5	d3/d3	78,734
...		
40	pallets/flask	38,739
41	moment/moment	38,562
42	GoogleChrome/puppeteer	38,118
43	getlantern/lantern	37,487
44	jakubroztocil/httpie	37,319
45	flutter/flutter	37,099
46	trekhleb/javascript-algorithms	36,776
47	django/django	36,369
48	jeekyll/jeekyll	35,402
49	ReactiveX/RxJava	35,356
50	ionic-team/ionic	35,309

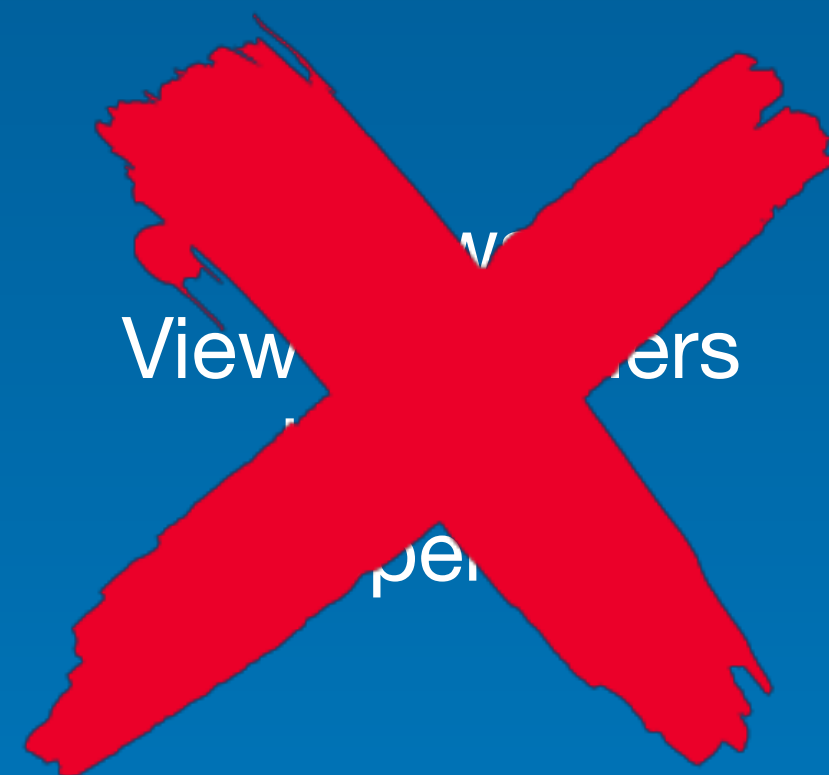
Source: GitHub
<https://github.com/timsneath/github-tracker>





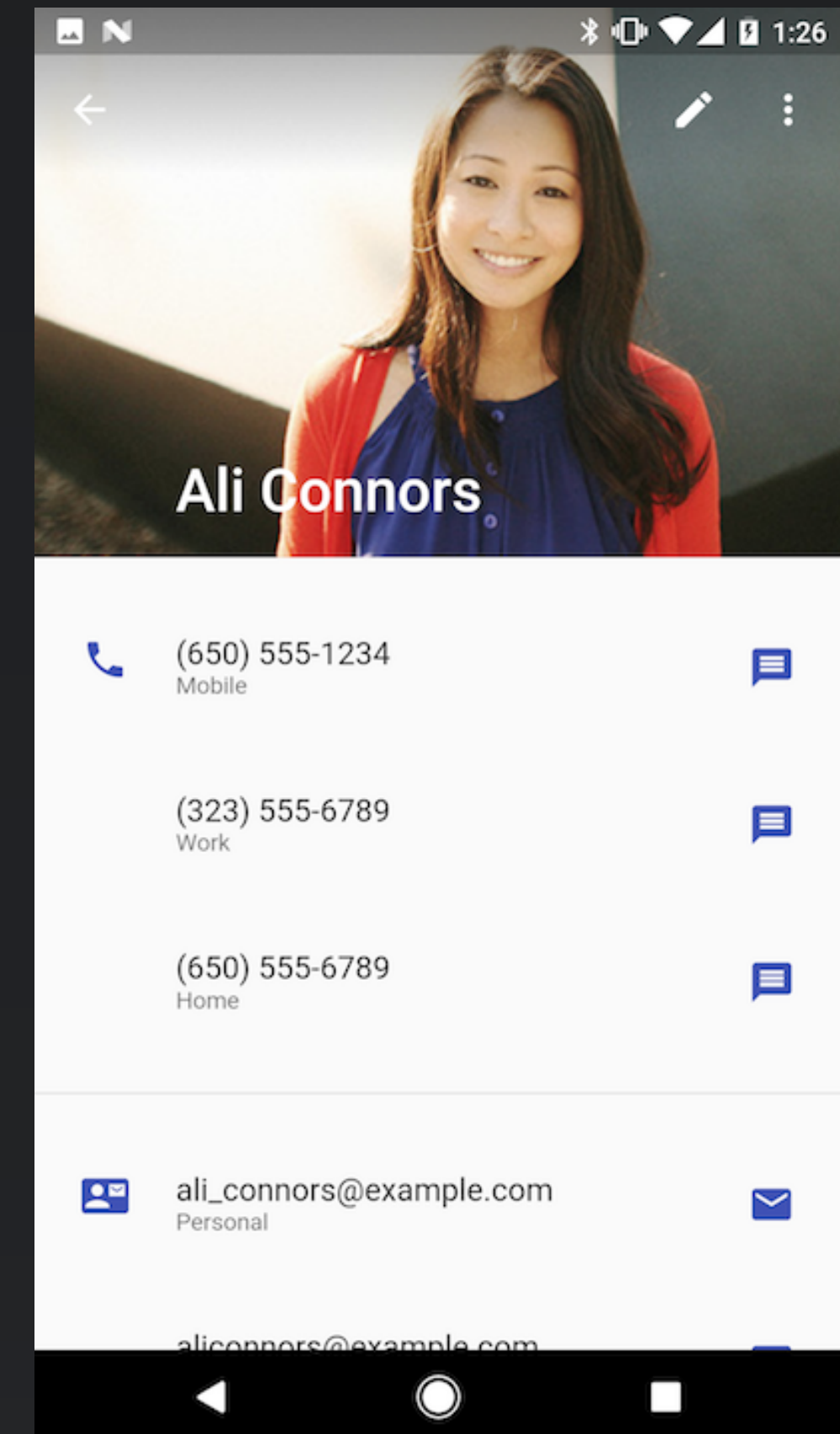
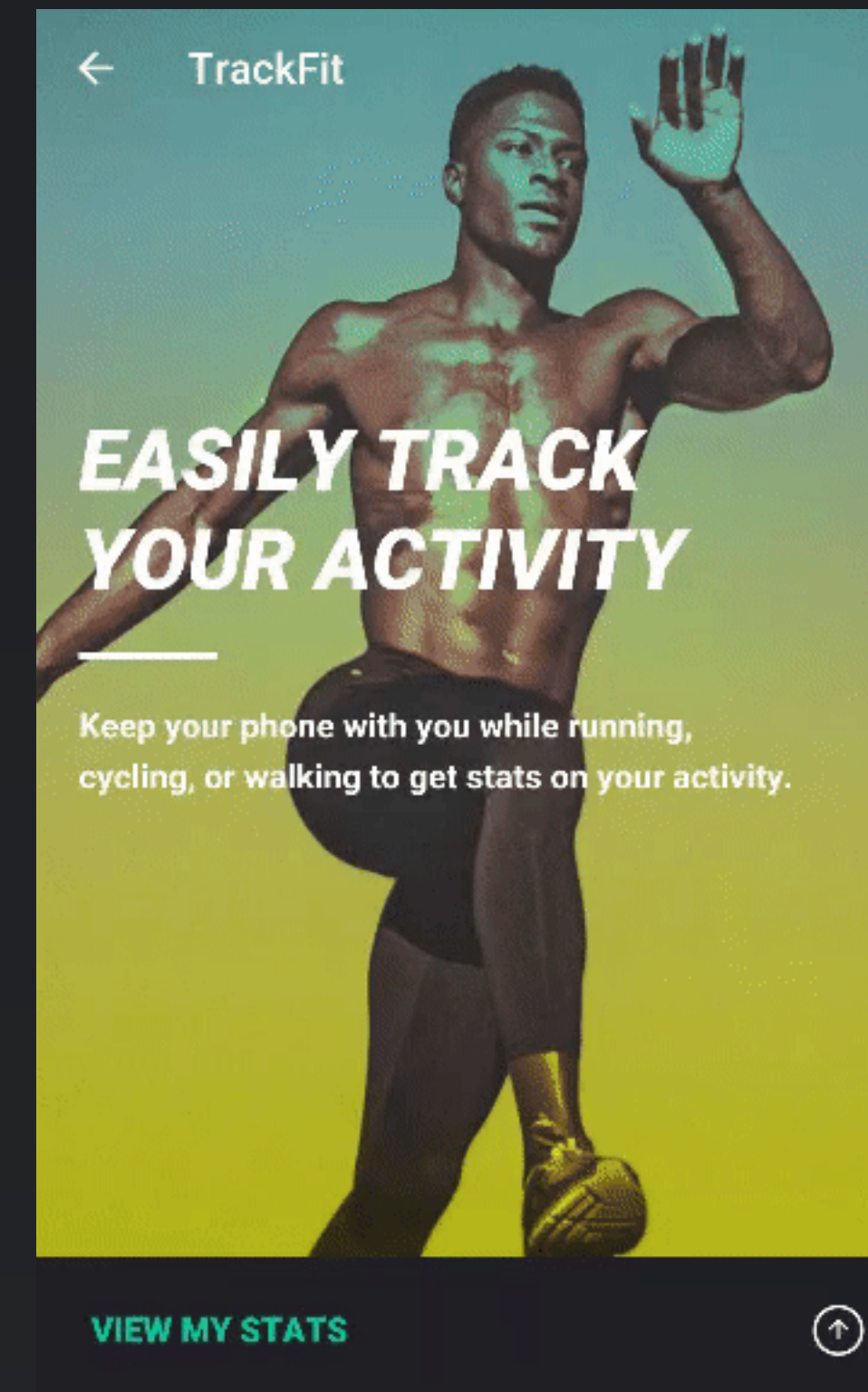
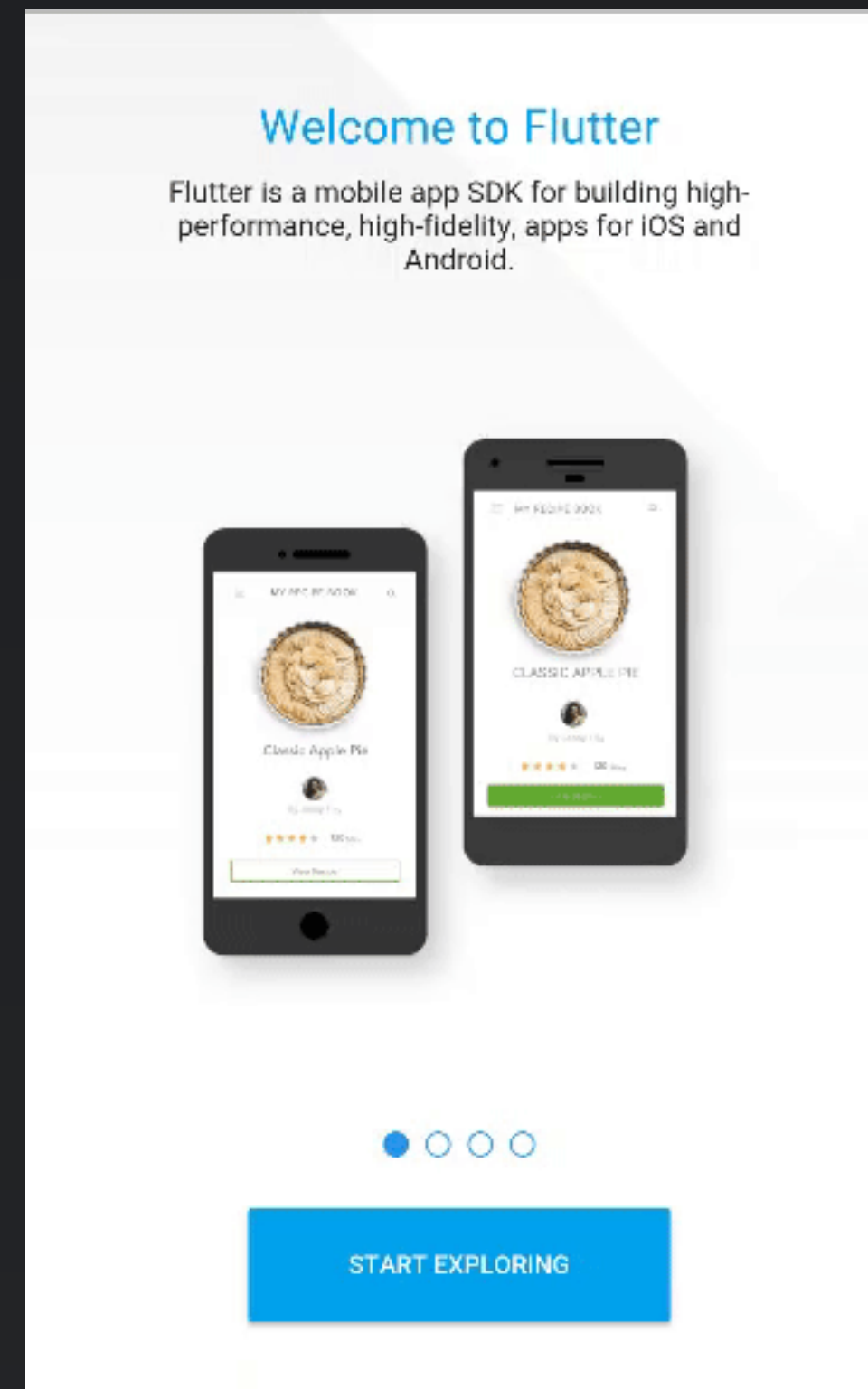
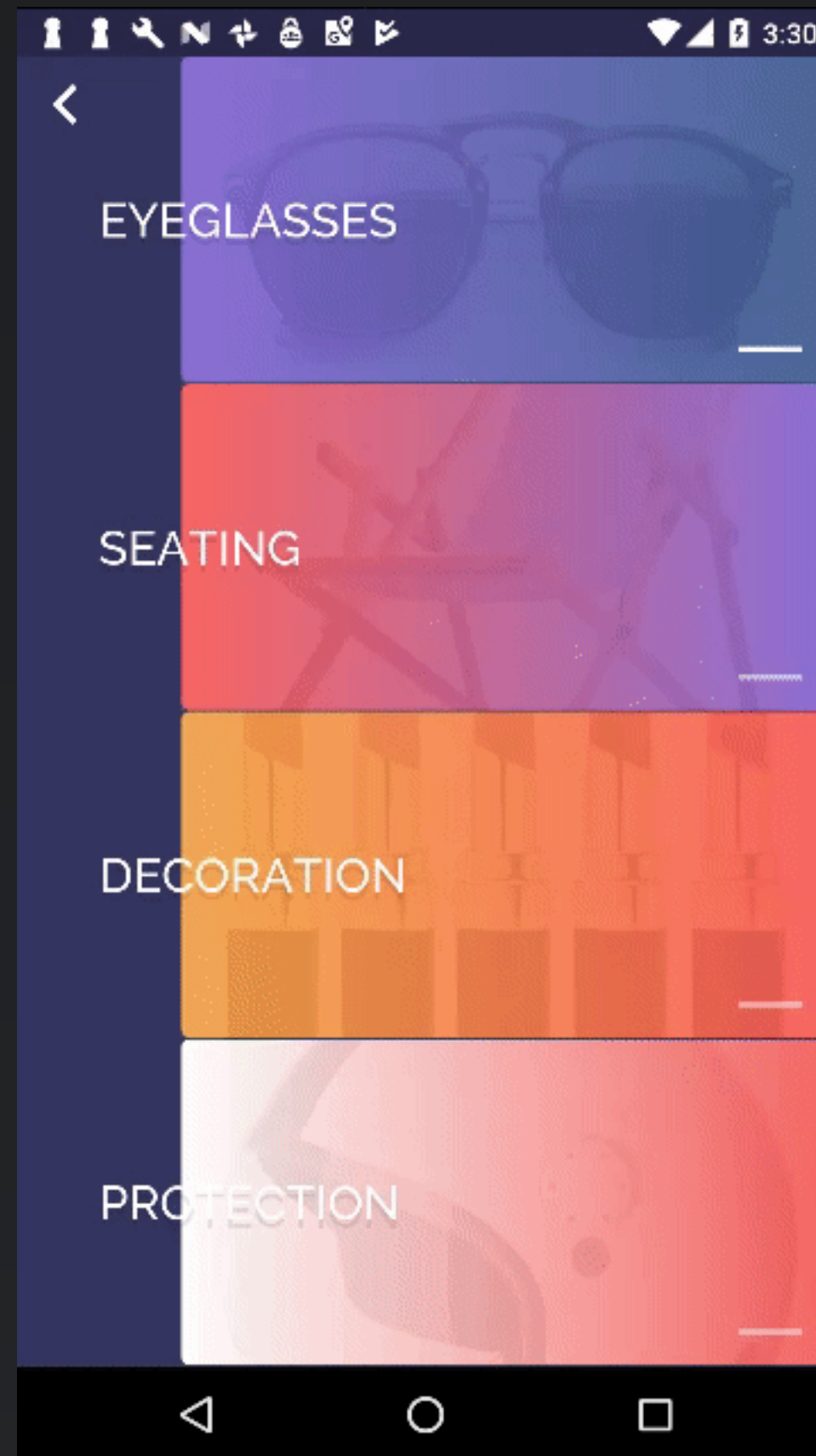
Technical Overview

Widget: Unified Object Model





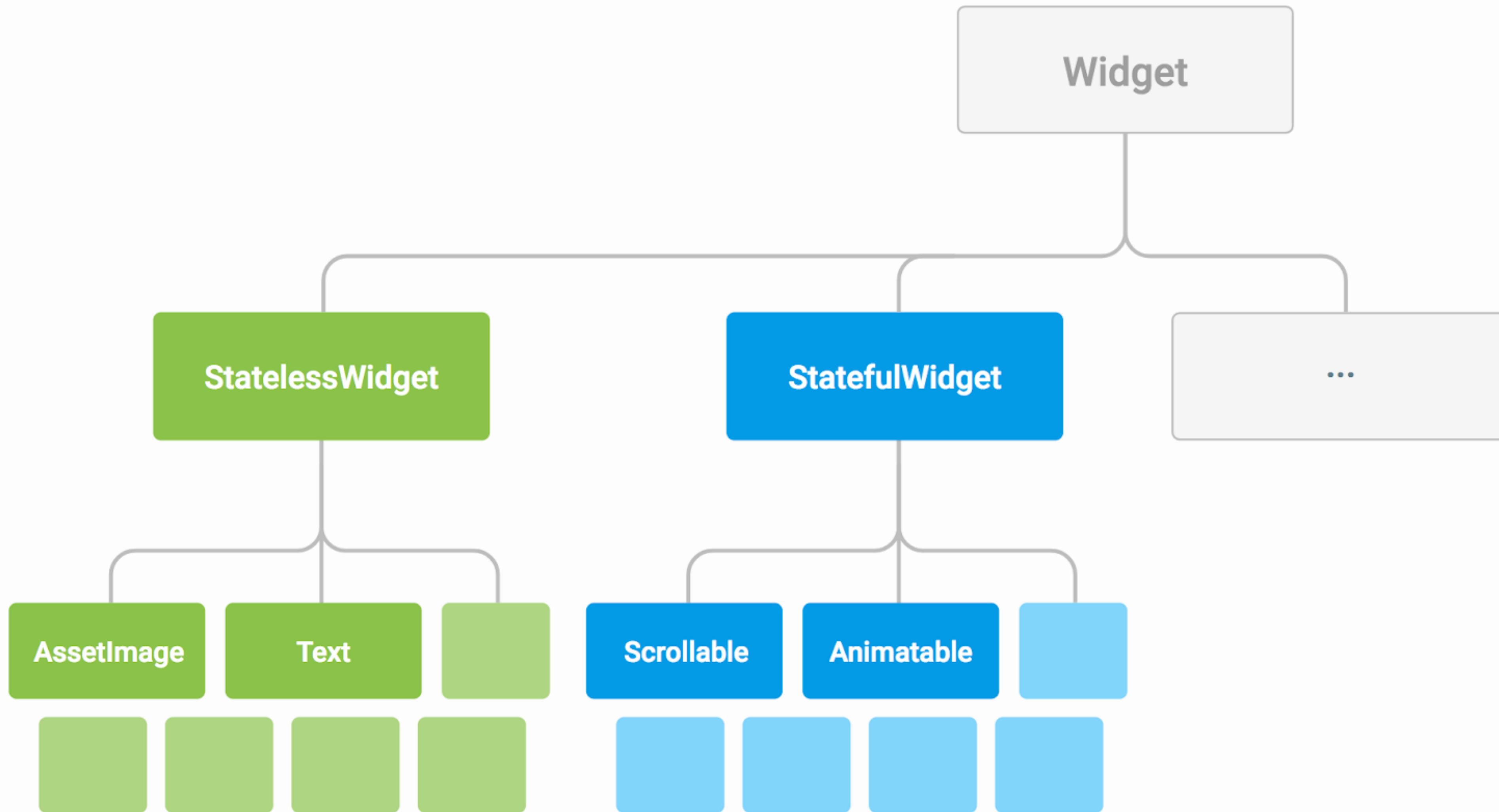
Everything's a Widget



- Button / Menu / Font / Color Scheme / Padding ...
- build()

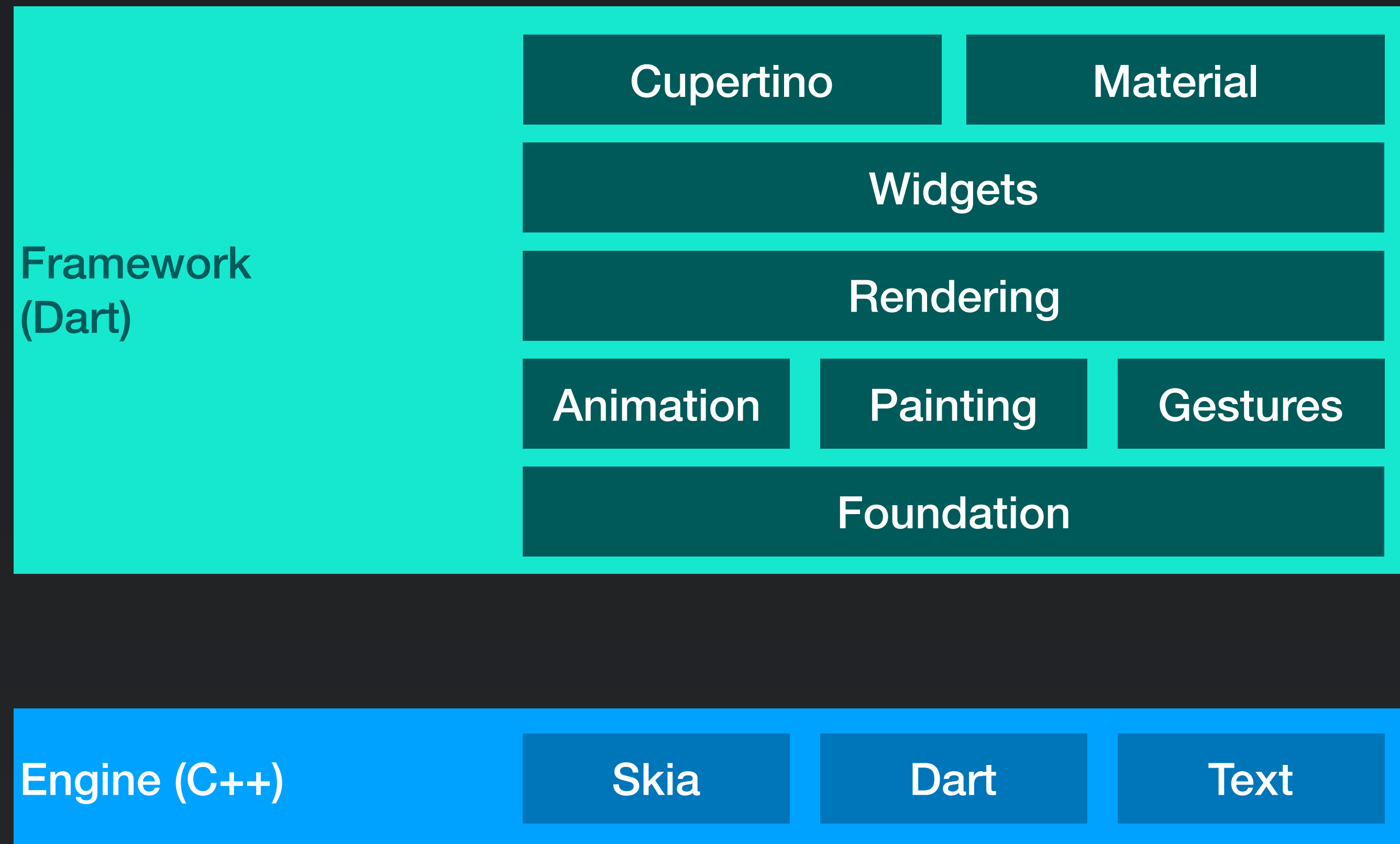


Composition > Inheritance

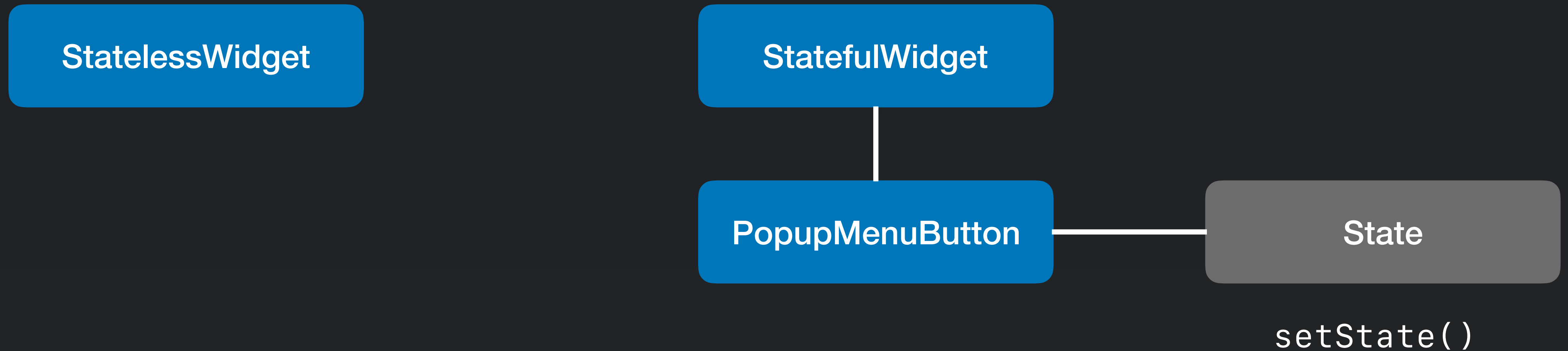




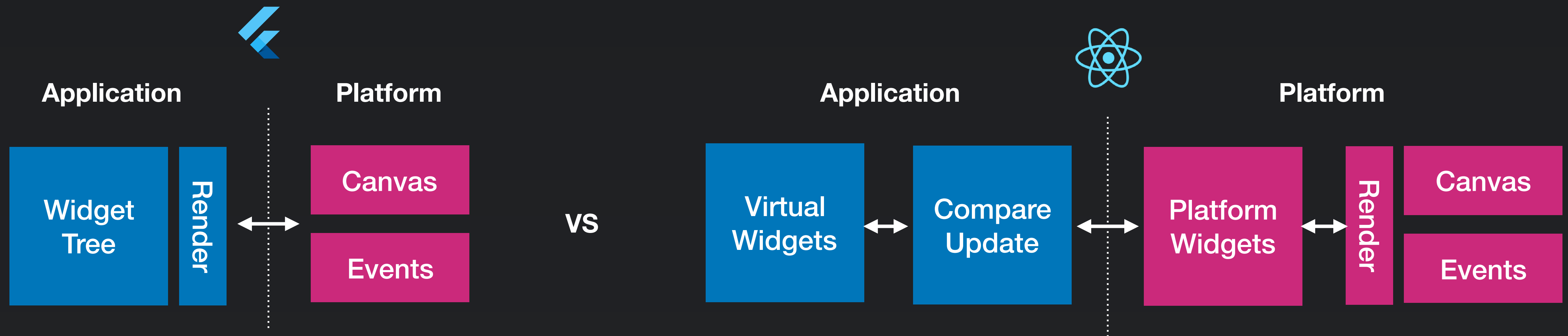
Layer cakes are delicious



Stateless and Stateful Widgets

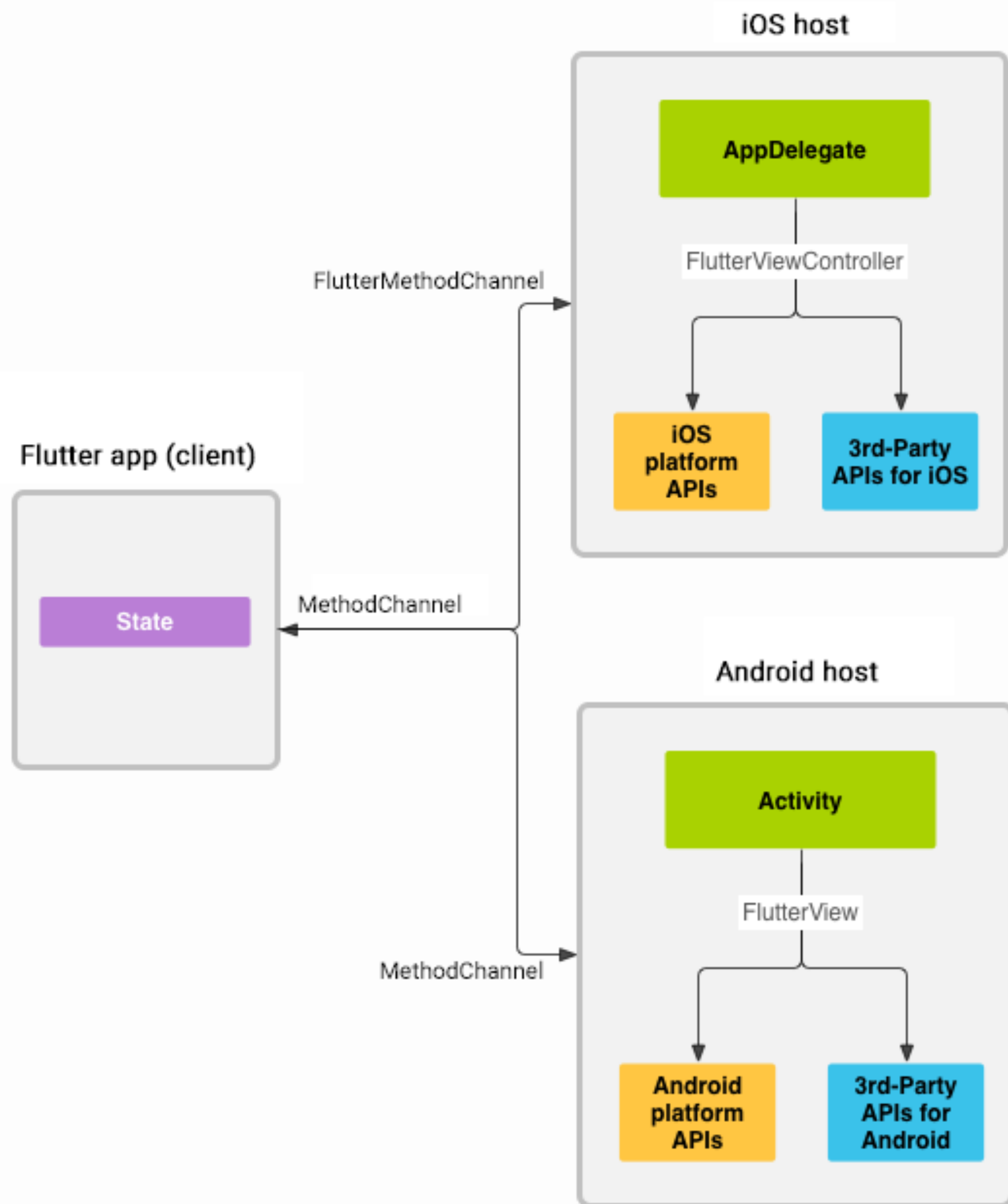


Performance



- Compiles to Native Code (no bridge)
- Own Widgets and Renderer
- Structural Repainting only redraws changes

Platform Channels



- Async messages between client (UI) and host (platform)
- Serialization / Deserialization supported for NSArray and NSDictionary 😊
- Supported platforms:



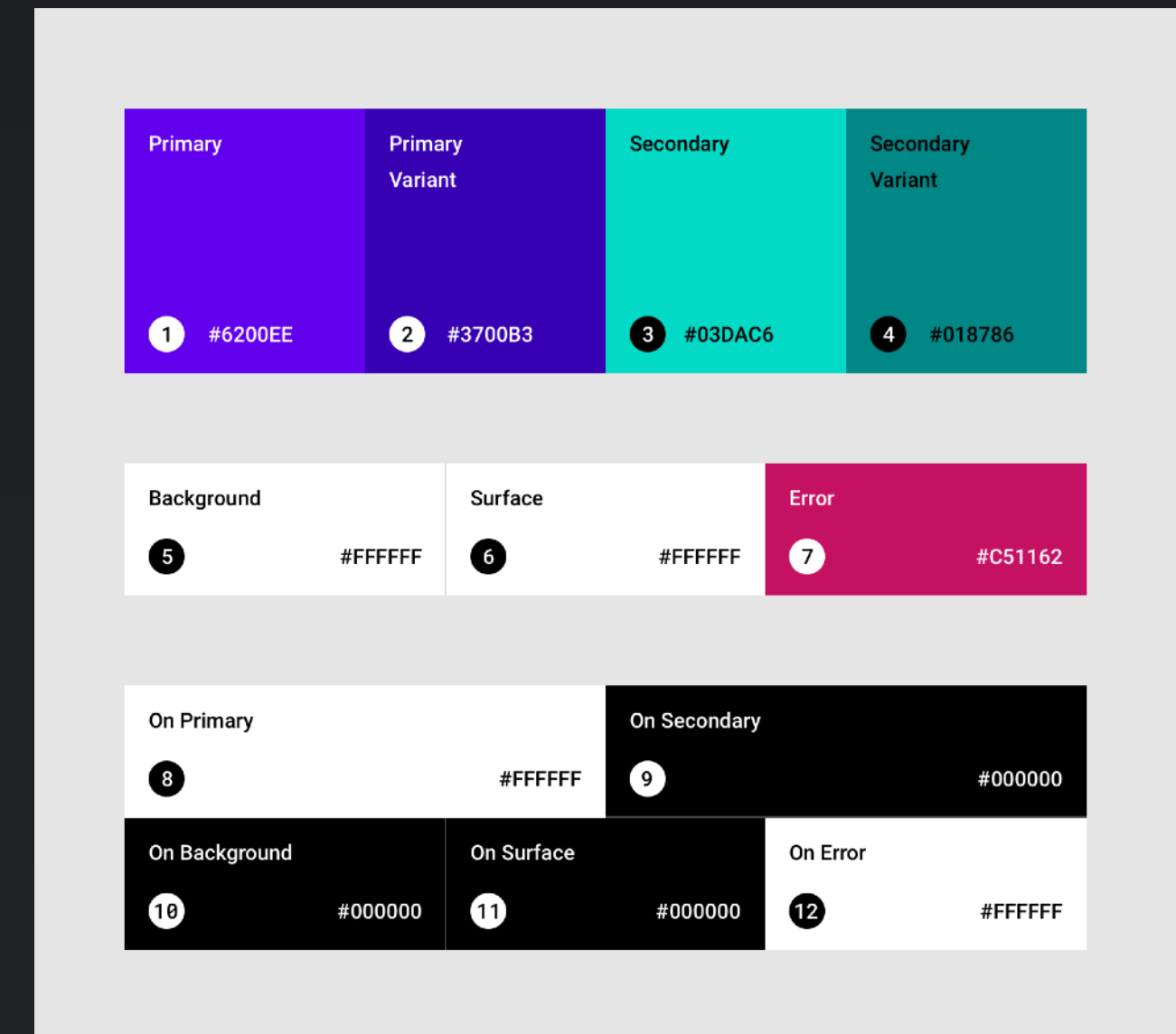
Objective-C



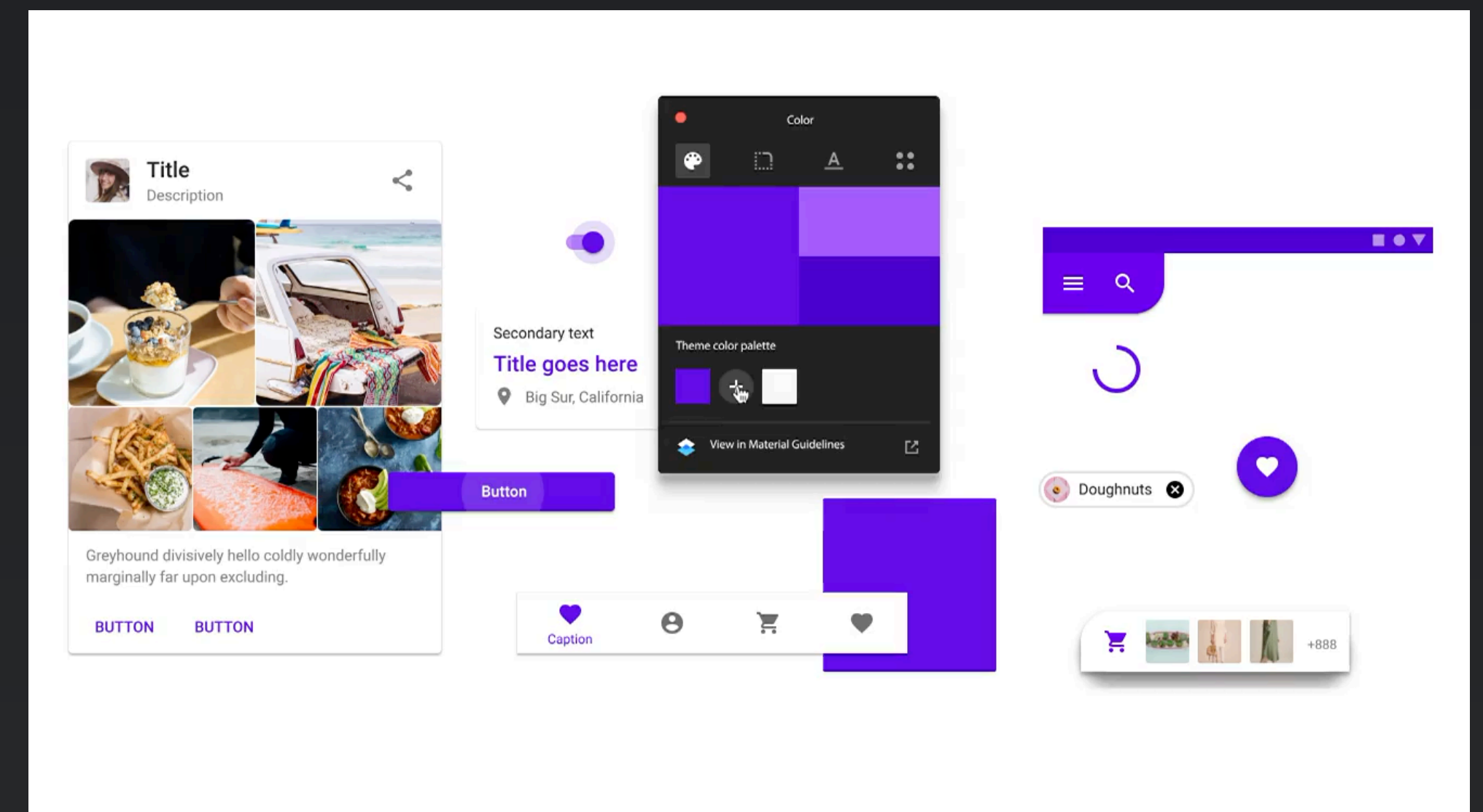


Material

- material.io/tools/color/

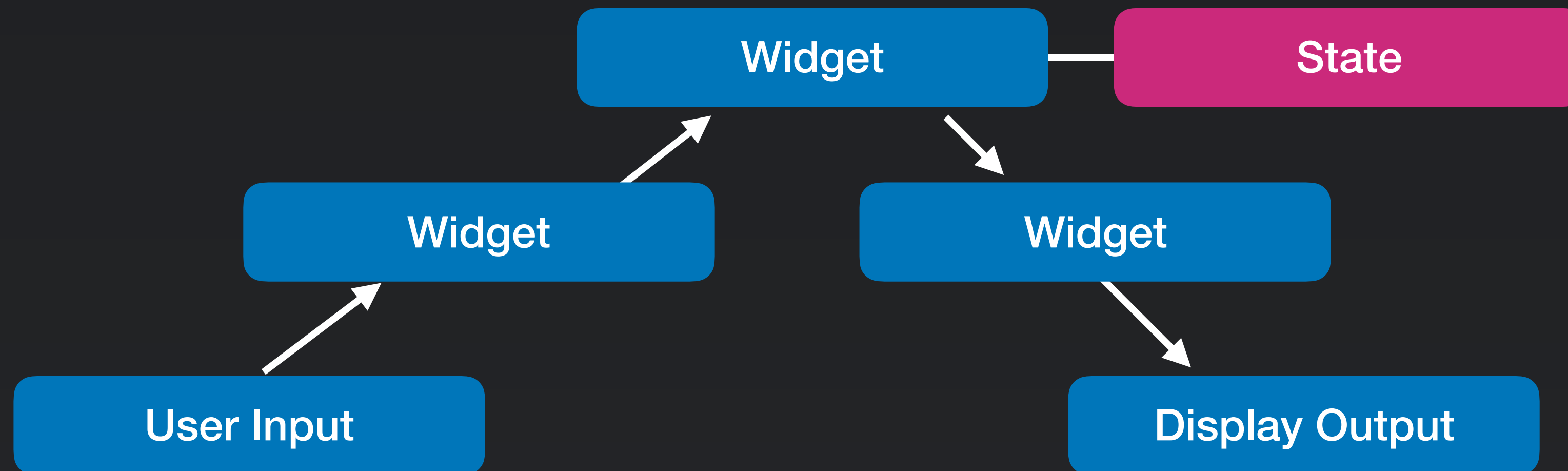
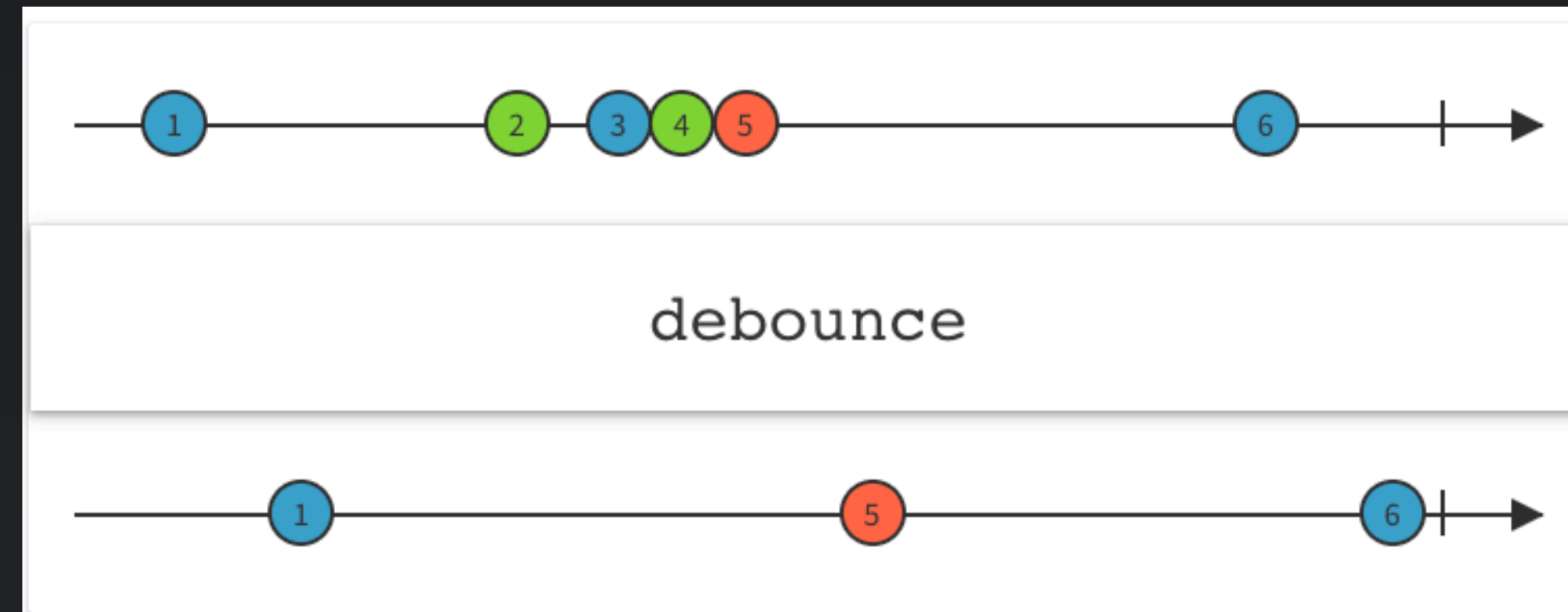


- material.io/tools/theme-editor/





ReactiveX



- reactivex.io



Web Analogs

```
<div class="greybox">
  Lorem ipsum
</div>
```

```
.greybox {
  background-color: #e0e0e0; /* grey 300 */
  width: 320px;
  height: 240px;
  font: 900 24px Georgia;
}
```

```
var container = Container( // grey box
  child: Text(
    "Lorem ipsum",
    style: TextStyle(
      fontSize: 24.0
      fontWeight: FontWeight.w900,
      fontFamily: "Georgia",
    ),
  ),
  width: 320.0,
  height: 240.0,
  color: Colors.grey[300],
);
```



Dart Polyglot Map

```
class ClassChild extends ClassParent {  
  // This is a comment  
  static const int compileTimeConstant = 2;  
  final double immutableDouble = 3.0;  
  String _privateString = compileTimeConstant.toString();  
  List<int> list = [1, 2, 3];  
  
  @override  
  bool publicFunction({@required String requiredNamedParameter, String optionalParameter}) {  
    if ((optionalParameter != null) && (requiredNamedParameter is String))  
      return false;  
    else {  
      list.forEach(  
        (item) => _privateFunction(param1: 'Foo', param2: 'Interpolate ${list.indexOf(item)}')  
      );  
      return true;  
    }  
  }  
  
  String _privateFunction({String param1, String param2}) {  
    final concatenateString = param1 + param2;  
    return concatenateString;  
  }  
}
```

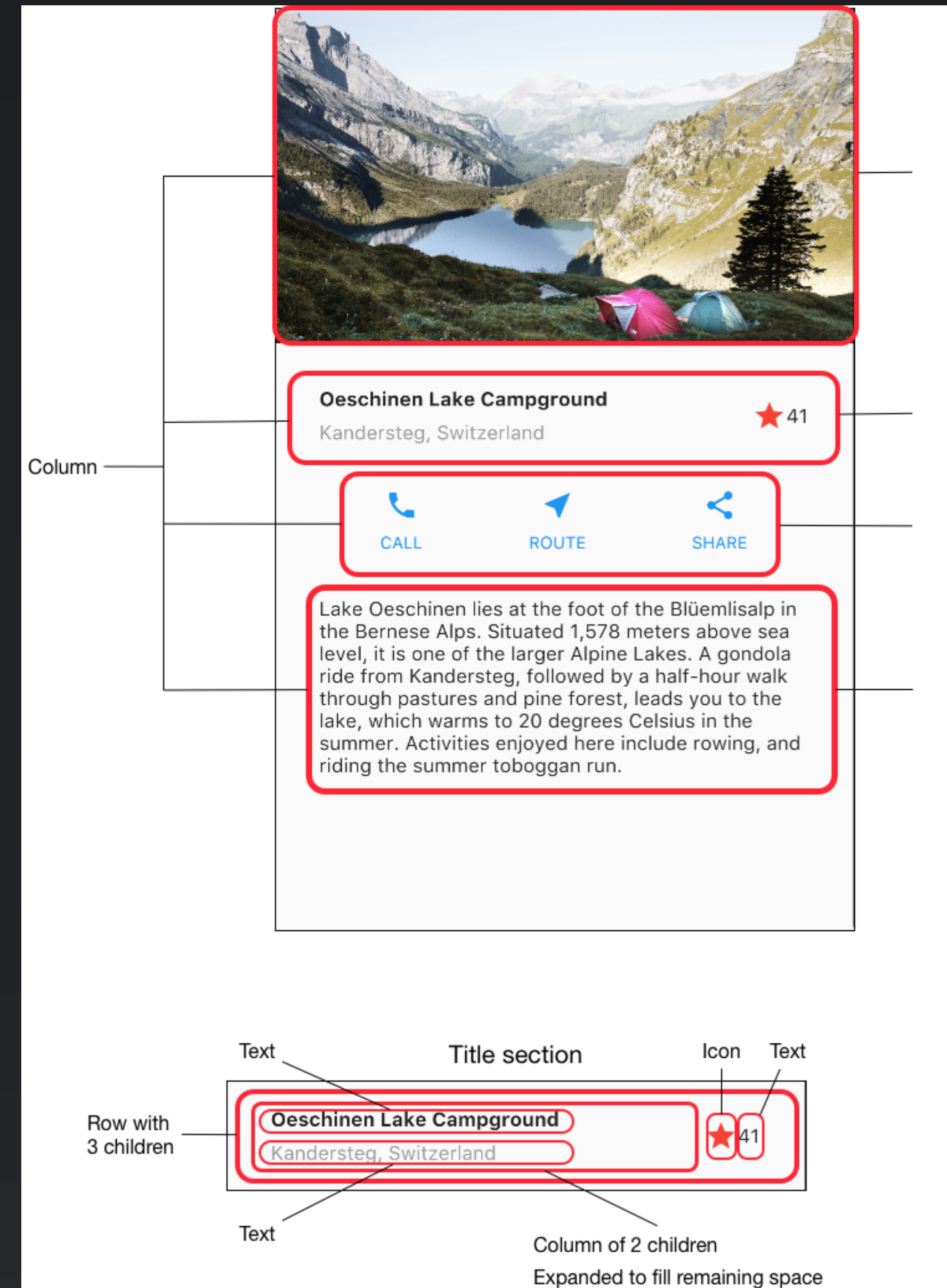


Design



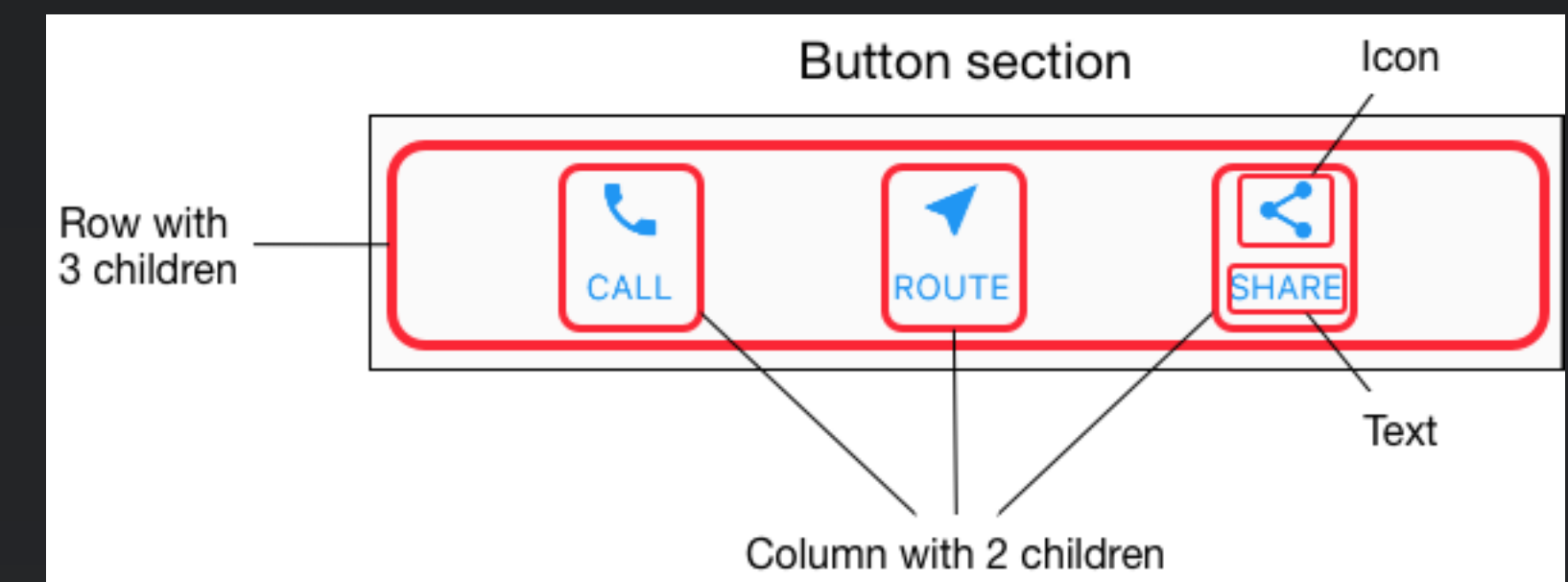
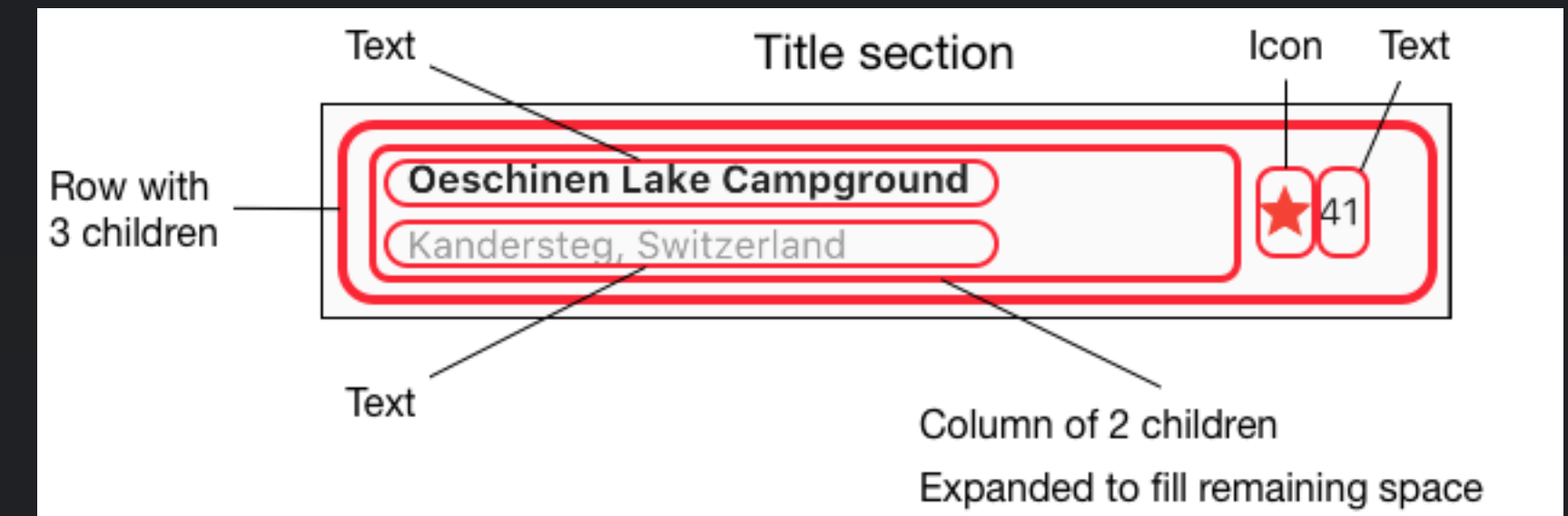
Layout

- Columns & Rows
- Alignment
- Padding => Container
- Expand



Bottom-up Design

- DRY
- Remember Stateful vs Stateless!





Tooling



Flutter Setup

flutter.io/get-started/install/

```
$ flutter doctor
```

```
Doctor summary (to see all details, run flutter doctor -v):
```

- [✓] Flutter (Channel beta, v0.8.2, on Mac OS X 10.13...)
- [✓] Android toolchain - develop for Android devices (Android SDK 27.0.3)
- [✓] iOS toolchain - develop for iOS devices (Xcode 10.0)
- [✓] Android Studio (version 3.1)
- [✓] VS Code (version 1.27.2)
- [✓] Connected devices (2 available)
- No issues found!



Flutter Playground

```
$ flutter create playground
```

```
$ flutter run
```



pubspec.yaml

```
name: playground
description: A new Flutter project.

dependencies:
  flutter:
    sdk: flutter
  image_picker: ^0.4.1
  firebase_auth: ">=0.5.1 <0.5.5"
```

\$ flutter packages get

\$ flutter packages upgrade

pub.dartlang.org



Demo



Thank you!

References

- flutter.io
- github.com/flutter
- www.dartlang.org/guides/language/language-tour