



Flutter

Introduction to Flutter development
using Dart

By Don Kora Jacob



Flutter is Google's UI Framework

Helping developers craft
high-quality native
experiences across multiple
platforms
in record time.



Cross platform approach



From Facebook



From Google



Native approach

Android



iOS



Challenges of mobile development today

“To the metal” approaches

- ✓ **High-quality apps**
Platform and system integrations
- ✓ **High-performance UIs**
Native code, GPU accelerated
- ✗ **Must fund two apps**
Two teams, codebases, & investments
- ✗ **Inconsistent brand, features**
Different across devices & OEMs

“Cross platform” approaches

- ✓ **Fast development**
Quick iterations, hot reload
- ✓ **Portability, reach**
Single codebase
- ✗ **Poor Performance**
Slow, jerky, unpredictable
- ✗ **Non-Native Look/Feel**
Users can tell the difference





Dart



Optimised
for UI



Productive
Development



Fast on all
platforms



Fast

Beautiful

Productive



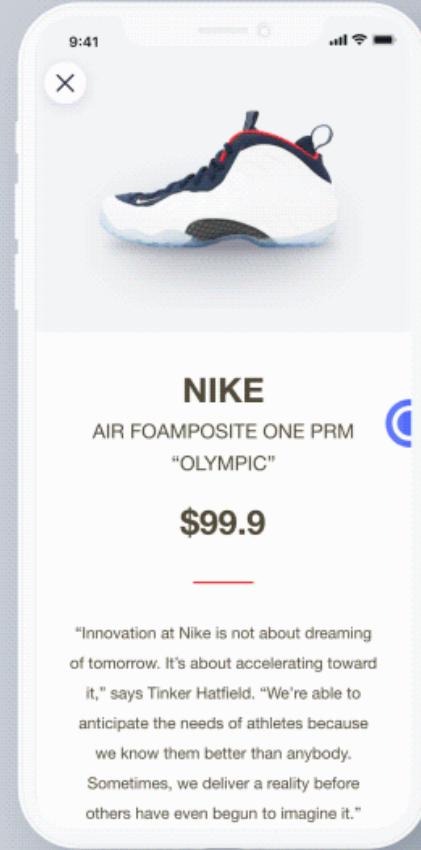
Flutter

Open



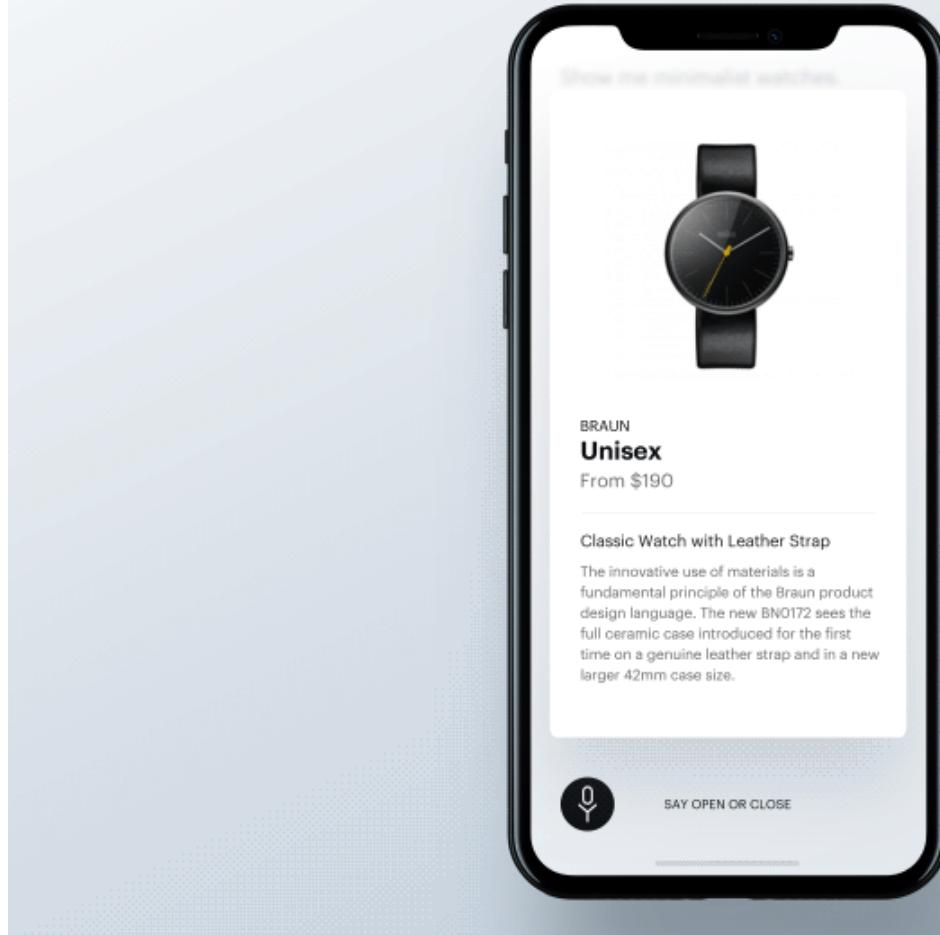
Beautiful

No compromises
for your designers



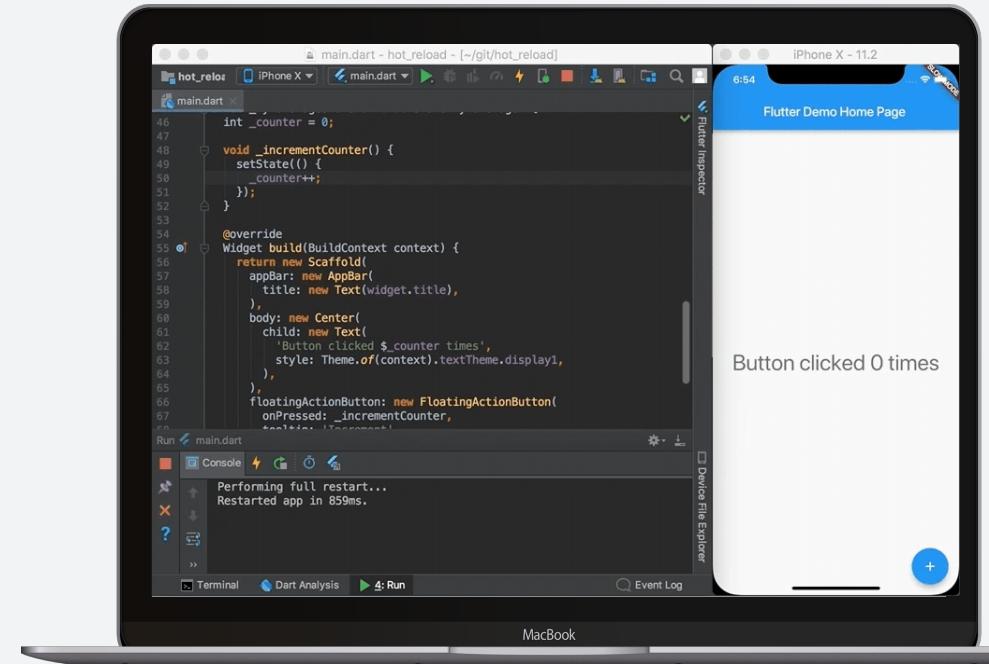
Fast

Take the speed
limiter off your app



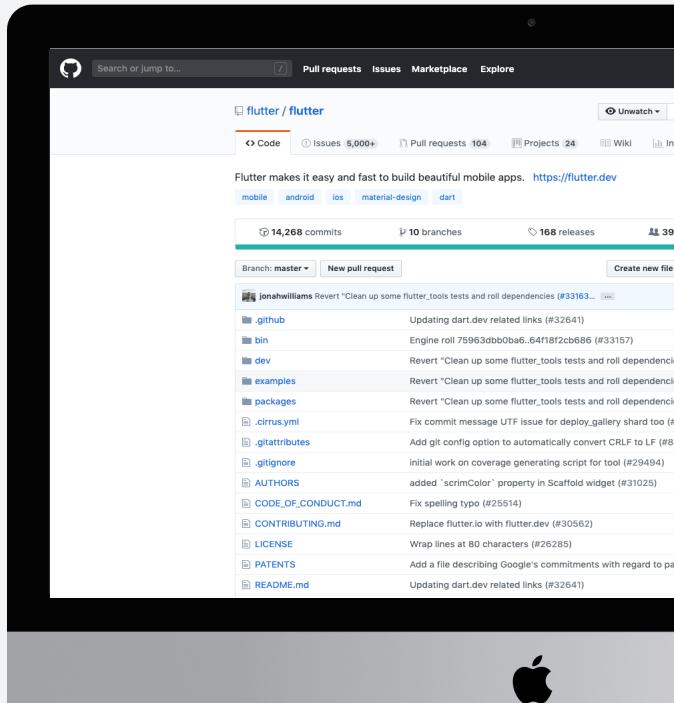
Productive

Develop while your app is running



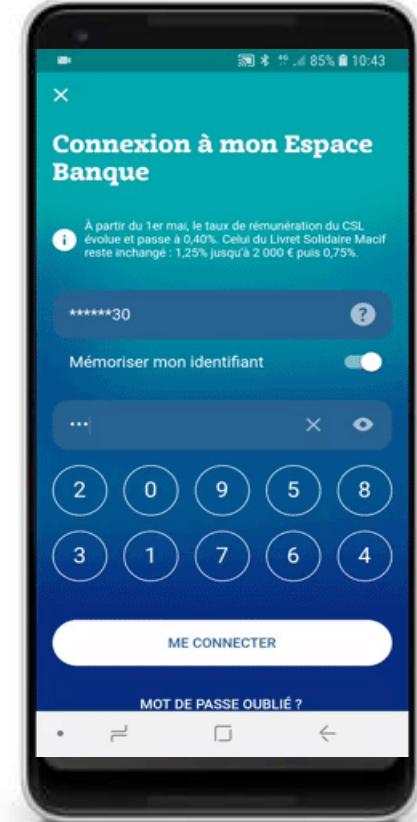
Open

Everything is free
and open source

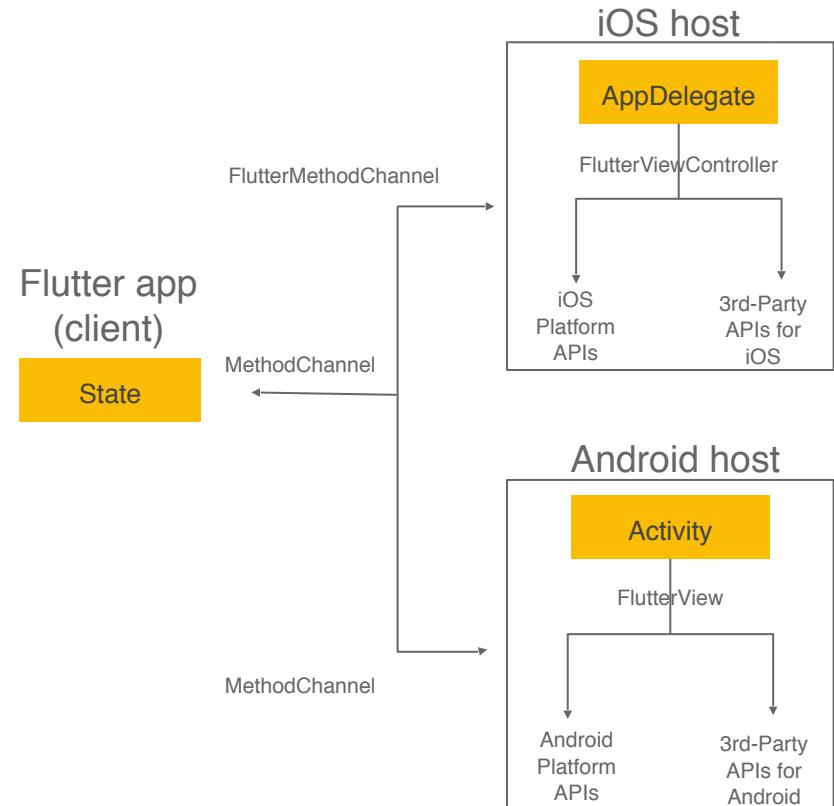
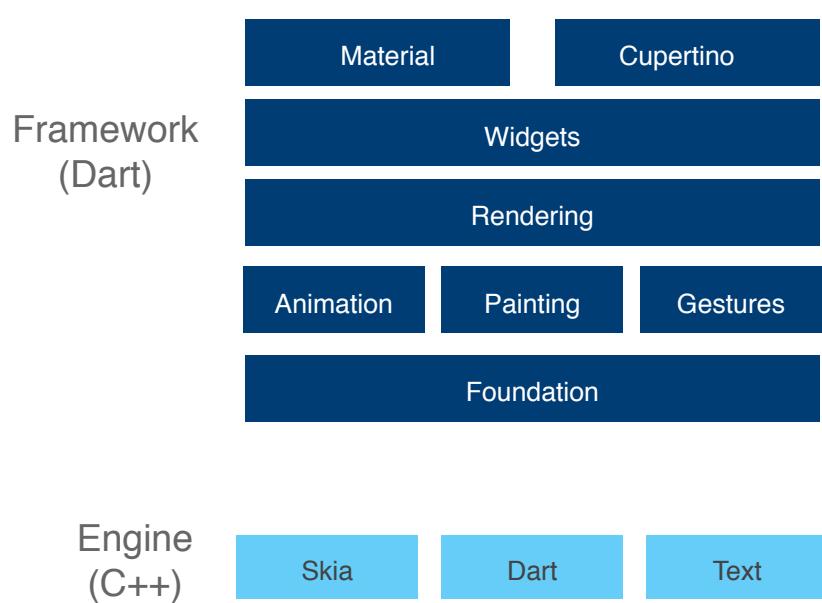


Flutter offers the best of both worlds

“ Flutter combines **native performance and quality** with **high-velocity development** and **multi-platform reach**. ”



Flutter is a modern UI toolkit for native apps





High-Velocity
Development



Expressive and
Flexible Toolkit



Native iOS and
Android App



High-velocity development

Sub-second reload times

Paint your app to life

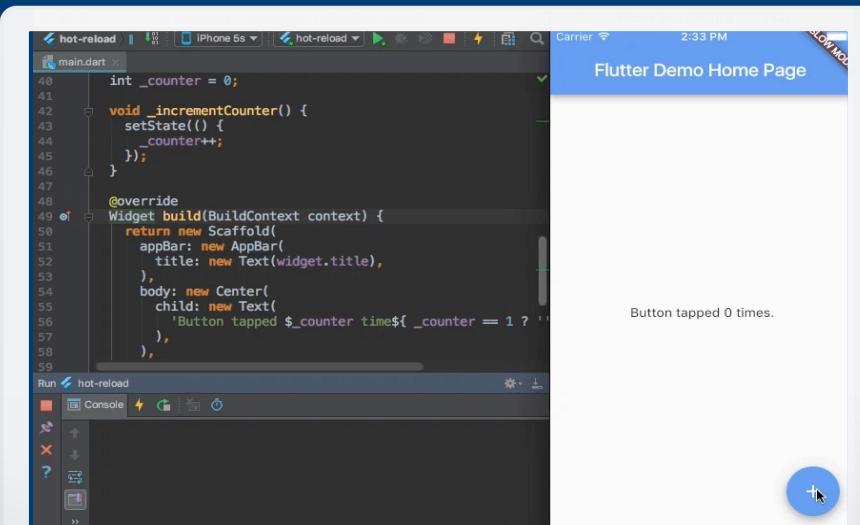
Iterate rapidly on features

Test hypotheses quicker than ever

More time to experiment & test features

Single-codebase for faster collab

3X Productivity Gains



The screenshot shows a developer's workspace for Flutter development. On the left, the code editor displays `main.dart` with Dart code for a counter application. On the right, a mobile application is running on an iPhone 5s simulator, titled "Flutter Demo Home Page". The app shows a blue header with the text "SLOW MODE" and a central text area that says "Button tapped 0 times.". A circular button at the bottom right of the slide has a plus sign on it.

```
int _counter = 0;
void _incrementCounter() {
  setState(() {
    _counter++;
  });
}
@Override
Widget build(BuildContext context) {
  return new Scaffold(
    appBar: new AppBar(
      title: new Text(widget.title),
    ),
    body: new Center(
      child: new Text(
        'Button tapped ${_counter} time${_counter == 1 ? '' : 's'}',
      ),
    ),
  );
}
```

Flexibility and Control for beautiful UI's

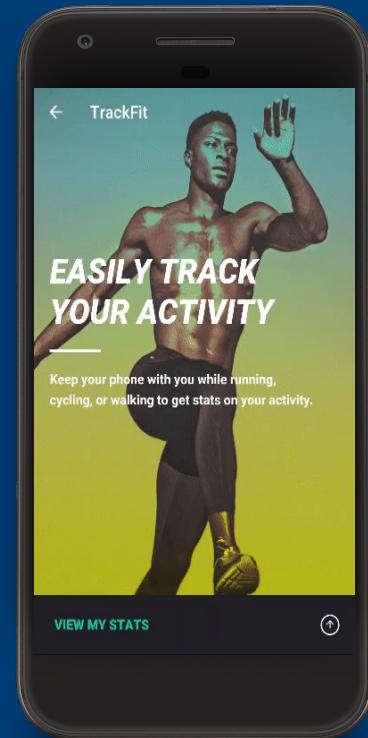
Control every pixel on the screen

Make your brand come to life

Never say "no" to your designer

Stand out in the marketplace

Win awards with beautiful UI



Natively- Apps for iOS and Android

Compiles directly to native ARM code Does not use a JavaScript bridge

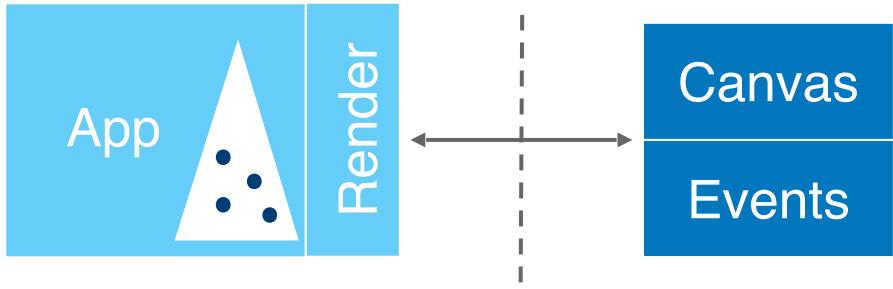
60fps, GPU accelerated

Smooth animations

Deep platform integrations

Natural look and feel

Critical platform differences
(scrolling, navigation, fonts)



Compiles to ARM native code,
GPU accelerated graphics



Built and used by Google, developers and companies around
the world



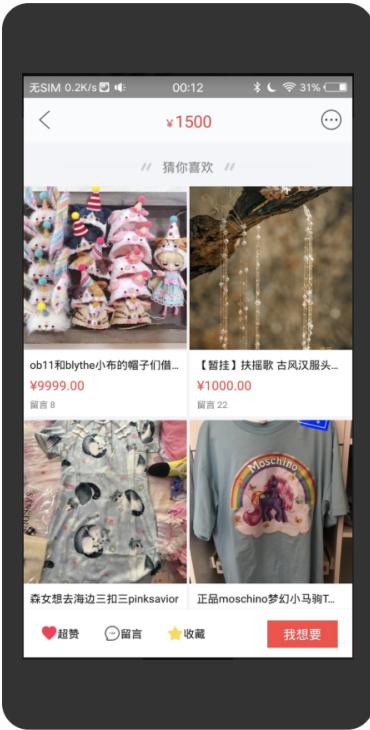
Square

Tencent 腾讯

HAMILTON

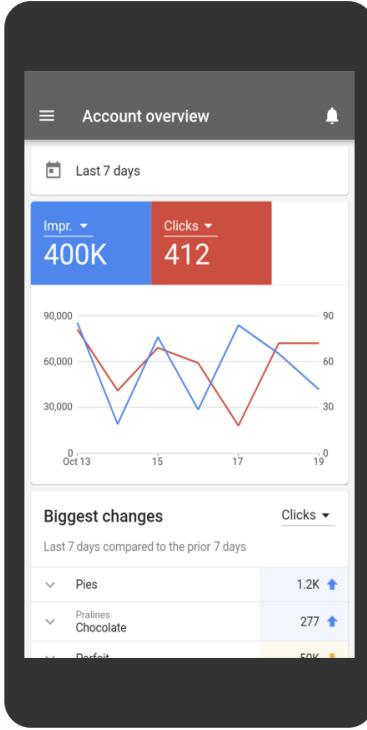


Alibaba



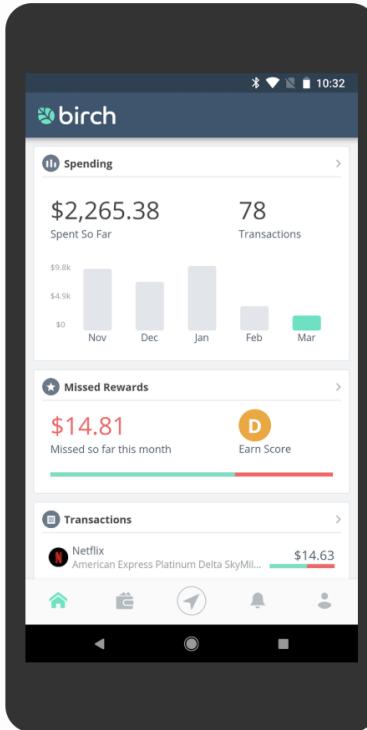
Alibaba's app incorporates Flutter to power parts of their app.

Google AdWords



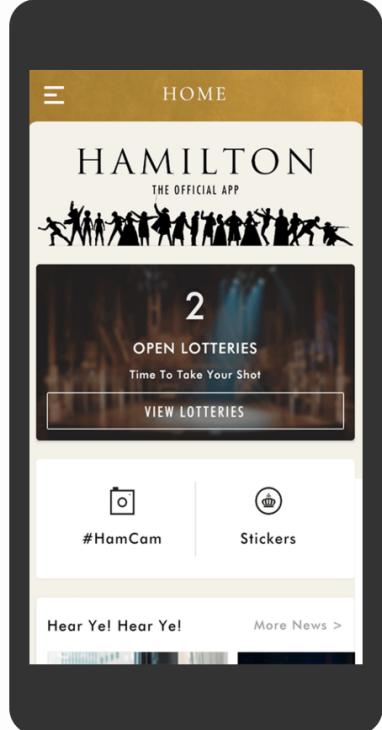
The Google AdWords app helps you keep your ad campaigns running smoothly – no matter where your business takes you.

Birch Finance



Credit card rewards app to manage and optimize your existing cards.

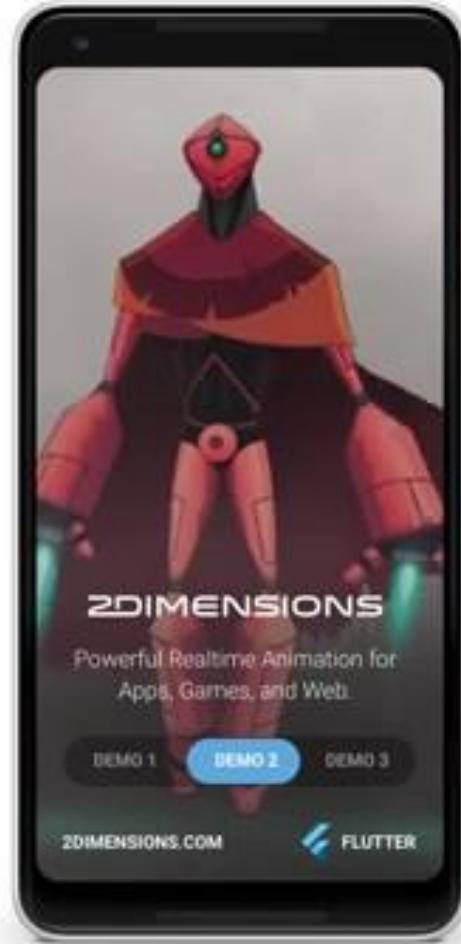
Hamilton Musical



Official app of the hit Broadway musical, Hamilton. Includes daily lotteries, exclusive news and videos, a trivia game, merchandise store, and more.

Graphic Horsepower

Flutter seamlessly combines user interface widgets with 60fps animated graphics generated in real time, with the same code running on iOS and Android



Is Flutter only For
Mobile Apps?

NOP

Support for Desktop
and Web - Beta
channel.



Works with popular tools and platforms



Android Studio



Xcode



VS Code



Firebase



Android APIs



iOS APIs



Material Design



Redux



Today . . .

#1

LinkedIn Data Says Flutter
Is #1 Fastest-Growing Skill
Among Software Engineers

Millions

Used by brands around the
world for apps with hundreds
of millions of users

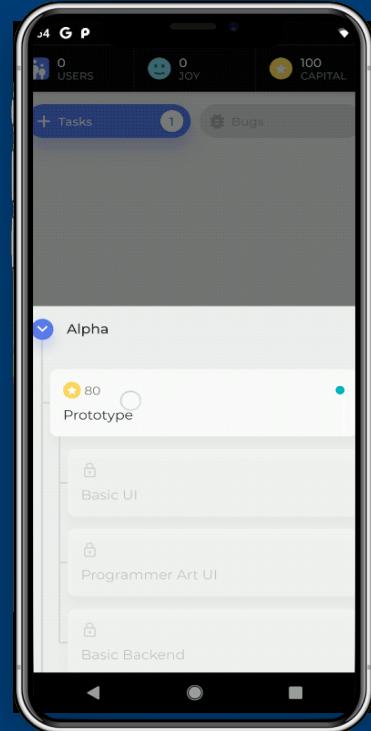
Top 15

Flutter is one of the top 15
GitHub Repos in the entire
world



Rich ecosystem and community

- 1,100+ other packages in repository
- 24,000+ Github stars
- 500+ apps in Play Store
- startflutter.com, flutter.rocks, flutter.institute, and more
- Open source (250+ contributors), BSD license



Four ways to use Flutter today

Start a new app from scratch

Build your new idea in Flutter, and reach both iOS and Android at the same time.

Prototype a new app idea

Use Flutter to test out an app concept or idea in record time.

Bring your app to the *the other* platform

You already have an iOS or Android app? Use Flutter to build for the other platform. Combine codebases when you've proven your Flutter app.

Use Flutter for a part of your app

Test Flutter in production with one or two screens in your existing app.



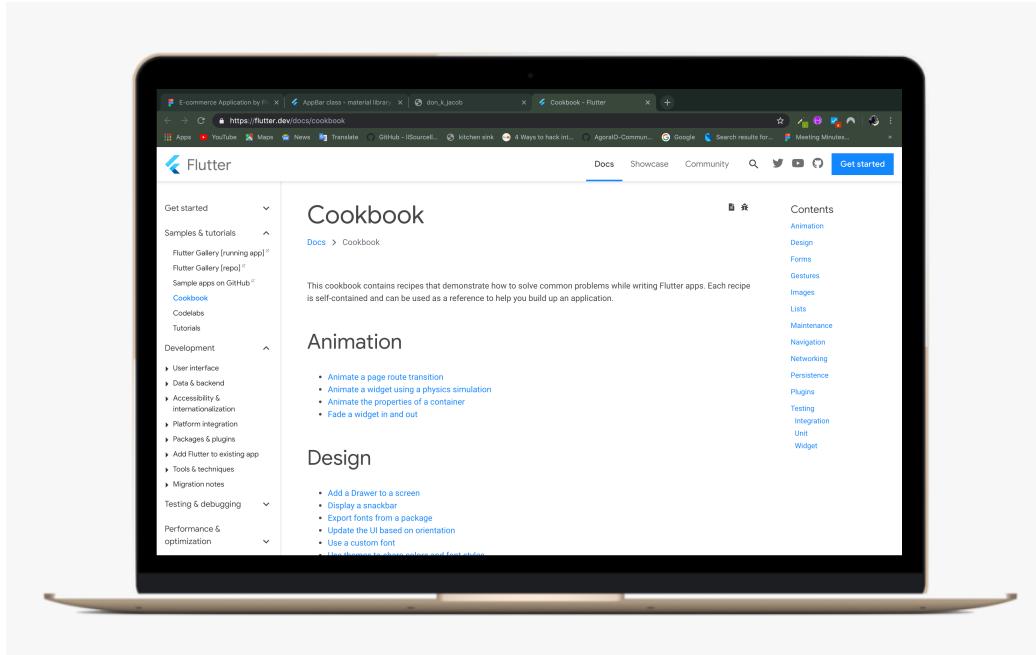
Key component of the Google Developer family

Flutter offers a portable, high-quality UI toolkit, and a fast, expressive way to build native app UIs.



Useful links

1.

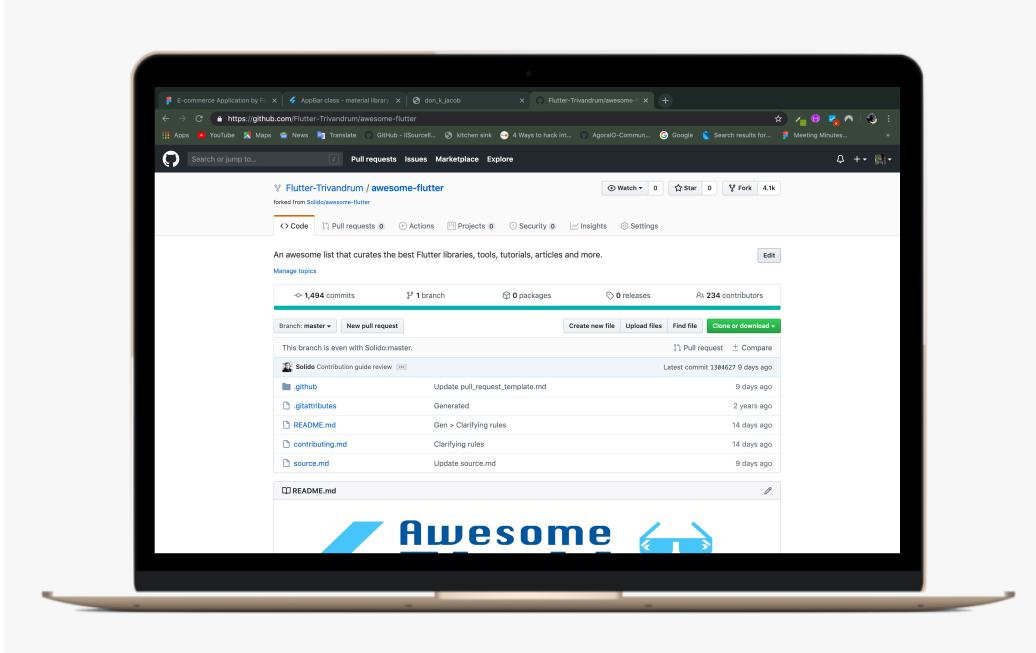


<https://flutter.dev/docs/cookbook>



Useful links

2.

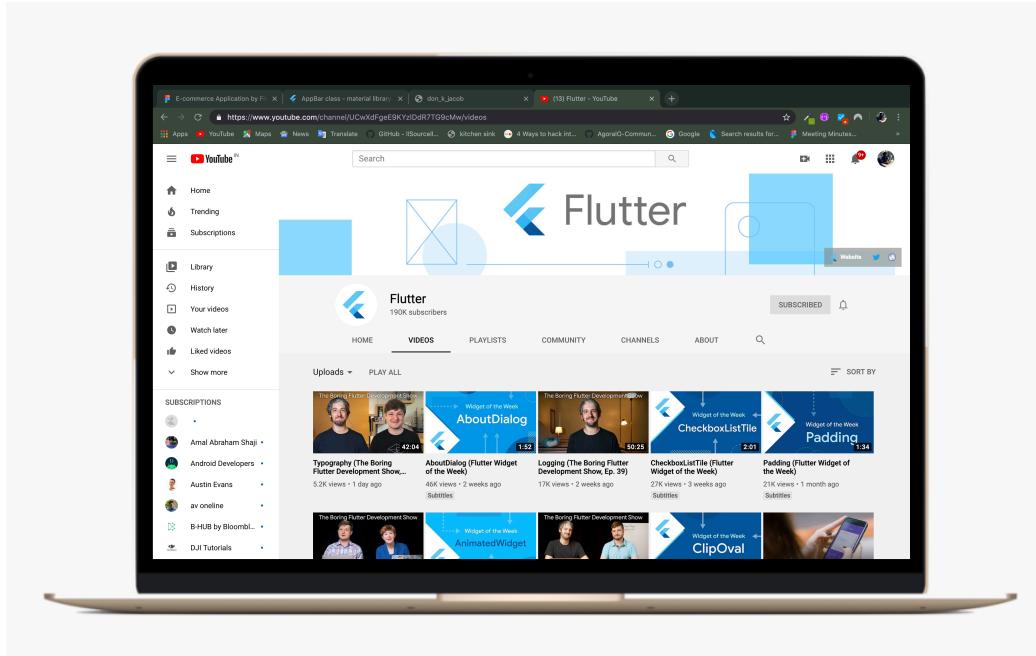


<https://github.com/Solido/awesome-flutter>



Useful links

3.

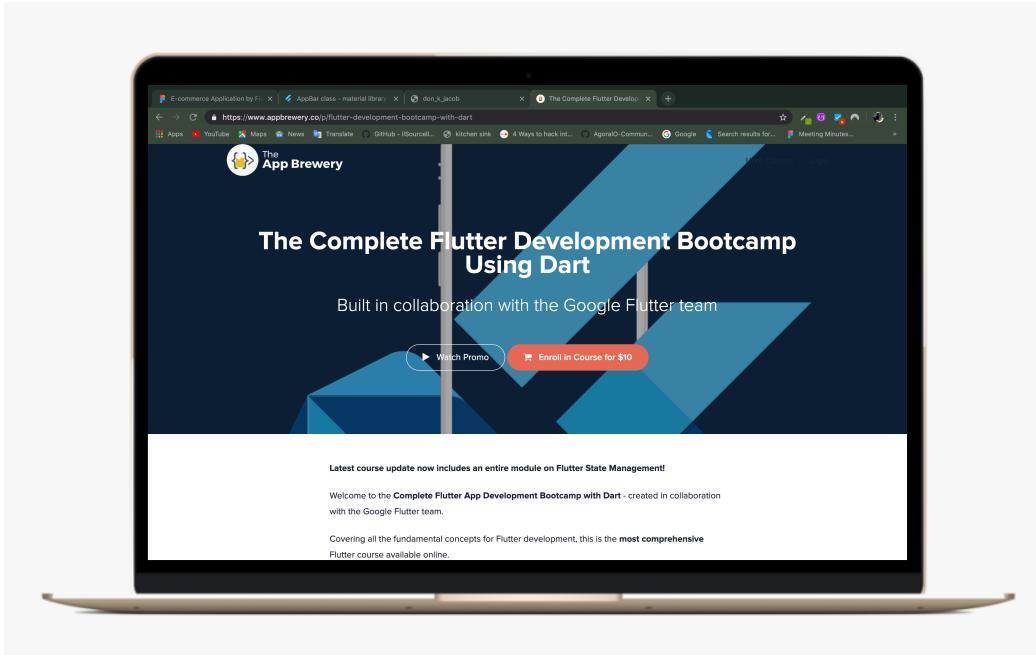


<https://www.youtube.com/channel/UCwXdFgeE9KYzIDdR7TG9cMw>



Useful links

4.



<https://www.appbrewery.co/p/flutter-development-bootcamp-with-dart>



Thank you!

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Don Kora Jacob

Cross platform enthusiast | Flutter is ❤️ | Tech lover

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