

# **What's Flutter and why should I try it?**

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OVH

*Innovation is Freedom*



# OVH : Key Figures

**1.3M** Customers worldwide in **138** Countries

**1.5 Billions** of investment over five years

**+ 2 000** Employees

**18** Years of Innovation

**19** Countries

**350k** Dedicated Servers

**200k** Private cloud VMs running

**500k** Public cloud Instances created in a month

**27** Datacenters

**4** DC under construction

**2** DC in project

**13** Tbps bandwidth capacity

**33** Points of presence



Hosting capacity : **1.3M** Physical Servers

# OVH: Our solutions



## Cloud

VPS

Public Cloud

Private Cloud

Serveur dédié

Cloud Desktop

Hybrid Cloud



## Mobile Hosting

Containers

Compute

Database

Object Storage

Securities

Messaging



## Web Hosting

Domain names

Email

CDN

Web hosting

MS Office

MS solutions



## Telecom

VoIP

SMS/Fax

Virtual desktop

Cloud HubIC

Over theBox



# OVH & Poland



- Klabá family comes from Poland
- OVH data center in Warsaw
- OVH office in Wrocław



# What's Flutter?

Yet another mobile solution?



# Flutter

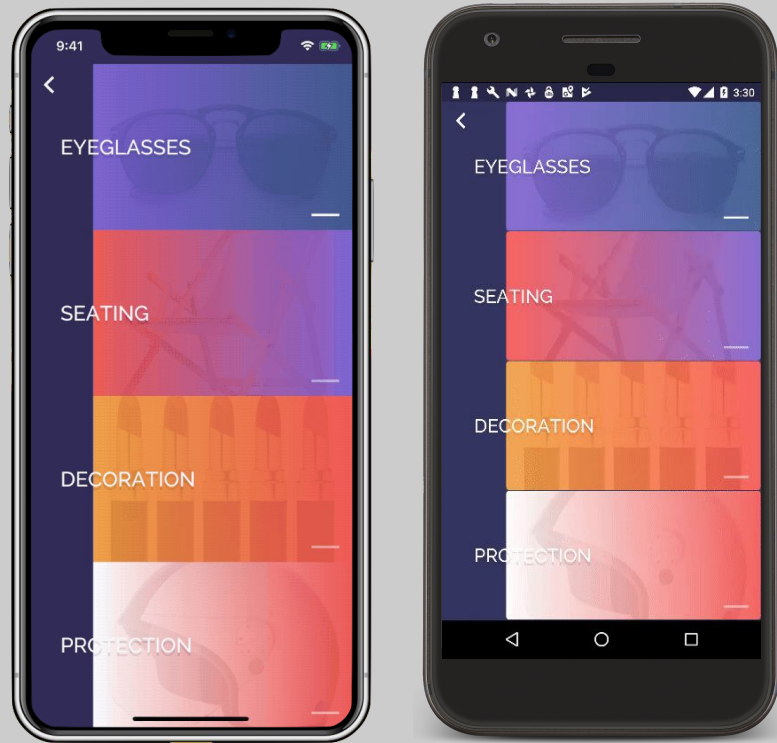
Flutter is Google's new open-source mobile UI toolkit, helping developers to craft high-quality native experiences across mobile platforms in record time





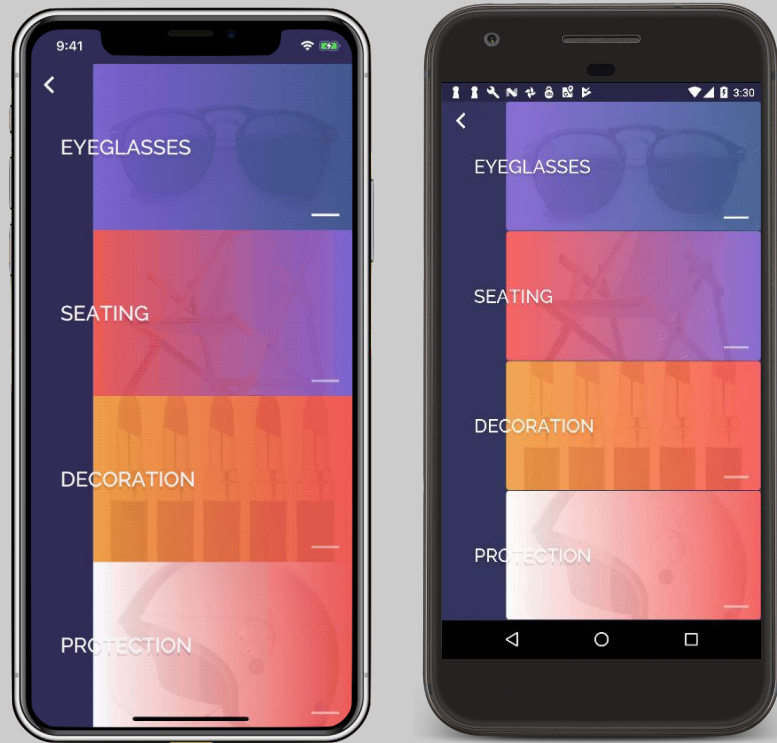
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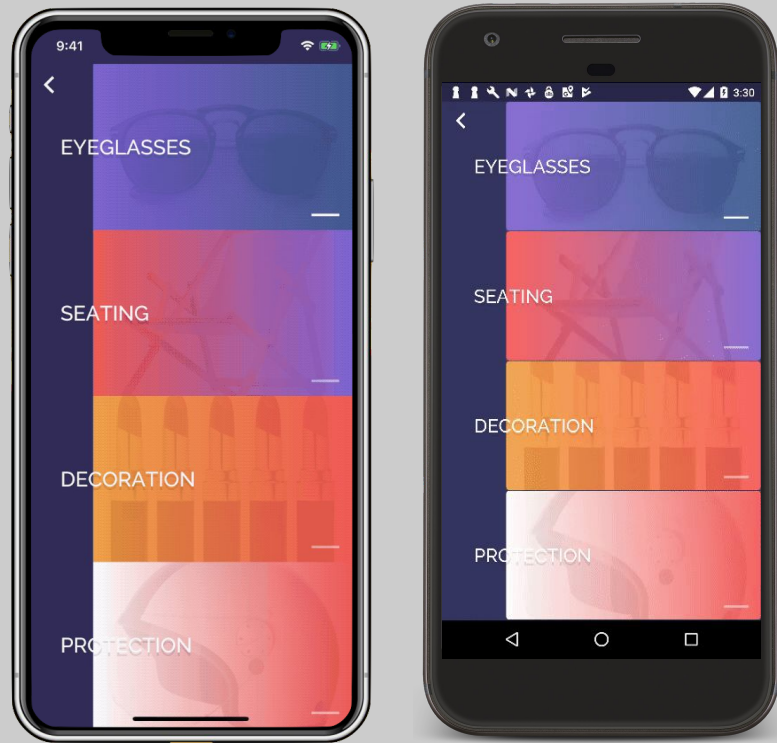
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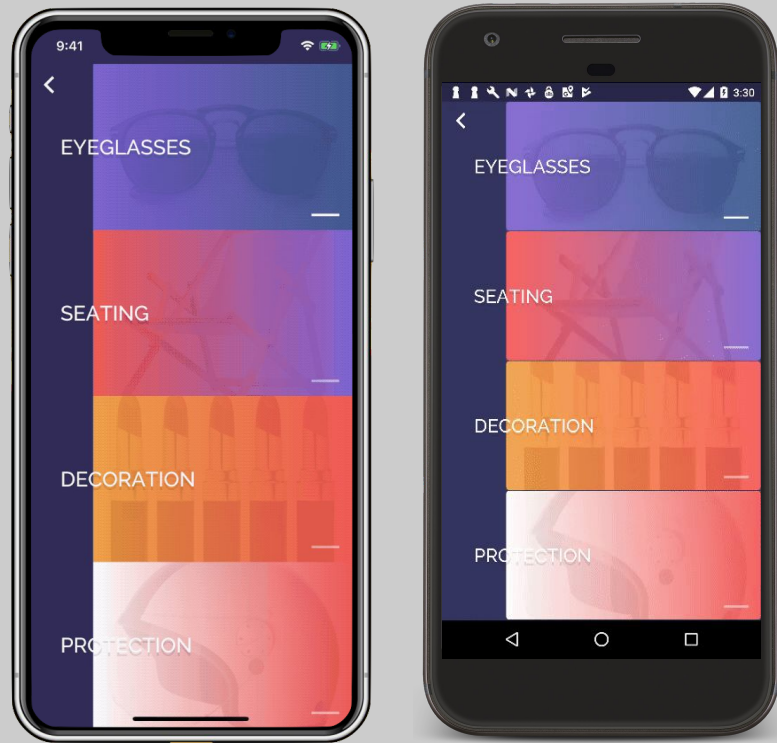
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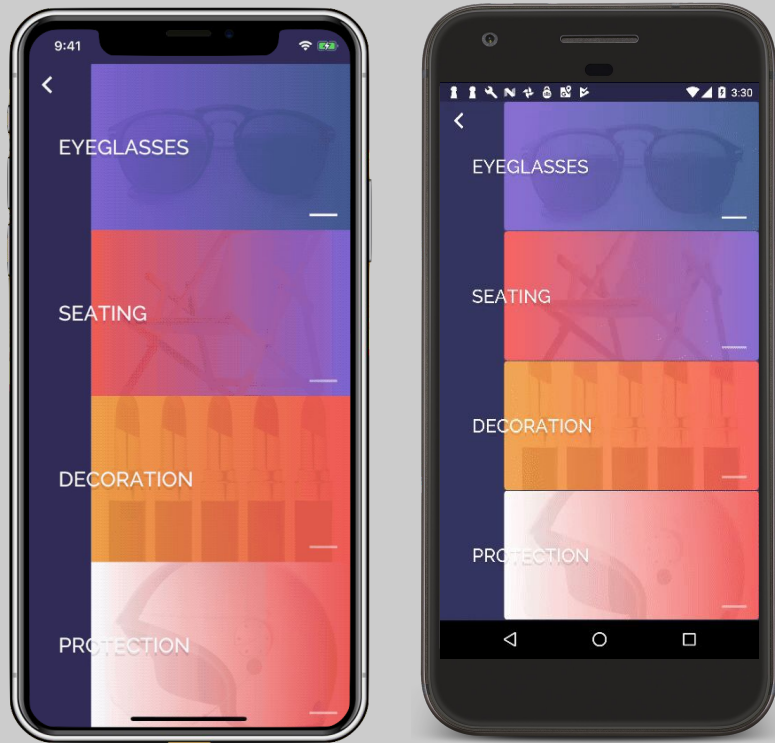
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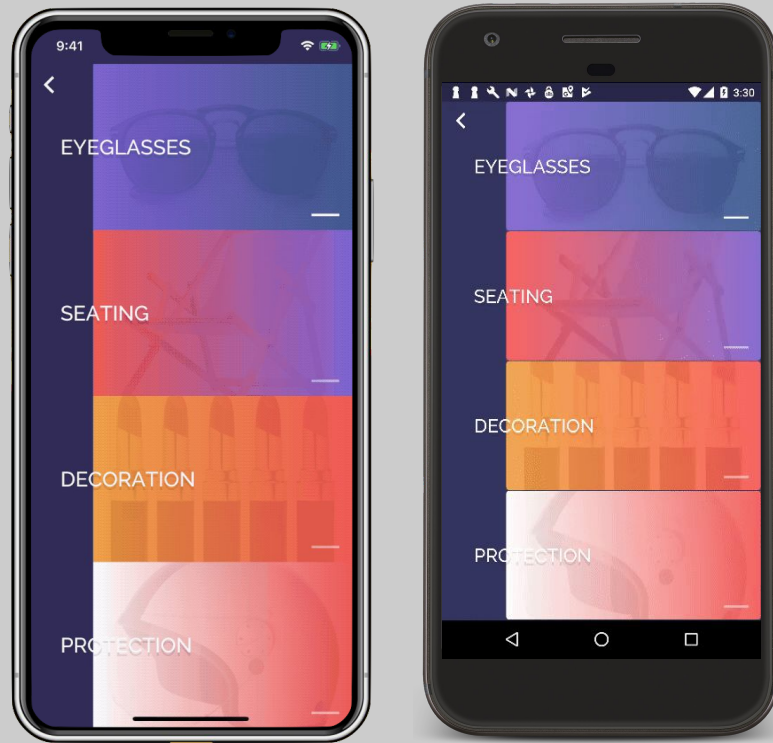
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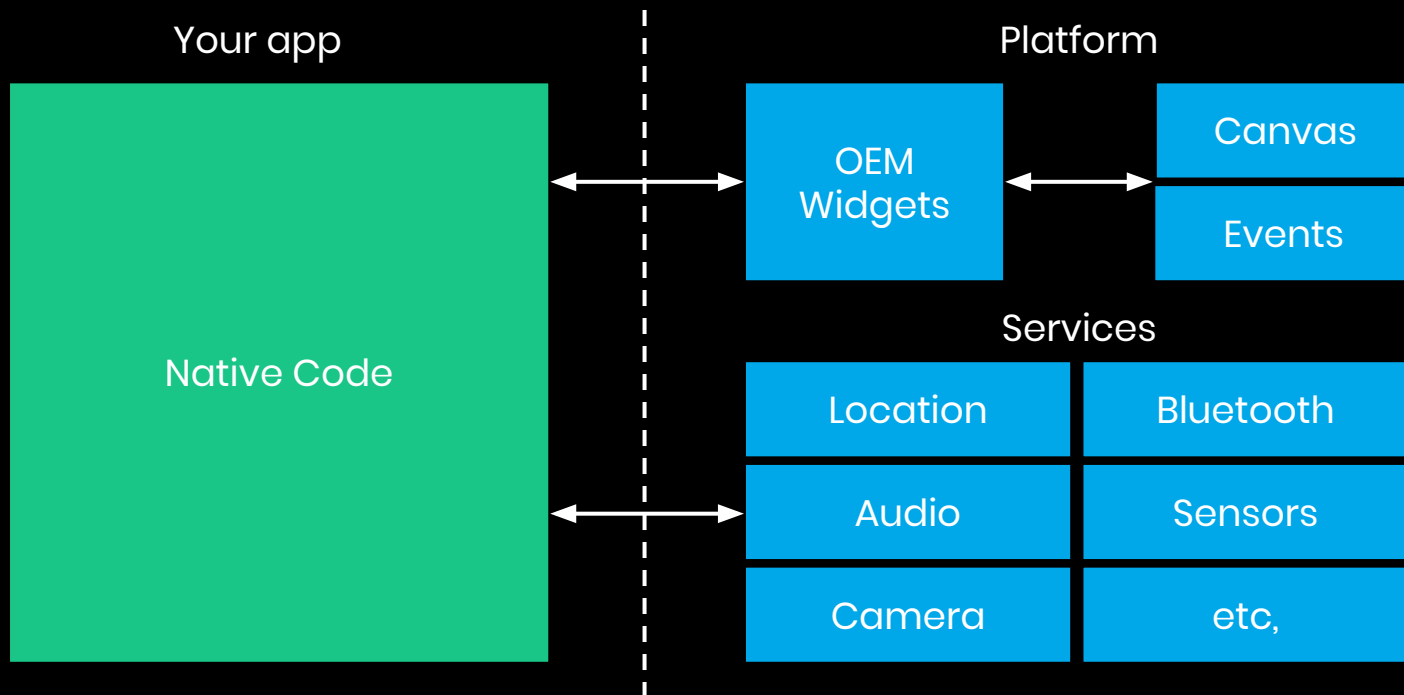
# Looking back

Diving into the history of mobile app development

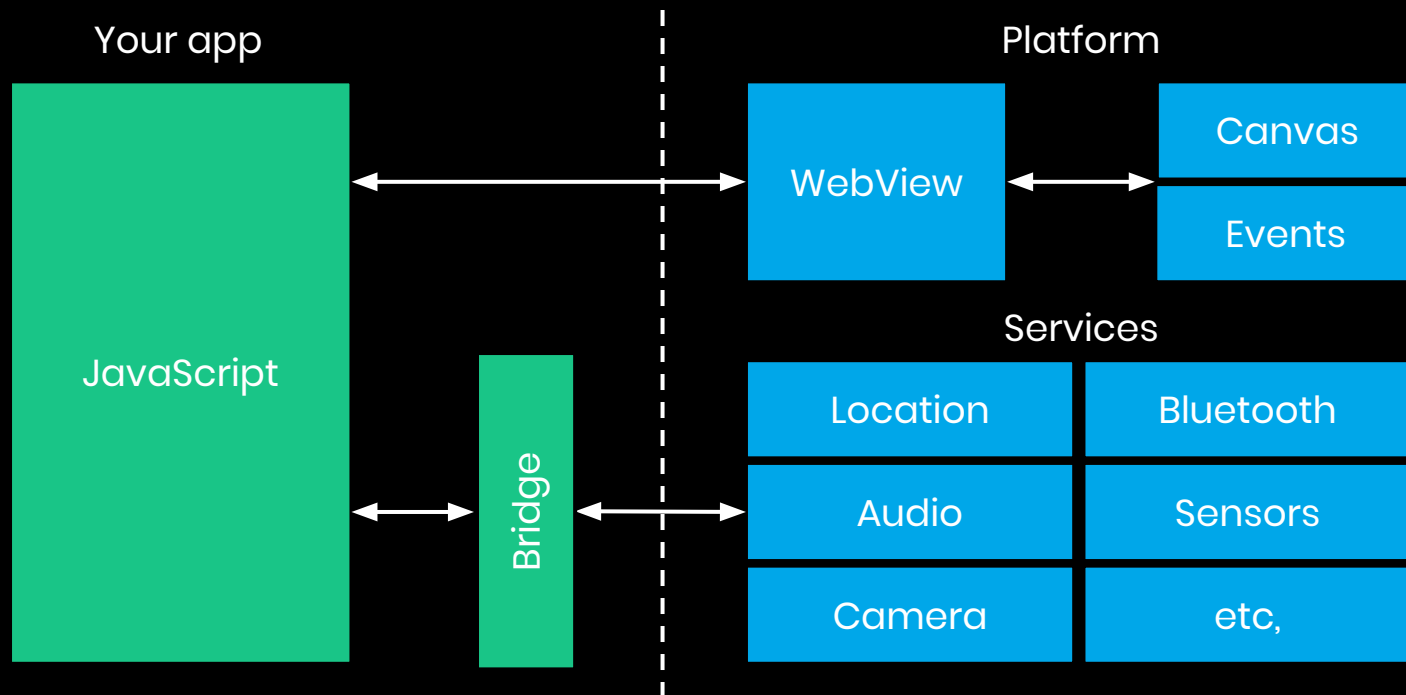




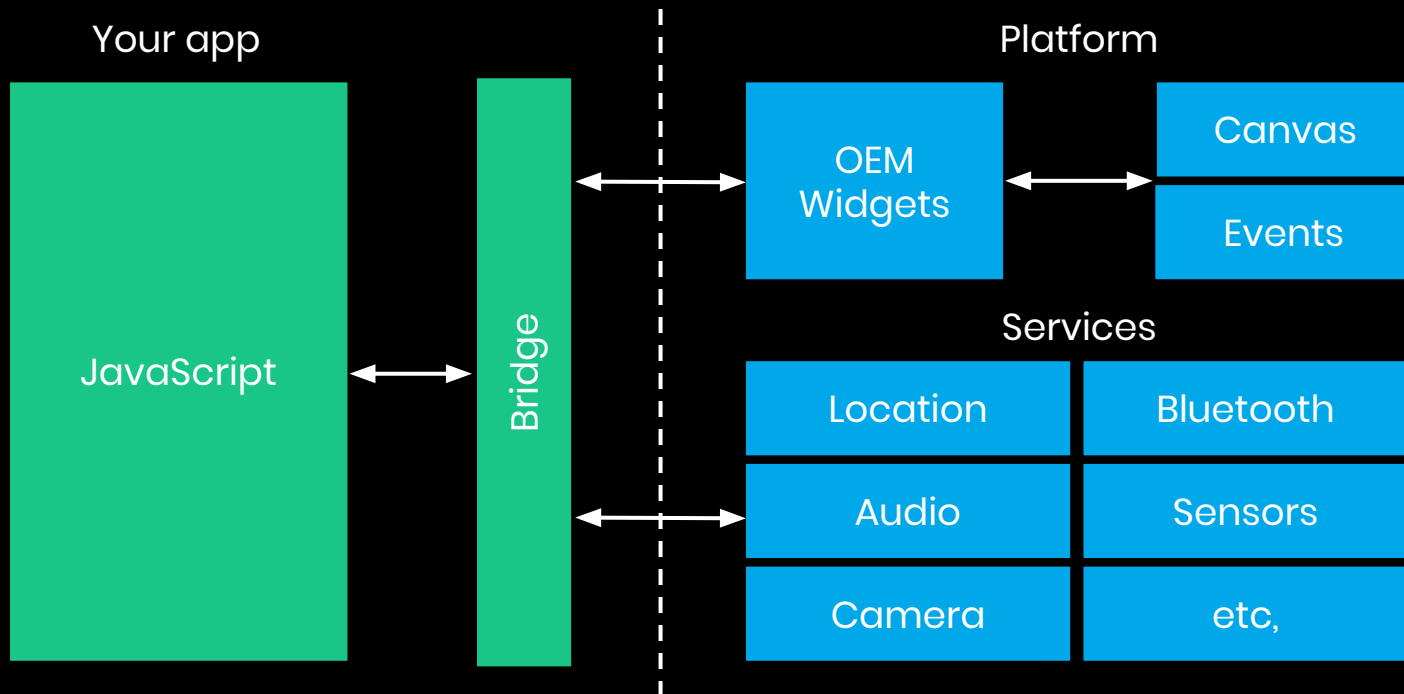
# At the beginning there were the SDKs



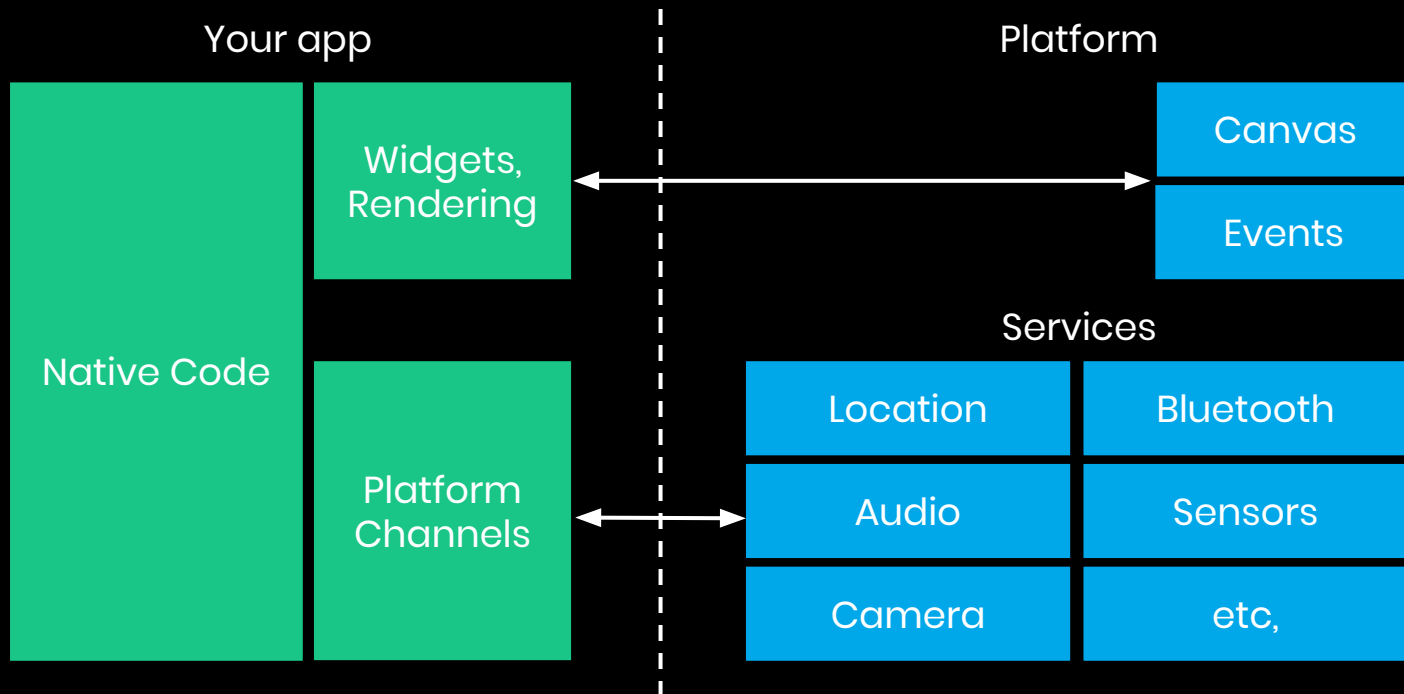
# Then the Webviews...



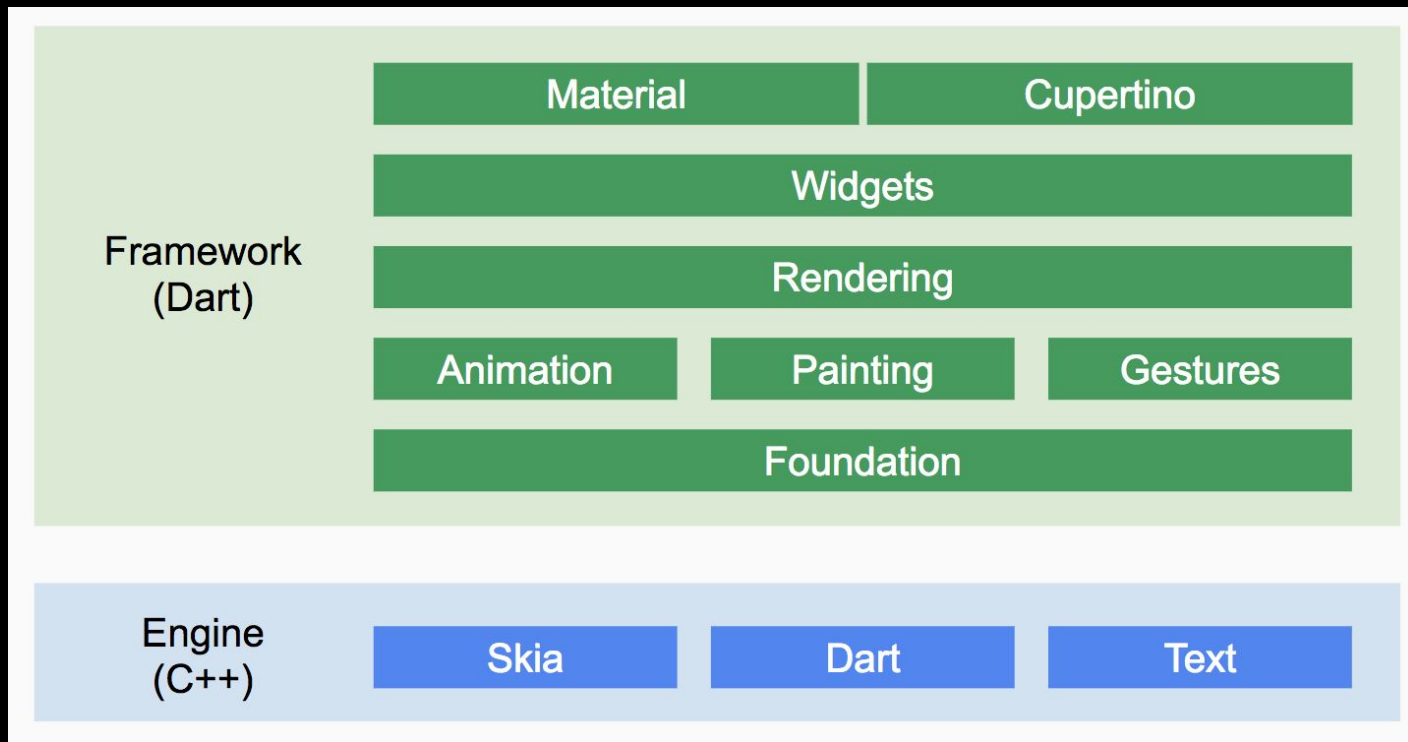
# And the Reactive views



# Enter Flutter



# Flutter architecture





# But why Dart?

Because Google, duh!  
...or maybe there are good reasons?



# Dart can be compiled AOT or JIT

## Development builds:

Custom **VM** offers **super fast hot reload** change cycle

## Release builds:

Full AOT-compilation to **native machine code** offers **super fast startup and execution**



# Dart's allocation and GC

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- Many new objects:
  - Lock-free, fast allocation
- Short-lived objects:
  - Precise, generational garbage collection



# Dart is an easy, familiar language

An easy language:

- No exotic syntax
- Easy to read, easy to write
- Very expressive

A familiar language:

- JavaScript devs find it easy to learn
- Java / C# devs even more



# Widgets

Why does Flutter use its own widgets,  
instead of OEM?

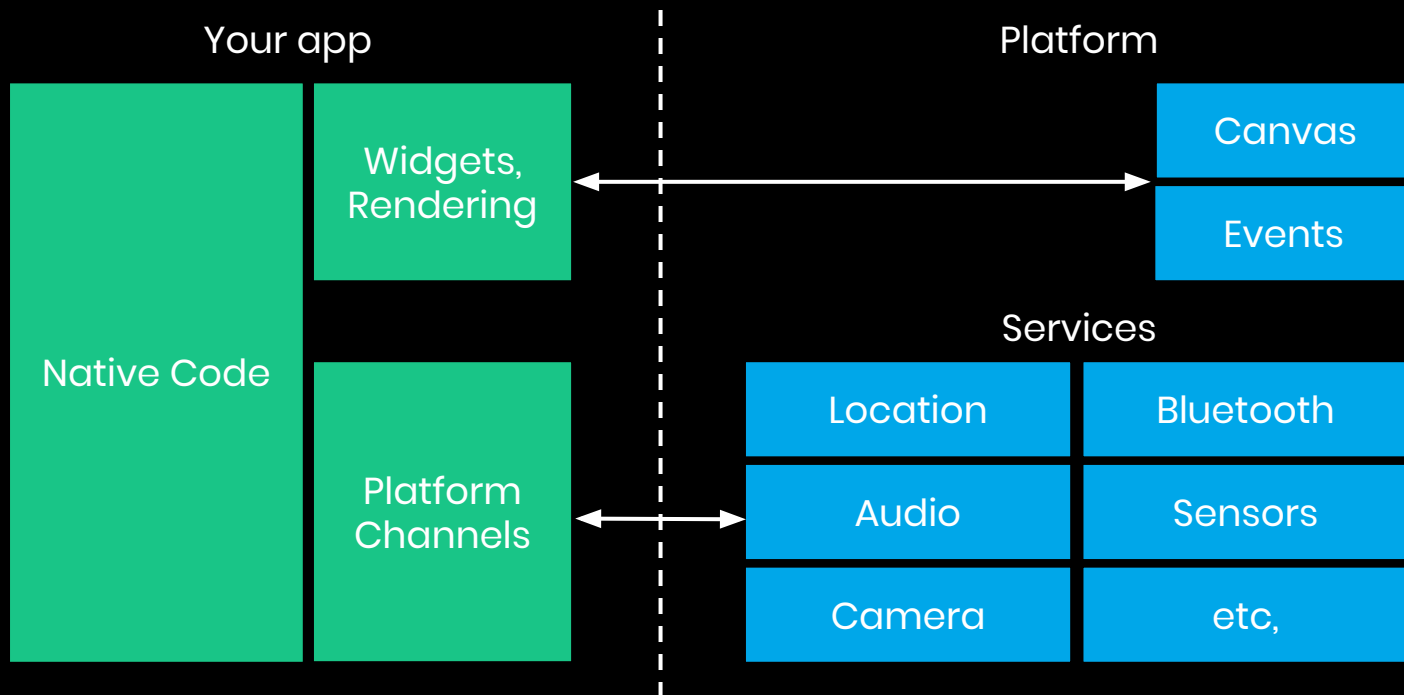


# Widgets make or break an app

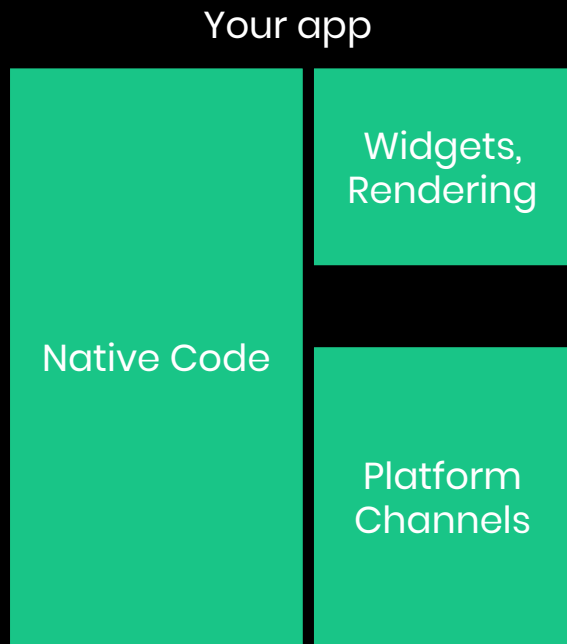
- They need to look good
- They need to feel natural
- They need to be fast
- They need to be extensible and customizable

And Flutter widgets are all that!

# Widgets are raised into the app



# Small tradeoff on app size



Having the widgets and rendering in the app have a cost:

Minimal app size ~7 MB

But the benefices are great



# Layout

How Flutter does layout? CSS like?  
XML like?



# Traditional rule based layouts

Large set of rules

- Fixed
- Applied to all the widgets

Cascading application

- Interactions & conflicts
- Low performance



# Chrome team experiment

Could a different layout model allow faster rendering?

- Each widget specifies its own simple layout model
- Less rules, heavily optimized
- Complex layouts are turned into widgets





# Everything is a widget

Layouts

Margin

Padding

Themes

Application

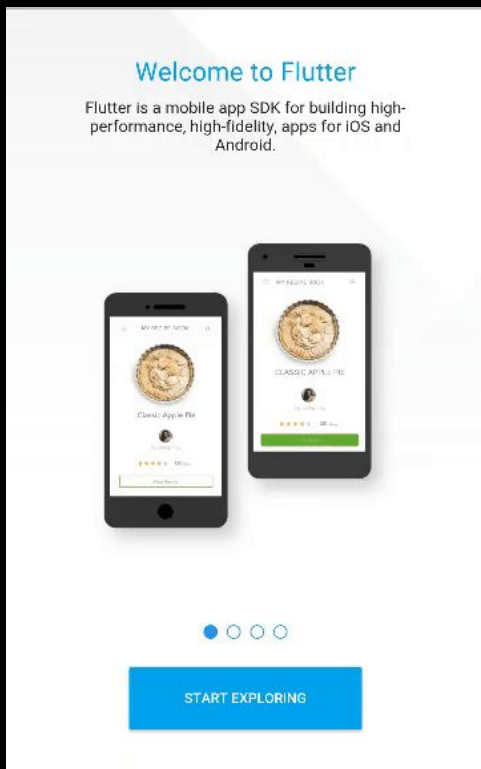
Navigation

are widgets

even scrolling is a widget!



# Blazing fast and flexible layouts





**Show us some  
code**

There are developers in the room,  
you know...



# Let's begin with a Hello World...

```
import 'package:flutter/material.dart';

void main() {
  runApp(
    new Center(
      child: new Text(
        'Hello, world!',
        textDirection: TextDirection.ltr,
      ),
    ),
  );
}
```

You will never do that IRL...



# Extending StatelessWidget

```
import 'package:flutter/material.dart';

class MyAppBar extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return new Center(
      child: new Text(
        'Hello, world!',
        textDirection: TextDirection.ltr,
      ),
    );
  }
}

void main() {
  runApp(new MyAppBar());
}
```

A widget's main job is to implement a build function



# Complex layouts

```
body: new Column(  
  children: [  
    imageSection(  
      path: 'images/lake.jpg',  
    ),  
    titleSection(  
      heading: 'Oeschinen Lake Campground',  
      subtitle: 'Kandersteg, Switzerland',  
      stars: stars,  
    ),  
    buttonSection(),  
    textSection(  
      text:  
        'Lake Oeschinen lies at the...'),  
  ],  
)
```

column →

image →



titles →

Oeschinen Lake Campground

Kandersteg, Switzerland



actions →



CALL



ROUTE



SHARE

text →

Lake Oeschinen lies at the foot of the Blüemlisalp in the Bernese Alps. Situated 1,578 meters above sea level, it is one of the larger Alpine Lakes. A gondola ride from Kandersteg, followed by a half-hour walk through pastures and pine forest, leads you to the lake, which warms to 20 degrees Celsius in the summer. Activities enjoyed here include rowing, and riding the summer toboggan run.



# 'UI-as-code'

```
new Row(  
  mainAxisAlignment: MainAxisAlignment.spaceEvenly,  
  children: [  
    new IconAction(icon: Icons.call, label: 'CALL'),  
    new IconAction(icon: Icons.near_me, label: 'ROUTE'),  
    new IconAction(icon: Icons.share, label: 'SHARE'),  
  ])  
)
```



CALL



ROUTE



SHARE

# Composability

```
class IconAction extends StatelessWidget {  
  const IconAction({this.icon, this.label, this.onTap});  
  
  Widget build(BuildContext context) {  
    return new InkWell(  
      child: new Column(  
        children: [  
          new Icon(icon, color: primaryColor),  
          new Container(  
            margin: const EdgeInsets.only(top: 8.0),  
            child: new Text(  
              Label  
              style: new TextStyle(color: primaryColor),  
            ),  
          ),  
        ],  
      ),  
      onTap: onTap,  
    );  
  }  
}
```



CALL



ROUTE



SHARE





# Why to choose Flutter?

OK, so it's a new technology to build mobile apps, rather cool, yeah... but why should I choose it?



# Why choose Flutter?



Beautiful



Flutter

Productive



Fast

Extensible



# Beautiful

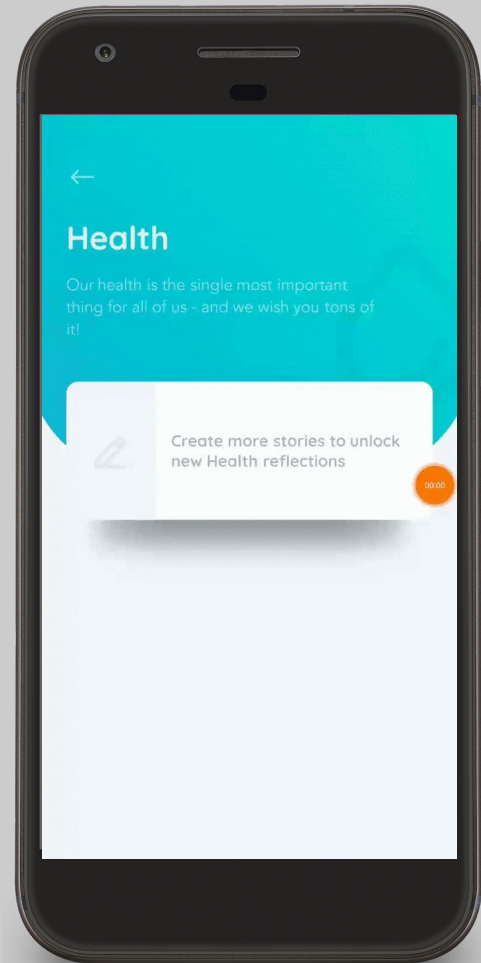
Control every pixel on the screen

Make your brand come to life

Never say "no" to your designer

Stand out in the marketplace

Win awards with beautiful UI



# Fast

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Brings the power of a games engine to user experience development

60fps, GPU accelerated

Compiled to native machine code



# Productive

Sub-second reload times

Paint your app to life

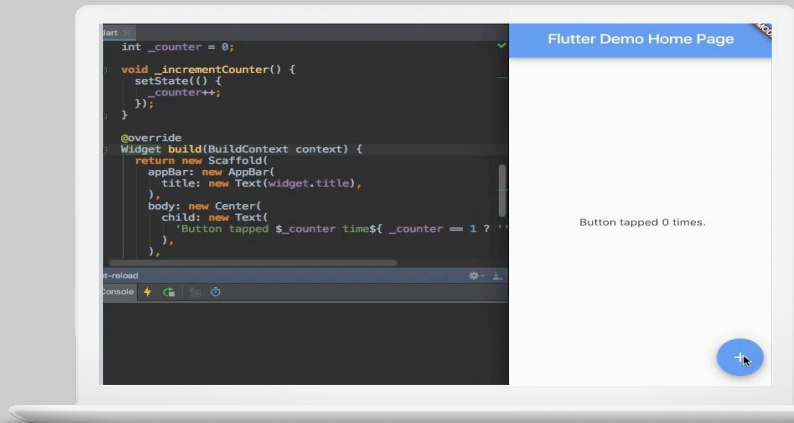
Iterate rapidly on features

Test hypotheses quicker than ever

More time to experiment & test features

Single-codebase for faster collab

3X Productivity Gains



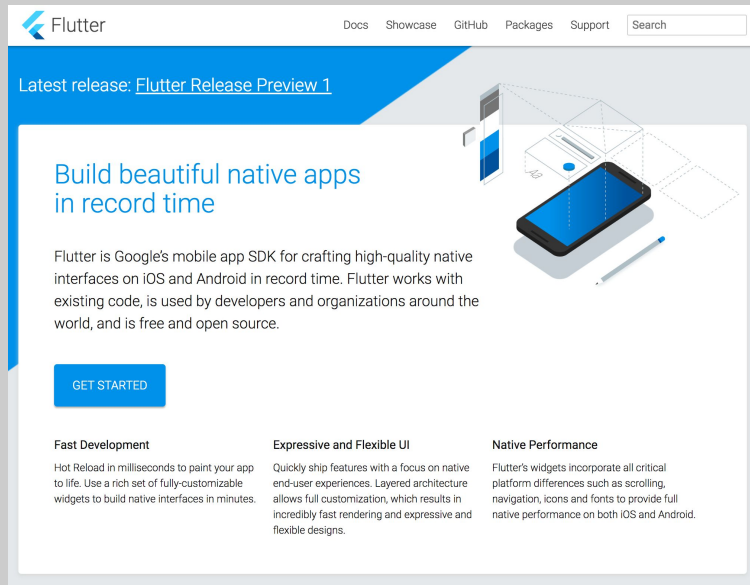
# Extensible

Everything is free and open source

Layered architecture: easy to extend

Deep platform integrations

Hundreds of third-party packages (ads, videos, database, cloud etc.)





Developer Stories



# A wonderful time to begin with Flutter

Flutter is getting momentum, and the 1.0 is around the corner...





# Flutter 1.0 on the starting blocks



## Latest release: Flutter Release Preview 2



# Getting momentum

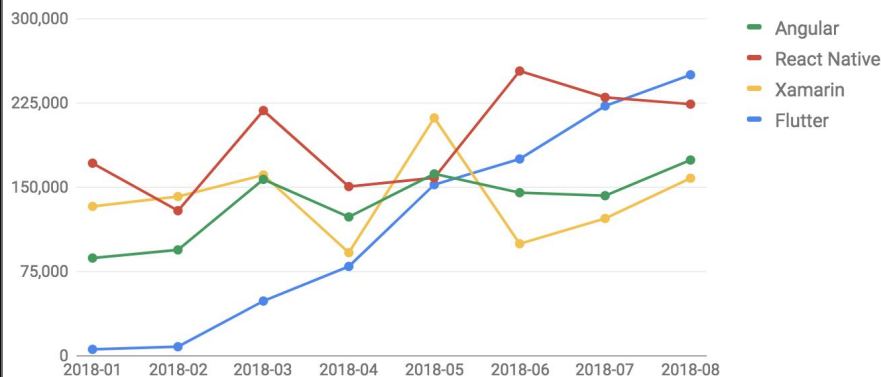
## Top Active Software Repos on GitHub

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	jakubroztočil/httpie	37,319
45	<b>flutter/flutter</b>	<b>37,099</b>
46	trekhleb/javascript-algorithms	36,776
47	django/django	36,369
48	jekyll/jekyll	35,402
49	ReactiveX/RxJava	35,356
50	ionic-team/ionic	35,309

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



## StackOverflow Question Views



# Integration with popular tools



Android Studio



Xcode



VS Code



Firebase



Android APIs



iOS APIs



Material Design



Redux





**I want to try it!**

How could you use Flutter today?



# Get started now: flutter.io

## 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.



# Conclusion

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That's all folks!

# Thank you!

A word cloud featuring the phrase "Thank you" in various languages and scripts, including English, French, German, Italian, Spanish, Japanese, and Hebrew. The words are arranged in a circular pattern, with "THANK YOU" prominently displayed in the center.

