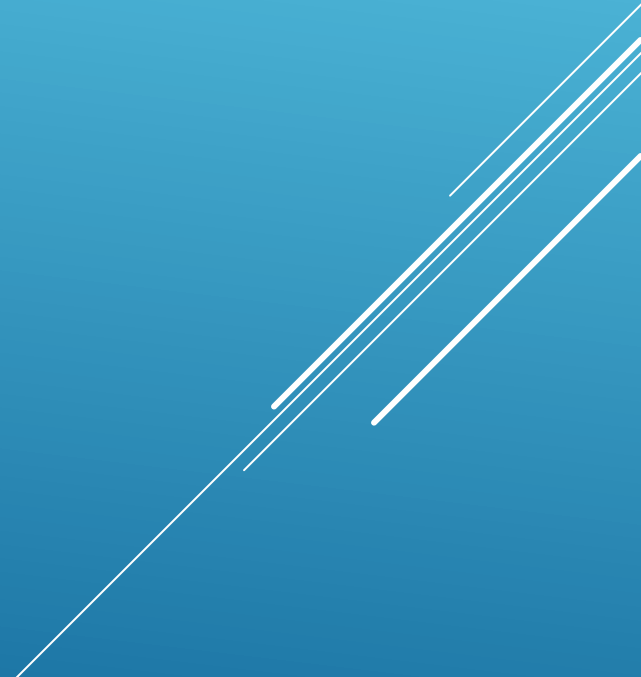




# INTRODUCTION TO FLUTTER

Presented by Wing Chan

# AGENDA

- ▶ What is Flutter?
  - ▶ What is Dart?
  - ▶ FlutterSystem Overview
  - ▶ What is Widgets?
  - ▶ Flutter vs Xamarin
  - ▶ Live Demo
  - ▶ Q&A?
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# WHAT IS FLUTTER?

- ▶ Made by Google
  - ▶ Cross platform Mobile framework (iOS & Android)
    - ▶ Future Roadmap: Web, Desktop & Embedded devices
  - ▶ Open source
  - ▶ Initial release in May 2017
  - ▶ Written in Dart
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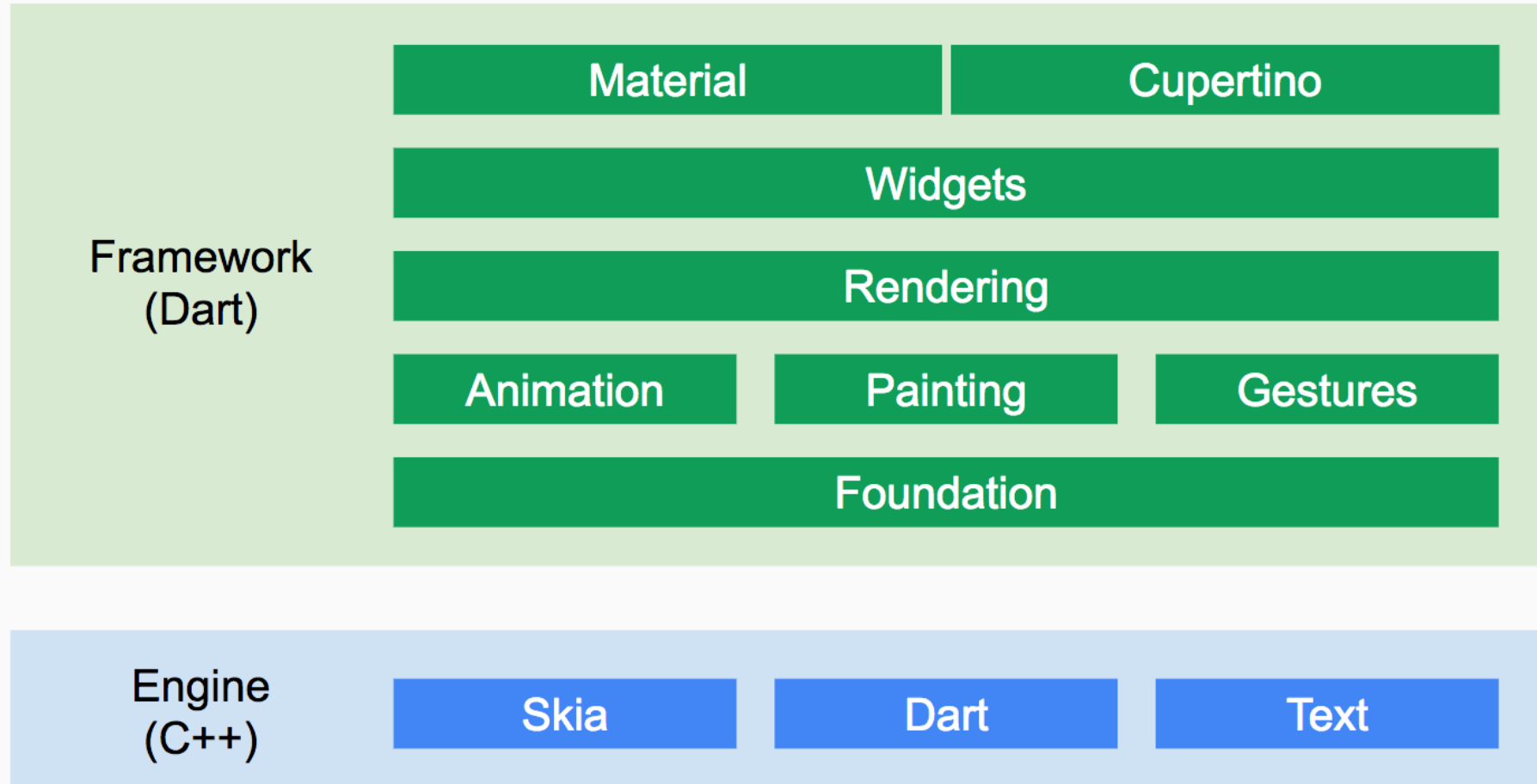
# WHAT IS DART?

- ▶ Dart is an object-oriented, class defined, garbage-collected language using a C-style syntax created by Google.

```
import 'dart:math' as math;
class Point {
  final num x, y;
  Point(this.x, this.y);
  Point.origin(): x = 0, y = 0;
  num distanceTo(Point other) {
    var dx = x - other.x;
    var dy = y - other.y;
    return math.sqrt(dx * dx + dy * dy);
  }
  Point operator +(Point other) => Point(x + other.x, y + other.y);
}

void main() {
  var p1 = Point(10, 10);
  var p2 = Point.origin();
  var distance = p1.distanceTo(p2);
  print(distance);
}
```

# FLUTTER SYSTEM OVERVIEW



# WHAT IS WIDGETS?

- ▶ In Flutter, *everything* is a widget.
- ▶ 2 classes of widgets: *StatelessWidget* and *StatefulWidget*

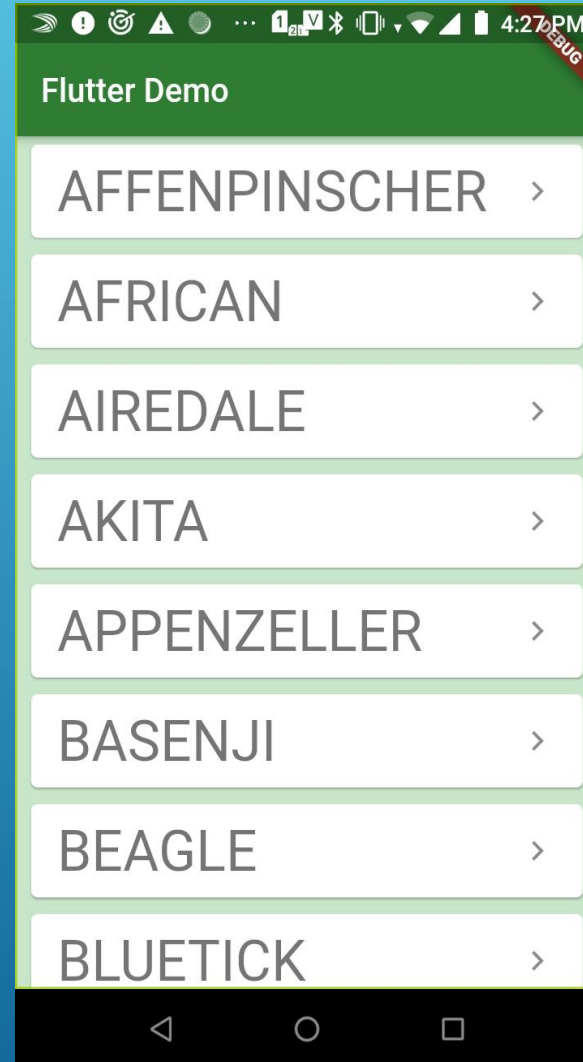
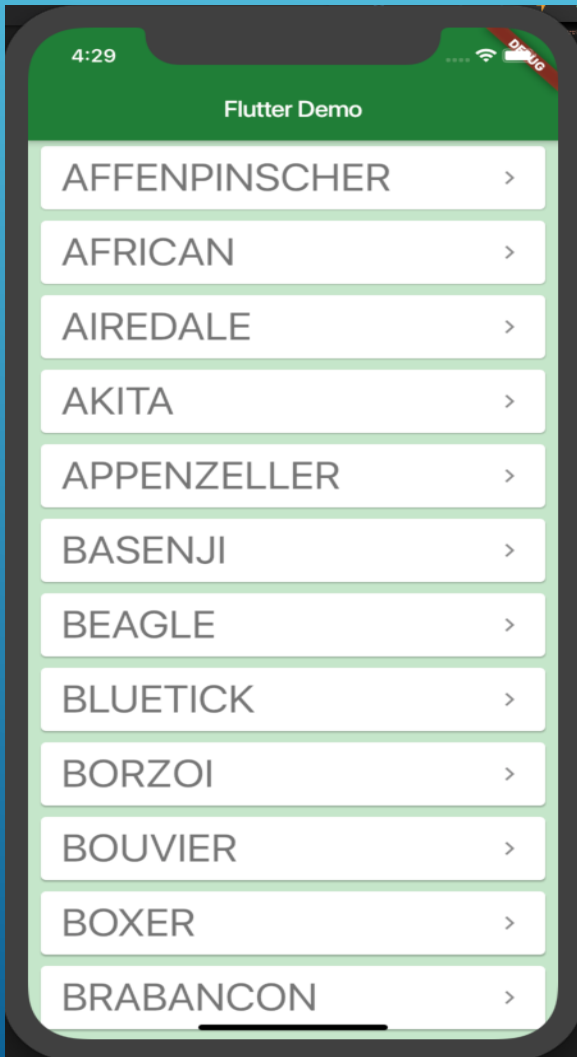
```
class BigText extends StatelessWidget {  
  final String text;  
  
  BigText(this.text);  
  
  Widget build(context) {  
    return new Text(  
      text,  
      textStyle: new TextStyle(fontSize: 20.0),  
    );  
  }  
}
```

```
class Counter extends StatefulWidget {  
  Counter({Key key, this.title}) : super(key: key);  
  @override  
  _MyHomePageState createState() => new _MyHomePageState();  
}  
  
class _MyHomePageState extends State<MyHomePage> {  
  int counter = 0;  
  void increaseCount() {  
    setState(() {  
      this.counter++;  
    })  
  }  
  Widget build(context) {  
    return new RaisedButton(  
      onPressed: increaseCount,  
      child: new Text('Tap to Increase'),  
    );  
  }  
}
```

	Xamarin	Flutter
Code	C#	Dart
Compilation	iOS:AOT, Android:JIT	AOT + Dart VM
Portability	iOS, Android, Windows, MacOS	Current: IOS, Android Future: Web, Desktop and Embedded
Code Reuse	Xamarin Native: Moderate Xamarin Form: High	High
UI	Native components	Customize UI Widgets
Price	Free, Open Source	Free, Open Source
Community	Large	Growing
App Size	Relatively Big	Relatively Big
Graphics handling	Poor	Moderate (60 fps)

# FLUTTER VS XAMARIN

# DEMO





# Q&A

- ▶ Demo Source Code: <http://bit.ly/2LHyg4r>
  - ▶ Flutter: <http://flutter.dev>
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