

slidenumbers: true

## Flutter animations for everyone

[.footer: ##### @JamalBelilet (👁️ 🐙 📸 👍)]

---

### Table of content

Basics of **animating Flutter**

**Implicit** animations

- 👤 Built in **Animated(Property)**
- 👤 **Tween Animation Builder**

**Explicit** animations

- 👤 Built in **(Property)Transition**
- 👤 **Animated Widget** or **Builder**

**Animations package** (👤)

*right fit*

---

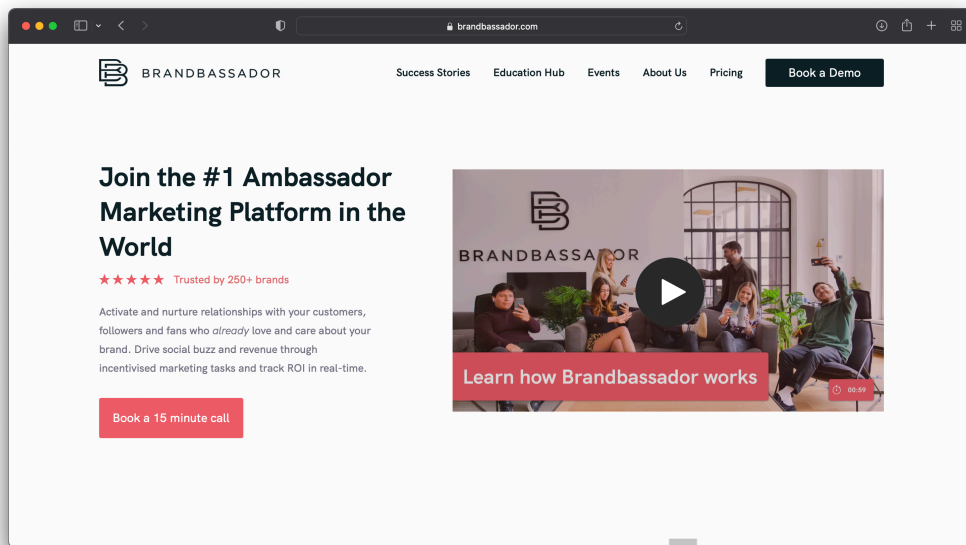
**Djamaleddine Belilet (Jamal)**

[.footer: ##### @JamalBelilet (👁️ 🐙 📸 👍)]

**Building** new software while **supporting** and **solving problems** of existing products.

**Brandbassador** is the ultimate ambassador marketing management tool for fast-growing eCommerce brands.

Javascript, **Dart & Flutter**



*right fit*

---

## Basics of animating Flutter

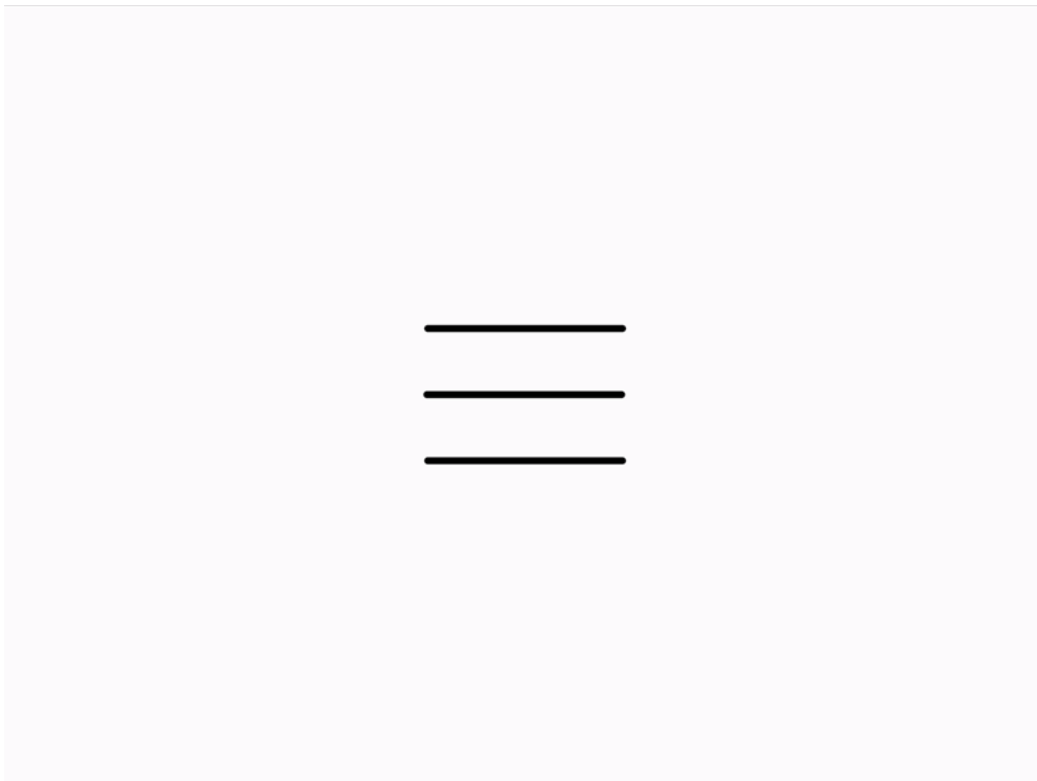
Are we **mutating** a Flutter widget?

- In most cases, YES!
- Scale, rotate, position, ...,
- Colour, opacity, ...,
- Any **property**.

NO!

- Lotie

- or **Rive**



*right fit*

---

## Implicit animations

Simply mutating a property (multiple properties)

- Animating **from** value **A**
- **To** value **B**,
- Controlling only the **duration**,
- And the **curves**,
- Everything else is controlled **by the framework**.

## **Built in Animated(Property)**

Animated(Property):

**Opacity, Padding**, Align, **Size**, Positioned, Rotation...

Similar API but more complex:

- **AnimatedContainer**,
  - AnimatedSwitcher,
  - AnimatedCrossFade, ...
- 

## **Hands on Animated(Property)**

**TODO 1:** Make a piece of content fade out.

**TODO 2:** Animate a changing ImageA into ImageB.

**TODO 2:** Animate a highlighting a piece of content with shadow.

---

## **Tween Animation Builder**

- Continues,
  - Always goes **from current to the last** provided value.
  - Possibility of optimisation.
- 

## **Tween Animation Builder**

```
return TweenAnimationBuilder<double>{
```

```

tween: Tween<double>(begin: 0, end: _endValue),
duration: const Duration(seconds: 1),
builder: (BuildContext context, double size, Widget? child) {
  return IconButton(
    iconSize: size,
    color: Colors.blue,
    icon: child!,
    onPressed: () {
      setState(() {
        _endValue = _endValue == 24.0 ? 48.0 : 24.0;
      });
    },
  );
},
child: const Icon(Icons.aspect_ratio),
);

```

---

## Hands on Tween Animation Builder

**TODO 1 :** animate the colour of any widget other than Container without setState.

**TODO 2 :** animate a piece of content with infinite fade-in/fade-out .

---

## Explicit animations

- One direction isn't always the right direction.
- More controle.

---

## Built in explicit animations

(Property)Transition:

**Size, Fade, Align**, Scale, Slide...

More than just a property like **DecoratedBoxTransition**,

---

## Built in explicit animations

```
// with TickerProviderStateMixin

late final _controller = AnimationController(
  vsync: this,
  duration: const Duration(seconds: 1),
)..repeat();

// Optional
// late final _animation = CurvedAnimation(
//   parent: _controller,
//   curve: Curves.fastOutSlowIn,
// );

SizeTransition(
  sizeFactor: _animation,
  child: const Center(
    child: FlutterLogo(size: 200.0),
  ),
),
```

---

## Animated Widget or Animated Builder

- Almost identical to TweenAnimationBuilder,
  - But uses AnimationController instead of tweens.
  - Either put **AnimatedBuilder** in your widget tree,
  - Or extract it to it's own widget extending **AnimatedWidget**
-

## AnimatedBuilder

```
AnimatedBuilder(  
  animation: _controller,  
  child: const MyWidget(),  
  builder: (BuildContext context, Widget? child) {  
    return Transform.rotate(  
      angle: _controller.value * pi,  
      child: child,  
    );  
  },  
)
```

---

## Animations package ()

High quality pre-built Animations for Flutter

- Container transform
- Shared axis
- Fade through
- Fade

Part of **flutter/packages**

Highlighted as a **package of the week**

**TODO 1:** Use any of the above to switch between two states.

---

## Recup

Basics of **animating Flutter**

**Implicit** animations

-  Built in **Animated(Property)**

-  **Tween Animation Builder**

**Explicit** animations

-  Built in **(Property)Transition**
  -  **Animated Widget** or **Builder**
- 

**Thank you!**

Slides: <https://github.com/jamalbelilet/testing-flutter>

[.footer: ## @JamalBelilet (     ) ]