

# COMP 4768: Software Development for Mobile Devices

## **Prerequisites:**

[COMP 2008](#) or the former COMP 2760,

[COMP 2006](#) or the former COMP 3715, and

[COMP 2005](#) or the former COMP 3716

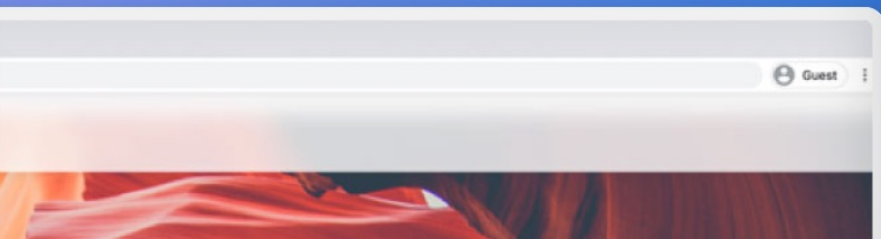
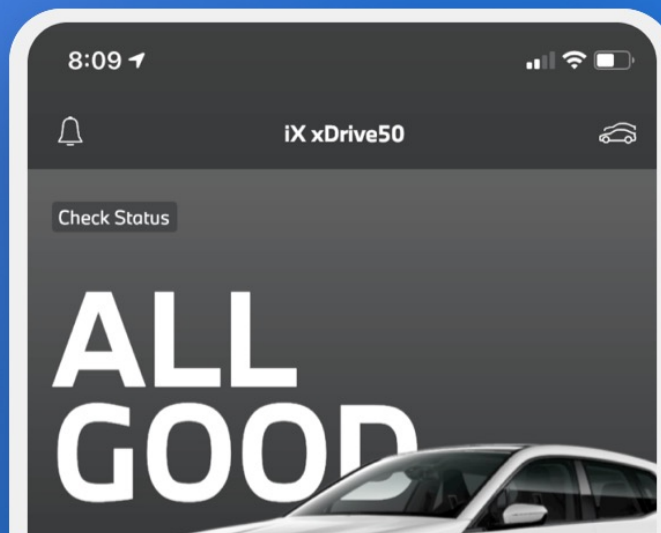
# Why take this course?

- Real world impact:
  - Mobile apps are used daily by billions, offering a chance to make a global impact [src](#)
- Growing demand for mobile app developers
  - Mobile development skills are in high demand, with a growing job market [src](#)
- Entrepreneurial Opportunities
  - The skills to turn an idea into an app, and perhaps a startup
- Community and Networking
  - Access to a large community of developers and industry professionals
- Industry Applications
  - Mobile apps are crucial in various sectors—healthcare, finance, e-commerce, and more

# Things to consider while developing for mobile

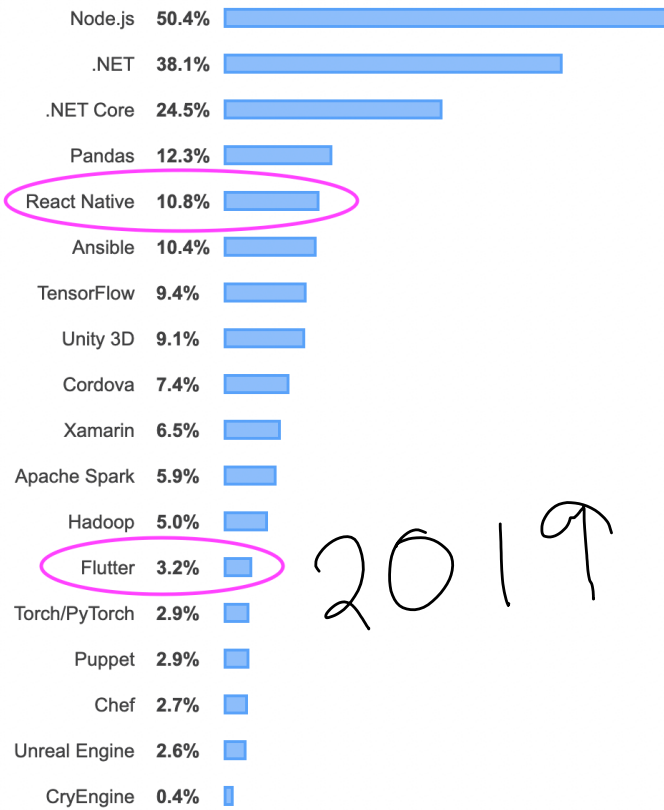
- What are the platforms?
- What are the programming languages?
- Alternatives?
  - Native development vs Cross-platform development
- Cross-platform app development
  - Was always an option see [https://youtu.be/a\\_u-NAF2cXg](https://youtu.be/a_u-NAF2cXg)
  - Has improved significantly in performance and ease of development and deployment
- Most popular cross-platform mobile app development frameworks:
  - React Native
  - Xamarin
  - Flutter

# Build apps for any screen

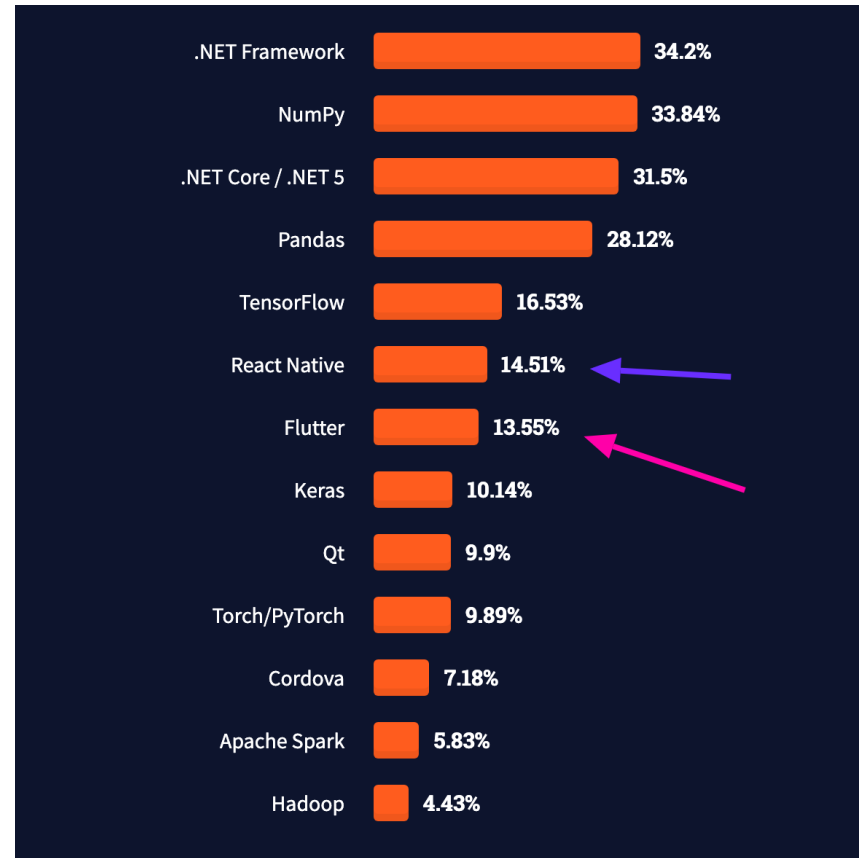


# Flutter Vs. React Native

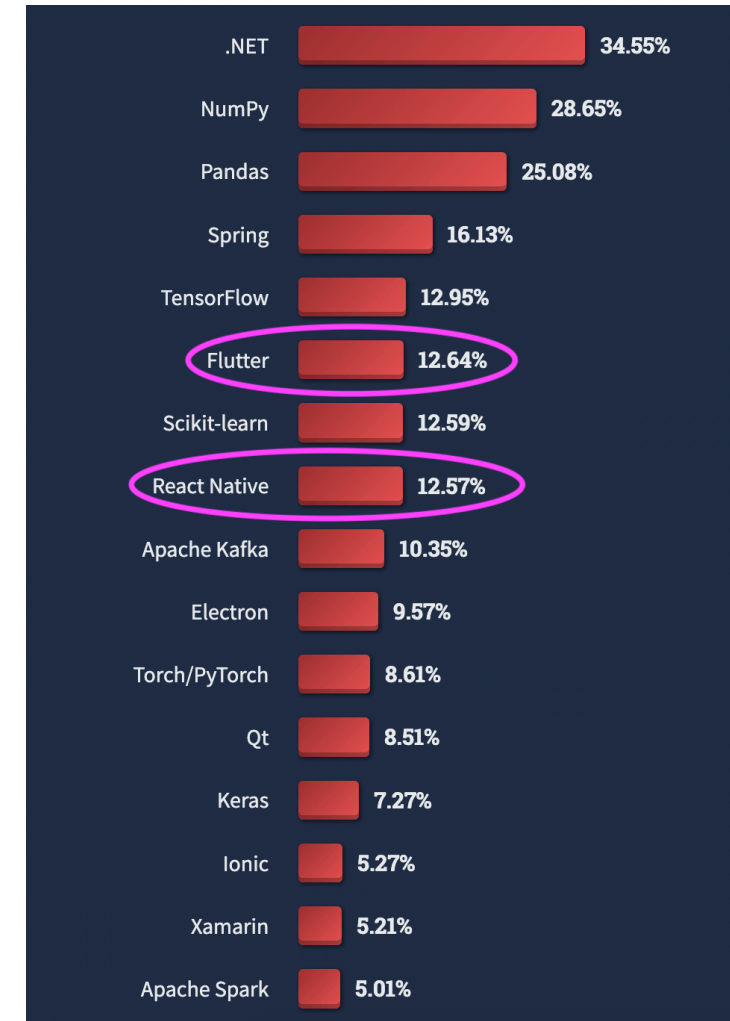
Popularity Comparison as per Stack Overflow Surveys [src](#)



2019



2021



2023

# History of Dart



- **Initial Development**

- Developed internally at Google
- Created by Lars Bak and Kasper Lund

- **Public Announcement**

- Unveiled in October 2011 at GOTO conference

- **Dart 1.0**

- First stable release in 2012
- Focused on web development

- **Introduction of Flutter**

- Dart becomes the language for Flutter in 2015
- Expands to mobile development

- **Dart 2.0**

- Released in 2018

- Strong typing and client-side optimization

- **Flutter for Web**

- Announced in 2019
- Dart extends to web development

- **Recent Updates**

- Sound null safety in 2021
- Performance and robustness improvements

- **Dart 3.0**

- Released in May 2023
- Dropped support for before 2.12

- **Current Version is 3.1**

- Released 16 August 2023

# What is Flutter?



- Flutter is Google's portable UI toolkit for crafting beautiful, natively compiled applications for **mobile, web, and desktop** from a **single codebase**.
- Flutter works with existing code, is used by developers and organizations around the world, and is **free and open source**.



[Dash](#) is the mascot for the Dart language and the Flutter framework.

# Advantages of Flutter

**Cross-Platform Development:** Single codebase for both Android and iOS

**Rich UI Components:** Extensive library of pre-designed widgets

**Performance:** Close-to-native performance due to direct compilation

**Hot Reload:** Instant updates without losing state

**Strong Community:** Growing ecosystem and active community support

**Customizable:** High degree of customization for UI elements

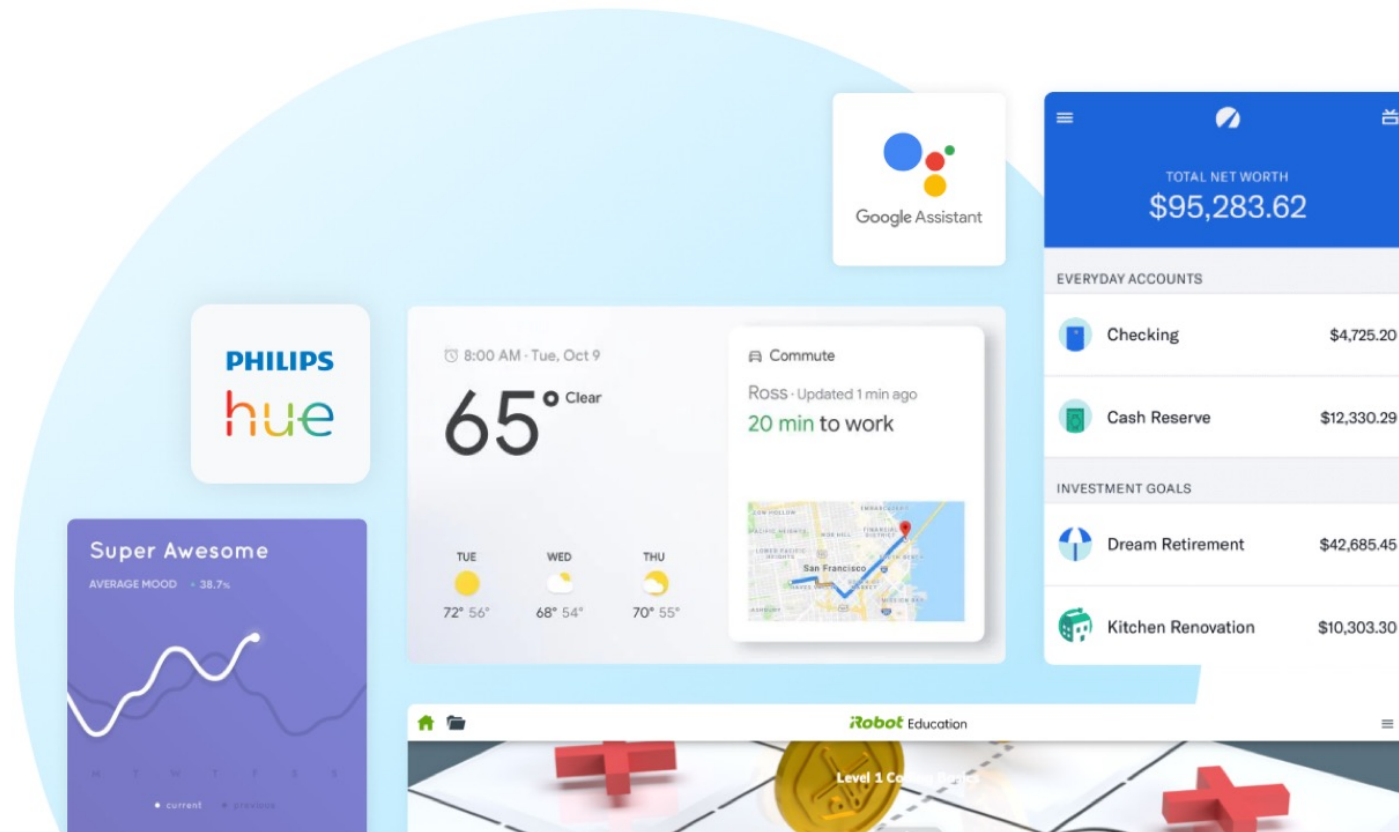
**Integration:** Easy to integrate with existing or native code

**Open Source:** Free to use and open for community contributions

**State Management:** Various options for efficient state management

**Package Support:** Wide range of packages and plugins available







# PUBG MOBILE



PUBG MOBILE (Flutter Dev Story)

