

2024

Accelerate Your App Development with Flutter

NUNI IT Online Seminar - Erico Darmawan Handoyo



Erico Darmawan Handoyo
Private Training & Online School



Erico Darmawan Handoyo

- Lecturer at Maranatha Christian University
- Content creator:
 - Flutter Tutorial YouTube Channel
 - Online Courses at Udemy
- Flutter Trainer

 **Flutter Tutorial YouTube Channel**
provides **300++** fundamental & tutorial videos

<https://youtube.com/@ericodarmawan>



s.id/komunitas-flutter



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Internet, Technology, Covid19

- The evolution of technology and the internet is reshaping human lifestyles.
- Covid 19 has altered the way people work globally.
- People are more frequently engaging with systems and each other via applications.
- People are more and more expecting things to be simpler and quicker.
- Handphones/smartphones and computers/laptops are the most popular devices.

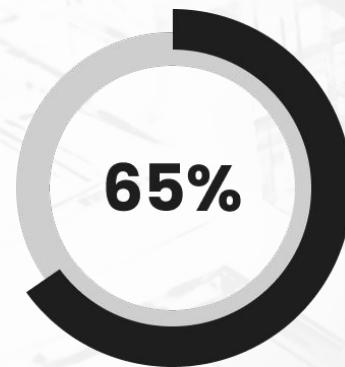


The Implications for Corporations & Business Players

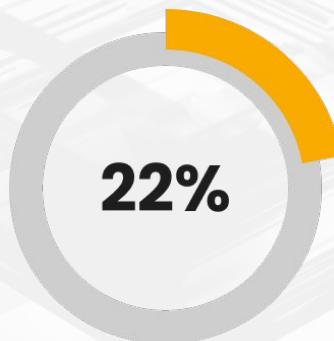
- Companies/institutions need to digitize their systems.
- Companies/institutions have to ensure their digital system are available on as many platforms as possible, accessible via smartphones and computers/laptops.
- Companies need to implement ideas faster to stay ahead of the competition.



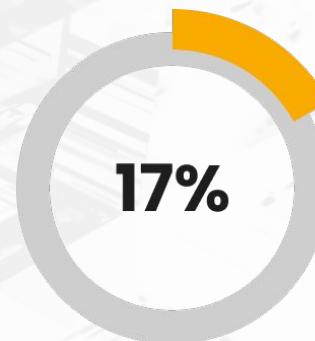
Do you develop cross-platform software?



No.

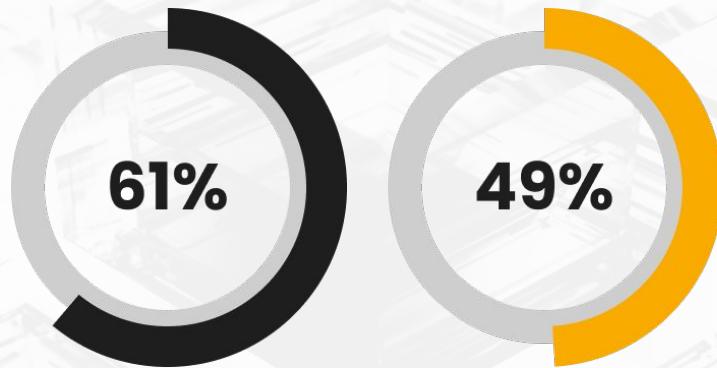


Yes. Mobile Apps.



Yes. Desktop Apps.

How do you develop for mobile operating systems?



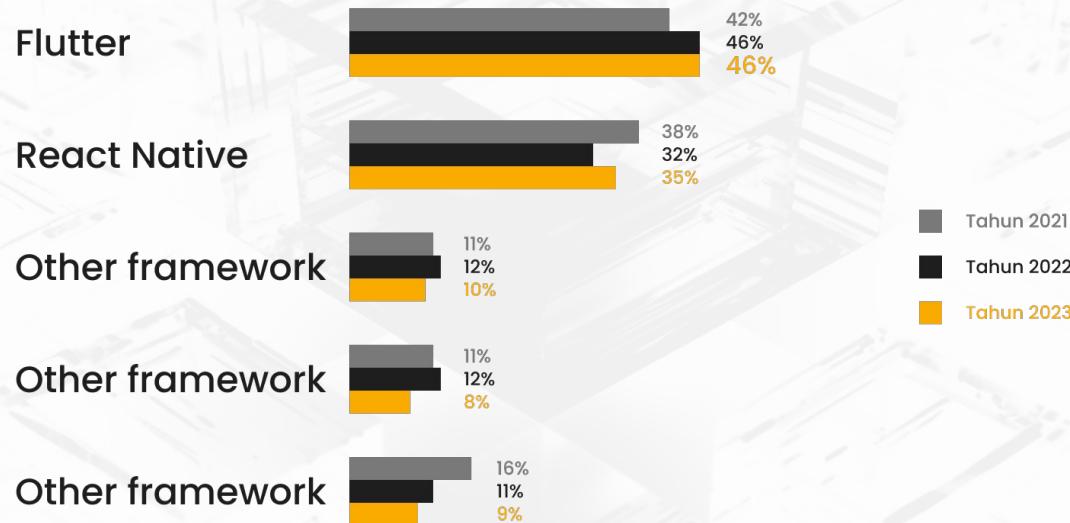
I use native tools.

I use cross-platform
technologies and
frameworks

FLUTTER IS THE MOST POPULAR CROSS-PLATFORM FRAMEWORK

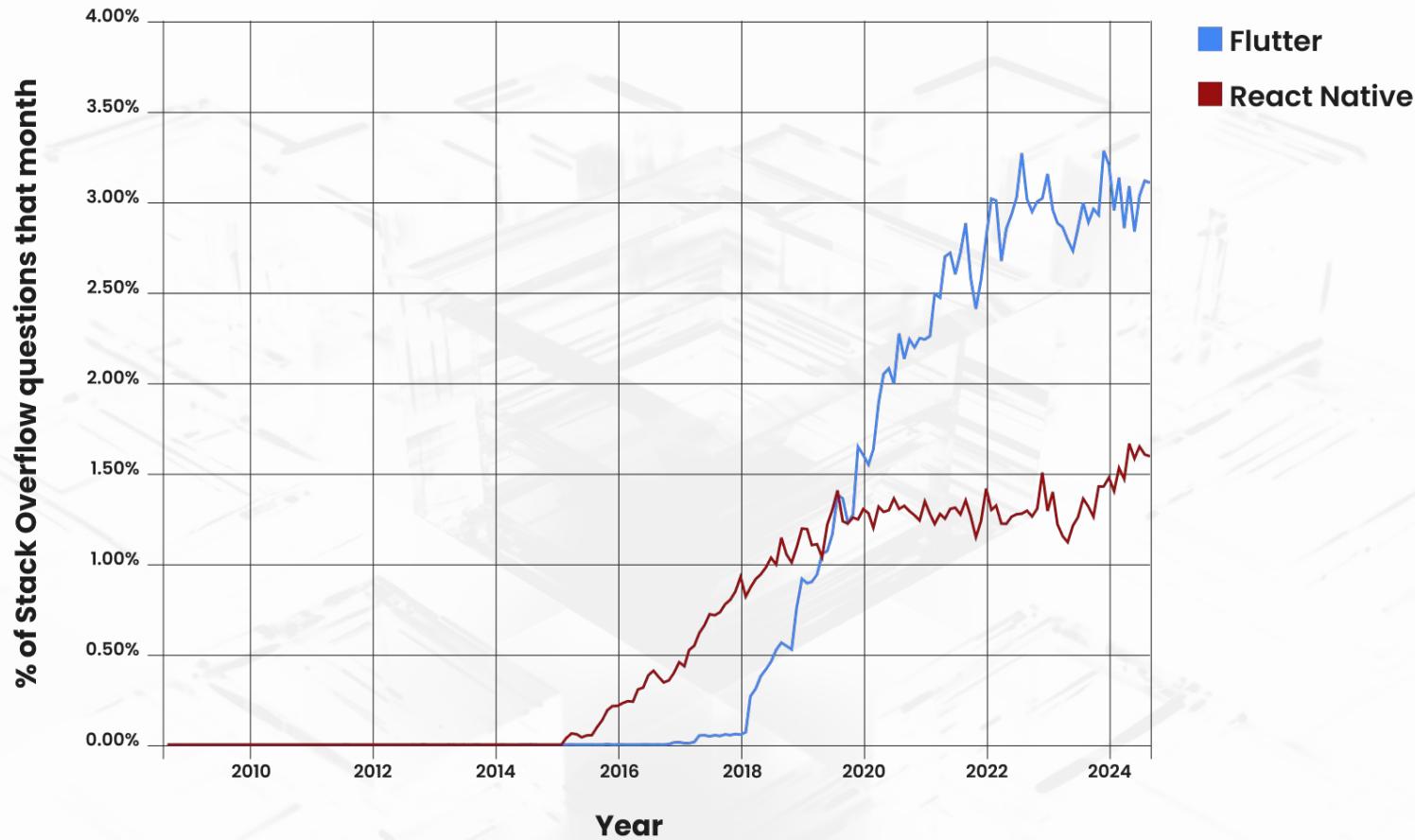


Which cross-platform mobile frameworks do you use?



Source: <https://www.jetbrains.com/lp/devecosystem-2023/development>
<https://www.jetbrains.com/lp/devecosystem-2022/miscellaneous>





Source: <https://trends.stackoverflow.co/?tags=flutter,react-native>

number 5 →

Top 10 public projects by contributors on GitHub	
Project	Contributor count
home-assistant/core	>21K
microsoft/vscode	>20K
ProvableHQ/leo	>20K
firstcontributions/first-contributions	>13k
flutter/flutter	>10K
NixOS/nixpkgs	>9K
vercel/next.js	>9K
langchain-ai/langchain	>8K
godotengine/godot	>7K
ollama/ollama	>7K

Source:

<https://github.blog/news-insights/octoverse/octoverse-2024/#the-most-popular-programming-languages>





The Most Popular Development SDKs

Type: Development

Category: Apps



App Store



Google Play



Flutter

13%



React Native

13%



Flutter

22%



React Native

17%



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Source: <https://appfigures.com/top-sdks/development/apps>

Is Flutter Stopped by Google



Flutter Dihentikan oleh Google?
<https://youtube.com/watch?v=mIlgG7xUXxY>



=



Flutter +

Flock is Flutter+ • Flock is a fork of Flutter.
Flock stays up to date with Flutter, and
also adds new community features.



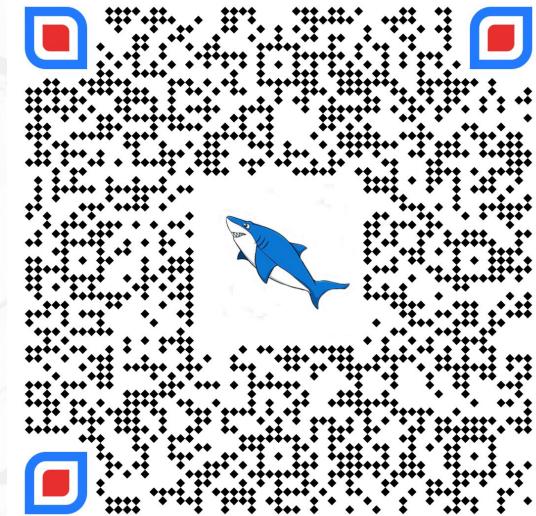
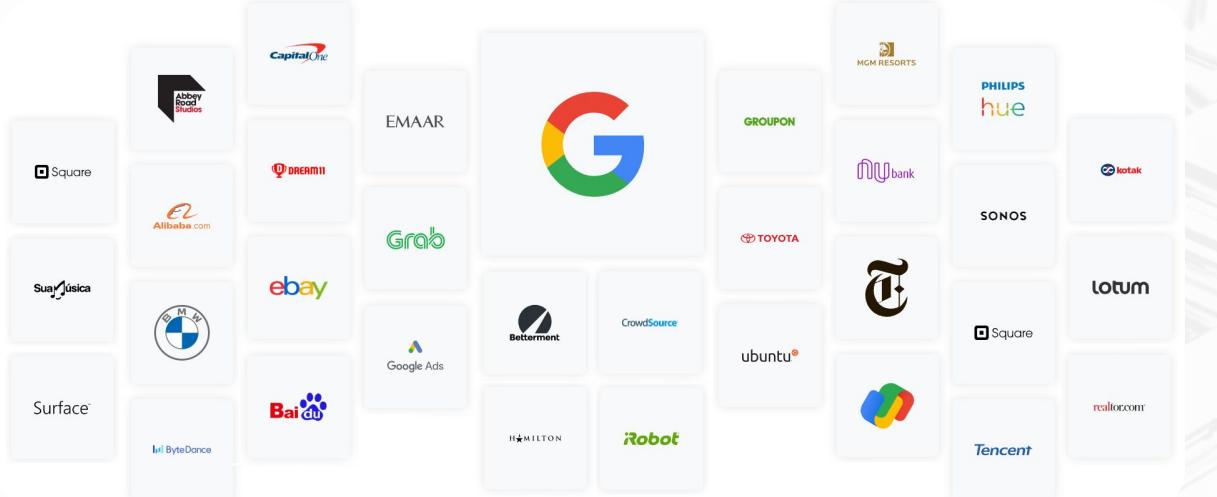
Flock = Flutter+

<https://youtu.be/jAHH33e3Nd8>

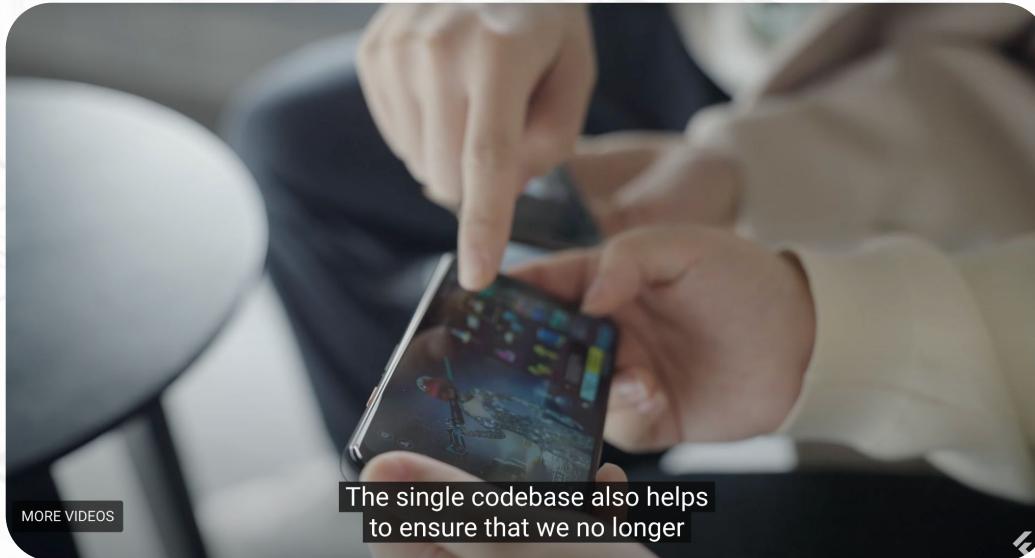


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Who use Flutter?



Community Module of PUBG Mobile



PUBG MOBILE (Flutter Dev Story)

<https://youtu.be/03ETVuWZiBc>

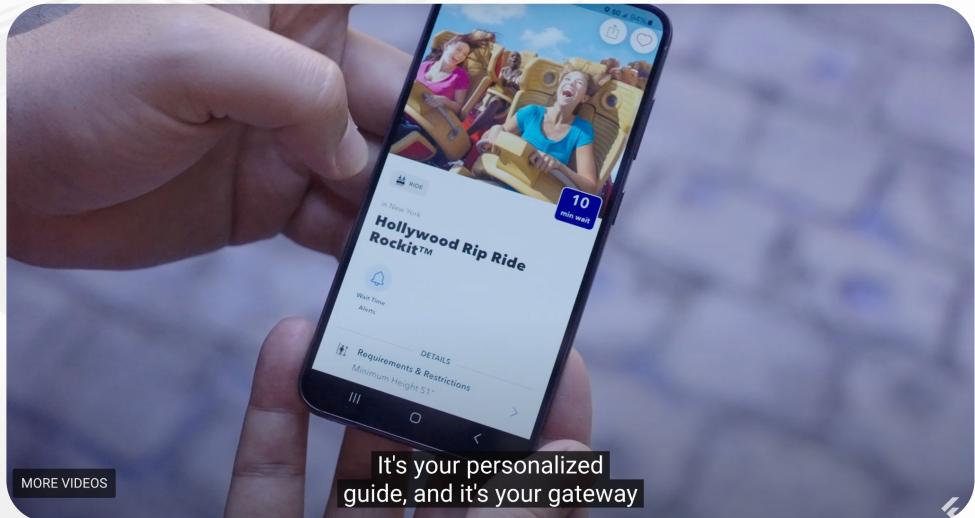


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Universal Studios build next generation experiences with Flutter

 How Universal Destinations & Experiences build next generation experiences with Flutter

<https://youtu.be/JTk2Exr7FO4>



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Who use Flutter?



BANKSULTRA



What is Flutter?

Flutter is an **open source framework** by **Google** for building **beautiful, natively compiled, multi-platform** applications from a **single codebase**.



More information
<https://flutter.dev>



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Multiplatform

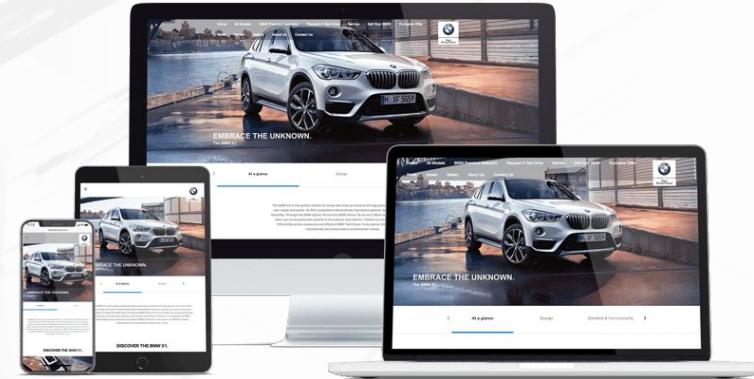
Flutter app can be deployed on Android, iOS, Web, Mac, Windows, Linux.

- Reduce development/maintenance **time**.
- Reduce development/maintenance **cost**.
- **Same feels** on all platforms.

Tencent

When using Flutter, 90% of the code became multi-platform and only needed to be updated once.

Fei Song
Senior Software Engineer, Tencent



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Open Source

- Everyone can contribute on Flutter development.
- There are many useful packages (49K+) on pub.dev.



Flutter Repository
<https://github.com/flutter/flutter>

Flutter & Dart packages
<https://pub.dev>



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Strong Ecosystem

- Numerous contributors to Flutter.
- Many Flutter events are hosted globally and locally.

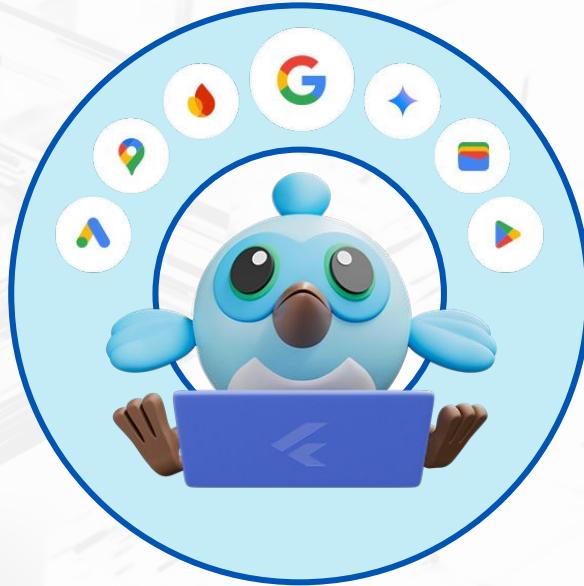


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Google Services Integration

Seamless integration with:

- Firebase
- Google Ads
- Google Play
- Google Pay
- Google Wallet
- Google Maps, and more.



Dart Language

- Learning Flutter & Dart is **easy** for Java, Python, or C# devs.
- Flutter & Dart has **excellent documentation**.
- Dart keeps **evolving**:
 - **Null Safety**: prevents null errors.
 - **Enhanced enum**: allow enum to have additional features.
 - **Dart 3 new class modifiers**: mixin, final, seal, base, & interface.
 - **Macros**
- Dart **backends**  Dart Frog  Serverpod

 DevFest

Bandung

- Sabtu, 7 Desember 2024
- Maranatha Christian University

gdgbandung.com/devfest



Demo Time!



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Recipe Generator using Gemini AI

Front end : Android, iOS, Mac OS, Web

Back end : Dart Frog deployed on globe.dev



Flutter x Gemini AI

<https://youtu.be/PkqV3lmgAhs>

The screenshot displays four recipe cards from the application:

- Rosemary and Basil Roasted Chicken**
Yields: 4 servings Prep time: 10 minutes Cook time: 25 minutes
Ingredients:
 - 2 boneless, skinless chicken breasts
 - 1 tablespoon olive oil
 - 1/2 teaspoon black peppercorns, crushed
 - 1/4 teaspoon dried rosemary
 - 1/4 teaspoon dried basil
 - Salt to tasteInstructions:
 - Preheat oven to 400°F (200°C).
 - In a small bowl, combine olive oil, peppercorns, rosemary, and basil.
 - Season chicken breasts with salt and rub the herb mixture onto them.
 - Place chicken breasts on a baking sheet lined with parchment paper.
 - Roast for 20-25 minutes, or until chicken reaches an internal temperature of 165°F (75°C).
 - Let chicken rest for 5 minutes before slicing and serving.
- Banana Apple Oatmeal**
Yields: 1 serving Prep time: 5 minutes Cook time: 5 minutes
Ingredients:
 - banana, appleInstructions:
 - gemini_demo_fe
- Beef with Rosemary and Peppercorn**
Yields: 4 servings Prep time: 10 minutes Cook time: 12 minutes
Ingredients:
 - 1.5 lbs beef sirloin, cut into 1-inch cubes
 - 1 tbsp olive oil
 - 1 large onion, chopped
 - 2 cloves garlic, minced
 - 1 tsp dried rosemary
 - 1/2 cup black peppercorns, crushed
 - 1/2 cup beef broth
 - 1/4 cup red wine (optional)
 - 1 tbsp butter
 - Salt to tasteInstructions:
 - gemini_demo_fe
- Pan-Seared Fish with Lemon & Peppercorns**
Yields: 2 servings Prep time: 10 minutes Cook time: 10-12 minutes
Ingredients:
 - 4 fish fillets (cod, tilapia, or halibut work well)
 - 2 tablespoons olive oil
 - 1 teaspoon salt
 - 1/2 teaspoon black peppercorns, crushed
 - 4 lemon wedgesInstructions:
 - Pat the fish fillets dry with paper towels. Season with salt and pepper.
 - Heat the olive oil in a large skillet over medium-high heat.



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Want to Learn Flutter?



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Flutter Roadmap

FUNDAMENTALS

- Basic Programming Dart for Newbies
- Pemrograman Berorientasi Objek dart

FRONTEND (FLUTTER)

- Flutter Essentials
- Flutter Tutorial Part 1
- Flutter Tutorial Part 2

BACKEND

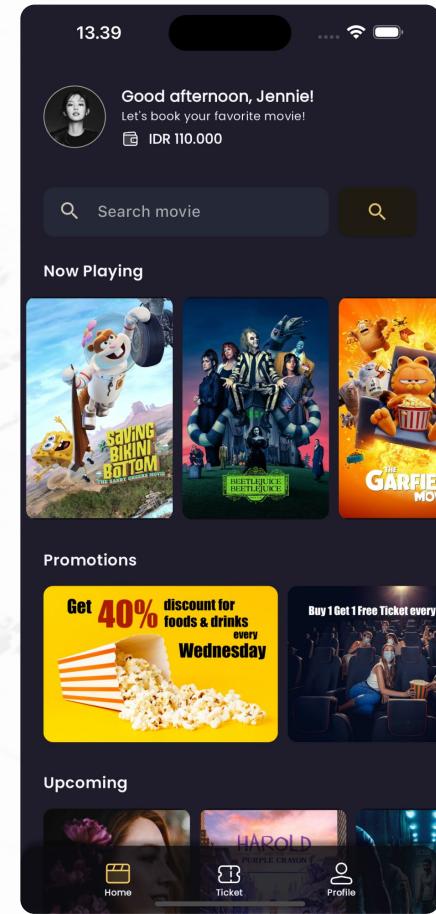
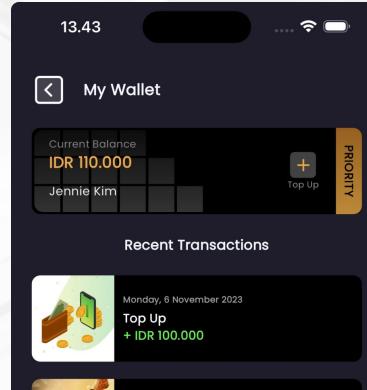
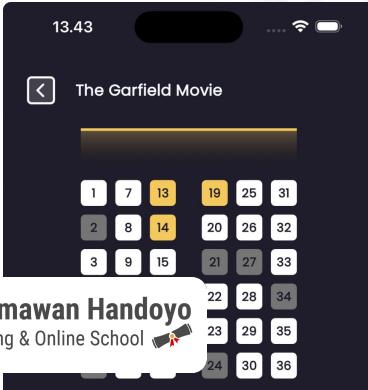
- Dart Frog (A fast, minimalistic backend framework for Dart)

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Full Stack Flutter: FlixID

- Separation of Concerns
- Clean Architecture
- Riverpod State Management
- Firebase Auth, Storage, & Firestore
- GoRouter Navigation



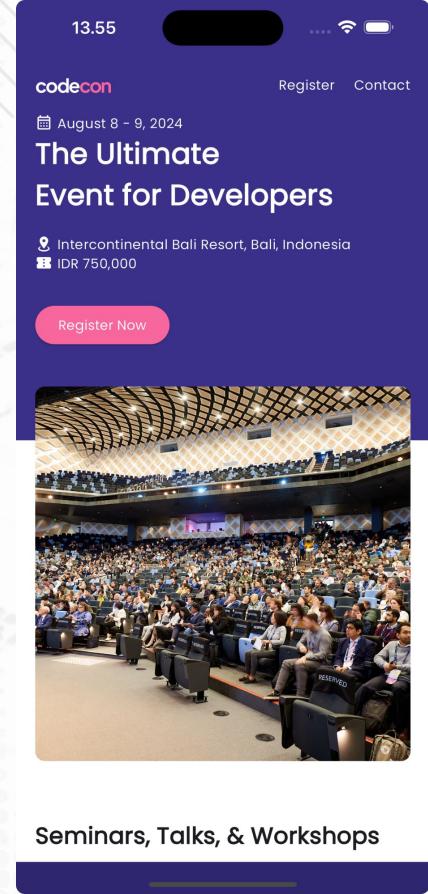
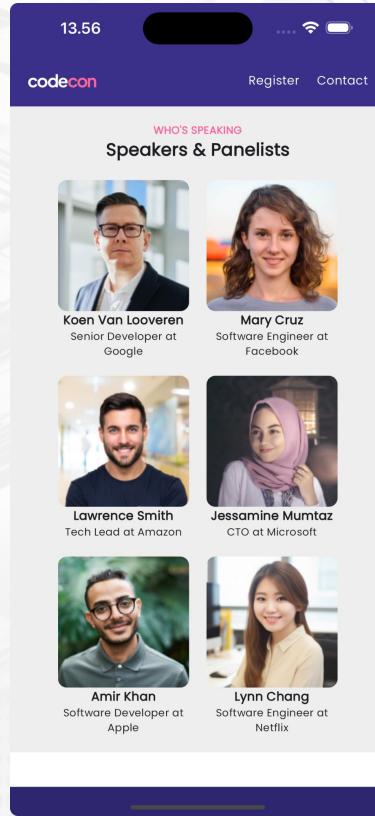
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Full Stack Flutter: CodeCon

- Payment Gateway Integration
- Fullstack using Dart
- Flutter Web, iOS, Android, Mac OS
- Responsive Design
- Airtable as data storage



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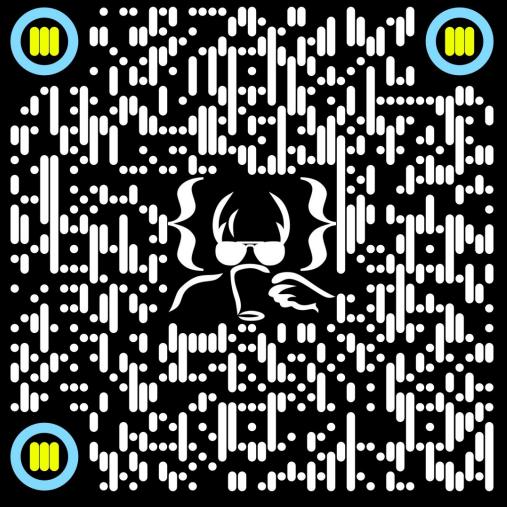




Thank You



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