

Flutter Basics

From 0 to 1



Prerak Gada

<https://prerakgada.in>

About Prerak Gada



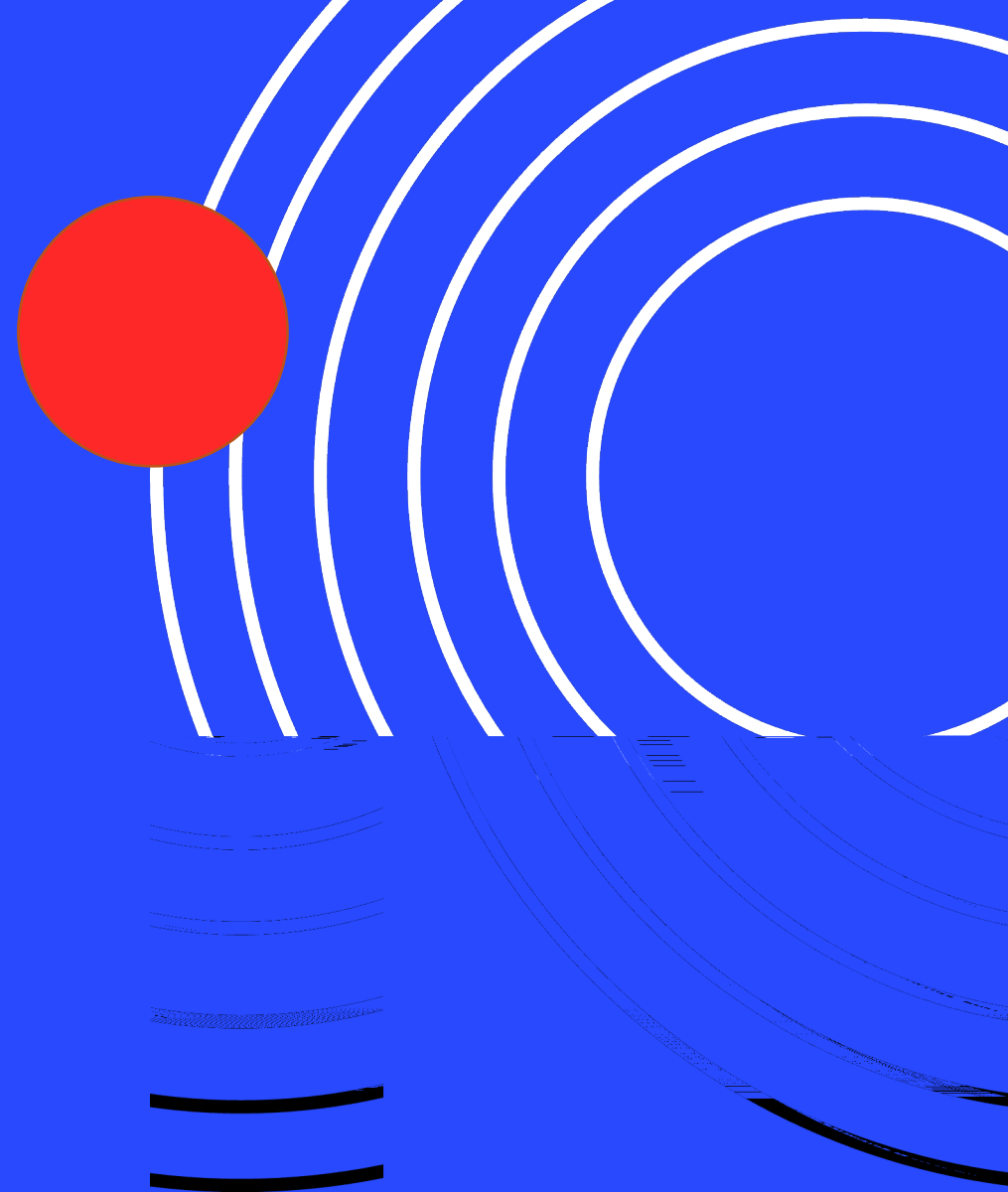
Prerak is the GDSC ACE's App Lead and App Development Freelancer for 3 years



Prerak has developed 10+ full stack apps and published a few of them on App Stores



Prerak has led 12+ sessions/workshops in various domains of computer science



Session Outline



Lesson 1

INTRODUCTION TO SOFTWARE DEV

Discover the exciting world of creating applications - from coding basics to the wonders of programming languages and user interfaces.

Lesson 2

UNDERSTANDING FLUTTER

Google's revolutionary framework for building beautiful, natively compiled applications for mobile, web, and desktop from a single codebase.

Lesson 3

NEXT STEPS IN LEARNING FLUTTER

Embark on your Flutter journey with essential resources, practice projects, and community engagement to become a proficient Flutter developer.

Lesson 1: Objectives



Understanding mobile apps in depth.



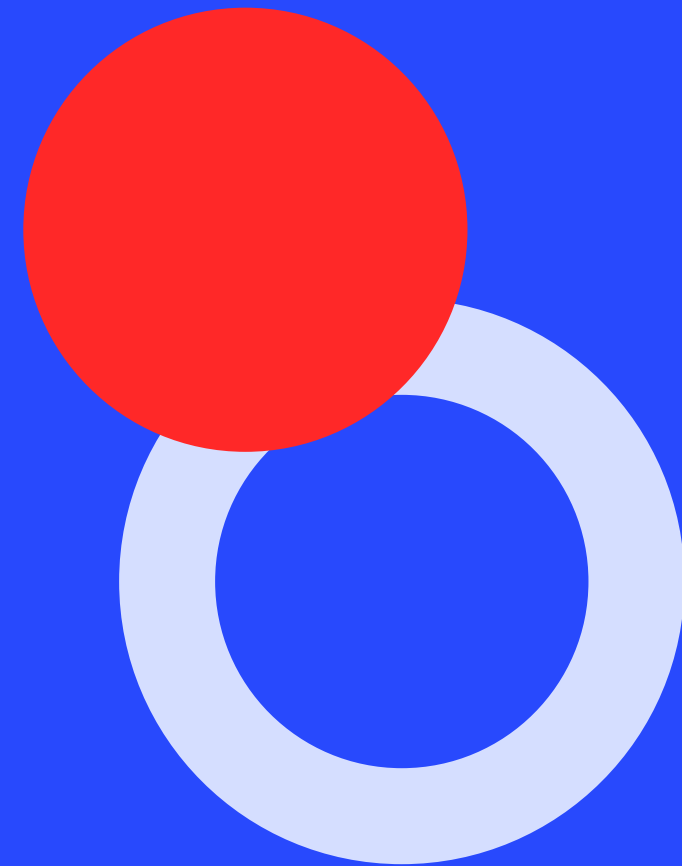
What is Software Development?



Understanding UI Layouts

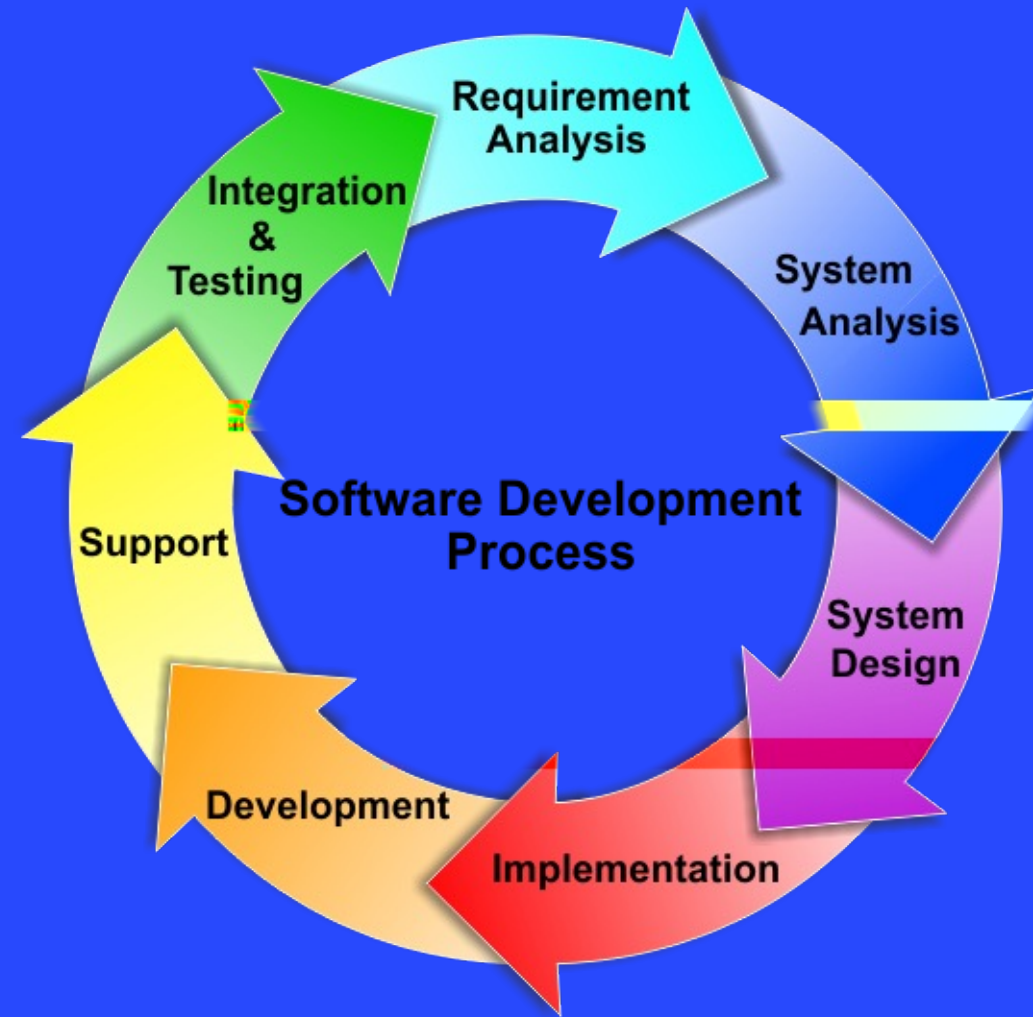
What are mobile apps?

- **Definition:** Software designed to run on mobile devices
- **Types of Mobile Apps:** Native Apps, Web Apps, Hybrid Apps
- **States of an App:** Active, background, and suspended states
- **Resource Utilization:** Memory, Battery, Performance, Sensors, etc



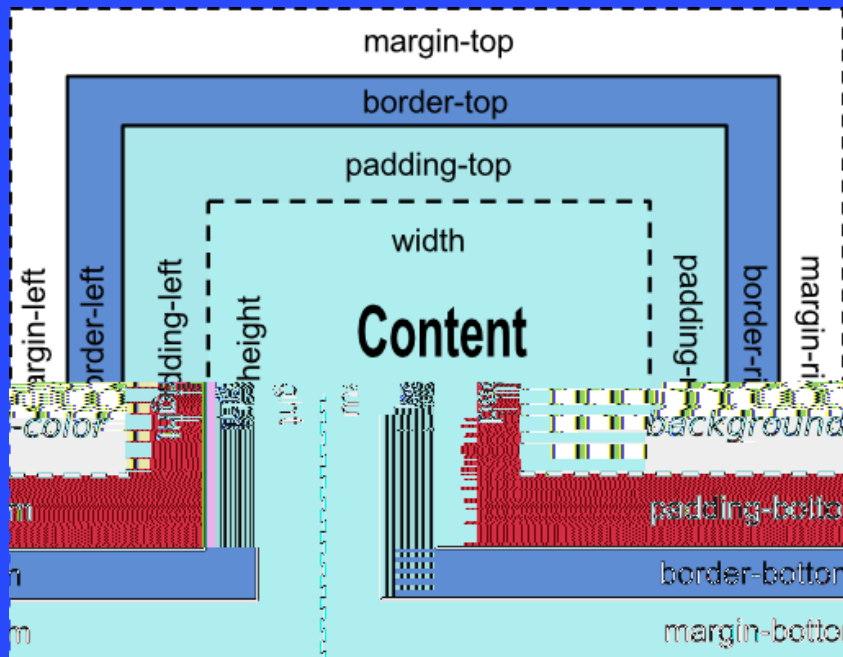
What is Software Development?

- Requirements Analysis
- Design (UI/UX)
- Implementation
- Deployment
- Maintenance
- Feature Updates

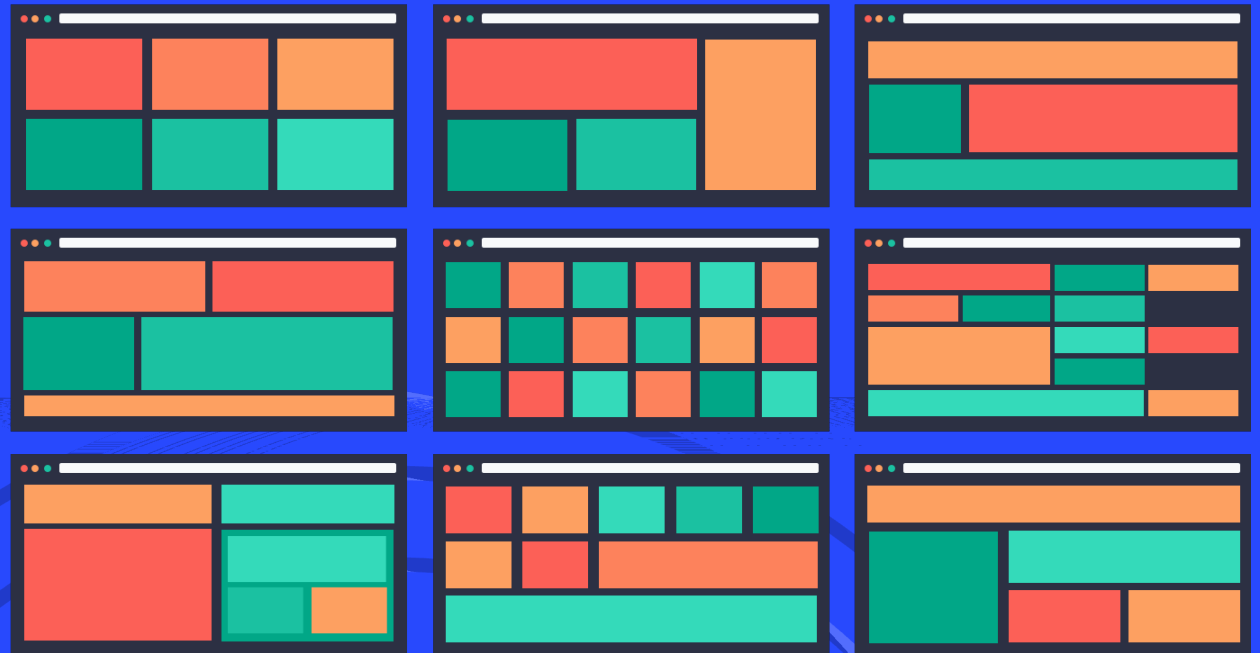


Understanding UI Layouts

Box Model



Grid Model



Lesson 1: Wrap up

In summary, Mobile apps are software applications designed specifically for mobile devices, offering a wide range of functionalities and services tailored for on-the-go user experiences.

Any Questions?



Lesson 2: Objectives



Introduction to Flutter



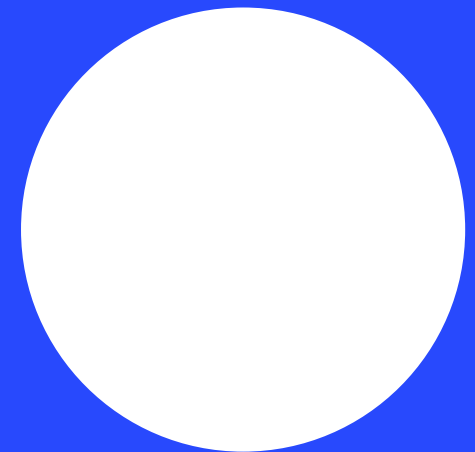
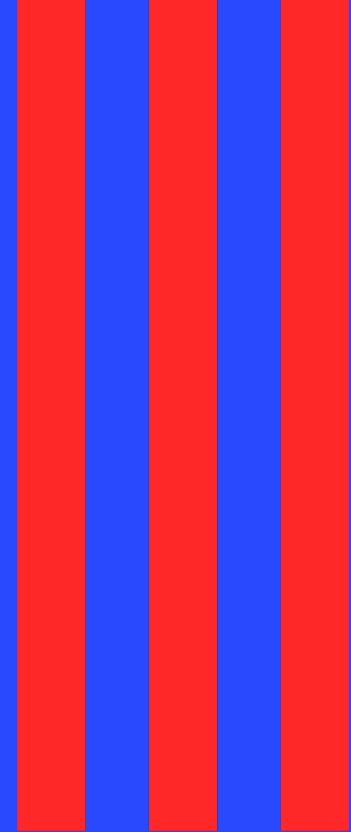
“Everything is a Widget”



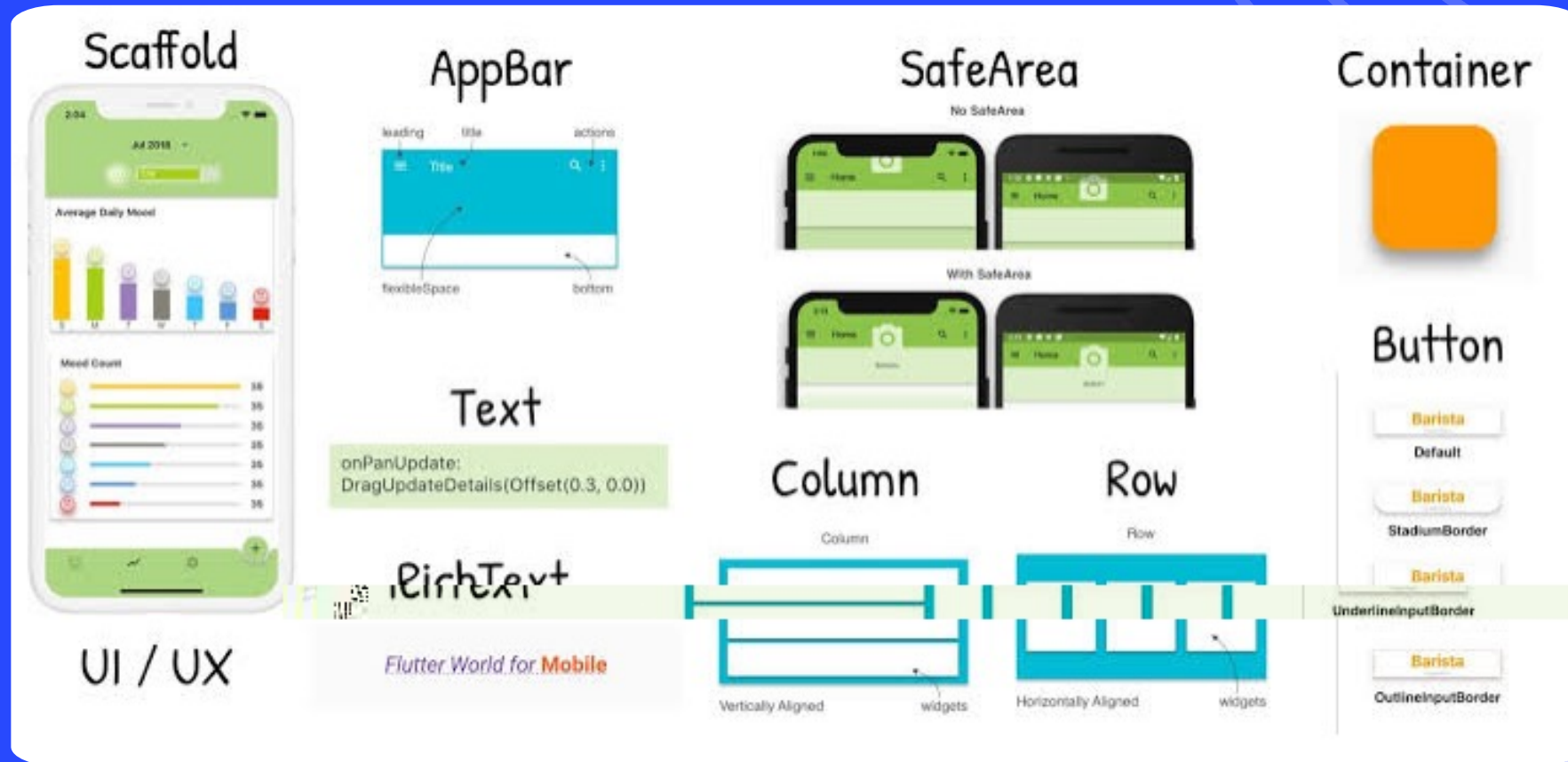
Getting Started with
Flutter

Introduction to Flutter

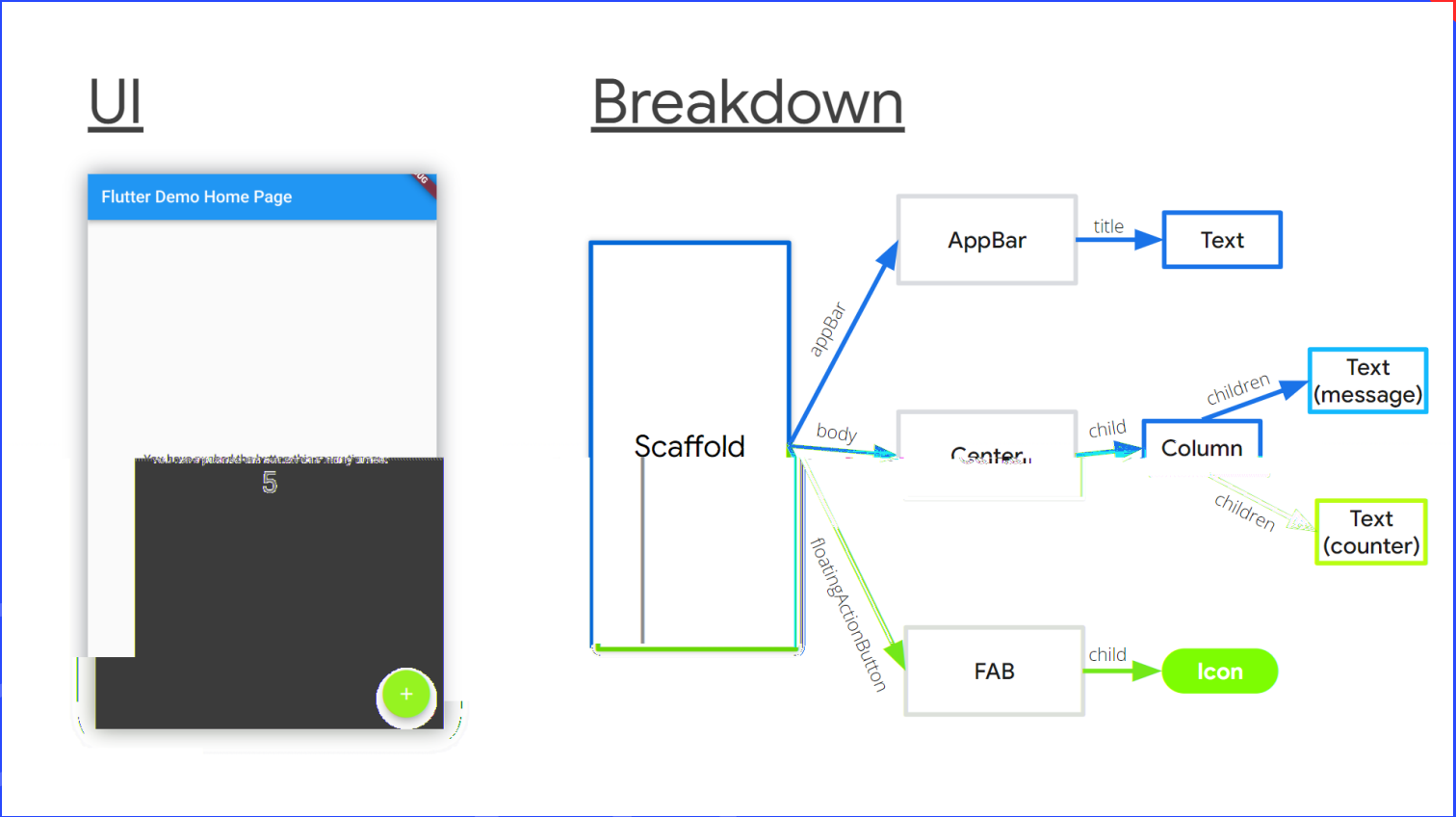
- **What is Flutter?** - Flutter is Google's open-source technology for creating mobile, desktop, and web apps with a single codebase.
- **What is Dart?** - A modern, easy-to-learn programming language developed by Google, primarily used for building fast and efficiently-designed mobile and web applications.
- **Why Flutter?** – Simple to learn, very quick, high performance, good documentation, and a growing helpful community.



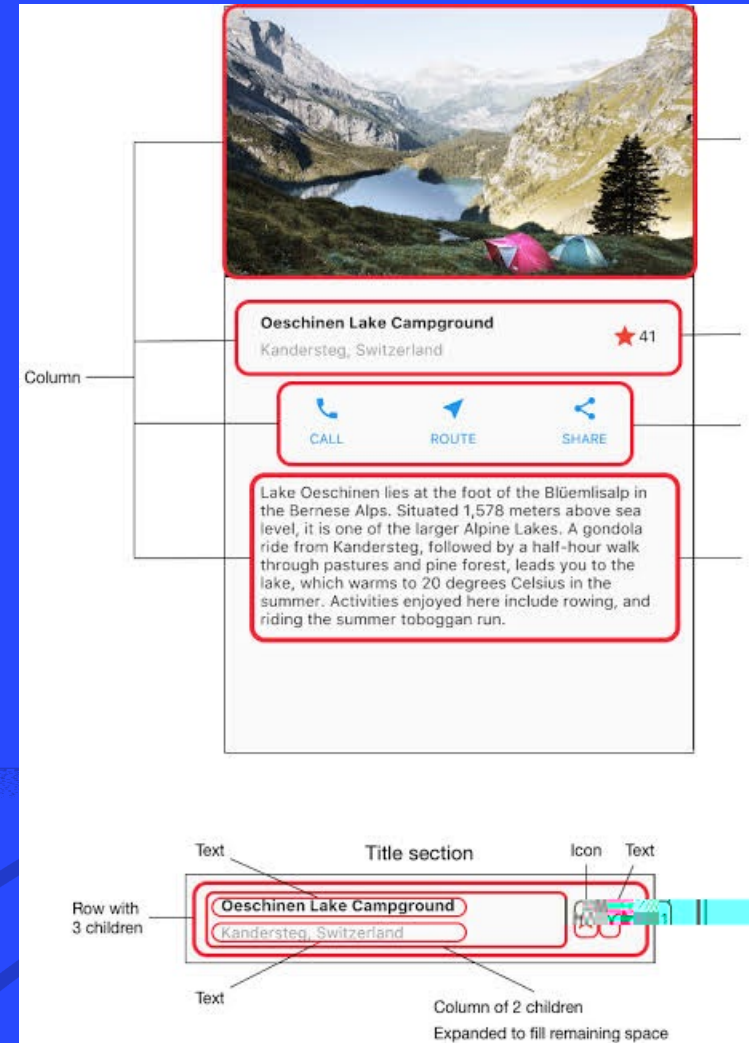
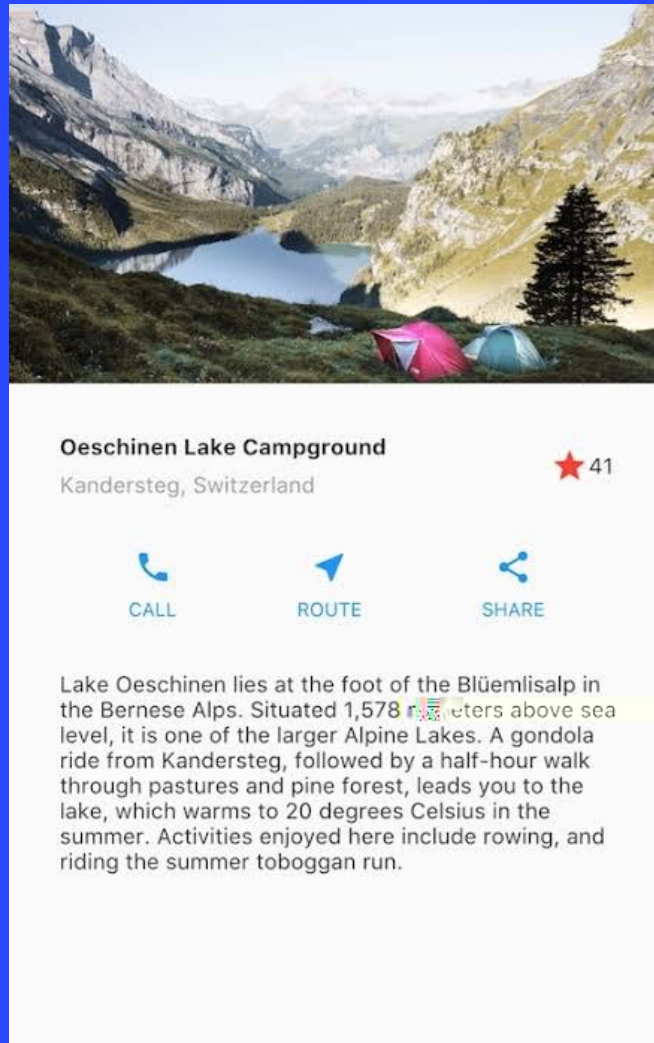
“Everything is a Widget”



“Everything is a Widget”



What do you see here?



Another example

Row
2 children

child: new Column

child: new Image


Column
4 children

Strawberry Pavlova

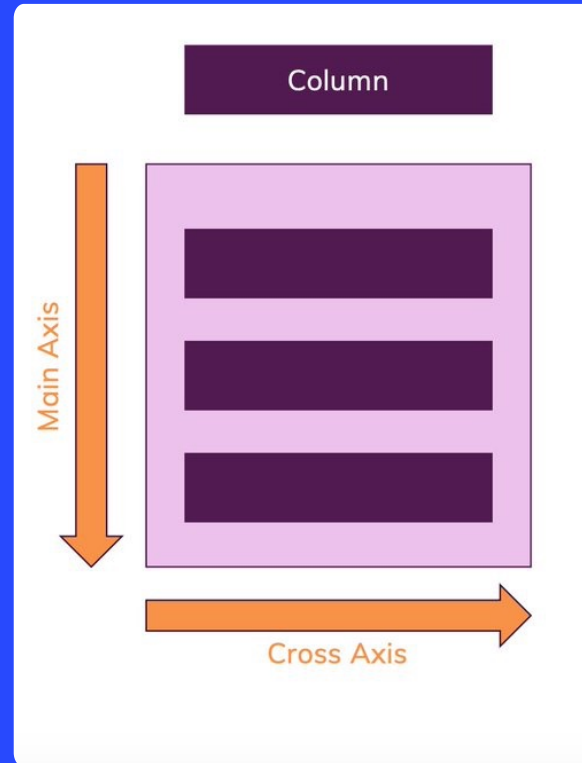
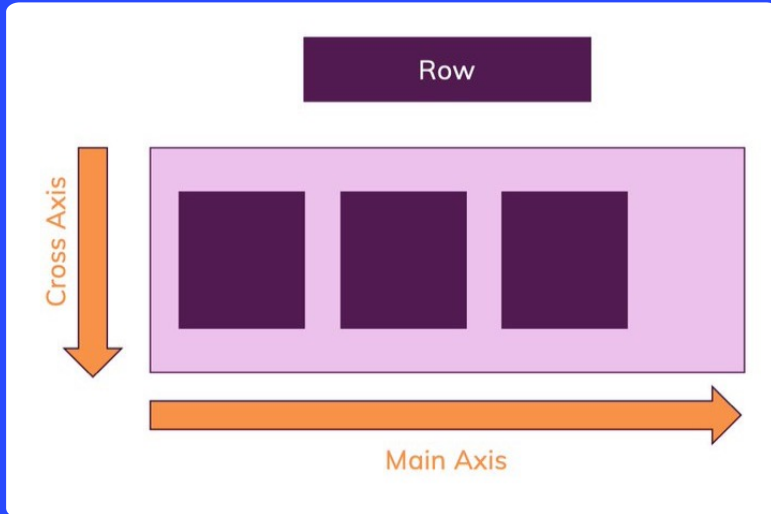
Pavlova is a meringue-based dessert named after the Russian ballerine Anna Pavlova. Pavlova features a crisp crust and soft, light cream and whipped cream.

★★★★★ 170 Reviews

PREP:	COOK:	FEEDS:
25 min	1 hr	4-6

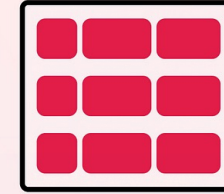


Flex Box in Flutter

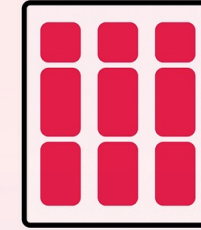


CSS Flexbox

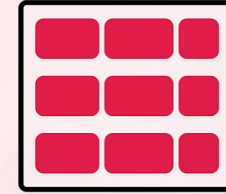
flex-direction



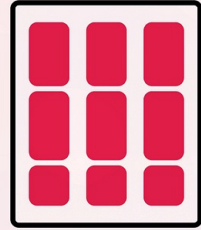
row



column



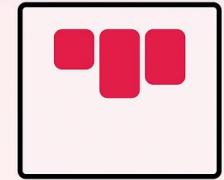
row-reverse



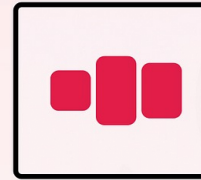
column-reverse

align-items

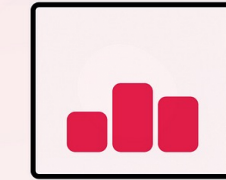
CrossAxisAlignment



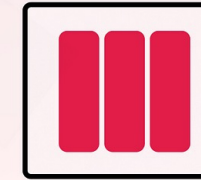
flex-start



center



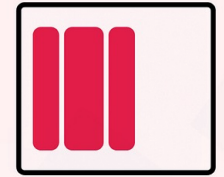
flex-end



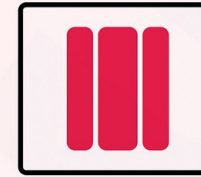
stretch

justify-content

Row - MainAxisAlignment - Column



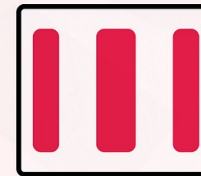
flex-start



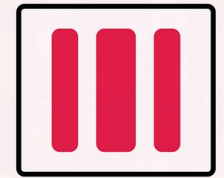
center



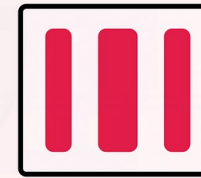
flex-end



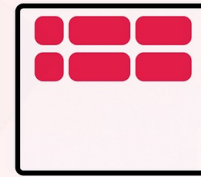
space-between



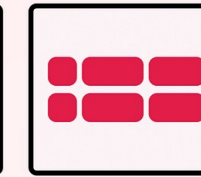
space-around



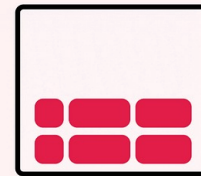
space-evenly



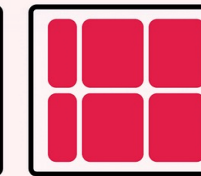
flex-start



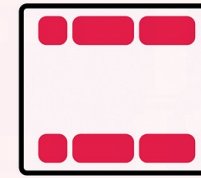
center



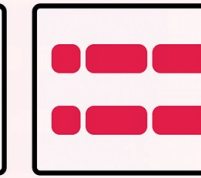
flex-end



stretch



space-between



space-around

Getting Started with Flutter

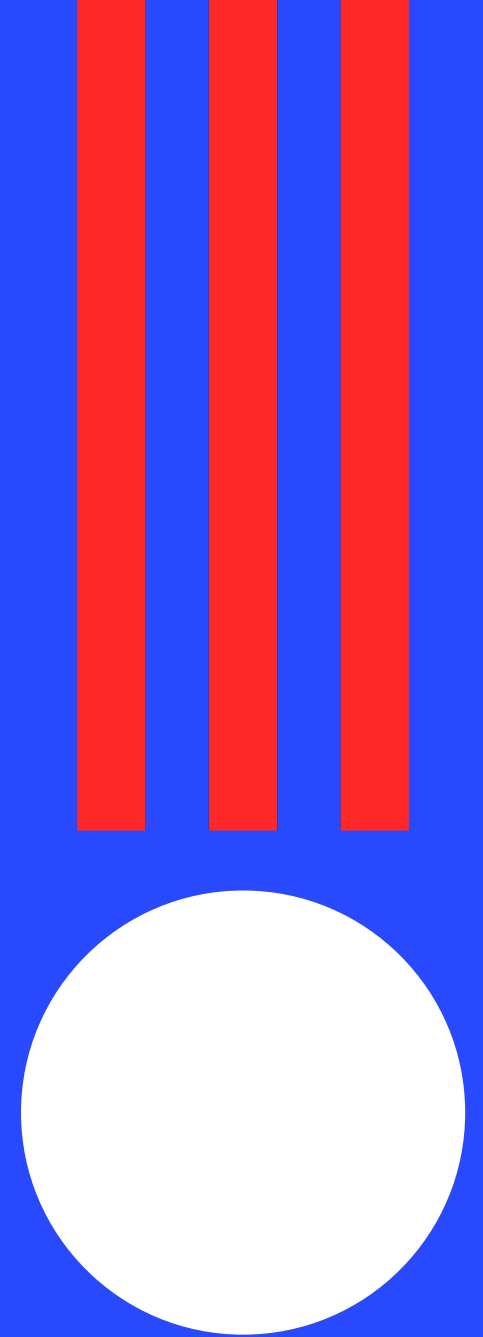
- **Install Flutter SDK:** <https://docs.flutter.dev/get-started/install>
- **Install Android Studio:** <https://docs.flutter.dev/get-started/install>
- **Install XCode:** <https://apps.apple.com/us/app/xcode/id497799835>
- **Install VS Code:** <https://code.visualstudio.com/download>
- **Install Flutter and Dart Extensions on IDE**
- **Run `flutter create` to create a new flutter project**
- **Run `flutter run` to run the flutter project**
- **Hot Reload and Hot Restart**



Lesson 2: Wrap up

Having explored Flutter's core principles and setup, we're now familiar with its widget-centric design and ready to dive deeper into app development and roadmap.

Questions?



Lesson 3: Objectives



Important Flutter
Concepts



Important Projects to
Practice



Bonus Section!

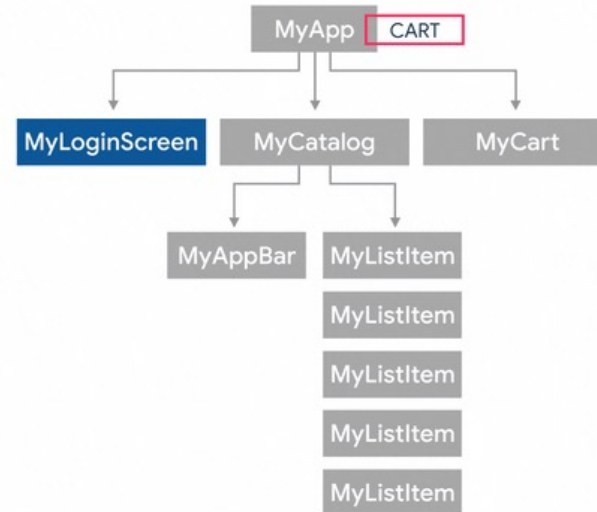
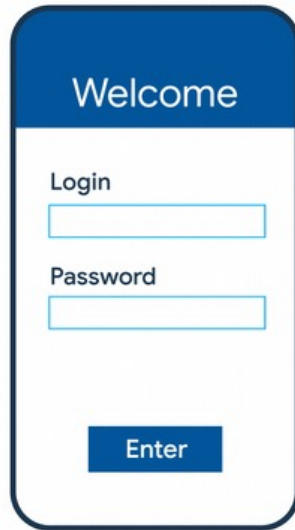


Important Flutter Concepts

State Management

DATA FLOW CONTROL

- Set State
- Provider
- Riverpod
- BLoC



Important Flutter Concepts

State Management

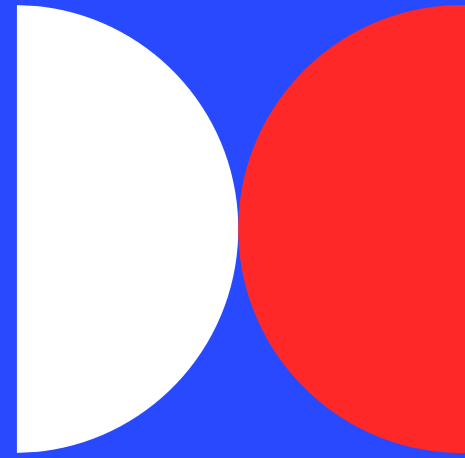
DATA FLOW
CONTROL

Packages from pub.dev

EXTERNAL CODE
LIBRARIES

Flutter Full Stack

PRODUCTION
READY

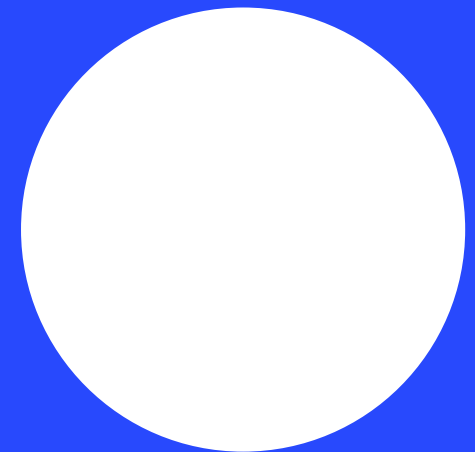
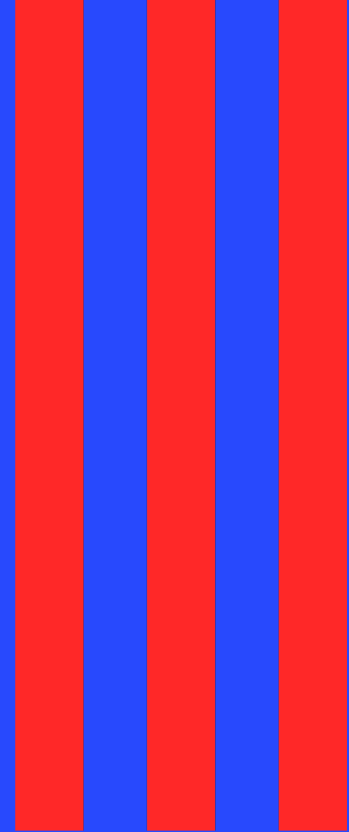


Important Projects to Practice

- To do App
- Chat App
- E-Commerce App
- Social Media App (Posts)
- App with Maps Integration

Bonus Section!

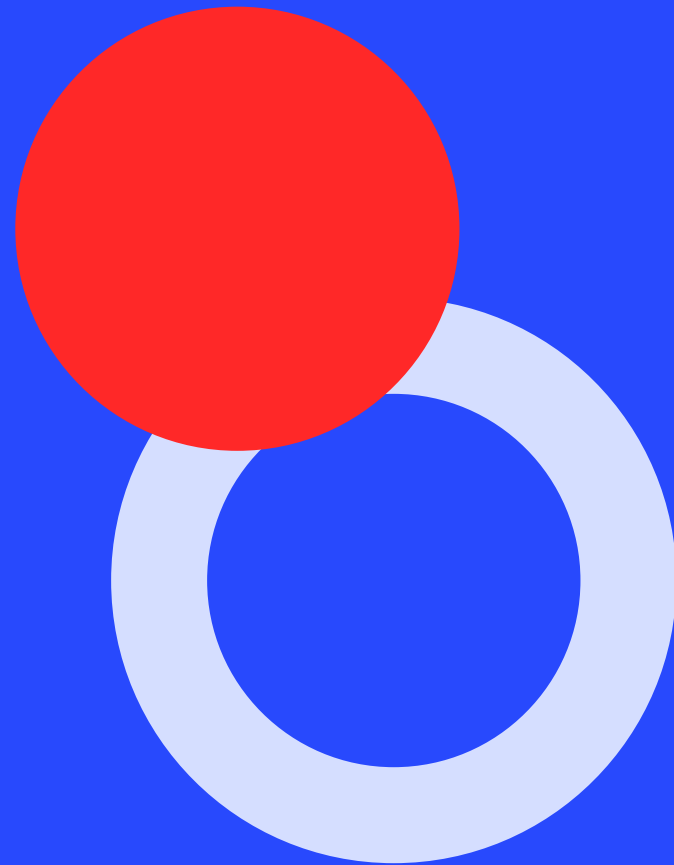
- GitHub Student Developer Pack
- Active GitHub Profile
- VS Code Extensions
- Regular LinkedIn Activity
- Participate at Hackathons
- Community Meetups and Networking



Lesson 3: Wrap up

we explored practical project ideas for hands-on experience, complemented by valuable career development tips to advance your journey in Flutter development.

Questions?



Summary of the session



Introduction to software development



Introduction to Flutter App Development



Next steps in learning flutter



Thank you

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