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Build your first app with Flutter

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Syllabus

Introduction

- What is flutter?
- Why flutter?
- Pre-requirement

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- Widget tree
- Types of widgets
- The blogs project

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Syllabus

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- How to communicate with a RESTful API
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- What is state management
- What is BLoC pattern and library
- Integrate the project with BLoC pattern using its library

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Introduction

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What is flutter?

- Is an open-source framework developed by google
- Supports cross platform development (Bridging)
- Uses Dart programming language

Why flutter?

- Has Hot reload feature that accelerates development and debugging
- Supports both Android's Material design and Apple's Cupertino design
- A lot of resources and a growing community
- Bridging

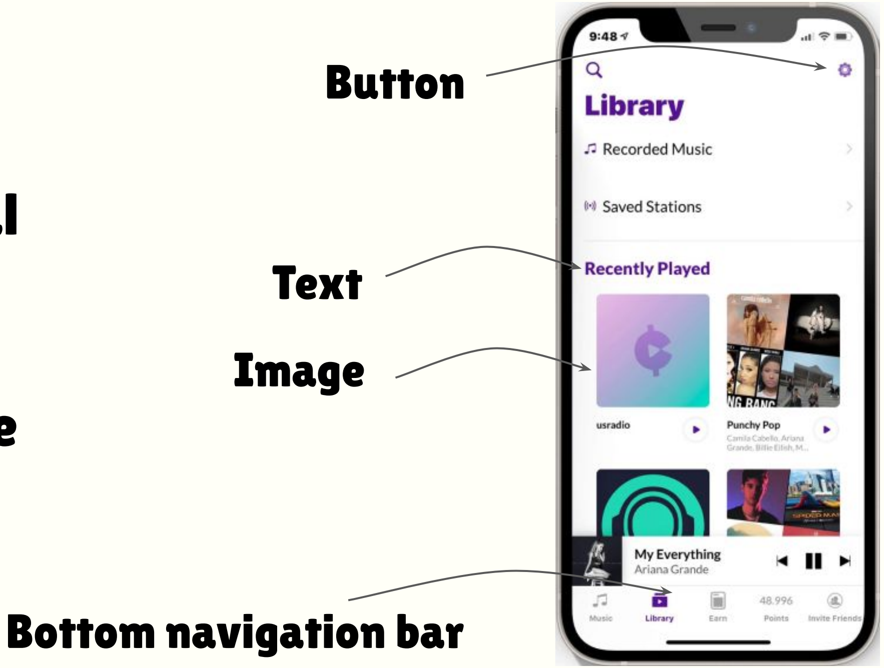
Pre-requirements

- Experience in coding
- Knowledge of OOP concepts
- VS code, and some extensions
- An android device or emulator

Part 1 : How flutter works

Widgets

Every app has many functional and non-functional features, and these features are provided to the users using various components like Texts, Images, Buttons...etc



Button

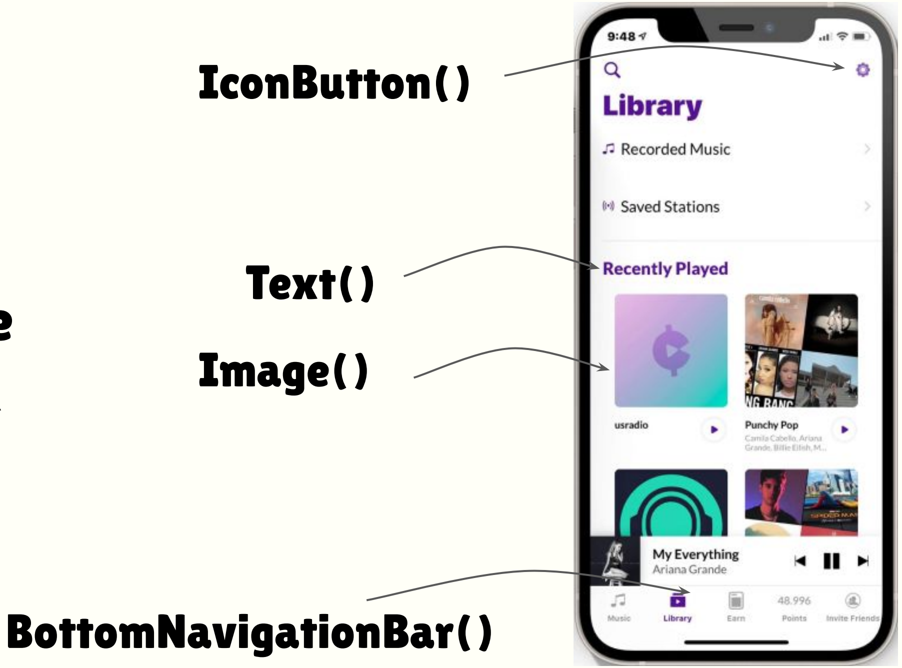
Text

Image

Bottom navigation bar

Widgets

In flutter, these functionalities are provided using widgets, so you can see widgets as the building block of flutter apps



IconButton()

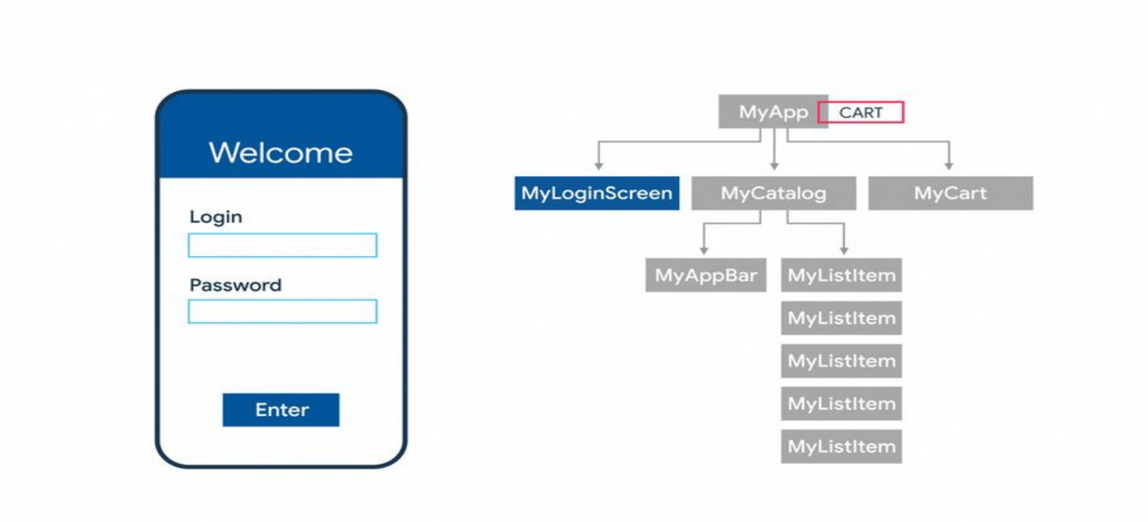
Text()

Image()

BottomNavigationBar()

Widget tree

Once you build your app using various widgets, the flutter framework arrange them in a tree-like fashion



Types of widgets

Stateless widgets

A widget that can't change its state during the executing of the app, so it's only built once during the app lifecycle

Stateless widgets

A widget that can change its state during the executing of the app, so it can be rebuilt many times during the app lifecycle

Inherited widgets

A widget that can provide the same piece of data to all its children

Build Context

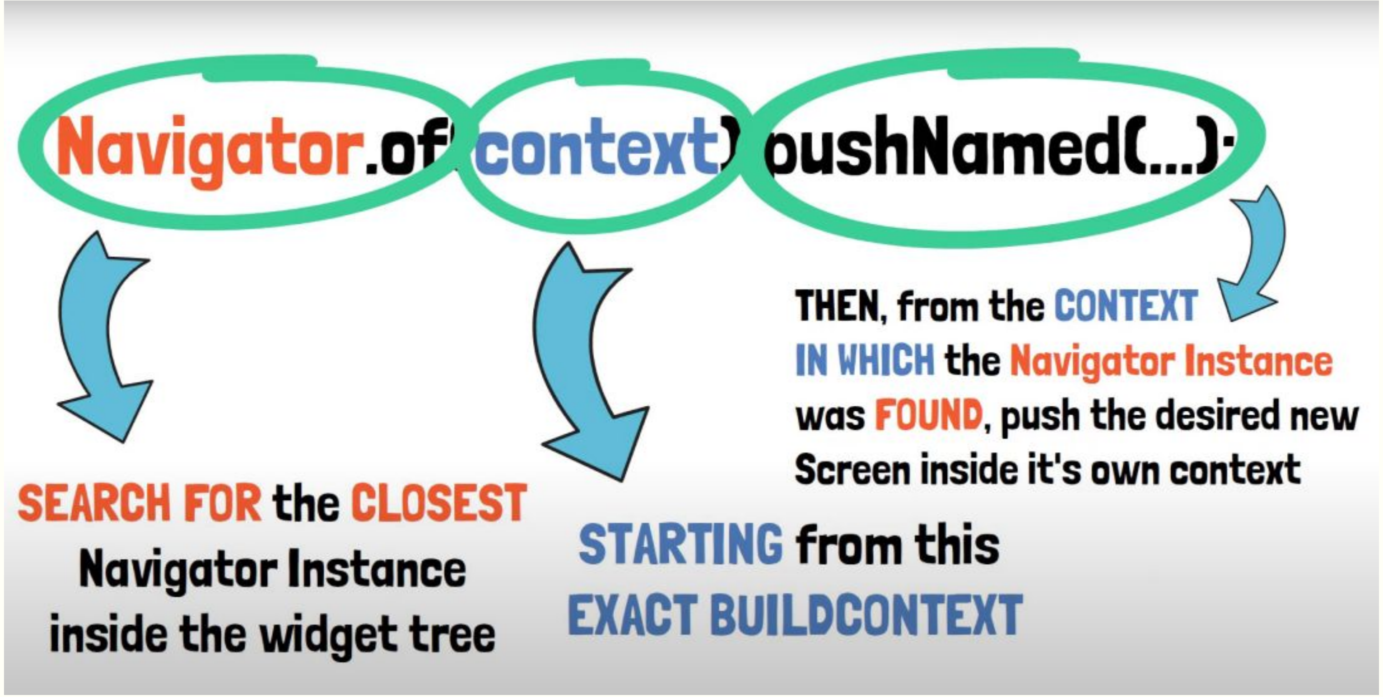
- A build context is a in instance of the BuildContext class that contains information that indicate the position of the widget in the widget tree along with it's fields and methods

- Every widget in the widget tree is built within a build context (can be anonymous as we will se in the code)

- Every widget's build context is different than the other (another instance of the class)

- but! they are all related, each context keeps track of its parent context and so on (parent child relationship)

Build Context (use case)



Navigator.of(context).pushNamed(...);

SEARCH FOR the CLOSEST Navigator Instance inside the widget tree

STARTING from this EXACT BUILDCONTEXT

THEN, from the CONTEXT IN WHICH the Navigator Instance was FOUND, push the desired new Screen inside it's own context

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Part 2 : Building phase

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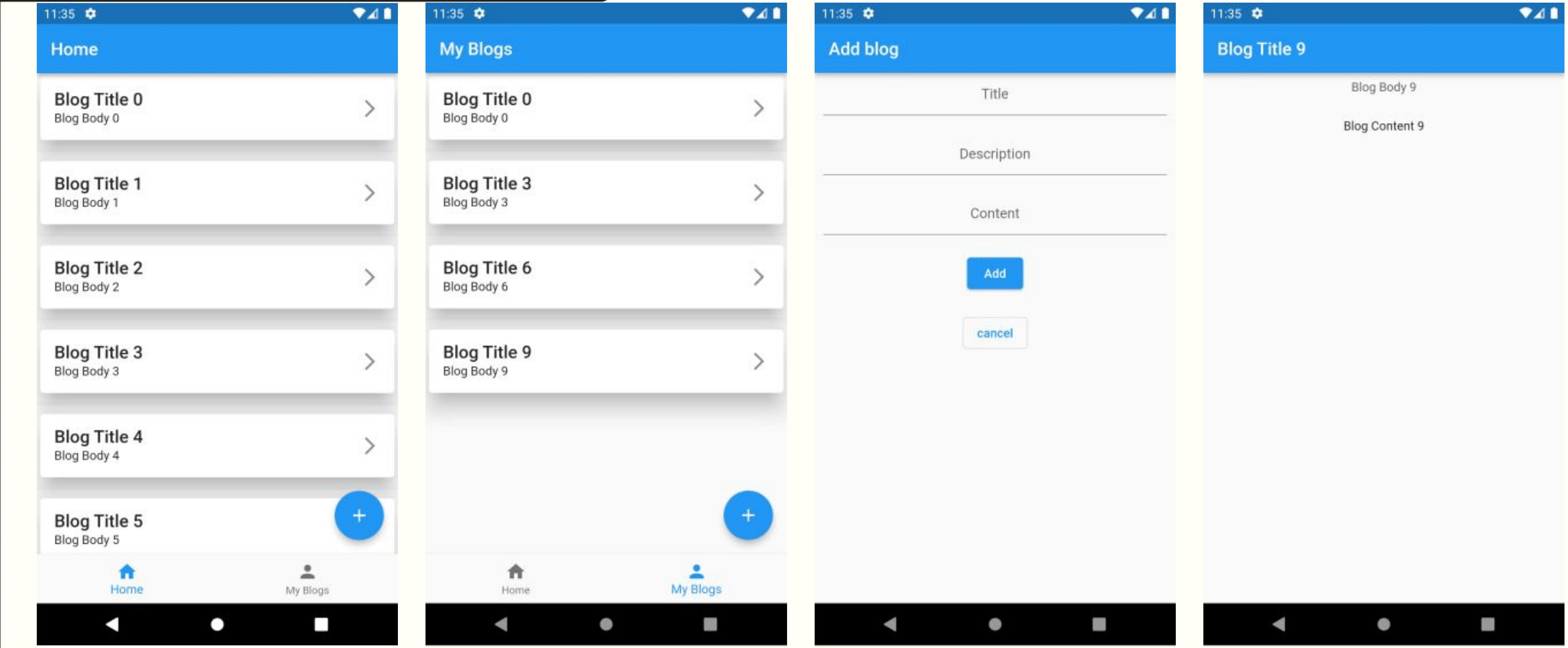
Functionalities

- A blogs application
- Can post and delete blogs
- Can read posted blogs
- Can consult blogs posted by you

Prevision of the app



11:35

Home

Blog Title 0
Blog Body 0

Blog Title 1
Blog Body 1

Blog Title 2
Blog Body 2

Blog Title 3
Blog Body 3

Blog Title 4
Blog Body 4

Blog Title 5
Blog Body 5

+

Home | My Blogs

11:35

My Blogs

Blog Title 0
Blog Body 0

Blog Title 3
Blog Body 3

Blog Title 6
Blog Body 6

Blog Title 9
Blog Body 9

+

Home | My Blogs

11:35

Add blog

Title

Description

Content

Add

cancel

11:35

Blog Title 9

Blog Body 9

Blog Content 9

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LET'S BUILD

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Part 3 : Working with APIs

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What is an API

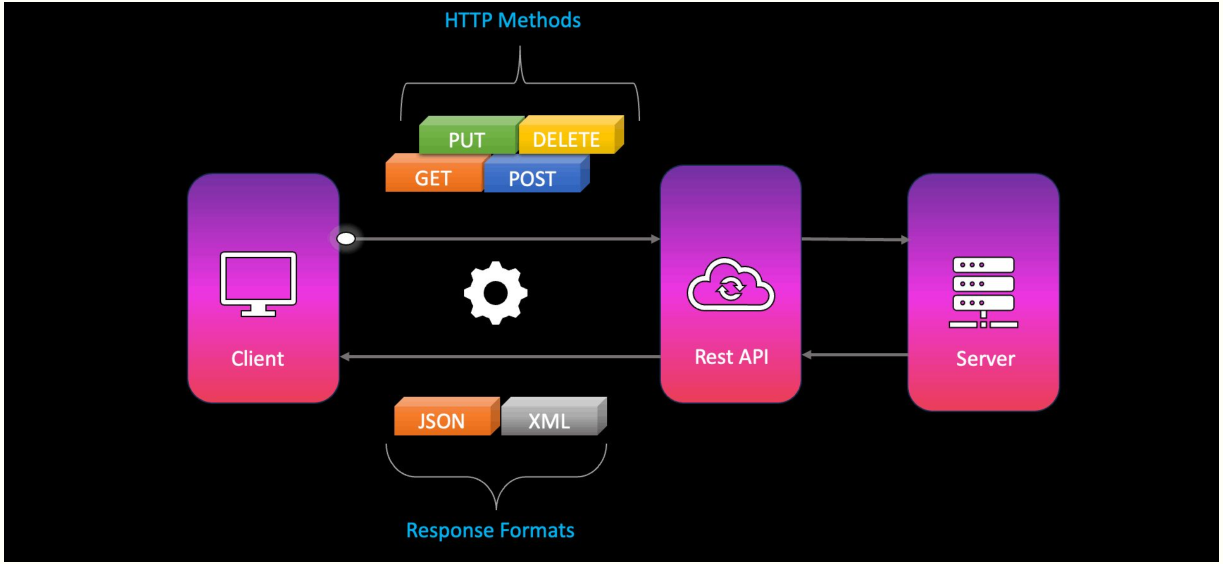
API (Application Programming Interface) is a set of functionalities along with an interface, that developers give to other developers to simplify the usage of their system.

What a RESTful API

API (Application Programming Interface) is a set of functionalities along with an interface, that developers give to other developers to simplify the usage of their system.

Communicate with a RESTful API

Communicating with a RESTful API using the HTTP protocol is done using HTTP methods and responses



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LET'S USE RESTFUL API IN OUR APP

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Part 4 : State management

What is a state management

State management is a way to manage the data the represents the various states of your app

What is BLoC pattern and library

BLoC (Business Logic Component) is a state management design pattern, so you can say it's an approach for state management. Its implementation is easier using the BLoC library

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LET'S DO SOME STATE MANAGEMENT

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