

SYLLABUS

MOBILE APP DEVELOPMENT USING FLUTTER

LESSONS

1. Introduction to Flutter and Dart Programming Language
2. Dart Programming - Syntax
3. Dart Functions & Object-Oriented Programming (OOP)
4. Introduction to Flutter
5. Flutter Widgets Fundamentals
6. Navigation and Routing
7. Visual, Behavioral, and Motion-Rich Widgets Implementing Material Design Guidelines
8. Integrating Packages
9. Firebase Integration
10. Location-Aware Apps: Using GPS and Google Maps
11. App Testing & Publishing

Lesson 1 : Introduction to Flutter and Dart Programming Language

1. Introduction
2. Importance of Flutter
3. Introduction to Dart
4. Writing Dart code
5. DartPad

Lesson 2 : Dart Programming - Syntax

1. Introduction
2. main() function
3. Dart Variables
4. Dart Data Types
5. Input of Information to Dart Program
6. Writing Comments

7. Dart Conditional Operators
8. If Statement
9. If – Else Statement
10. If...Else and Else...If... Statement
11. If Else and Logical Operators
12. For Loops
13. While Loops
14. Do-while Loops
15. Break Statement
16. Switch Case Statement
17. Create a Pizza Order Program

Lesson 3 : Dart Functions & Object-Oriented Programming (OOP)

Functions

1. Function Structure
2. Creating a Function
3. Function Return Data Types
4. Void Function
5. Function Returning Expression
6. Functions and Variable Scope

Object-Oriented Programming (OOP)

7. Object
8. Class
9. Creating a Class
10. Adding Methods to Classes
11. Providing Constructors for Your Classes
12. Class — Getters and Setters
13. Class Inheritance
14. Abstract Class
15. Dart Project Structure and Dart Libraries
16. Create a Small Overtime Payment Program

Lesson 4 : Introduction to Flutter

1. Installing and Configuring Flutter SDK
2. Creating a New Flutter Project
3. Setup an Android Virtual Device
4. Run a Flutter App
5. Run Your Apps on a Hardware Device (Physical Phone)
6. Introduction to Flutter Widgets
7. Single Child and Multi Child Widgets
8. Creating a Flutter App Using Widgets
9. What is a MaterialApp Widget?
10. Creating a Simple Flutter App

Lesson 5 : Flutter Widgets Fundamentals

1. Scaffold Widget
2. Image Widget
3. Container Widget
4. Column and Row Widgets
5. Icon Widget
6. Layouts in Flutter
7. Card Widget
8. App Icons for iOS and Android Apps
9. Hot Reload and Hot Restart
10. Stateful and Stateless Widgets
11. Use a Custom Font
12. Creating a Restaurant Menu

Lesson 6 : Visual, Behavioral, and Motion-Rich Widgets Implementing Material Design

Guidelines

1. **Button Widgets**

FloatingActionButton

ElevatedButton, TextButton, and IconButton

DropDownButton

OutlineButton

AppBar

PopupMenuButton

2. App Structure and Navigation
3. Navigate to a New Screen and Back
4. Navigate with Named Routes
5. Send and Return Data Among Screens
6. Animate a Widget Across Screens
7. WebView Widget in Flutter
8. Navigation and Routing a Pizza Store App

Lesson 7 : Integrating Packages

flutter_spinkit

lottie

carousel_slider

image_picker

Lesson 8 : Firebase Integration

1. Firebase Authentication
2. Firebase Cloud Storage
3. Chat Application using Firebase

Lesson 9 : API Integration

1. What is JSON
2. CRUD Operations using API

Lesson 10 : State Management

1. State Management Using Bloc
2. State Management Using Cubit

Lesson 11 : App Testing & Publishing