FLUTTER

Overview

- ❖ What is Dart..?
- ❖ Dart Introduction
- ❖ Basic Language requirement for Dart

Environment

- ❖ Setting Up the Local Environment
- ❖ Using the Text Editor
- ❖ Installing the Dart SDK
- ❖ IDE Support

Syntax

- ❖ Your First Dart Code
- ❖ Execute a Dart Program
- ❖ Dart Command-Line Options
- ❖ Keywords in Dart
- ❖ Comments in Dart

Basic Fundamentals

- ❖ Data Types
- ❖ Variables
- ❖ Functions
- ❖ Operators
- ❖ Loops
- ❖ Decision Making
- ❖ Numbers
- ❖ String

Implementation of OOPs

- ❖ Classes
- ❖ Object
- ❖ Inheritance
- ❖ Interface

Collection

- ❖ Lists
- ❖ Map
- ❖ Generics
- ❖ Libraries & Packages

INTRODUCTION TO FLUTTER

- ❖ Learn to set up a new Flutter project using Android Studio.
- ❖ Understand the Widget tree and learn to use pre-made Flutter
- ❖ Widgets for user interface design.
- ❖ Learn to incorporate Image and Text Widgets to create simple user interfaces.

❖ Learn to incorporate App Icons for IOS and Android.

❖ Learn how to add and load image assets to Flutter projects.

❖ Run Flutter apps on iOS Simulator, Android Emulator and physical devices.

CREATING BEAUTIFUL UI WITH FLUTTER

❖ Use Hot Reload and Hot Restart to quickly refresh the app UI and understand when to use each.

❖ Dependencies, custom assets and fonts.

❖ An introduction to the Widget build() method.

❖ Learning to use layout widgets such as Columns, Rows, Containers and Cards.

❖ Incorporating Material icons using the Icons class.

❖ Customize apps with Theme widgets.

❖ Refactoring widgets by extracting them as separate Widget classes.

❖ Create custom Flutter Widgets by combining smaller widgets

❖ Learn to build multi-screen Flutter apps by learning about routes and the Navigator widget.

❖ Understand why flutter favors composition vs. inheritance when customizing widgets.

BUILDING APPS WITH STATES

❖ Understand the difference between Stateful and Stateless

❖ Widgets and when they should each be used.

❖ Understand how callbacks can be used detect user

❖ interaction in button widgets.

❖ lUnderstand the declarative style of UI programming and how

❖ Flutter widgets react to state changes.

❖ lLearn to import dart libraries to incorporate additional

❖ functionality.

❖ lBuild flexible layouts using the Flutter Expanded widget.

❖ lUnderstand the relationship between setState(), State

❖ objects and Stateful Widgets.

FLUTTER PACKAGES

❖ Learn to use the Dart package manager to incorporate Flutter compatible packages into your projects

❖ Incorporate the audio players package to play sound.

❖ Learn more about functions in Dart and the arrow syntax.

❖ Learn to refactor widgets and understand Flutter's philosophy of UI as code.

STRUCTURING FLUTTER APPS

❖ Learn about how lists and conditionals work in Dart.

❖ Learn about classes and objects in Dart and how it apply to Flutter widgets.

❖ Understand Object Oriented Dart and how to apply the fundamentals of OOP to restructuring a Flutter app.

❖ Learn to use Dart Constructors to create customizable Flutter widgets.

❖ Apply common mobile design patterns to structure Flutter apps.

❖ Learn about structuring and organizing Flutter apps

ALTALUNE TECHNOLOGY

FLUTTER APPS WITH BACKEND DATA

- ❖ Getting location data from both IOS and Android.
- ❖ Using the http package to perform networking and get live data from open APIs.
- ❖ Flutter Database using SQLite
- ❖ Understanding how to parse JSON data using the dart: convert library.
- ❖ Understand how to pass data to State objects via the Stateful Widget.
- ❖ Use the Text Field Widget to take user input.
- ❖ Understand how to pass data backwards using the Navigator widget.

FLUTTER APPS WITH FIREBASE

- ❖ Flutter with firebase Database
- ❖ Flutter with firebase Authentication
- ❖ Flutter with cloud Storage

TESTING THE APP

TROUBLESHOOTING

SUMMARY AND CONCLUSION