UMT SHORT COURSES

Certified Flutter App Development

Introduction

This extensive course is designed a good understanding of flutter app development using latest version of Dart, Flutter SDK, VS-Code and Android Studio. Participants of the course will learn essentials of Dart programming for Flutter framework, creating rich UI for both Android and IOS applications, storing and accessing data to internal or external storage of a mobile and to the cloud using Firebase and usage of device resources such as camera & location sensor in Android and IOS apps. It also covers deployment of the Android and IOS application to Google Play Store and APP Store.

Brief Contents

1. Basic understanding of flutter market, flutter counterparts and overview about flutter framework

    Examples of enriched mobile apps to understand market, their components and business model

2. Introduction to dart programming: variables, data types, loops, control structures, functions, object-oriented concepts, synchronous and asynchronous code, callbacks. Common syntax and logical errors. IO-Streams, Regular Expression and collection in dart.

    Lab1: Practice week 2 content in a programming lab.

3. Download and installation process of essential software tools like android studio, vs-code, and Xcode for windows and mac both operating systems.

    Lab 2: Creating a first flutter app and set up virtual device (Emulator) for debugging in coding lab.

4. Basic Flutter code structure understanding with the help of event listeners, stateless and stateful widgets. Making a BMI App using the week 2 contents without database.

    Lab 3: Each student will make a Quiz app using week4 contents.

5. Material designing: To design a rich user interface through the following widgets using custom buttons, navigation drawer, floating action button, bottom navigation bar, stack, container, inkwell, elevated button, cart, list-view, grid-view custom widgets, custom font, custom themes and apply animation on widgets.

    Lab 4: Students will make an E-commerce store app using week5 contents.

6. Firebase1: In this module firebase authentication will apply in the previous app with 3 different authentications like Google, Facebook, and custom-email-password.

    Lab 5: Students will add authentication in E-commerce store app using week6 contents.

7. Firebase 2: Learning CRUD operation on firebase fire-store new real time database. Using database operation learned save and retrieve products of E-commerce app.

    Lab 6: Students will apply add to cart and check-out features in E-commerce store app using week7 contents.

8. Services and Broad-Cast-receiver: Implement flutter services plugin that execute dart code continuously even application closed and also implement broadcast receiver to send and receive custom notifications

Lab 7: Students will make custom notification for online sale in E-commerce app using week8 contents.

9. Restful API: In this week developing a multithreading app to read or write data using restful service through HTTP protocol in JSON or xml format.

Lab 8: Students will make a CRICINFO app using week9 contents.

10. Google Map API: Lastly implement google map working with marker and locations

Lab 9: Students will make a Tracking app using week10 contents.

Audience

- Programmers, Software Developer, Web Developers
- Software Analysts, Software Designers & Software Architects
- Students of software engineering, computer science & IT
- Any other person willing to learn flutter applications development

Prerequisite

Student of the course should have good understanding of programming language and ability to use computers.

Course Project

Participants of the course have to develop a business Application for Android. Preferably the Application should have multipage user interface and store data to Firebase database or connect with a RESTful service on the internet to send and receive data.

Course Material

- Specially compiled reading material in e-format on Flutter App Development
- Class demos/presentations in e-format
- Source code of the demo Flutter apps developed during the course