GenAI TRAININGS

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Course Title

Mobile Development Bootcamp (React Native & Flutter)

Course ID

MOB-DEV-701

Course Level

Beginner to Intermediate

Duration

180 Hours (Bootcamp)

Includes instructor-led training, hands-on labs, mobile app projects, assignments, mock exams, and interview preparation.

Delivery Mode

Hybrid / Onsite + Online LMS Support

Course Description

This bootcamp provides practical training in Mobile Application Development using hybrid frameworks React Native and Flutter. Learners will gain skills in building cross-platform mobile apps for Android and iOS, integrating APIs, managing state, and deploying apps. The program emphasizes hands-on app development, UI/UX design principles, performance optimization, and industry best practices for mobile solutions.

Course Objectives

By the end of the course, learners will be able to design, develop, and deploy hybrid mobile applications using React Native and Flutter. Participants will gain experience in app navigation, state management, API integration, debugging, testing, and publishing apps on Google Play Store and Apple App Store.

Intended Audience

This course is suitable for software engineering students, junior developers, web developers transitioning to mobile, and professionals aiming to build a career in mobile app development.

Prerequisites

Basic knowledge of programming (JavaScript, TypeScript, or Dart recommended). Familiarity with HTML, CSS, and web development concepts is beneficial. A laptop with a minimum i5 processor, 8GB RAM, and latest OS (Windows/macOS) is required.

Tools & Platforms

React Native CLI / Expo, Flutter SDK, Android Studio, Xcode (for macOS), VS Code, Node.js, Git/GitHub, Firebase / REST APIs, and LMS portal for assessments and resources.

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Course Outline (Modules & Topics)

Module 1: Introduction to Mobile Development

Overview of mobile platforms, hybrid vs native development, development tools setup, app lifecycle, and architecture. Lab includes setting up a development environment and creating a "Hello World" app.

Module 2: React Native Fundamentals

JSX, components, props & state, styling, layout with Flexbox, handling user input, navigation basics. Lab includes small interactive React Native screens.

Module 3: Flutter Fundamentals

Dart language basics, Flutter widgets, layout design, stateful vs stateless widgets, navigation, and styling. Lab includes building simple Flutter screens and UI components.

Module 4: State Management & App Logic

React Native: Context API, Redux basics, and hooks.
 Flutter: Provider, Riverpod, or Bloc Basics.
 Lab includes implementing state management in a multi-screen app.

Module 5: API Integration & Backend Communication

Fetching data from REST APIs, JSON parsing, HTTP requests, asynchronous programming, error handling, and displaying dynamic content. Lab includes building apps with live API data.

Module 6: UI/UX & Advanced Mobile Features

Custom UI components, animations, responsive design, gestures, camera & location access, push notifications, and local storage. Lab includes integrating advanced mobile features.

Module 7: Testing & Debugging Mobile Apps

Debugging techniques, logging, unit testing, widget testing (Flutter), and automated testing in React Native. Lab includes writing test cases and troubleshooting apps.

Module 8: Deployment & App Store Publishing

App signing, build generation, publishing on Google Play Store and Apple App Store, app versioning, and release management. The lab includes deploying a sample app.

Module 9: Capstone Project & Certification Preparation

End-to-end mobile application project integrating all learned concepts, including UI/UX, API integration, state management, testing, and deployment. Includes mock assessments, interview preparation, and final evaluation.

Assessment & Evaluation

Assessment includes quizzes, coding assignments, mobile app lab tasks, capstone project evaluation, and mock certification exams to ensure industry readiness.

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