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Discover · Grow · Transform

MPESA Mini Apps And API Development Course

Part-Time Online classes

In partnership with:

Safaricom | m-pesa

Introduction

Introducing The Mini Applications Development Program, where innovation meets application! This is a pioneering initiative designed for aspiring developers in collaboration with Mpesa Africa.

This pioneering course is designed for developers who want to advance their software development skills, particularly in functional and state (reactive) programming. Developed in collaboration with M-PESA Africa, this program goes beyond the basics to help you launch complementary web services called mini-applications, using lightweight front-end frameworks like XML.

Join us to explore the world of cross-platform super applications and emerge with a portfolio of front-end projects, showcasing your expertise in mini-applications development.

Why Learn MPESA Mini Apps & API Development Course?

This course will take you from 0 to an experienced junior Mini Apps Software Developer with industry-relevant & practical skills.

Pioneering Mini-Apps Learning:
Explore groundbreaking mini-applications development, a first in Africa, in collaboration with M-PESA Africa, ensuring you stay at the forefront of industry trends.

Real-World Readiness:

Partnering with M-PESA Africa ensures a curriculum that aligns with industry needs, giving you practical insights and knowledge through access to industry-relevant labs and projects directly from the hiring partner.

Future-Ready Skills:

Gain insight into cross-platform super applications, positioning yourself for success with a unique blend of industry collaboration, practical & project-based learning experience, and forward-looking tech skills.

Career Opportunities:
A chance to work with M-PESA Africa in the future Mini Applications Projects

Certification:
A chance to get certified and get a Platinum Badge certification as a mini apps developer

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Why Study At Moringa?

Moringa is one of the most successful tech boot camps in Africa. Join us and get top-tier learning & student experience.

01 Practical Hands-on Learning

02 Dedicated Technical mentor support

03 Graduates earn a certificate & a platinum Badge upon completion of the course

04 Access to industry networks through tech events, networking forums and the alumni community

Who is this course for?

This course is specifically designed for developers at all levels—whether you're a self-taught developer seeking structured learning, a junior developer looking to tackle more complex challenges, or a mid-level professional aiming to advance your skills and lead projects. If you're passionate about software development and want to take your career to the next level, this course is for you!

What are the requirements to join?

Students should be comfortable with JavaScript programming, including functions, objects, and data types, as well as have a basic understanding of HTML, CSS, and test-driven development.

Course Details

Curriculum Developed by Moringa and M-PESA Africa

Course Duration - 21 weeks
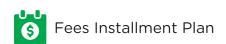
Mode of learning - Part-Time Online Classes

Training Delivery - Online Classes every Mon - Fri from 6.00 pm - 9.00 pm
(Live lectures, self-learning, and Technical Mentor Support available)

Tuition Fees - KES 170,000

Fee Payment Options Available

Upfront Full Fee Payment

Fees Installment Plan

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Curriculum Outline

Module 1: API consumption

Week 1

APIs

- API Documentation and Keys best practices
- Postman
- Parsing JSON
- JavaScript API Calls

Week 2

Asynchrony

- JavaScript functionality to handle asynchrony: callbacks, promises, and async functions.
- Working with Promises
- JavaScript error handling with try...catch.
- Error handling specifically for API calls

Week 3

Functional Programming

- Pure functions
- Map, Reduce and Filter
- First class functions
- Higher order functions
- Immutability

Week 4

JavaScript FP methods

- Closures
- Currying functions
- Recursion
- Composition over inheritance
- JavaScript methods commonly used for functional programming

Wellness Break

Week 6

React

- Introduction to React [Framework]
- React Components
- Introduction to JSX
- Props, looping in JSX & Handling multimedia resources
- State: Introduction: Updating State with Events

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Curriculum Outline

Week 7

React Principles

- Conditional rendering
- Callbacks: Passing Data
- Binding Functions
- JSX Expressions with Argument
- UI styling: React CSS Objects

Week 8

REDUX

- Introduction: Redux
- Redux-React library
- Combining Reducers
- Redux Deployment
- Time Functions
- Component Lifecycle

Week 9

Data Persistence

- Introduction to Hooks: Running and Refactor
- NoSQL: CAP Theory
- Client-Side Routing
- Firebase: Introduction

Week 10

Firebase

- Authentication: Firebase
- Time Stamps Integration
- Hosting with Firebase
- Firestore || Structuring data
- Firestore Queries

Week 11 - Capstone Project

Wellness Break

Module 2: Mini-apps

Week 13

Reactive API

- State Management in API calls
- API Testing
- Implementing Hooks
- Implementing Context & Provider
- Context Consumers and Error Handling
- Contextual Best Practices

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Curriculum Outline

Week 14

Introduction to XML

- XML Technologies
- Describing Data with XML
- Types of XML Content || Syntax
- XML Namespaces
- XML and CSS Style
- Styling XML tags || Advanced CSS with XML
- Manipulating XML with DOM
- Discovering Document Content
- Creating Document Content

Week 15

Introduction to Mini-Apps

- Introduction to mini-applications development IDE
- Mini Apps (Client-Server) Architecture
- Mini apps basic Architecture
- Mini app components and Building Blocks

Week 16

Mini-application Development

- Event vs State system
- JSAPI - JS bridge guide for cross-app launch
- Event handling and debugging
- Resource management (ui, location, maps, media, alipay connect

Week 17

Mini-apps containers

- OpenAPI (Navigate to and back to Mini programs)
- Creating Mini apps Containers
- Managing Users
- Release and Deployment
- Push/publish mini apps to Sandbox

Week 18

Integration

- File (File handling)
- Location (Location services)
- Network (Requests handling my.request)
- Device (Permissions, make Phone Call, Network Status)

Week 19

Monitoring and Authentication

- Sockets Integration
- Back Office (Internal)
- Creation and updating of services
- Provisioning Mini apps services
- Project Ideation & Pitch

Week 20-21 Portfolio Project

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Contact Details

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