



GAME PROGRAMMING WITH SCRATCH

Overview

60 Sessions || 10-16years

Raising younger innovators & innovations.

KTECCAFRICA

COURSE OVERVIEW

The Game Development with Scratch course introduces kids and teens to the world of coding through interactive game creation using the Scratch programming environment. Students will learn fundamental coding concepts such as sequencing, loops, conditionals, variables, and events while designing and developing their own video games. Through hands-on projects and guided exercises, students will unleash their creativity, problem-solving skills, and logical thinking to bring their game ideas to life.

WHY AFRICA KIDS & TEENS?

"Africa possesses vast untapped potentials, not necessarily due to a lack of skills, but often because we enter the arena later than others, resulting in our efforts being overlooked. We believe that a key solution lies in empowering the next generation from the outset. Adult learning can be complex and time-consuming & distracting, making it essential to focus on nurturing skills and talents in children and teenagers."

Founder KTECCAFRICA

COURSE OBJECTIVES

The objectives of this course are to:

- 1. Understand basic programming concepts and principles.**
- 2. Learn how to use the Scratch platform for game development.**
- 3. Develop problem-solving and computational thinking skills.**
- 4. Create interactive stories, animations, and games.**
- 5. Foster creativity and collaboration in a digital environment.**

COURSE GOAL

The Game Development with Scratch course empowers kids and teens to become creators and innovators in the world of technology. Through exploration, experimentation, and collaboration, students will develop valuable programming skills and unleash their creativity while having fun designing and building their own games and animations.

Course Summarized Overview

Module 1: Introduction to Scratch

Classes 1-3: Overview of Scratch programming environment and its features.

Classes 4-6: Understanding sprites, backdrops, and basic programming concepts.

Classes 7-9: Exploring the Scratch interface and creating simple animations.

Module 2: Basic Game Design

Classes 10-12: Introduction to game design principles and mechanics.

Classes 13-15: Designing characters, objects, and environments for games.

Classes 16-18: Creating interactive elements and user interfaces.

Module 3: Coding Fundamentals

Classes 19-21: Understanding sequencing and loops in Scratch.

Classes 22-24: Using conditionals and events to control game behavior.

Classes 25-27: Introduction to variables and data storage in game development.

Module 4: Advanced Game Development

Classes 28-30: Designing and implementing game levels and challenges.

Classes 31-33: Adding sound effects, music, and visual effects to games.

Classes 34-36: Incorporating user input and feedback mechanisms.

Prerequisites

No prior coding experience is required. Basic computer literacy skills are recommended.

Resources

Online tutorials and educational games.
Relevant educational websites and platforms.

Module 5: Project-Based Learning

Classes 37-40: Working on individual or group game development projects.

Classes 41-44: Iterative design and development process: testing, debugging, and refining games.

Classes 45-48: Presentation of completed game projects to the class, followed by peer feedback.

Module 6: Showcase and Assessment

Classes 49-52: Game showcase event where students present their games to parents, teachers, and peers.

Classes 53-56: Assessment of game development skills, creativity, and problem-solving abilities.

Classes 57-60: Reflection and discussion on learning outcomes, achievements, and future goals.

The course aims to equip kids and teens with essential coding skills while fostering creativity and innovation through game development.

ASSESSMENT

Formative assessments: Weekly quizzes, coding challenges, and project checkpoints to assess understanding and progress.

Summative assessments: Final project evaluation based on creativity, functionality, and adherence to design principles.

Peer assessments: Peer feedback sessions to evaluate and provide constructive criticism on classmates' projects.