



## KIDS & TEENS FREELANCING TRAINING

### IOT Certification Course Outline

#### MODULE 1: What is IOT?

- What does “Internet of Things” mean?
  - Everyday examples: smart bulbs, Alexa, wearables
  - How devices talk to each other
  - Fun activity: Count IoT devices at home or school
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#### MODULE 2: Smart Sensors & Devices

- Types: temperature, light, motion, sound, humidity
  - How sensors help in smart homes, cities, and farms
  - Real example: Automatic lights turning on with motion
  - Hands-on: Simulate sensors using interactive visuals or micro:bit (if available)
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#### MODULE 3: Connectivity – How Devices Talk

- Wi-Fi, Bluetooth, and the internet basics
  - Simple explanation of data packets
  - Role of routers and cloud
  - Group activity: Kids act as "smart devices" passing info in a network relay game
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#### MODULE 4: Simple Smart System Demo

- Turn on LED with motion or temperature trigger
  - Concept of input/output
  - Real-world use: Smart alarm or fan system
  - No-code or block-code demo via simulation
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#### MODULE 5: Control IOT Devices Remotely

- What is remote control?
- Smart home apps (turn on AC/lights with phone)
- Make a mock “smart home” dashboard on paper or digital tool
- Activity: Design their own app screen for smart control

## **MODULE 6: Data & Dashboards**

- Simple dashboards using spreadsheets or free tools
  - Visualize temperature or motion over time
  - Why dashboards help people make decisions
  - Build a mini dashboard to track classroom noise or temperature (real or simulated)
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## **MODULE 7: IOT Safety & Privacy**

- What is data encryption?
- Examples of risks (hacked cameras, weak passwords)
- How to protect devices (strong passwords, updates)
- Create a “Smart Device Safety Checklist” poster

## **MODULE 8: Final Project – Design Your Own Smart System**

- Brainstorm: Smart plant pot, pet feeder, alarm, or school bag
- Sketch system components (sensor + action + control)
- Optional: Build on Tinkercad or paper prototype
- Present the idea to family or peer