CodyNick AI & IOT Workshops

Hands-On Fun with Artificial Intelligence & Internet of Things

www.codynick.com

CodyNick AI & IOT Workshops

Workshop Title	Workshop Field	Hands-On Goal	Age
Mood Magic Workshop	Exploring Psychology with AI	Make lights and sounds react to emotions	Kids 8-12
Face Check Workshop	Exploring Classroom Automation with AI	Build an AI that takes attendance for class	Kids 8-12
Secret Signals Workshop	Human-Computer Interaction with AI	Control devices just by waving a hand	Kids 8-12
Whisper Switch Workshop	Smart Home Automation with AI	Switch devices on and off with voice or motion	Kids 8-12
Silent Guard Workshop	Smart Home Automation with AI	RFID-based secure access system	Teens 13-17
EcoGrow Lab Workshop	Smart Farming with AI & IoT	Build an irrigation system that saves water	Teens 13-17
Wellness Whisper Workshop	Wellness & Environment with AI & IoT	Design a comfort station that tracks air quality	Teens 13-17
City Pulse Workshop	Smart Cities with AI & IoT	Make a live dashboard that shows city data	Youth 18-22
Crisis Radar Workshop	Exploring Safety with AI & IoT	Build a system that detects gas or heat hazards	Youth 18-22
RFID Credit Workshop	Exploring FinTech with IoT	Create an RFID payment system for school shopping	Youth 18-22

Hands-on AI Fun

Kids 8–12

✨Mood Magic Workshop

Exploring Psychology with AI

What Shade and Melody is Your Mood Today?

Explore AI by detecting emotions with facial expressions, then coding lights & sounds.

Join the Fun, Sign Up Now!

www.codynick.com

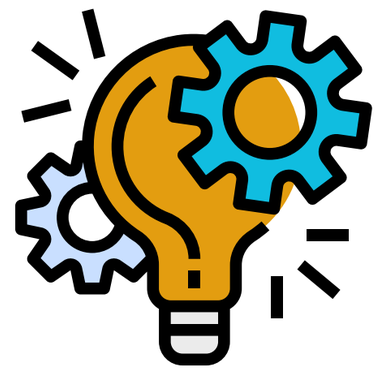
✨Mood Magic Workshop
in More Details

Summery:

Students will explore how AI can interpret human emotions by analyzing facial expressions. They will apply these insights to create engaging outputs with CodyNick Gadgets, mapping moods to lights and sounds for a fun, interactive learning experience.

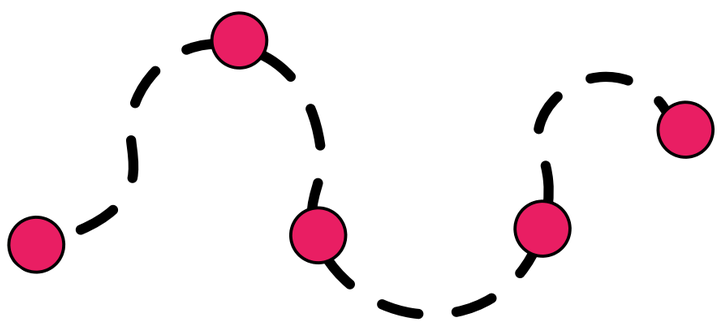
2 Goals:

1. Understand basic emotion detection
2. Connect AI outputs to hardware
3. Design fair, respectful interactions



3 Final Output

An AI-driven mood display that recognizes faces and triggers matching lights and sounds in real time.



4 Main Steps:

- Train emotion model quickly
- Map classes to outputs
- Test with classmates safely

5 Requirements

- CodyNick Gadget + LEDs/buzzer
- Webcam or phone camera
- Block coding environment access

Hands-on AI Fun

Kids 8–12

Face Check Workshop

Exploring Classroom Automation with AI

Who's in Class Today? Let AI Tell You!

Train an AI to recognize faces, give light and sound feedback at each entry, and display absentees on screen.

Try Classroom AI, Sign Up Now!

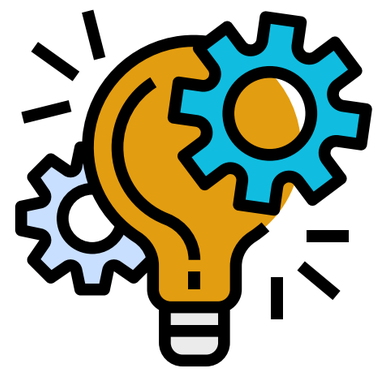
Face Check Workshop
in More Details

Summery:

Students design a face-recognition attendance system to automate roll call. Using AI and CodyNick Gadgets, the system greets students on entry, logs attendance, and displays absentee information, showing how technology supports classroom management and efficiency.

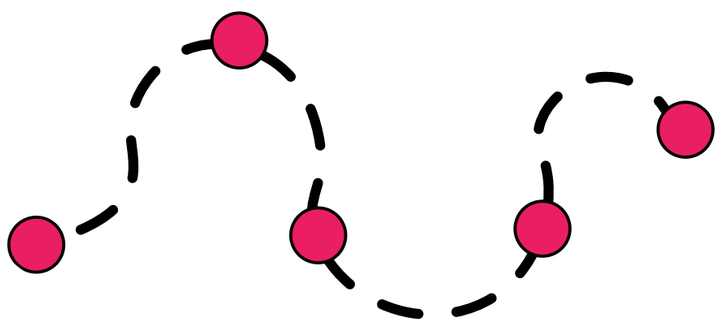
2 Goals:

1. Link faces to IDs
2. Display live attendance lists
3. Provide friendly entry feedback



3 Final Output

A face-recognition attendance kiosk that logs arrivals and displays absentees on a connected screen.



4 Main Steps:

- Enroll student face samples
- Trigger lights and sounds
- Render daily status screen

5 Requirements

- CodyNick Gadget + display
- Webcam or phone camera
- Block coding environment

Hands-on AI Fun

Kids 8–12

👋 Secret Signals Workshop

Exploring Human–Computer Interaction with AI

Wave Your Hand, Command the World!

Program gesture recognition with AI to control everyday devices like fans or lights.

Master Air Commands, Join Us!

www.codynick.com

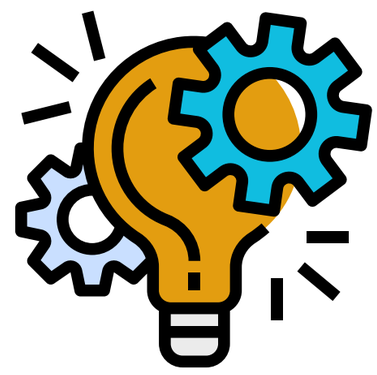
Secret Signals Workshop
in More Details

Summery:

Students experiment with gesture-recognition models to control devices using hand movements. They learn the basics of human-computer interaction while building a system that transforms simple gestures into practical commands through CodyNick Gadgets and coding blocks.

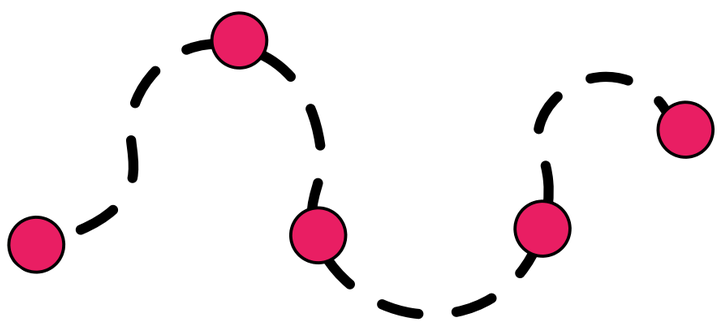
2 Goals:

1. Design clear gesture sets
2. Map gestures to actions
3. Iterate for reliability



3 Final Output

A gesture-controlled demo that reliably switches or adjusts devices using recognized hand movements.



4 Main Steps:

- Collect gesture samples
- Train, test, refine model
- Trigger gadget outputs

5 Requirements

- CodyNick Gadget + relays
- Webcam or phone camera
- Block coding environment

Hands-on AI Fun

Kids 8–12

⚡Whisper Switch Workshop

Exploring Smart Home Automation with AI

Control Your World with Just a Word or a Move!

Use AI voice commands and motion detection to switch real devices on and off.

Unlock Hidden Power, Join Us!

www.codynick.com

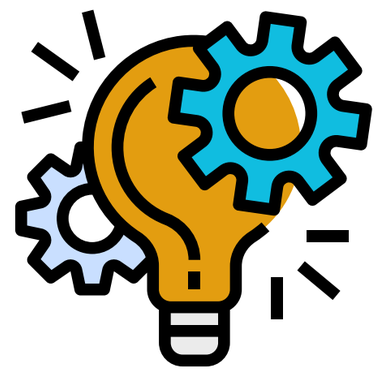
⚡Whisper Switch Workshop
in More Details

Summery:

Students integrate voice commands and motion sensors to automate home-like tasks. They combine AI and IoT principles with CodyNick Gadgets, learning how multimodal systems create practical, safe, and efficient smart environments in everyday life.

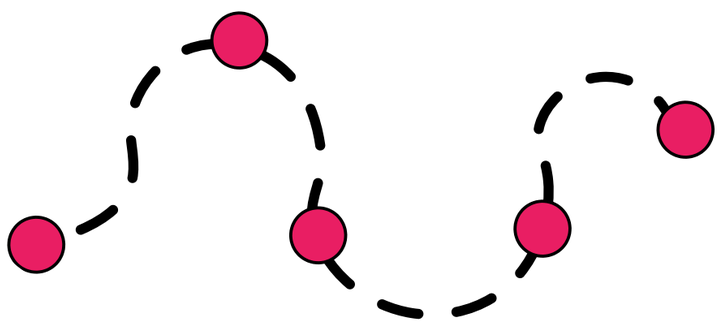
2 Goals:

1. Implement voice command parsing
2. Detect motion with sensors
3. Combine rules for control



3 Final Output

A smart-home demo where voice and motion events toggle real devices with safe automation rules.



4 Main Steps:

- Configure mic input blocks
- Add motion sensor logic
- Create action rules

5 Requirements

- CodyNick Gadget + sensors
- Microphone input option
- Block coding environment

IoT Innovation Lab

Teens 13–17

Silent Guard Workshop

Exploring Smart Home Automation with AI

Control Access, Protect Your Space.

Build an IoT-based access system with motion sensors and RFID for secure entry and remote monitoring.

Step Into Smart Security, Join Us!

www.codynick.com

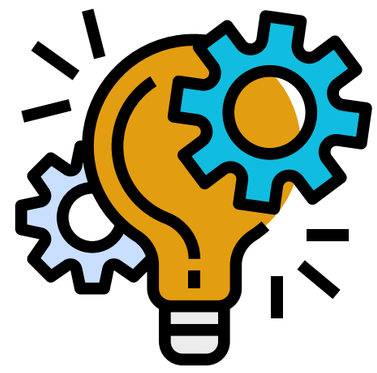
Silent Guard Workshop
in More Details

Summery:

Students design a secure RFID access system using CodyNick Gadgets. They assign roles to RFID cards, control locks, and log access attempts, learning how smart security systems improve safety while introducing concepts of transparency and monitoring.

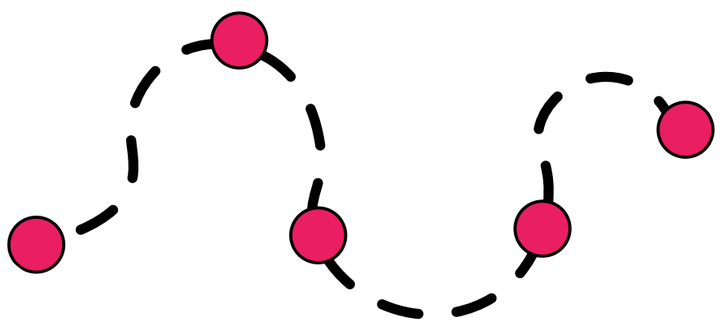
2 Goals:

1. Assign roles to RFID tags
2. Control locks and alerts
3. Log access events securely



3 Final Output

An RFID access prototype that authenticates users, actuates a lock, and records entry events to the cloud.



4 Main Steps:

- Register user RFID cards
- Set authorization rules
- Log events to cloud

5 Requirements

- CodyNick Gadget + RFID
- Actuator or lock relay
- Cloud logging connection

IoT Innovation Lab

Teens 13–17

EcoGrow Lab Workshop

Exploring Smart Farming with AI & IoT

Smarter Farming for a Greener Future.

Create an IoT irrigation system that adapts to soil moisture and climate data to optimize water use and support sustainable farming.

Grow Smart, Join Us!

www.codynick.com

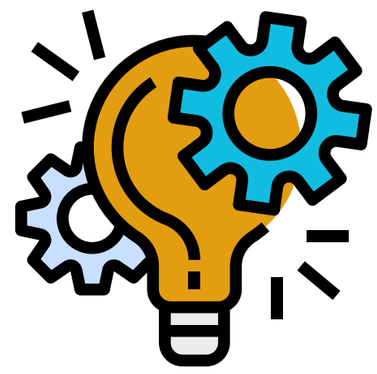
EcoGrow Lab Workshop
in More Details

Summery:

Students create an irrigation system that responds to soil moisture and weather data. With CodyNick Gadgets, they build solutions to save water, improve farming efficiency, and display results on dashboards for better agricultural management.

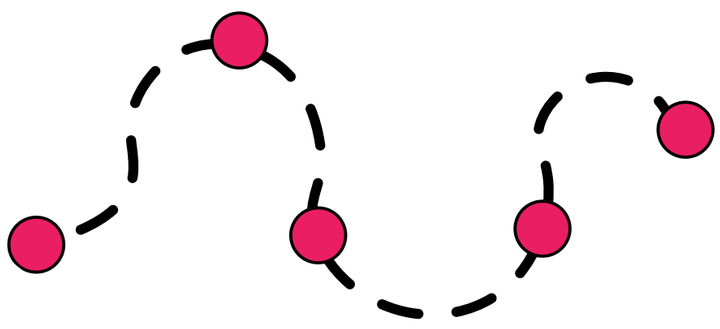
2 Goals:

1. Read soil moisture data
2. Automate pump control
3. Visualize water savings



3 Final Output

An IoT irrigation controller that waters only when needed and reports performance to a live dashboard.



4 Main Steps:

- Install moisture probes
- Define watering thresholds
- Stream data to charts

5 Requirements

- CodyNick Gadget + probes
- Pump/valve relay module
- Cloud dashboard access

IoT Innovation Lab

Teens 13–17

Wellness Whisper Workshop

Exploring Wellness & Environment with AI & IoT

Breathe Better, Live Smarter.

Design an IoT comfort station that monitors air quality and temperature, triggering automated responses for healthier and more comfortable living.

Build Smart Wellness, Join Us!

www.codynick.com

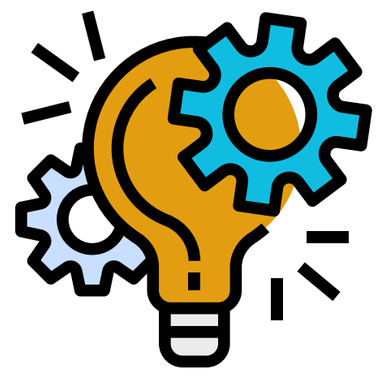
Wellness Whisper Workshop
in More Details

Summery:

Students build an indoor comfort station that tracks air quality and temperature. With CodyNick Gadgets, they learn how technology measures environmental health, provides alerts, and encourages practical steps to create healthier living spaces.

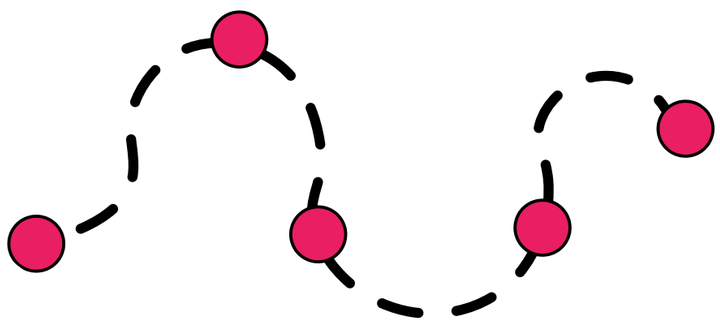
2 Goals:

1. Measure AQI-related metrics
2. Alert when thresholds exceed
3. Recommend simple actions



3 Final Output

An indoor comfort station that tracks air quality, alerts users, and suggests steps to improve conditions.



4 Main Steps:

- Wire air sensors safely
- Calibrate baseline readings
- Create alert routines

5 Requirements

- CodyNick Gadget + sensors
- Indicator LEDs or buzzer
- Cloud logging optional

IoT Innovation Lab

Youth 18-22

City Pulse Workshop

Exploring Smart Cities
with AI & IoT

See Your City Come Alive with Data.

Build an IoT dashboard that visualizes urban sensor data — including noise, light, and movement patterns — to better understand and shape smart cities.

Decode the City, Join Us!

www.codynick.com

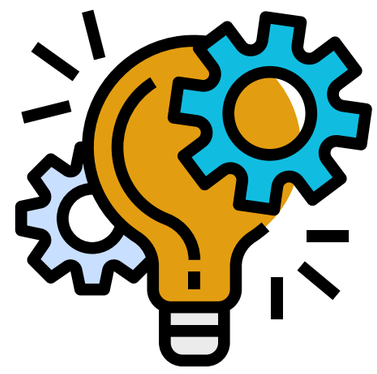
City Pulse Workshop
in More Details

Summery:

Students simulate smart city dashboards by collecting data on noise, light, and movement. They use CodyNick Gadgets and cloud tools to visualize patterns, analyze trends, and discuss the role of data in urban planning.

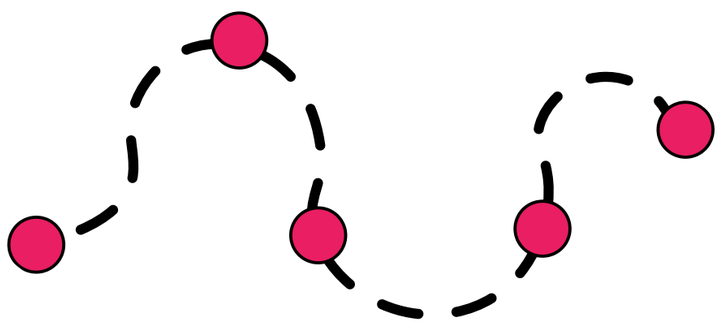
2 Goals:

1. Aggregate multiple sensor streams
2. Visualize trends over time
3. Discuss data ethics publicly



3 Final Output

A city data dashboard that visualizes live neighborhood signals to support discussion and planning.



4 Main Steps:

- Deploy citylike sensors
- Stream data to cloud
- Build analytic charts

5 Requirements

- CodyNick Gadget + sensors
- Internet for streaming
- Dashboard or Sheets

IoT Innovation Lab

Youth 18-22

Crisis Radar Workshop

Exploring Safety with AI & IoT

Detect Danger Before It Strikes.

Create an IoT alert system that identifies gas leaks or heat hazards and triggers remote warnings for rapid response and safety.

Stay Ahead of Hazards, Join Us!

www.codynick.com

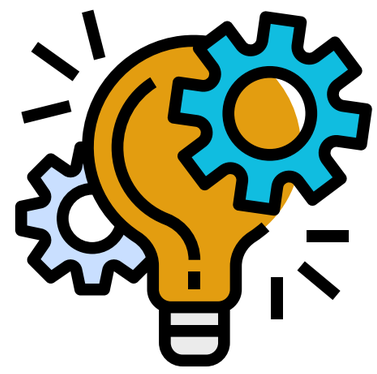
Crisis Radar Workshop
in More Details

Summery:

Students design a hazard detection system to prevent accidents. Using CodyNick Gadgets, they sense dangerous gases and heat levels, set thresholds for alarms, and issue cloud alerts, improving readiness and safety in critical environments.

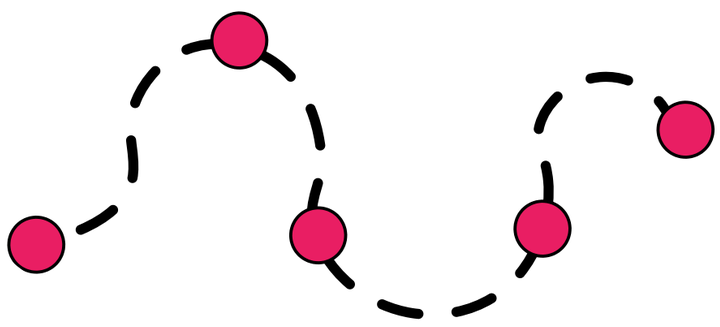
2 Goals:

1. Sense hazardous conditions
2. Trigger immediate alarms
3. Notify remotely with logs



3 Final Output

An IoT alert system that detects gas or heat anomalies and notifies users for rapid, safe response.



4 Main Steps:

- Calibrate gas/heat sensors
- Define alarm thresholds
- Send remote messages

5 Requirements

- CodyNick Gadget + sensors
- Buzzer and indicator LEDs
- Cloud notification channel

IoT Innovation Lab

Youth 18-22

Smart Billing Workshop

Exploring FinTech with IoT

Ever wondered how digital purchases are tracked?

Build a school-wide RFID credit card system powered by CodyNick and IoT.

Turn Shopping into Coding, Join Us!

www.codynick.com

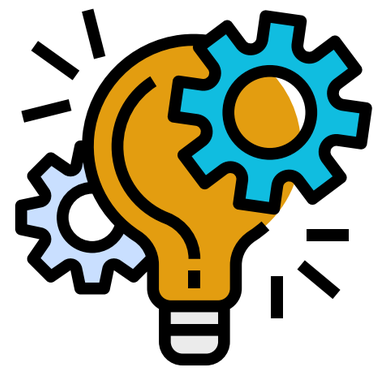
Smart Billing Workshop
in More Details

Summery:

Students will explore how digital purchases are tracked in real life by building an RFID-based billing system. They will design shop stations, log transactions to the cloud, and simulate a charity bazaar experience.

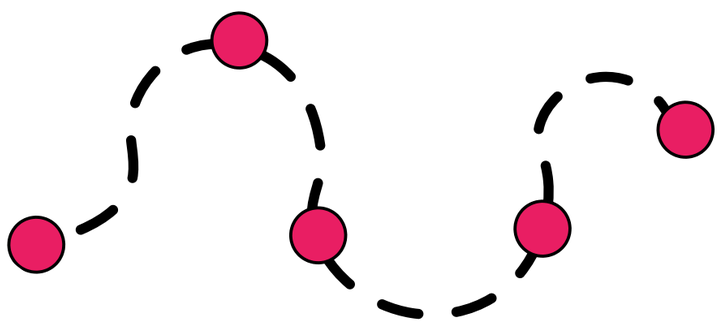
2 Goals:

1. Apply RFID card payment logic
2. Design simple shop station GUIs
3. Practice ethical data handling



3 Final Output

A working IoT billing system where RFID cards record purchases, data is stored in the cloud, and a final bill is calculated at exit.



4 Main Steps:

- Build RFID-based shop stations
- Log purchases to cloud database
- Create exit payment counter

5 Requirements

- CodyNick Gadgets with RFID reader
- Block coding with Sprite GUI
- Internet access for cloud logging