优必选

UBTECH

UBTalk-S4

UKT

EXPLORE

Nicole

Michael

A very exciting video first...

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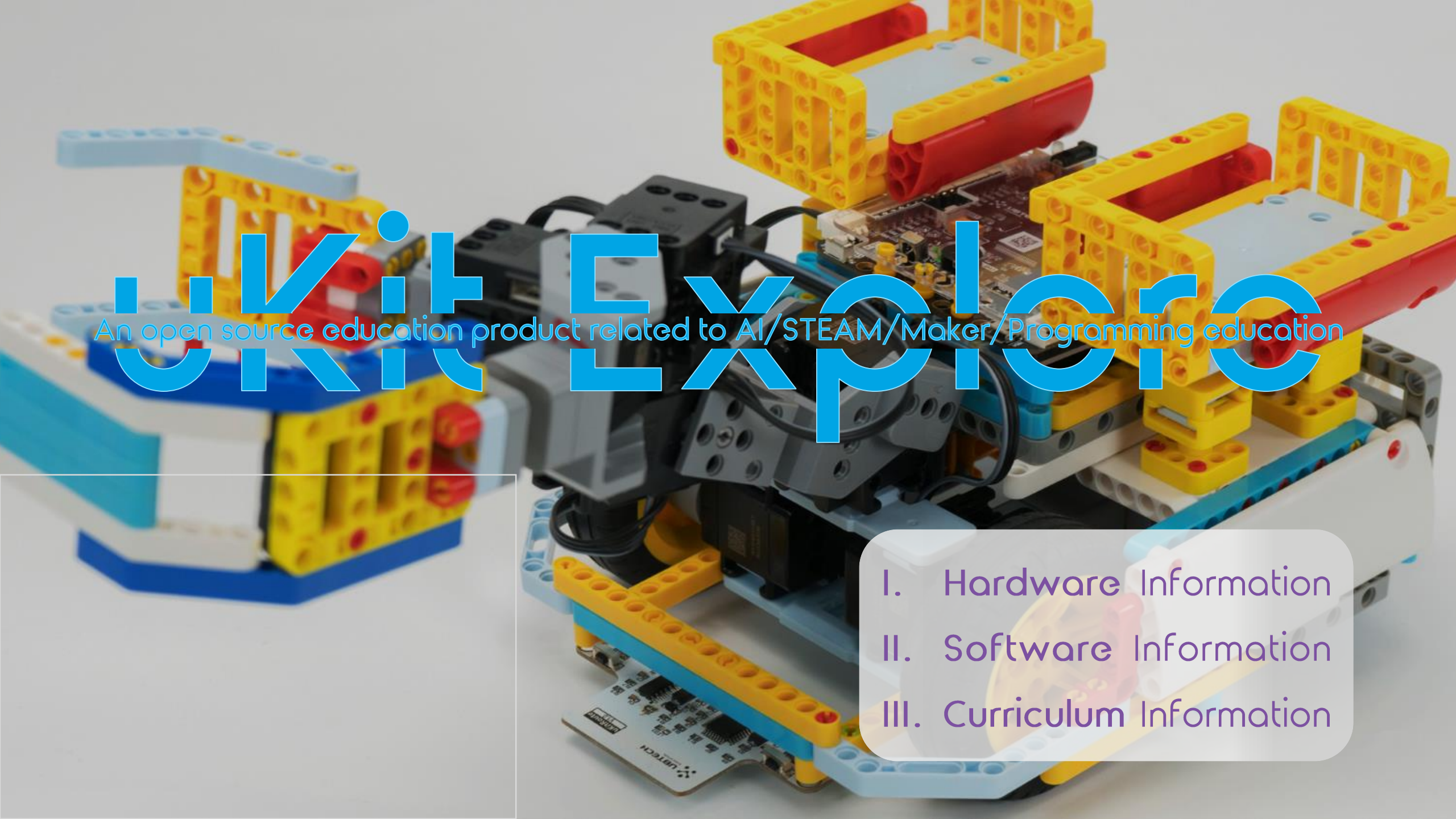
JKit Explore
An open source education product related to AI/STEAM/Maker/Programming education
I. Hardware Information
II. Software Information
III. Curriculum Information

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UKIT EXPLORE

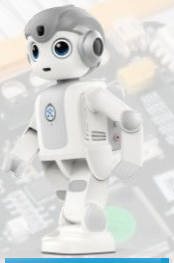
Teaching Tools

Research Institute
University/ College
Senior High School
Junior High School
Elementary School Upper Grades
Elementary School Lower Grades

uKit Advanced

uKit Entry

Jimu Robot


AlphaMini

uKit Explore
Arduino

Innovate

Yanshee
Raspberry Pi

Block building Design-Record-Play (DRP)

Graphics Programming: Blockly

Learning Companion AI/Science Knowledge

Open Source HW Text programming: Python/C/C++

01

Hardware

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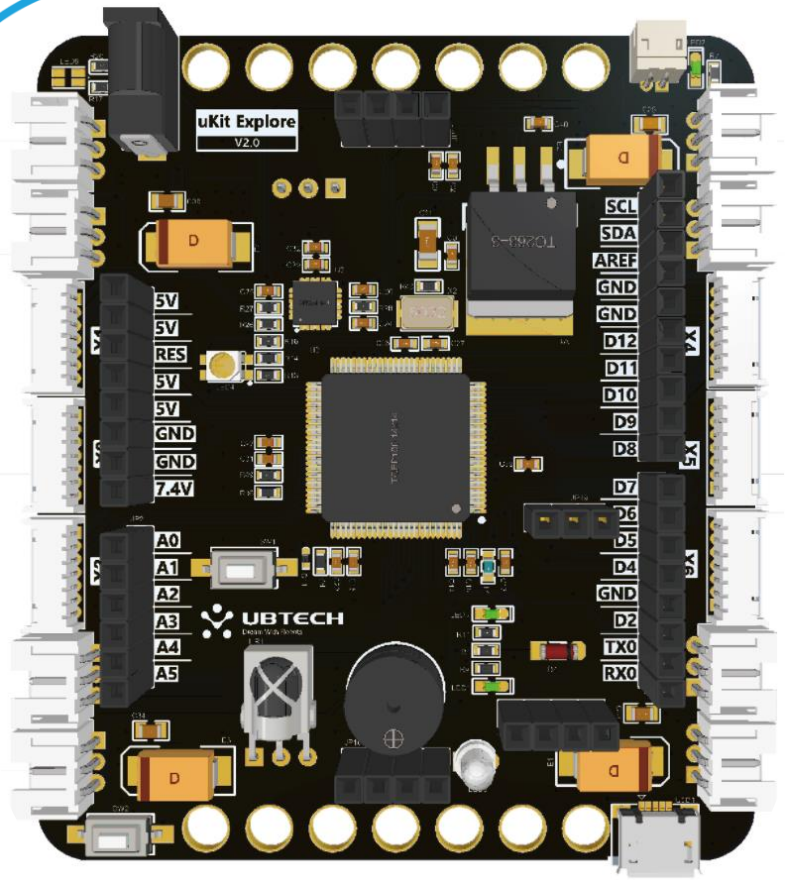
1.1 Explore Mainboard

- 3-pin uKit interface
- 7-pin Digital/I²C
- 7-pin Grey/Digital
- 7-pin Analog/Serial port
- GPIO
- Micro-USB
- Bluetooth



uKit interface
Digital/ I2C
Digital/ I2C
Gray/Digital
ICSP
Analog interface
Analog/Serial port
Charging port
Power supply
Self-defined button
USB port
uKit fixing holes
Power supply
Reset button

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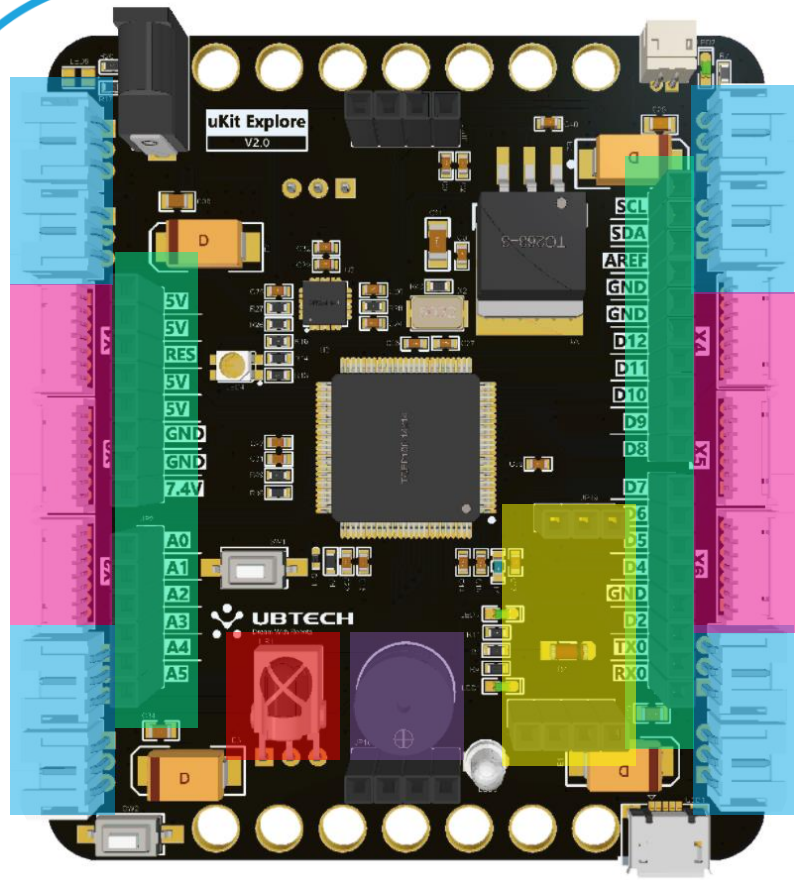
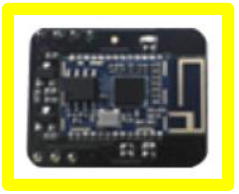
1.1 Explore Mainboard

- 3-pin uKit interface
- 7-pin interface
- GPIO interface
- Bluetooth module interface
- IR wave receiver
- Buzzer





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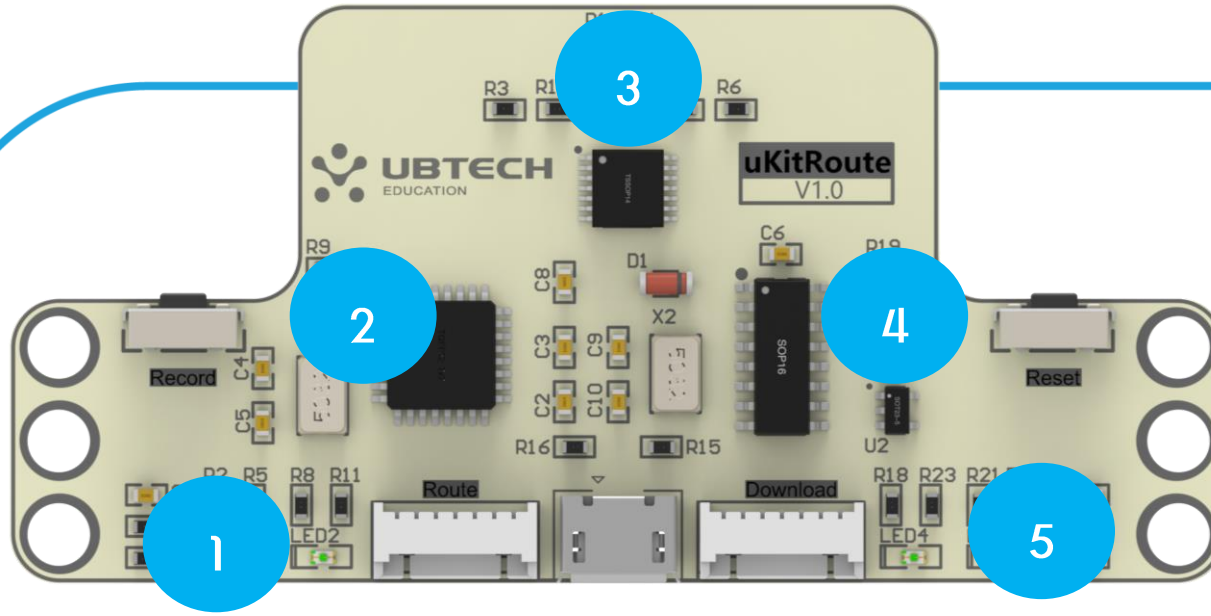
1.2 Grayscale Sensor

- $2^5 = 32$ Combinations
- In fact:

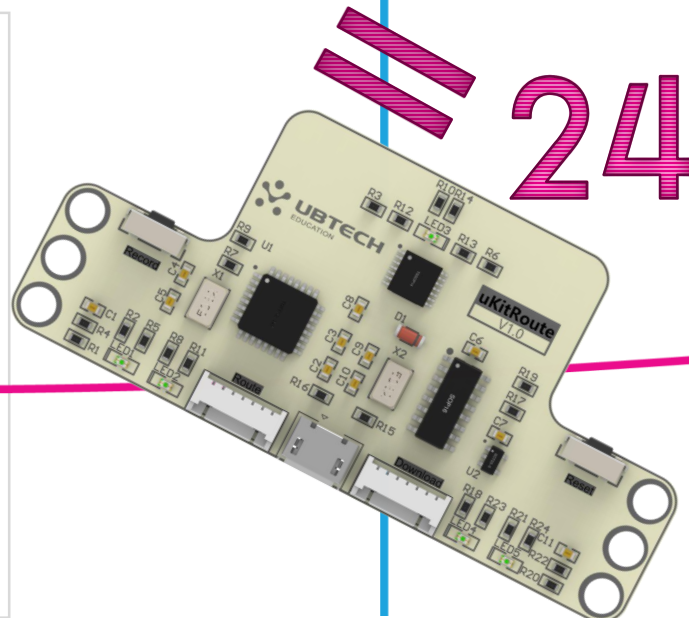
$$\binom{5}{1} \times 2^1 + \binom{5}{2} \times 2^2 + \binom{5}{3} \times 2^3$$

$$+ \binom{5}{4} \times 2^4 + \binom{5}{5} \times 2^5$$

$$= 5\times2 + 10\times4 + 10\times8 + 5\times16 + 1\times32$$



5 IR Sensors



= 242 with 31 choices

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1.3 uKit Sensors & Actuators

IR Sensor

Light Sensor

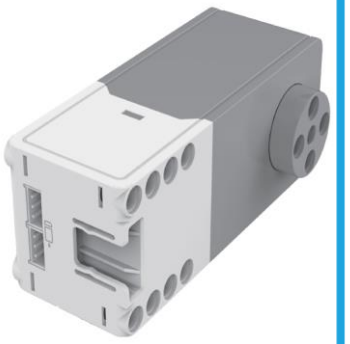
Color Sensor

Ultrasonic Sensor

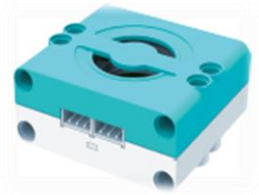
Touch Sensor

Sound Sensor

T & H Sensor



DC motor



Bluetooth Speaker

LED light

Servomotor

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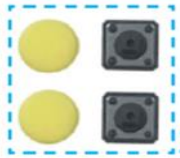
1.4 Massive Electronics

- Light Sensitive Resister
- IR Emitter/Receiver
- LED Nixie Tube
- LED Dot Matrix
- T & H module
- Breadboard
- Tilt Switch

3


25

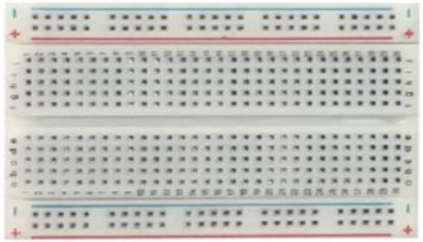
26

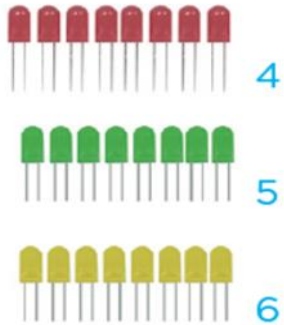
19 20 21 22

8

23

27


1


4 5 6

9

24

2

7

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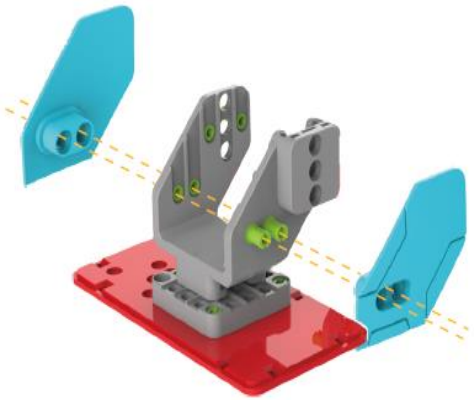
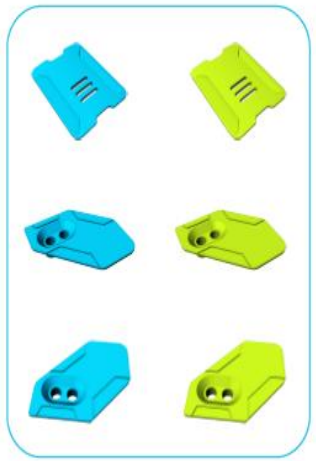
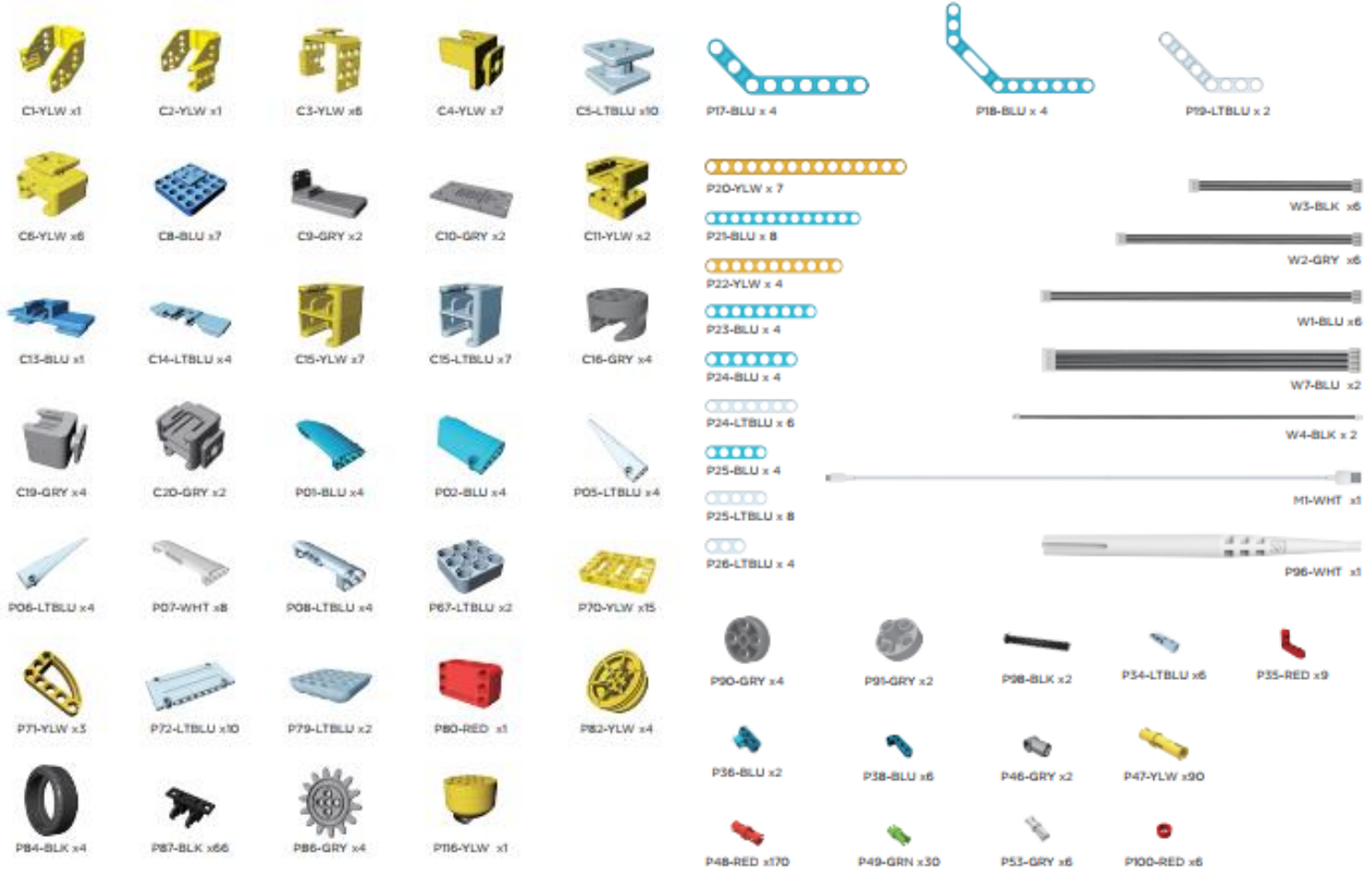
1.5 Plastic Parts



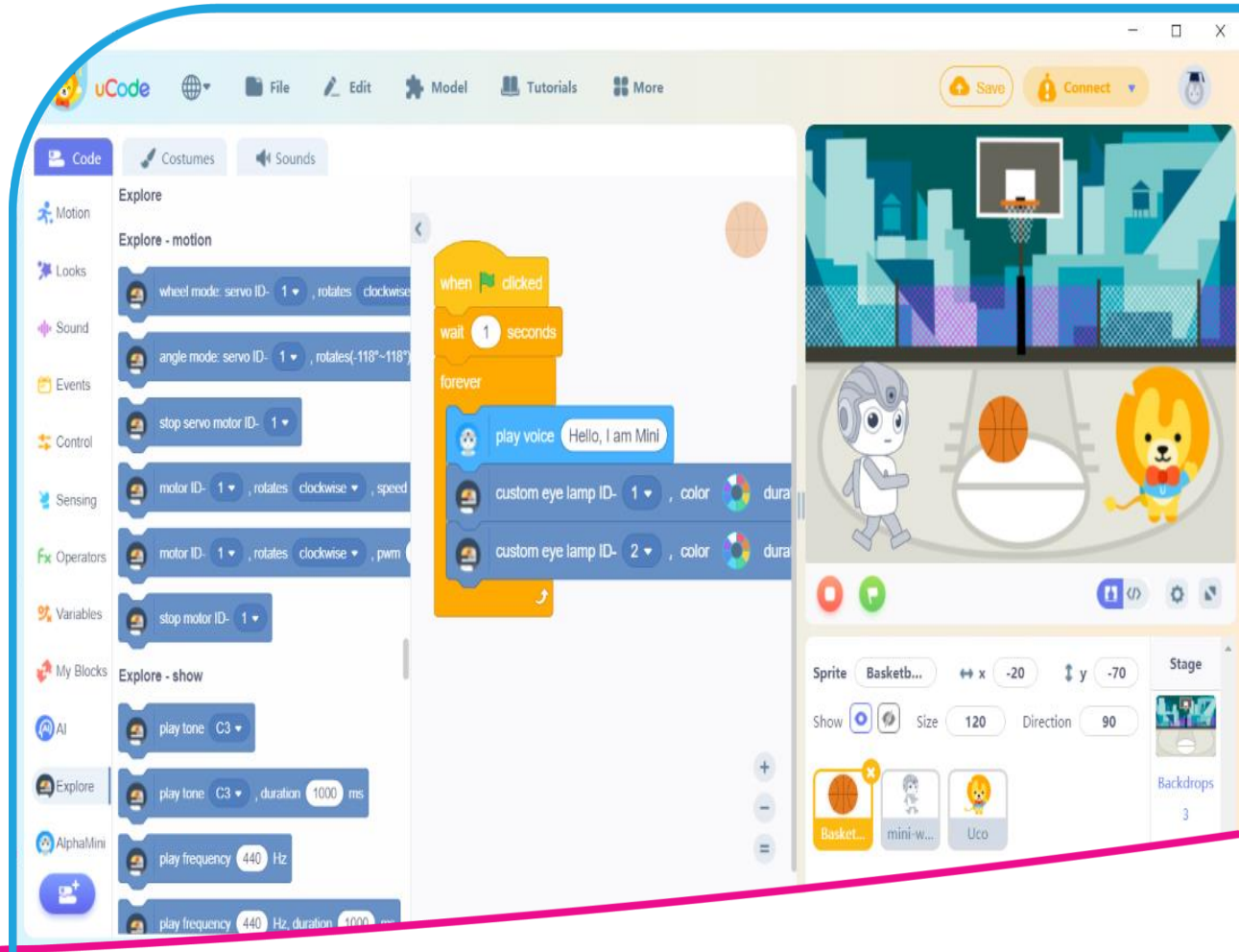




uCode

02

Software



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UBTECH

uCode File Edit Model Tutorials More Save Connect

Code Costumes Sounds

Motion
Looks
Sound
Events
Control
Sensing
Operators
Variables
My Blocks
AI
Explore
AlphaMini

Explore

Explore - motion

wheel mode: servo ID- 1 , rotates clockwise
angle mode: servo ID- 1 , rotates(-118°~118°)
stop servo motor ID- 1
motor ID- 1 , rotates clockwise , speed
motor ID- 1 , rotates clockwise , pwm
stop motor ID- 1

Explore - show

play tone C3
play tone C3 , duration 1000 ms
play frequency 440 Hz
play frequency 440 Hz, duration 1000 ms
stop sound
set RGB lamp color on board

when clicked
forever
change color effect by 25
wait 0.1 seconds

when clicked
forever
set RGB lamp color on board
wait 0.1 seconds
set RGB lamp color on board
wait 0.1 seconds
set RGB lamp color on board
wait 0.1 seconds
set RGB lamp color on board
wait 0.1 seconds
set RGB lamp color on board
wait 0.1 seconds
set RGB lamp color on board
wait 0.1 seconds

Sprite Rainbow x -6 y 0
Show Size 200 Direction 90

Uco
Rainbow

Stage
Backdrops 2

Direct to uCode

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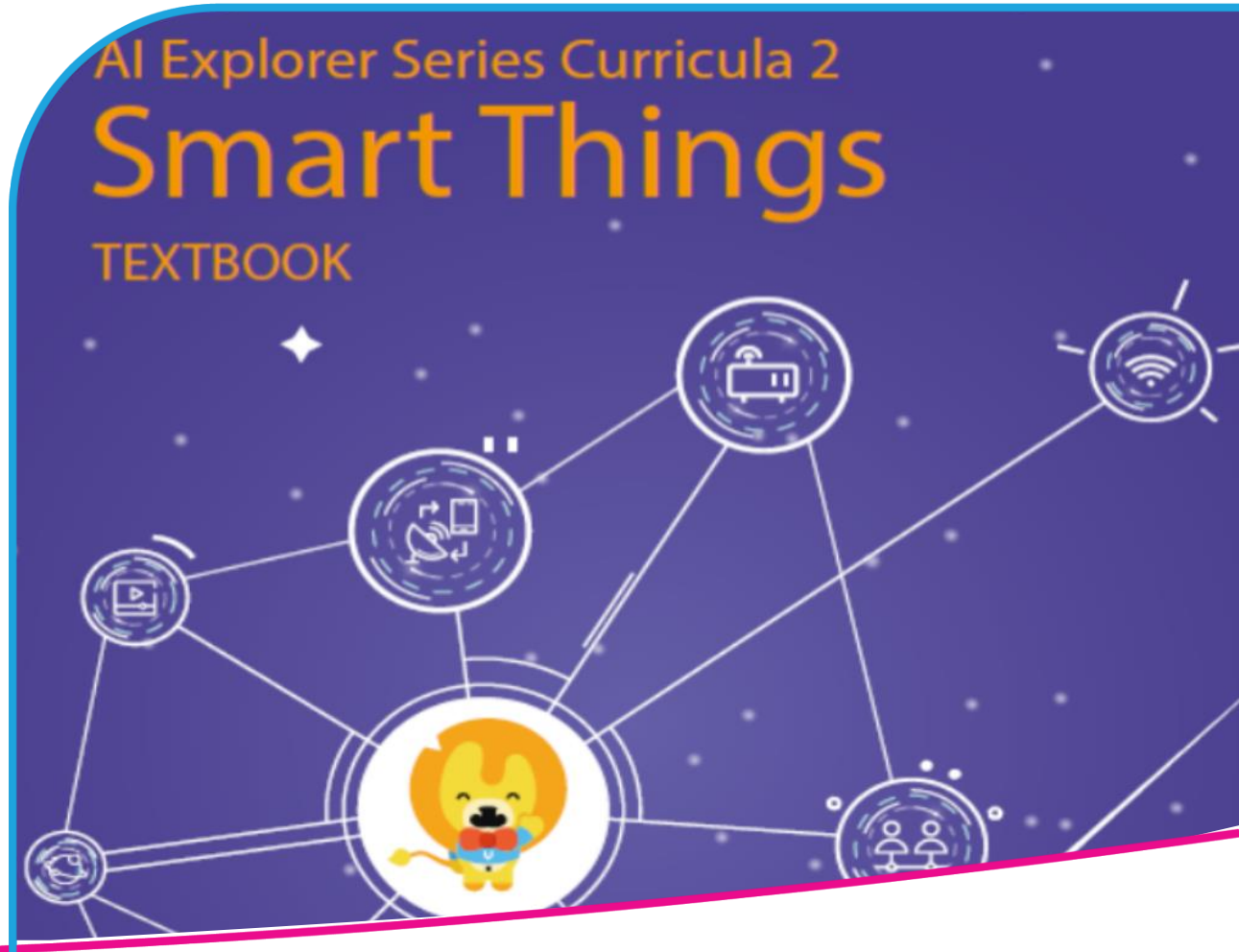
AI Explorer

03

Curriculum



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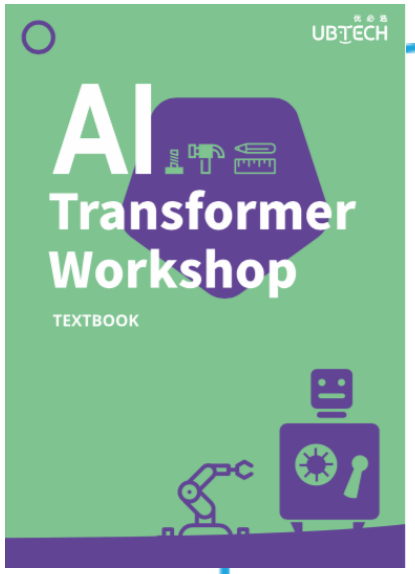
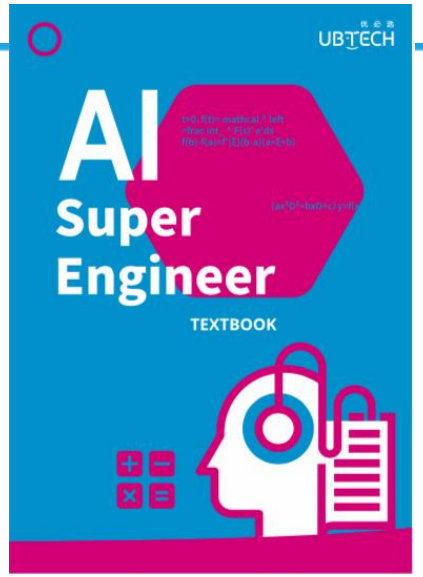
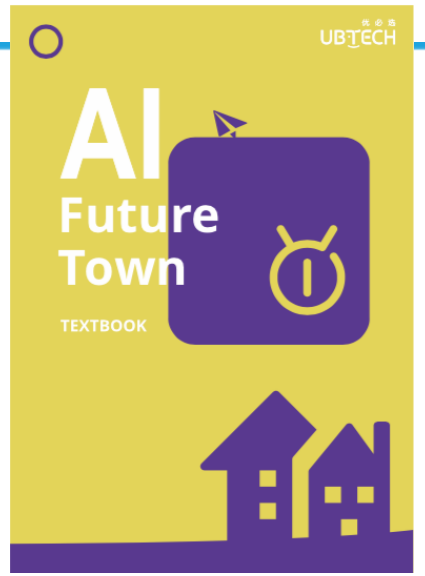
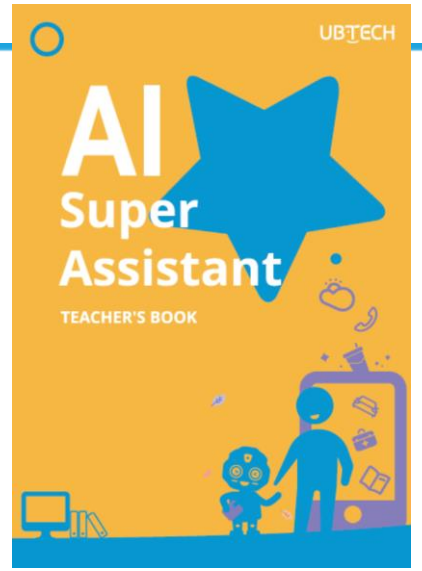
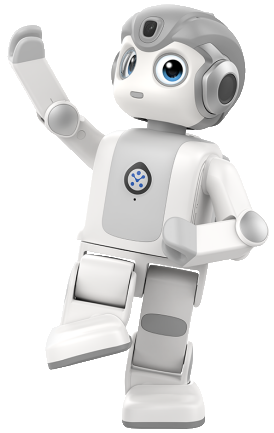
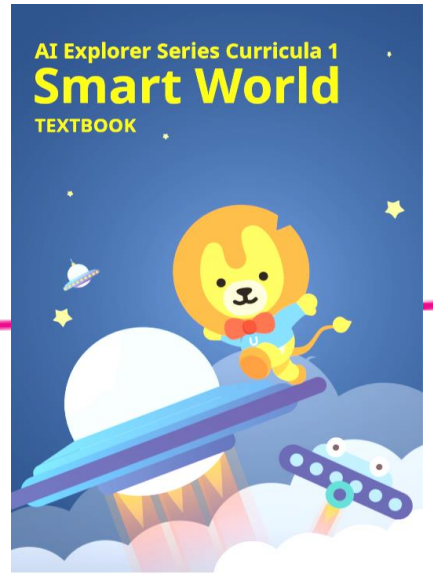

UBTECH
AI
Transformer Workshop
TEXTBOOK


UBTECH
AI
Super Engineer
TEXTBOOK


UBTECH
AI
Future Town
TEXTBOOK


UBTECH
AI
Super Assistant
TEACHER'S BOOK

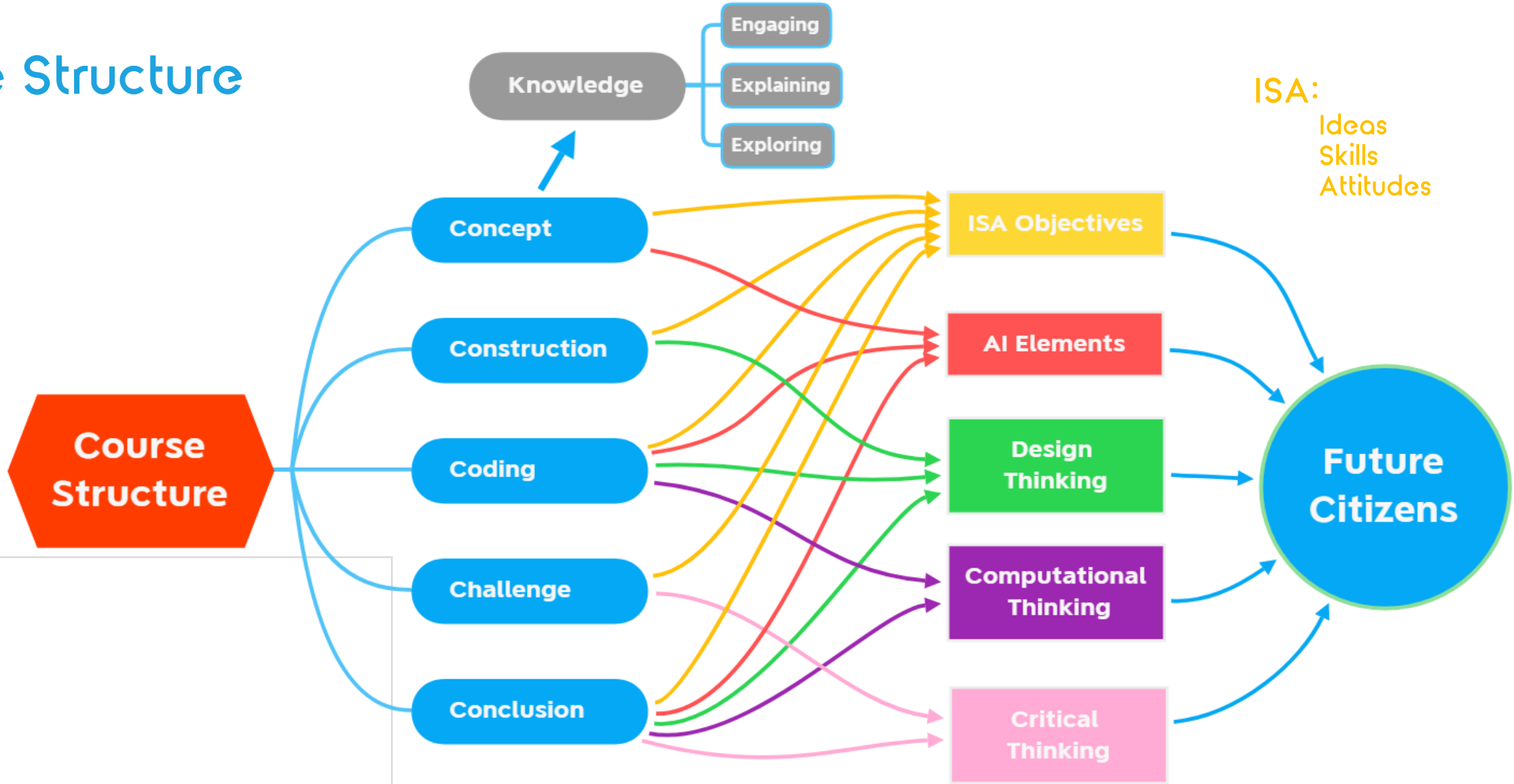



AI Explorer Series Curricula 1
Smart World
TEXTBOOK

AI Explorer Series Curricula 2
Smart Things
TEXTBOOK

UBTECH
uKit Explore Tutorial

Course Structure



ISA:

Ideas
Skills
Attitudes

Summary

UKIT

EXPLORE

uCode

Q&A

Q: Will there be a session focusing on uCode?

A: Yes, sure.

Q: Will there be any activities recently?

A: Yes, keep following our YouTube channel and big surprises are waiting for you. (We will soon announce an online competition with great awards)

Q: ……

A: ……

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Dream with Robots

That's all for today's sharing

Thanks for watching!