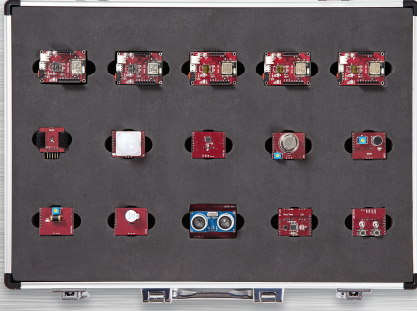


>>IoT(Internet of Things)

IoT Integrated Platform

HBE-IoT Beacon



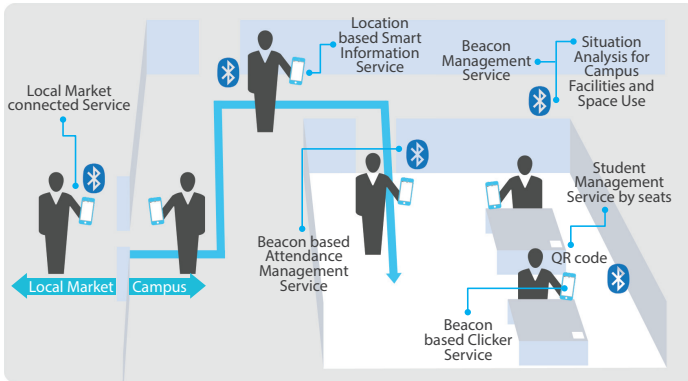
- Raspberry Pi 3, ADK-2560 tabanlı IoT sensör Testi
- Smart Telefon veya Tablet PC ile birlikte çalışma
- BLE Modül ile Arduino programlama
- Zigbee, Bluetooth ve Wi-Fi servis haberleşmeleri
- BLE tabanlı Sensör Modül servisi
- Beacon servisi
- Çeşitli projeleri destekler

ANDROID, LINUX tabanlı OPEN API servisi

Özellikler

- Herkes IoT servisini kolayca deneyimleyebilmektedir çünkü Sensör Veri Toplama, açık donanım platformunun etrafında uygulanmaktadır.
- ARM Cortex M0tabanlı BLE Modül ile Giyilebilir Cihaz uygulamasına olanak sağlar.
- Gömülü 10 çeşit Sensör Verisi için temelden uygulamaya kadar örnekler sağlar.
- Çeşitli Sensör Koleksiyonları ve Bina içi Harita Servisi projeleri destekler.
- IoT servisinin erken aşaması olarak adlandırılan M2M haberleşme için Wi-Fi, Zigbee, Bluetooth haberleşmelerini destekler.
- Firmware kullanarak birim modül test fonksiyonu ile modüller tarafından IoT temel tekniğini almak için aktüatör kontrolünü test etmeye ve sensör bilgilerini edinmeye olanak sağlar.
- Sensör Bilgi İzleme ve Uzaktan Erişim kontrol fonksiyonu ile Ağ Geçidi oluşturmaya ve çeşitli projeleri ilerletmeye olanak sağlar.

Application

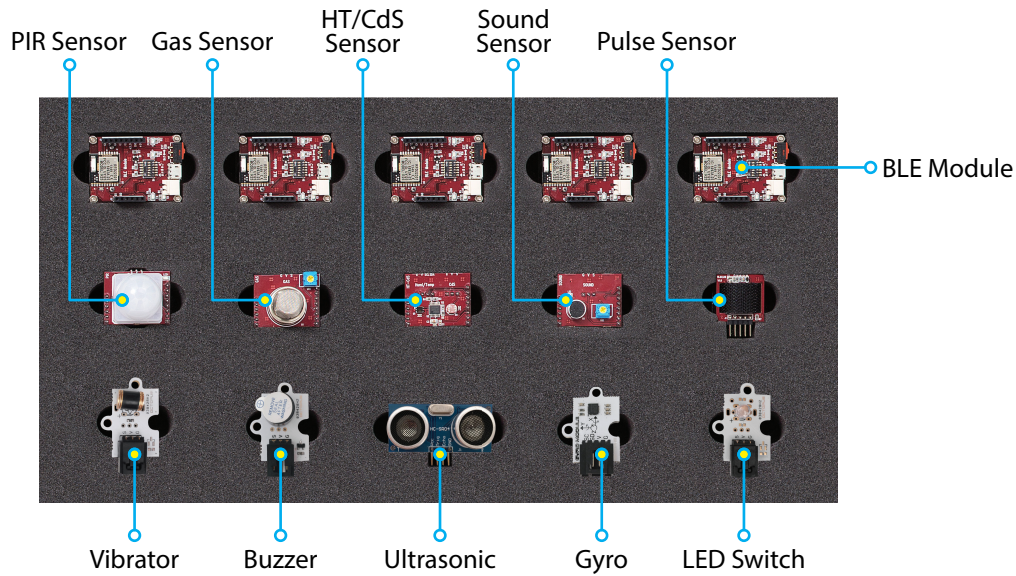


- Indoor Map Service
- Notification Service for Facility Storage Condition
- Danger Detection Service for Blind
- Home Lost Article Search Service
- Automatic Attendance Check Service
- Classroom and Class Notification Service
- Coupon Information Service in front of store

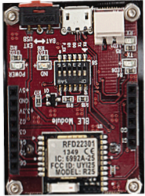
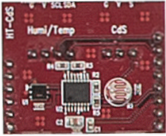
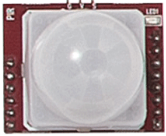
IoT

HBE-IoT-Smart Home
HBE-IoT Smart
HBE-IoT Baecon

Configuration and Name

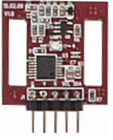


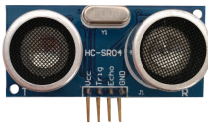
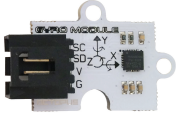
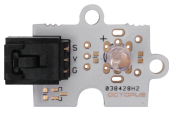
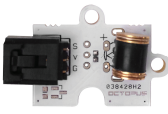



Specifications of Hardware

Module	Item	Specifications
	<p>Module to enable to mount various Sensors and to transmit the data acquired from Sensor to smart device or Gateway by Bluetooth 4.0(BLE) communication.</p> <p>Processor</p> <p>RF</p> <p>Data rate</p> <p>Operating Voltage</p> <p>Battery</p> <p>I/O</p> <p>Size</p>	<p>16MHz ARM Cortex-M0</p> <p>Bluetooth LE, 2.4GHz</p> <p>250 ~ 2000kbps</p> <p>2.2V ~ 5V</p> <p>Lithium Cell 3V (240mAh@to 2.0V)</p> <p>GPIO 7EA(I²C, SPI, PWM), 2.54mm Socket</p> <p>36 x 48mm</p>
	<p>Module able to measure Humidity, Temperature and Intensity of illumination. Non-contact characteristic and not affected by Noise.</p> <p>Photo Sensor</p> <p>Temperature/Humidity Sensor</p> <p>Operating Voltage</p> <p>I/O</p> <p>Size</p>	<p>CdS 1EA</p> <p>0 ~ 100%RH/-40 ~ 125°C</p> <p>3.3V</p> <p>3pin Header 1EA, 4pin Header 1EA (2.54mm Pitch)</p> <p>27 x 33mm</p>
	<p>Human Body Detection sensor sensing Infrared waves generated from animals and human beings.</p> <p>Infrared Sensor</p> <p>Sensing Range</p> <p>Operating Voltage</p> <p>I/O</p> <p>Size</p>	<p>RE200B</p> <p>110 degree</p> <p>3.3V</p> <p>3pin Header 1EA (2.54mm Pitch)</p> <p>27 x 33mm</p>

IoT

>>HBE-IoT Beacon

Module	Item	Specifications
 <p>Pulse Module</p>	Sensor measuring Heartbeat by Infrared rays emitted from Infrared LED according to the change of vascular pressure.	
	Pulse Sensor	1EA
	Sensor	Light Photo Sensor
	Operating Voltage	3.3V
	I/O	3pin Header 1EA (2.54mm Pitch)
 <p>Sound Module</p>	Sound detecting Sensor.	
	Sound Sensor	Microphone
	Sensitivity	Adjustable (with potentiometer)
	Operating Voltage	5V
	I/O	3pin Header 1EA (2.54mm Pitch)
 <p>Gas Module</p>	Sensor Module detecting LPG, natural gas, Coal or Charcoal gas.	
	Gas Sensor	MQ-5
	High Sensitivity	LPG, Natural gas, Town gas
	Low Sensitivity	Alcohol, Smoke
	Operating Voltage	5V
 <p>Ultrasonic Sensor</p>	Object Recognition, Distance Measurement Module.	
	Ultrasonic Sensor	HC-SR04
	Distance	2-500cm
	Frequency	40KHz
	Measuring Angle	15 degree
	Operating Voltage	5V
	Dimension	33 x 45(mm)
 <p>3X-Gyro sensor</p>	Angular Velocity Detection Sensor Module.	
	Gyro Sensor	ITG3205
	Interface	I ² C Serial interface
	ADC Resolution	16Bit
	Operating Voltage	3.3V/5V
 <p>LED/SW</p>	Module composed of 2 LEDs and Switch.	
	Component	White LED 5PI 2EA, Tact Switch 2EA
	Allowable Voltage and Current	2.0~5V, 5mA(Min)
	Operating Voltage	3.3V~5V
	Dimension	27 x 33(mm)
 <p>Vibration Detection</p>	Shock Detection Sensor Module.	
	Shock Sensor	801S
	Interface	3P Buckled wire connector
	Operating Voltage	5V
	Dimension	27 x 33(mm)
 <p>Piezo</p>	Piezo(Piezoelectric Element) Element Module.	
	Sound Pressure Level	88dB(Min)
	Current Consumption	40mA(Max)
	Operating Voltage	3.3V~5V
	Dimensions	27 x 33(mm)

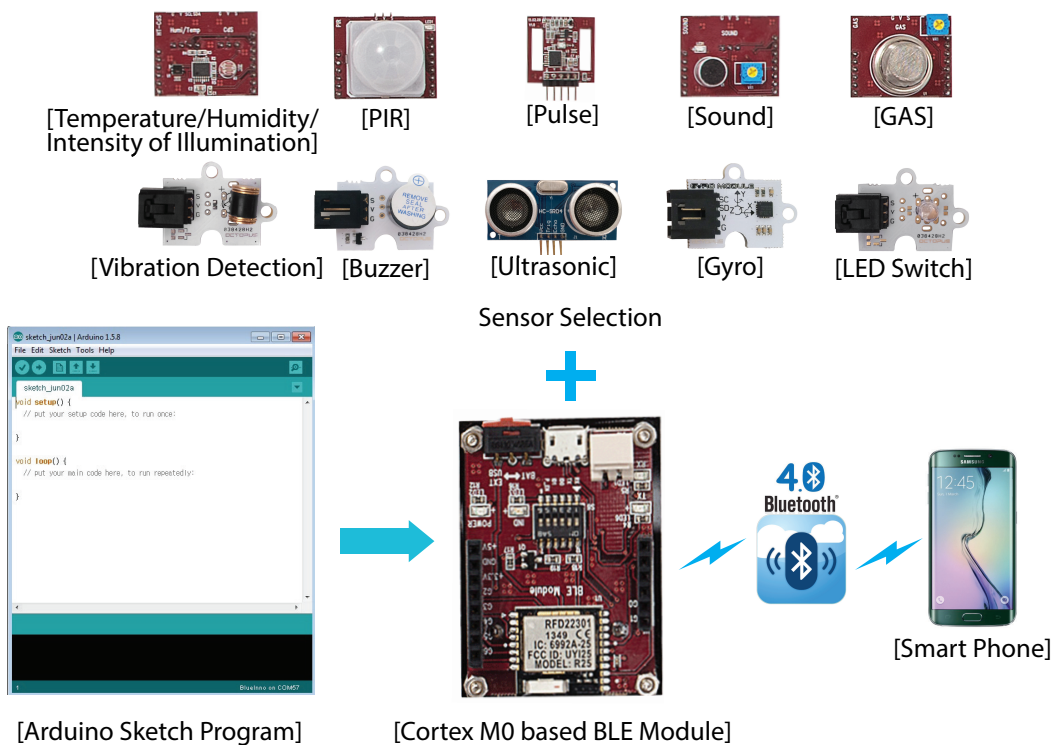
Specifications of Software

Module	Item	Specifications
BLE Module	F/W IDE	Arduino 1.6.x
	Communication	Bluetooth Communication S/W
	Function	Sensor Control S/W
Sensor Module	Application	Android Application S/W

IoT

HBE-IoT-Smart Home
HBE-IoT Smart
HBE-IoT Beacon

Basic Test



Educational Contents

Subject	Contents
Learning IoT with HBE-IoT Beacon	Study 1. Introduction to IoT
	Study 2. Configuration of IoT technology
	Study 3. Standardization and Security of IoT
	Study 4. Configuration and Application of Smart Sensor Technology
	Study 5. Test of a BLE(Bluetooth Low Energy) communication program
	Study 6. Intruder Detecting System using a Human Body Detection sensor
	Study 7. Gas leak alarm system using a gas sensor
	Study 8. Child care helper system using a sound sensor
	Study 9. Temperature/Humidity/Illuminance meter using a Temperature/Humidity/Illuminance sensor
	Study 10. Pulse measurement using a pulse sensor
	Study 11. Car rear sensors using an ultrasonic sensor
	Study 12. Oscilloscope using a vibration sensor
	Study 13. A Picture book using a gyro sensor
	Study 14. A Lost Child Prevention system using a Buzzer
	Study 15. Smart LED Lamp using Light/Switch module
	Study 16. Development of Museum Information Service using Beacon
	Study 17. Development of E-Coupon Service using Beacon