



Programing robotic, IoT on web



TuanIn – Robotic IoT Product Manager



TuanIn3@fpt.com.vn



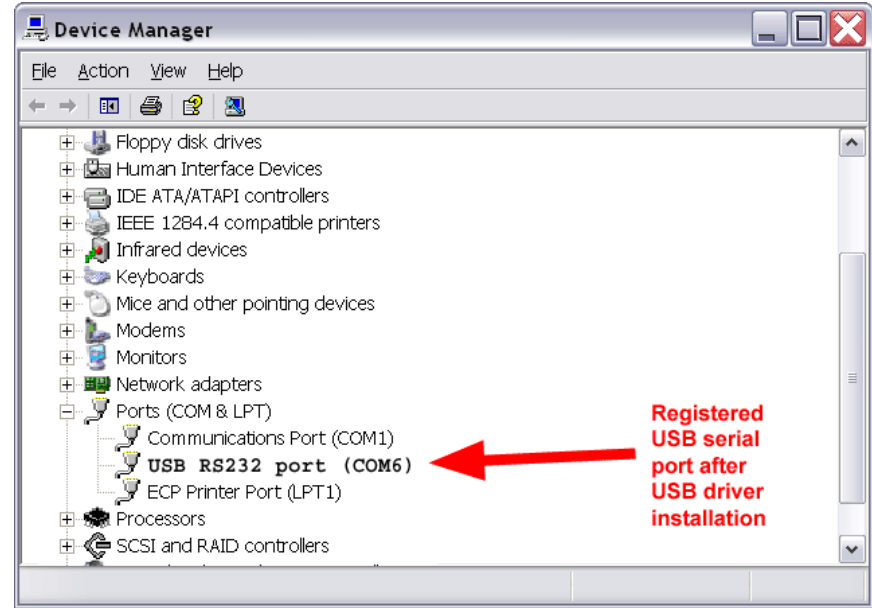
<https://fpt.ai>



- Problems
- Robotic
 - Amazon Racer
 - VPA
- IoT
 - Arm: mBed
 - Particle – Photon
- Kids: IoT, Robotic

Problems

- IDE
- Lib
- Microcontroller
- API Hardware



Robotic

• AWS DeepRacer – online simulator

CAR

CPU

MEMORY

STORAGE

WI-FI

CAMERA

SOFTWARE

DRIVE BATTERY

COMPUTE BATTERY

PORTS

SENSORS



18th scale 4WD with monster truck chassis

Intel Atom™ Processor

4GB RAM

32GB (expandable)

802.11ac

4 MP camera with MJPEG

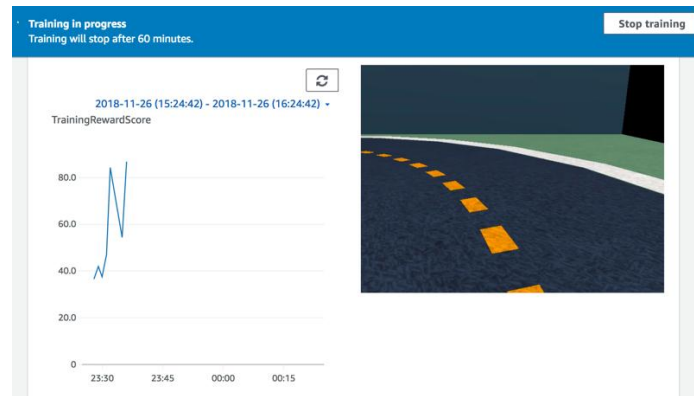
Ubuntu OS 16.04.3 LTS, Intel® OpenVINO™ toolkit, ROS Kinetic

7.4V/1100mAh lithium polymer

13600mAh USB-C PD

4x USB-A, 1x USB-C, 1x Micro-USB, 1x HDMI

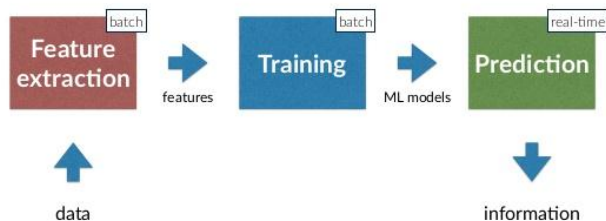
Integrated accelerometer and gyroscope



- FPT Driverless <https://github.com/fpt-corp/DriverlessCarChallenge>



Machine Learning pipeline



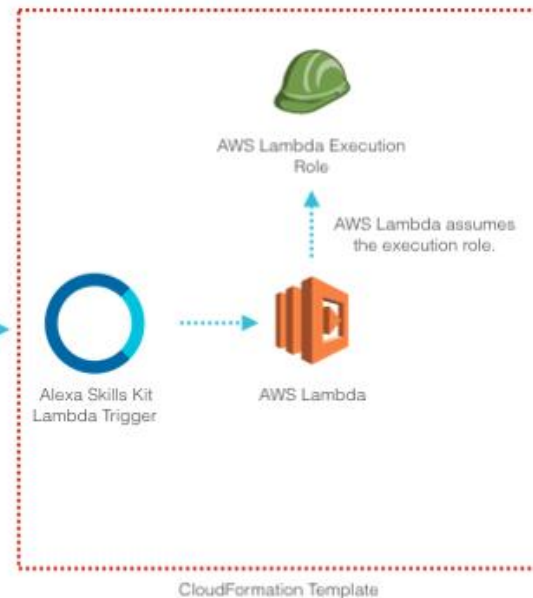
- Amazon Echo - Alexa

Alexa Skill Testing Tool

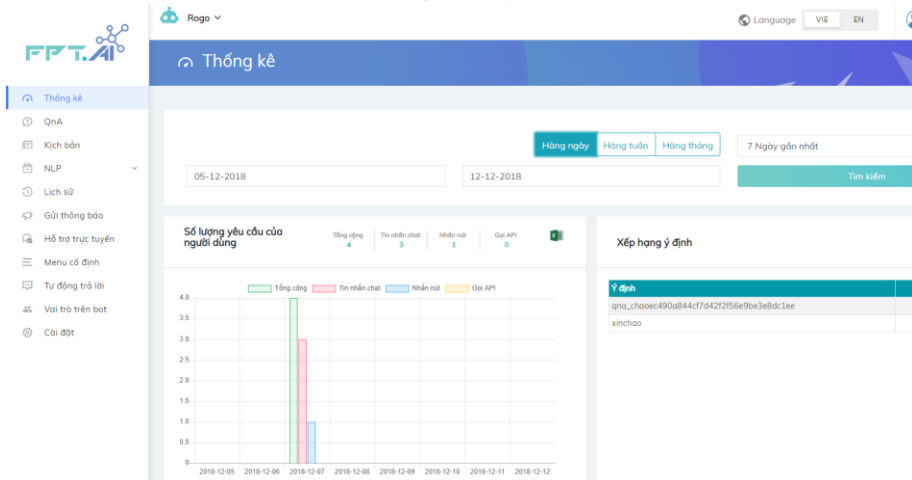
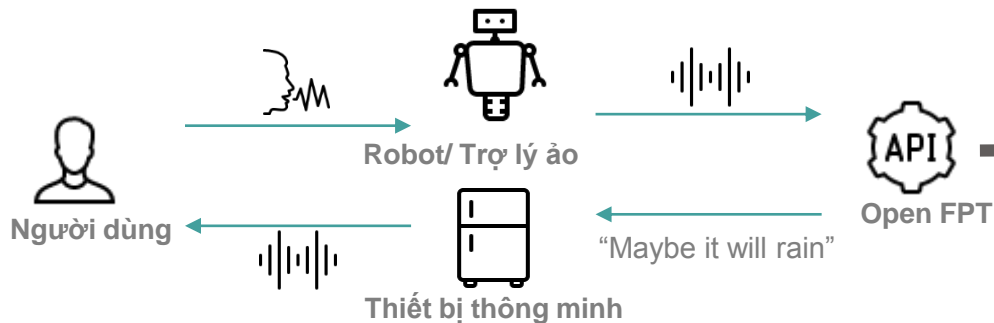
An Amazon account is required. Log in with Amazon.



Alexa Voice Service



“What’s the weather in Hanoi today?”



Nền tảng Hội thoại FPT

Giọng nói • Tổng hợp Giọng nói
• Nhận diện Giọng nói

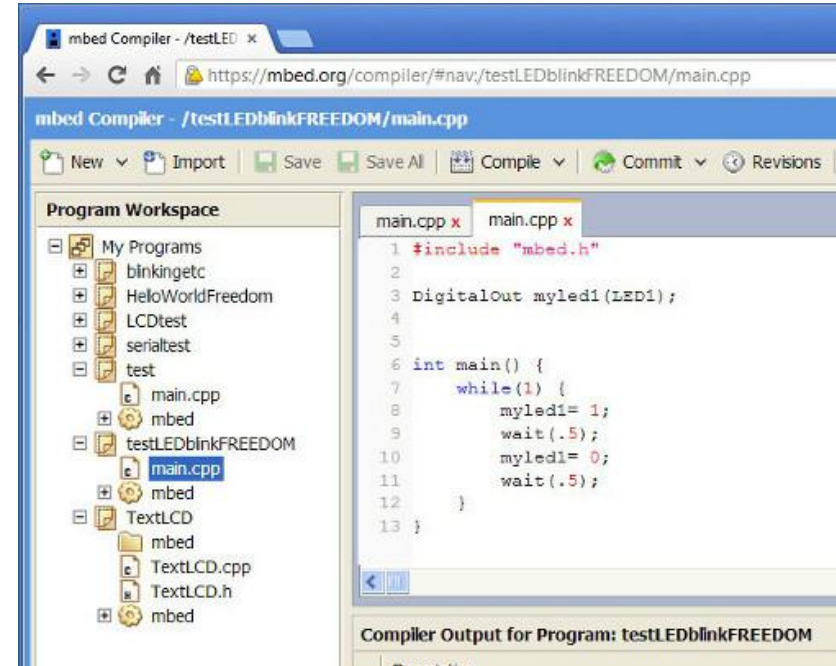
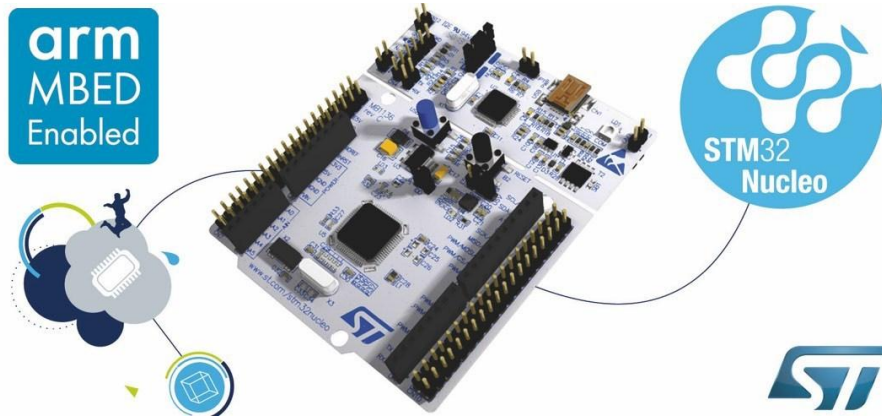
NLP • Phân loại từ
• Thành phần giọng nói
• Gắn thẻ
• Phân tích cú pháp phụ thuộc

AI • Bot Engine
• Phân tích Ý định
• Xây dựng Hội thoại
• Cơ sở tri thức

IoT on web

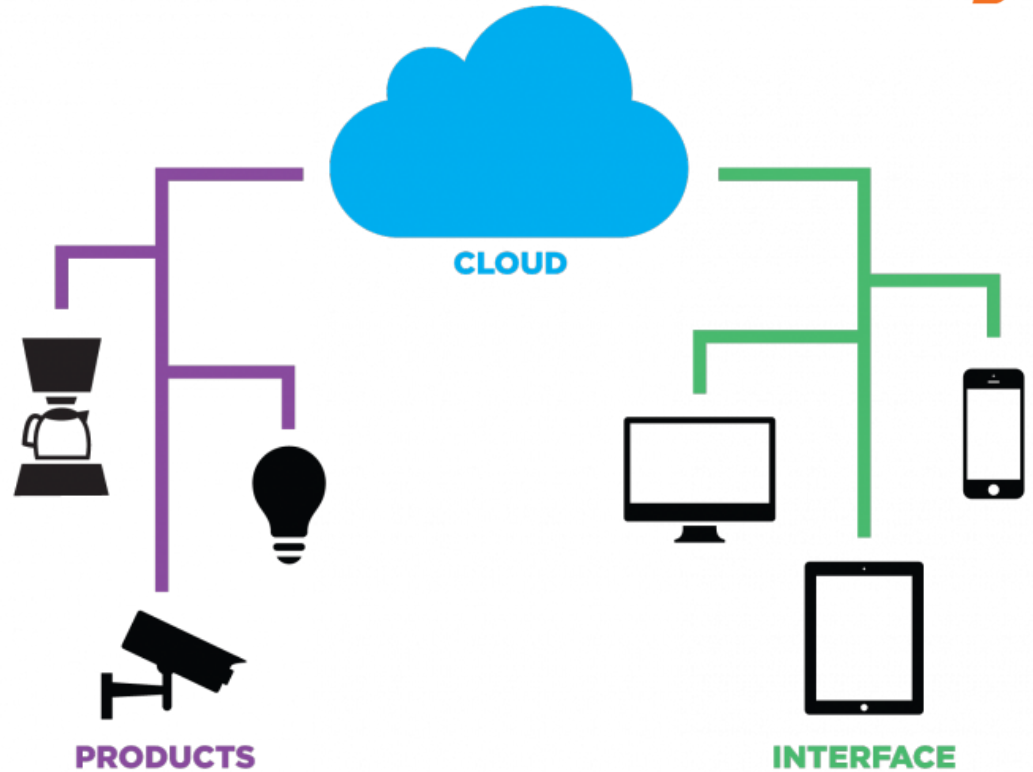
mBed - ARM

- ARM Compiler— ST, Nordic, TI, Nxp, nuvoton, Toshiba, Realtek,...
- ~ Arduino



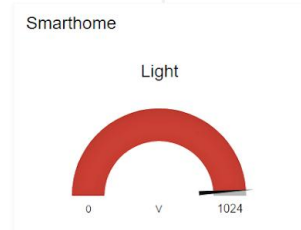
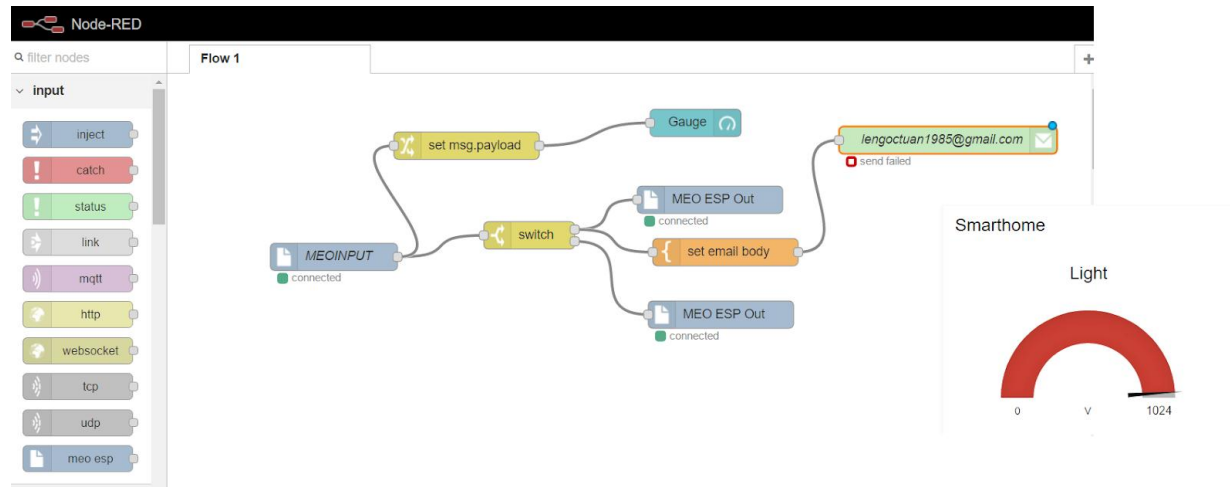
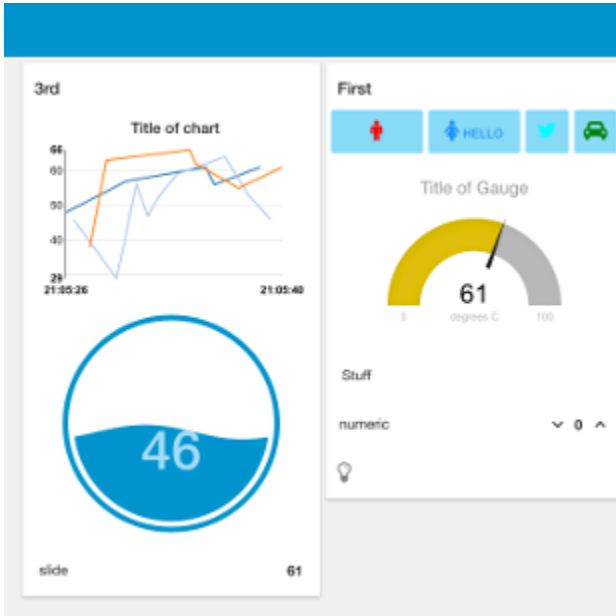
Particle - ARM

- Restful api Hardware
- Arduino online
- Dashboard



Nodered IBM - M.E.O Maker Hanoi

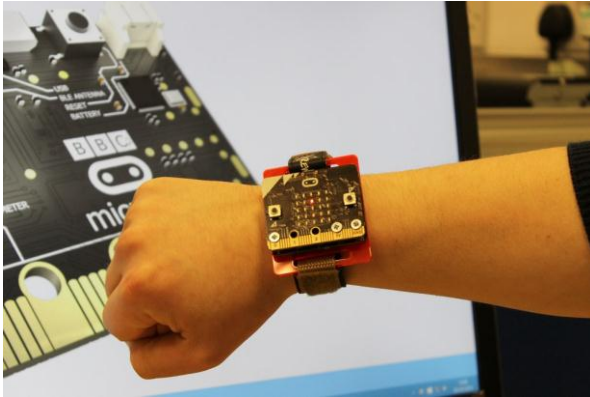
- OpenSource - <https://github.com/makerhanoi/>
- Flow logic - Nodered
- Esp8266 – Esp32



Kids ? Robot - IoT

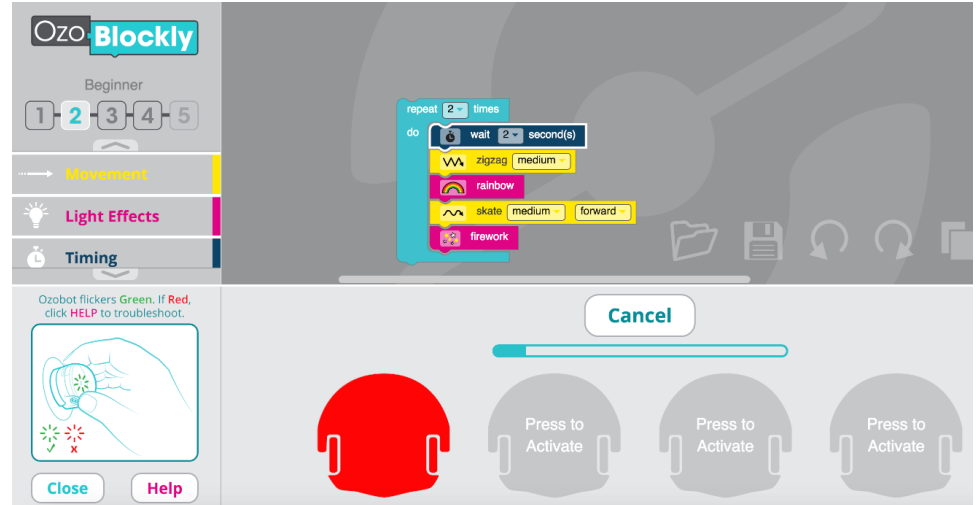
MakeCode - Microsoft

- Block - Code for kids (> 7 age)
- Online IDE – Tab,phone



Ozbot – smallest program robot

- Blockly – Online IDE
- Easy - download app ? Light



Vietnam IoT Day

12/01/2019
ĐH Công nghệ





Cảm ơn!