An Open Source Tool for IoT Development
What is the product
The technology: Hardware

- Before Raspberry Pi
  - expensive embedded devices
  - few devices
- Raspberry Pi changed the game

Currently experiencing rapid growth

- Number of connected devices (millions)
  - 2014: 4,000
  - 2015: 5,000
  - 2016: 6,000
Our journey: The vision

- Goal:
  - A new approach towards engineering
  - IoT accessible to everyone

Create, modify, tweak, customize current solutions to your needs and use cases
The IoT stack

The problem

- Arduino (Uno) does well on Level 2 but does not follow the upper stack
- Raspberry Pi follows the full stack, but lacks the benefits of Arduino
Microcontrollers vs Embedded Boards

- Arduino Yun preferred to Raspberry Pi
- The fault
  - development tools
  - accessibility

Most of the projects are not IoT projects, they fall into electronics or programming.
The solution

- Transfer the accessibility typical of Arduino to Raspberry Pi

Ease to use  Direct access  High productivity  Use from anywhere
Our tools for IoT: Wyliodrin

- Since 2013
- Fully Web-based
- Complex IDE
- Open Source components
- Free for basic use
- Supports various hardware: Arduino Yun, Raspberry Pi, Intel® Galileo, Intel® Edison, UDOO, BeagleBone Black
Wyliodrin STUDIO

- Open Source
- Available for
  - Arduino Yun
  - UDOO Neo
  - Raspberry Pi
  - BeagleBone Black
- Works locally
Board Connection

- Direct connection
  - Serial communication

- Remote connection
  - Uses mDNS to discover devices in the same network
Programming

Professional code editor

Advanced features such as autocomplete
Streams

Data flow programming

Implementation of node-red
Visual Programming

Drag and drop blocks of code

Implements Google Blockly
View the source

View as Python code gets generated
Debug

Send signals to dashboard

Put flags on graphs
Fritzing Schemas

Import SVG from Fritzing

Attach schema to application
Shell

Direct shell for advanced users
Board manager

- Visually Manages:
  - Network connections;
  - Libraries;
  - Tasks;
  - Projects.
libwyliodrin

- Open Source library
- Universal API for pin control and board communication
- Compatible with:
  - Arduino Yun
  - Raspberry Pi
  - Intel Galileo
  - Intel Edison
  - BeagleBone Black
  - UDOO Neo
Wylidorin STUDIO: future steps

- Enlarge the community
- Lessons
- Hardware simulation
- Projects sharing
Thank You!

Any questions?