



TipControl

The future arrived
Plug & Play Microcontrollers with XOJO

Microcontroller Development

From
XOJO Developers

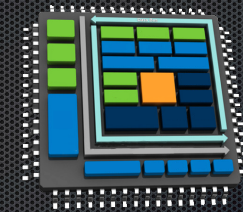
For
XOJO Developers

Microcontroller everywhere

- Cars
- Security
- Home control
- Kitchen appliance
- Drones and Aviation
- Shavers and Hairdryers
- Mobile devices
- 3D Printing and and and

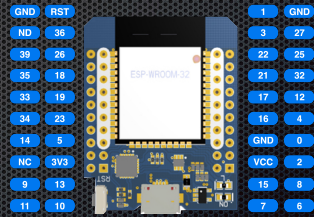
μ C Hardware Interfaces

- Analog input
- Digital input
- Digital output (pwm)
- UART (2 wire)
- I2C (2 wire)
- SPI (5 wire)



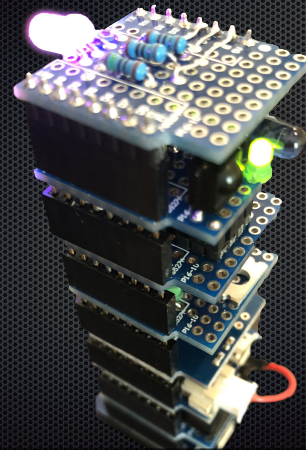
µC Dimensions

- ESP32 (Tensilica Xtensa LX6 microprocessor)
 - 2 Cores 160 & 240 MHz
 - 32Bit, 4MB (16MB) Flash
 - WIFI 2.4 GHz
 - Bluetooth
 - USB (Log)
 - 40 Pins
 - 34 usable Digital / Analog pins



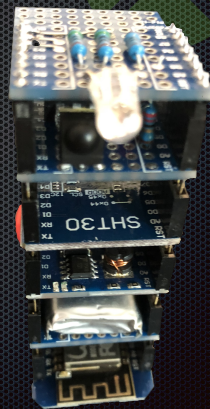
Introducing TipControl

the hot
stackable
thing



Introducing TipControl

- Stackable Microcontroller with USB
- Operating System OS_μ
- Stackable Caps
- External Actuators and Sensors
- TC Simulator Software
- XOJO APIs
 - MQTT Plugin
 - TipControl



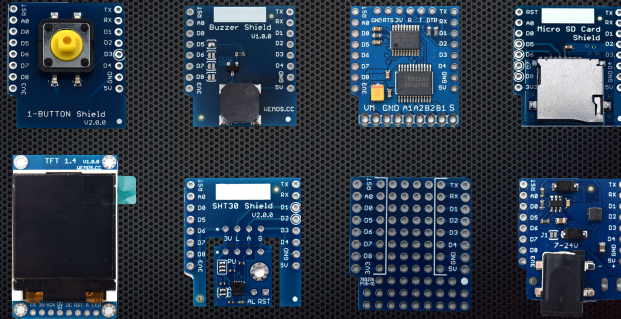
Introducing TipControl

- Digital, Analog Sensors
 - Switches, Gas, Ultrasonic, IR,...
- Digital, Analog Actuators
 - LEDs, Motor, IR
- Intelligent Sensors (Protocol)
 - Ambiente, Temperature, Pressure, Humidity,...
- Intelligent Actuators (Protocol)
 - Displays



Introducing TipControl

- Stackable Plugins (CAPs)



All you need to know

- XOJO at Beginner Level
- Power Voltage 3.3V & 5V
- Analog 1 wire (0 - 100%)
- Digital 1 wire (High/Low)
- UART 2 wire serial (Tx/RX)
- I2C 2 wire protocol 127 caps (SDA, SDL)
- SPI 5 Wire high speed bus (CLK, MOSI, MISO, CS, Reset)

TipControl Simulator

- MQTT Client/Server to configure your Hardware
- Choose the sensors or “Caps” by drag & drop
- Set the variables for each cap
- Test the functionality of a cap
- Create build in intelligence with events and macros
- Network & Message Designer
- BackUp and store your configuration in a database
- OTA upgrade

TipControl Demo

TC Simulator - Simple Driver

Digital/Analog Caps

Communication

- WIFI, Bluetooth, USB (Power & Logs)
- Outside MQTT Level 0-2 TipControl Payload (TCMessage)
- Inside ESP Now
- TCMessage (Interactive Message System)
 - Locator System “0.0.0.0.0.0”
 - System Messages
 - Driver Messages

Locator System

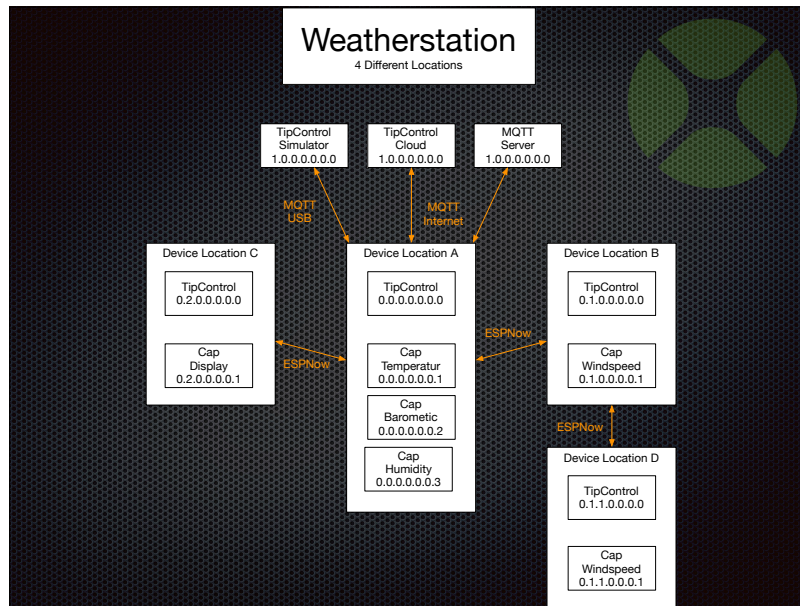
TipControl Mash Network

The future arrived

- Connect multiple TipControls together
- Connect multiple TipControl Networks together
- Have multiple Caps talk to each other
- Connect 3 party MQTT devices
- TipControl cloud services
- Connect to any MQTT server
 - e.g. Free XOJO server, or Raspberry mosquitto

TipControl Dimensions

- 1 TipControl manages 18 slaves (5 encrypted)
- Up to 99 Caps per TipControl
- Up to 5 hierarchical levels
- Mounts to 19x19x19x19x19 (2.5million) TipControls per network
- Over 250 millions of sensors & actuators per network
- 8 TipControl Networks



TipControl Demo

TC Simulator - Mash Network

Weather Station

TipControl Demo

TipControl - Mash Network

Real Time Remote Control

Whats next

- More stackable plugins (Caps)
- More drivers for the operating system "osµ"
- Improving TC Commander (Macros)
- More marketing & business cases
- Cloud services

TipControl Business

- Home control
- Agriculture applications
- Measurement
- Industrial application
- Event management
- Security systems
- Environmental applications
- Space

One more Thing

Register for a TipControl™ starter kit
for qualified applications



FREE

a USD 99.00 value

(µC, Caps, XOJO Software, Free Cloud services, &&&)

(Alpha, Beta Tester, Business cases.....)

only for XOJO developers until May 7th.

More info and register at www.tipcontrol.com

Q & A

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Give us feedback on this session in the XDC app!

Thank to those who did it last year