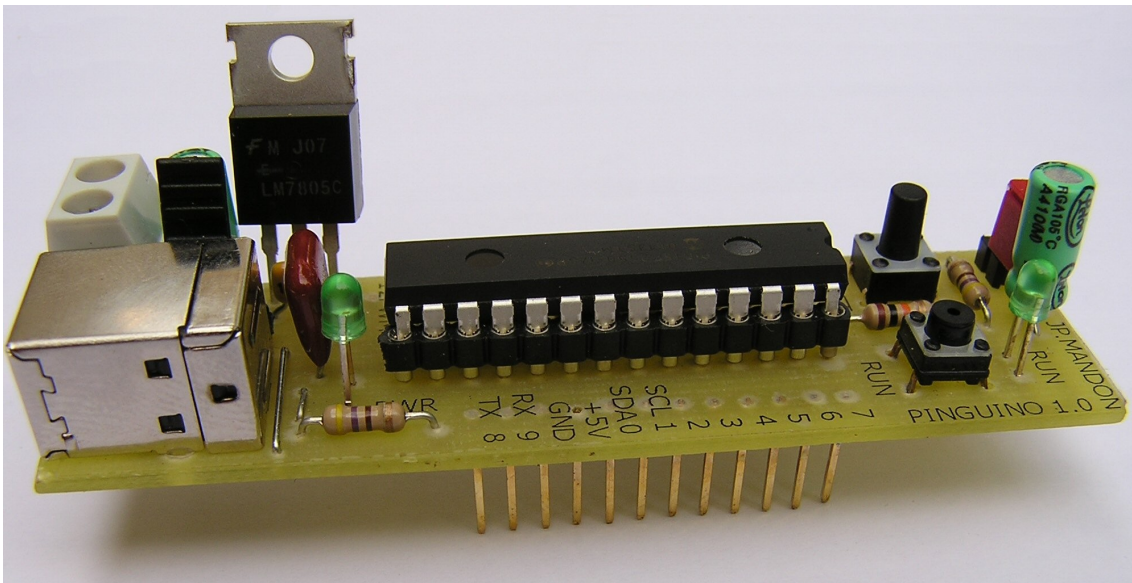


PINGUINO

A set of tools to work with Microchip USB chips



What is Pinguino ?

Pinguino is an open source set of tools. The goal of this project is to build a real USB development board. Due to the many applications designed with Arduino (www.arduino.cc) and based on an ATMELE microcontroller, the idea was to build a compatible board and language with a real USB microcontroller, the PIC 18F2550.

Why ?

Because Arduino is built with an FTDI chip, the serial port is shared between the bootloader and the UART application. Another problem is the IDE, written in JAVA, it is based on C libraries and generate 4 kbytes of code for an empty main loop. Pinguino is based on Python and SDCC. Before the compilation, a pre-processor translates specific instructions of the Arduino language to native C instructions. For example, `digitalWrite(0,HIGH)` is translated to `PORTBbits.RBO=1`. Thus the execution speed is better.

Because the 18F2550 has a native USB module, the UART is not shared with the USB and the bootloader is really separated from the application.

Customers

Arduino is used by artists and hobbyists for interactive systems and robotics. This is a really small market but a good opportunity to develop specific products.

Who I am ?

I am an electronic engineer working on PIC since 1997. I am both a teacher at the school of Art in Aix-en-Provence and a free lance for industrial project mostly in robotic applications. Pinguino is an open software and open hardware project, I hope to use a microchip product ID to distribute development boards associated with the IDE. This project is joined with the SAIC (School of Art Institute of Chicago)

Link demo on Youtube:

http://www.youtube.com/watch?v=hNhW_gA8XVk

