

FIPI-Adaptor board for Firebird V using Raspberry Pi B+

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Objective

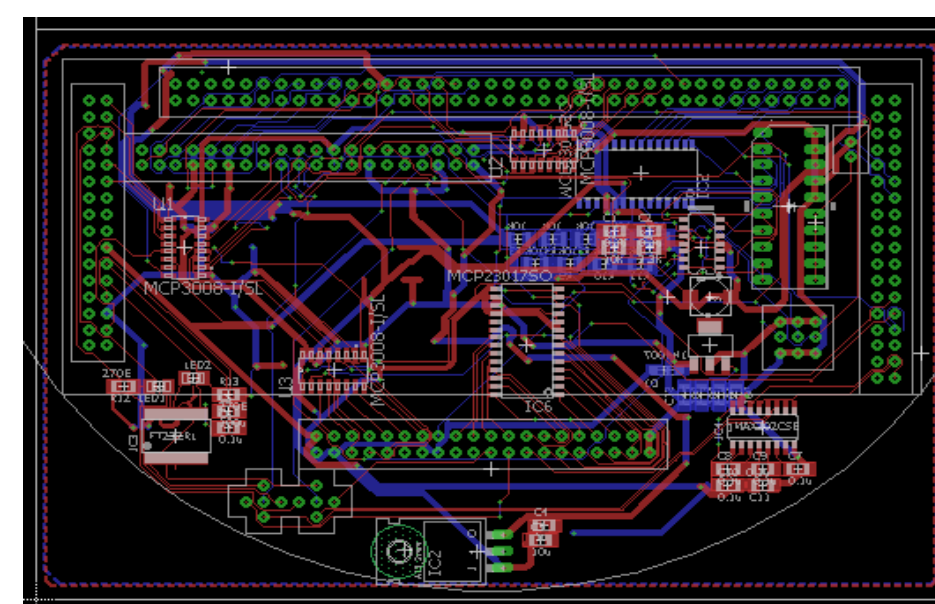


Currently Firebird V robot comes with ATMEGA2560, 8051, ARM7 adaptor board. Using a raspberry pi based adaptor board would add to the functionality of the robot. The idea is to integrate the features of RPi to Firebird V robot.

This will facilitate any

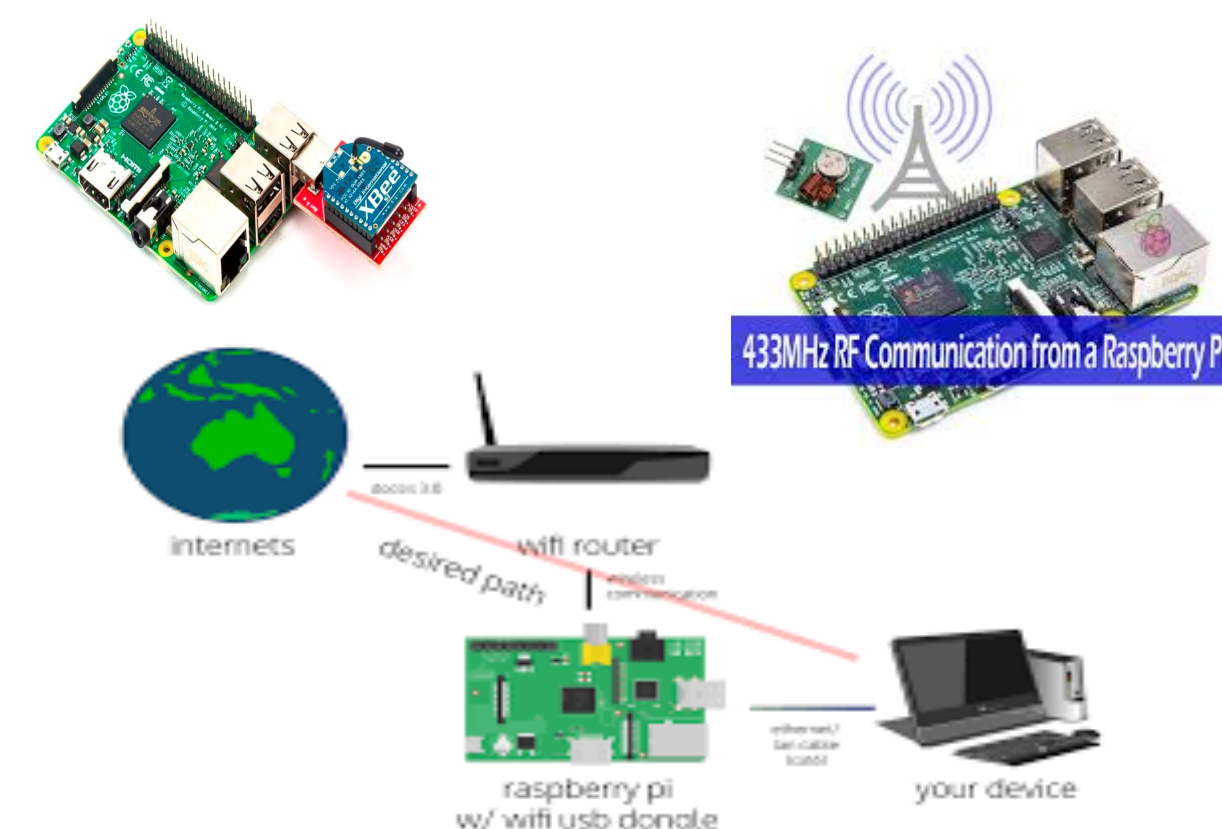
- (1) On-board computations
- (2) Image processing (PiCamera)
- (3) IOT applications

What does the Adaptor Board contain?



1. Raspberry Pi B+
2. MCP3008 ADC (8 channel, 10-bit, SPI)
3. MCP23017 Port Expander (I2C protocol)
4. LM117 (Powering Servo motors)
5. Bar graph LED (Battery level indication)
6. Raspberry Pi port expansion socket

Communication with Rpi



1. The OS of raspberry pi can be accessed by SSH (MobaXterm or Putty)
2. Parallel communication (with LCD)
3. UART communication:
 - * RS232 (wired)
 - * USB (wired)
 - * Xbee (wireless)
 - * Bluetooth (wireless)

However, any other communication type is also supported since the rpi port expander socket has extra RX TX pins.