



Development of a Personalization and Monitor Tool for Laundry Control Boards

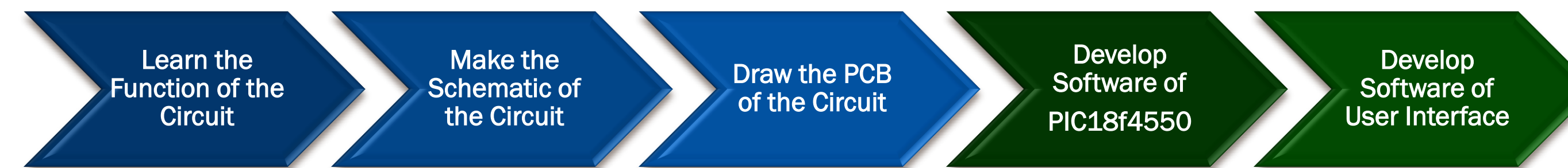


TEAM MEMBERS



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METHODS AND MATERIALS



Components and Tools

- PIC18f4550
- PICKit 3
- USB Cable

Software

- MPLAB X – XC8
- LabVIEW
- Altium

CONCLUSIONS

The use of a microcontroller as a bridge between mabe's serial communication and the PC will enable faster communications and will lower the failure rates.

With this tool, Mabe will be able to monitor the required appliance parameters.

This development will be open to perform updates, enabling the technology to other appliances



Mabe. Washer Machine

ABSTRACT

This project is about a circuit that communicates via USB to the PC and via serial to the main board.

A hardware Interface was developed to couple the main board to USB.

A Microchip microcontroller has been used to convert serial communication to USB protocols. The code has been made in C language.

To use the PC it was required to develop an USB driver and an User Interface using LabVIEW Software.

OBJECTIVES

- Monitor parameters
- Less time downloading parameters into main board
- Have an own system

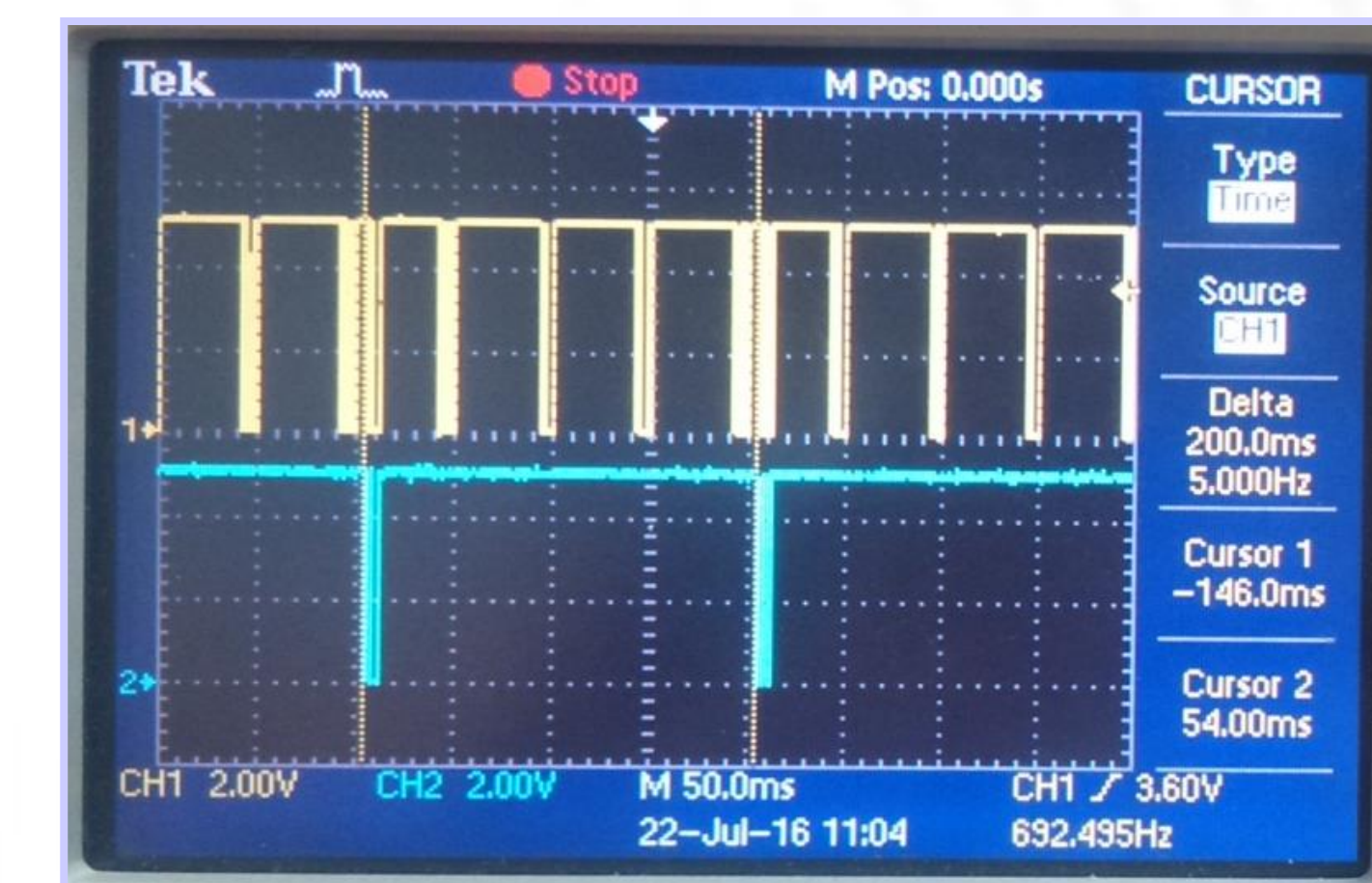
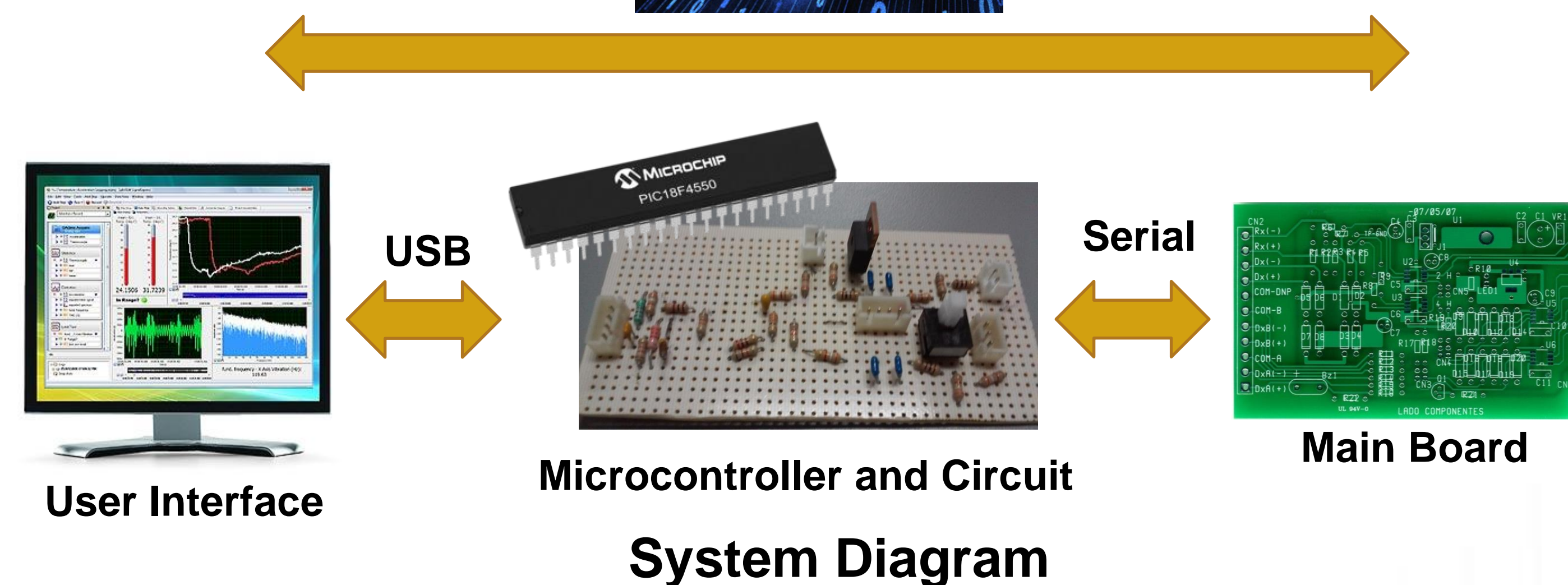
BACKGROUND

Mabe manufactures different models of washers machines. All of the washers use the same main board, with the same software. To differentiate the models the washer parameters are downloaded to the main board.

Also to diagnose the washer, it is required to monitor some of the variables that control the performance of the appliance.

To perform the previous actions they are using a serial to RS232 interface.

Parameters

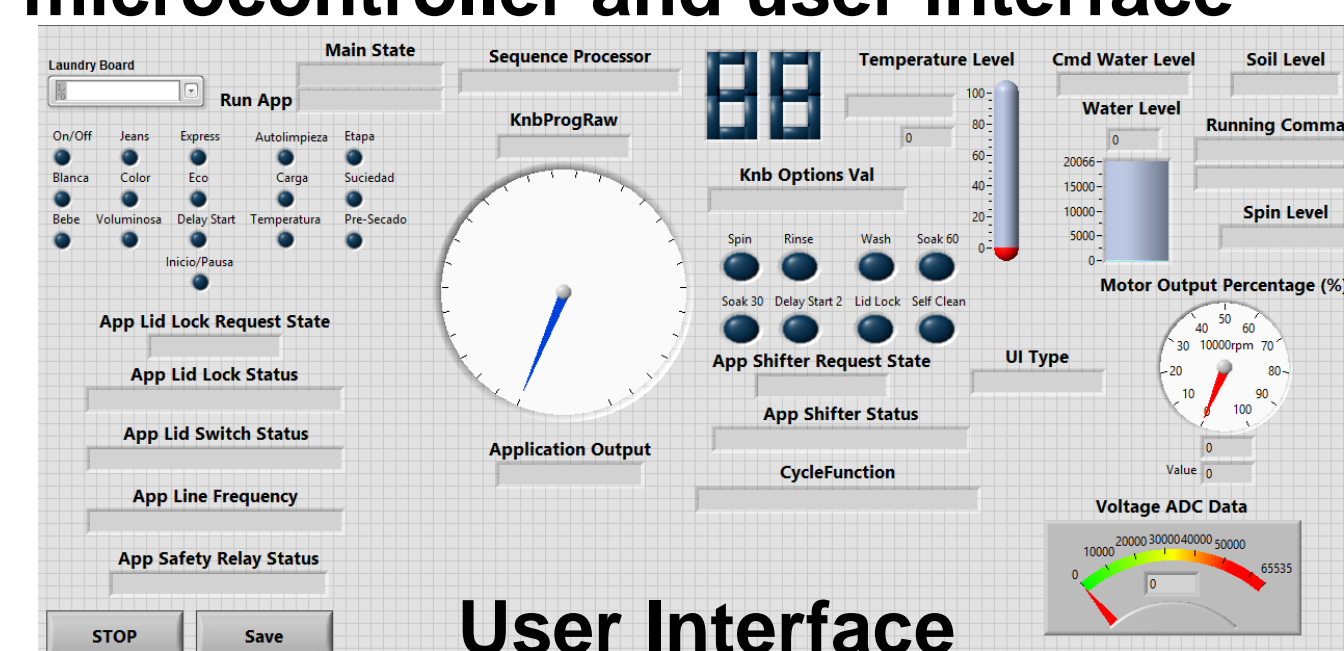


Signal from main board
Signal from microcontroller

Serial communication, main board and microcontroller

RESULTS

- ✓ Schematic design
- ✓ PCB design
- ✓ Build circuit prototype
- ✓ Communication between main board and microcontroller
- ✓ Communication between microcontroller and user interface
- ✓ Entire communication



User Interface

REFERENCES

Mabe internal documents.

Microchip. (2016). *Microchip*. Retrieved July 2016, from Microchip Forums: <http://www.microchip.com/forums/>

Microchip Technology, Inc. (2009). PIC18f4550 Data Sheet.

National Instruments. (2016). *NI Community*. Retrieved July 2016, from NI Forum: <http://forums.ni.com/>