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A Risc-V application

Touch paint using hifive1

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Abstract

- Interfacing TFT-LCD touch Display and to implement touch application with **Risc-V core** Micro Controller
- ASIC dev Kit

    Sifive-Hifive1** Micro Controller*

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WHY RISC-V CONTROLLER?

> The RISC-V ISA has been designed with small, fast, and low-power real-world implementations in mind, but without over-architecting for a particular micro architecture style

Features of Hifive1

Architecture: 32-bit RV32IMAC.
Speed: 320+ MHz.
Performance: 1.61 DMIPs/MHz, 2.73 Coremark/MHz.
SiFive E31 RISC-V Core.
Memory: 16 KB Instruction Cache, 16 KB Data Scratchpad.
Other Features: Hardware Multiply/Divide, Debug Module, Flexible ClockGeneration with on-chip oscillators and PLLs.

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Interfacing a TFT LCD DISPLAY with Hifive1

Requirements

*Hifive1
*Freedom-E-SDK
*RISC-V Compiler
*Adafruit 2.8” TFT-LCD resistive touch Display
***STMPE610** (not reqd if capacitive touch display)
*OS-linux

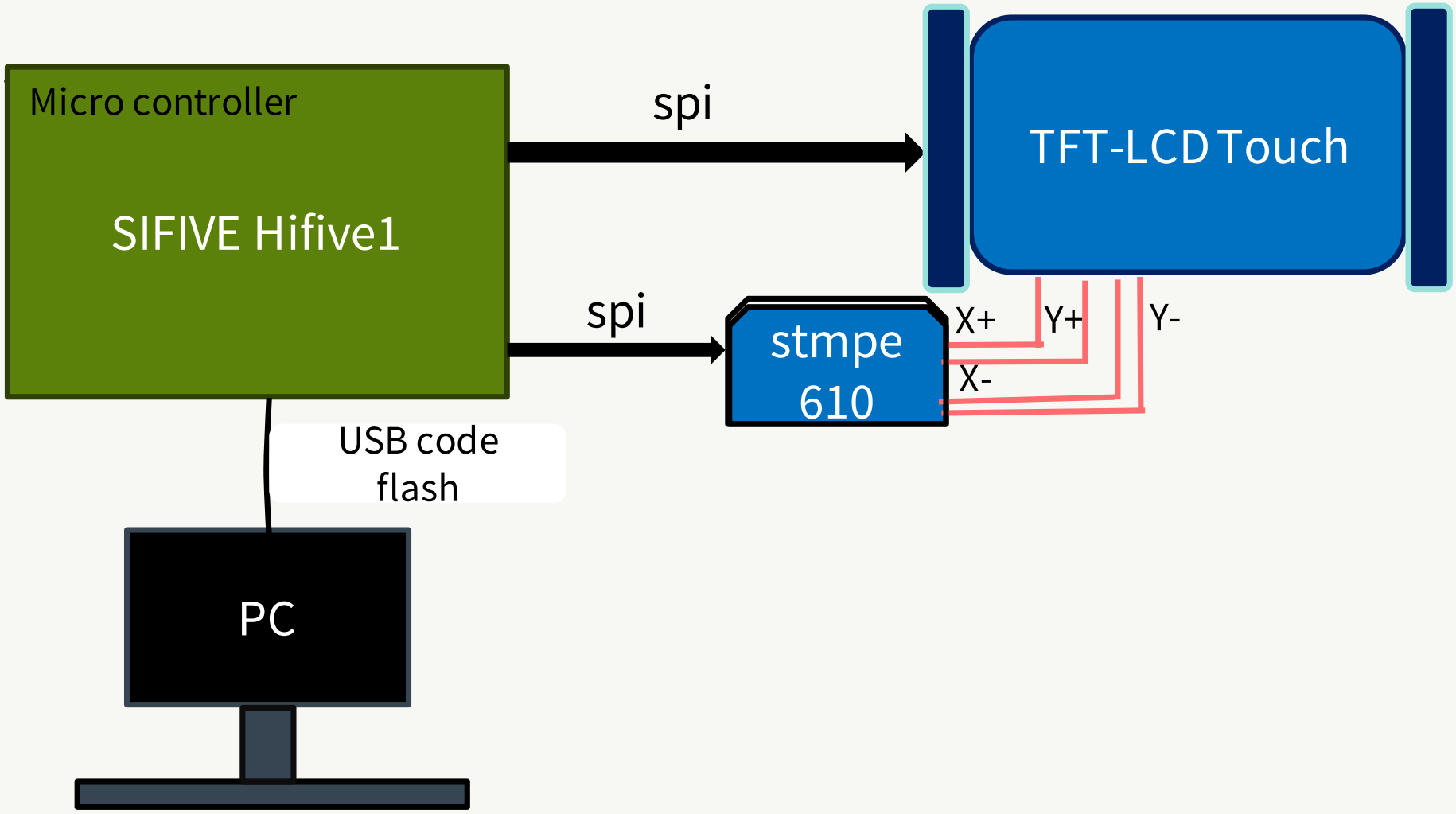
Proposed libraries

*MAXVY library written in C which includes GFX , ILI9341 & STMPE610

Existing libraries

*Adafruit GFX
*Adafruit ILI9341
*Arduino SPI library (Supports with arduino compiler)
*SPI library for freedom sdk compiler
*stmpe610 library

BLOCK DIAGRAM



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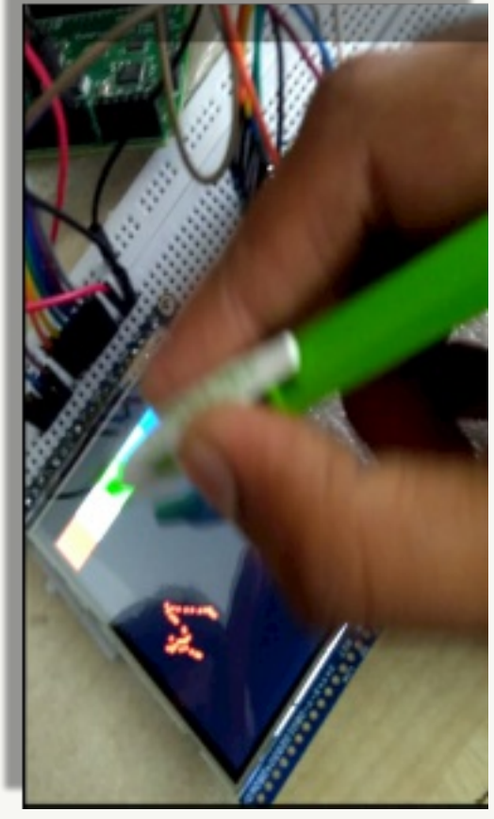
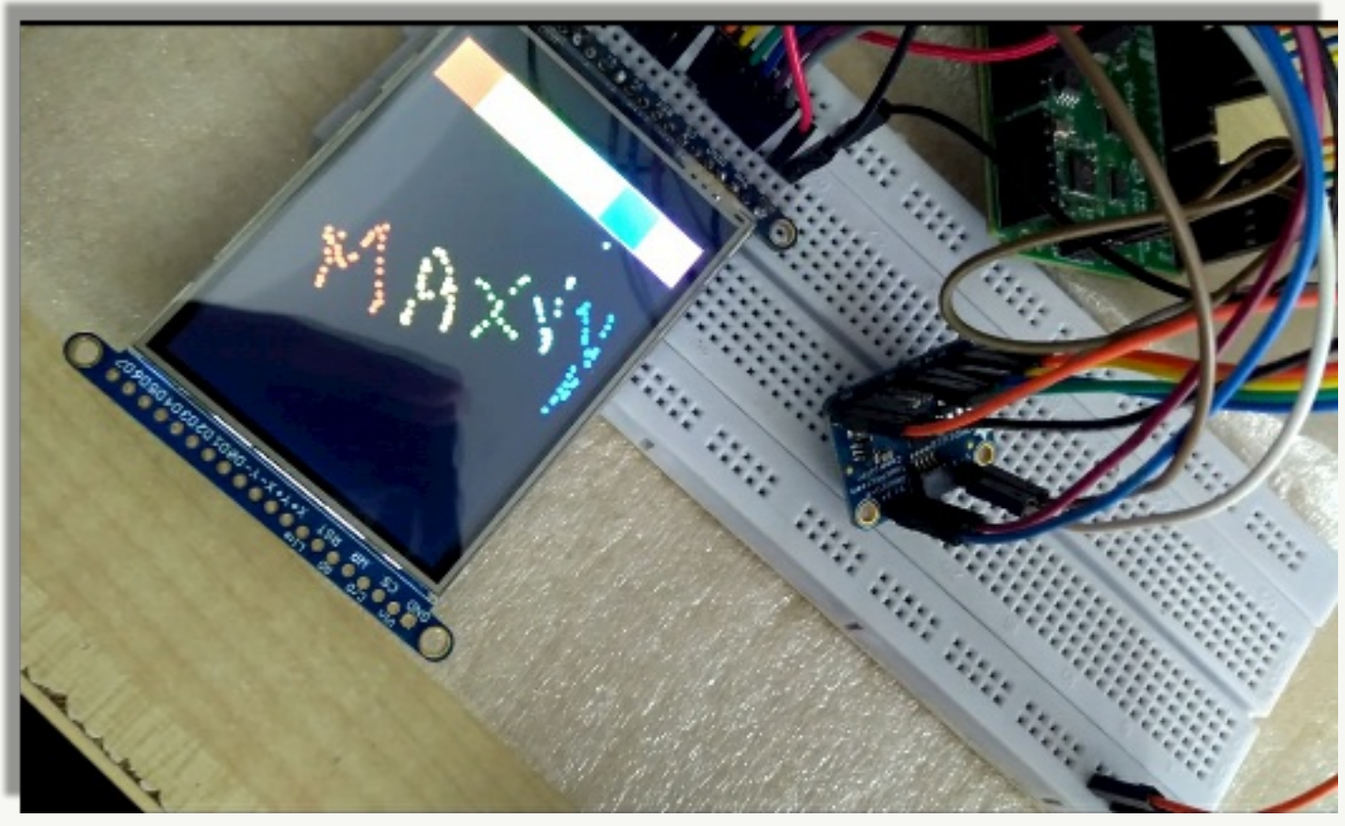
SAMPLE IMAGES





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THANK YOU