Abstract

Today, many fields are adopting touch screens or touch panels for applications with human/machinery or human/computer interfaces. This paper presents the concepts and methods for the interfacing of touch-screen sensor and TFT LCD Display unit to host microcontroller. Software programming algorithm and their implementation are also portrayed. Resistive touch sensor based graphics plotter is one such hand held embedded device which uses resistive touch panel and TFT LCD Display as an input and output terminals respectively. The implementation methods give special consideration to analog power-down strategies, efficient analog to digital conversion and optimize the touch sensor algorithm. Active Matrix
Display of Thin Film Transistor technology is used as an output display unit, it's being chosen since it is thin, flat and consumes very less amount of power. The method and workflow of resistive touch sensor based graphics plotter is emphasized. In this approach LPC2103 microcontroller from Philips Semiconductor Pvt Ltd, based on ARM7TDMI-S core is used as host controller. The ARM7TDMI-S CPU features 8 A/D channels, 32 general purpose I/O and several power saving modes. Using Cross ware Embedded development Studio, the entire software programming is done in C–language.

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Index Terms
- Computer Science
- Embedded System
**Keywords**

Arm7tdmi – S Core  Resistive Touch Screen  Active Matrix Display  Thin Film Transistor  Touch Screen Controller.