SD CARD DISPLAY MICROCONTROLLER

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INTRODUCTION

- LM3S811 based SD card display controller.

- Enables you to input data to portable hand held devices.

- Regularly reads temperature and relative humidity and display on the LCD of a portable device like tablet PC.

BASIC HARDWARE

- Luminary Micro LMS3811 evaluation kit
- SHT11 temperature sensor

MODIFIED SYSTEM AND CHALLENGES

- The Author wanted to have a graphic display on portable hand held devices(digital photo frame)
- These devices read only pictures through SDMC.
- One have to fake an SD card and give data to the host in the form of pictures.

SYSTEM OVERVIEW

- The purpose of the system is to replace SDMC.
- It has an SDMC pinout replica on the PCB which plugs into the host.
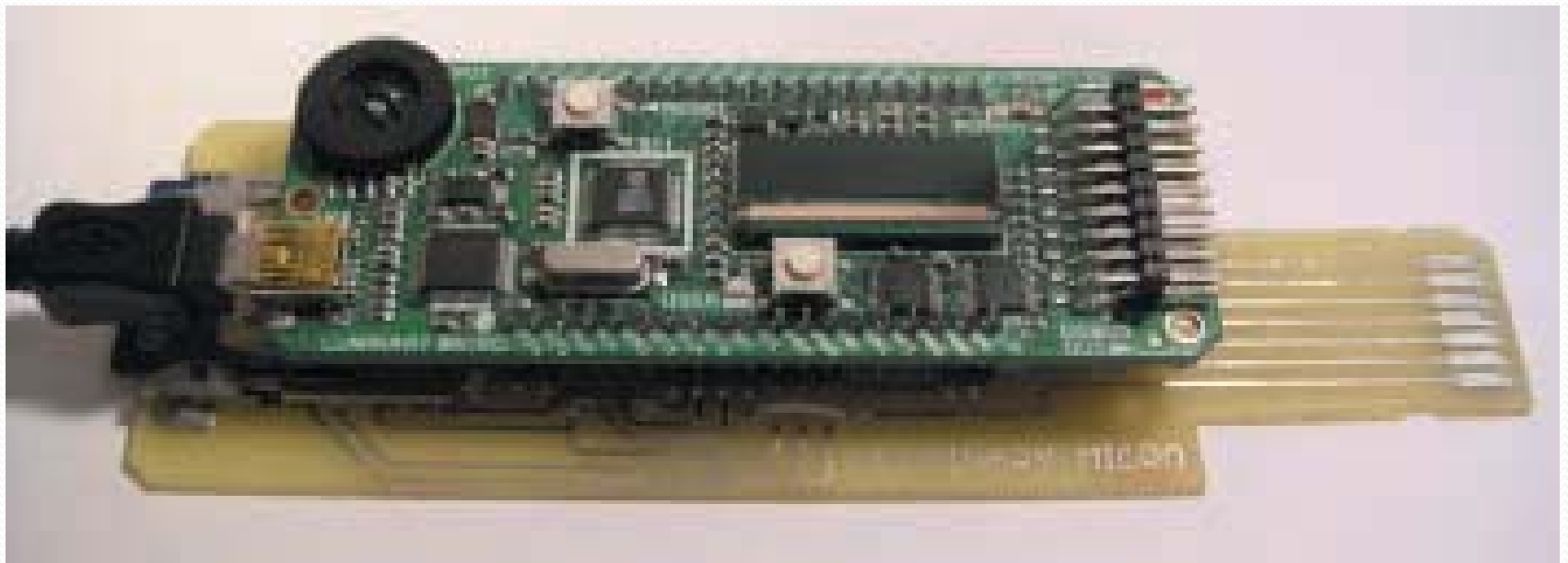
SYSTEM DESIGN
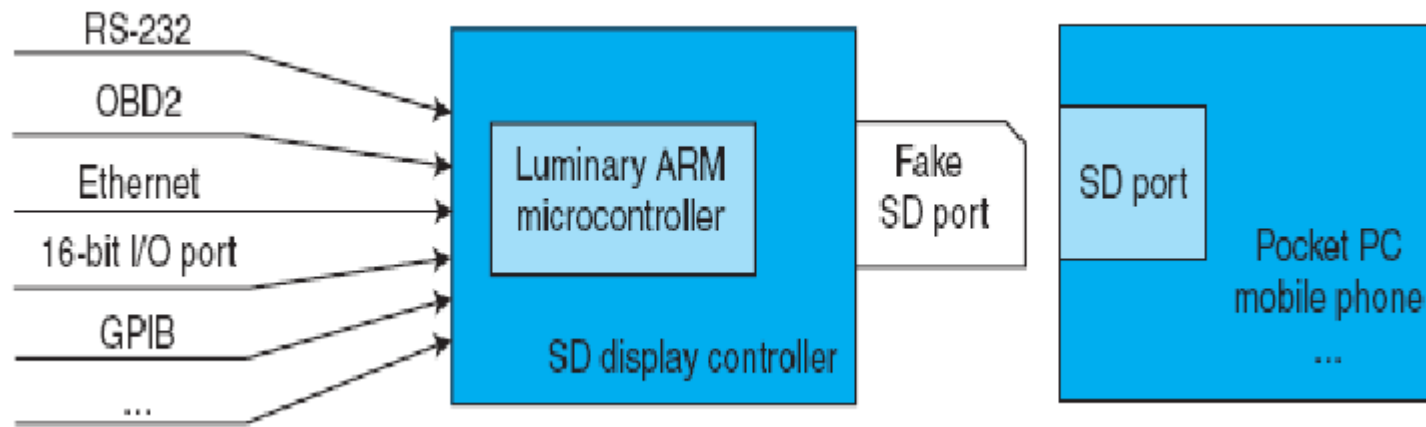
SYSTEM OPERATION

- The host is connected to a SDMC via pinout replica.
- The system regularly takes temperature and humidity measurement, isolates the host from the SDMC, and writes the measurement into the SDMC.
- The measurements are "drawn" on the SDMC in the form of a BMP file.
- The circuit then reconnects the host to the SDMC.
- Finally the BMP file can be displayed by the host as if it is a new file

SYSTEM OPERATION(CONTD.)

- Real time display not always necessary.

- SDMCs can be operated using a standard SPI ,so for SDMC replica SSI is used in SPI mode.

HOST

- A picture slideshow program is run on the host to regularly read the BMP file and display the measurements while the BMP file is being updated.

SOME EXAMPLES

ENHANCEMENTS

CONCLUSION

- Innovative way of inputting data to portable devices
- Can be used for other display purposes other than temperature and humidity(advertisements)