Craneboard

Overview

Craneboard, from Mistral, is a hardware development platform that enables customers to develop general purpose computing and other applications based on the Sitara AM3517 ARM Cortex - A8 microprocessor device. Craneboard is a low cost, open source reference platform to help the developer community leverage the benefits of the AM3517 processor while leveraging a host of exciting peripherals. The AM3517 processor from TI comprises of Microprocessor Unit (MPU) sub-system based on ARM Cortex - A8 microprocessor, POWERVR SGX™ Graphics Accelerator sub-system for 3D graphics acceleration to support exciting Graphical User Interface options while maintaining fast and fluid transitions display and gaming effects and Display sub-system with several features for multiple concurrent image manipulation, and a programmable interface supporting a wide variety of displays.
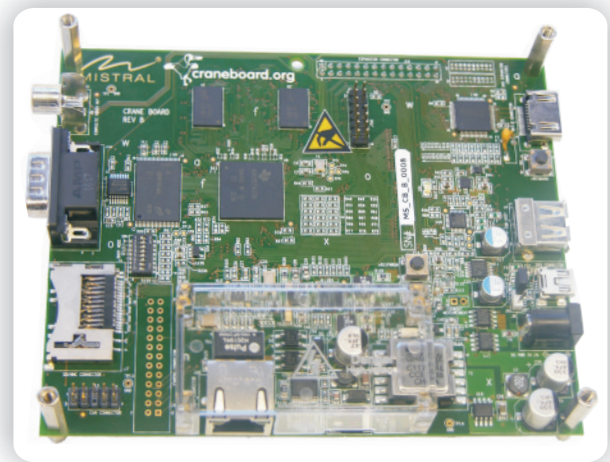
Craneboard will include pre-programmed binaries for x-loader, u-boot, Linux Kernel and JFFS2 file system for Linux. The software release from Mistral will include the required source code and utilities. The software package will be made available at craneboard.org

Users can also enjoy the benefits of a developer community for exchange of ideas and information, support and other topics. For more information, visit craneboard.org

Specifications

Hardware

- AM3517 Sitara Processor
  - 600 MHz ARM Cortex-A8
  - 3D Graphics Engine
  - CAN, USB OTG PHY, 3.3V I/O, EMAC and other peripherals
- Power Management Device - TPS65910
- Memory - 256MB DDR2 memory
- 256MB NAND Flash
- SD/MMC card connector
- Power Over Ethernet (POE 802.3af)
- Other Interfaces
  - Debug Interface (JTAG and Serial)
  - USB Interface (OTG and EHCI Host)
  - CAN Interface
  - DVI-D Interface on HDMI connector
  - TV-OUT interface (CVBS)
  - 10/100 Ethernet Interface
- Power
  - Power source options (DC, USB, POE)
  - 3.3 V I/O operation
  - DC supply 5V +/- 5%, 3A Max
- Other features
  - Boot-mode option switches
  - Expansion connector

- Board Dimensions: 5.5'' x 4.5''
  - PCB-4 layers stack up

Expansion Connector

The following peripheral interfaces are available via the expansion connector on the CraneBoard:

- 12C2, I2C3
- McBSP
- UART
- DSS
- Camera Input (Connector not mounted)
- MMC/SD/SDIO

Software Package

- Linux Software Package:
  - Free of charge and fully open source
  - Based on TI's AM3517 Software Development Kit
  - Sources and pre-built binary image of u-boot (u-boot.bin)
  - Linux Kernel Sources
  - Pre-built Linux Kernel image (uImage)
  - Pre-built RAM disk image containing root file system (ramdisk.gz)
- Pre-built NFS mountable root file system (nfs.tar.gz)
- Device Drivers for:
  - NAND and SD/MMC interface
  - USB Host (EHCI) and USB OTG (Host and Gadget) interfaces
  - 24-Bit DVI interface
  - CAN controller interface
  - 10/100 Ethernet interface
  - TV-OUT interface
  - UART
  - RTC available on TPS65910 device
- Code Sourcery Toolchain

Customization

Mistral can provide customized services, to help reuse our processor module in your design. For more information contact sitara@mistralsolutions.com

Applications

Broadly, the Craneboard can be used for:

- Single Board Computers
- Home and Industrial Automation
- Digital Signage

- Next generation small form factor devices like :
  - Barcode Scanner
  - CPAP Machines
  - ECG Electrocardiogram
  - Infusion Pump
  - Internet Radio Player
  - Patient Monitoring
  - Programmable Logic Controller
  - Single Board Computer for HMI and POS
  - Software Defined Radio (SDR)
  - Ultrasound System
  - Video Doorbell

Ordering

For ordering information please email us at sales@mistralsolutions.com or call +1-408-705-2240 for USA and +91-80-3091 2600 for the rest of the world. Also visit craneboard.org for more information.

Deliverables:

- Craneboard kit consisting of :
  - Craneboard
  - Software and Documentation can be downloaded from craneboard.org
    - Linux Software
    - Quick Start Guide
    - Hardware Users Guide
    - Getting Start Guide

About Mistral

Mistral is a technology design and systems engineering company providing end-to-end solutions for product design and application deployment. Mistral is focused in three business domains: Product Engineering Services, Defense Solutions and Homeland Security. Mistral provides total solutions for a given requirement, which may include hardware board design, embedded software development, FPGA design, systems integration and customized turnkey solutions.

Mistral's strategic partnerships with leading technology companies help provide customers with a comprehensive package of end-to-end solutions.

Mistral Solutions is a broad market OMAP Technology Center (OTC) offering services in the area of software and hardware design, development and consulting on the OMAP™ platform.

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