DRSMDG35_HMI

Introduction

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Version 0.1

1.1. DRSMDG35_HMI

Componets

- Main Module+ CPU B/D (ARM926-ejs : 400MHz)
- CPU Module
- 7inch LCD, 10.4inch LCD, HDMI port

Manual and video clip

- http://www.dooroos.org/dooroos_solution_hmi.htm
  For video clip

구매문의

- dooroos@dooroos.org 메일로 요청
- 02-2082-2581 전화문의

Hardware Specification

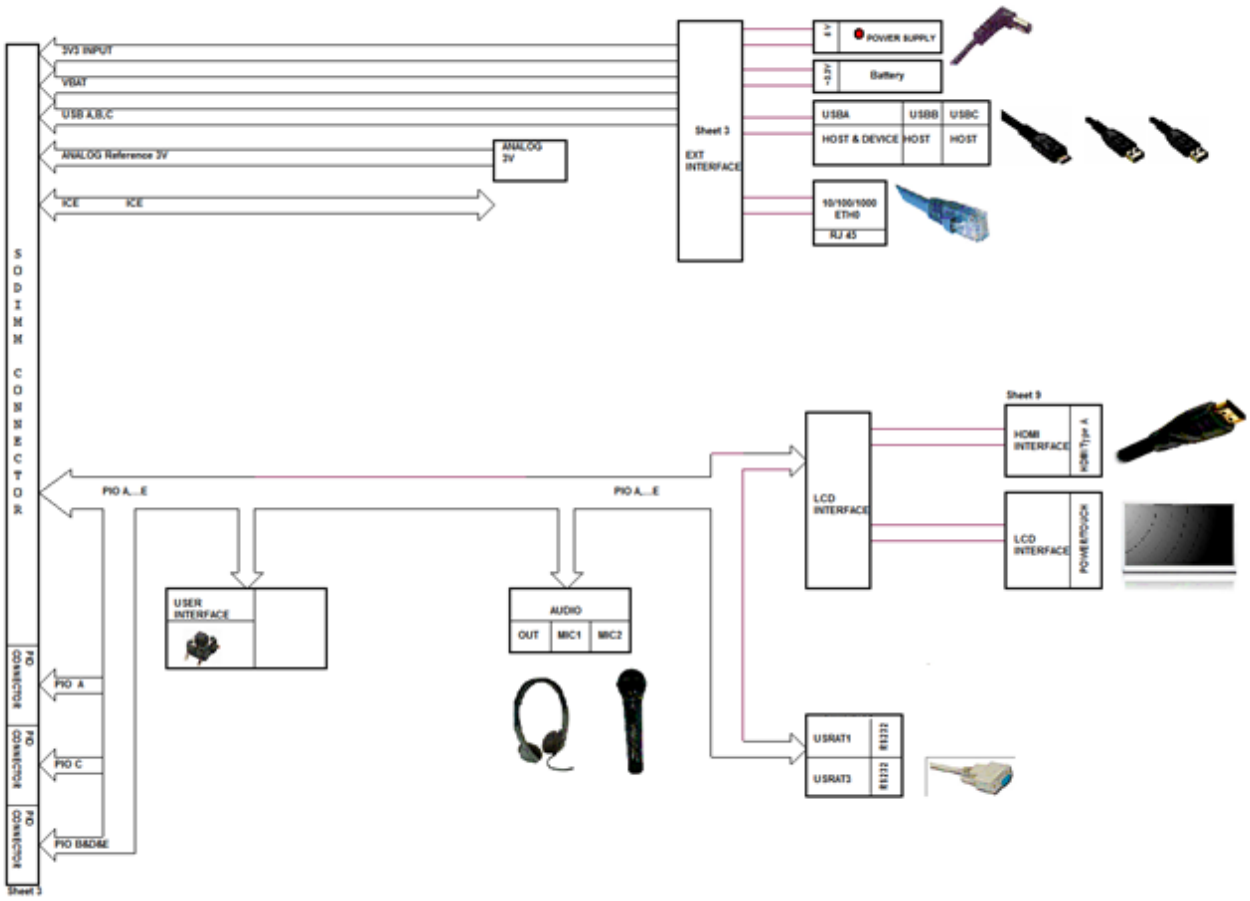
Ethernet Transceiver	DM9161AEP
10-100Base-TX Interface Module	EPF8119S
TACT SWITCH	SW4-P5-2MM-TACT
DC-DC CONVERTOR	PAM2306AYPAA
Stereo CODEC	WM8960
REAL TIME CLOCK	RTC-8564JE
OSCILLATOR	SG-310SCN, 3.3V 50.0MHz

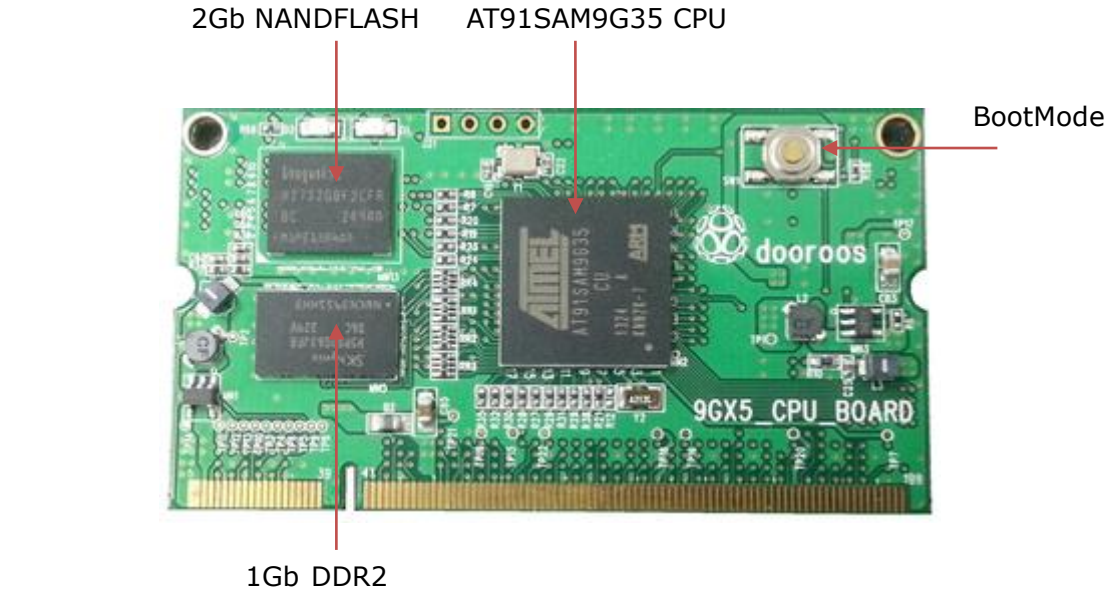
CPU	*AT91SAM9G15 support (ATMEL cpu).* *AT91SAM9G25 support (ATMEL cpu).* *AT91SAM9G35 support (ATMEL cpu).*
MEMORY	*DDR2 Ram, SerialFlash, NAND flash.*
POWER	*3.3 volatage input.* *Internal Regulator for internal use.*
DISPLAY	*HDMI/LCD support. (4 Layer overlay)*
USB HOST	EHCI/OHCI *Keyboard, Mouse, HID Interface devices.* *USB memory, Printer.* *USB Camera, variable sensor devices available.*
USB DEVICE	*USB memory device* *USB Serial device* *ActiveSync device*
ETHERNET	*10M/100M ethernet support. (EMAC)*
SOUND	*I2S support (WM8960….)*
OTHERS	*I^2C, SPI I/F.* *Timer(6channel), PWM(4 channel), CAN.* *USART, UART I/F (5channel)* *SD/SDIO, eMMC I/F.* *SoftModem I/F* *10bit ADC(x12)/Touch I/F* *GPIO, ...*

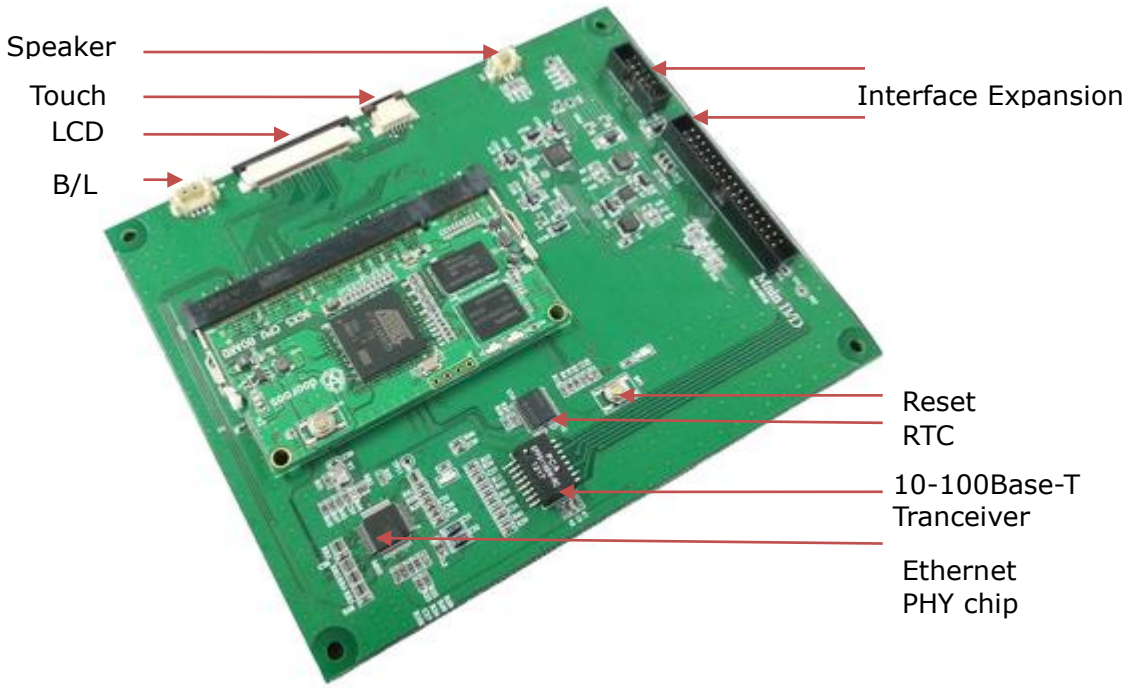
Board Size

105 x 130(mm)

Block Diagram




2Gb NANDFLASH
AT91SAM9G35 CPU
BootMode
dooroos
9GX5_CPU_BOARD
1Gb DDR2

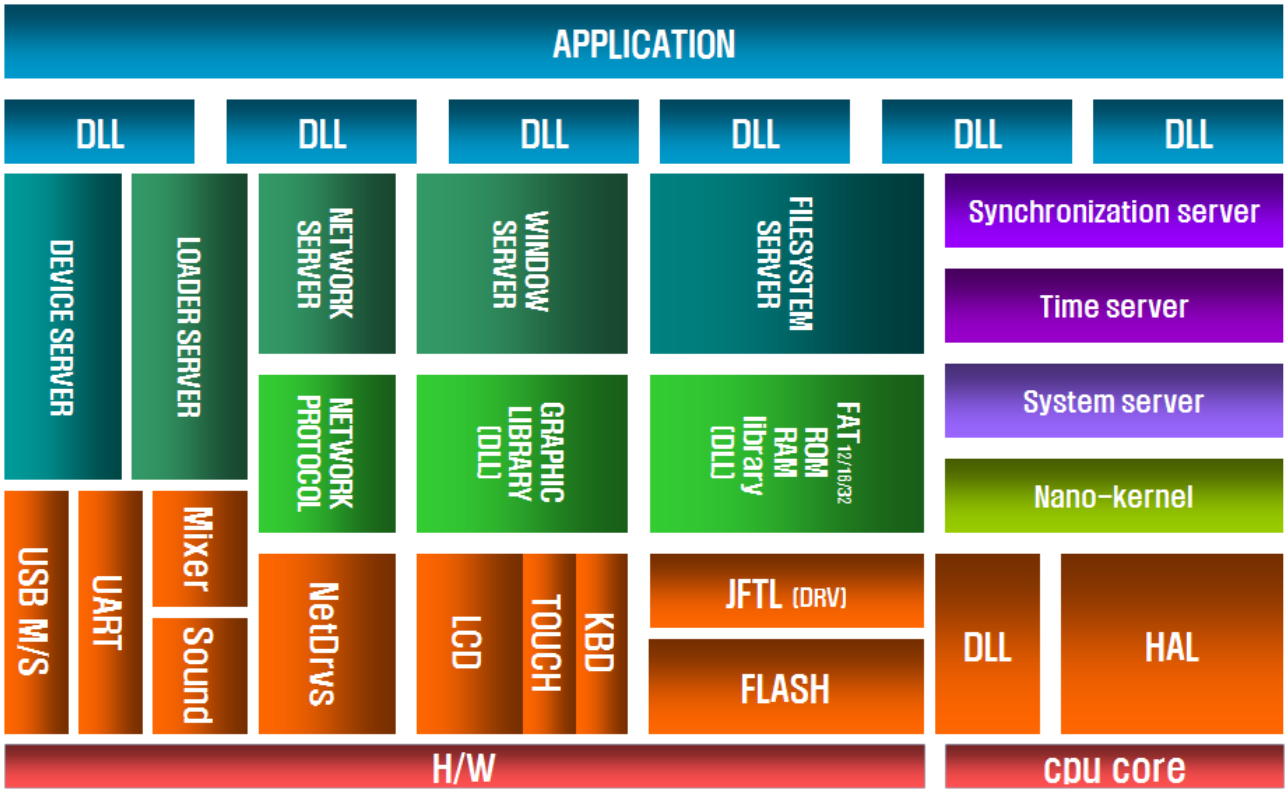

Speaker
Touch
LCD
B/L
Interface Expansion
Reset
RTC
10-100Base-T
Tranceiver
Ethernet
PHY chip

Software Specification

BOOT	JBOOT supported.
OS	dooroos.realtime (http://www.dooroos.org) - filesystem server (FAT, ROM, RAM) - device server - window server (GUI) - network server (TCP/IP)
Device drivers	Display Driver for LCD and HDMI EHCI / OHCI driver for USB USB device driver for USB device control GMAC / EMAC driver for network ISI driver for camera NAND flash driver for DISK (FTL/partition supported) Touch driver for touch panel SDIO driver for SD memory and SDIO device wave driver for sound-out uart driver for uart communication TWI driver for control of the device KEYBOARDD driver for key input LED driver for notification
Middle ware (DLL)	bmpfont.dll for Bitmap font display ttffont.dll for ttf font display convchar.dll for character code conversion debug.dll for debug message print taskheap.dll for heap management dhcp.dll for DHCP client dhcpd.dll for DHCP server ftp.dll for ftp client gl.dll for graphic library IME.dll for Input Method imgbmp.dll for bmp image file imggif.dll for gif image file imgpng.dll for png image file imgjpg.dll for jpg image file mad.dll for MP3 sound file tremor.dll for ogg sound file sound.dll for sound play sqlite.dll for database zlib.dll for compression mixer.drv for soft mixer.
Usb driver	USB DEVICE : activesync driver USB DEVICE : mass storage driver USB DEVICE : cdc driver USB HOST : HID keyboard driver USB HOST : HID mouse driver USB HOST : mass storage driver USB HOST : camera driver USB HOST : printer driver
Sample Apps.	Various OS API/Resource demo apps. Network commnunication apps. (TCP, UDP, RAW) Network protocol apps. (dhcp, ftp, webserver ….) GUI apps. Simple games Image viewer Media player. Simple shell program.

	Various Setting apps. World clock sample apps. Etc. Visit the homepage http://www.dooroos.org

dooroos.realtime block diagram



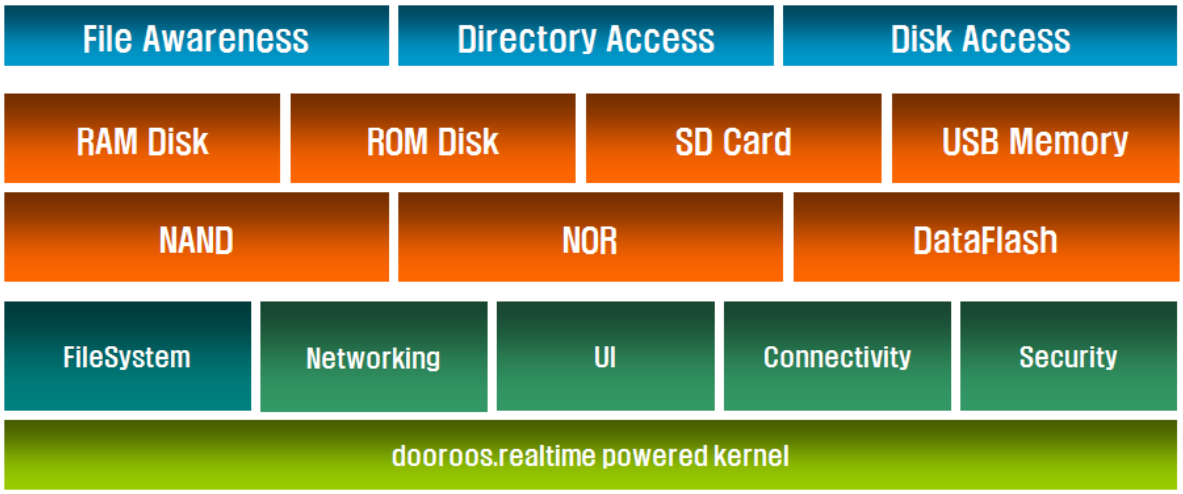
dooroos.realtime benefits

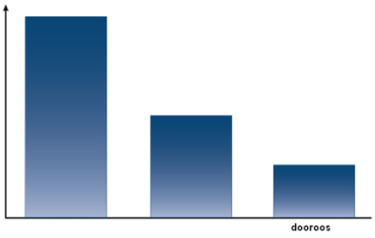
Power Management

Software driven power management is crucial for extending battery life in portable devices, thermal management and for producing energy efficient embedded devices. Embedded developers can now take advantage of the last power saving features in today's processors with the built-in Power Management Framework in the dooroos.realtime. Software Developers control overall system power consumption with high-level APIs, while dooroos.realtime manages the power mode transition of each device in system.

Storage Support

Stoage device can be formatted for FAT, the same file system can also be present on connected IDE, SD, USB, as well as the soldered down and on-chip Flash devices. Access to file systems is threa-safe, and multiple tasks can simultaneously access multiple files across any combination of physical media.



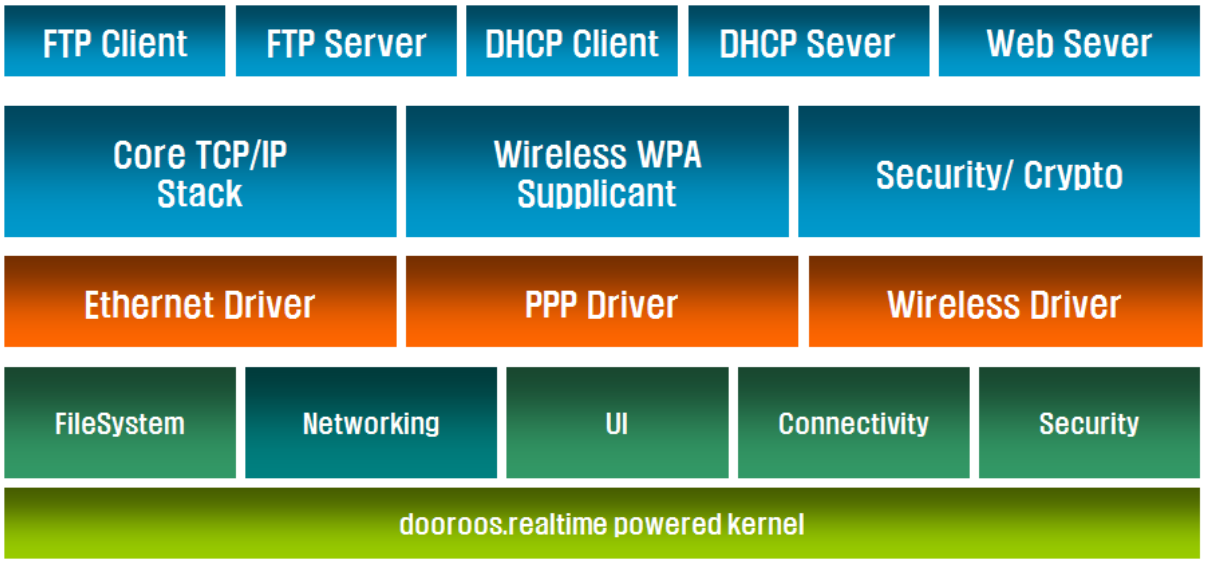


Configurable Code

When you build your dooroos.realtime based system, only the dooroos.realtime components and various middleware library(.dll) required by the system are assembled seperatly in the the final image. By ensuring code size is kept to a minimum, dooroos.realtime can significantly reduce your certification costs, since certification effort is directly proportional to the lines of code being validated. A proven platform, the dooroos.realtime code based has been through the certification/debug process time and time again. With dooroos.realtime as the underlying platform, software developers can be confident their devices will pass the scrutiny of government agencies to ensure safely requirements are met. Source code is prvided to facilitate the certification process.

Ready to Wifi

Embedded system facilities can be challenging wireless environments with varying levels of signal strength, multiple AP's from different manufacturers, and a range of authentication and encryption methods that must be supported. The dooroos.realtime wi-fi solution comprises an wifi that has a proven track record of reliability and robustness in these demanding environments. Wi-Fi Certified in accordance with the Wi-Fi Alliance, dooroos.realtime delivers a comprehensive solution with 802.11a/b/g/n support on the industry's leading chipset manufacturers including Atheros, Ralink. Because security is important when transmitting protected information over unsecure networks, dooroos.realtime can provide the crypto services to deliver encryption that includes AES, SHA and others.

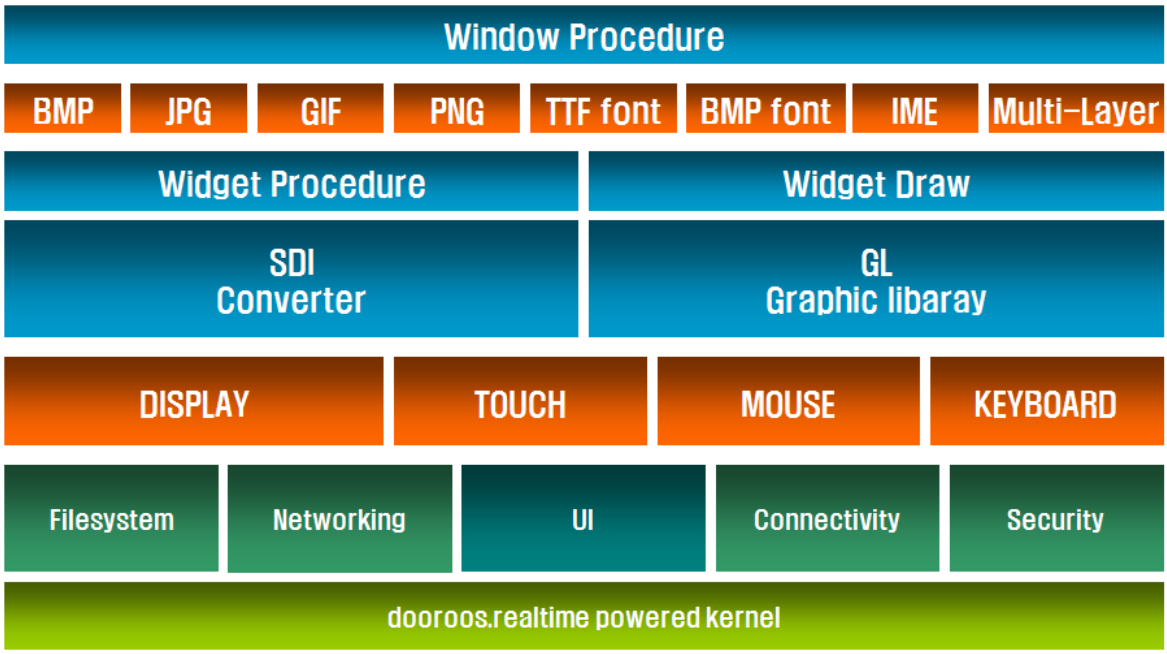


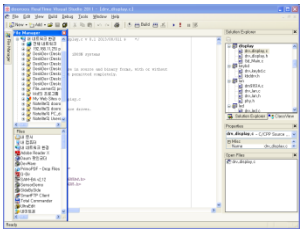
Ready to USB

Embedded system device designers can incorporate USB Host, Device, connectivity into systems with the dooroos.realtime. dooroos.realtime offers one of the most comprehensive USB solutions in the industry and is offering both Host and Device nodes.

Integrated UI Development

dooroos.realtime comes integrate with dooroos graphical user interface solution with window server helping ensure that developers can create the type of user interfaces demanded in today's emdbeded system devices. Our UI solutions include the many middleware(.dll) to handling the image, font and drawing primitives. For UI optimizations and greater system reliability, dooroos.realtime visual studio has been integrated to allow developers to understand the interactions between the UI and the system.





Ready to IDE

The dooroos.realtime development environment enables developers to efficiently develop and build the code in an optimized environment. Dooroos.realtime visual studio is consists of a source code editor, build automation tools and project/solution management tools.

Emulator

The dooroos.realtime SDK includes a dooroos emulator — a virtual hardware device that runs on your computer. The emulator lets you develop and test dooroos.realtime applications without using a physical device.

The dooroos emulator mimics all of the hardware and software features of a typical hardware devices : Display, Touch, keyintput, sound, network, serial, etc except that it cannot place the special hardware device: SPI…. It provides a complete dooroos.realtime development environment which you can control by using your mouse or keyboard to generate events for your application. It also provides a screen in which your application is displayed, together with any other active dooroos.realtime applications.

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Developing for embedded system becomes a breeze. The dooroos emulator is super simple to install and lets you do serious embedded system development from your desktop.

Do your system development straight from your desktop.

dooroos.realtime: your system proposal