

Nucleus Platform Solutions

Auto-running File Browser for the Atmel AT91SAM9RL64-EK

Download ➡ Flash ➡ Evaluate



Figure 1: The Atmel AT91SAM9RL64-EK Evaluation Board

Download

- Download the file **at91sam9RL64ek_File_Browser_autorun_V1.zip**
- Extract the zip to a convenient directory on your PC.

Flash

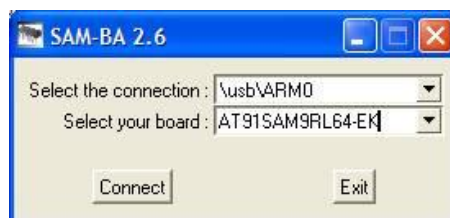
Use the Atmel SAM-BA utility to flash the program into the AT91SAM9RL64 board dataflash memory.

SAM-BA 2.8 is available from this Atmel supplied installer:

http://www.atmel.com/dyn/resources/prod_documents/Install%20AT91-ISP%20v1.12.exe

Once installed please refer to your SAM-BA *User Guide* for detailed instructions.

- Power off the board
- Remove J13
- Connect the USB cable to the PC and board
- Connect power to the board
- The PC should show the *Found New Hardware* wizard; follow this and allow it to find the default driver (installed with SAM-BA)
- Start up SAM-BA and select `\\usb\ARM0` and the correct board:



- Connect J13
- Select the *DataFlash AD45DB/DCB* tab
- Select *Scripts > Enable Dataflash on CS0*, click *Execute*

Nucleus Platform Solutions

Auto-running File Browser for the Atmel AT91SAM9RL64-EK

Flashing the boot loader

- Select *Scripts > Send Boot File*, click *Execute*
- In the file dialog that opens browse to the file **dataflash_at91sam9RL64ek.bin**, click *Open*
- Verify that this was successful in the log pane

Flashing the Image

- Select the yellow folder next to the *Send File* button
- Browse to and select the file **at91sam9RL64ek_File_Browser_autorun_V1.bin**
- Change *Address* to **0x1000**
- Click *Send File*
- Verify that this was successful in the log pane
- Exit the SAM-BA software
- Remove the USB Cable
- Power cycle the board

Evaluate

- Copy all the files and directories contained within the **Atmel9RL/SDCard** directory to the root of an SD card
- Plug the SD card into the board
- Reset the processor
- The top level application screen will now be displayed as in Figure 2

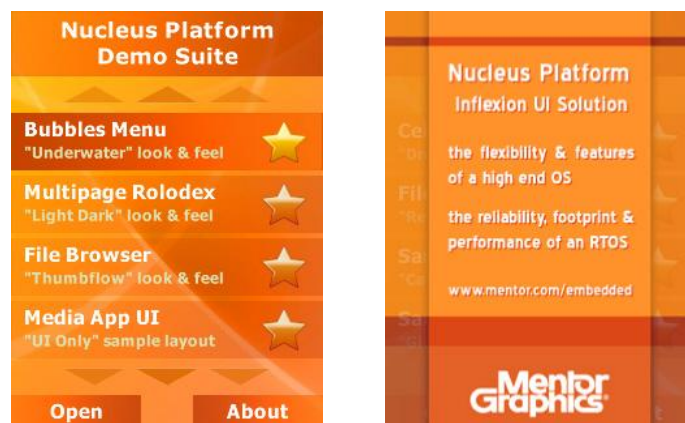


Figure 2: The Home and About screens of the Nucleus Platform Demo Suite

With this autorun version, all the screens will be cycled through to demonstrate the different transitions and themes which are present.

Figure 3 shows some sample screenshots of the *File Browser* theme. Note that as this is an autorun demo and is reading the directory on the SD Card, you should not change this directory structure.

Note that this version of the File Browser demo supports file browsing only. An extended version where certain file types can be launched or viewed (e.g. videos, photos) will be available soon.

Nucleus Platform Solutions

Auto-running File Browser for the Atmel AT91SAM9RL64-EK

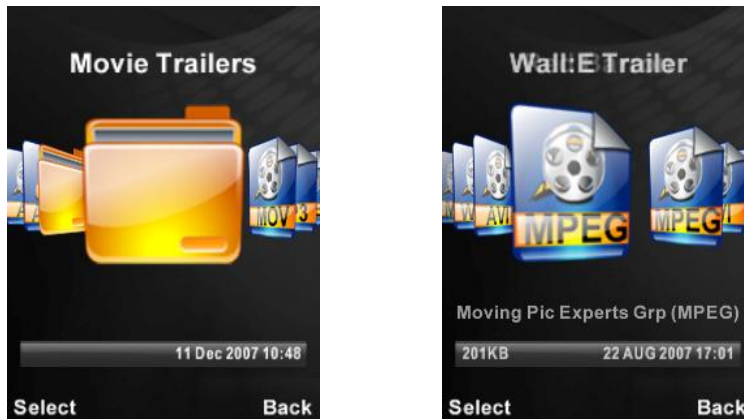


Figure 3: Sample screens from the File Browser demo

The **Multipage Rolodex** demonstrates a media styled theme for displaying file types in a multi-page format. Video, music or picture file types are displayed along with their details.



Figure 4: Sample UI screens from the Multi-Page Rolodex demo

The **Bubbles Menu** browses two levels of menu data. The theme style makes use of static and transitional animations as well as animations based on the curved paths feature of the UI engine.

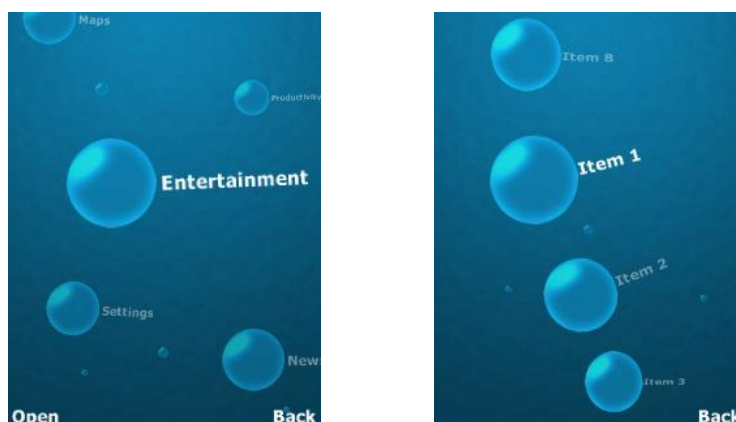


Figure 5: Sample UI screens from the Bubbles Menu demo

Nucleus Platform Solutions

Auto-running File Browser for the Atmel AT91SAM9RL64-EK

The *Media App UI* theme browses the UI part only of the Mentor produced Portable Media Product. It shows how Inflexion UI can be used to produce menu screens for an application.



Figure 5: Sample UI screens from the Media App UI demo

The *Sample UI Design Glow* theme shows you alternative ways of displaying a standard icon-based menu. The menus vary from simple scrolling lists to more complex layouts making use of the software 3D capabilities within the UI engine.

One of the strengths of the UI is that it enables the look and feel of a device's menu system to be changed easily. The *Sample UI Design Cartoon* theme contains the same menu and layout data as the above *Glow* themes but uses a different graphical style.

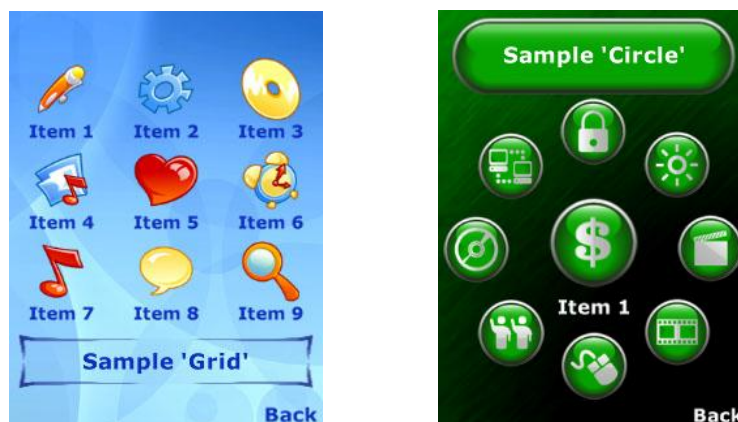


Figure 4: Sample UI screens from Cartoon & Glow demos

Under the Hood

The binary file `at91sam9RL64ek_File_Browser_autorun_V1.bin` contains an AT91SAM9RL64 image of the Nucleus Platform Solution. It makes extensive use of the Nucleus OS and middleware (including file system and graphics), together with the Inflexion UI engine which enables the implementation of software 3D UIs for any embedded system where usability and aesthetic qualities are important.

The Inflexion engine reads all aspects of the user interface from XML data held in memory and thus the whole look, feel and operation of the application can be modified without altering the binary running on the processor. Understanding and expertise in using XML is not a prerequisite as the creation, design and modification of the complete UI is by an advanced drag and drop UI Designer tool. This version has that data stored within the onboard flash along with the executable, while others will utilize SD Cards, USB and other available memory devices.