Setting up the Original Java Baby Simulator To run on a Raspberry Pi

These notes are provided "as is" to help in planning the Raspberry Pi installation of software that was originally written for use on old Windows operating systems and Java versions. Because of this, anyone installing the software now needs to be aware that there is no support for it, or for recovering from problems that may be caused by it, and that backing up your existing Raspberry Pi setup first is strongly recommended.

Compatible Raspberry Pi System Setups

A Raspberry Pi configuration known to work with this Baby simulator is listed below (although it can be expected to work with other similar configurations):

- A Model B Raspberry Pi with 512MB memory in total, with the default 64MB allocated to GPU;
- Using a standard Raspbian installation (with LXDE Desktop) on a 4GB or larger SDHC card;
- Running a display resolution of 640x480 or higher;
- With Internet access from the Pi at a link capacity sufficient for the download of around 50MB of files;
- With booting directly to the LXDE Desktop enabled in **raspi-config**.

It is strongly recommended to back up your existing Raspberry Pi software setup before following these installation notes. This is because it involves installing a new Java setup to allow the Baby simulator to run, and this setup cannot be guaranteed to be compatible with all other previously installed programs.

Raspberry Pi Installation steps

1. Load up the Raspberry Pi into the LXDE graphical Desktop environment.
2. From the Start menu **Internet** section, open a Web browser (usually either **Netsurf** or **Midori**).
3. The Baby simulator code may now be downloaded directly from David Sharp's archive website by typing into the browser the destination URL of **http://www.davidsharp.com/baby/baby.zip**.
4. A message offering to download the file **baby.zip** onto the Pi should appear.
5. Select option **Save** to save **baby.zip** into the default download location on the Pi. (Unless you have changed the download location in your browser settings, this will be into **/home/pi**).
6. When the download completes, close both the Download dialogue and Browser windows.
7. Open **File Manager** from the **Accessories** section on the Start menu and display folder **/home/pi** (or your other download location if set) in it.
8. Find the downloaded **baby.zip** file in the folder, then right-click on it to open a context menu. Choose **Xarchiver** from the context menu.
9. In the **Xarchiver** window, click on the **Action** menu and then choose **Extract**.
10. In the **Extract files** dialogue box that is displayed, amend the **Extract to:** box to read **/home/pi/oldbabysim** before clicking on the **Extract** button.
11. When the files have been extracted, close the **Xarchiver** window and confirm in the **File Manager** that there is now a folder there named **/home/pi/oldbabysim** and that there are files and folders in it.
12. If you like, you can now delete the download file **/home/pi/baby.zip.**
13. Create a script to start up the simulator from the Desktop:
    i. Open the File Manager and click on **Desktop** in the left pane.
    ii. Click the **File** menu and choose **Create New… Blank file**.

iii. Enter **StartoldsIm** for the file name, then click **OK**.

iv. In the right hand pane, right-click on the new file **StartoldsIm** and choose **Leafpad** to edit it.

v. Type the following 3 lines into top of the file exactly as they are written below (note that the only letter capitalised should be the "B" of Baby):

```
#! /bin/bash
cd /home/pi/oldbabysim/simulator
java Baby
```

vi. Click on **File** and **Save**, followed by **File** and **Quit**.

vii. Right-click on the file again and choose **Properties**.

viii. Click on the **Permissions** tab.

ix. Click on **Make the file executable** to select the check box next to it before clicking **OK**.

x. Close down the windows and check that the file is present on the Desktop.

14. Copy any existing Snapshot (SNP) or Assembly (ASM) files you have that you want to use with the simulator into a folder created to hold them (for example: **/home/pi/babyprograms**).

15. To get the currently available Raspberry Pi package lists and update already installed software:

    Open up **LXTerminal** and enter the commands:

    sudo apt-get update

    then (a recommended step to upgrade all existing packages on your Pi)

    sudo apt-get upgrade

    (The first typically results in an Internet download of about 7Mb, and the size of the second will vary).

16. To download and install the **IcedTea** plug-in and **OpenJDK** packages:

    Using **LXTerminal**, enter the command:

    sudo apt-get install icedtea-plugin

    (This typically results in an Internet download of about 42Mb)

17. To start the simulation:

    i. On the Desktop, double-click to execute the **StartoldsIm** script file.

    ii. Click on **Execute** when you are given options.

    iii. As it loads, you will get a "Default program not loaded" error. Just click on **OK** to continue.

    iv. After a few seconds, two overlapping windows will be displayed. Move the top one so that it is alongside the other.

18. (If desired). To stop the default screen blanking out after about 10 minutes of unattended running:

    Edit the following line into the section of file **/etc/lightdm/lightdm.conf** headed **[SeatDefaults]**, then reboot to enable:

    xserver-command=X –s 0 dpms

    (Note: You will need do save updates to this file using Super User access – for example, by invoking the Nano editor from an LXTerminal window using **sudo nano /etc/lightdm/lightdm.conf**.)