Asunto: [bcm2835] Re: Discontinuity in a real-time SPI bus application. (version 2)
De: Arjan <arjan.van.vught@gmail.com>
Fecha: 26/06/2013 11:45
Para: bcm2835@googlegroups.com

Hi Efrén,

The bcm2835 library implements the SPI interface as described in http://www.raspberrypi.org/wp-content/uploads/2012/02/BCM2835-ARM-Peripherals.pdf.

However, what you observe is 'Linux'. See http://www.airspayce.com/mikem/bcm2835/ --> "*The bcm2835 is a library for user programs (i.e. they run in 'userland'). Such programs are not part of the kernel and are usually subject to paging and swapping by the kernel while it does other things besides running your program. This means that you should not expect to get real-time performance or real-time timing constraints from such programs.*"

The best option for real-time is going baremetal programming. I have rewritten Mike's library for use on baremetal --> https://github.com/vanvught/OpenILDA/blob/master/sdcard-emmc/bcm2835.c

You can simple do prototyping in a Linux development environment. And move your application easily to baremetal.

Hope this helps.

Regards, Arjan

Op woensdag 26 juni 2013 11:10:45 UTC+2 schreef EFR het volgende:

> Hi all: (now without format, sorry for the previous one, was a ortography advisor who paint all the email)
>
> Actually I'm using the bcm2835 library to carryout a real-time digital to analog signal conversion under the SPI port.
> But even after many modifications of the bcm2835.c code for spi transfers and even putting the process in a round robin thread, I'm not able to make a continuous sine signal, since I observed small interruptions in the data flux with the logic analyzer.
>
> I suspect that the library bcm2835 is not using all the potential of the bcm2835 SPI, such as described at the section 2.3 of broadcom data sheet http://mural.uv.es/efere/archivos/sbei/spi_master_usage.pdf
>
> Now I'm trying to modify the library to make more exact control of the SPI bus using this information, but I'm not sure if some one already did that and is a "non sense" work...
>
> Any suggestion and advice could be nice, Thanks

> -EFR-
>
> My code could be found at:
> https://sites.google.com/site/sibiecin/blog-sbei/entradasintitulo
>
> P.D.
> Actually I'm working on a RPi project and most of the information is generated in Spanish, and could be found at many web sites such as:
>
> -State of the art project site: (english)
>
> http://www.scoop.it/t/sbei-instrumento-electro-acustico-de-ultrasonidos-para-percibir-el-entorno
>
> -Twitter account of the project:
>
> https://twitter.com/GoteoSBEI
>
> -Corwdfunding site about the SBEI project:
>
> http://goteo.org/project/sbei?lang=en
>
> -Google sites with a lot of information about the project:
>
> https://sites.google.com/site/sibiecin/
> https://sites.google.com/site/sbeiprivate/
>
> Original project in spanish
> http://mural.uv.es/efere/archivos/memoria_PFC_ultima_version_ConAdiciones.pdf
>
> Even a google group for discussions about the project:
> http://groups.google.com/group/sistemabionicoecolocacioninvidentes
> Yo may subscribe to them by emailing to efer...@gmail.com
>
> --
> Best Regards / Saludos / Salutacions
> **********
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