

Re: ARM9 Choice

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- *From:* linnix <me@xxxxxxxxxxxxxxxxxxxxxx>
 - *Date:* Mon, 25 Feb 2008 10:52:48 -0800 (PST)
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On Feb 25, 9:46 am, icegray <iceg...@xxxxxxxxxx> wrote:

On Feb 25, 6:32 pm, Tim Wescott <t...@xxxxxxxxxxxxxxxxxxxxxx> wrote:

On Mon, 25 Feb 2008 09:54:35 -0600, Vladimir Vassilevsky wrote:

icegray wrote:

Hi,
I am looking for cpu for a automotive infotainment project. Project details are 800x600 lcd, graphical charts, graphical user interfaces, audio (MP3 and Radio), CAN Bus communication, probably embedded linux, maybe rear camera and gps, etc.

You need a Pentium class industrial PC with WinCE or Embedded XP.

ok maybe ARM9 performance not enough but why windows? could you please explain more?

Unless, of course, you want your device to have a low enough COGS to both sell and make money for your company.

Re: ARM9 Choice

The above mentioned combination may be the best to _prototype_ the product, but I wouldn't rule it in for the real product, particularly if you're going to be shipping in high enough volumes to justify some serious engineering.

I doubt that you'll find one processor that does all that you want all by itself. The biggest driver to processing power that I can see is video, and even that is highly variable depending on what you want to do:

* Are you going to stream video at all? If everything else can go at "GUI" speeds your processor can be modest. This means that having that rear-view camera is going to make an expensive step in your COGS.

* Are you going to stream video through the processor? I.e., can you get by with a chipset that hijacks part of the screen for video without running the data through the processor, or are you going to do something like use a USB or Firewire camera and have the processor fondle every byte that goes through?

* Are you going to decompress video in the processor? Are you going to be playing MPEG files and DVDs? If _that's_ the case then maybe Vladimir's Pentium is a candidate, although for a large production run you could probably do better with a more modest 'main' processor that's getting serious help from a DSP chip, an FPGA, an ASIC, or a dedicated video decompressor (if such things exist these days).

You are right this device should be cost-effective. I am not sure now that i will use what kind of camera. This device do not play any kind of video, there are only one video source and it is rear-view camera. If ARM9 not enough for handle video i can use ASIC for LCD driving and camera data streaming.

I don't see anything in principal wrong with Linux -- I'm typing this from a linux box that does just fine with video (in fact, I got it to force me to learn linux for the day when I'd be writing for embedded linux). Then again, I don't see anything wrong with Windows in principal, either. I lean toward Linux for entirely emotional reasons: it always pisses me off to have an OS salesman tell me (and my customer) how easy it'll be to use, because I know that when I get down to brass

Re: ARM9 Choice

tacks I'll be seeing more of my customers money go down the drain, through my time or one of their engineers', on OS deficits than was spent on the OS in the first place. So choosing Linux, VxWorks, Windows Embedded, or any other OS should be based on your best guess of the benefits of the OS for your application, taking all things into consideration.

I have never use OS in embedded but i have research about it. I think linux is better choice with ARM9. Also if ARM9 not usable for this features what is your recommendation?

I use something similar for video capture and payback.

My ideal linux board is a 1G Pentium III uATX board with SIS chip set (not VIA or Intel). It supports 2.2, 2.4 and 2.6 kernels. 2.2 is important for me because certain features I need are not available in newer kernels which are Window-lized (getting too big). Newer PC boards don't work too well with 2.2.

Actually, the board was a throw-away from someone "upgrading" to Vista. I would gladly "upgrade" your board free with newer one, if you have the right one I need.

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