

Re: Microcontroller Project

Source: <http://sci.tech-archive.net/Archive/sci.electronics.design/2006-03/msg03965.html>

- *From:* Keith <krw@xxxxxxxxxxx>
 - *Date:* Mon, 27 Mar 2006 22:50:35 -0500
-

On Mon, 27 Mar 2006 14:33:03 -0800, David L. Jones wrote:

Keith wrote:

In article
<1143494228.117311.162780@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx>,
altzone@xxxxxxxx says...

Keith wrote:

In article
<1143447041.276029.172680@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx>,
altzone@xxxxxxxx says...

Keith wrote:

On Sun, 26
Mar 2006
17:28:03
-0800,
David L.
Jones
wrote:

akshaychander@xxxxxxxx
wrote:

Sorry
for
the
late
reply.

Yes,
I
have
to

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do
the
project
in
8051.
I
have
studied
the
theory
of
8051,
but
have
very
little
practical
experience.

As
far
as
languages
are
concerned,
there
is
no
restriction.
I
am
planning
on
using
C.

In
that
case
a
good
C
compiler
will
take
care
of
most
of
the

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low
level
8051
stuff
for
you.

I disagree!
A C
compiler
will just
mask the
nonsense
underneath.
It
will come
back to bite
you (think
"stack").

Ok, I'm not an 8051 guy, so
I'll take your word there is a
potential
issue here.

I looked into various compilers when I did a
major (~25kloc) 8051
project a decade ago. The only one that
didn't mask the
limitations (and even advantages) of of the
8051 was PL/M51.

I'd then suggest you take a look at some more modern
compilers perhaps.
Countless people use C on the 8051, I'm sure it's not that
bad.

The point is that one is *necessarily* doing bit-banging on the
hardware (the whole point of a uC). C doesn't give much advantage
and a lot of headaches.

snip

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I see no advantage in using C. Portability isn't an issue since hardware is the name of the game with uCs. Any abstraction will lead to resource conflicts. No, actually, I haven't been bitten by stack issues because I've used assembler. I don't let the compiler assign *anything*; not even what byte the bits go in.

snip

I disagree. C has no advantage over a half-decent macro assembler and a MAKE utility. Abstraction has a *lot* of disadvantages when you're severely hardware constrained. Sure, people use C on 8051s, but I suspect for many C is the only tool in their shed.

Why do you snip anything you've said? Are you trying to be cute, or win an argument without posting your thoughts?

Ok, it looks like this one could never end. You are pro-assmebler, I'm pro-C.

For microcontrollers, you bet! C is a waste of resuorces, kinda like WinBlows.

I used to do all my work in assembler unless I started using C and then never looked back. I still do some inline assembler where it's called for, but that's it.

It *is* called for with these tinker-toys. If you're embedding a real processor, I might have a different opinion.

There are *massive* advanatges to using C (or another high level language) on a micro – speed of development, platform portability (which is a BIG requirement for some people), ease of peer review, ease of maintenance, easier code-reuse, easier model migration, better code visibility to name a few. This is why C compilers are immensely popular these days.

Ok, you say there are "*massive* advantages", I don't buy it. I've told you why I don't buy C for an 8051 for anyone other than a one-trick-pony. Pony up!

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Yes, there are advantages to assembler as well (and disadvantages to C), that's why I like many others use the best of both worlds. Making a blanket statement like there are *no* advantages to using C is just plain rubbish.

You've not offered one, other than some assinine statement about "portability". Please! Even you don't believe this.

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Keith

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