

## Re: Proper breakthroughs/inventions.

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**From:** Kevin Aylward (*salesEXTRACT\_at\_anasoft.co.uk*)

**Date:** 11/09/04

Date: Tue, 09 Nov 2004 07:47:07 GMT

ChrisGibboGibson wrote:

> *Stefan Heinzmann wrote:*

>

> *[snip]*

>

>> *Strange that you single out the inventiveness of the Wien bridge oscillator with the bulb over the development of the transistor. Both were developments that relied on previous work. That's not to belittle their achievement, but Hewlett's thesis for example contains a reference to a paper by Meacham that described the usage of a lamp in a crystal oscillator. (I got this from Jim William's book).*

>>

>> *But if you are content with innovations of that scale, you could cite some of Widlar's work, for example the bandgap reference.*

>>

>> *Things I also find outstanding is the planar process, the DRAM, and on a higher scale the invention of virtual memory.*

>>

>

> *DRAM yes, I hadn't thought of that one. Pure genius.*

>

> *Virtual memory? An invention that would have no use whatsoever if PC programmers learnt how to write software properly.*

I disagree. There are many valid reasons why virtual memory is pretty much indispensable for \*good\* code. For example, simply handling large data files, e.g. Spice output files. These could be 100's MB. One simple opens up the file, even if one doesn't have enough RAM. To write specialised code to handle this sort of thing would be very messy indeed.

The real world is always going to have more data than RAM available to handle it, so its got nothing to do with poor software writing. Its just the way it is.

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sci.electronics.design: Re: Proper breakthroughs/inventions.

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