

# Re: C++ Matrix & Linear Algebra library

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*Source:* <http://sci.tech-archive.net/Archive/sci.math.num-analysis/2008-08/msg00218.html>

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- *From:* "Bill Shortall" <[wshortall@xxxxxxxxxxxxxxxx](mailto:wshortall@xxxxxxxxxxxxxxxx)>
  - *Date:* Sun, 24 Aug 2008 10:01:03 -0600
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"Lou Pecora" <[pecora@xxxxxxxxxxxxxxxx](mailto:pecora@xxxxxxxxxxxxxxxx)> wrote in message  
<news:pecora-EF822E.14420122082008@xxxxxxxxxxxxxxxx>

In article

<[f4f784af-5c62-411c-9c1a-d4f1f08caf40@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx](mailto:f4f784af-5c62-411c-9c1a-d4f1f08caf40@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx)>, Evgenii Rudnyi <[usenet@xxxxxxxx](mailto:usenet@xxxxxxxx)> wrote:

On Aug 22, 9:12 am, Gert Van den Eynde <[gvdey...@xxxxxxxx](mailto:gvdey...@xxxxxxxx)> wrote:

Dear Evgenii,

It seems that, even several years after the introduction of C++ in scientific computing, people have moved back to "old style" Fortran because "the software is already there and it works" or they go for "full option packages" like Matlab, Mathematica, Maple,...

I would say that the reason is not Fortran but rather Matlab, Mathematica, Maple,.... What is necessary for research is actually rapid prototyping and neither Fortran nor C++ are qualified for this.

A good student after a month or two time can obtain something useful in Matlab or Mathematica – I mean from a scientific viewpoint. What he/she could have done for a comparable time in Fortran/C++?

Also there is a trend for the software development that there should be a scripting gluing all pieces together. This also changes the way the software is developed. C++ is left for relatively low level things where comfortability is not that important. It is after all for a Real Programmer. The comfort is for the scripting.

Sounds like a job for Python (and/or it's friend Sage). Check it out. Rapid prototyping, easy to learn language which is a good glue and has come to often be used as such in the coding community in general as well

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as science community. Just do a Google and check out SourceForge for starters.

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-- Lou Pecora

Hi Lou

A pox on fortran!! I used it in 1966 and as soon as C came along I moved up to that. Then when C++ came along, I moved to that. Each time I moved up my efficiency went up by 4. So I am 16 times more efficient in C++. There's a reason why major applications like Microsoft Office, Firefox, and Internet Explorer are written in C++ --- efficiency !! --- fewer lines of code and less programming time. You can get all the functionality of LAPACK in 8000 lines of C++. LAPACK has >100,000 lines. Fewer lines means more reliable code easier to maintain.

The new multicore processors will cause major work in multithreading. I bet the code will be in C++. I will sit quietly and wait for the Standard Template Library to be multithreaded. Bingo----- just plug it in.

Rumors are that a new exotic version of C++ is developed and that Nvidia has a super cruncher card that can spawn 10,000 threads gee! one thread for each column of a matrix. I wonder what ppLinear can do with that.

regards pecos

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