Subject: Can't link the project if package contains no any cpp/c files
Posted by gridem on Tue, 07 Jul 2009 15:40:36 GMT

For example, I downloaded Eigen library and used it as package. This package contains only header files (a lot of templates).

On non-debug version the following error appears:

----- Eigen (MSC8 WIN32 MSC) (1 / 2)
----- EigenValues (MAIN MSC8 WIN32 MSC) (2 / 2)
main.cpp
EigenValues: 1 file(s) built in (0:04.89), 4890 msecs / file, duration = 5000 msecs, parallelization 0%
Linking...
LINK : fatal error LNK1181: cannot open input file 'd:\upp\out\Eigen\MSC8.\Eigen.lib'

There were errors. (0:05.42)

The problem was disappeared when I excluded Eigen package, but it's not a good solution: Assist++ can't resolve the used package classes/functions.

The Eigen package with tests is attached.

File Attachments
1) Eigen.zip, downloaded 415 times

Subject: Re: Can't link the project if package contains no any cpp/c files
Posted by gridem on Tue, 07 Jul 2009 15:41:52 GMT

I can post the topic for prepared Eigen package in Bazaar if anybody want to use it.

Subject: Re: Can't link the project if package contains no any cpp/c files
Posted by koldo on Mon, 13 Jul 2009 08:55:19 GMT

Hello Gridem

I will be very happy if you include Eigen in Bazaar.

In fact when I posted in http://www.ultimatepp.org/forum/index.php?t=msg&goto=221 06&#msg_22106 that I was going to include a new Matrix algebra and numerical methods package in Bazaar, I finally decided to base it in Eigen.

Eigen is well documented, compiles well in Upp and the Forum support is strong with experienced people opened to help.

So I vote yes for Eigen.

Best regards
Koldo

Subject: Re: Can't link the project if package contains no any cpp/c files
Posted by gridem on Wed, 15 Jul 2009 18:49:47 GMT

Quote:I will be very happy if you include Eigen in Bazaar.

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Yes, I think so too.

I've attached the Eigen package to the first message. Unfortunately I can't put it into bazaar (I have no access to it). Just unpack and compile the attached archive file.

Regards, Grigory.

Subject: Re: Can't link the project if package contains no any cpp/c files
Posted by koldo on Wed, 15 Jul 2009 21:12:59 GMT

gridem wrote on Wed, 15 July 2009 20:49Quote:I will be very happy if you include Eigen in Bazaar.

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Regards, Grigory.

Hello Grigory

One of the good things of Eigen is that its syntax is rather familiar to an Upp programmer without need of almost any wrapper.

However I thought to wait to propose it into Bazaar because I wanted to use it and from the experience to see how to integrate it a little better with Upp as Eigen is designed to be used from C++ standard library.

Other thing I wanted to do before is to prepare a sample:
- simple
- as familiar as possible to an Upp programmer
- but showing the power of Eigen doing something useful (image processing, 3D transforms, ...)
- and comparing Eigen speed with other perhaps more evident algorithms but much less efficient

What do you think?

Subject: Re: Can't link the project if package contains no any cpp/c files
Posted by gridem on Sat, 22 Aug 2009 10:58:29 GMT

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koldo wrote on Thu, 16 July 2009 01:12
Hello Grigory

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What do you think?

Hello, Koldo. Sorry for delaying the answer.

Yes, the Eigen library utilizes a functionality from STL. But this is not so big problem: STL is mature and is a part of C++ standard. I think that the only thing to be changed is working with streams: STL streams should be changed to U++ streams. This patch will be rather small and on

new Eigen releases it may be adapted with minimal efforts.

The comparison of speed with other frameworks is shown in
http://eigen.tuxfamily.org/index.php?title=Benchmark . As you can see Eigen demonstrates very
good speed in various tests. Also I perform my own test with eigen values (it was my primary goal)
and conclude that special packages like Mathematica have smarter algorithms and performs
speedy on a large data then Eigen (on matrices more than 700x700). But such functionality (with
eigen values/vectors) is under develop and I think during the time it will be better.

Also Eigen library contains a set of examples but they just show the various usage scenarios but
not the power of doing something useful. This is not so obvious task IMHO.

Subject: Re: Can't link the project if package contains no any cpp/c files
Posted by koldo on Sun, 23 Aug 2009 08:20:34 GMT
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Hello Grigory

The samples are not a big problem. I have been involved in an Eigen fork called cminpack
(http://bitbucket.org/orzel/eigen2-cminpack/) that includes support to non linear sets of equations
and minimization of equations. This is a good source of samples. If you want I could work on this.

I see you comfortable with Streams. I am an old C programmer so I do not feel comfortable with
Streams and Templates. If you can it would be great if you work on this.

About performance, I propose you to choose a sample benchmark in Mathematica, do it in Eigen
and post both in the Eigen Forum. Very probably in few time somebody will fix your sample or
somebody will improve the library to get the performance. They are really good in numerical
methods and are waiting this kind of challenges to demonstrate it.

Best regards
Koldo