CoCoA-5 - Bug #118

unistd and call to access in Main.C

03 Apr 2012 15:40 - John Abbott

Status:	Closed	**Start date:**	03 Apr 2012
Priority:	High	**Due date:**	
Assignee:	John Abbott	**% Done:**	100%
Category:	Portability	**Estimated time:**	8.00 hours
Target version:		**Spent time:**	11.65 hours

Description		
Replace call to access in Main.C (about line 192) by calls to BOOST filesystem fns such as exists and is_regular_file or is_directory. We should probably also use values of type path.		
Related issues:		
Related to CoCoA - Bug #53: MSVC10 compilation	**Closed**	**07 Dec 2011**

History

#1 - 03 Apr 2012 15:41 - John Abbott

Discovering that BOOST seems to offer a ready-made solution, and that access is old-style C-library.

#2 - 04 Apr 2012 15:56 - John Abbott

The purpose of the original code is unclear -- indeed it looks implausible/wrong.

```
if (defaultPackageDir && access(packageDir.c_str(), F_OK))
  packageDir = ".";
```

Why test the existence of the file located in packageDir and then change the value of that same variable?
JAA will ask Giovanni (the original author) for help/guidance.

#3 - 10 Apr 2012 21:10 - John Abbott

To answer the question "why...?" in the last update: the fn access returns 0 if the file exists, and -1 if it does not (the opposite of what I expected).

I have replaced the relevant line of code with calls to fns from the BOOST sublibrary filesystem. This makes the source far more readable, and presumably portable too -- at the cost of requiring a (more) complete installation of BOOST on the computer you want to compile on.

JAA does not see the point of permitting CoCoA-5 to be run without its standard libraries. The same end effect could easily be achieved by creating an empty directory somewhere, and then starting CoCoA with the --package-dir option saying to look in that empty directory for packages.

It seems better to issue an error if one has a "broken" CoCoA installation which is missing the standard package directory -- this is a design issue, and must be discussed with Anna.

#4 - 10 Apr 2012 21:10 - John Abbott

- Status changed from New to Resolved

#5 - 17 Apr 2012 21:21 - John Abbott

- Priority changed from Normal to High

Increased priority to "high".

Waiting for Anna's return to discuss the correctness/usefulness of allowing CoCoA-5 to run if there's a problem with the default package directory.

I do hope we can "close" this issue shortly.

#6 - 31 May 2012 18:07 - Anna Maria Bigatti

- Category set to Portability

#7 - 01 Jun 2012 23:42 - John Abbott

Anna could you reply to my question in post 5?

I think it should be an error to start CoCoA without the packages. JAA thinks that if you really want to do this, you must use a command line flag (*e.g.* --without-packages).

Can you think of a scenario when it might actually be useful to run CoCoA without the packages?

Note to JAA: regardless of Anna's answer, the code must always check for the presence of the packages (*i.e.* it will always be dependent on the BOOST fns I have used).

#8 - 02 Jun 2012 23:21 - Anna Maria Bigatti

John Abbott wrote:

> Waiting for Anna's return to discuss the correctness/usefulness of allowing CoCoA-5 to run if there's a problem with the default package directory.

I agree it is very likely an error that one should start CoCoA-5 without the packages, but CoCoA-5 can do a lot of things (eventually, in our dreams, everything) without the packages.
So I think it should be allowed to use CoCoA without the packages, maybe with a BIG WARNING banner.

#9 - 07 Jun 2012 23:22 - John Abbott

Anna's point about almost everything (eventually) being built-in is valid; I was forgetting that. Also my "note" in post 7 points out that there is no source code simplification in giving an error rather than a warning.

So, let's give a **highly visible** warning (together with an indication of where CoCoA expected to find its packages).

JAA reiterates that he thinks the use of the BOOST fns is the neatest portable solution (too bad about needing a more complete BOOST installation).

#10 - 08 Jun 2012 22:11 - John Abbott

- Assignee set to John Abbott

- % Done changed from 0 to 90

I have improved the warning message when the default package directory is not accessible (for text UI, and GUI).

The warning is printed on **cout** (rather than **cerr**).

The name of the missing directory is printed in the text UI (but not in the GUI).

Waiting for confirmation from Anna that my solution is acceptable (or else give me constructive criticism).

#11 - 26 Feb 2013 17:13 - John Abbott

- Status changed from Resolved to Feedback

Can we regard this as closed now?

#12 - 20 Mar 2014 17:22 - John Abbott

- Status changed from Feedback to Closed

- % Done changed from 90 to 100

No problems for over a year --> closing!