CD-Rom Project

EECS 3540

What We Are Going To Do

- You are going to list the files on the CDROM image of a directory tree.
- The ISO image will be a Level 1 ISO-9660 file with NO extensions.
- I will provide some classes and code for you to use.
  - PrimaryVolumeDescriptor.cpp, PrimaryVolumeDescriptor.h
  - DirectoryRecord.cpp, DirectoryRecord.h
  - DescriptorDateAndTime.cpp, DescriptorDateAndTime.h
  - PathTableRecord.cpp, PathTableRecord.h (Maybe)
- Will post the ECMA-119 standard on the BlackBoard site for the class.
- That means that we will be no deeper than 8 directory levels, filenames are 8.3 filenames, no non-standard characters, and so forth.
- I will post a couple of iso images for you to test your code on.
  - simple.iso - single level no subdirectories. Good first test of your code.
  - twolevel.iso - a two level directory tree. Test if you can create and populate subdirectories.
  - 8level.iso - an eight level directory tree. Test it at the limit of nesting.

When is it due:?

- April 16, 2020 is our tentative due date
- Shouldn't be that big of a chore given the supplied code.
- Purpose: To have you traverse and use a filesystem structure.

You Will Need to Follow a Process to Extract Files.

- Reading through a directory
- Get each file entry
  - If it is a file (not a directory)
    - List the file name
  - If it is a directory
    - List the directory name
    - Traverse into the directory and process its entries

Useful Pieces

- Open the file in BINARY mode rb!
- Use seekg to position yourself in the file.
- Use read to read an entire sector of data.
- Documentation available in a large number of places but we looked at www.cplusplus.com under reference.

Possible Plan of Attack

- Write code to read in the 16th sector of the CD which should hold the Primary Volume Descriptor.
- Try to use the constructor in the supplied class by passing it the 2048 bytes that make up the descriptor.
- Try to parse the root directory and list all the filenames in the root directory.
- Hopefully this will be able to give you all the files in the simple.iso image.

Now we have choices…

- Can keep track of directories that we see as we go through the root directory. They will have information in the directory record on where they are stored. We can use that information to visit those directories. If we keep doing this with every directory we will visit all directories.
- Could use the path tables.
- The path table is supposed to have an entry for each directory on the system saying where it is stored.
- The Path Table Entry has the sector the Directory entry is stored in and the path of the directory.

Where will this code be?

- Code that I supply will be posted with the project 2 information on BlackBoard.
- I will notify people if any revisions occur.
- If you use the classes and don't modify them, you do not need to submit them with your project.
- If you modify the classes you must submit them with your project or we will compile and test it with the supplied classes.