

# USING A "PARTED MAGIC" LiveCD IN A VIRTUAL MACHINE TO RECOVER DATA FILES FROM A REAL, CORRUPTED HARD DRIVE

## Summary:

Even if the "Parted Magic" LiveCD is unable to fully repair your corrupted NTFS hard drive, you can usually still use it to recover some or all of your data files/folders.

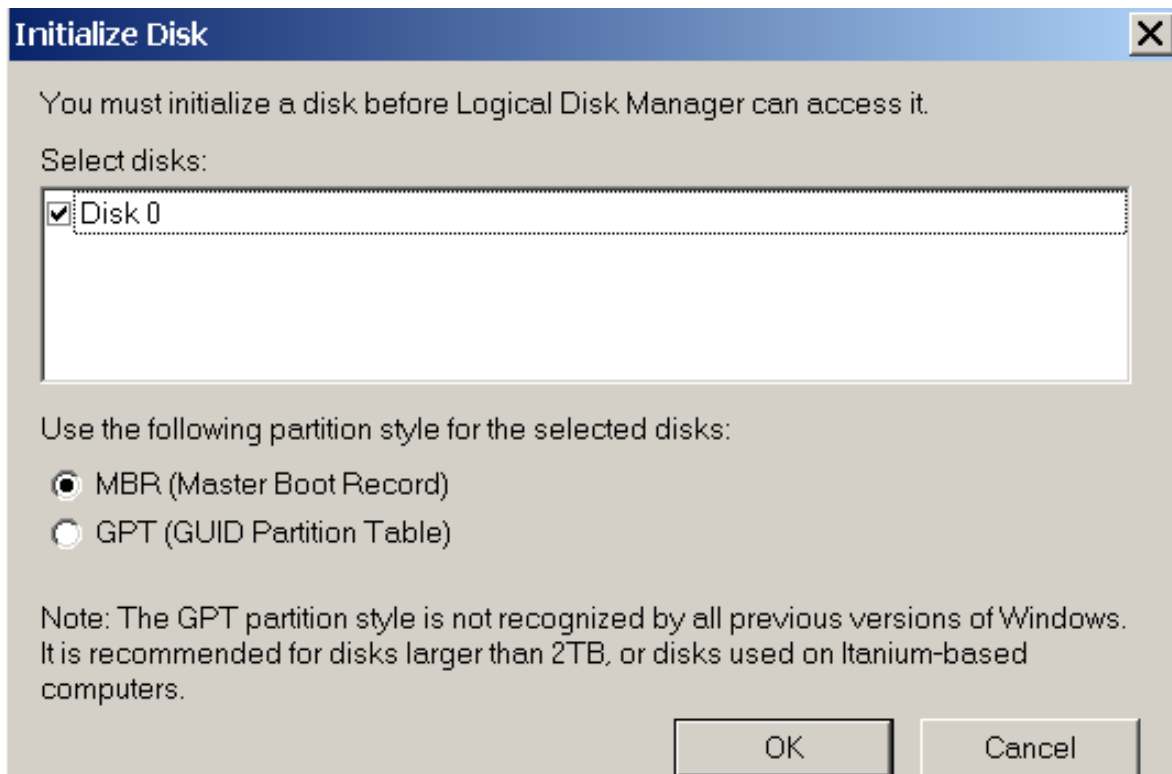
To minimize the probability of accidentally running "repairs" on the wrong hard drive, you can run the ".iso" file of the "Parted Magic" LiveCD in a "VMware Player" or "Oracle VM VirtualBox" virtual machine. Due to the hardware limitations of virtual machines, you will have to connect the failed hard drive to the virtual machine by means of a USB external drive box.

While you are doing this data recovery procedure, your failed hard drive might suddenly become usable in "Windows" so at the end of this procedure, we tell you to try it in the "Windows" computer that it originally resided in, after performing this data recovery procedure.

# SYMPTOMS

You did not install any new internal or external hard drives into your "Windows" computer.

All of a sudden, "Windows" cannot "see" one of your NTFS hard drives and claims that it needs to be "initialized":



You should click on the "Cancel" button of the "Intialize Disk" box.

If you allow Windows to "initialize" and then format this hard drive, you will lose all programs and/or data files that are stored on this hard drive. In other words, do not allow "Windows" to "initialize" the failed hard drive. Instead, first run "Disk Management" from the Windows "Control Panel" to see if it can repair the failed hard drive.

If "Disk Management" fails to repair the failed hard disk, shut down your "Windows.." computer immediately.

# START BY TRYING TO PERFORM A FULL FIX ON THE HARD DRIVE

Let's be optimistic and try to fix the recalcitrant hard drive. If you can repair the failed hard drive, you then do not need to recover your data files/folders from it.

Go to [http://aztcs.org/meeting\\_notes/winhardsig/harddrives/repairing/hard\\_drive\\_soft\\_repairs.htm](http://aztcs.org/meeting_notes/winhardsig/harddrives/repairing/hard_drive_soft_repairs.htm)

and follow our instructions for using a "Parted Magic" LiveCD to repair the hard drive.

If this repair procedure succeeds, you do not need to perform the steps that follow!

## STEP-BY-STEP PROCEDURE FOR RECOVERING DATA FILES/FOLDERS FROM A CORRUPTED HARD DRIVE:

Step 1:

The failed hard drive should be already connected to your computer by means of a USB hard drive enclosure and you should still be running "Parted Magic" Linux in a virtual machine.

Step 2:

Attach a second NTFS-formatted USB external hard drive to your computer. This second external hard drive is where you will put the files/folders that you recover from the failed hard drive.

### Step 3:

Close any applications that are currently running in "Parted Magic":

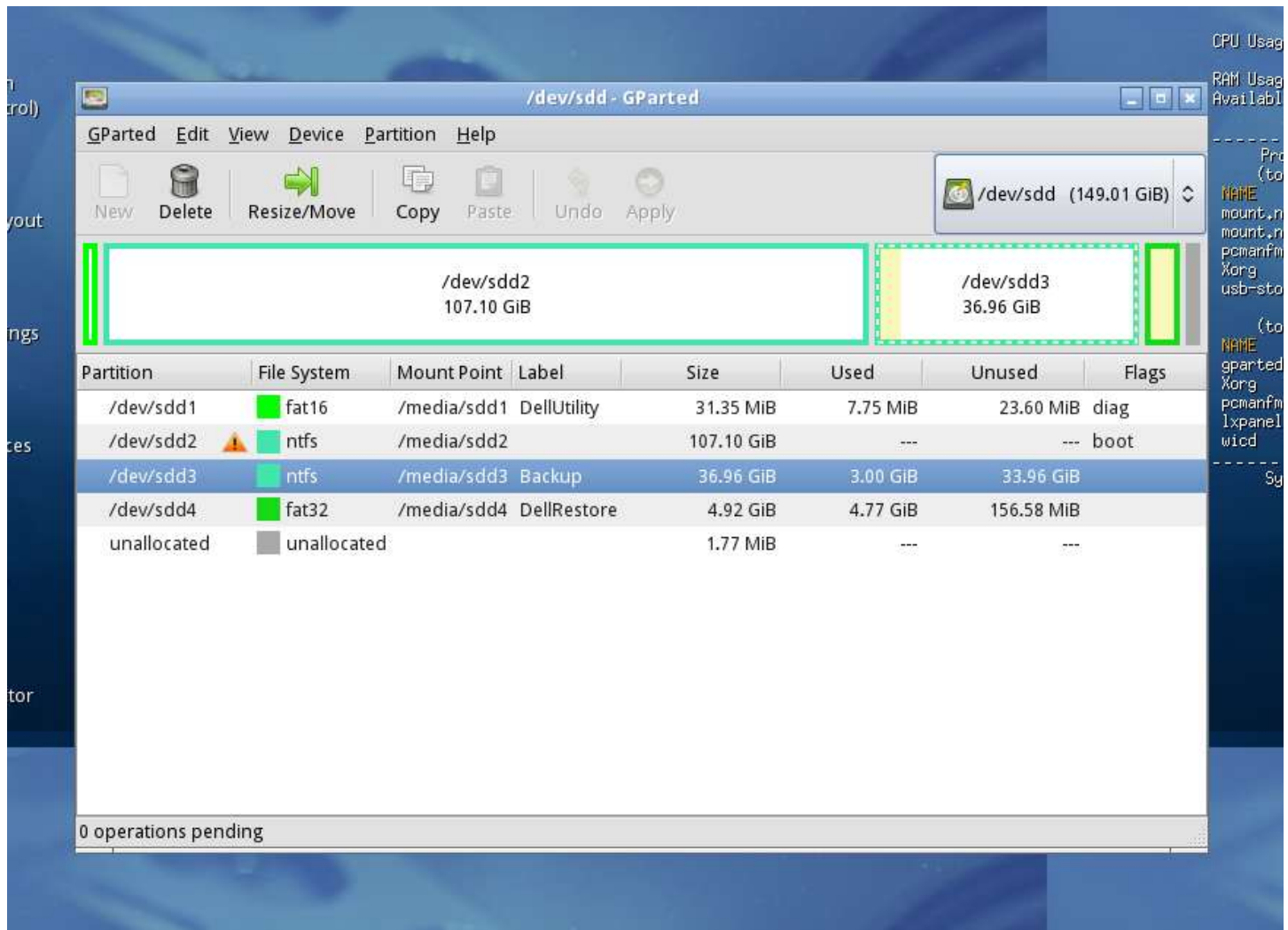


Step 4:

Locate "Partition Editor" and double-click on it:



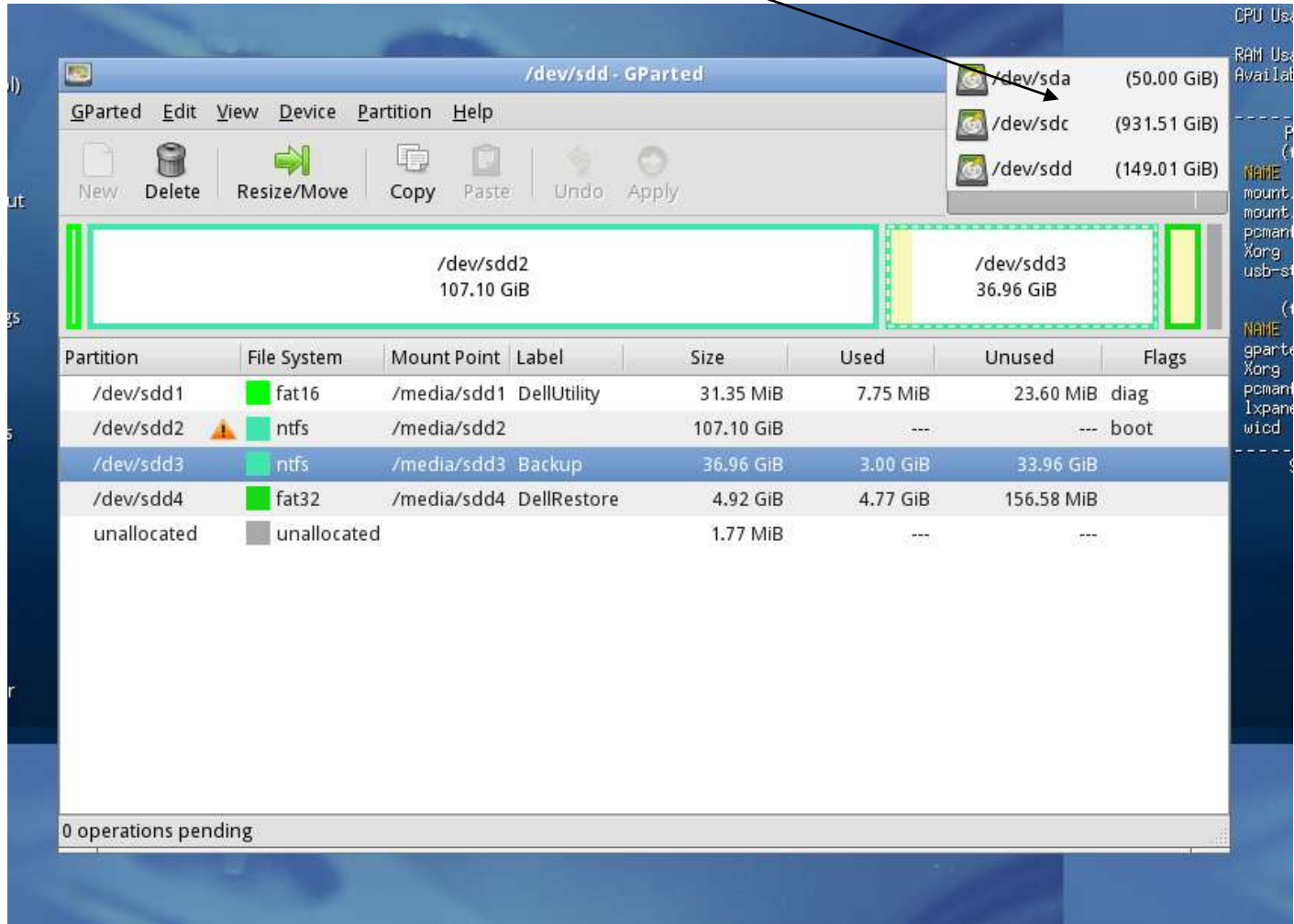
Step 5:  
A "..GParted" window will be displayed:



Note in this screenshot that "/dev/sdd2" has an exclamation point in a triangle which indicates that "GParted" has detected that there is a problem with this NTFS partition.

Step 6:

Click on the drop-down list button at the right side of the icon bar.  
A drop-down list will be displayed:



In this example, /dev/SDD is the failed hard drive.

We know that it is the failed hard drive because it is close to the actual size of the failed hard drive (which is 160 Gigabytes).

Step 7:  
Click on "Device" in the menu bar:

The screenshot shows the GParted application window titled "/dev/sdd - GParted". The menu bar includes "GParted", "Edit", "View", "Device", "Partition", and "Help". The "Device" menu item is highlighted with a red arrow. Below the menu bar is a toolbar with icons for "New", "Delete", "Resize/Move", "Copy", "Paste", "Undo", and "Apply". A dropdown menu shows the selected device: "/dev/sdd (149.01 GiB)".

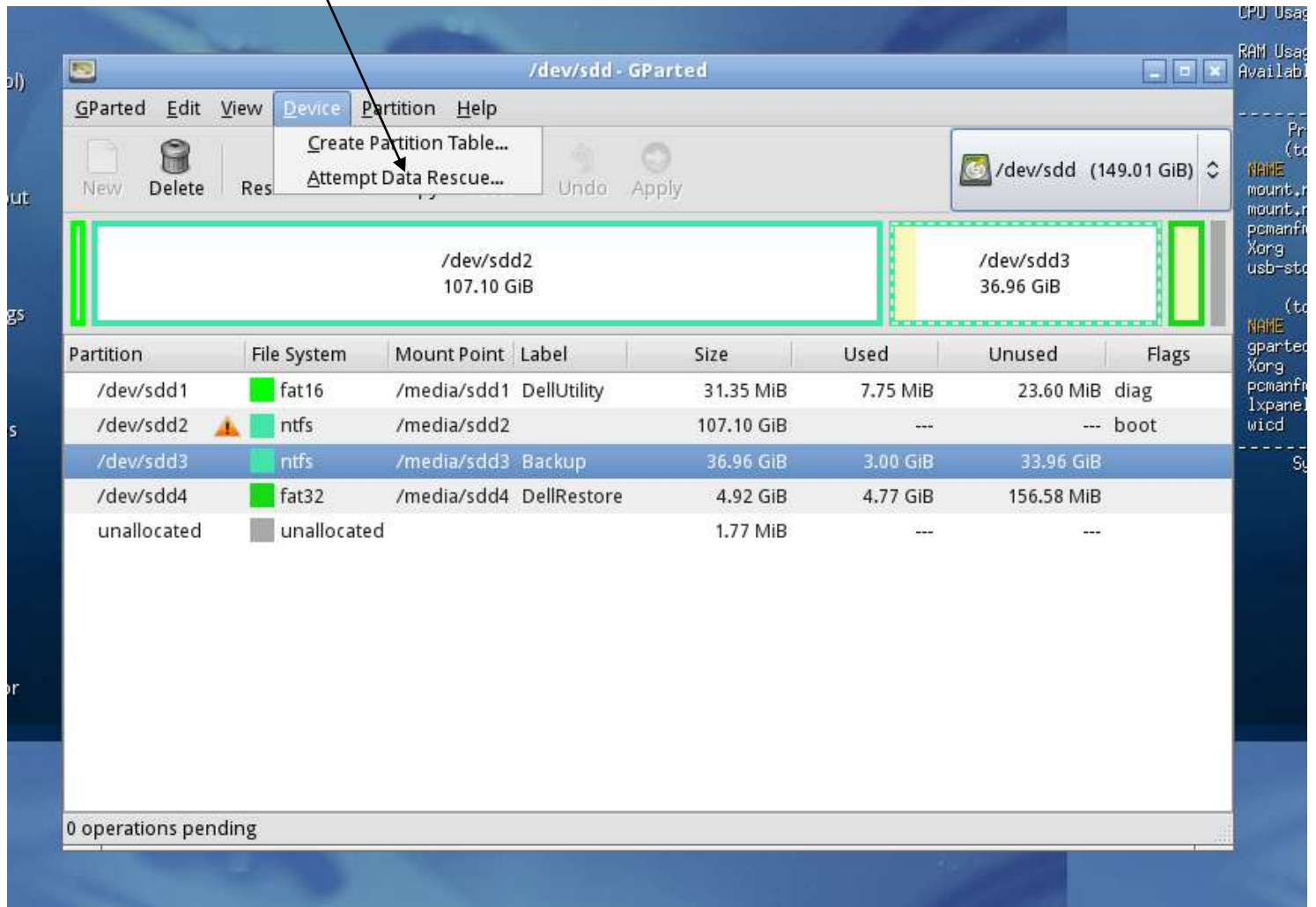
The main area displays a disk layout with two partitions: "/dev/sdd2" (107.10 GiB) and "/dev/sdd3" (36.96 GiB). Below this is a table of partitions:

Partition	File System	Mount Point	Label	Size	Used	Unused	Flags
/dev/sdd1	fat16	/media/sdd1	DellUtility	31.35 MiB	7.75 MiB	23.60 MiB	diag
/dev/sdd2	ntfs	/media/sdd2		107.10 GiB	---	---	boot
/dev/sdd3	ntfs	/media/sdd3	Backup	36.96 GiB	3.00 GiB	33.96 GiB	
/dev/sdd4	fat32	/media/sdd4	DellRestore	4.92 GiB	4.77 GiB	156.58 MiB	
unallocated	unallocated			1.77 MiB	---	---	

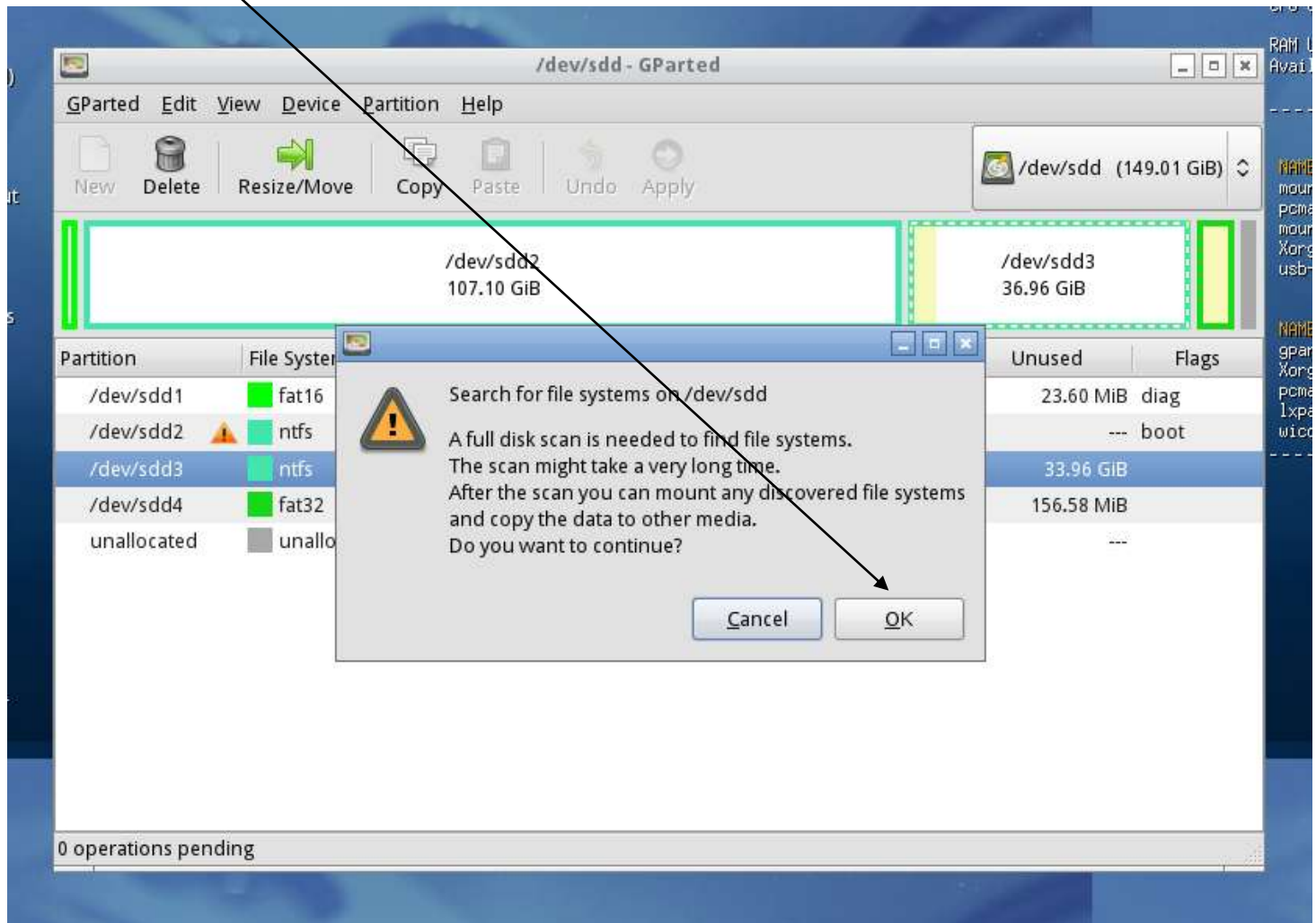
At the bottom of the window, it says "0 operations pending".

Step 8:

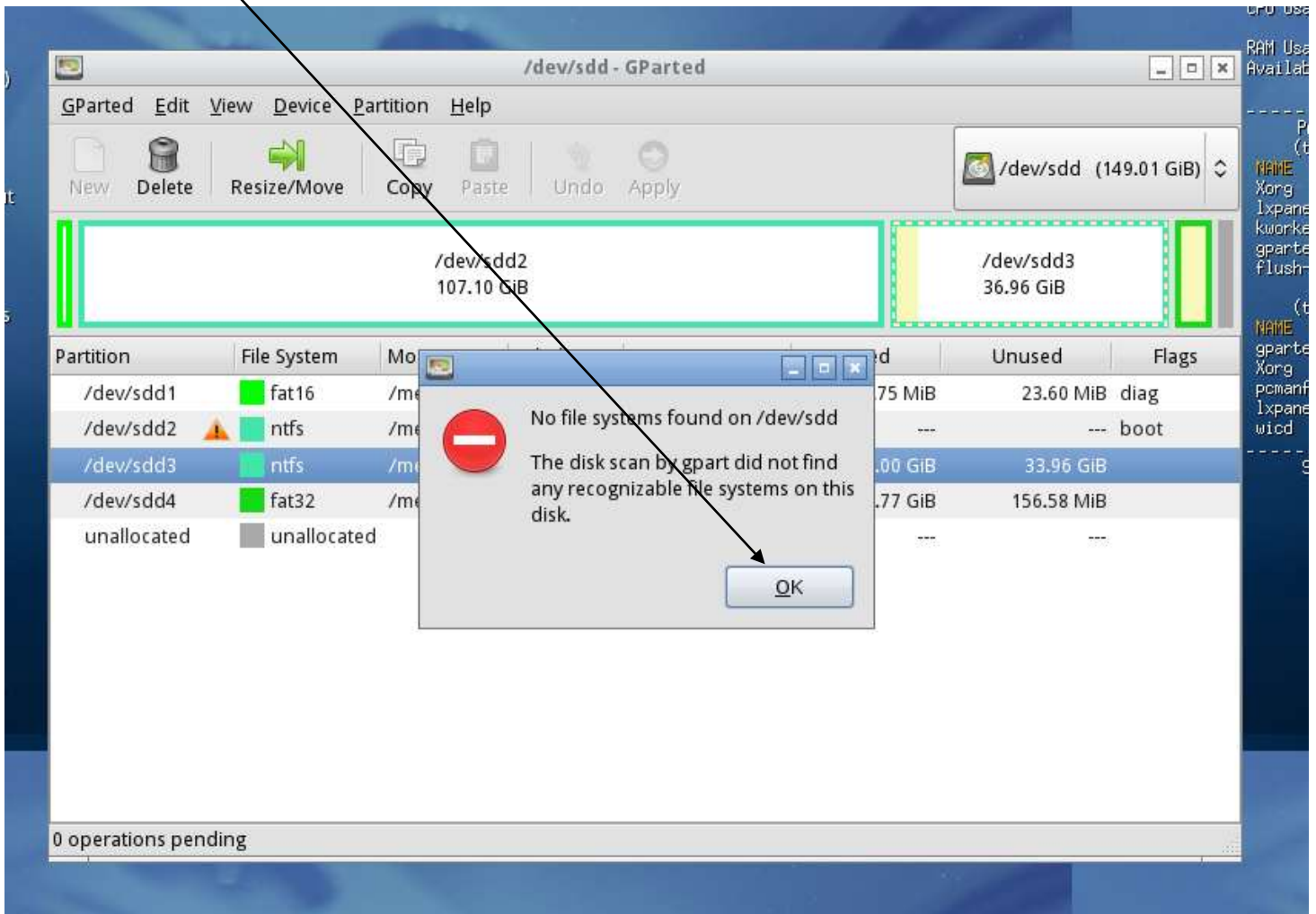
Click on "Attempt Data Rescue" in the pull-down menu:



Step 9:  
Click on "OK" in the "Search for file systems.." dialog box:



Step 10:  
Click on "OK" in the "No systems found.." box:

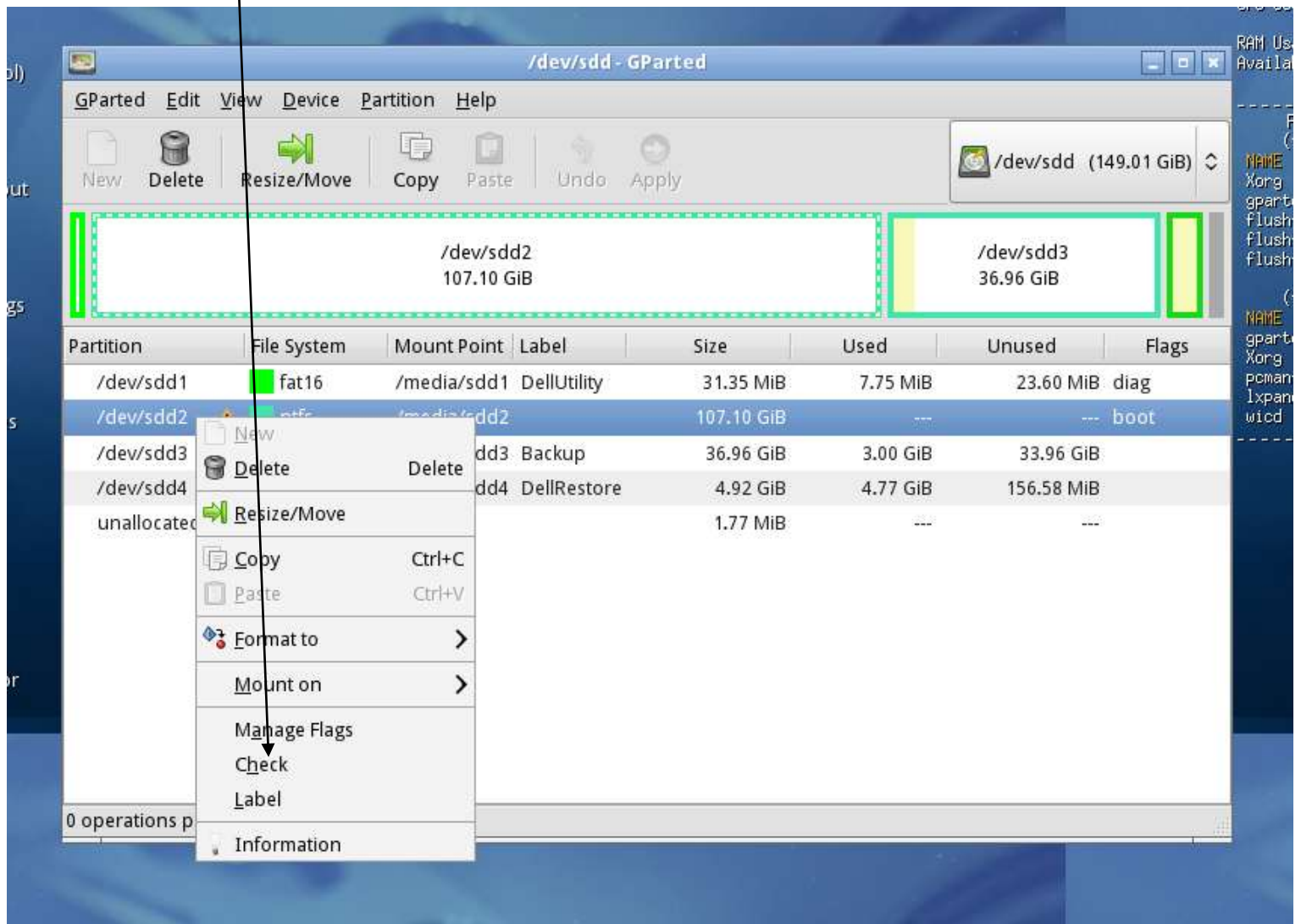


Step 11:

Use the right mouse button to click on the partition with the "!" problem icon.

Step 12:

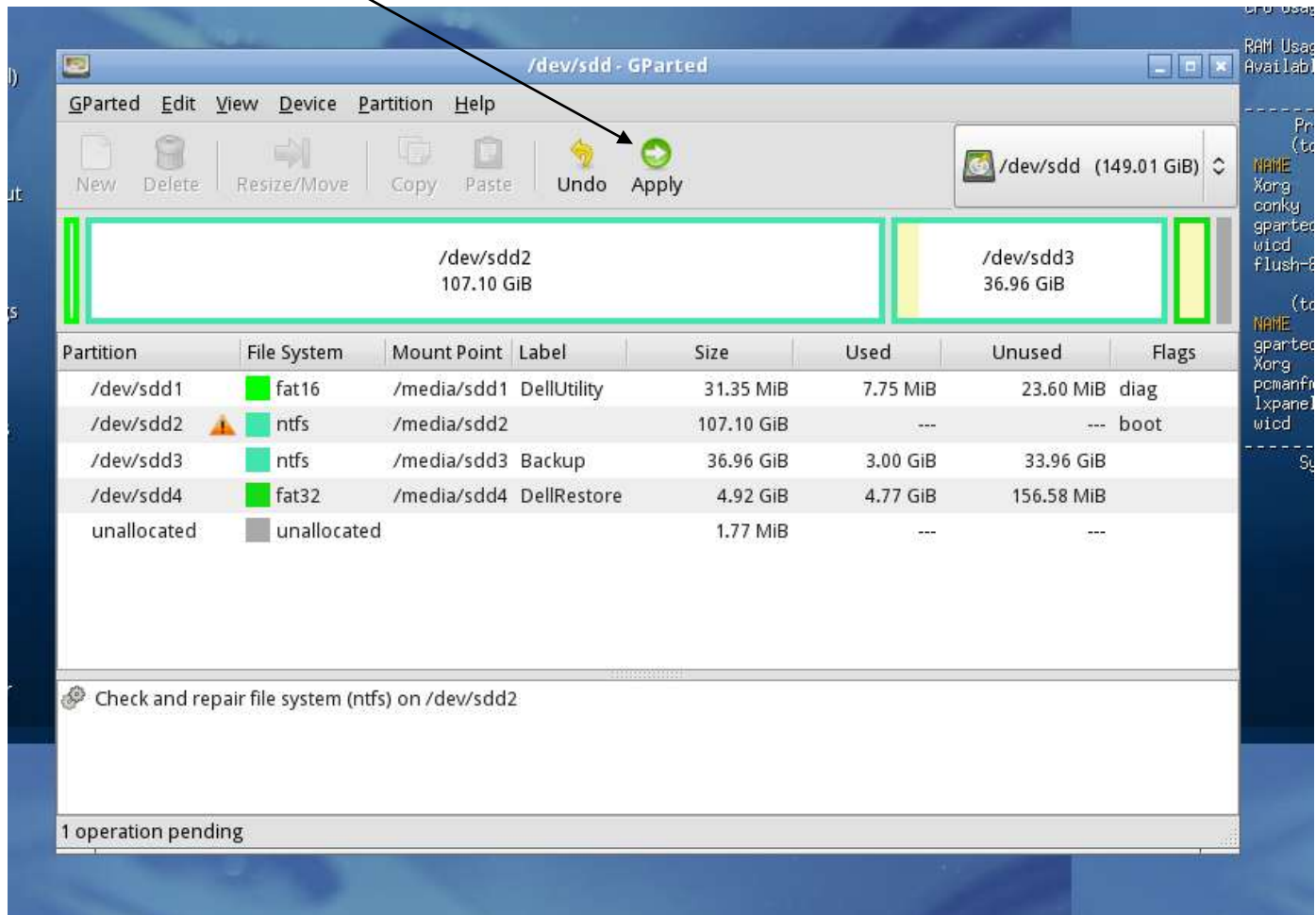
Check on "Check" in the pop-up utility menu:



Step 12:

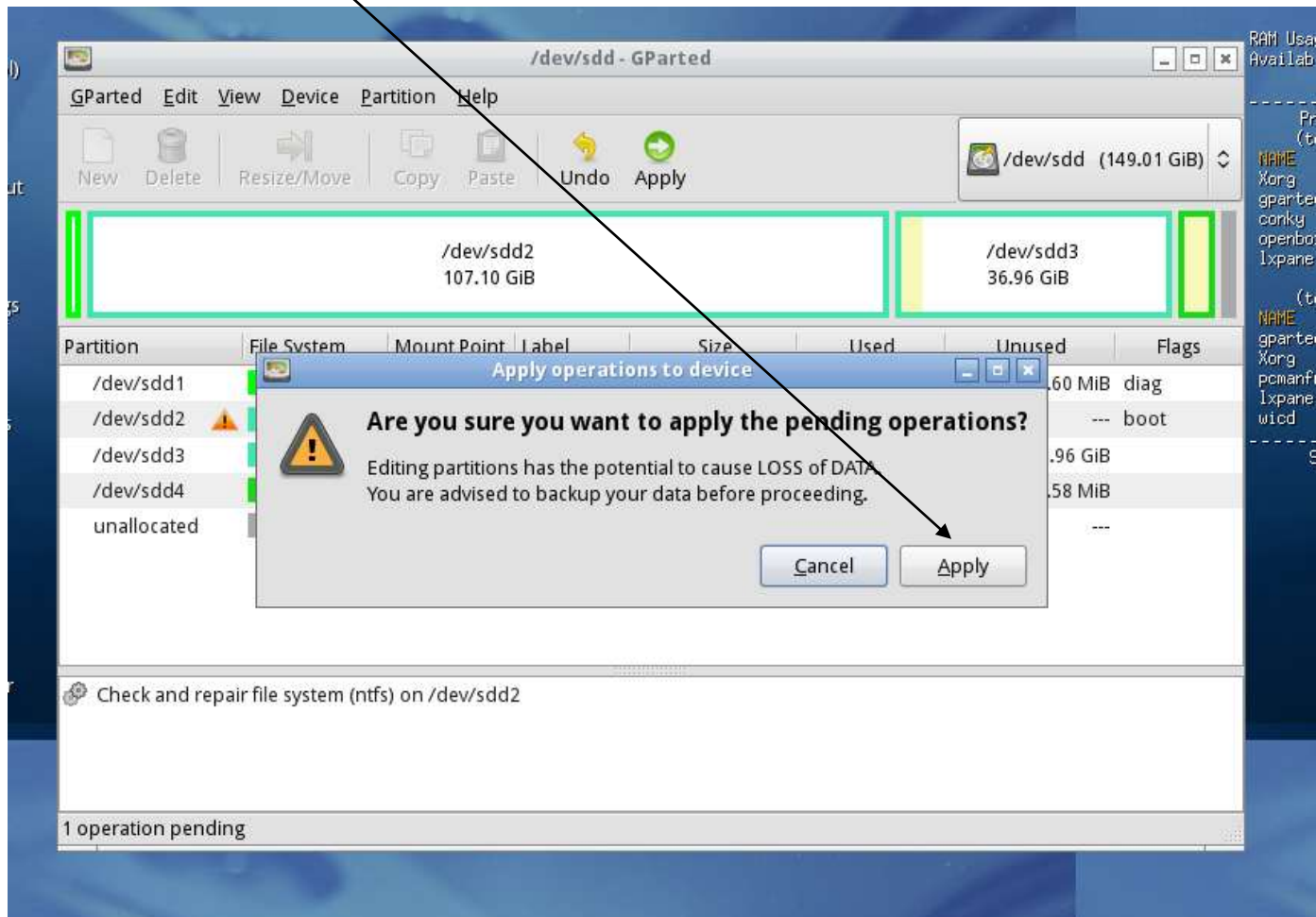
Note the "1 operation pending" is shown in the lower left-hand corner of the "GParted" window.

Click on the "Apply" button:



Step 13:

Click on the "Apply" button of the "Are you sure..." box:



Step 14:

After the partition check is completed, close the "GParted" window.

Step 15:

Attach a (second) external USB hard drive to your virtual machine.

Step 16:

Use the menus at the top of your virtual machine windows to attach this second external hard drive to your virtual machine.

You will be using this second USB hard drive to store the data files/folders that you recover from the failed NTFS hard drive.

At this point you will have two USB hard drives attached to the "Parted Magic" virtual machine:

A USB drive enclosure that holds the failed hard drive that you removed from your "Windows" computer

and

a USB hard drive that you will be using to store the data files/folders that you recover from the failed USB hard drive.

Step 17:

Click on the "Parted Magic" button at the left end of the "Task bar":

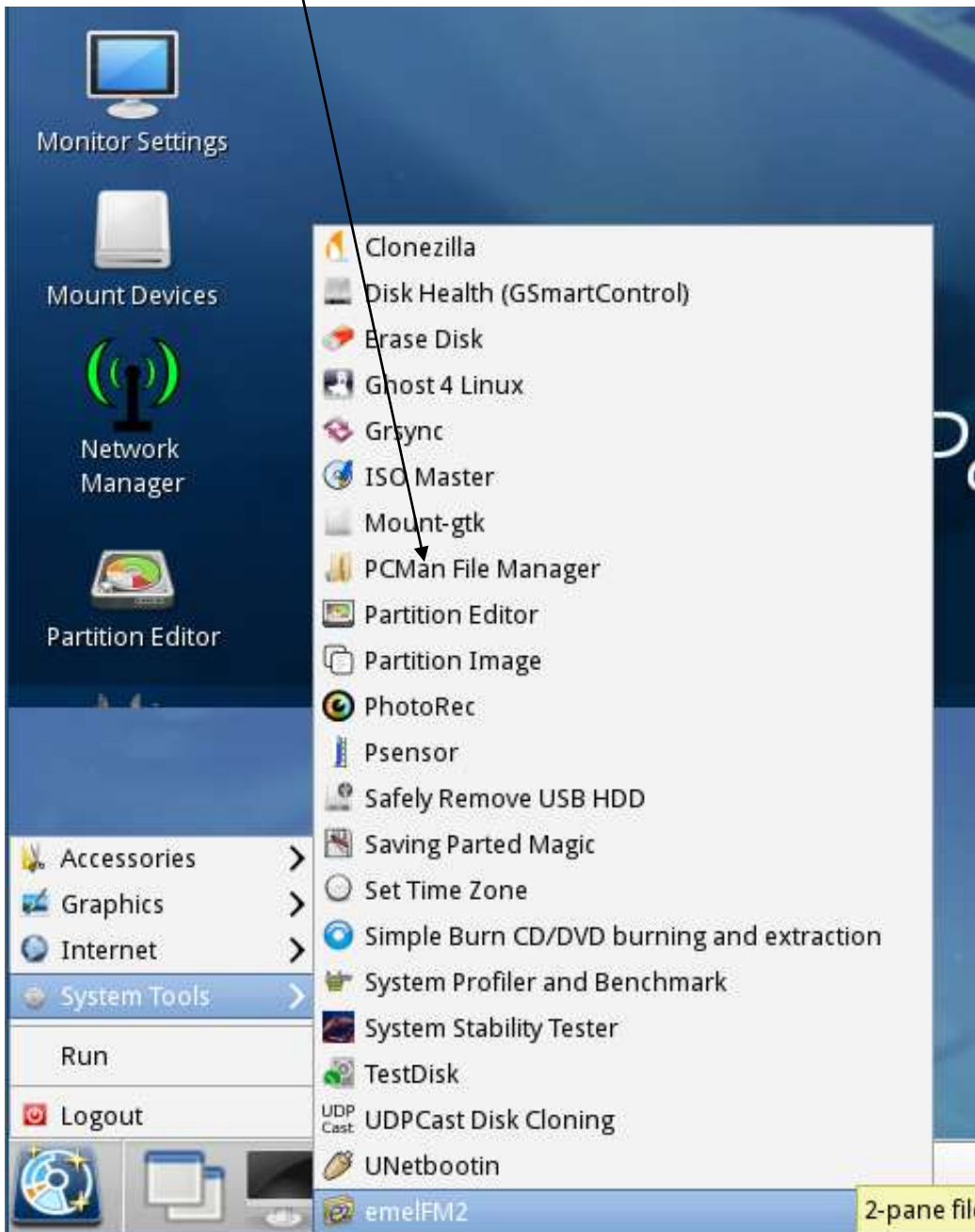


Step 18:

Click on "System Tools".

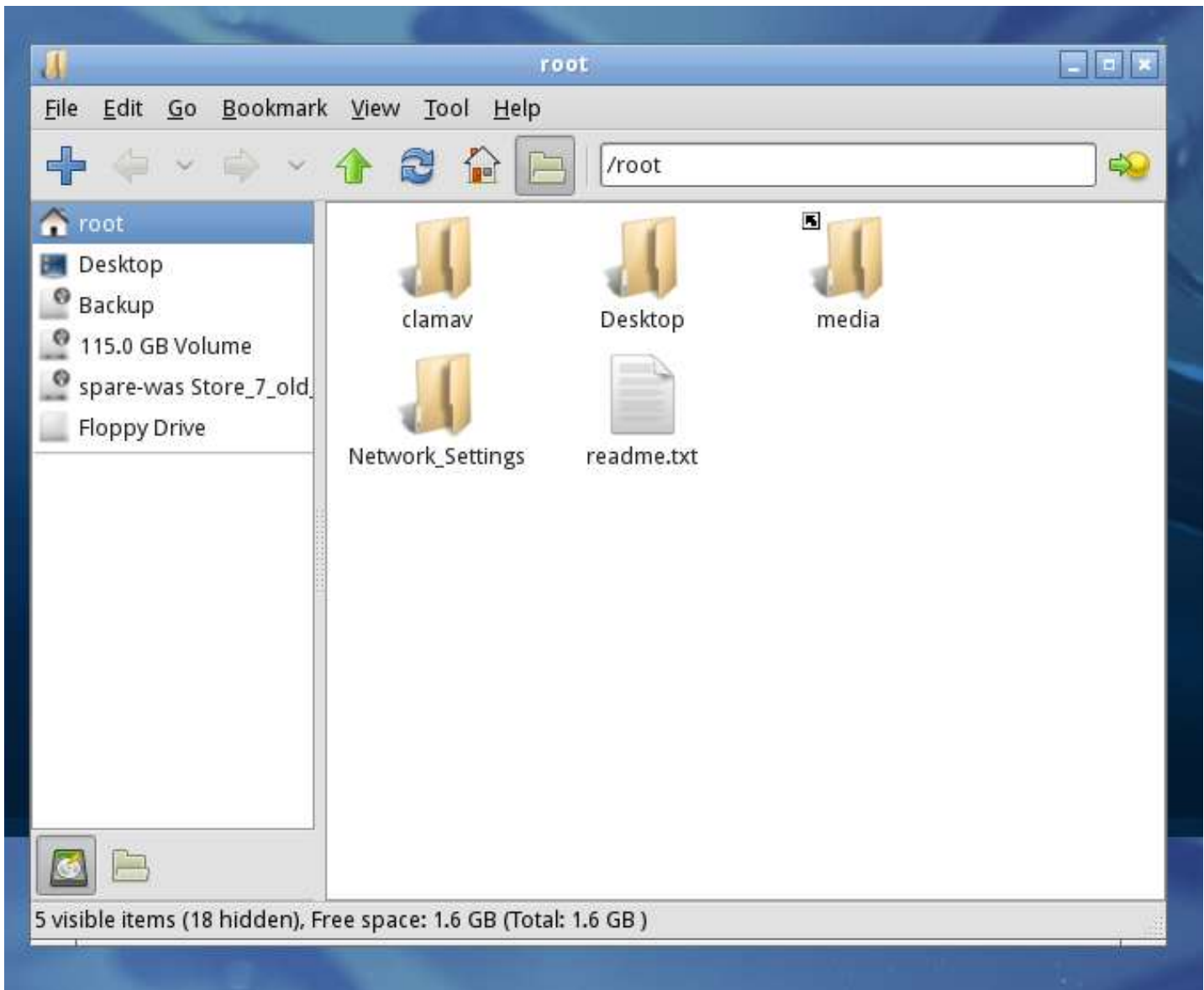
Step 19:

Click on "PCMan File Manager" in the popup submenu:



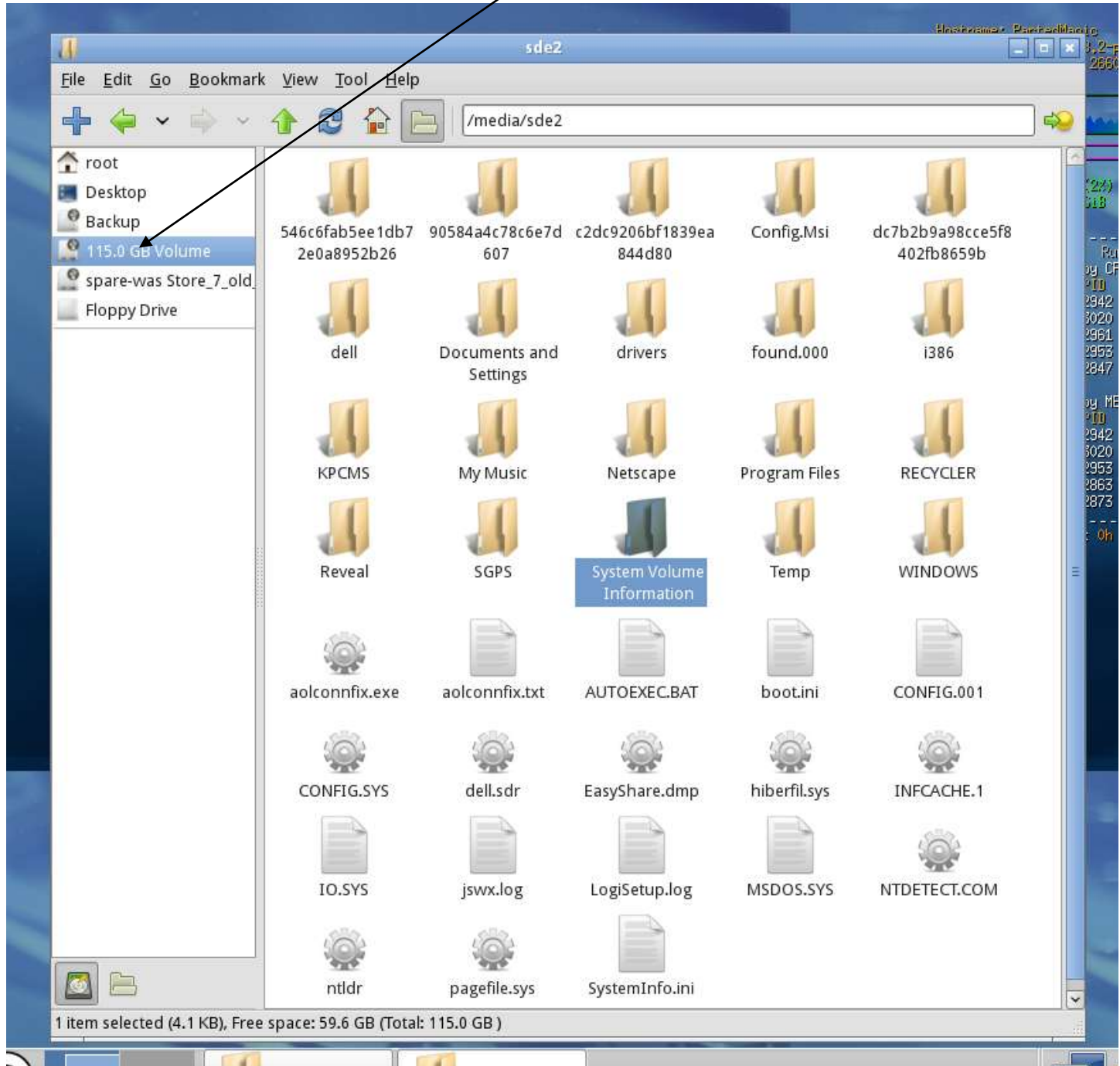
Step 20:

A "PCMan File Manage" window will be displayed:



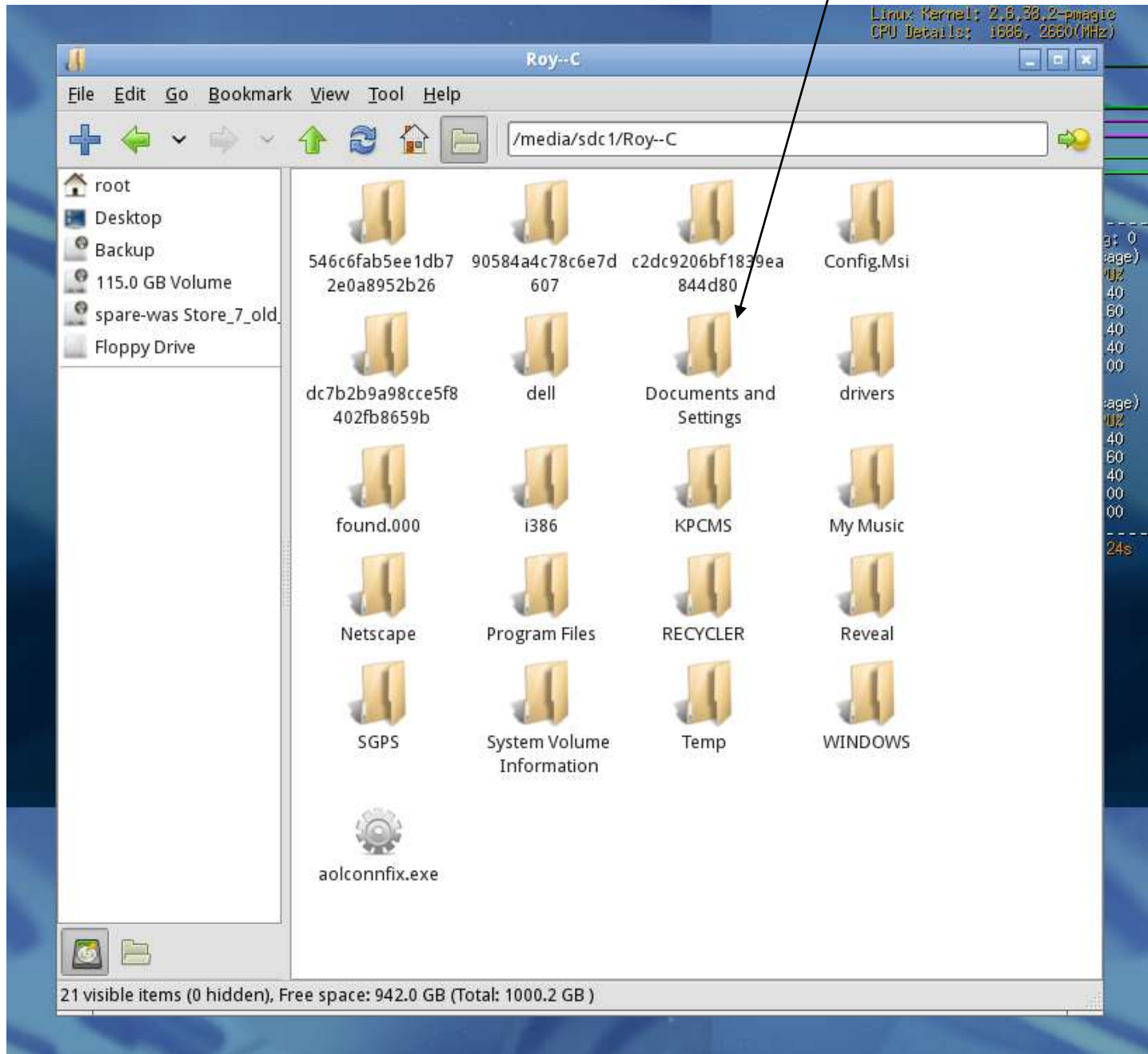
## Step 21:

Click on the icon in the left pane that represents the failed USB hard drive. In this example, we clicked on "115.0 GB Volume":



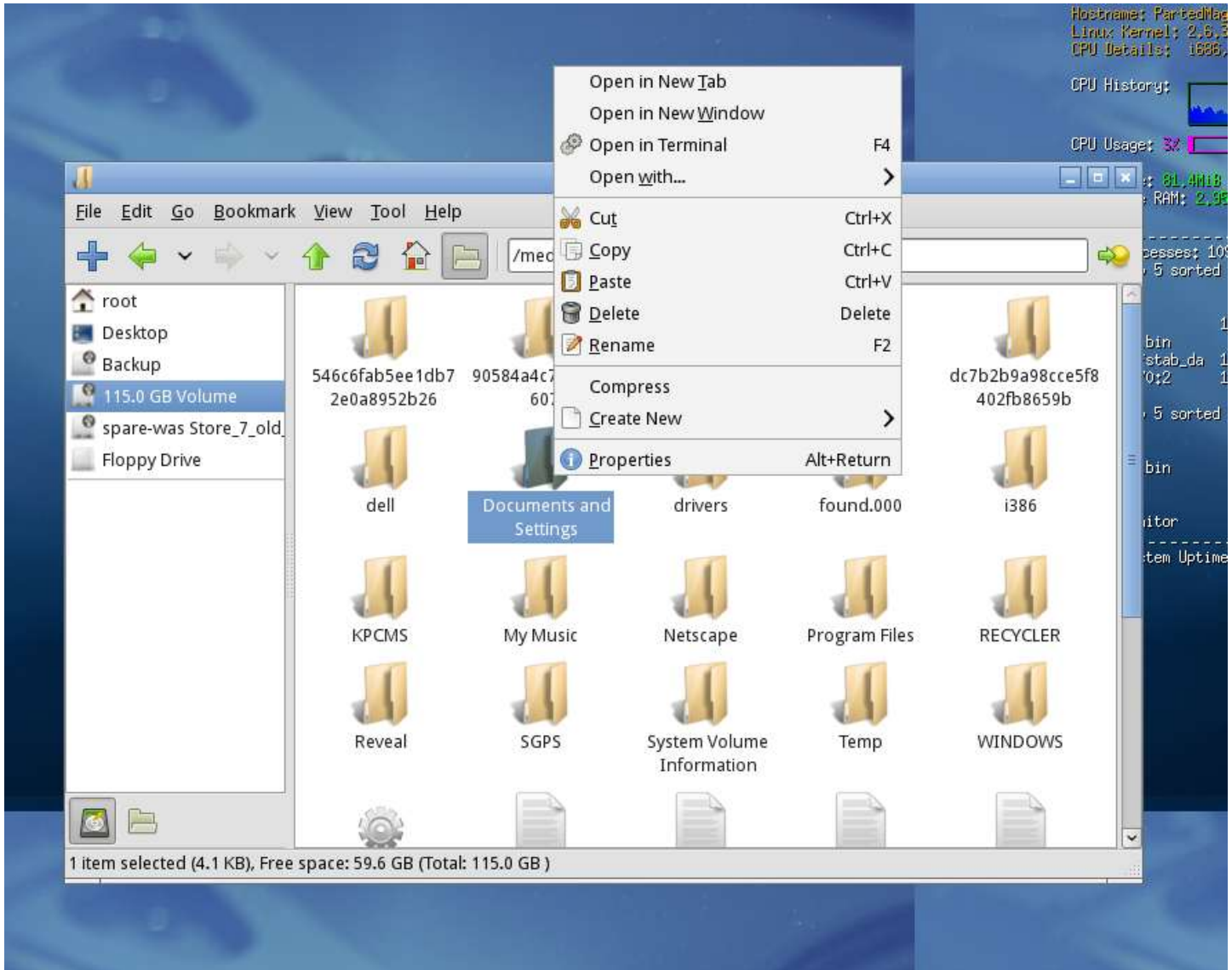
## Step 22:

Use the right mouse button to click on the folder where the data files reside. In this example, we double-clicked on the "Documents and Settings" folder:



### Step 23:

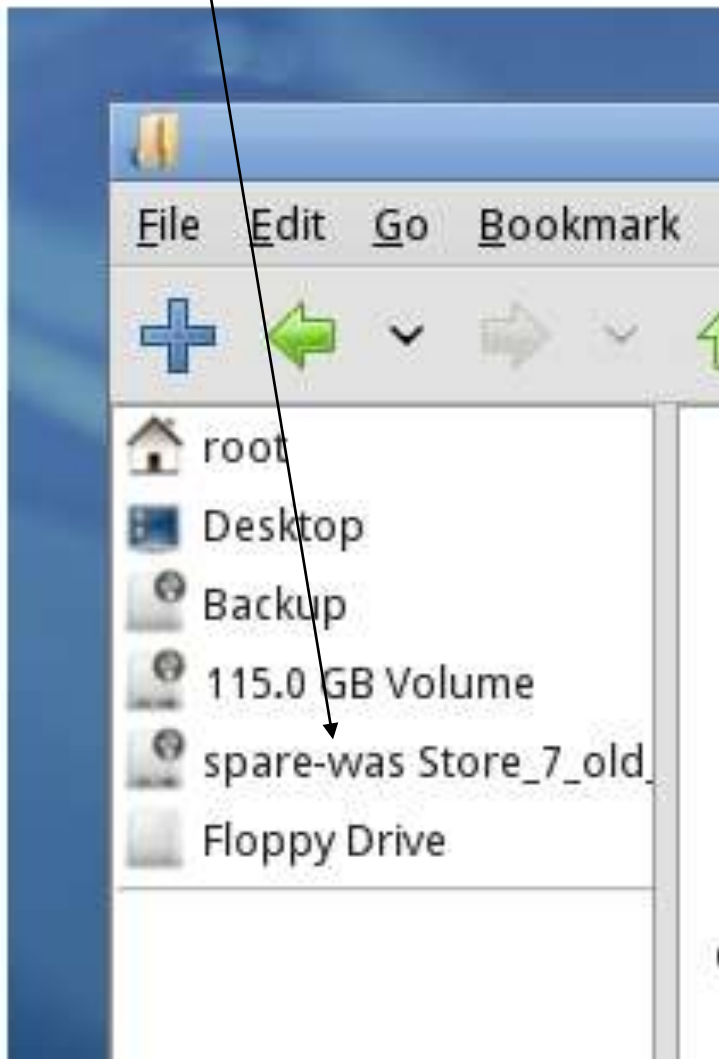
Click on either "Open in New Tab" or "Open in New Window" in the pop-up context menu:



Step 24:

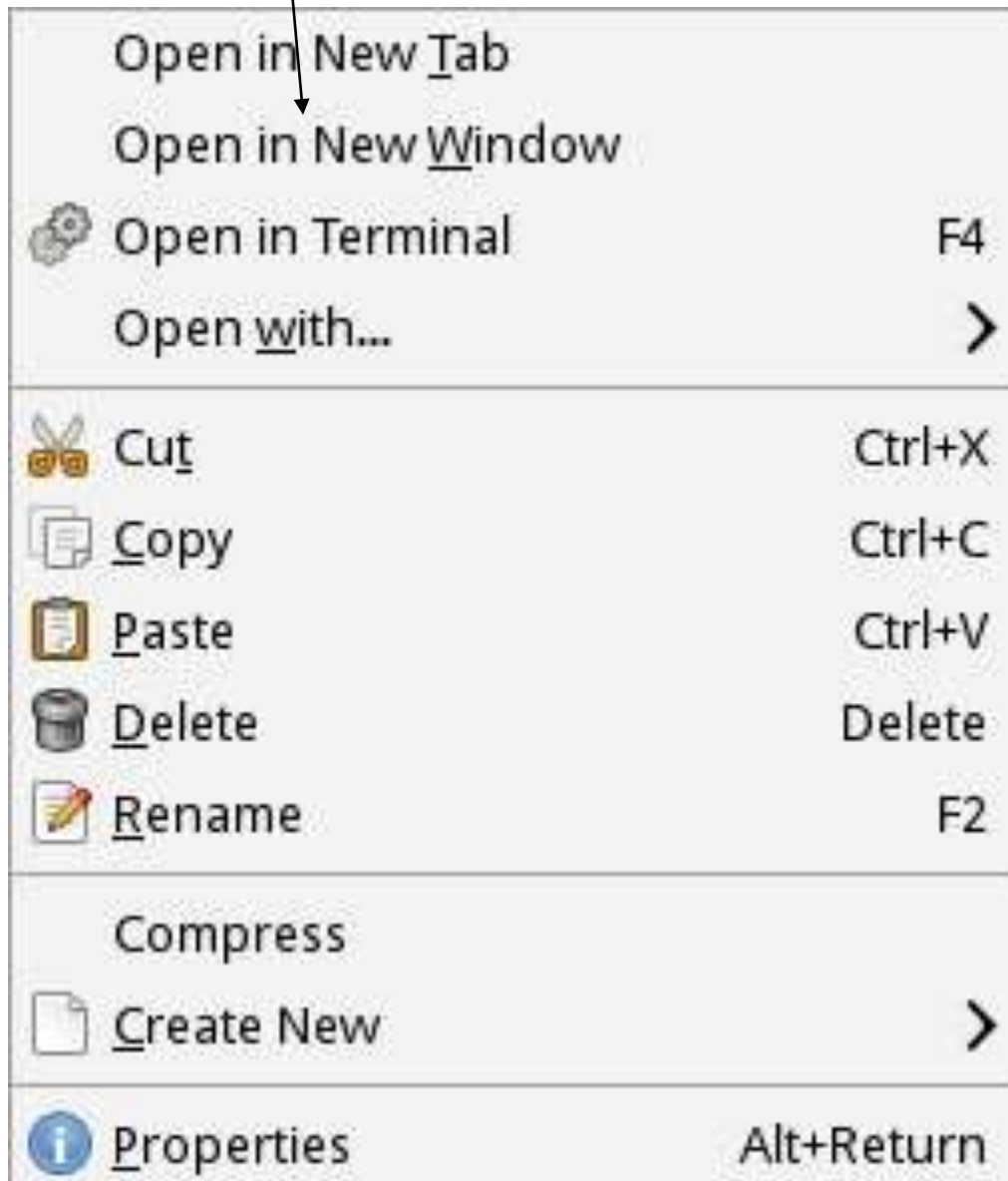
Go to the left pane of the "PCMan File Manager" window, and use the right mouse button to click on the icon that represents the USB external drive that you attached to the virtual machine in "Step 15.

In this example, we used the right mouse button to click on "spare-was Store\_7\_old":



Step 25:

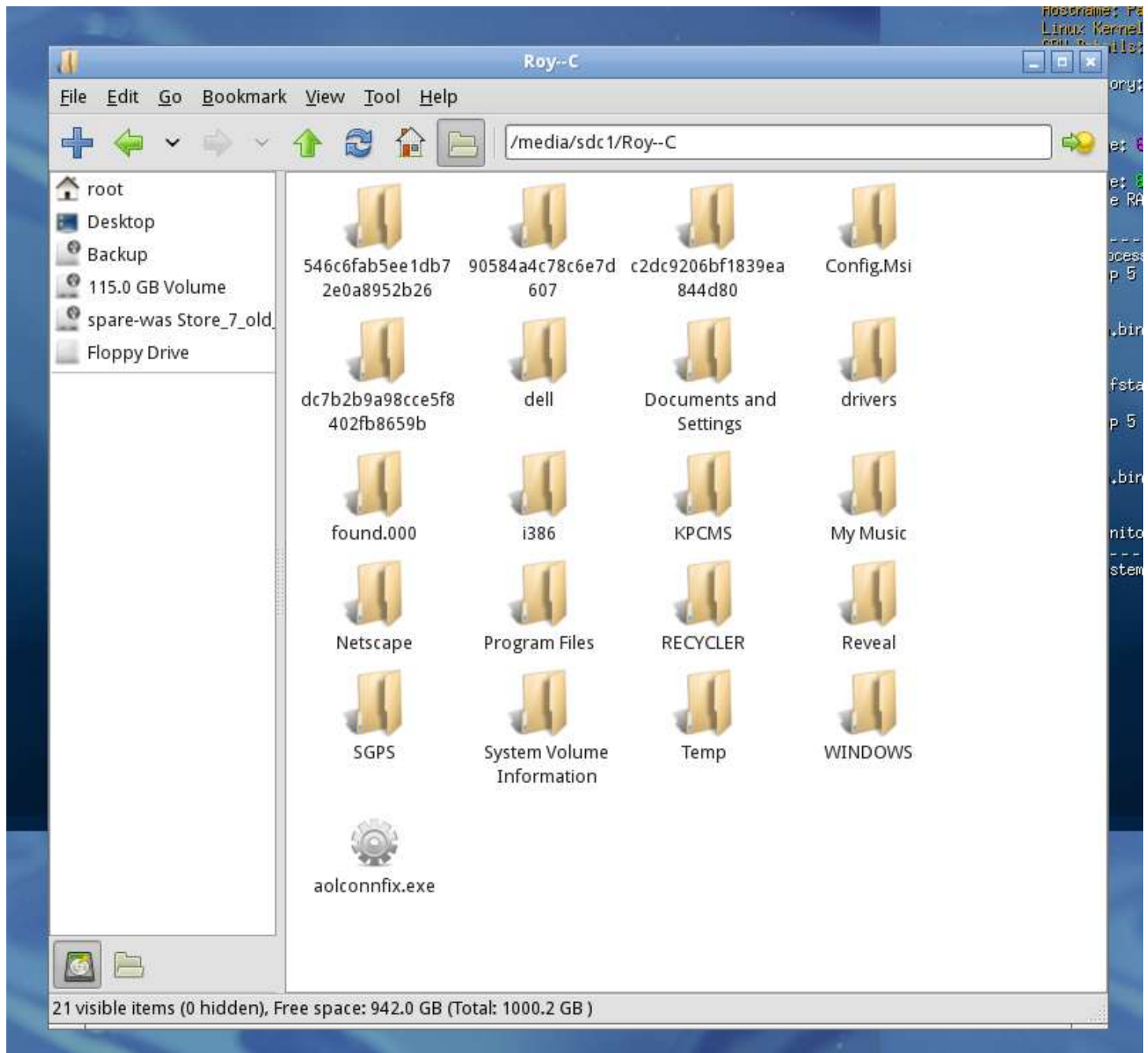
Click on "Open in New Window" in the pop-up context menu:



## Step 26:

You will now have a second "PCFileMan" window that represents the second USB external hard drive that you attached to your virtual machine.

You might wish to use right mouse button to create a folder storing for any data files/folders than you recover from the failed hard drive.



Step 27:

You now have two "PCMan File Manager" windows:

One "PCMan File Manager" window represents the failed hard drive that you pulled from your "Windows" computer and one "PCMan File Manager" window represents the second USB hard drive that you attached to your virtual machine in "Step 15".

Step 28:

Go to the "PCMan File Manager" window that represents your failed hard drive and locate one or more data files/folders that you wish to recover.

Step 29:

Use your right mouse button to click on this data file/folder.

Step 30:

Click on "Copy" in the pop-up context menu.

Step 31:

Go to the "PCMan File Manager" window that represents the second USB hard drive that you attached to your virtual machine in "Step 15".

Step 32:

Use your right mouse button to click on the right pane of this "PCMan File Manager" window.

Step 33:

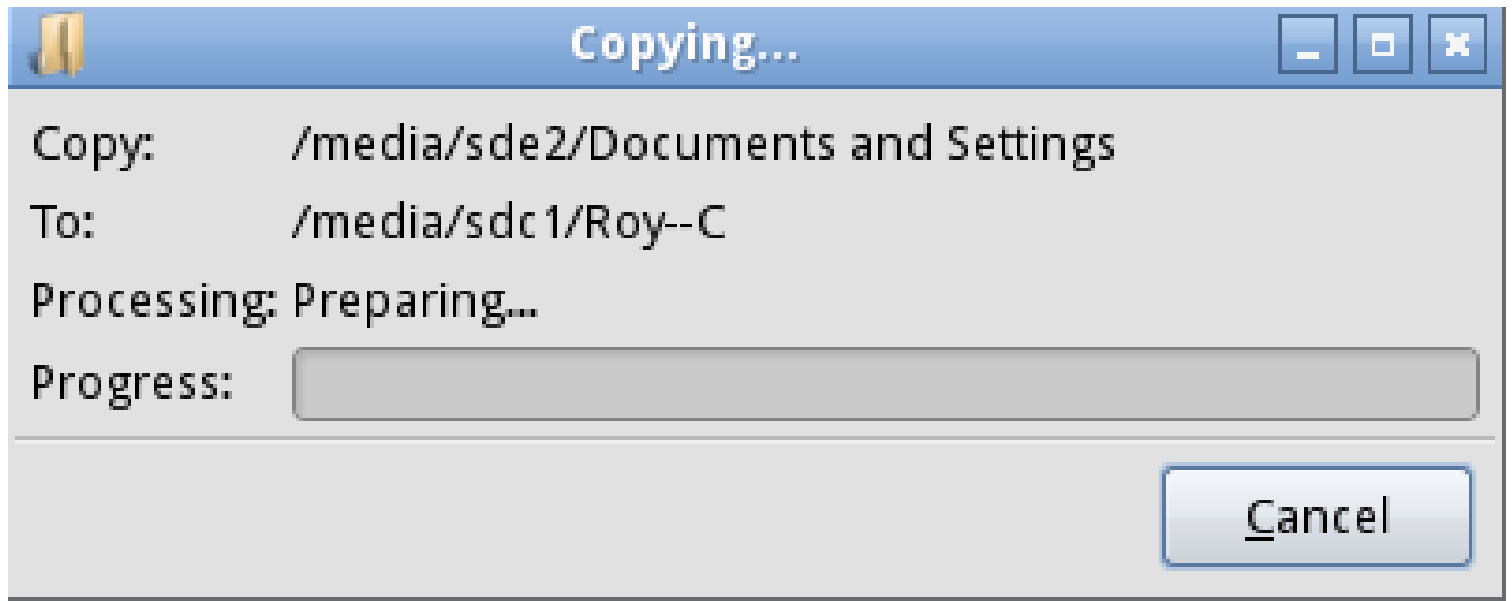
Click on "Paste" in the pop-up context menu.

Step 34:

Repeat Steps 28 through 33 until you have recovered as many of the data files/folders on the failed hard drive as possible.

For any particular data file/folder, you might have to repeat Steps 28 through 33 multiple time before you successfully copy it to the second USB hard drive.

If you select too many files/folders at in "Step 28" and the file recovery for that particular file/folder fails, select fewer files/folders and you will usually succeed in copying to the second USB hard drive.



Step 35:

Close all "PCMan File Manager" windows.

Step 36:

Shut down the "Parted Magic" virtual machine.

Step 37:

Move the failed hard drive out of the USB enclosure and put it back into the "Windows" computer.

Step 38:

Keep your fingers crossed while you power up your "Windows" computer.