Name: Thompson Minaopuye

Matric: 170805004

Csc 327 (Netcentric Computing)

Assignment:

Explain How WINRAR works

What is WinRar?
Winrar is an archive manager and data compression software. It can create archives, compress files to .rar format and expand compressed files.

How it Works
WinRAR utilizes various complex algorithms for transmitting and storing data. It uses these methods to create RAR or ZIP archives.
It has its own original proprietary compression algorithms which it uses to compress llarge text files, executable files, and objects. It applies several advanced multimedia filters to files like wav, bmp, etc. It also applies lzss with huffman coding when needed. It compression is completely lossless

WinRAR also encrypts files while encoding by converting an existing WinRAR archive file or encrypting existing WinRAR archive files or creating encrypted archive files. WinRAR also divides large archive files into smaller parts which offers easy sharing of voluminous files.

How to use WinRAR
1. To open RAR files:
   To use WinRAR, you first need to download winrar and install the app on your computer. Once installed, you open the app.
   Secondly, click on the "File" option in the upper left corner of the WinRAR window. Select the "Open Archive" option from the File drop-down list.
   By default, WinRAR opens on your desktop. Choose your RAR file from there if it is on the desktop or else, navigate to the location of the RAR file and then select it.
   Press the "Open" button to open the RAR file inside WinRAR. Also, you can view the contents of the RAR file inside WinRAR.
   Select the "Extract to" option, present at the upper left-hand side of the WinRAR window.
   Select the desired location from the right side of the WinRAR window, where you want to extract your files to. Click 'OK' to start extracting the contents of the RAR file into the destination folder. Once completed, the extracted contents can be accessed like any other regular folder.

2. To create a zip file with WinRAR:
   Select the file(s) you want to zip. Then, right click on them and select "Add to Archive". The WinRAR window appears. Choose the "ZIP" archive format.
   Selecting zip format in winRAR, Click "OK", and a .zip file generates in the same directory.

Advantages of using WinRAR

WinRAR repairs physically damaged files and locks them from further modifications. In this way, it ensures the reliability of data.

Compared to other standard methods, WinRAR creates a solid archive, more efficiently, with compression ratios upto 10% to 50%.

WinRAR lets a person use different compression formats through a single interface. It offers high-speed functionality with the help of the underlying complex design.

WinRAR supports files and archives till 8589 billion gigabytes in size. The number of archived files can be unlimited, for any practical purpose.

It not only supports RAR and ZIP formats but also other archives like CAB, TAR, GZ, ZIPX, ISO, ARJ, ACE, etc.

Some drawbacks of WinRAR

The speed of compression/decompression differs with every computer. Hence, the process may be slower on slower machines.

Dealing with the hardware resources on some computers may be difficult. It can be tough for slow systems to handle 3 or 4 archives together.