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### Milestone

The following paper is focuses on the semester project of File compression, which is used to reduce the size of the file and to get rid of any redundancy which in return makes the program more efficient. This paper will focus on the purpose of file compression and go into depth of how users will be able to interact with it. The next step will explain what is required from the system in order to execute the project in terms of resources. Moving on, it will be explained what other programs exists for file compression. File compression is very common in there are many different ways to make files more efficient in downloading speed. After explaining the various options to my project, the user will be given guidelines and instructions to run the program properly in order for it to perform the task it was created to do.

The motivation behind this work is to challenge myself as a developer. File compressors are a very common thing and easily accessible throughout the web. I personally have a lot of files on my desktop and it would be cool to run this program and see if it could work on certain text files I have. This paper will continue by giving a detailed system description, by informing the user what the program does and how the user will be able to interact with it. The steps behind this will be fairly simple and be user friendly to all developers. The requirement of the user will be outlined in order for the user to be able to run the program effectively and successfully without any errors. After that, there will be a brief excerpt explaining the other programs that are

available to use for the same purpose, and argue how mine is different. There will be a set of precise instructions that will allow any developer or person be able to clearly understand how the file compression program can be executed.

So far I did research on how to read and write data which is required for file compression, by reading bytes. I did research on how to read in data, which is done by using the variable read. The read variable allows you to read data from the input stream. So then got into the streams, which allow you to read and write to or from files. After getting a good idea of how to utilize these elements, I started playing around with them a different ways of invoking them and started to make a lot of progress with them. My code consisted of a class, File Compression, then a method called compress. Within compress there are two arguments, source and destination. Source is the file that the user wishes to compress, and destination is where that file will be compressed to. Then I created a buffer to read the data more efficiently in the array. GZIPInputStream will read a stream of bytes from the FileInputStream and compress it then it will use FileOutputStream to write the compressed byte to a file. The variable read is used in the while loop, reading the bytes from the source file. The bytes are read from the source file using GZIPInputStream and the bytes that are read will be stored in the variable read. The read method returns the total number of bytes into the buffer, or it returns negative one if there is nothing else to read. While the method returns something different from negative one it means they bytes weren't read, and are written to FileOutputStream. We want to write bytes from the buffer, with an offset of zero, with the length of the read variable. This is where I lost my path in finishing the program. I created a main method, and now I need some way to compress the file I wish to

compress. After I can choose a file I need to then put it somewhere else as a newly compressed file.