**2. Discuss your current thinking about how a third party software system can invoke your module and interact with it.**

As a standalone application, any third party software system can download the application via the download link on our webpage. The application will be packaged in a zip file, and can be extracted to obtain 3 individual files which are as following:

* A CSV file which is essentially the main input
* A CSV parameters file
* The executable application file itself

The most feasible decision involves development via Ruby, as two versions – one which is simply a module invoking the Ruby script, and the other module invoking the Windows executable (for Windows and, with Wine, for Linux).

The application can be invoked in different ways, depending on which operating system is used. In Windows OS, we can type the following command on the command line:

start [application-name].exe [path\_to\_input\_file]

If using Mac OS X, the Ruby script can be run with a simple double-click, hence acting as a standalone application from the module. The API/code will not be able to be modified or viewed in text. However, the script can be run as:

./[application-name].exe [path\_to\_input\_file]

For Linux, the module can be run with the same command as for Mac OS X, since they both use the ‘bash’ shell for their terminal. This can only be done if Ruby is already installed on the client system.

However, if they do not, they will need to run the application through Wine. If it is to take in input from elsewhere, the following command must be run:

wine [application-name].exe [path\_to\_input\_file]

In either case, this will process the input and generate the required output file and a log file, as shown in the diagram previously. Not providing an input file will run the application with the packaged main input, by default. This will also be the course of action if the sample application is double-clicked.

Eventually, we expect our module to be available to third party applications more efficiently. With a GUI, there will be more flexibility in terms of modifying the parameters file as per the user’s requirements. Also, the user will be able to select an input file of his/her choice. Finally, using these files as input the GUI will allow the user to invoke the module to process the file and generate the output files. The output CSV and log files will be stored in the user’s computer. All of this will be done via an interactive graphical interface, which third party software systems can access using our webpage publicly.