**Folder Monitoring**

**Savvas Rostantis**

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# INSTRUCTIONS FOR USE

Enter the following command line to run the program:

**./sniffer –k [path]**

Where [path]: The complete directory address for editing e.g. If the folder is File\_Monitor then we don't add '/' at the end of the path.

e.g.

 **/Users/Savvas/Desktop/Samples/File\_Monitor**

 (**NO** /Users/Savvas/Desktop/Samples/File\_Monitor/ !!!!!) 

For the Bash Script :

./Bash\_Script\_TLD [total tld for search] (is located in folder : Workers\_Results)

# DESCRIPTION OF FILES

The project contains:

* Source:
  + Manager.cpp
  + Worker.cpp
  + Listener.cpp
  + List.cpp
  + Worker\_List.cpp
* Header:
  + Libraries.h
  + Worker.h
  + List.h
  + Worker\_List.h
  + Listener.h
* Ready Compiled Program:
  + Inotifywait

Description: In the Manager.cpp file we have all the functions necessary to create and manage (existing) workers, as well as to create appropriate communication channels for his children, to which he sends the appropriate data to the right destinations. At Listener.cpp, in partnership with Listener.h library, we run the Inotifywait executable to receive alerts for new files in the folder. In Worker.cpp (Worker.h) we have the job of workers receiving files through the channels from the Manager and processing the files according to the requirements of the job, creating new files in this Workers\_Results folder. We use three lists: two from List.cpp and one from Worker\_List.cpp, for the Manager and Worker respectively, for storing data such as: child identities , available children, and output file data. Libraries.h contains the necessary libraries for the programs.

# DESCRIPTION OF PROGRAM IMPLEMENTATION

After selecting the folder for editing, the Manager activates a simple communication channel with the listener, where it will read every file that will be downloaded is created in the folder. If there are no workers available, he will create, otherwise use existing ones, and connect channels of communication with his children. These channels will pass the path of each file. Each worker processes the file and prints its results in new files in the predefined folder. He is then put on standby until his father activates him. When the Ctrl ^ C signal is given, the Manager terminates all communication channels and his children as well as releases all resources that were committed during the execution of the program.

# DESCRIPTION OF STRUCTURES

## LIST

The program contains three lists. Two for the Manager and one for each Worker. Specifically for the Manager, a list contains the identities of all the children he created and the channels of communication with the Manager (named pipes). The second list contains the same information but is used for available workers that can be restarted. Each Worker has a list containing the domains and their numbers, from the files read by the Manager, which they need for output files.

# EXAMPLES OF IMPLEMENTATION

## Indicative execution

## 

## Indicative Bash Script execution

