Assignment 3

In this assignment we asked to create a comfortable graphic interface for the project and to use threads for efficiently.

Part "A": System plan –

In this part we create Class Diagram which specification in an orderly manner the activity processes and methods of all the Classes.

For every package exists UML file that include all the job processes between the Classes.

In the following link you can find related pictures – press here.

Graphic interface – Start Window:

Add folder - add folder that contain WIGLE WIFI files which the user want to insert to data structure.

Add CSV files – add single WIGLE WIFI file which user want to add to the data structure.

Clear data – empty the data structure.

Save to CSV – save the data to CSV file.

Save to KML – save the data to KML file.

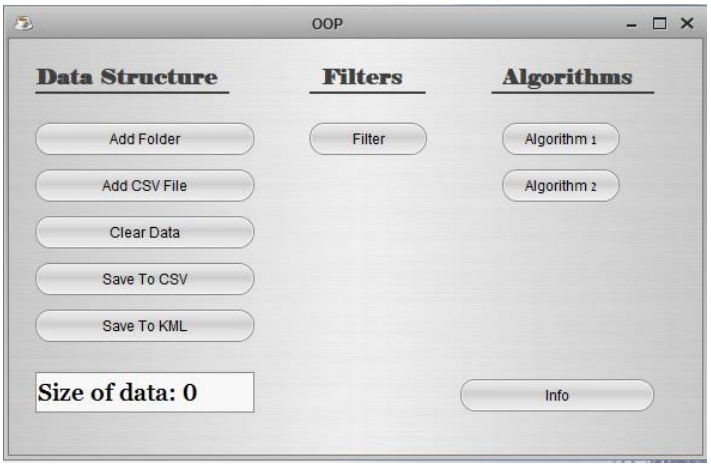
Size of data – dynamic window that display the size of the data structure.

Filter – this button will open a new window of filters system.

Algorithm 1 – this button will open a new window of calculate system for algorithm 1.

Algorithm 2 – this button will open a new window of calculate system for algorithm 2.

Info – display system information.



Filters window:

In this window you can choose which filters to use by selecting them.

If the user selected one of the options but did not insert correct text the system will send an error massage.

After the user insert all data he want to filter, the save to KML file button must be pressed afterwards a save window will be open that allow the user to select where to save the file and name it.

Selection of the Logic Options button will help the user to filter the data by NOT, AND, OR filters.

NOT – filter the data by not inserting the data that the user inserted (chose).

AND – filter the data by inserting the data with all the parameters in the same line that the user inserted.

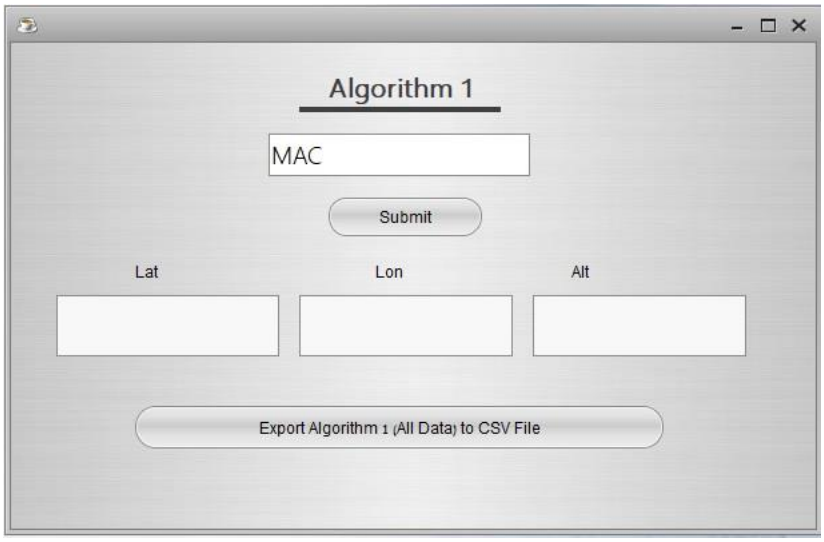
OR – filter the data by inserting the data with all the parameters that show in line does not matter if the parameters in the same or different line.

Algorithm 1 window:

In this window the user can insert MAC address and press submit.

The system return and display the assume location of the MAC with the help of calculate functions of algorithm 1.

In addition the user can save all the location of every MAC ,that located in the data structure after the execute of the algorithm 1, into CSV file.



Algorithm 2 window:

In this window the user has two options for inserting input data:

1) String line from “nogps” file, example for line:

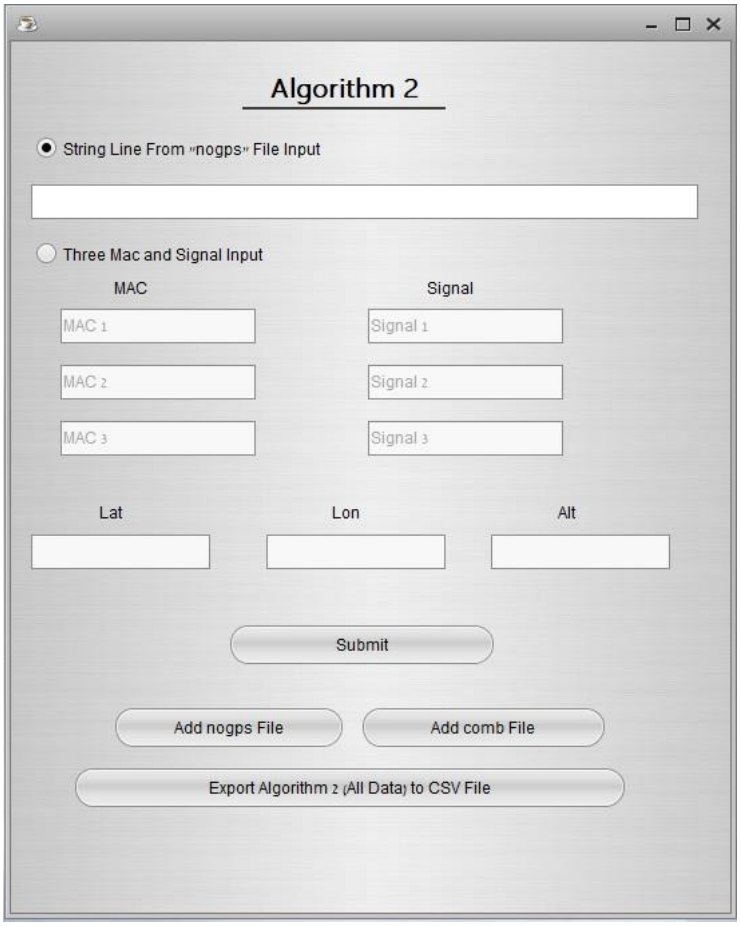
-91 44 1c:b9:c4:16:ed:3c Ariel_University -86 11 8c:0c:90:ae:16:83 -81 1 1c:b9:c4:15:ed:b8 IT-MNG 3 ? ? ? model=SN 12/05/2017 11:48

The system will know to extract from the line three couples of MAC & signal,

And after pressing the submit button the system will commit the algorithm 2 calculate and will display the assumed location of the device.

2) Three MAC and signal.

The user will insert 3 couples of MAC & signal and after pressing the submit button the system will commit algorithm 2 calculate and display the assumed location for the device.



In addition it is possible to users to insert “nogps” file (a file without locations) and “comb” file (a file that the algorithm 2 collect data from for the calculate) and save all the data in CSV file.

Part “B”:

Threads:

In this part we used thread that listen continuously to a folder that the user had insert in the first window.

When the thread listen to folder this are the executed actions that made by changing:

1) If file deleted from folder the data structure changing as well.

2) If file inserted to the folder the data structure changing as well.

3) If the data inside a file in the folder had change the data structure changing as well.

You can download al the jars that used by the project in the following link: press here.