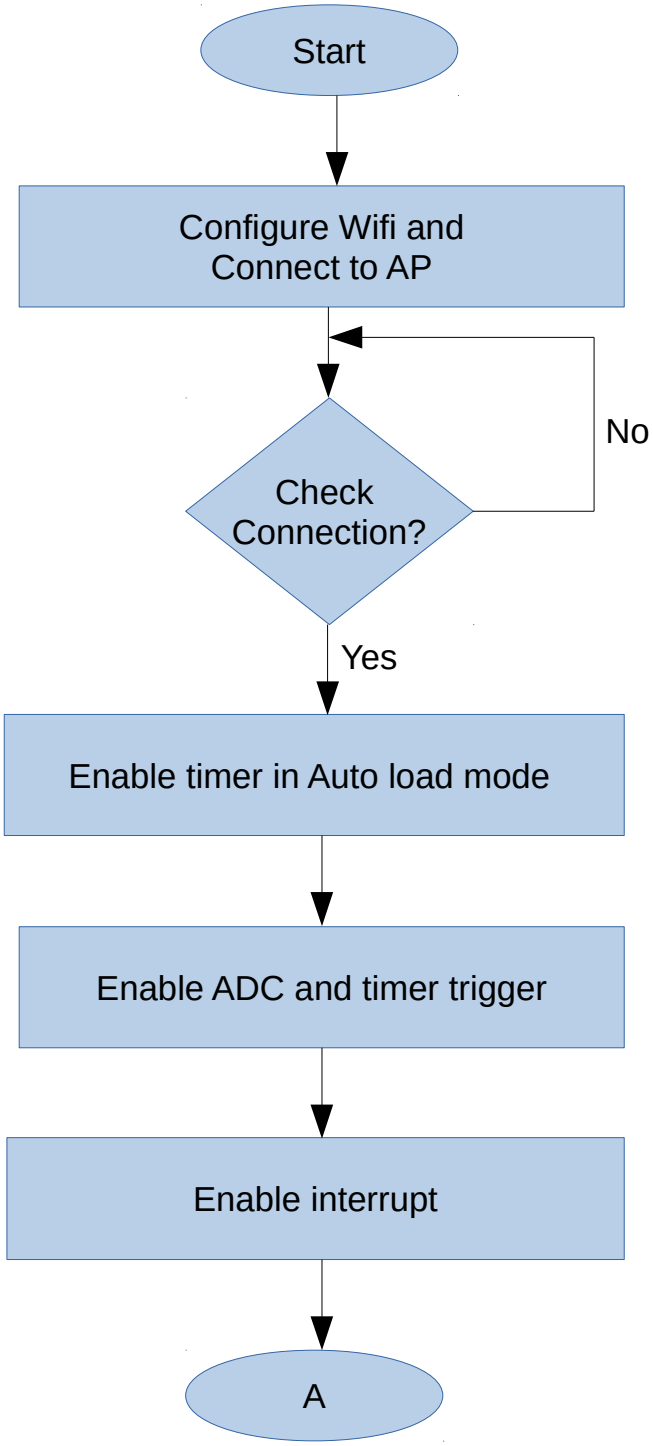
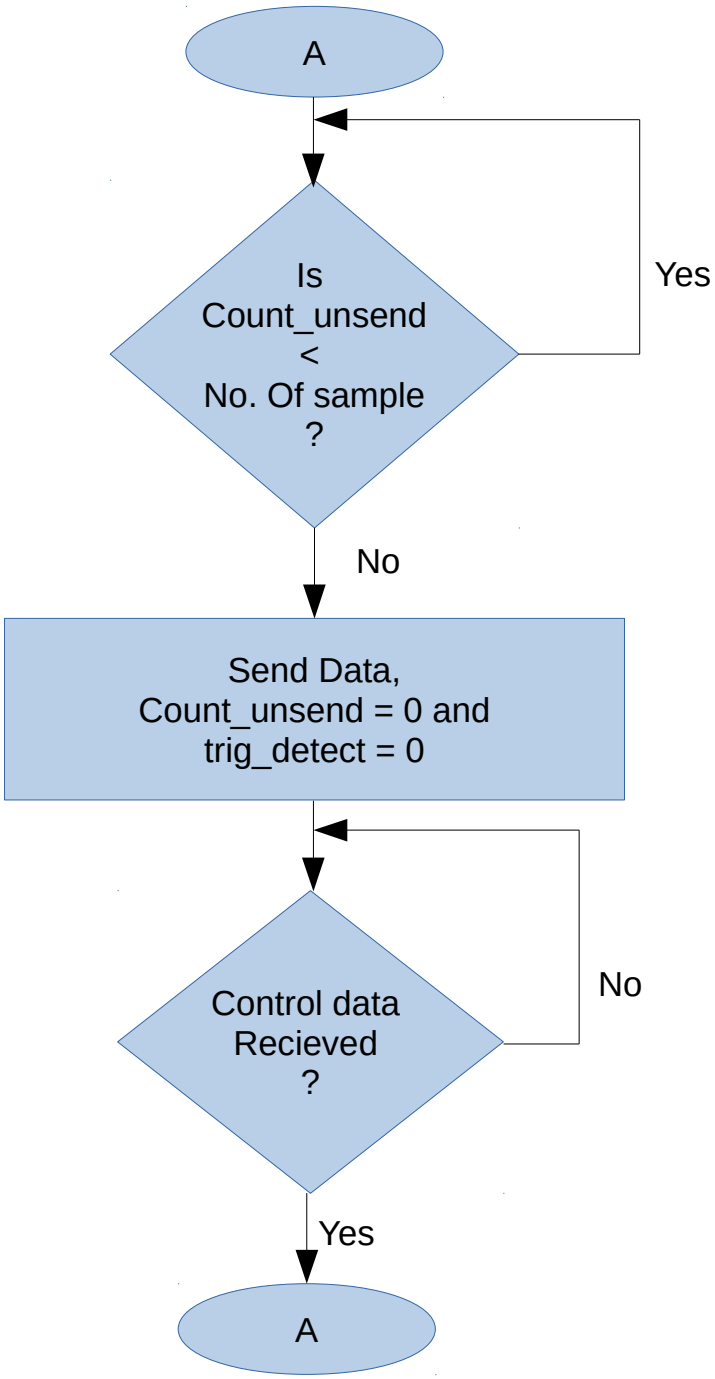

Start
Configure Wifi and Connect to AP
Check Connection?
No
Yes
Enable timer in Auto load mode
Enable ADC and timer trigger
Enable interrupt
A


A
Is
Count_unsend
<
No. Of sample
?
Yes
No
Send Data,
Count_unsend = 0 and
trig_detect = 0
Control data
Recieved
?
No
Yes
A

Connect :
The botton spawns two threads , UDP socket thread and Async Plotter.

Redraw :
The button is to replot the graph ion case when the user interface is stuck.

Export :
The button is used to invoke the function to collect the samples recived and save them in a .csv file. The data can be used to check the plot observed or as a saved analysis.

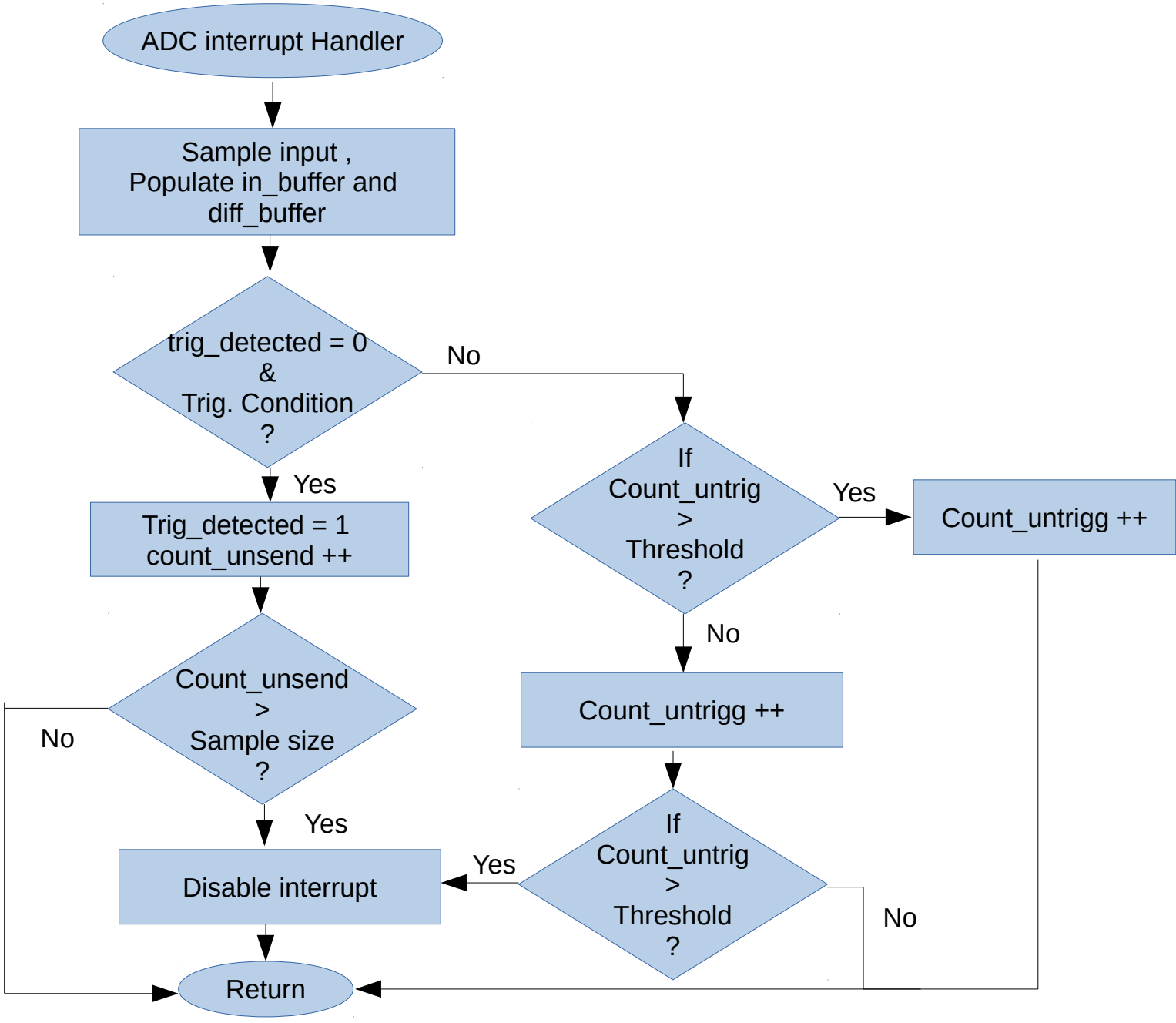
Voltage scale slider :

The slider can be used to change the voltage per division . By default it is set to the minimum value. The change in scale will send the gain value to the controller and the respective resistor value will be selected.The selection of resistor is taken care by analog switch .

Time scale slider :

The slider can be used to change the time per division on the display.By default the sampling frequency is 512 Khz . The change in scale will send the requried sampling frequency by the user and controller will take care of it based on the input recieved.

Trigger level slider :
On the interface , thje trigger slider can be used to trigger the waveform at a particular value.By defalut the trigger level is 0 V.To implement the trigger we are using 128 different levels to accomodate different 1024 voltage levels.The respective trigger value will be send to the controller before receiving the data to be plotted.


ADC interrupt Handler
Sample input , Populate in_buffer and diff_buffer
trig_detected = 0 & Trig. Condition ?
No
Yes
Trig_detected = 1 count_unsend ++
Count_unsend > Sample size ?
No
Yes
Disable interrupt
Return
If Count_untrig > Threshold ?
Yes
Count_untrigg ++
No
Count_untrigg ++
If Count_untrig > Threshold ?
Yes
No