

## System Init

System Initial  
#ESP32  
LED\_BUILTIN:LOW  
PHOTO\_SNS: FALSE  
WiFi:Connect  
UDP:Broadcast Mode  
UDP.Receive(Broadcast)

System Initial  
#Rpi  
LED\_R : LOW  
LED\_G : LOW  
LED\_Y : LOW  
LED\_W: LOW  
UDP:Broadcast Mode  
UDP.Receive(Broadcast)

#ESP32  
TAG:Slave  
PHOTO\_SNS : Sense(1000)  
LED\_BUILTIN: Toggle(**swarmClear**[mySwarmID])  
MovAvg(5000)  
UDP.Receive(Broadcast)

Network silent  $\geq 200$  ms?  
&& Sns Time  $\geq 5000$ ?

#ESP32  
TAG:Slave  
PHOTO\_SNS : Sense(1000)  
LED\_BUILTIN: Toggle(**swarmClear**[mySwarmID])  
MovAvg(5000)  
UDP.Send(Broadcast, 2000) //TAG as Slave  
UDP.Receive(Broadcast)

**swarmClear**[mySwarmID]  $\geq$  **swarmClear**[i]

#ESP32  
TAG:Slave  
PHOTO\_SNS : Sense(1000)  
LED\_BUILTIN : Toggle(Bright\_index)  
MovAvg(5000)  
UDP.Send(Broadcast, 2000) //TAG as Slave  
UDP.Receive(Broadcast)

#ESP32  
**TAG:Master**  
**LED\_BUILTIN : HIGH**  
PHOTO\_SNS : Sense(1000)  
MovAvg(5000)  
UDP.Send(**Broadcast**, 2000) //TAG as Master  
UDP.Receive(Broadcast)

packetBuffer[1] == RESET\_SWARM\_PACKET

#ESP32  
**TAG:Slave**  
**LED\_BUILTIN : LOW**  
PHOTO\_SNS : Sense(1000)  
MovAvg(5000)  
UDP.Send(**Broadcast**, 2000)  
UDP.Receive(Broadcast)

Button Pressed?

NO  
YES  
Join Swarm

UDP RECEIVED  
isMaster = message[3]  
isMaster?

YES  
NO

#Rpi  
print(ESP\_id, bright\_val)  
bright = (message[5] << 8) | message[6]  
if(ESP==ESP1):LED = LED\_R  
if(ESP==ESP2):LED = LED\_G  
if(ESP==ESP3):LED = LED\_Y  
LED : blink\_rgy\_led(Bright\_Index)

BTN Pressed

NO  
YES

#Rpi Sytem Stop  
LED\_R : LOW  
LED\_G : LOW  
LED\_Y : LOW  
LED\_W: HIGH  
Delay(3000)  
UDP:SendRESET\_SWARM\_PACKET()  
LED\_W: LOW