

APPENDIX A

Simulation LDR Code:

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1 #Design of Poultry Farm Monitoring and Disease Detection System using Internet of  
2 Things (IOT) and Image Processing  
3 #APPENDIX A:  
4 #Simulation LDR Code  
5 #!/usr/bin/python  
6 import spidev  
7 import time  
8 import os  
9 import RPi.GPIO as GPIO  
10  
11 GPIO.setmode(GPIO.BOARD)  
12 GPIO.setwarnings(False)  
13  
14 # Open SPI bus  
15 spi = spidev.SpiDev()  
16 spi.open(0,0)  
17  
18 # Define sensor channels  
19 temp_channel = 0  
20  
21 # Function to read SPI data from MCP3008 chip  
22 # Channel must be an integer 0-7  
23 def ReadChannel(channel):  
24     adc = spi.xfer2([1,(8+channel)<<4,0])  
25     data = ((adc[1]&3) << 8) + adc[2]  
26     return data  
27  
28 while 1:  
29     light_level = ReadChannel(temp_channel)  
30     # Print out results  
31     lcd_string("Light Intencsty ",LCD_LINE_1)  
32     lcd_string(str(light_level),LCD_LINE_2)  
33     time.sleep(1)  
34     if(light_level < 100 ):  
35         lcd_string("Bulb ON",LCD_LINE_2)  
36         GPIO.output(bulb_pin, True)  
37         time.sleep(1)  
38     else:  
39         lcd_string("Bulb OFF",LCD_LINE_2)  
40         GPIO.output(bulb_pin, False)  
41         time.sleep(1)
```