നാഷണൽ ഇൻസ്റ്റിറ്റ്യൂട്ട് ഓഫ് ടെക്നോളജി കാലിക്കറ്റ്
राष्ट्रीय प्रौद्योगिकी संस्थान कालीकट
NATIONAL INSTITUTE OF TECHNOLOGY CALICUT

PROJECT REPORT ON

HOME AUTOMATION PROJECT

Under The Guidance Of:
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Submitted By

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CERTIFICATE

This is to certify that DURGESH (M210655CA), RAJKUMAR RAJPUT (M210666CA), DEEPAK YADAV(M210684CA) have successfully completed the project titled **HOME AUTOMATION PROJECT** under my supervision and guidance in the fulfilment of requirements of fourth semester, **Masters of Computer Applications(Computer Science & Engineering)** of National Institute of Technology Calicut, Kerala.

Dr. Subhasree M

Head of the Department

Computer Science & Engineering

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Course-In-Charge

Embedded Systems

ACKNOWLEDGMENT

We deem it a pleasure to acknowledge our sense of gratitude to our project guide **Dr. Jayaraj P B, Professor-in-charge** under whom we have carried out the project work on the topic **HOME AUTOMATION**. His incisive and objective guidance and timely advice encouraged us with constant flow of energy to continue the work.

It was a great learning experience and helped us in understanding various Embedded system concepts.

Date: APRIL 16, 2022

DURGESH
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ABSTRACTION

Home automation is an embedded system project where we use Raspberry pi and Relay modules to control many appliances connected to the home main switch.

Here we have Raspberry pi 4 Model B, we are using 2 pin 5 voltage Relay modules to connect to an LED light.

With this setup we can remotely control raspberry pi which is on the same home network (LAN) as our controlling device is.

What we are going to do is access raspberry pi to run our own python module (source code) which is going to respond by turning on / off the appliances connected to the relay module.

DEPENDENCIES/TOOLS USED

1. Raspbian OS
2. PUTTY
3. VNC VIEWER
4. Python3
5. Python: RPI.GPIO (package)
6. Two pin Relay Module
7. Jumper wire
8. Extension board
9. LED light

SOURCE CODE

```
import RPi.GPIO as GPIO          # Import Library to access GPIO PIN
import time      # To access delay function
GPIO.setmode(GPIO.BOARD)    # Consider complete raspberry-pi board
GPIO.setwarnings(False)     # To avoid same PIN use warning
Relay_PIN = 7               # Define PIN for Relay
GPIO.setup(Relay_PIN,GPIO.OUT)         # Set pin function as output
while (1):
   print "Bulb on"
   GPIO.output(Relay_PIN,GPIO.LOW) #Relay ON
   time.sleep(1)                # Give 1 second delay
   print "Bulb off"
   GPIO.output(Relay_PIN,GPIO.HIGH)   # Relay OFF
   time.sleep(1)                # Give 1 second delay
```

CONCLUSION

Successful execution of the home automation project by controlling appliances connected to local area network using relay module and raspberry pi 4 and mobile phones.