Contents

Certificate i

Declaration ii

Acknowledgement iii

Introduction 1

1.1 Home Automation 3

1.2 Benefits of Home Automation 3

1.3 Home Security Automation 5

1.4 Advantages of Home Security Automation 5

1.5 Equipments Needed in Home security Automation……………………….……..6

1.6 Home security Cameras………………………………….…………………………..6

1.7 Benefits Of Home security Cameras…...…………….……………………………..6

1.8 Features Of Home security Camera……………… ………………………………..7

1.9 Home Security Motion Sensor……………...……………………………………….9

1.9.1 Working Of Motion Sensor………………………...…………………………….9

1.9.2 Benifits Of Motion Sensor………………………...……………………………….9

Raspberry pi 3 And Architecture……………………………………………………………11

2.1 Raspberry pi 3 12

2.2 summary 13

2.3 USB Chip 14

2.4 Antenna 15

2.5 SOC 16

2.6 GPIO 17

2.7 Wireless Radio 18

2.8 GPIO Pins 19

2.9 summary 13

Devices…………………………………………………………………………………….……23

3.1 PIR Motion Sensor 24

3.2 LED 25

3.3 Buzzer… 26

3.4 Raspberry pi Camera 28

Technical Specifications………………………………….…………………….…………….32

4.1 Hardware Enviroment 33

4.2 Software Enviroment 33

4.2.1 Python 33

4.2.1 Python Django 34

4.3 Django 35

4.4 Features Of django 38

Implementation…………………………………………………………….………….………39

5.1 Implementaion 40

Blockdiagram…………………………………………………….…………………………….41

6.1 Blockdiagram 42

Code……………………………………………………………………………………………..43

7.1 Code For Push Button 44

7.2 Code For Raspberry pi cam 45

7.3 Code For Buzzer 54

7.4 Code For PIR Motion Sensor 56

7.5 Code For Web Streaming 57

7.6 Code For Django web Frame 61

7.7 Code For Start Monitring 64

Conclusion And Recommendation…………………………………………………………66

8.1 Conclusion and Feature Scope 67

References………………………………………………………………………………..…….68

**Table of Figures**

Figure1: Raspberry pi 3……………………......……………………………………...12

Figure2: USB Chip…………………………….……………………………………..14

Figure3: Antenna……………………………………………………………………..15

Figure4: SOC………………………………………………………………..………..16

Figure5: GPIO…………………………………………….………………………..…17

Figure6: Wireless Radio…………………………………………….…………...……18

Figure7: PIR Motion Sensor…………………………………………………...…...…25

Figure8: LED………………………………………………………………...……..…26

Figure9: Buzzer……………………...……………………………………...…………27

Figure10: Raspberry piCamera……..…………………………………………………30

**Table of Tables**

Table1: GPIO Pin configuration……………………………………………………………20

Table2: PIR Motion Sensor Specification………………………….………………………25

Table3: Buzzer Specification…………………………………………..………………….…28

Table4: Software features of raspberry pi camera……………………..…………………31

Table5: Hardware Requirements…………………………………………...………………33

Table6: Software Requirements…………………………………………….………………33