

A NETWORK BASED PROJECT ON DIGITAL HOME SYSTEM

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This Report Presented in Partial Fulfillment of the Requirements for the
Requirements for the Degree of Bachelor of Science in Computer Science
and Engineering

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APPROVAL

This Project titled “**A Networking Based Project on Digital Home System.**” submitted by Md. Al Mahadi Hasan ID: 153-15-6452 to the Department of Computer Science and Engineering. Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of Bachelor of Science in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 20th November 2018

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DECLARATION

We hereby declare that, this project has been done by us under the supervision of **Ms. Nazmun Nessa Moon**, Assistant Professor, Department of CSE Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

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Finally, I must acknowledge with due respect the constant support and patients of my parents.

ABSTRACT

Digital Home System is a Networking based system that is designed to secure home. Control everything by smart phone and all time monitoring home. This project aims at maintaining all of device what we use in our room control by phone, where we are it's not a facet all time we can control our home by online use a ip address. Aim is to secure our home for unauthorized person. For this some rezone I make this system. In future, the full world depend on this systems. If we see some big country such USA, Chin, Canada, French etc they are all ready use this type of technology. And I will be the success of this project.

TABLE OF CONTENTS

CONTENS	PAGE
Board of examiners	i
Declaration	ii
Acknowledgement	iii
Abstract	iv

CHAPTER

CHAPTER 1: INTRODUCTION

1.1 Introduction	01
1.2 Motivation	01
1.3 Objectives	01
1.4 Expected Outcomes	02
1.5 Layout	02

CHAPTER 2: BACKGROUND

2.1 Introduction	03
2.2 Related Works	03
2.3 Comparative Studies	03
2.4 Scope of the Problem	05

CHAPTER 3: REQUIREMENT SPECIFICATION

3.1 Requirement Collection and Analysis	06
3.2 User Requirement	06
3.2.1 Performance Requirement	06
3.2.2 Development Fetch	07
3.3 Logical Data Model	07
3.3.1 Data Flow Diagram for User Login	07
3.4 Design Requirements	08

CHAPTER 4: DESIGN SPECIFICATION

4.1 Home Plan	09
4.1.1 Login	10
4.1.2 IoE Monitor	11
4.1.3 Main Home	11
4.1.4 Room Two	12
4.1.5 Room Three	12
4.1.6 Room Four	13
4.1.7 Room Five	13
4.1.8 Kitchen and wash room	14
4.2 Implementation Requirements Software and Tools Used	14

CHAPTER 5: IMPLEMENTATION AND TESTING

5.1 Implementation	15
5.2 Test Implementation	15
5.3 Test Result and Reports	16

CHAPTER 6: CONCLUSION AND FUTURE SCOPE

6.1 Discussion and Conclusion	17
6.2 Scope for further Developments	17

APPENDIX	18
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REFERENCE	19
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LIST OF FIGURES

FIGURE	PAGE
Figure2.1: Digital Home Project	04
Figure2.2: Smart Phone Controlled Digital Home	04
Figure3.1: Data Flow Diagram for User Login	07
Figure 4.1: Project Layout	09
Figure 4.2: Registration Server Login	10
Figure 4.3: IoE Monitor	11
Figure 4.4: Main Home	11
Figure 4.5: Room Number Two	12
Figure 4.6: Room Number Three	12
Figure 4.7: Room Number four	13
Figure 4.8: Room Number Five	13
Figure 4.9: Kitchen and Wash Room	14
Figure 6.1: Layout of the Project	18

CHAPTER 1

INTRODUCTION

1.1 Introduction

Digital Home System is a great project. Which is designed for the successful completion of the purple management system. The primary building aims to provide University, College, Schools, Office and Any Modern Home can get this Digital Home services. It is a Networking system designed to preserve, process, retrieve and analyze information related to managing home, and this project maintains all home appliance like door, window, fan, light, fire alert air condition etc. This goal is to provide transparency in this, free from the process maintaining the hole home appliance using one IP address.

Digital Home project provide:

- Open/Close any door and window
- Active the fire Alert
- Active fan/Ac etc.
- Active light

1.2 Motivation

Digital Home System is taking up and giving maintain home security, maintain by smart phone, alert all time, give alert notification, work by sensor, detect ip address. Digital home System is immense ploy the primary building aims to provide University, College, Schools, Office and Any Modern Home. This system most popularly use in modern country. Example USA, German, Russia, France etc. This system is most popular in outside

1.3 Objective

The primary motivation behind this application is bring "Digital Home" The home owner can access everything by smart phone. It's going to heir secure system.

Unauthorized person can not access the system. Only he can access who has a password. The digital home system more secure the home. We can access our home any time any ware. If we have internet then we can access our home.

1.4 Expected Outcome

Everything control by a smart phone. Only the person can access who has the password. Use IP only one. Everything 24 hours monitoring. Any problem or some unauthorized person if assess the home then at the time give alert in smart phone. Fane, light, Door, Window whatever we use electric device in our Rome everything control by phone. We can access our home any ware in the world. It's online useable system.

1.5 Report Layout

Chapter 1: Introduction

In this chapter we will discuss about introduction, objectives, motivation and the expected outcome of our project.

Chapter 2: Background

In this chapter we will discuss about related work, comparative studies, scope of the problem in our project.

Chapter 3: Requirement specification

In this chapter we will discuss about what we want to do this project. What kind of device we use here.

Chapter 4: Design specification

In this chapter we will discuss about how to design my project. What I use to design this project.

Chapter 5: Implementation and testing

In this chapter we will discuss about how I implement this project and how I test this project.

Chapter 6: Conclusion and future scope

In this chapter we will discuss about conclusion and future scope this project.

CHAPTER 02

BACKGROUND

2.1 Introduction

In the IT region, there are nearly no fields exist where Networking are not utilized. Tec shot might want to add to the aggregate fulfillment to its regarded clients by furnishing them with the super items.

Tec shot needs to make items exceptionally solid, reasonable, and steady which will serve the client space. Tec shot worried for its clients and serves them in exact time, with right item or right quality. By improving counseling and different possibilities, we help advance clients in each and all aspects of their organizations, from vital intending to everyday tasks. Our Clients advantage from access to data arrangements that assistance them better adapt up their business, coordinate with clients and settle on money related and operational choices.

2.2 Related Works

This type of project is really rarely. Some people do this type of project. Such as Augusto Romero (Reference[1]), Dan (Reference[2]), David Bombal (Reference[3]) etc. They are work on this type of project. They are use some IOT device for the project. But they use three of four IOT device. I show some project in comparative. They are use fan, light, door and window etc.

2.3 Comparative Studies

A person only want to save his house. I am try to easy for human. When we go out side those time we don't no what's going on our house. That's why I make the project. Digital home system the way we can all time look our house.

It have 24 hours monitoring facility by the system. We can see 24 hours what happened in our home. By the system we can control everything by a smart phone. We can see the other country they use the similar thinking for the house. They use some sensor for there

house. But I use Ip and some sensor for this project. I use low Ip in my project and very cheap rate.

There are many Digital home project in the world. But this project has different types of features. Such as CCNA home base project are given below in figure 2.1 and 2.2.

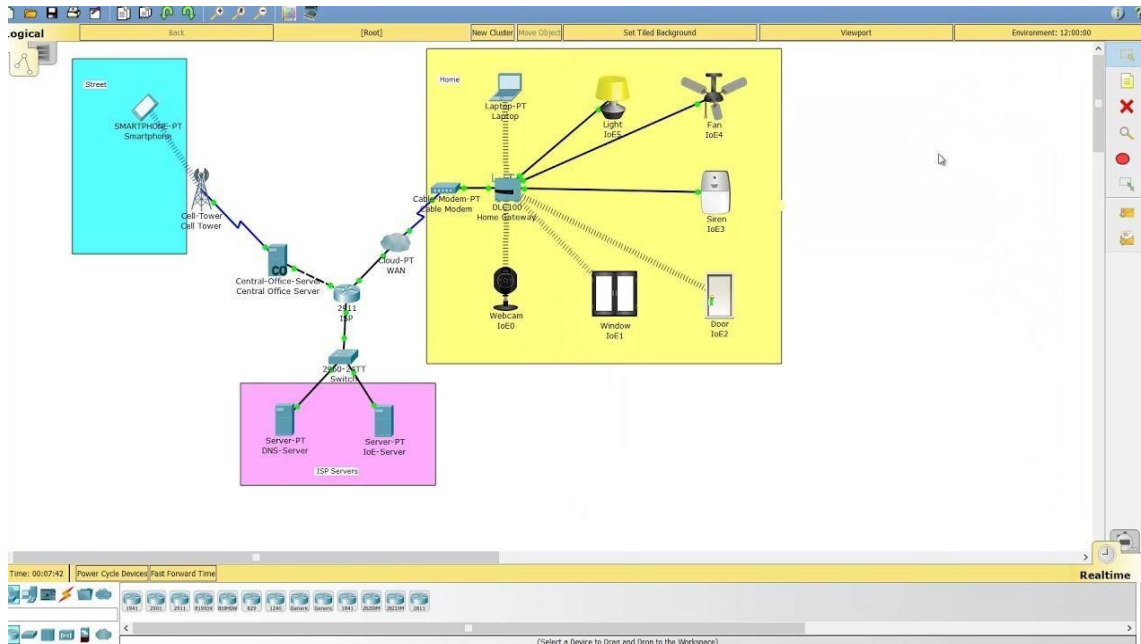


Figure 2.1: Digital Home System [1]

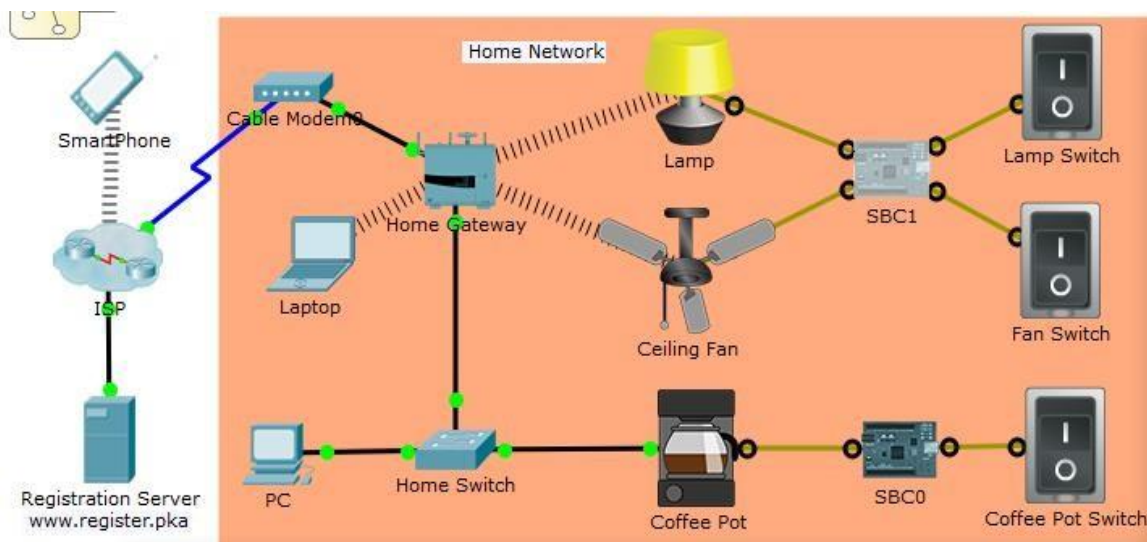


Figure 2.2: Smartphone Controlled Digital Home [2]

2.4 Scope of the Problem

To bless with vital and specialized aptitude to organizations needing to use the most recent developments. My central goal is to Define Quality Policy for the Networking period, make some new for save our home.

CHAPTER 3

REQUIREMENT SPECIFICATION

3.1 Requirement Collection and Analysis

There are two types of requirements. One of them is user requirement & another is performance requirements

3.2 User Requirements

A person who want to save his home any cost and any ways. For this reason they want to do anything. They want 24 hours monitoring, all time access, smoke detector, fire alarm etc.

It was their desire that the inquiries of the end clients included. The fundamental prerequisite of the end client is that the framework is anything but difficult to utilize and less tedious. Notwithstanding this other critical factor, it is important to wipe out the requirement for change and migration of the database which should now be completed. After talking clients, there was a report that was known as programming required particular. This is the most essential record that structures the reason for framework advancement. It ought to be reliable, finished, clear, recognized and interrelated.

3.2.1 Performance Requirements

This section includes the user's interaction & the functionality of the product studying the existing system of the organization which is called the measurable post & they can be verified during system evaluation phase time. Some of the performances requirements started below:

3.2.2 Development Fetch

Effective completion of the previous stages is key factor in the success of the Development fetch. The Development stand at:

- Detailed requirements and design translations in system components.
- Different components (unit) test for use.
- Preparation for IT system integration & testing

3.3 Logical Data Model

Displace the relationship between the logical dead model and model can also display feature. LDM Graphically represents data requirements & business agency.

3.3.1 Data Flow Diagram for User Login

First of all we have to go smart phone web browser option, then write server address in URL. Then show us login option, there are two potation user name and password. When we give it then show us IoE monitor. Where we see all network device what we use in our home. The data flow diagram shown in figure 3.1 below.

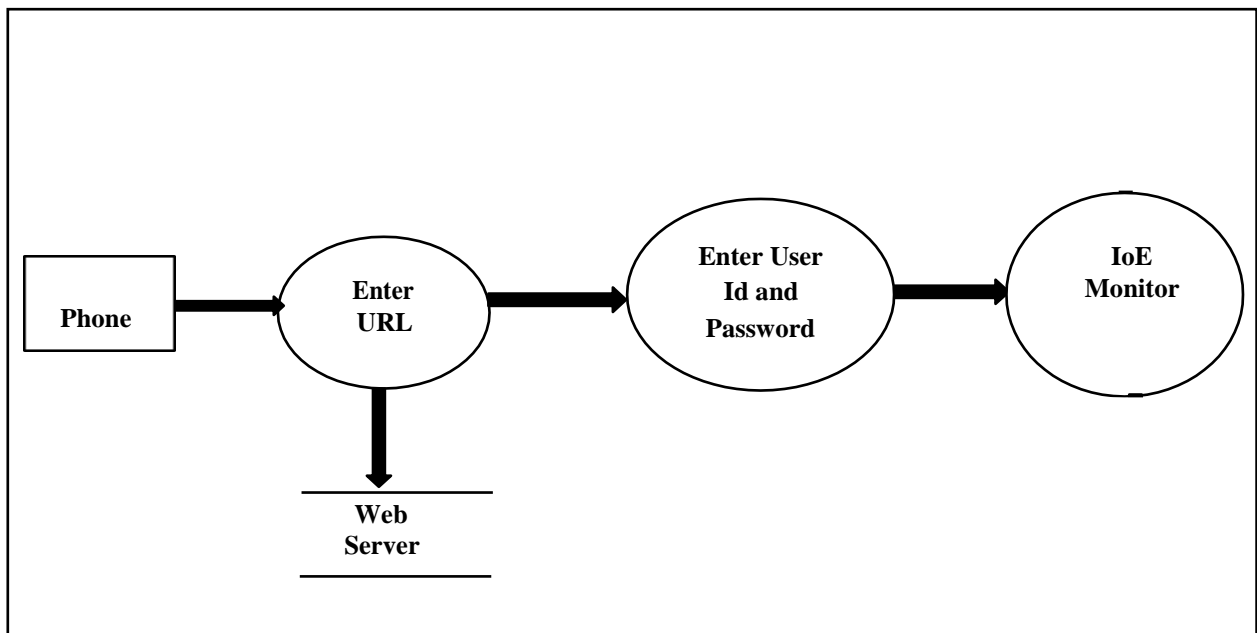


Figure 3.1: Data Flow Diagram for User Login

3.4 Design Requirements

Packet racer is required for design & documents are capable of isolating content from presentations. Such as layouts.

- For user registration We design a user registration form
- For login form We design the page helping Packet racer built in function

CHAPTER 4

DESIGN SPECIFICATION

4.1 Home Plane

This is the home plan for Digital home system. This design is also known as main design and this design is the main age of the system. This design demark all the information which are related to the project.

- Login
- IoE monitor
- IOT device
- Live access

The figure shown in 4.1 below.

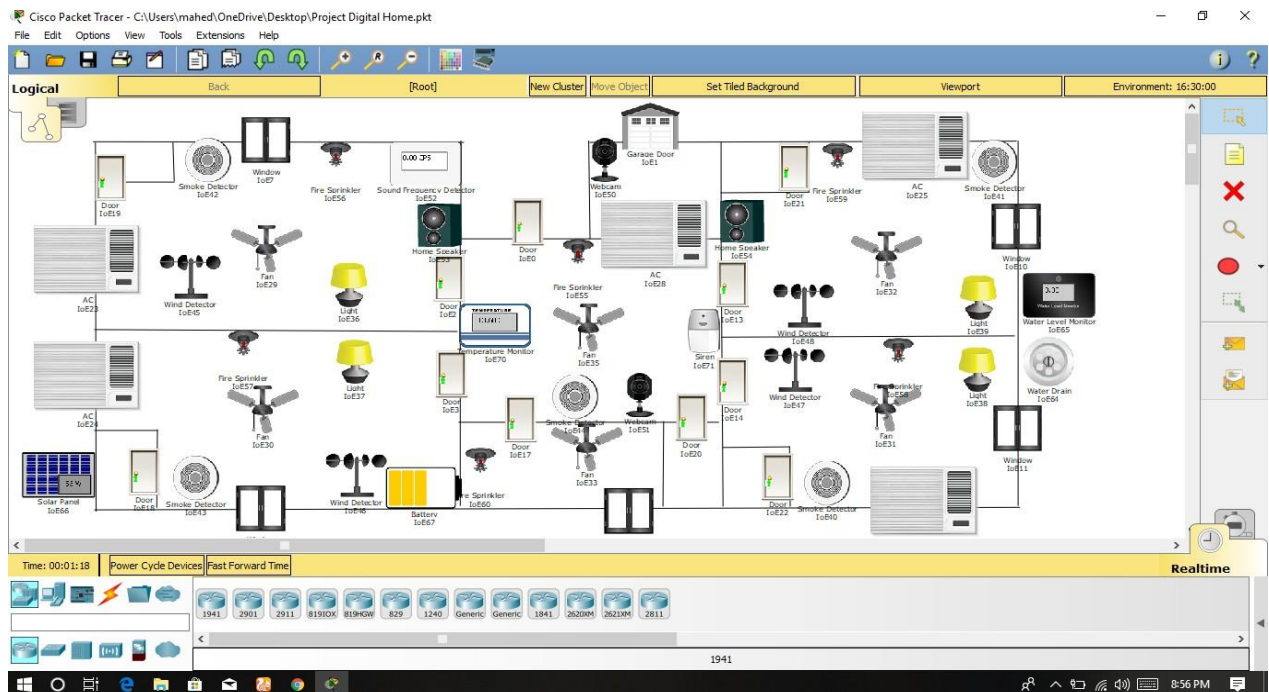


Figure 4.1: Project Layout

4.1 .1 Login

First of all we have to go smart phone web browser option, then write server address in URL. Then show us login option, there are two potation user name and password. When we give it then show us IoE monitor. Where we see all network device what we use in our home. That shown in figure 4.2 below.

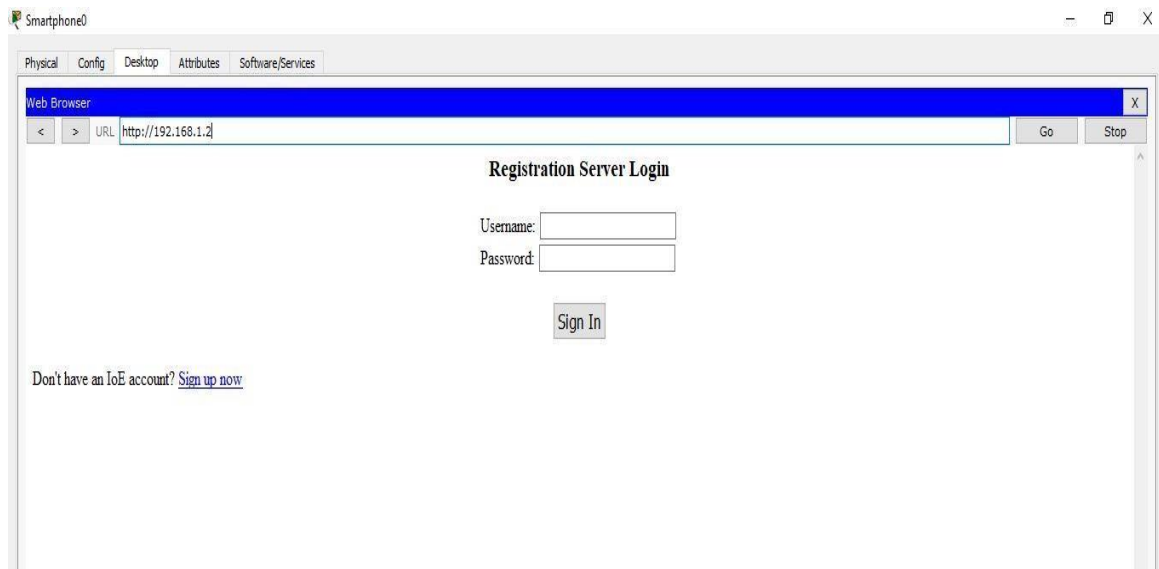


Figure4.2: Registration Server Login

4.1.2 IoE Monitor

Here when we login then show the monitor where we see all device what we use in our Digital home project. All network device show in this monitor. That shown in figure 4.3 below.



Figure4.3: IoE Monitor

4.1.3 Main Home

This photo is may dining room, where I use Light, Ac, Smoke detector, Hit detector etc. When the door open then light going to high and all sensor is on and when door is lock then the light is dim and ac is open. That shown in figure 4.4 below.

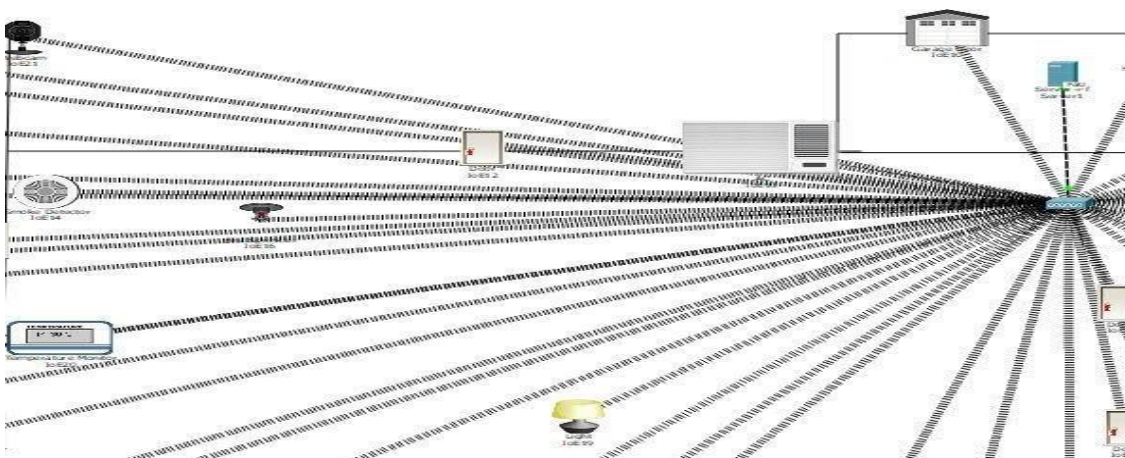


Figure 4.4: Main Home

4.1.4 Room Two

It's my living room1 where use Light, Ac, Window, Smock detector and wind detector etc. Here use a condition that is when the door is on then light is on and the wind detector measurement the room wind if wind is low then window is open. That shown in figure 4.5 below.

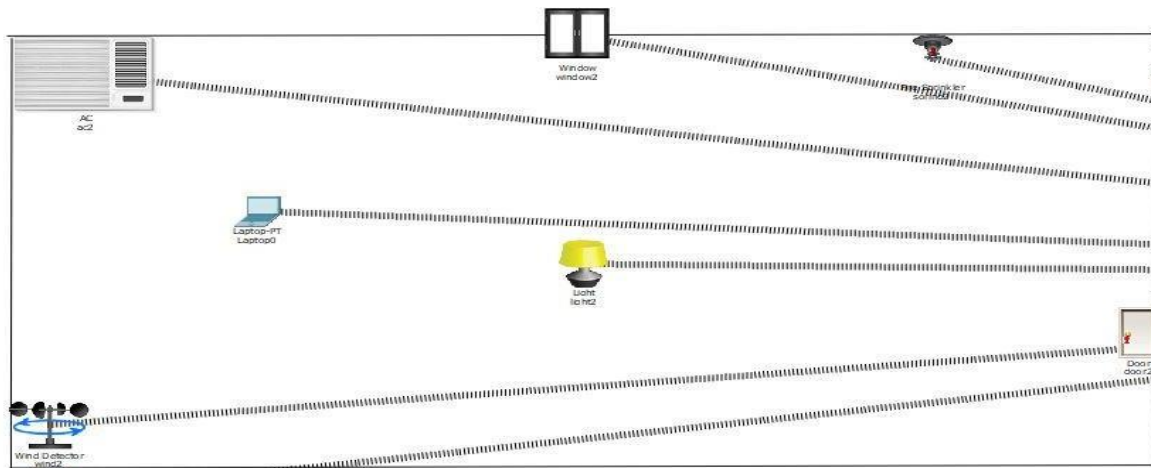


Figure 4.5: Room number Two

4.1.5 Room Three

It's my living room1 where use Light, Ac, Window, Smock detector and wind detector etc. That shown in figure 4.6 below.

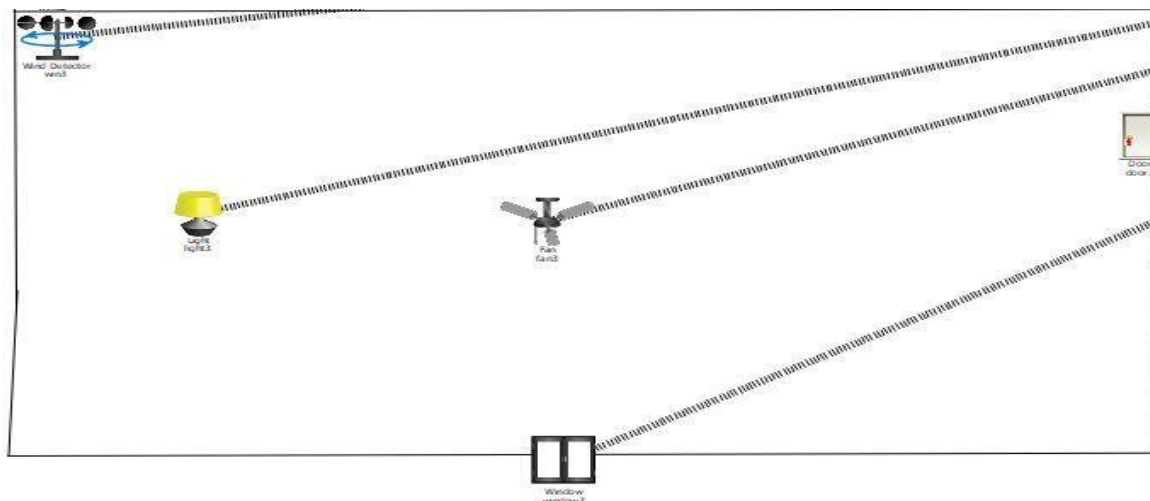


Figure 4.6: Room number Three

4.1.6 Room Four

It's my living room1 where use Light, Ac, Window, Smock detector and wind detector etc. That shown in figure 4.7 below.

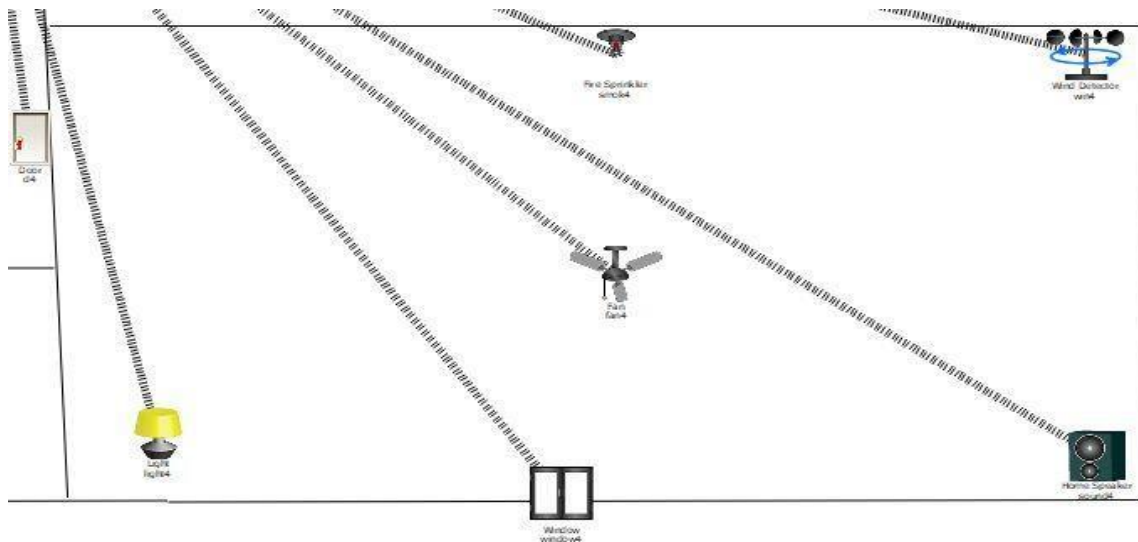


Figure 4.7: Room Number four

4.1.7 Room Five

It's my living room1 where use Light, Ac, Window, Smock detector and wind detector etc. That shown in figure 4.8 below.

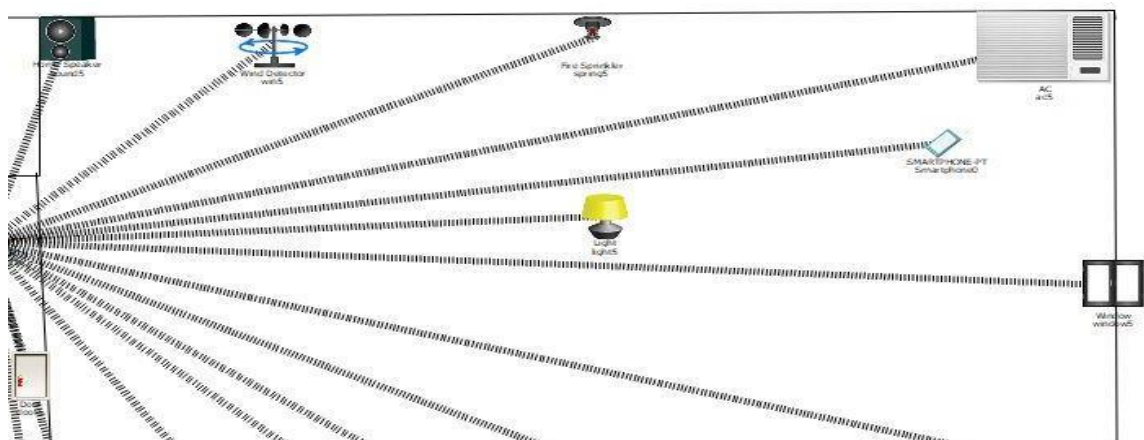


Figure 4.8: Room number five

4.1.8 Kitchen and wash room

Kitchen room is very sensitive in our home. This room is main cause of fire. That's why we have to fine for this room. That shown in figure 4.9 below.

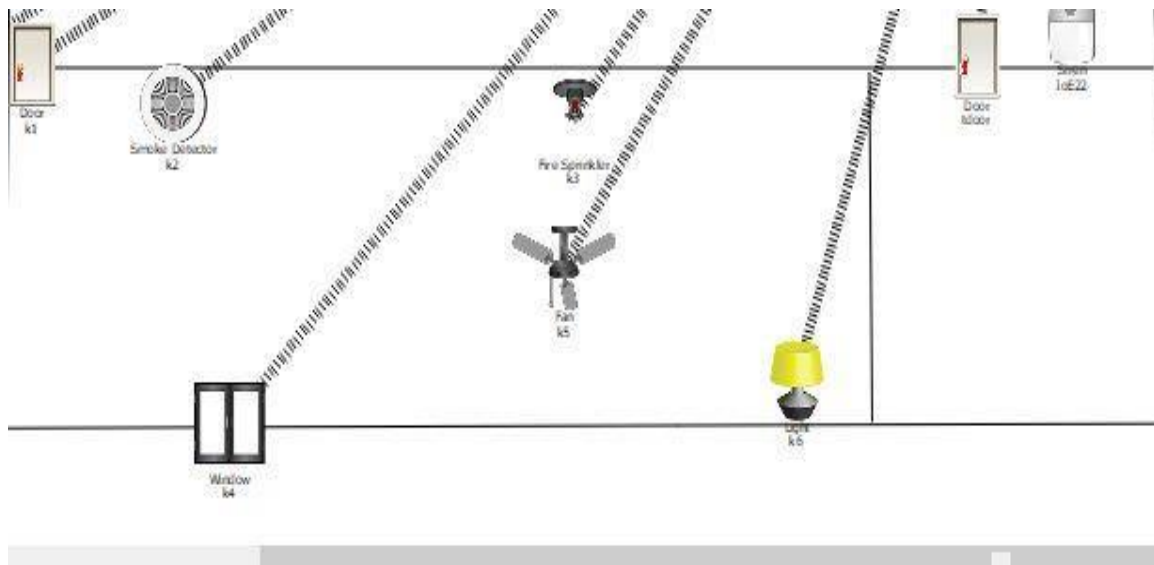


Figure 4.9: Kitchen and wash room

4.2 Implementation Requirements Software & Tools Use

We use for Implementation PHP a website DFD, CSS is required. CSS is designed primarily to enable the separation of document content from document presentation, including elements such as the layout, colors, and fonts.

CHAPTER 5

IMPLEMENTATION AND TESTING

5.1 Implementation

Packet tracer is a network software. Every network engineer first of all design his project in this software. If someone complete his project in packet tracer that's men he is 90% successful on his project. That's why everyone complete his project in this software then they are implement in real life. I complete my project in Packet tracer.

If I implement this project I have to need some network device who take ip. This type of device is not available in our country. Ip door, window, Ac, Fan, Light, Sensors this type of device is not available in our country. But I am going to implement my project by webcam. I am use a network webcam camera. Where I am it's not a cause, all time I can see my home by the device.

5.2 Testing Implementation

Testing user login form:- This form is used for login of users of the system. In this we enter the admin name and password if both are correct IoE monitor will open otherwise if any of data is wrong it will get redirected to the login page and ask for admin name and password.

❖ Test for user login module

- **Test for user login Form:** when user give the server address then show the login page. They want admin name and password. When user give it then system IoE monitor.
- **Test for Server address site:** when we go web server then they want server address. We have to give our server address. Then the system login page.

5.3 Test Result and Reports

I test my project. I send request for login on 1-Nove-2018 and I successful on this and I also try find the web server and I also pass it.

Table 5.1: Table for test case

Test Case Name	Test Case Description	Date Tested	Pass/Fail	Comments
Server address site	Find the web server.	1-Nove-2018	Pass	Successful
Login Check	Login with valid data	1-Nove-2018	Pass	Successful

CHAPTER 6

CONCLUSION AND FUTURE SCOPE

6.1 Discussion and Conclusion

With the hypothetical tendency of our syllabus it turns out to be exceptionally fundamental to take at most favorable position of any chance of increasing functional experience that tags along. The building squares of this Major Project "Digital Home" was one of these openings. The Project from an individual perspective likewise helped us understanding the accompanying parts of venture advancement:

- The planning that goes into implementing a project.
- The importance of proper planning and an organized methodology.
- The key element of team spirit and coordination in a successful project. The project also provided us the opportunity of interacting with “Digital Home” from anywhere.

6.2 Scope for further Developments

Digital Home is a networking based home appliance system to build such a way that it should suits for all type of home like School, College, University, Office and also for your home. Build an android version for this project that easy to access.

Appendix

Appendix A: Screenshot of web page:

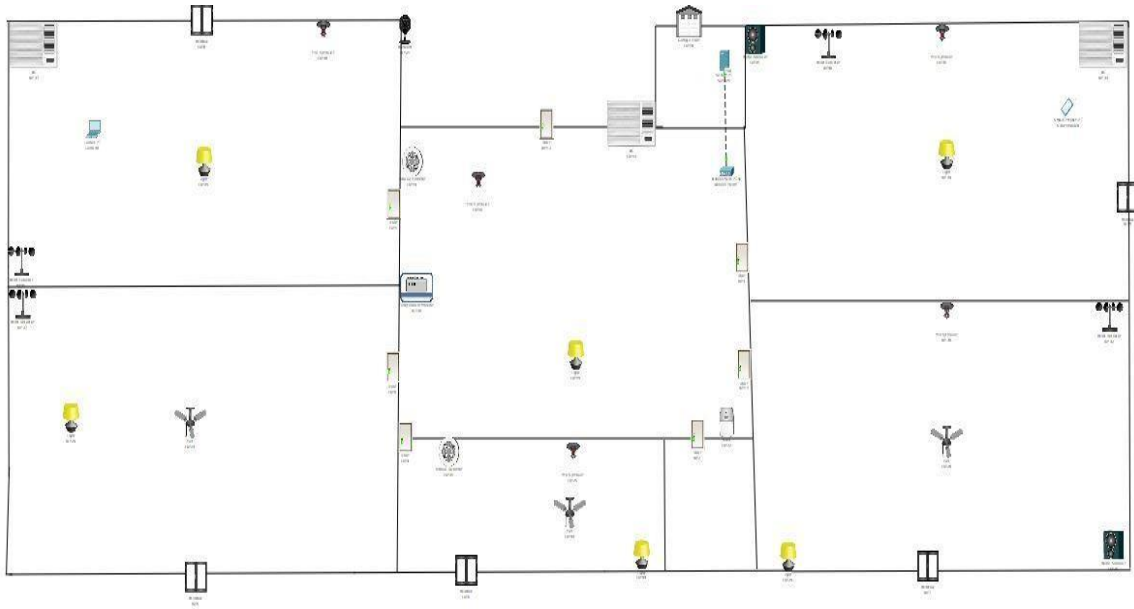


Figure 6.1: Homepage of web page

REFERENCE

[1] <https://www.google.com/> Description are available [online]

Available: <https://www.google.com/> [Accessed 12 Nov 2018]

[2] <https://werapun.com/packet-tracer-7-0-iots-workshop-17d4763f696>

Images are available [online]

Available: <https://www.google.com/> [Accessed 12 Nov 2018]

[3] <https://www.netacad.com/courses/packet-tracer/introduction-packet-tracer>

Packet tracer Software are available [online]

Available: <https://www.itechitcs.com/>

[4] https://www.youtube.com/channel/UC8vULiEdqbXpZ19w7_DLAYw

How to Setup IOT device and access IoE monitor.