

City University

Presentation

on

Network Design of BASIS

Course Title : Computer
Networks Laboratory
Course Code : CSE 318

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Submitted To

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Overview:

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Introduction:

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Extensive planning should go into a network implementation. Just like any project, need is identified and then a plan outlines the process from beginning to end. A good project plan will help identify any strengths, weaknesses, opportunities, or threats. The plan should clearly define the tasks, and the order in which tasks are completed. In this project I have tried to draw a schematic Working model of an office.

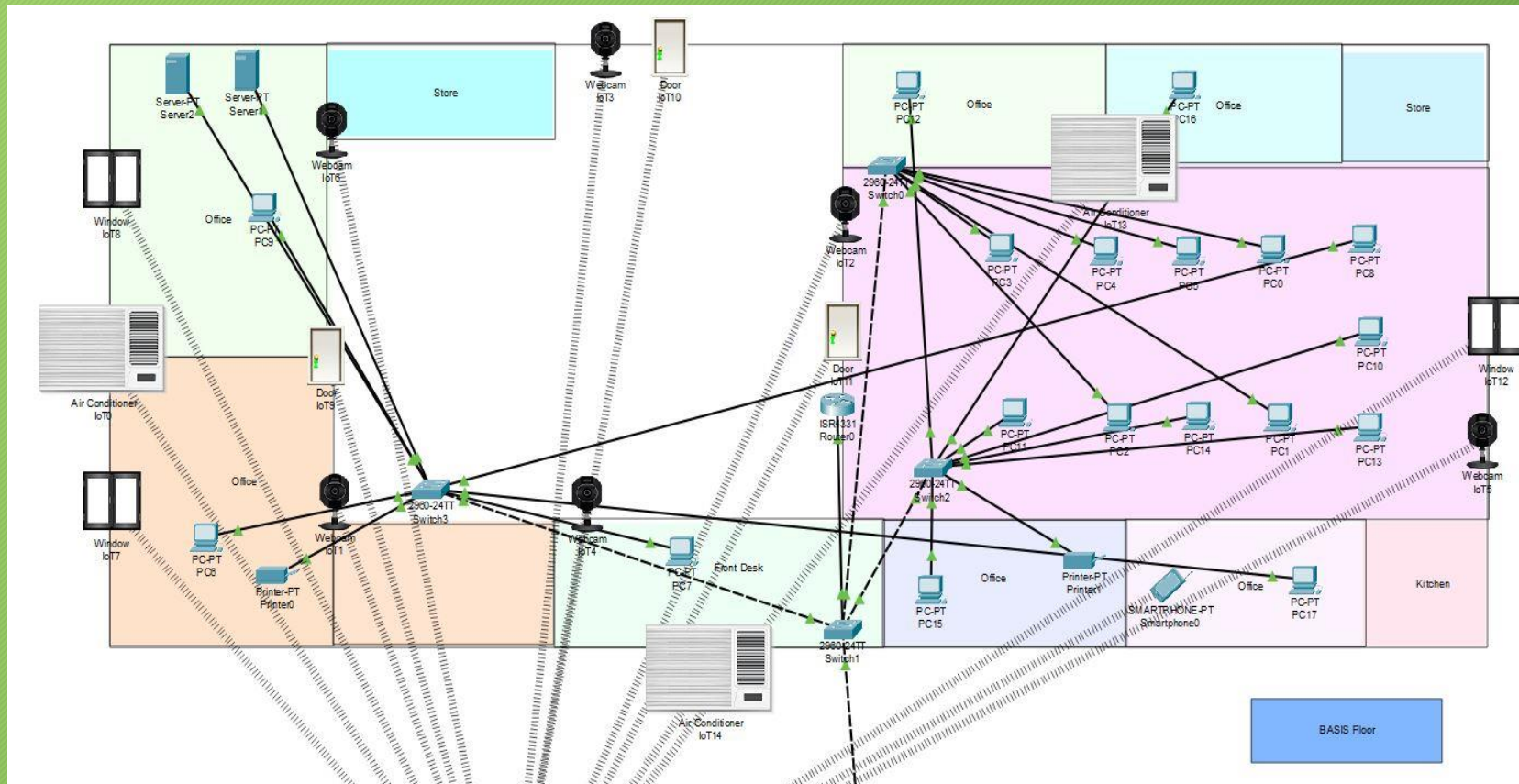
Project Plan:

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It is important to have a formal planning procedure for any nontrivial project. Before creating a project, we need to determine what we will use the project for. After that the components have to be determined according to the work. Every task from start to finish has to be completed step by step. All the PCs that we will use in this project will be able to communicate with each other. The PCs will be connected via CAT-6 UTP cable and switch. We will use 2 servers here. Web server and DNS server. I will use the web server to communicate between the client and the server using HTTP and the computers will have a DNS server to communicate with each other by translating the numeric IP addresses.

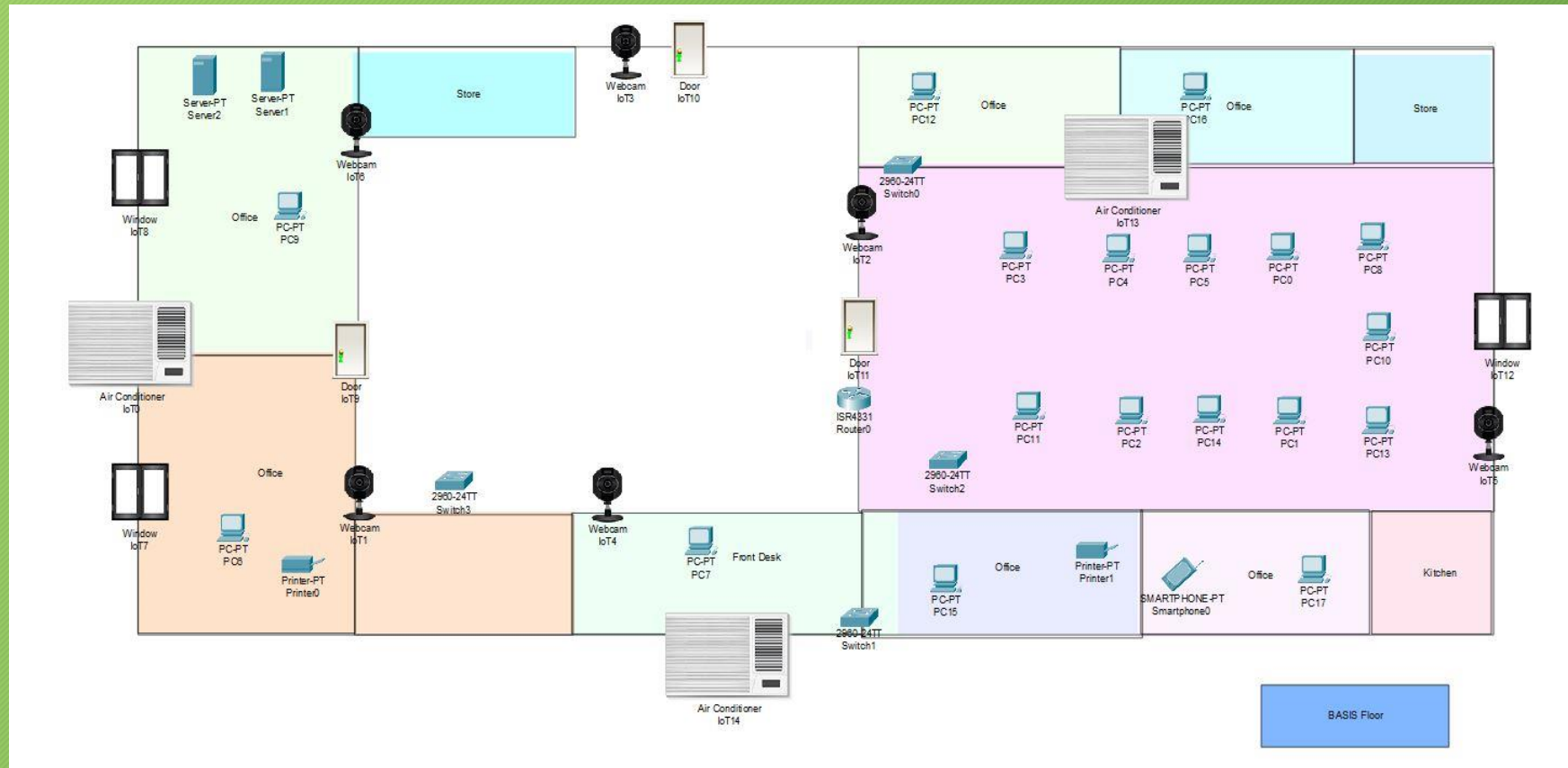
Logical Diagram BASIS Floor: 01

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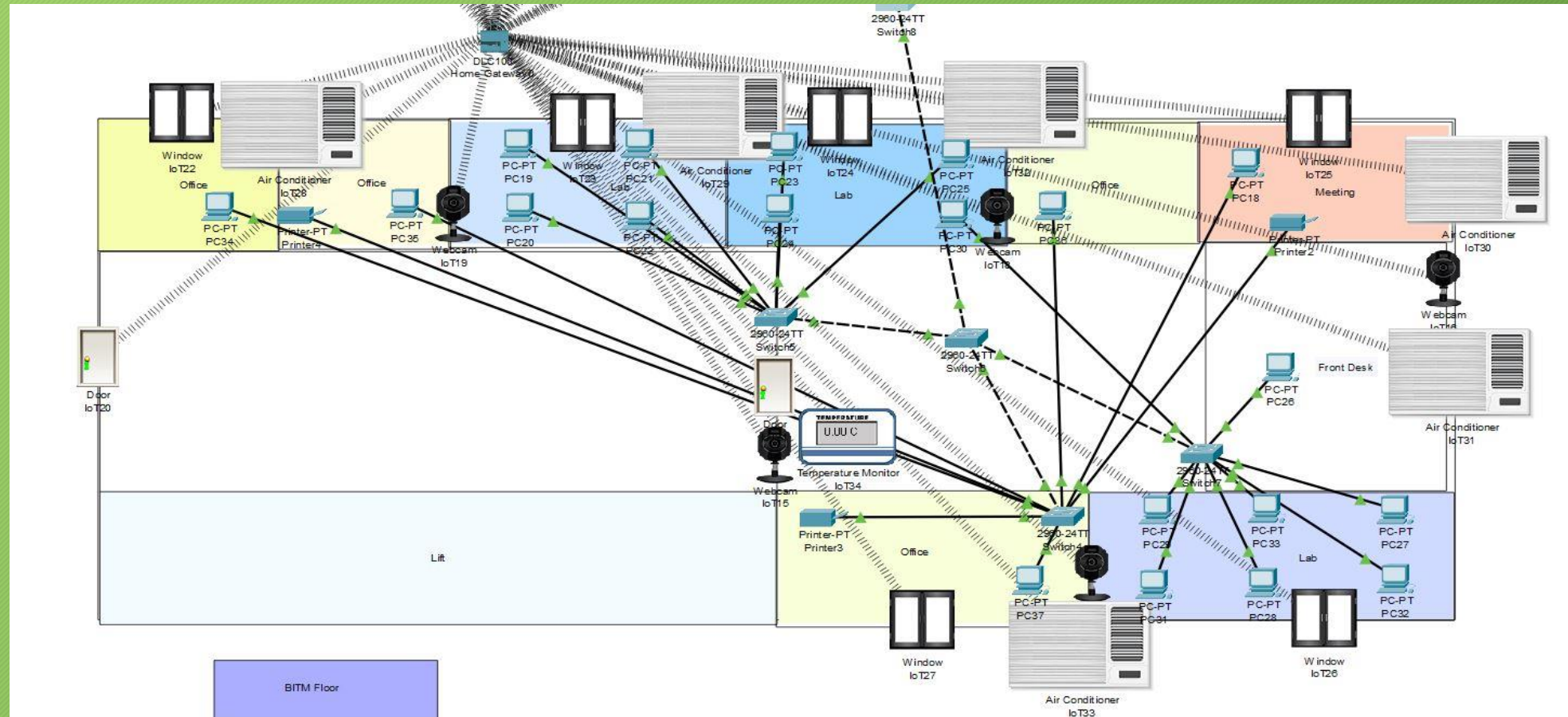
Physical Diagram:

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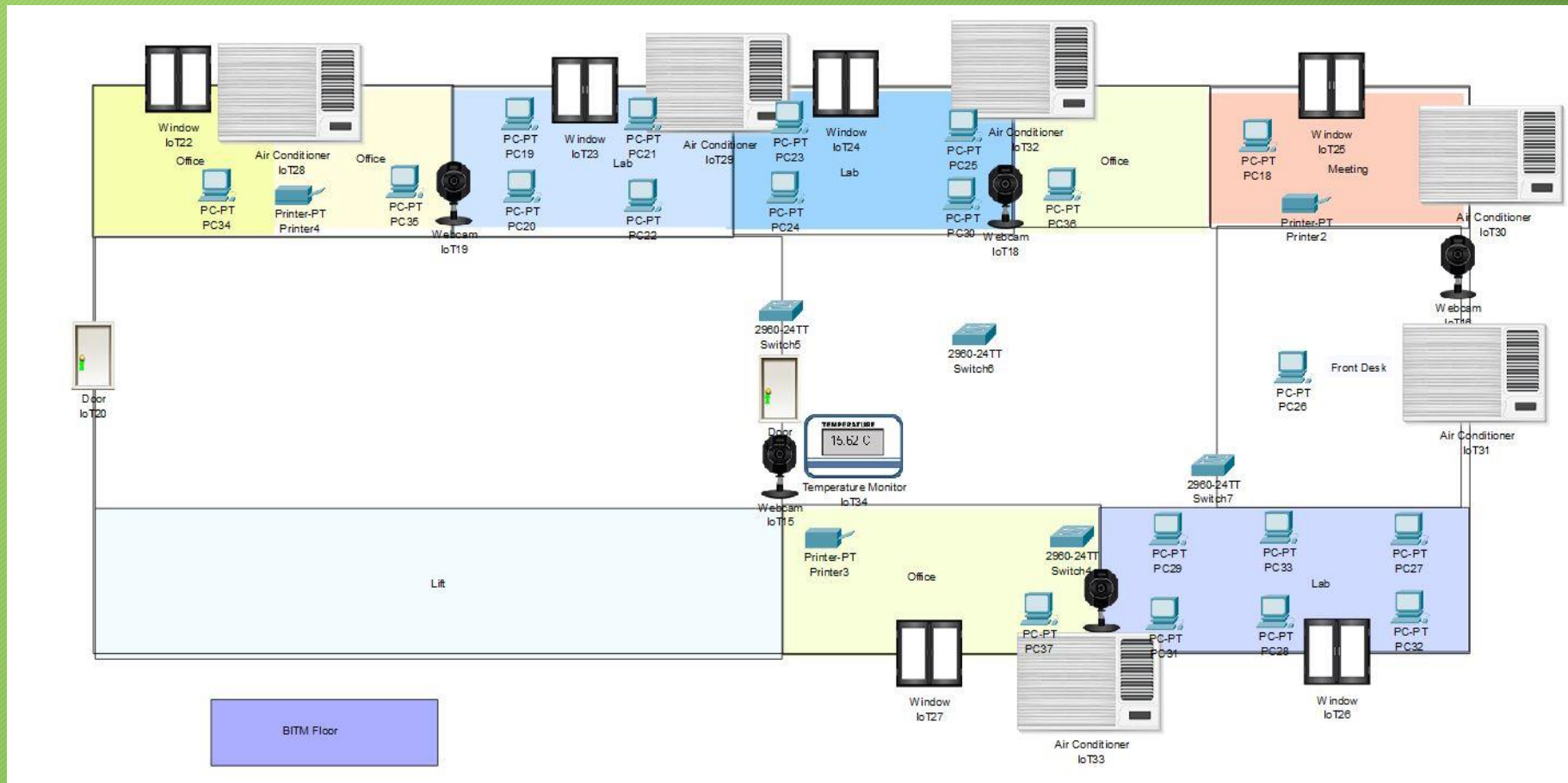
Logical Diagram BITM Floor: 02

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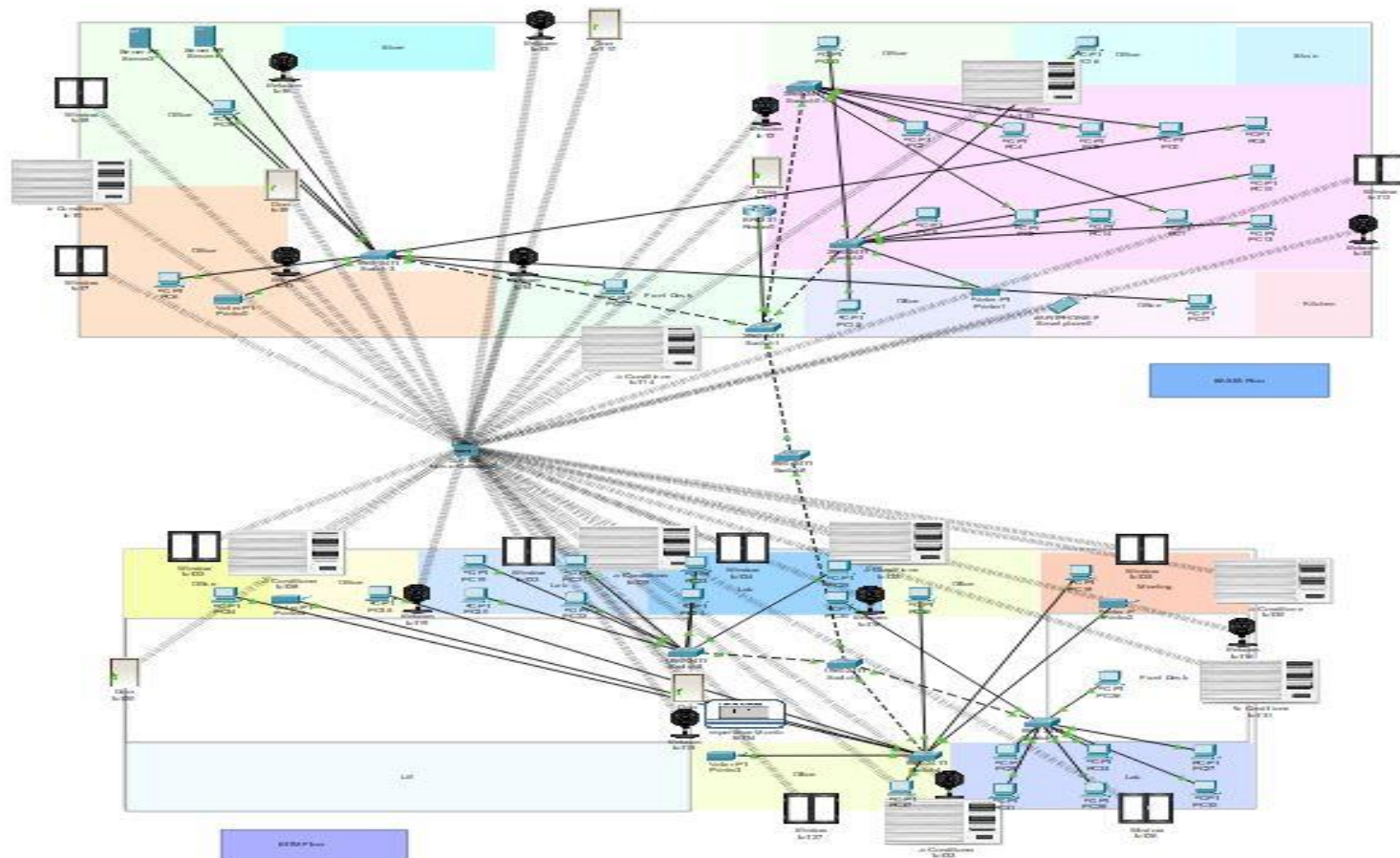
Physical Diagram:

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Full Overview

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Components used in the project :

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As it is a project purely based on networking so we have used all the basic components related to it. which includes -

- Router
- Switches
- Connecting cables
- Printer, Servers
- End devices (laptops and computers).

Device Cost:

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Device	Price (BDT)	Number of Devices	Total Price (BDT)
HP Pro One 400 G6 Core i5 10th Gen All in One PC	69,500	37	2,57,1500
TP-Link Archer AX50 AX3000 3000 Mbps Gigabit Dual-Band Wi-Fi 6 Router	12,250	1	12,250
Cisco SG350-28P 28-Port Gigabit oE Managed Switch	37,500	9	337,500
Logitech C920E Pro Full HD Webcam	10,000	12	120,000
Transtec INVERTER Split Air Conditioner	51,000	9	459,000
Smart Window & Door	40,000	14	560,000
Server setup (4h)	2,100	2	16,800

Device Cost:

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x 4hr each)			
HP Laser Jet Pro MFP M227fdn Multifunction Printer	31,500	5	157,500
D-Link Cat-6 UTP cabling Used for the majority of the network	4500	4	18,000
Cable lock: Kensington K64615US Pick- resistant lock; cut- resistant 8ft cable	5800	4	23,200
Xiaomi Smart Phone	28,000	1	28,000
Xiaomi Smart Home Gateway	7,500	1	7,500
			Total Cost=4333250

physical security:

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The first level of security in any computer network is physical security. Physical security is important for workstations but vital for servers. We have to take some step to make security strong. They are

- Lock the computer room.
- Give the keys only to people you trust.
- Keep track of who has the keys.
- Mount the servers on cases or racks that have locks.
- Disable the floppy drive on the server.

Advantage of Network design:

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- Efficient Network Performance.
- Allows Resilience.
- Makes Room for Scalability.
- Work Collaboration Made Easier.
- Speed Increase.

Disadvantage of Network design:

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- The approach may not take all necessary applications and services into consideration, leading to a design that ultimately may not meet the needs of an organization, and may need to be redesigned in the future.

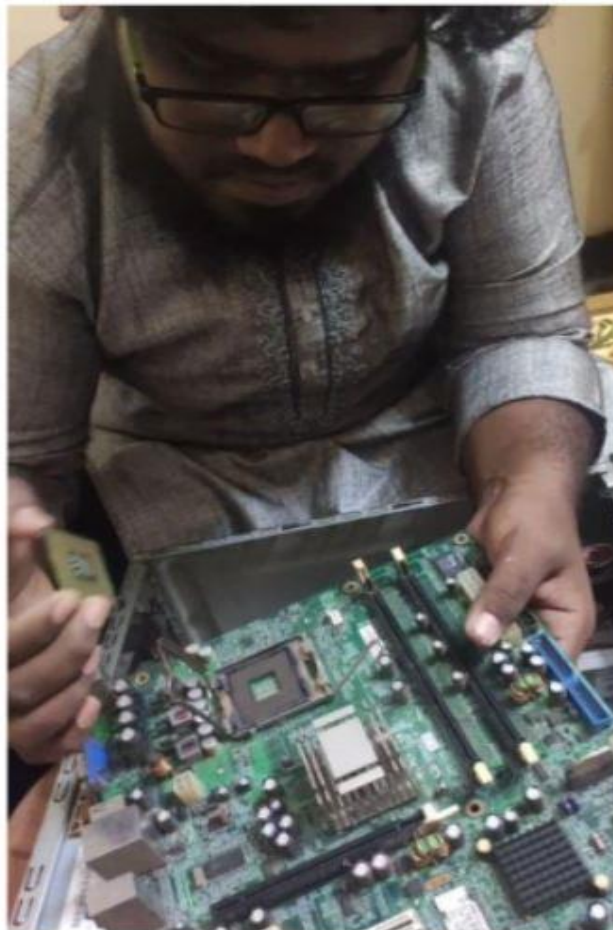
Conclusion:

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A secure network diagram needs to be created for network design. Because the success of an organization depends on its network security. It has been used to logically group clients on the network, and with the aid of a router and switch configurations, data packets routed from one device to another. It is also noteworthy that, the configuration and specifications are for the initial prototype and can further be developed and additional functionality can be added to increase support and overage. The procedures provide a veritable approach for the design of LANs for end-to-end IP network connectivity.

Assemble Screen Shot:

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Thank You