**North Western University, Khulna**



**Project Title: Company Networking System**

**Course Title: Computer Networking Sessional**

**Course code: CSE-3304**

**Department: Computer Science and Engineering**

**Student Name & ID:**

|  |  |
| --- | --- |
| **Student Name** | **Student ID** |
| **Sajib Bhattacharjee** | **20201070010** |

**Name of the course teacher: Abu Naim Khan.**

**Remarks:**

**Submission Date:** **Teacher’s Signature:**

**Executive Summary**

The computer networking system is mainly based on computer networking, and the architectural design of this system is a critical issue usually designed through the Cisco packet tracer. A company networking system is a detailed description of the characteristics and distribution of a company's network structure. At Company Networking System, we have created a system by combining the architectural design of our company's networking system and the connected devices, which is very easy to develop so that the network is easily distributed to each member and each section of a company. Our design will represent the concepts of a company's networking system. It is very important for a company, every connected device in the company will have internet through a single network very quickly.

**Table of Contents page no**

**1. Introduction**

1.1. Goals and Objectives of the project ---------------------------------------------------

1.2. Terms, Acronyms, and Abbreviations Used -----------------------------------------

**2. Description**

2.1. Details Explanation -----------------------------------------------------------

2.2. Technology, software, and hardware used----------------------------------------------

**3. Discussion**

List of Figure

|  |  |  |
| --- | --- | --- |
| 1. | **Company Networking System** |  |

List of Tables

We did not use any table content in our project.

**1. INTRODUCTION**

**1.1. Goals and Objectives of the project**

Our technology represents the networking system of a company networking system through which a company will help maintain the networking system between their users and admin and the general public. Since the networking system is an important issue, we have considered its security and tried to develop a full networking system for the company considering everything. It will be very easy for the general public and admin users to make elections and exchange information transfer very easily.

Security is a big thing we have considered and on top of that, we have thought of providing the highest level of security which will play a vital role in keeping the information and keeping the internet information of users and admin safe.

Any organization or company is powerful in the networking system. Without the networking system, there is a possibility of money exchange and future admin connecting with someone. Keeping in mind the importance of the networking system is immense, we have developed it very easily and tried to develop it secretly. Yes, yes, maybe. So security is a big one. We've kept it simple and tried to make it as user-friendly as possible.

In this mini-project, we defined a simulation of campus networks based on wireless networking. The network is divided into two sets: one for the campus area and the other for the hostel area.

The major aim of this project is to show the wireless connectivity that is used in universities to make the network efficient and mobile at the same time. Mobility is the major concentration of this project. In order to provide equal functionality to all the users (college staff and students), we have added DNS, Email, and HTTP servers for the maximum utilization of resources.

Hence the campus network provides different services such as connecting the user to the internet, data sharing among users (students, teachers, and different university members), and accessing different web services for different functionalities, so it needs wireless networking for smooth processing.

**1.2. Terms, Acronyms, and Abbreviations Used**

CNS, CCNA, CISCO, IP, ROUTER, VLAN 2. Description

**2.1 Detailed explanation.**

Computer systems are connected to some kind of network with Internet access. The most popular “kind of network” is a switched or shared 10 or 100 MB/s Ethernet—less popular are [Token Ring](https://www.sciencedirect.com/topics/computer-science/token-ring) and ATM networks. Your work PC or workstation may then be connected via an Ethernet cable to the computer system. An Ethernet cable can either be a twisted copper pair or a [coaxial cable](https://www.sciencedirect.com/topics/physics-and-astronomy/coaxial-cable). Such cables are commonly used to connect computers in a [local area network](https://www.sciencedirect.com/topics/computer-science/local-area-networks) (LAN) which provides a high-speed and wide [bandwidth](https://www.sciencedirect.com/topics/physics-and-astronomy/bandwidth) path for the data flow between the computers. The company [LAN](https://www.sciencedirect.com/topics/computer-science/local-area-networks) is then connected to the Internet, also by a high-speed and wide bandwidth connection. A bottleneck can develop when either the speed within the LAN or the connection speed between the LAN and the Internet is inadequate.

Prior to the release of Windows NT 4.0, company networks relied heavily on IPX/SPX and even NetBEUI as their primary network/transport protocols, due to their simplicity and ease of configuration. At that time, TCP/IP was still widely referred to as the “protocol of the Internet” and was seldom used for internal networks. It was considered too complex, too clunky and slow, and too difficult to configure and manage. Novell Netware had the greater share of the [Network Operating System](https://www.sciencedirect.com/topics/computer-science/network-operating-systems) (NOS) market, although it did not support native IP; ‘UNIX had the majority share of the Internet market and was primarily run with only IP.

This College Network Scenario is about designing a topology of a network that is a LAN (Local Area Network) for a College in which various computers of different departments are set up so that they can interact and communicate with each other by interchanging data. To design a networking scenario for a college that connects various departments to each other’s, it puts forward communication among different departments. CNS is used to design a systematic and well-planned topology, satisfying all the necessities of the college (i.e. client). CNS come up with a network with good performance. CNS is also providing security and authentication to forbid unauthorized logins.

Keeping the entire networking system in mind, we have tried to develop our company networking system with simplicity and security.

2.2. Technology, software, and hardware used

**Technology:**

-Cisco Packet Tracer

**Software:**

- Operating System: Windows

- Cisco Packet Tracer

**Hardware Used:**

-Chipset: Intel CORE i5

- Storage:1 Tera Hard Disk, RAM-8GB

- Primary Display: QVGA TFT LCD or larger, 16 Bit color or Better

- Mouse

- Keyboard

3. Discussion

Networking communication is full of some very technical concepts based on some simple principles. Learn the terms below and you’ll be able to hold your own in a conversation about the Internet.

In the early days of computing, computers were seen as devices for making calculations, storing data, and automating business processes. However, as the devices evolved, it became apparent that many of the functions of telecommunications could be integrated into the computer. During the 1980s, many organizations began combining their once-separate telecommunications and information-systems departments into an information technology, or IT, department. This ability for computers to communicate with one another and, maybe more importantly, to facilitate communication between individuals and groups, has been an important factor in the growth of computing over the past several decades.

Therefore, a computer networking system is a system that plays a very important role in networking systems and the role is undeniable.