**DOCUMENTATION**

**Meeting Attendance and Task Sheet**

**Task Completion:**

Estimated Completion Date of Task 1: 8 April 2024

**Completed Udemy courses. (2 April 2024) ✔**

**Completed Reflective writing. (2 April 2024) ✔**

Estimated Completion Date of Task 2: Entirety of Project.

**Completed Attendance sheet. (2 April 2024) ✔**

**Completed Ethics Document. (2 April 2024) ✔**

**Completed setup of GitHub. (2 April 2024) ✔**

**Still in Progress…**

**Attendance:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Y/N | 2 April | 9 April | 18 April | 9 May | 15 May |  |
| Stefan | Y | Y | Y | Y |  |  |
| Dylan | Y | Y | Y | Y |  |  |
| Aidan | Y | Y | Y | Y |  |  |
| Zandre | Y | Y | Y | Y |  |  |
| Fanie | Y | Y | Y | Y |  |  |
| Hugo | Y | Y | Y | Y |  |  |
| Jobenn | Y | Y | Y | Y |  |  |
| Willem | Y | Y | Y | Y |  |  |

* **Completed Udemy courses. (2 April 2024) ✔**
* **Completed Reflective writing. (2 April 2024) ✔**
* **Completed Attendance sheet. (2 April 2024) ✔**
* **Completed Ethics Document. (2 April 2024) ✔**
* **Completed setup of GitHub. (2 April 2024) ✔**
* **Discord meeting to discuss Task 3 and how we will approach it as a group.(9 April 2024) ✔ 10:00AM 30 Min.**
* **Had a face to face meeting discussing the machine room. (18 April 2024) ✔**
* **We also Started talking and touching on Task 4, the text messaging app. (18 April 2024) ✔**
* **Meeting to demonstrate how application works. (9 May 2024) 10:00-11:00 ✔**
* **Face-to-Face meeting to finalize project and to discuss Network topology, Setup Cost and How users connect remotely. (15 May 2023) 10:30-12:30 ✔**

Estimated Completion Date of Task 3: 19 April 2024

**Reflection for Packet Tracer:** For this task we had to design a network using Cisco Packet Tracer for a building that has 13 offices, Tech Office, Reception, Kitchen, Meeting Room, Machine Room and an Open Floor Space.

The wireless access points throughout the building ensures that there is internet access for all users in each section maintaining security and performance.

The machine room demonstrates centralized management, security and safeguarding resources from unauthorized access. This also enhances network efficiency and control.

The separate Wi-Fi for staff and guests makes network security better and mitigates unauthorized access.

Our entire design makes use of performance, accessibility and security to make operations more effective.

**Discord meeting to discuss Task 3 and how we will approach it as a group.(9 April 2024) ✔ 10:00AM 30 Min.**

**Tasks:**

**Zandre: 13 Offices. ✔**

**Willem: Technicians Office. ✔**

**Dylan: Reception.✔**

**Aiden: Kitchen.✔**

**Hugo: Meeting room. ✔**

**Fanie: Open Floor Space. ✔**

**Stefan: (Assisted) ✔**

**Machine Room as group.✔**

**Overview of problem:**

**Most of the task was completed by individuals who chose there part to do and after that we had a meeting to compile it in one packet tracer file.**

**Network topology:**

**The network room has the main switch that does DHCP, access routing and VLANs with help from the DHCP server. Only one server was used since it does both DHCP and DNS. The internet access is acquired using a single fiber connection and the network has the capability to handle 50Mb and 10Mb connection speeds for wired and wireless devices respectively.**

**From the server room, connections are run toward every other room. Some of these connections go through another switch to aggregate and account for bandwidth specifications. Each room or “section” has its own IP range and with the help of the switch mentioned at the beginning, they are able to obtain IPs for their devices in the specific range and VLAN. Devices in one room or “section” cannot connect to and talk with devices or printers in any other room with a different IP range and VLAN. The technician’s office allows for the direct connection to the server room, specifically to the switch connecting the server and the internet fiber connection. Each section that needs wireless access has this necessity satisfied by a wireless router(one or however many is needed to satisfy bandwidth) that has a password for security.**

**Setup Cost:**

|  |  |  |  |
| --- | --- | --- | --- |
| NAME | PRICE | AMOUNT | TOTAL |
| PT Switch | 700,20 | 20 | 14004 |
| Wireless Routers | 900 | 21 | 18900 |
| 24 Port Gigabit Switches | 1600 | 3 | 4800 |
| 24 Port Fast Ethernet switches with 2 1Gigabit inputs | 3000 | 5 | 15000 |

Equipment cost: 52704

Contingencies: 10541

**How users connect remotely:**

**Since implementing features for remote connections in packet tracer is not possible, we will discuss how we would do this here.**

**Remote access will be made possible using a VPN for our network. This VPN will be hosted on our servers and devices locally and will be accessed through the internet. This VPN creates a tunnel for secure communication from each employees’ personal devices using their own company client.**

**The advantage of this approach is that the VPN will securely connect and encrypt data between the user’s devices and the company’s network.**

**How we managed work load:**

**Everyone jumped in immediately without hesitation to get to work and do a part of the tasks.**

**Advantages:**

**Learned how to work as a group and how it could be implemented in the industry and it helped me as the Leader.**

**Disadvantages:**

**People in the group might not contribute much, not that it was the case in our group, but its something that could happen.**

**Had a face to face meeting discussing the machine room.(18 April 2024)**

**We also Started talking and touching on Task 4, the text messaging app.(18 April 2024)**

**Will Finalize after semesters.**

**Cisco Packet Tracer Compiled ✔**

Estimated Completion Date of Task 4: 16 May 2024

**Reflection of Text Messaging Application:**We focused on making the app as user friendly as possible with a simple GUI and to access the application on other operating systems.

For us to be able to send and receive messages to individuals and to groups chats, we made use of the internet to ensure real-time updates across devices.

We also made the app portable, which means no installation is needed to make use very easy.

By making use of multiple applications we where able to create a versatile messaging application making it user-friendly for modern communication and accessibility on Windows computers.

**We discussed the Text messaging app and how we will be approaching it.(18 April 2024)**

**10:00AM 1h.**

**IDE utilization: Visual Studios 2019/2020**

**Probable coding language: C# OR Python**

**Server creation: AWS Server**

**Time Worked on App till completion:**

**6 May to 9 May**

**Who worked on application:**

**Zandre✔**

**Willem✔**

**Dylan (assisted)**

**Aidan (assisted)**

**Fanie (assisted)**

**Hugo (assisted)**

**Jobenn (assisted)**

**Stefan (assisted)**

**Llewelyn Kruger(assisted)**

**9 May 2024**

**Meeting to demonstrate how app works.**

**Meeting: 10:00 to 11:00**

**Used the Following to create the App:**

**Firebase**

**Chat Engine**

**Next.js**

**Visual Studios Code**

**The app works optimally.**

**App Compiled ✔**

**15 May 2024 Meeting 10:30AM – 12:30AM**

**We discussed the finalization of the messaging app and the Cisco Packet Tracer.**

**We looked at the new messaging app, because previous app was a internet web app and not a portable application.**

**We also did all the IP addresses for the Packet Tracer.**

**We then finalized the documentation, such as network topology, Setup cost and how users connect remotely.**