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Assessment Title: Class Assignment - LAN Design for Electric Petrol Service Station

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Planning and designing of the Electric Charging station has been done only for the IT components and wherever possible details are provided to assist contractors with designing electrical and other non-IT related components. The designing is done such that there is connectivity between different buildings. The project expands over multiple sites with a Head Office and Data Centres; however, scope of this assignment was to design only one regional site "Sligo". There are multiple buildings like Car Wash, Test and Service, Forecourt, Battery and it was required to connect them using fibre. The buildings have multiple departments and needed to understand what devices they might need based of the functions performed by them. Deliverables like Wirelist, Physical Diagram, Logical Diagram, VLAN List etc were prepared. Certain assumptions were made Laptop to be provided only to Managers and Supervisors, to set up separate Radio Wifi for Guests and Clients, DHCP not to be used etc.

GNS3 is a great tool, however, certain hurdles were encountered which lead to lot of delay in work completion.

1. No Appliance for MultiLayer switch 3640 in GNS3 Marketplace. Wanted to use this for design.
2. Could not configure the ports in IOSvL2 switch to 24 or 48. The switches were either crashing or returning back to default switch ports (16) after restarting. Error regarding QEMU VM was received while setting ports to 48.
3. Preparing Physical and Logical Network Diagrams using GNS3 was a challenge as it does not have many stencils for different devices like Camera, PBX etc. Online free tool was used due to this, which was also not good enough.
4. Switches in GNS3 get stopped automatically intermittently and if work done was not copied to startup config it led to loss of work and frustration.

Some more challenges faced were like - Hostname "Batteries" is actually Battery1. Seems like set a different enable password for Bayyery1 by mistake and hence was not able to login after doing all the configuration. Could not change the hostname due to this. Also noticed that certain changes made in VLAN names in VTP Server were not advertised to clients. Changed VLAN "Routers" to Automation and "Links" to Guest Wifi but the change was not reflected in VTP Clients.

All the deliverables except BOM are completed. InterVLAN connectivity was tested and VLANs were advertised when VTP was configured. Test and Service Switch was made VTP Server and VLANs were advertised to VTP Clients. Ring Topology was used to set up the network.

Report Network Build  
sligo.electric-petrol.ie