**Project description:**

The project symbolizes a CAN network of Helwan campus it consists of five faculties each faculty has a building ***as a team we have applied the following to the project:***

1. OSPF
2. VLAN “on two routers”
3. FTP
4. RSTP “between the switches”
5. STP

**Components of the CAN are:**

1. Main router for the whole university
2. The sub-routers each represents a specific faculty
3. Each sub-router has switches to connect with the faculty’s PCs in order for them to not be peer to peer
4. The switch represents a lab in this faculty.
5. Each switch has a PC.

**What are those steps?**

* OSPF: is Open Shortest Path First is a routing protocol for Internet Protocol networks. It uses a link state routing algorithm and falls into the group of interior gateway protocols, operating within a single autonomous system‏
* VLAN: (virtual LAN) is a subnetwork which can group together collections of devices on separate physical local area networks (LANs). A LAN is a group of computers and devices that share a communications line or wireless link to a server within the same geographical area.
* FTP: (File Transfer Protocol) is used to communicate and transfer files between computers on a TCP/IP (Transmission Control Protocol/Internet Protocol) network
* RSTP: Rapid Spanning Tree Protocol (RSTP) is a network protocol that ensures a loop-free topology for Ethernet networks‏
* STP: (Spanning Tree Protocol) is a link management protocol that provides path redundancy while preventing undesirable loops in the **network**.