ADMAS UNIVERSITY

Suggestions For Final Year Projects

Objectives

The following are the main topics in this talk.

- About the Instructor.
- Discuss few research topics related to Computer Networking and Cyber Security.

About Me

- **Ahmed Dirie**
- BS.c in Information and Communication Technology.
  - Admas University. Hargeisa, Somaliland 2009-2012.
- MS.c in Computer and Information Engineering (Cyber Security)
  - Sakarya University. Sakarya, Turkey 2014-2017.
- Holding some technical certificates in Networking and Security including:
  - CCNA R&S (Cisco Certified Network Associate)
  - CCNA Security (Cisco Certified Network Associate)
  - CCNP R&S (Cisco Certified Network Professional)
  - CCNA Cyber Ops SECFND (Cisco Certified Network Associate)

1. Building a Big Network

- Building a big network using emulators/simulators programs like GNS3, Mininet, NS2, NS3, etc.
- The network must contain most of the important networking services/protocols, like DNS, DHCP, NAT, Access Lists, Routing Technologies, Switching Technologies, Windows Server Active Directory.

2. Intrusion Detection System (IDS)

- Anomaly detection provides one approach to network security threat detection.
- Anomaly detection is the continuous monitoring of a network for unusual events or trends.
- In anomaly detection you are looking for unusual packets, by providing a base line of normal behavior of network, or threshold value, if it's exceed then it's anomaly if not it is good.

3. Packet Capture Tool

- Packet capture is a computer networking term for intercepting a data packet that is crossing or moving over a specific computer network.
- Once a packet is captured, it is stored temporarily so that it can be analyzed. The packet is inspected to help diagnose and solve network problems and determine whether network security policies are being followed.
- The different applications and uses of data capturing include the following:
  - Security.
  - Identification of Data Leakage.
  - Troubleshooting.
  - Identifying Data/Packet Loss.

4. Software Defined Networking (SDN)

- Software-Defined Networking (SDN) technology is an approach that facilitates network management and enables programmatically efficient network configuration in order to improve network performance and monitoring.
- SDN suggests to centralize network intelligence in one network component by disassociating the forwarding process of network packets (Data Plane) from the routing process (Control plane).

For more Information

- Contacts:
- E-mail: ahmedmdirie@gmail.com