Chair of Mobile Business & Multilateral Security
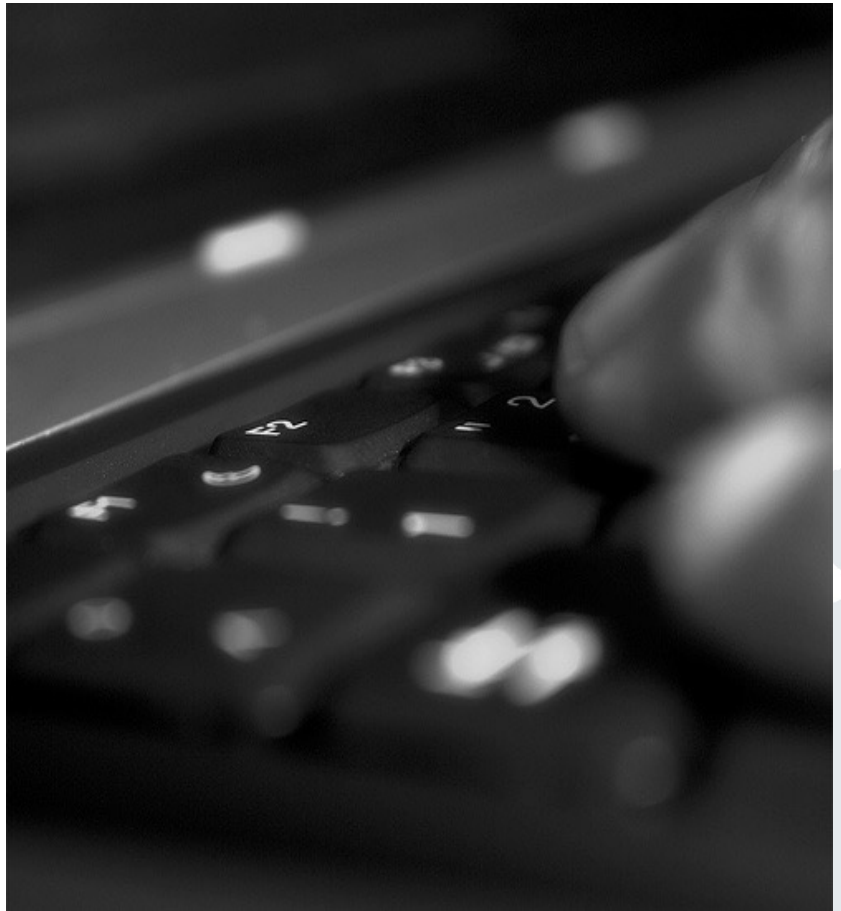
mobile business

Mentorium 3
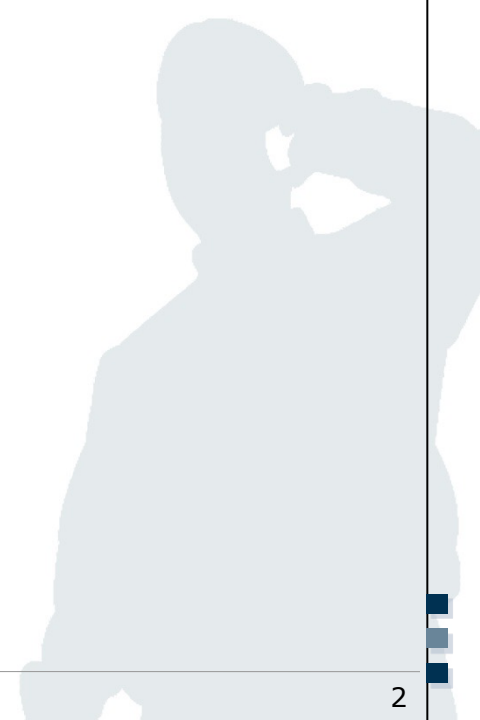### Business Informatics 2 (PWIN)

Communication Systems I & II

WS 2023

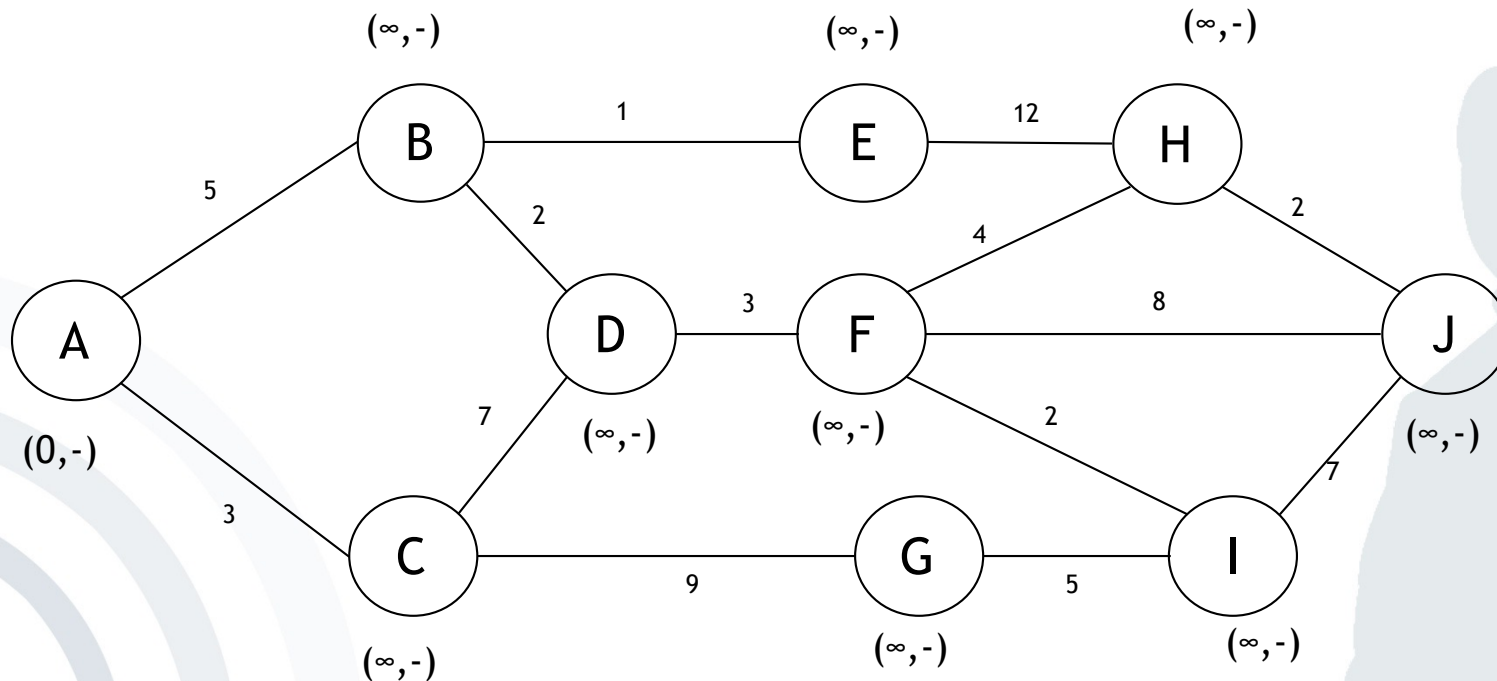Frédéric Tronnier
www.m-chair.de

Jenser (Flickr.com)

Agenda

- **Exercise 1: OSI reference model**

- **Exercise 2: Fixed Networks**

- **Exercise 3: Wireless Local Area Networks**

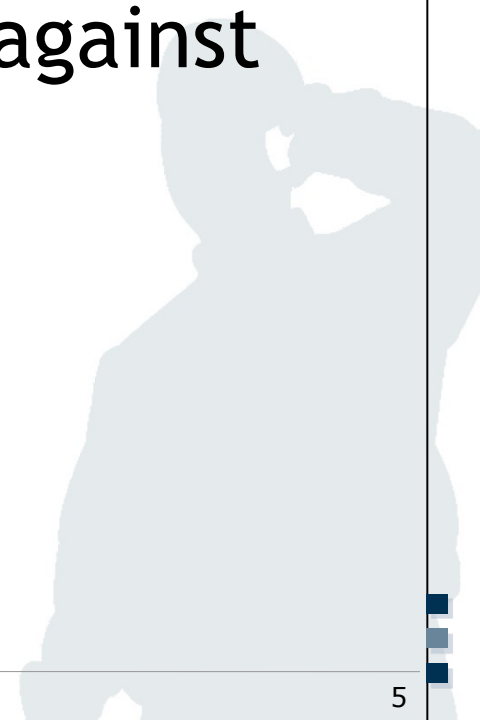- **Exercise 4: Bluetooth and NFC**

- In which layer are TCP and UDP used? What is the main difference between them?

- Please describe the three way handshake (TCP).

- Should myPlace use TCP or UDP? Why?

- The following graphs shows the various systems a message from a place of interest needs to pass to get to the end user of myPlace. Please calculate the fastest track. Note that lower case letters denote *system vertices* and the numbers the *bandwidth* of a connection.
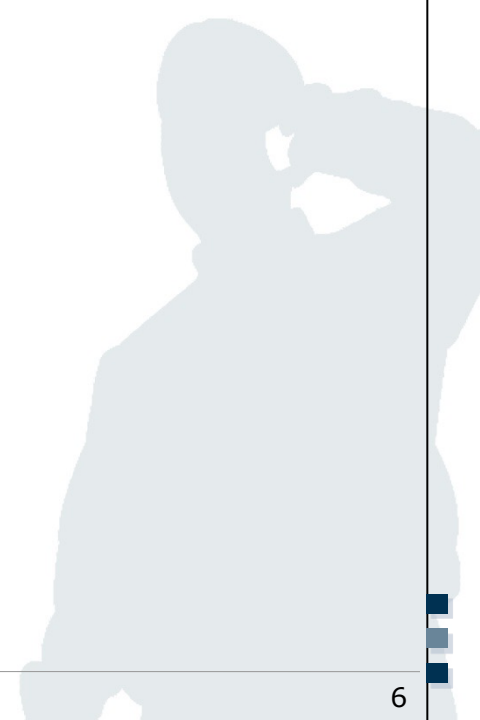
- Which layer is affected by a Distributed Denial of Service (DDoS) attack?

- How could a protective solution against such attacks look like?
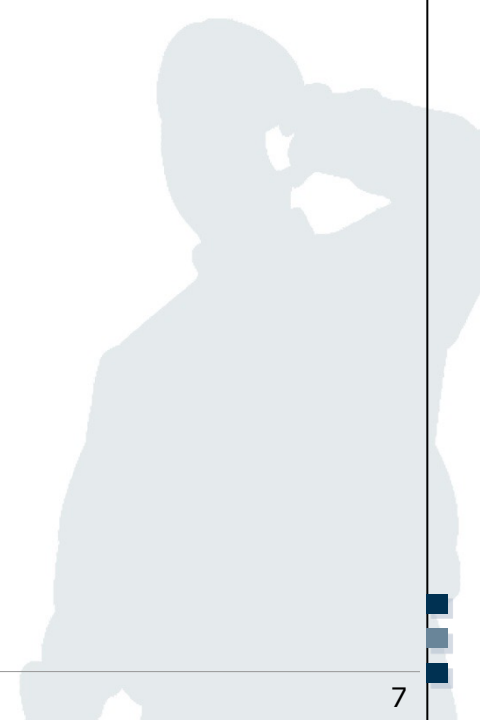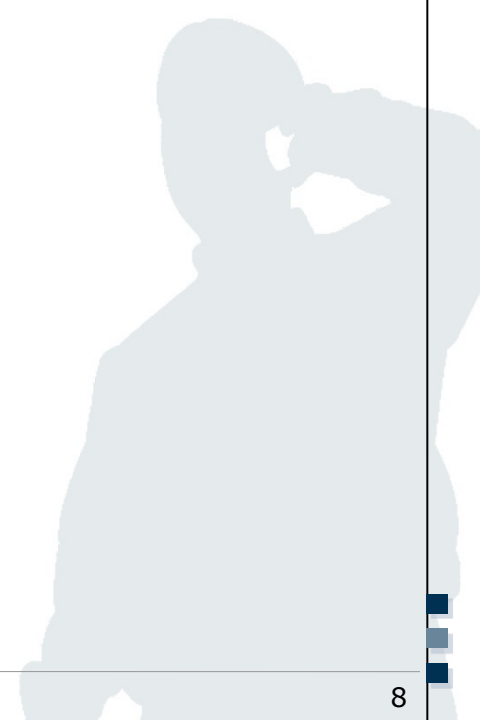
- What is the difference between an IP and a MAC address?

- Exercise 1: OSI reference model

- Exercise 2: Fixed Networks

- Exercise 3: Wireless Local Area Networks
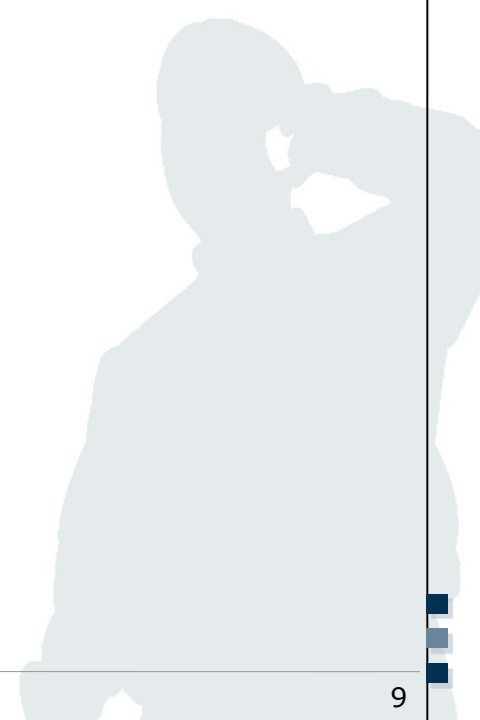
- Exercise 4: Bluetooth and NFC

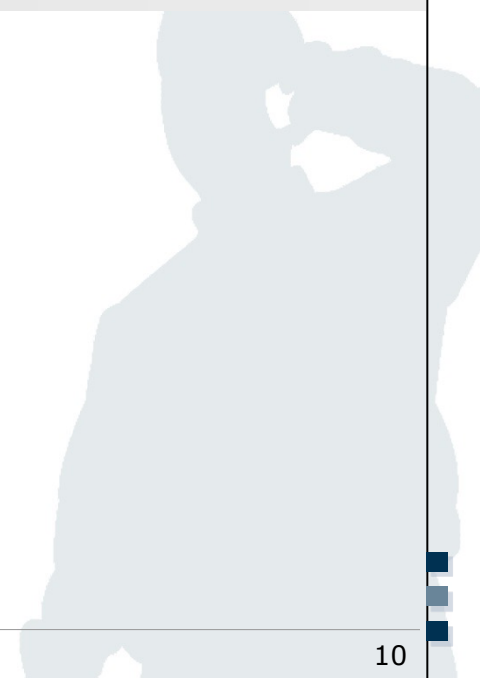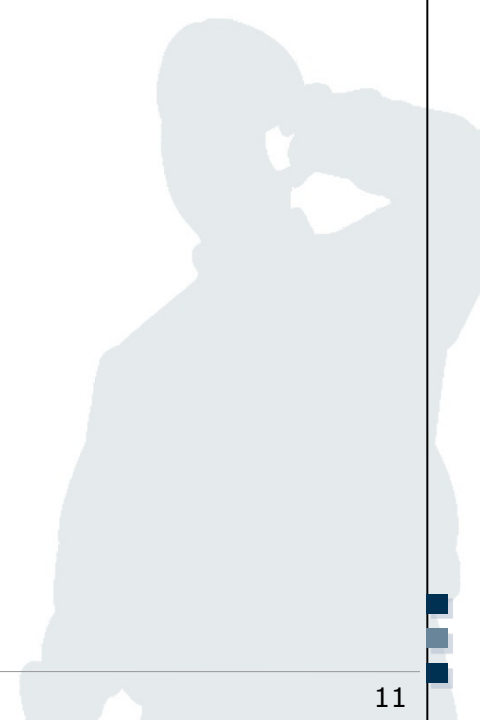- What are the main challenges in wired communication and why?

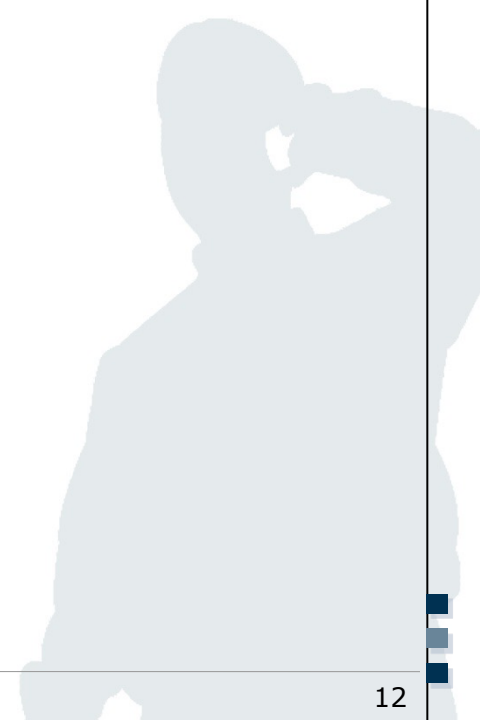- Name three different types of topologies and expose their advantages and disadvantages.

- Exercise 1: OSI reference model

- Exercise 2: Fixed Networks

- Exercise 3: Wireless Local Area Networks

- Exercise 4: Bluetooth and NFC

Wireless Local Area Networks (Wi-Fi)

- Why is Wi-Fi encryption important? What could be the potential consequences for users failing to enable encryption for their Wi-Fi network?

- What could be the potential harm if the data communication of the myPlace service is not encrypted?

Agenda

- Exercise 1: OSI reference model

- Exercise 2: Fixed Networks

- Exercise 3: Wireless Local Area Networks

- Exercise 4: Bluetooth and NFC

What is Bluetooth and what is NFC? Where is the difference between them?