mobile business
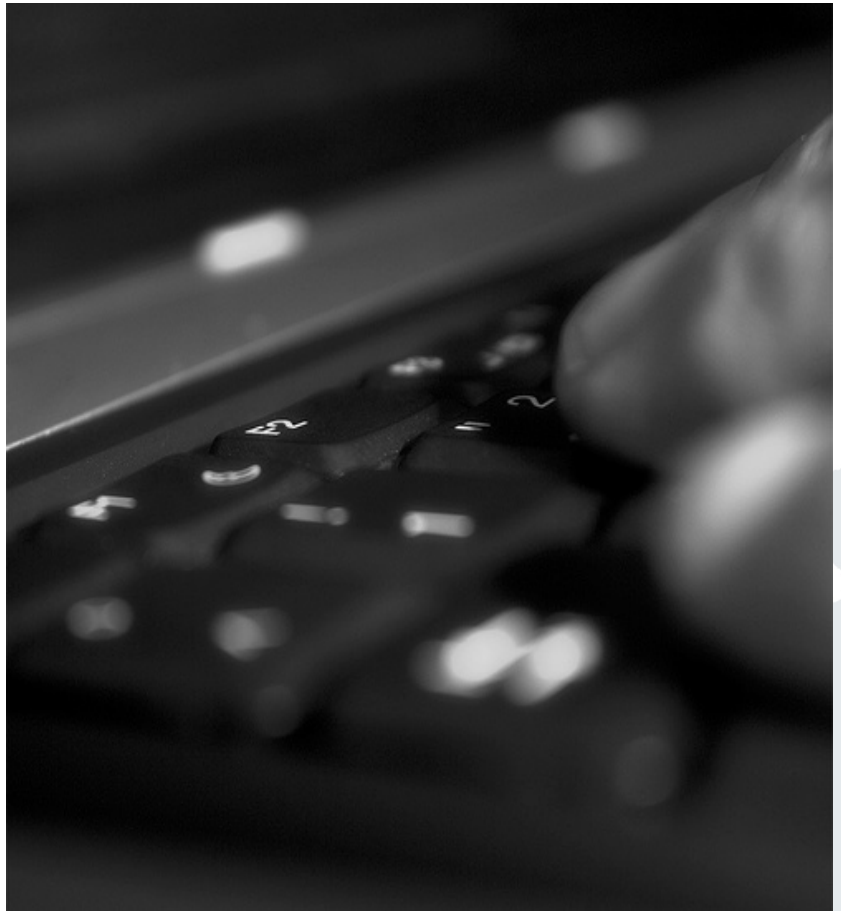
Mentorium 3
Business Informatics 2 (PWIN)

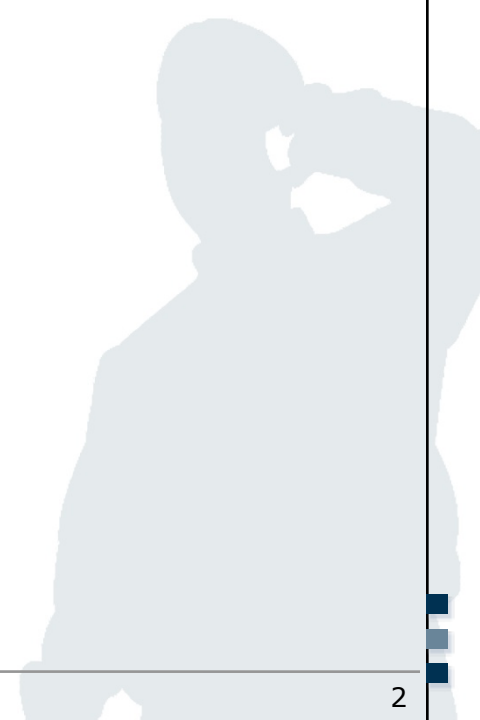# Communication Systems I & II

SS 2021

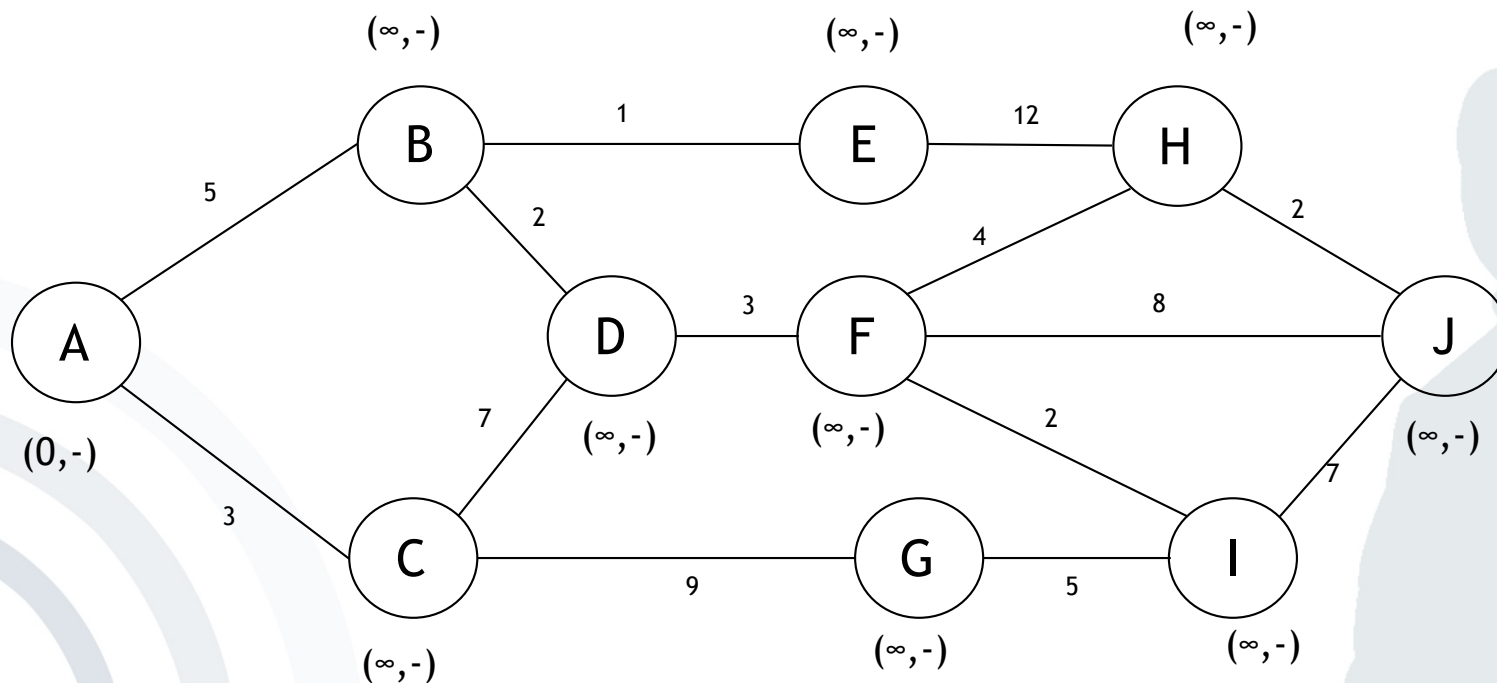Frédéric Tronnier
www.m-chair.de

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).

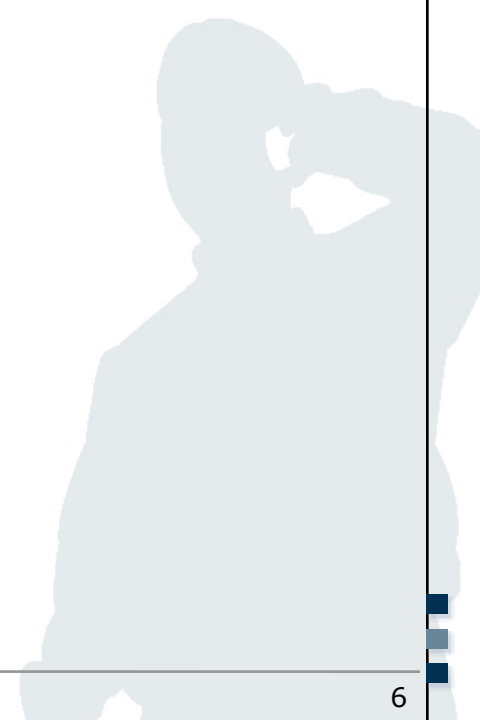- Should myPlace use TCP or UDP? Why?

- 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.
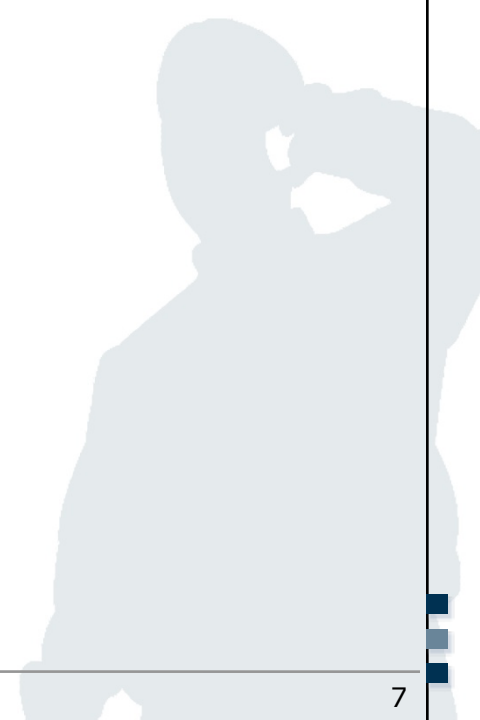
- What is IPv6 and why do we need it? According to the ISO/OSI model, in which layer is the IP protocol?

- Should myPlace integrate IPv6? Why or why not? What does IPv6 mean with regard to user privacy?
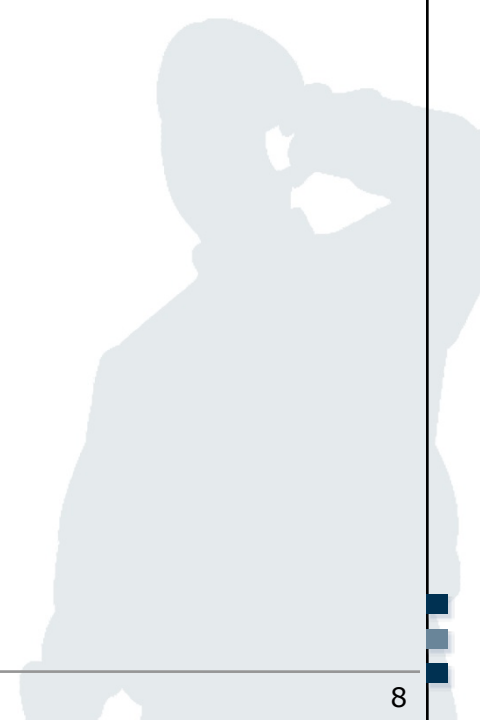
IP address vs. MAC address

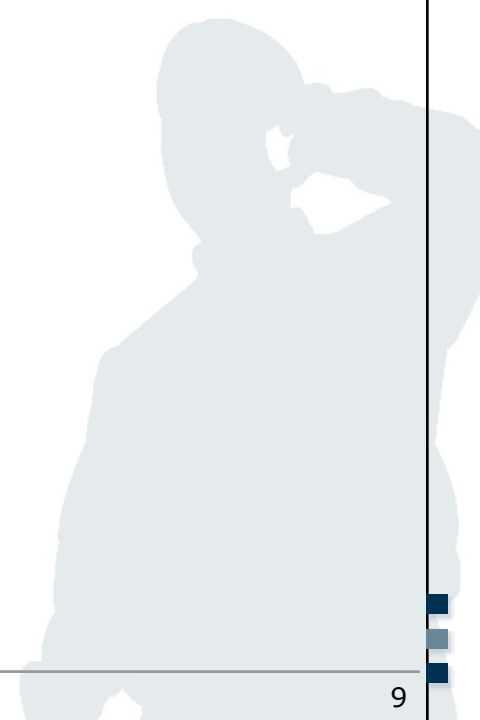- What is the difference between an IP and a MAC address?

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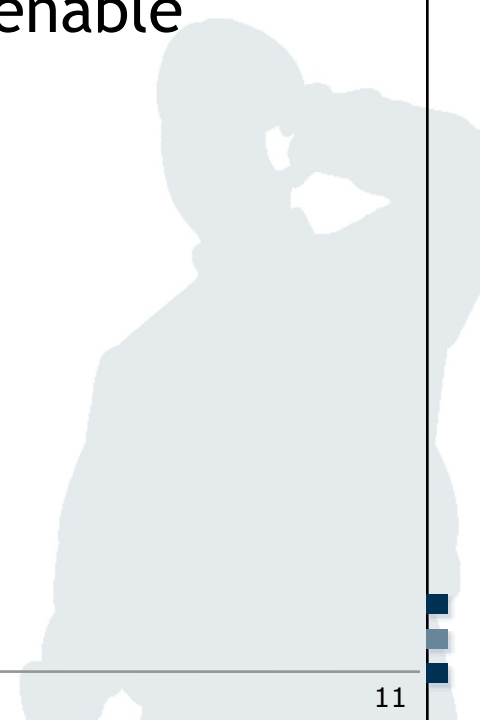- **What are the main challenges in wired communication and why?**

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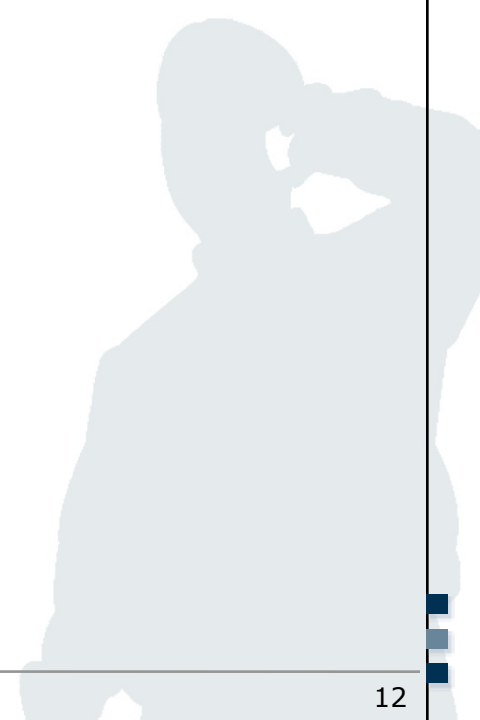
Agenda

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Wireless Local Area Networks (Wi-Fi)

- Name a secure method for the encryption of 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

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- Exercise 4: Bluetooth and NFC

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