Principles of Wireless Sensor Networks

https://www.kth.se/social/course/EL2745/

Lecture 12
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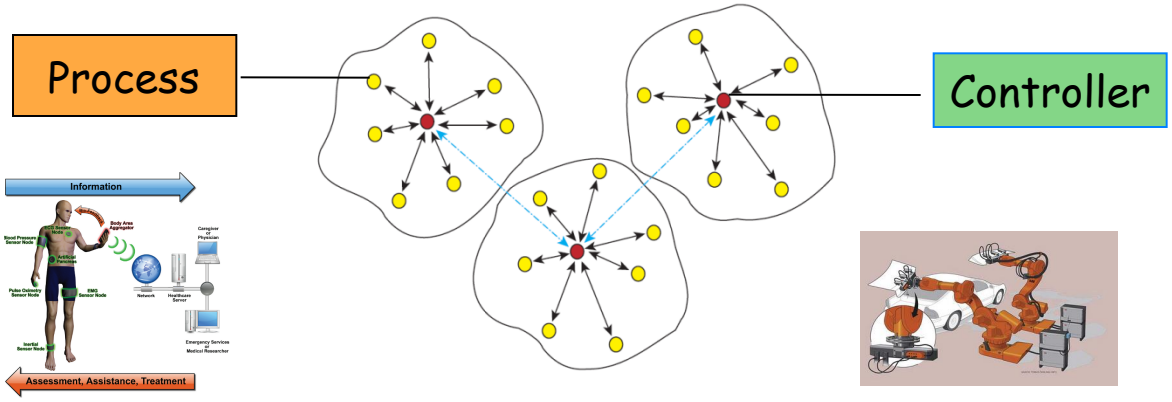
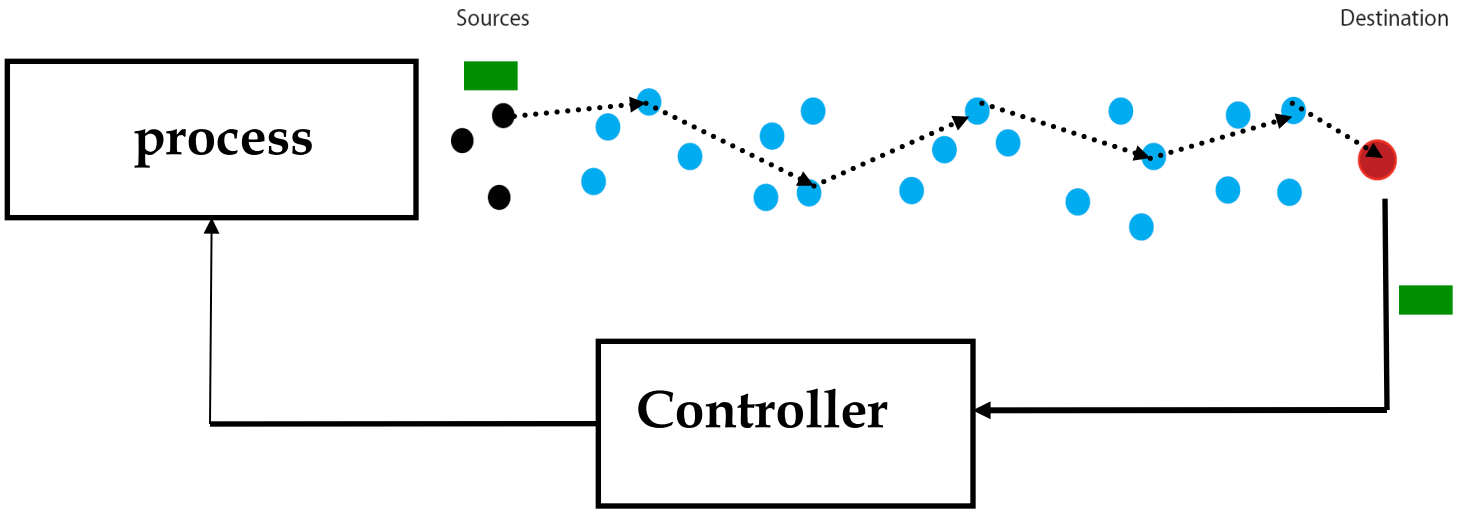
Previous lecture



How to model mathematically a closed loop control system?

Today's learning goals



- How stability is affected by delays introduced by the WSN?
- How stability is affected by packet losses introduced by the WSNs?
- How to design WSNCS?

Outline

- WSNCS with constant network delay
- WSNCS with random network delay
- WSNCS with rate constraint
- WSNCS with packet losses
- Design of WSNCS

Summary

- We saw that there is no need to design WSNs that minimize the delay and maximize the packet reception probability
- The controllers can tolerate a certain degree of delay and packet losses
- The efficient design of a wireless sensor network control system can be posed by optimization problems

Next lecture

- Summary of the course
- Detail on the exam
- Project presentations: 8 minutes (sharp!) per group + 2 minutes questions
  - What is the topic
  - Why the topic is important in relation to the overall WSN
  - What are the key aspects of the topic
  - What has been implemented
  - Experimental results