

# SIM 18/19

## Course Projects

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# Details on course projects

- **Group project:**
  - Group size: 3-4 students
- **Main component:**
  - Written report – 100%
- **Support component:**
  - Public presentation – Can improve the evaluation of the written report on specific sections

# Scenario for this work

- You have a small company that does HCI design and implementation.
- I have a big company that needs an HCI task and has money to ‘buy it’.
- Your **course project** is to provide a solid proposal that will make me buy the HCI solution from your company.
  - How is this proposal?

# Proposal - Report

- You need to convince me to invest in your solution.
- First: Write a report where you have studied the problem and propose a solution:
  - What is the objective of the work, the available technology, and who are the end-users?
  - Given this, what are my ‘killer ideas’?

# Proposal – Prototype

- I am hard to convince!
- Second: Produce a prototype that convinces me that your ‘killer ideas’ will work!
  - It is not a finished product
  - Needs to demonstrate that the HCI is adequate
  - We will use Balsamiq

# Summing up – Project Details

- **Sell me your solution**
  - Report – Pdf File
  - Prototype
    - Balsamiq
- **Questions?**

# Project topics

- I will give you some possible topics for your course project
- You can suggest your own topics, but I need to validate them
- Characteristics of a topic:
  - Has well defined target users, objectives and available technology
  - Can be prototyped using JAVA, Balsamiq or other available technologies

# Topic 1: e-Learning for medicine

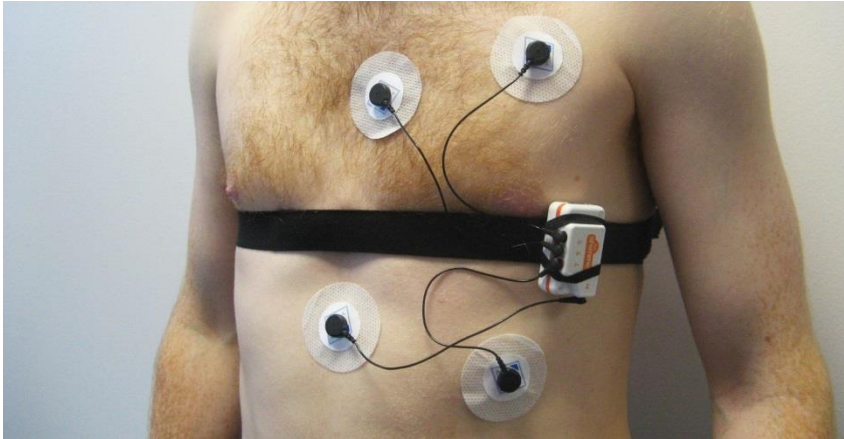
- What if medicine students can learn and train how to use medical devices at home?
  - Auscultation, ECG, Ultrasound, EEG?
- What about other professionals?
  - Sports medicine? Nurses? Others?
- Build a effective interactive system that can be used in an e-learning environment:
  - Learn the mechanical gesture of the exam;
  - Learn the perception and interpretation of the exam;
- As transparently as possible!



# Auscultation



# ECG, Ultrasound, EEG



# Details

- **Objective:**
  - Build an interactive system for e-learning and training of medical exams that require devices
- **Target user:**
  - Medicine students, sports medicine, nurses, others
- **Available technology:**
  - Web, cheap devices

# Topic 2: Telemedicine at home

- Can we monitor people in their homes if a medical professional visits them using an interactive system?
- Build an effective interactive system that can be used by a medical professional to:
  - Gather, record, transmit relevant vital signs;
  - Enables remote contact with a medical specialist.

# Telemedicine



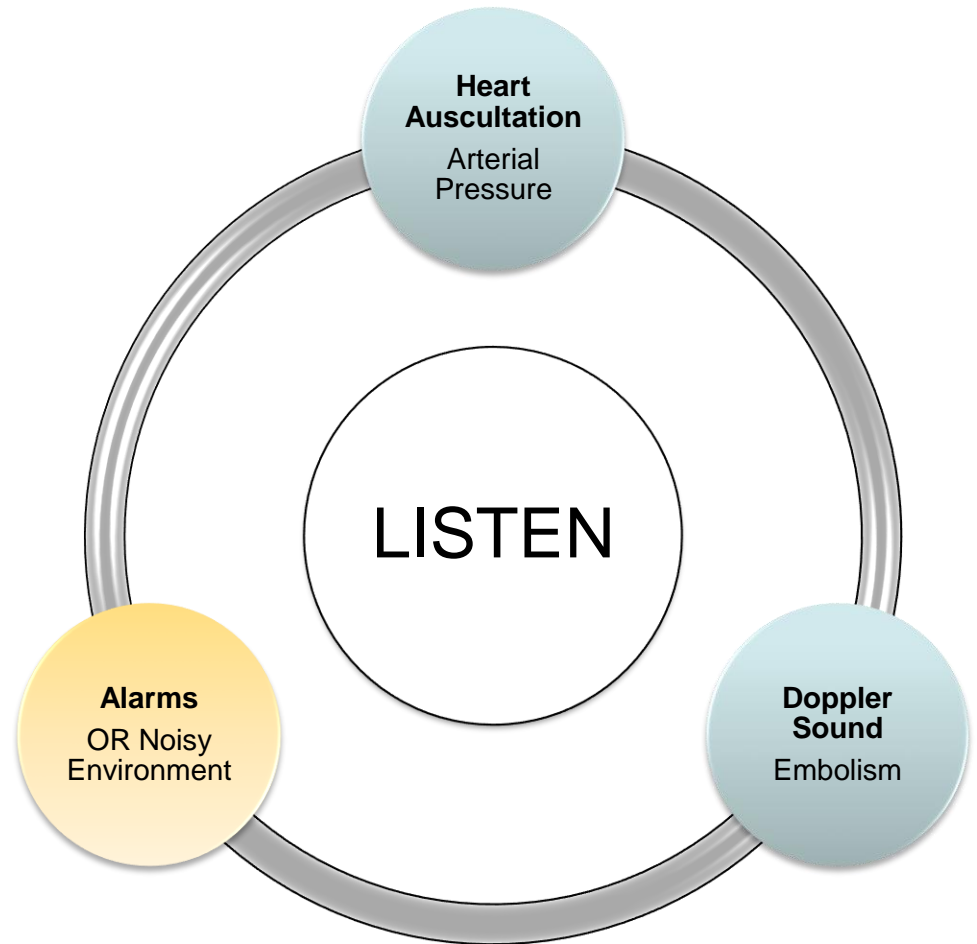
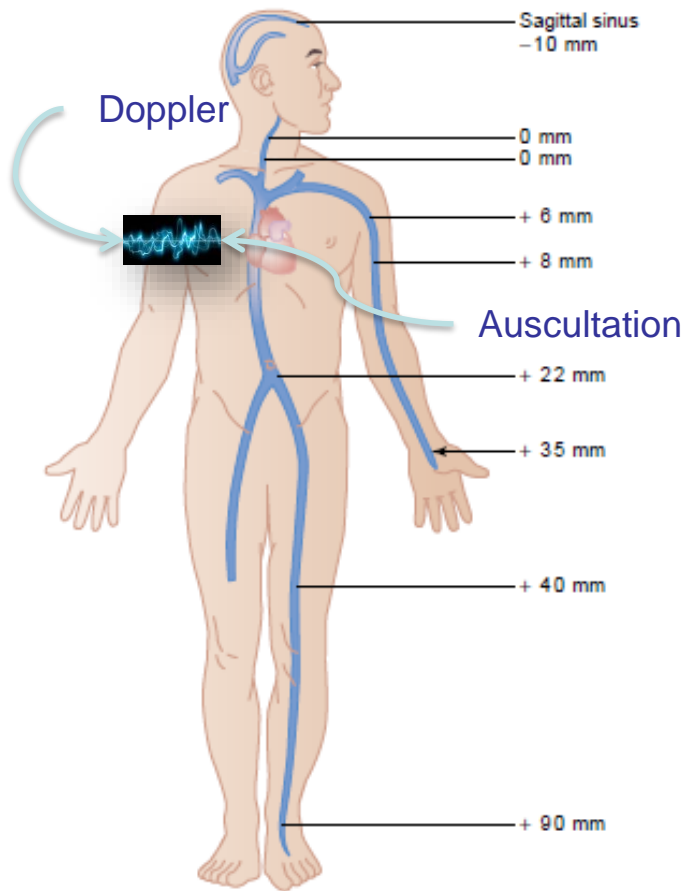
# Details

- **Objective:**
  - Build an interactive system for collecting vital signs from patients in their homes, enabling remote contact with specialists
- **Target user:**
  - Nurses
- **Available technology:**
  - Tablet

# Topic 3: Listen

- **Sounds in the Neurosurgical Operating Room**
  - Noisy environment
  - Demand for constant attention
- **Build an interactive system to:**
  - Visualize and collect heart sounds
    - Doppler
  - View important information retrieved from the signals
  - Screen for embolism and alert to critical events

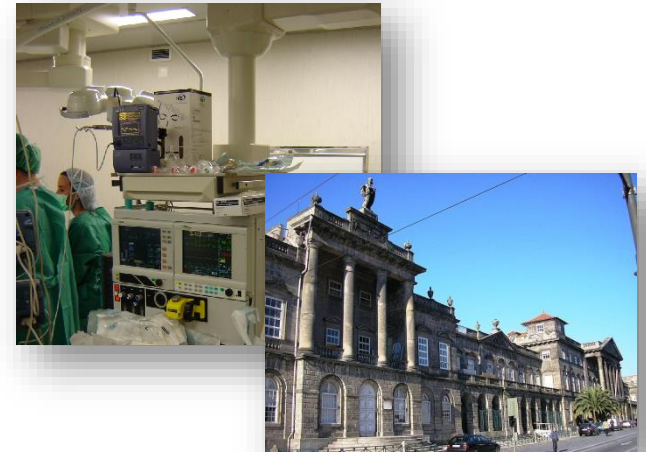
# Sounds in the OR





# Details

- **Objective:**
  - Build an interactive system to visualize data and provide alarms based on heart sounds
- **Target user:**
  - Anesthesiologists
- **Available technology:**
  - PC



# Summing up – Project Topics

- Various different proposed topics.
- No problem if several groups choose the same topic.
- If you don't like them feel free to propose one!
  - Problem? Technology? Target users?
  - Each new topic needs my validation!

# Discussion

- Create groups TODAY! (compulsory).
- Choose / Propose a topic next week.
- Questions?