IPM 13/14
Course Projects

Licenciatura em Ciência de Computadores

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Details on course projects

- **Group project:**
  - Recommended: 3 students
  - Different group sizes are only possible if validated by the lecturer.
- **Two components:**
  - Written report – 50%
  - Software implementation – 50%

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'?

- Deadline: 13th November 2013

Proposal – Prototype

- I am hard to convince!
- Second: Produce a prototype that convinces me that your 'killer ideas' will work!
  - Does not need to be a finished product.
  - Needs to demonstrate that the HCI is adequate.
  - I expect a graphical interface with a well-defined API, that could be 'attached' to a working version of the full software.

Summing up – Project Details

- **Sell me your solution**
  - Report – Pdf File
  - Prototype
    - JAVA (AWT or Swing)
    - Others
- **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
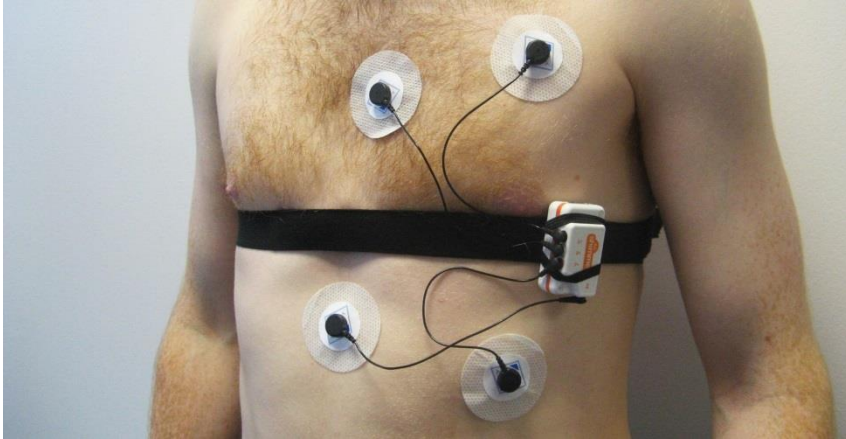
Topic 1: e-Learning for medicine

- 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!

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Auscultation

ECG, Ultrassound, 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.
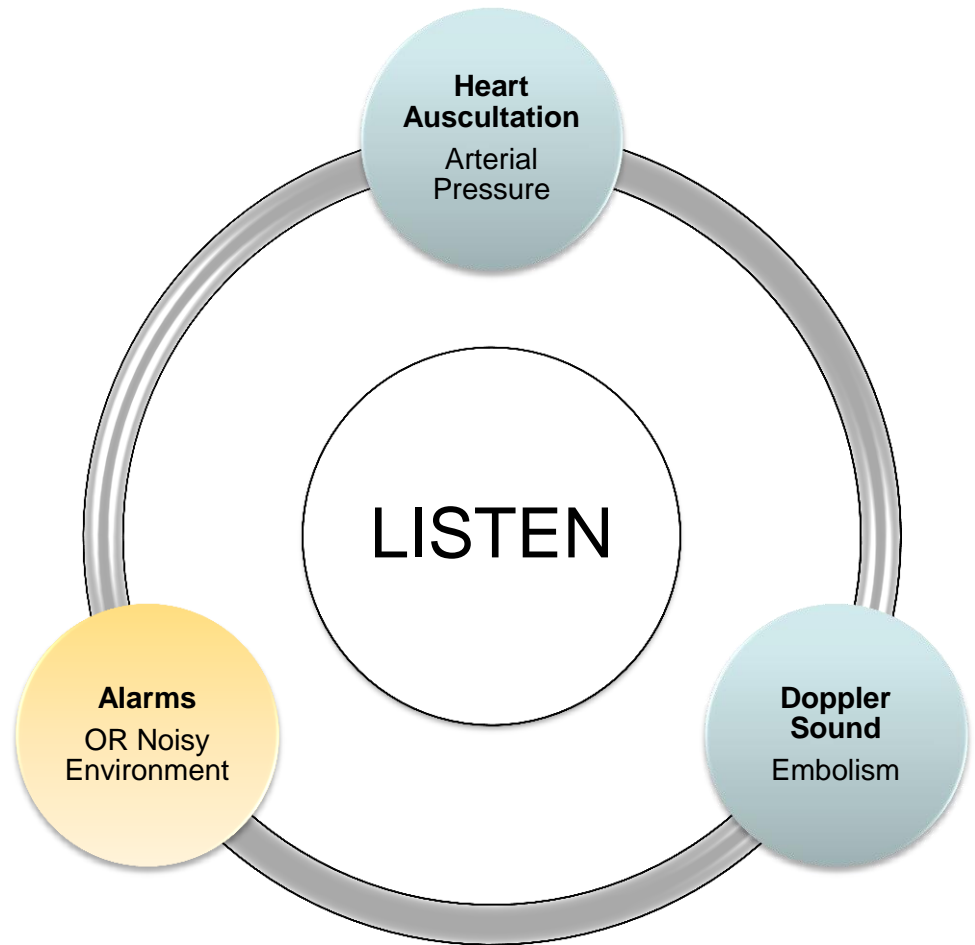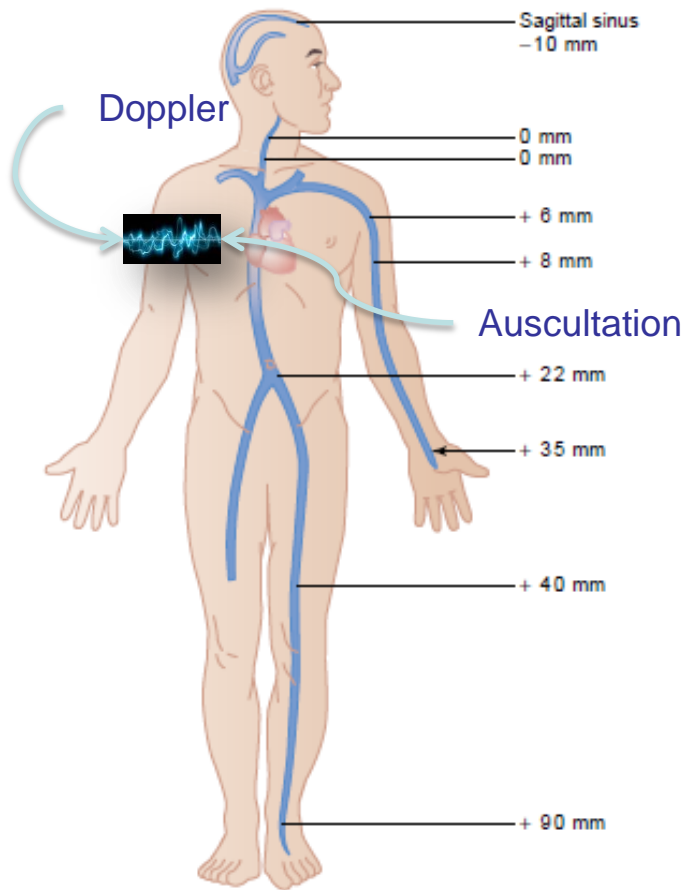
Telemedicine

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
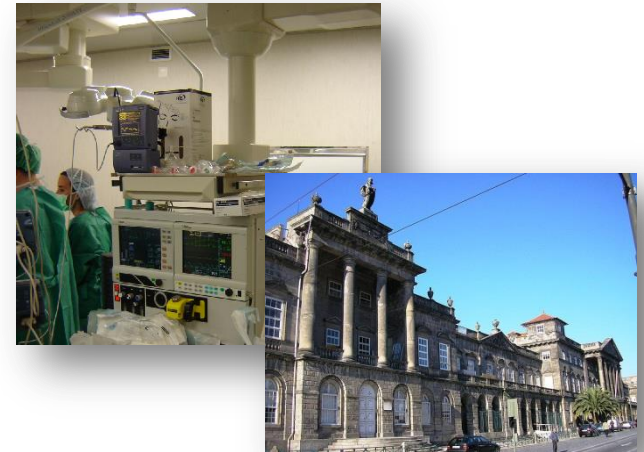 - Screen for embolism and alert to critical events

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 by next week (compulsory).
- Choose / Propose a topic (highly recommended to do it quickly!).

- Questions?