Mobile and Social Sensing Systems

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Mobile and Social Sensing Systems

- LM in Computer Engineering

- LM in Artificial Intelligence and Data Engineering

- 6 CFU

- 885II

- Students will learn the fundamentals and acquire hands-on experience with mobile computing, sensor-based systems and technologies, and social sensing applications

Prerequisites

- There are no formal requirements
- You are supposed to have knowledge of

  - operating systems

  - networking

  - programming

Methods

Teaching:

Lectures

Seminars

Laboratory

Flipped classroom

Learning:

Attend lectures and seminars

Critically read, present and discuss a technical paper

Design a mobile application, implement it and present it, as part of a team

Material:

This course has no textbook; besides slides of the lectures, we will cover some research papers

Material and suggested reading provided by teachers (available on Microsoft Teams)

Use the 24/25 a.y. Team

Topics

- Vecchio
  - Mobile platforms: concepts and programming
    - Android
  - Using sensors and position
  - Energy efficiency

- Avvenuti
  - Social Media Sources and Networks
  - Humans-as-sensors paradigm
  - Publish/subscribe, Distributed Hash Tables
  - Localization techniques

Final Assessment Method

1. **Paper presentation.**

2. **Project presentation and demo.** You must effectively demonstrate your project both through a live walk-through and a description of the problem you addressed. The description should explain why your problem is important, how you solved it, and what evidence you have.

3. **Oral exam.** During the oral exam you must be able to:

   • demonstrate your knowledge of all the topics faced in <u>lectures</u> and <u>seminars</u>

   • discuss the matter thoughtfully and with <u>propriety of expression</u>

In-class Paper Presentation

You (as part of a team) are expected to choose and present a paper extracted from the existing scientific literature

You will be provided with guidelines in selecting a sound/significant technical paper

You should not just present the paper but, more importantly, you should try to critically evaluate it and promote a discussion on the subject
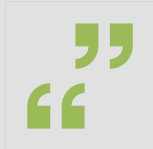
Presentation will take place **during scheduled class hours (in general)**

Project

You (as part of a team) are expected to design and implement a mobile application

The topic of the project is related to the topic of the paper

Presentations* of projects will take place during scheduled class hours (in general)

*Only presentations take place during class hours. You are supposed to work on the project at home.

Questions?