Advanced Algorithms

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A new course evaluation procedure

- There is new **online system** for the **evaluation** of **courses** by students
- Two questionnaires
  - One of students who have attended at least 50% of lectures
  - Another for those who have attended less than 50% of lectures
- The survey is **mandatory**, absolutely **anonymous**, and linked to exam registration
- It is is put online two weeks before exam registration
- **No survey filling, no exam registration!**
- **Please take it seriously, it's important to improve the quality of teaching!**

Evaluation of lab assignments

- There are **10 assignments**
- **At least 7 assignments** must be delivered
- Each **assignment** is graded **0, 1,** or **2 points**
  - **0: less then 60% correct**
  - **1: from 60% to 80% correct**
  - **2: more than 80% correct**
- **Not delivered** assignments are graded **0 points**
- The **final grade** for the lab is the **rounded average** of the grades obtained in the 10 assignments

Project

- The project is conducted **individually** or in **small groups** (2 students)
- **Choose** the **advanced algorithm** you like the most
- **Implement** it (or part of it) using Java or MATLAB®/Octave
- **Validate** the implementation on some use cases
- **Research 3 real word application** on which your champion algorithm has been applied
  - Explain how the computational problem underlying each application has been **modeled** to be treated with the algorithm
  - Explain which are the **reasons** why the algorithm has been chosen for each 3 applications and **critically analyze** pros and cons of the choice
  - **Compare and contrast** the selected algorithm with other algorithms for realizing the same 3 applications
- The project **results** include:
  - A written **report** of not more than 4.000 words
  - An **algorithm implementation**

Project – structure of the report

- Executive **summary**
- 1 **section** including the **description** of the selected **algorithm**
- 1 **section** describing how you have **implemented** it (e.g., provide the class and interaction diagrams and describe them, or describe the MATLAB®/Octave functions)
- 1 **section** for each of the 3 real world applications on which the algorithm has been applied
  - 1 subsection including the **description** of the **application** and how it has been **modeled** to be treated with the algorithm
  - 1 subsection including the **reason** why the algorithm has been applied to the application and **critical analysis** of pros and cons of the choice
  - 1 subsection that **compares** and **contrasts** the selected algorithm with **other algorithms** for realizing the same application
- 1 **section** including **conclusions** and **observations**
- **Citations** to the scientific papers and other material you reference in the report

Project – evaluation

- The **report** must be **compliant** with the **structure** defined in the previous slide
- The **writing** must be **clear and neat**
- The report must show that you have:
  - **Well understood the selected algorithm**
  - **Deeply analyzed its application to the 3 specific fields**
  - **Compared in details the algorithms with other approaches**
- The project **results** will be **presented** in a **seminar** (15 mins for each presentation) in front of the class
  - The presentation must be understandable and raise the audience attention
  - The presenters must be able to reply to the questions of the other participants

Project – Deadlines

- Send 1.5 pages **draft** to floriano.zini@unibz.it by **15 December 2013**
- I'll give you **feedback** by **22 December 2013**
- Project **presentation** in front of the class on **17 January 2014**
- Deliver **project** (report + implementation) to floriano.zini@unibz.it by **26 January 2014**
- I'll **evaluate** the projects by **9 February 2014**

Written exam

- A **positive** evaluation of the **project** is **necessary** for attending the **written exam**
  - A passed project is valid for all 3 exam sessions of the academic year
- Exam **simulation** on **17 January 2013** in the lab from 2pm to 4pm
- My **evaluation** and **feedback** by **26 January 2013**
- Written exam **dates**
  - **17 February 2014, 10:30am – 12:30am** in **D003 Lecture room, Ser-D**
  - 2 July 2014, 10:30am – 12:30am
  - 2 September 2014, 8:30am – 10:30am