IC-Project 1

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Scope

A project course to give experience in practical design in a modern design environment.

- State-of-the-art EDA tools
- 130/65 nm CMOS

Unique possibility to design an IC!

In groups of 2 students

- VT1 : one assignment to learn the tools and improve/refresh VHDL
- VT2 : projects
- HT1/2: verification by measurements

- Applications mainly from signal processing

Can be upgraded to a Master Thesis

Assignment

During VT1 2016 you need to carry out one compulsory assignment which you will take through an entire digital ASIC design flow

- Matrix multiplier (controller+datapath)
  - RTL implementation
  - Simulation
  - ASIC Synthesis
    - Area/speed constraint
  - Physical placement and routing
  - Power simulation and static timing analysis

Matrix Multiplier Reports

Feedback will be provided at the end of May

No update of the report is required, but we assume that you will consider feedback in the project reports

Grading

Grade will depend on all parts of the course

- assignments
- project results
- oral presentations
- written report (more than one major revision will lower your grade)

Usually the project/group is given the same grade. However, individual grades might be given depending on the situation, e.g., group dynamics.

All tasks need to be completed **in time** if you are targeting higher than a passing grade.

Project deadline June 4th

Report deadline June 11th

Schedule

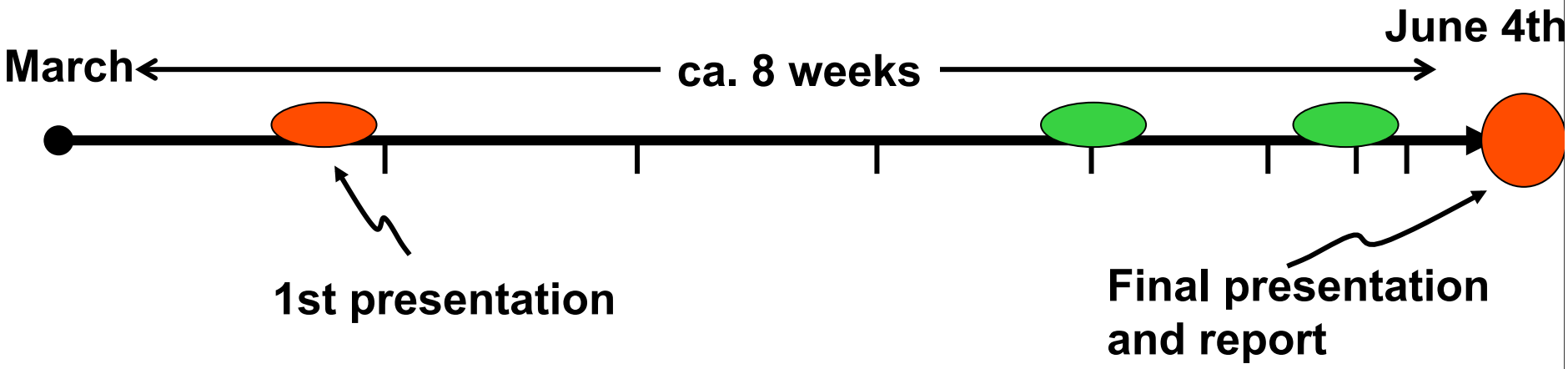
- This course will be conducted like a small scale project.
- No schedule in the database
- Meetings will be organized by Doodle and announced on the course homepage
- If you can not come to a meting it is compulsory that you inform us **well ahead** of the meeting time (email)

Plagiasm

Do not copy any material from other students or the internet.

We use an automized system that will check all reports and code.

Project



Time is “relative”: The closer you get to the deadline the faster the time will progress

First Task

We will use 65nm from STM

Please update your synthesis and PnR flow to this technology

- Change of libraries
- New memory

1st Student Presentation

Goal: you will introduce you project to your course mates, 5 minutes

Feedback on you project schedule and presentation style will be provided.

Who wants “public” feedback?

Questions??