

# Presentation of the class

François Trahay



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## Presentation of the class

- Objectives of the class:
    - Understand the internals of operating systems
    - Know how to interact with the OS from a program
  - Structure of the class:
    - [U] *userland* oriented sessions
    - [K] *kernel* oriented sessions
    - [G] *more general* sessions
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## Organization

- Processes
  - CI1 [U] Threads
  - CI2 [U] Concurrent programming
  - CI3 [G] Synchronization
  - CI4 [K] System calls
  - CI5 [K] Interruption and scheduling

- CI6 [**K**] Sprint: finalization of the scheduler
  - Memory
    - CI7 [**U**] Virtual memory
    - CI8 [**K**] Memory Management Unit
    - CI9 [**G**] Architecture
    - CI10 [**K**] Sprint
  - Input/Output
    - CI11 [**U**] Input/Output
    - CI12 [**U**] Synthesis: mini-project
    - CI13 [**K**] File systems
    - CI14 [**K**] Sprint
  - [CI15] Exam (lab)
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## Kernel sessions: XV6

During the [**K**]sessions, you will develop an OS

- Based on the **xv6** OS
  - On the computer architecture **RISC-V**
  - Development of new OS mechanisms
  - *sprint* sessions:
    - finalization of development
    - evaluation by teachers
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## Evaluation

- 20% - Continuous assessment during sprints:
    - *how did you implement this mechanism of the OS?*
    - *what happens if X?*
  - 80% - graded lab exam with several parts :
    - course question(s)
    - explain how you implemented an OS mechanism
    - develop an application
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## Evaluation of the class

- At the end of the class, students evaluate the class.

- Objective: improve the class