



# Project Bolognese

## Solving the Bologna process scheduling problem

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# Outline

- 1 The Bologna process scheduling problem
- 2 Our approach
  - Constraint programming with OscaR
  - User interfaces with Flapjax
- 3 Summary
- 4 Demo
- 5 Questions

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# The Bologna process scheduling problem

Parts of the problem:

- Modules
- Categories
- total ECTS
- (optimization goal)



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# Constraint programming with OscaR

- Integer Programming
  - ▶ decision variables per possible booking
  - ▶ never double book a Module
  - ▶ book at least `Category.min` ECTS
  - ▶ obtain enough *creditable* ECTS
- Encapsulating side-effects
  - ▶ AST as constraint model
  - ▶ the OscaR monad



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# User interfaces with Flapjax



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