# Introduction to Functional Programming in *OCaml*

Roberto Di Cosmo, Yann Régis-Gianas, Ralf Treinen

Week 0 - Sequence 0: Introduction to the Course









# The name of the game

#### John Carmack

Sometimes, the elegant implementation is a function. Not a method. Not a class. Not a framework. Just a function.



- ► an introduction to functional programming
- ▶ using the *state-of-the-art OCaml* programming language
- exploiting an exercise environment right in your browser using ground-breaking technology based on OCaml itself

## **Learning objectives**

- ▶ learn to program using the functional style
- ▶ know the basics of *OCaml*'s advanced type-system
- discover the power of the concise manipulation of user defined complex data structures
- ► start to explore *OCaml*'s rich and powerful features
- ▶ discover *OCaml*'s dynamic and growing ecosystem

# **Organisation**

- ▶ seven weeks
- ▶ one hour of course per week in several short video sequences
- numerous exercices, checked for you right in your browser
- optional additional material to learn more about OCaml's advanced, real life, industrial applications
- ► a final full-fledged programming exercise

#### **General Plan**

week 0 Introduction and overview
week 1 Basic types, definitions and functions
week 2 Basic data structures
week 3 More advanced data structures
week 4 Higher order functions
week 5 Exceptions, input/output and imperative constructs
week 6 Modules and data abstraction

## This week's plan

```
sequence 0 Introduction to the course (you are right here!)
sequence 1 Functional Programming: history and motivation
sequence 2 The OCaml language: history and key features
sequence 3 Why the OCaml language: meet the users
sequence 4 Tools and development environment: first steps in OCaml!
sequence 5 A brief showcase of some of OCaml's features
sequence 6 Overview of the available resources
```

#### **Credits**

#### **Photos**

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