

# Advanced Object-Oriented Design Mooc

<https://advanced-design-mooc.pharo.org/>  
<http://rmod-pharo-mooc.lille.inria.fr/AdvancedDesignMooc/>

S. Ducasse, L. Fabresse, G. Polito and P. Tesone

# Excellent Mooc

## <http://mooc.pharo.org>

”I have just completed week seven of the Pharo Mooc .... I have already learned so much ! I have spent the last 20 years or so in software development and, following this Mooc, I realized I hadn't really grasped the essence of object oriented design”

GMJuliet on discord June 2019

# Excellent Mooc

## <http://mooc.pharo.org>

”J'ai trouvé ça très intéressant, beaucoup plus que prévu ! je regrette de ne pas m'y être mis plus tôt. J'ai enfin l'impression de vraiment faire de la POO ! Ou à l'inverse je me rend que je n'en faisais pas vraiment... - Anonymous, 2019”

# Excellent Mooc

## <http://mooc.pharo.org>

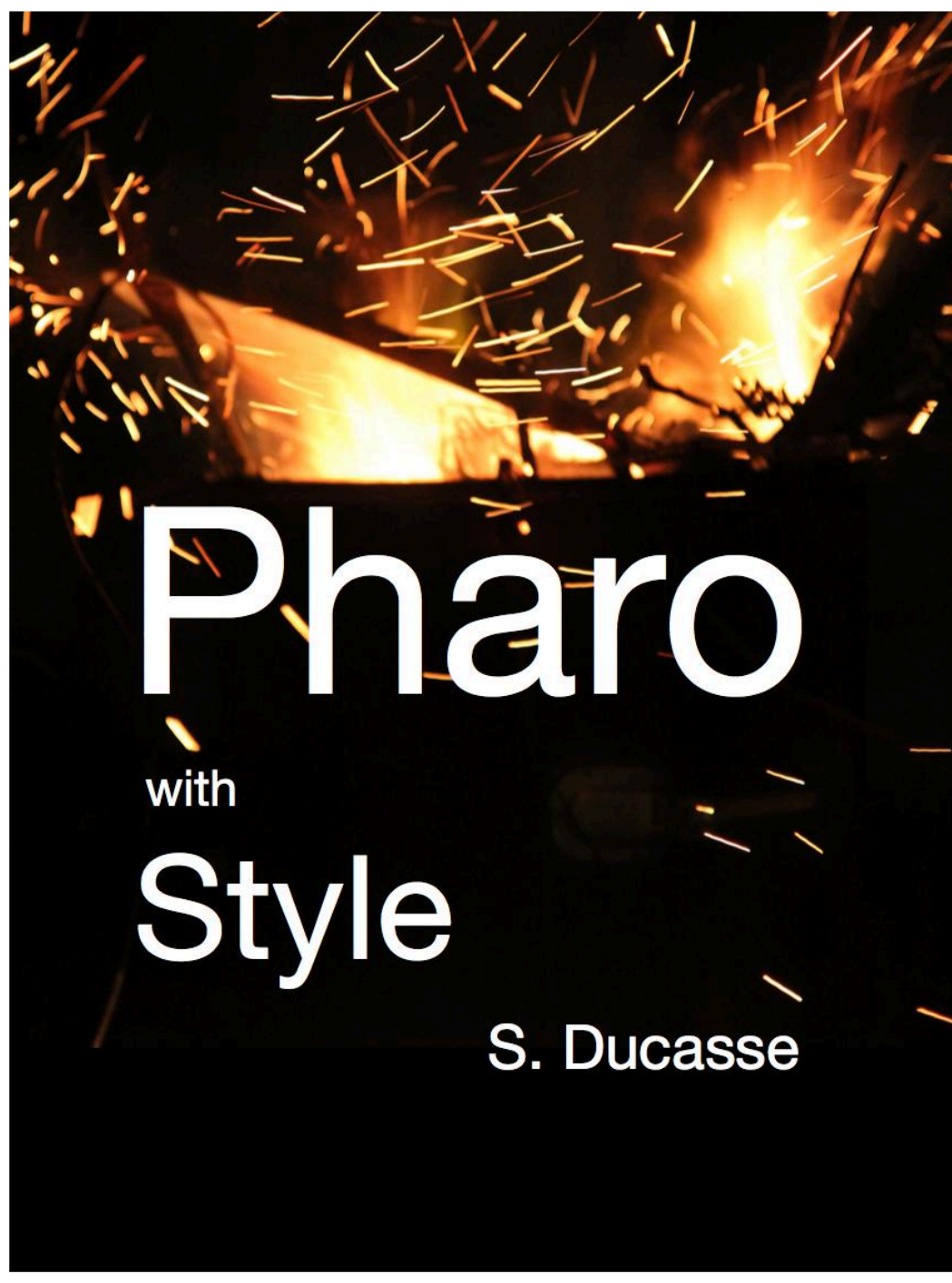
« Really one of the best mooc I have ever attended. And I have attended quite a few (openSAP, openHPI). As an old fashioned ABAP developer I want to be reborn as Pharo developer in my next life :-) » - Anonymous

# Excellent Mooc

## <http://mooc.pharo.org>

Hi! I finished the MOOC some weeks ago and I would like to congratulate everybody involved! After a decade+ of Python programming I think I found my new favorite language :). I'm making a small Teapot server for Slack command bots, I'm goona push it to Github (yay Iceberg), if anyone is interested. - EduardoPadoan

**Please use it!**



# Pharo

with

# Style

S. Ducasse

# **Forthcoming advanced design mooc**

**<https://advanced-design-mooc.pharo.org/>**

**more than 60 years of experience  
designing complex systems  
teaching OO Design**



# The Advanced Object-Oriented Design MOOC with Pharo

Vidéo

## Testimonies

What the participants are saying :)

Thank you for these messages, they boost us!

No comment yet.

## About this MOOC

This MOOC is about **Advanced Object-Oriented Design**. Either you are a beginner or an expert in object-oriented programming, this MOOC will immerge you in advanced o will not develop the same way after following this unique lecture. It is built on more than 60 years of expert teaching object-oriented design. This MOOC invites you to a journey covering the following topics:

- Understanding messages
- Test-driven Design
- Hooks: support for evolution
- Objects: state and behavior
- Elementary design patterns
- Double dispatch
- Object Creation
- Sharing Objects
- Inversion of control
- About types

<https://advanced-design-mooc.pharo.org/>

The learners will be proposed several design exercises ranging from little interpreters to games and quizzes.

Why the Pharo programming language?

This MOOC uses Pharo as a pedagogical vehicle but all the concepts you will learn are **language independant** and can be applied to any object-oriented language. Neverth

```
graph TD; M1((M1 Understanding Messages)) --> M3((M3 Hooks)); M1 --> M2((M2 Test-Driven Design)); M2 --> M4((M4 Objects State + Behavior));
```

**M1**  
**Understanding**  
**Messages**

**M2**  
**Test-Driven**  
**Design**

**M3**  
**Hooks**

**M4**  
**Objects**  
**State + Behavior**

**M6**  
**Double**  
**Dispatch**

**M5**  
**Elementary**  
**Design Patterns**

**M7**  
**Object**  
**Creation**

**M8**  
**Sharing**  
**Objects**

**M9**  
**Inversion of**  
**Control**

**M10**  
**Type Concerns**

<http://rmod-pharo-mooc.lille.inria.fr/AdvancedDesignMooc/>

**Around 61 lectures**  
**Slides + Videos**  
**Booklet of exercises**

# Objectives

- Revisit basic elements such as encapsulation, delegation
- Think about essential aspects of object-oriented design
- Learn key Design Patterns
- Analyze real case studies
- Things about Pharo code idioms

# Stay tuned

<https://advanced-design-mooc.pharo.org/>

<http://rmod-pharo-mooc.lille.inria.fr/AdvancedDesignMooc/>