

End-User Reconfiguration of Applications using Adaptive Object-Models

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FEUP

The problem

- Many software projects exist in an ever-changing environment
- Requirements change to reflect changes in the environment, the industry, the client and end-users
- Modifying a system is costly
- A stagnant project dies, so a big effort must be made to ensure its continuity

Motivation

- Simplify the development of adaptable systems
- Allow the end-users to tailor the system to their own needs
- Accelerate development of highly customizable systems

State of the Art – Adaptive Systems

Generative Programming

- Software product lines
- Model-driven engineering
- Frameworks
 - Ruby on Rails (scaffolding)

State of the Art – Adaptive Systems

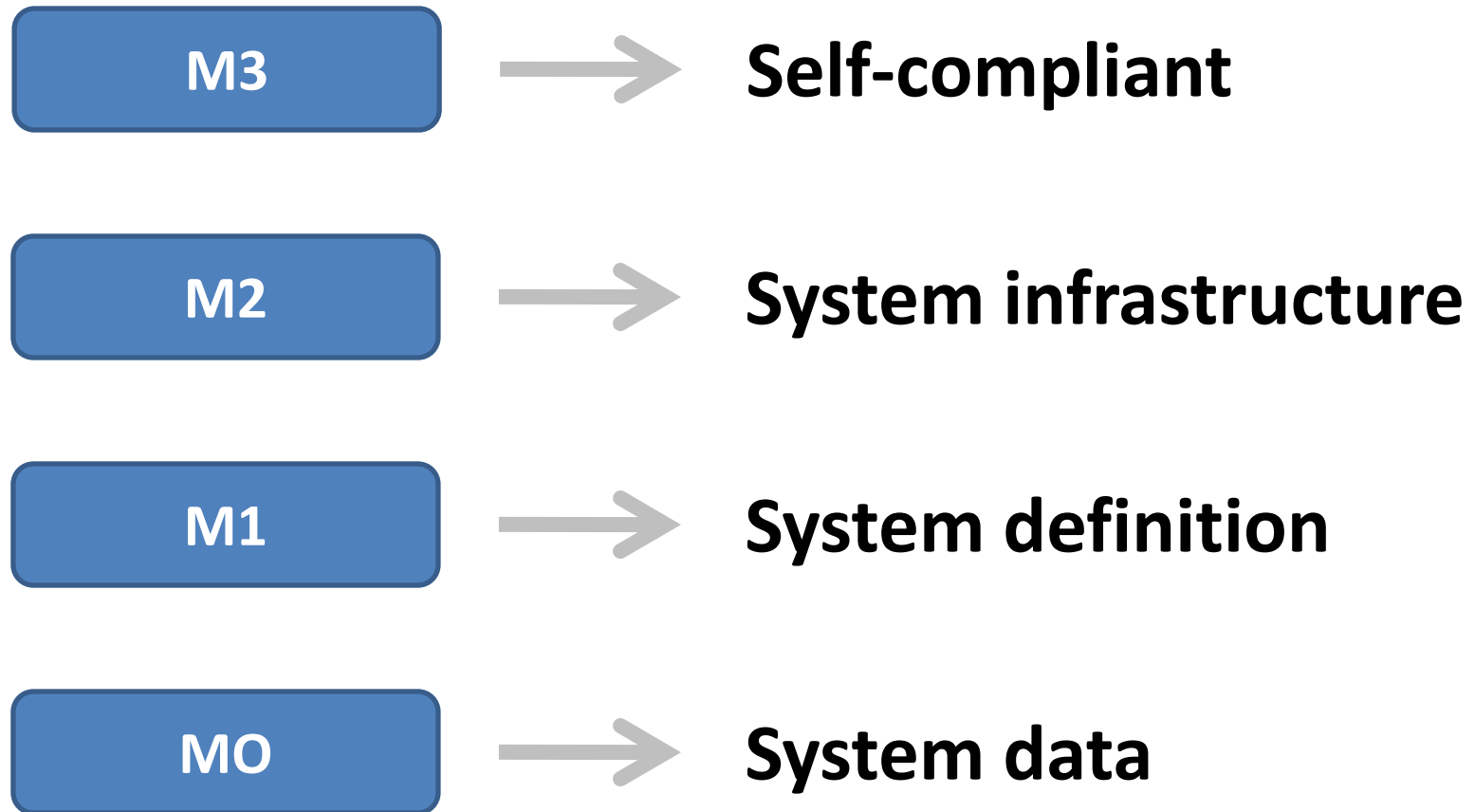
Meta-Architectures

- Metaprogramming
- Ruby
- Adaptive object-models

Adaptive Object-Modelling

- Meta-architecture design pattern
- Experts focus on the manipulation of domain assets, instead of implementation details
- Allows for changes to a system's domain model in runtime by the end-users

AOM Architecture



- Reference framework for the development of AOM systems
- Developed to answer the problems posed by the aforementioned systems
- Allows for the easy creation of highly customizable, dynamic information systems

Objectives

- Establish a reference framework using the concepts of web 2.0 for AOM systems
 - Understand GUI patterns that allow end-users to manipulate domain models
- Validate through an industrial use-case application

Case-study: escolinhas.pt

- How to give better tools to teachers?
 - Let them build the tools they need!
- A specific architecture is required to allow end-users to model their own systems
- AOMs and Oghma provide this missing functionality

Thesis Work Plan

