End-User Reconfiguration of Applications using Adaptive Object-Models

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FEUP

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The problem

- Many software projects exist in an ever-changing environment
- Requirements change to reflect changes in the enviroment, 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

- How to enhance adaptive systems
- Allow the end-users to tailor the system to their own needs
- Accelerate development of highly customizable systems

State of the Art – Adaptive System

Generative Programming

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

State of the Art – Adaptive Systems

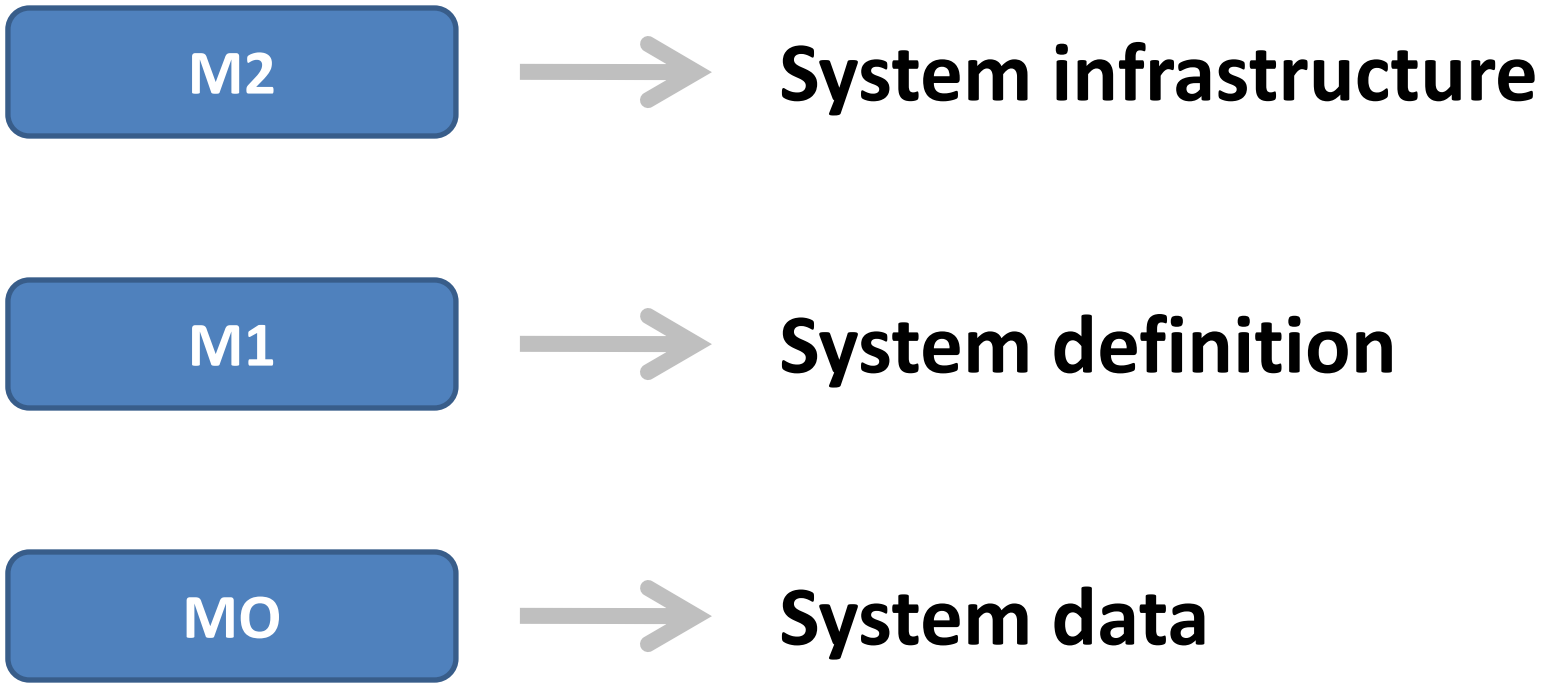
Meta-Architectures

- Metaprogramming
- Ruby
- Adaptive object-models

AOM

- Meta-architecture design pattern
- A system can be configured by a domain expert using a DSL
- Allows for changes to a system's architecture in runtime

AOM Architecture



Oghma

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

Objectives

- Bring the Oghma framework to a web environment
  - Develop an interface module for web applications with the framework as engine
- Create a proof-of-concept application

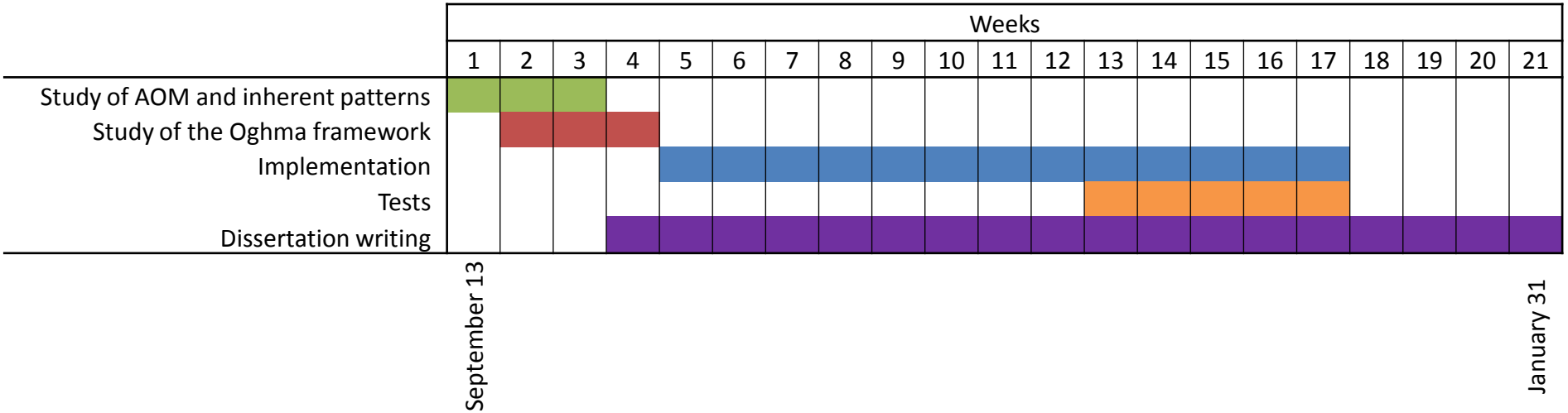
Case-study: escolinhas.pt

- 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
- AOM and Oghma provide this missing functionality

Past Work

- State of the art report
- AOM study
  - AOM architecture and inherent design patterns
- Oghma framework study

Thesis Work Plan



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