



PROCIENCIA DEi
PROGRAMA PARAGUAYO PARA EL DESARROLLO DE LA CIENCIA Y TECNOLOGÍA

Improving the software development process: a MDD-based proposal

MDD+

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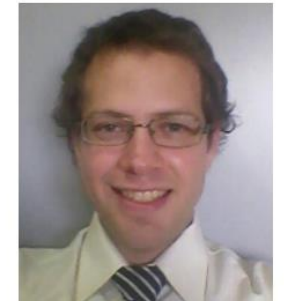
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PROJECT GOAL

- Explore the benefits of applying Model-Driven Development (MDD) techniques in the development of good quality software applications, by using current technologies.

INTRODUCTION AND MOTIVATION

- Evolution in current web applications
 - Coverage of different domains
 - Adoption of different technologies
 - Changes in functional or non-functional requirements
- Web methodologies are dealing with the evolution in different ways

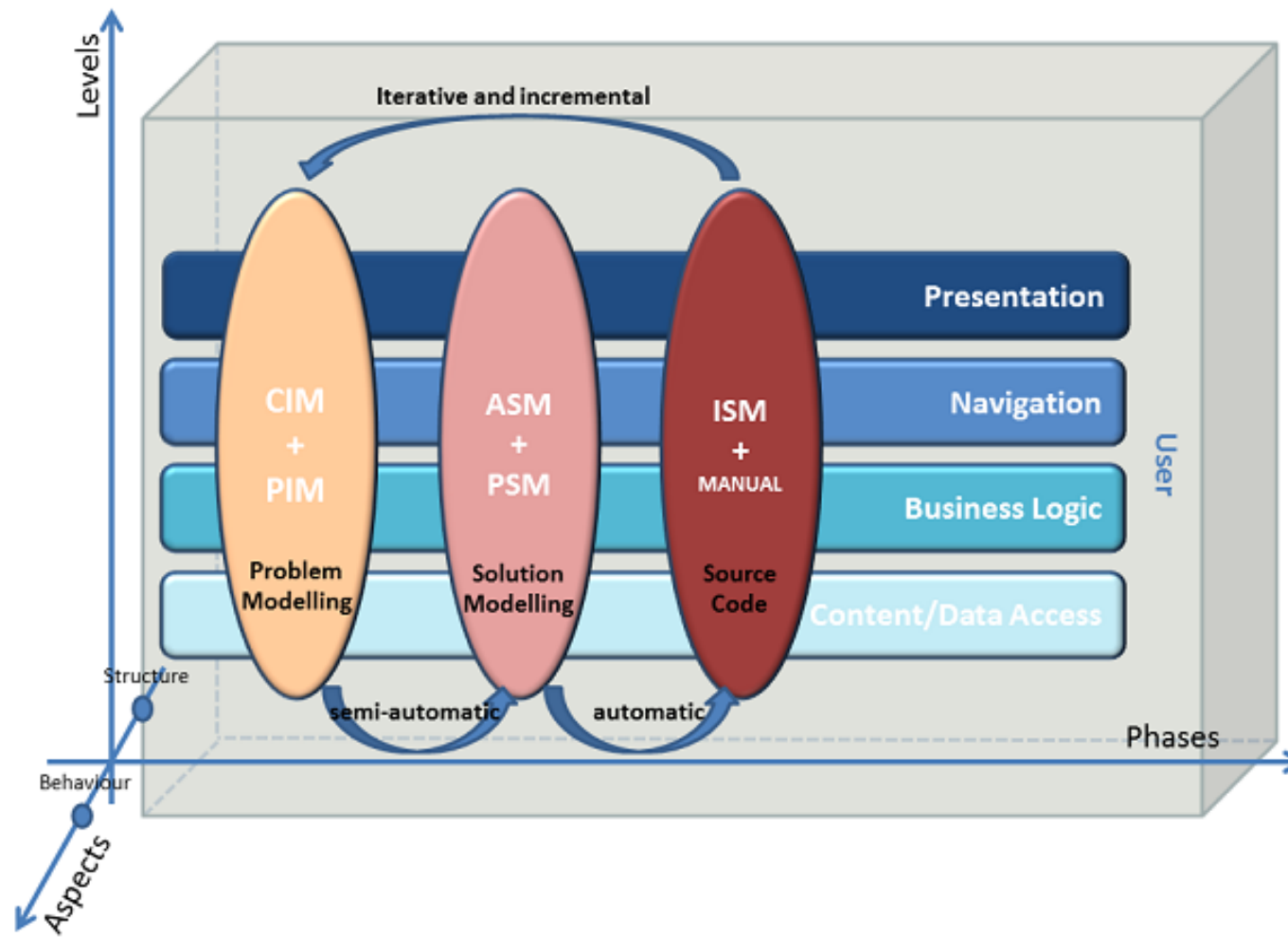


INTRODUCTION AND MOTIVATION

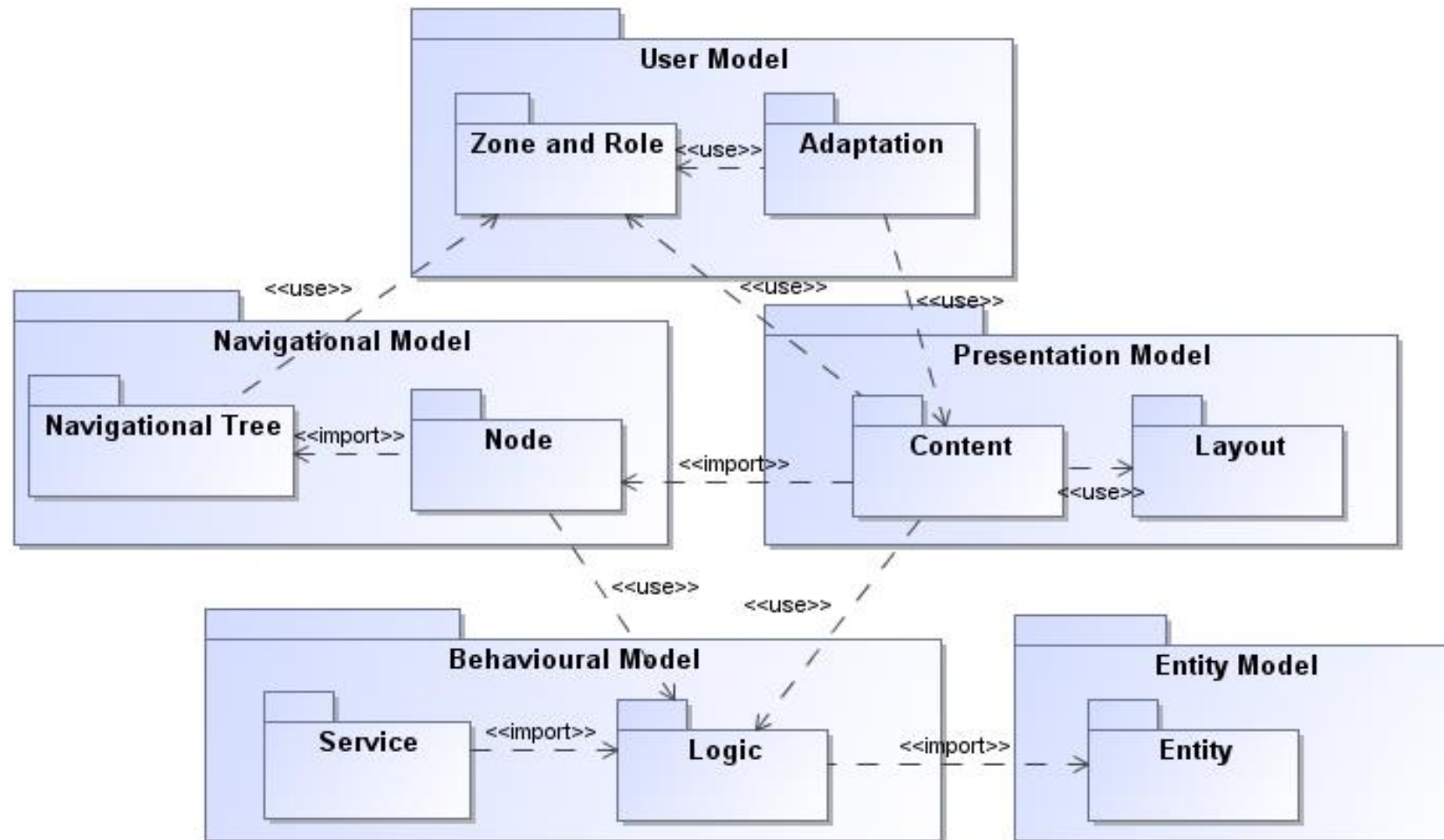
- Model-driven development as a possible way to consider several of these aspects
- Concerns related to model-driven, web engineering methodologies:
 - Platform Independent Models (PIM) are enriched with architectural aspects
 - PIM loses its “independence”
 - The development process starts at an abstraction level in which architectural/platform aspects are taken into account
- Proposed solution
 - MoWebA and its Architecture Specific Model (ASM)



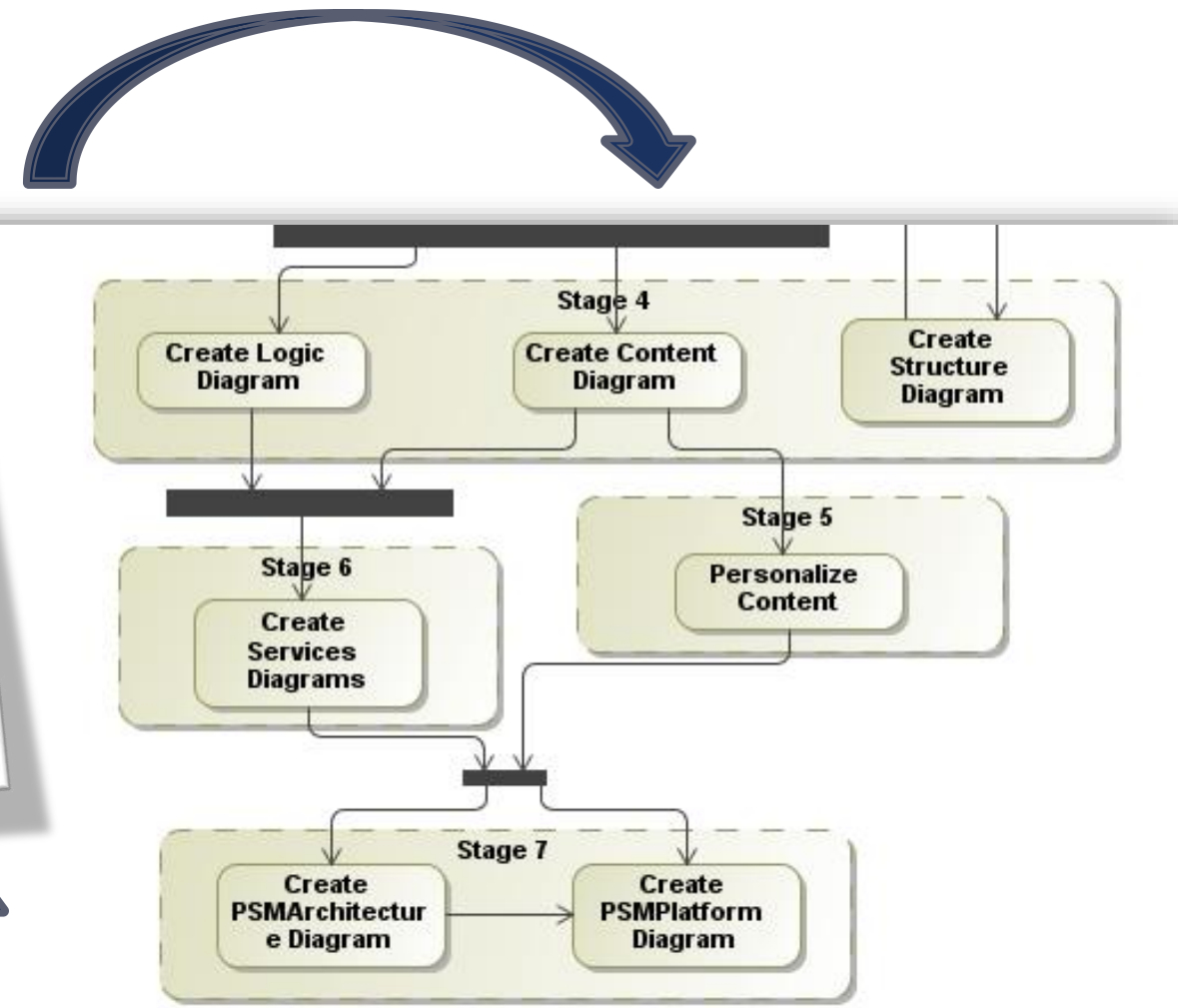
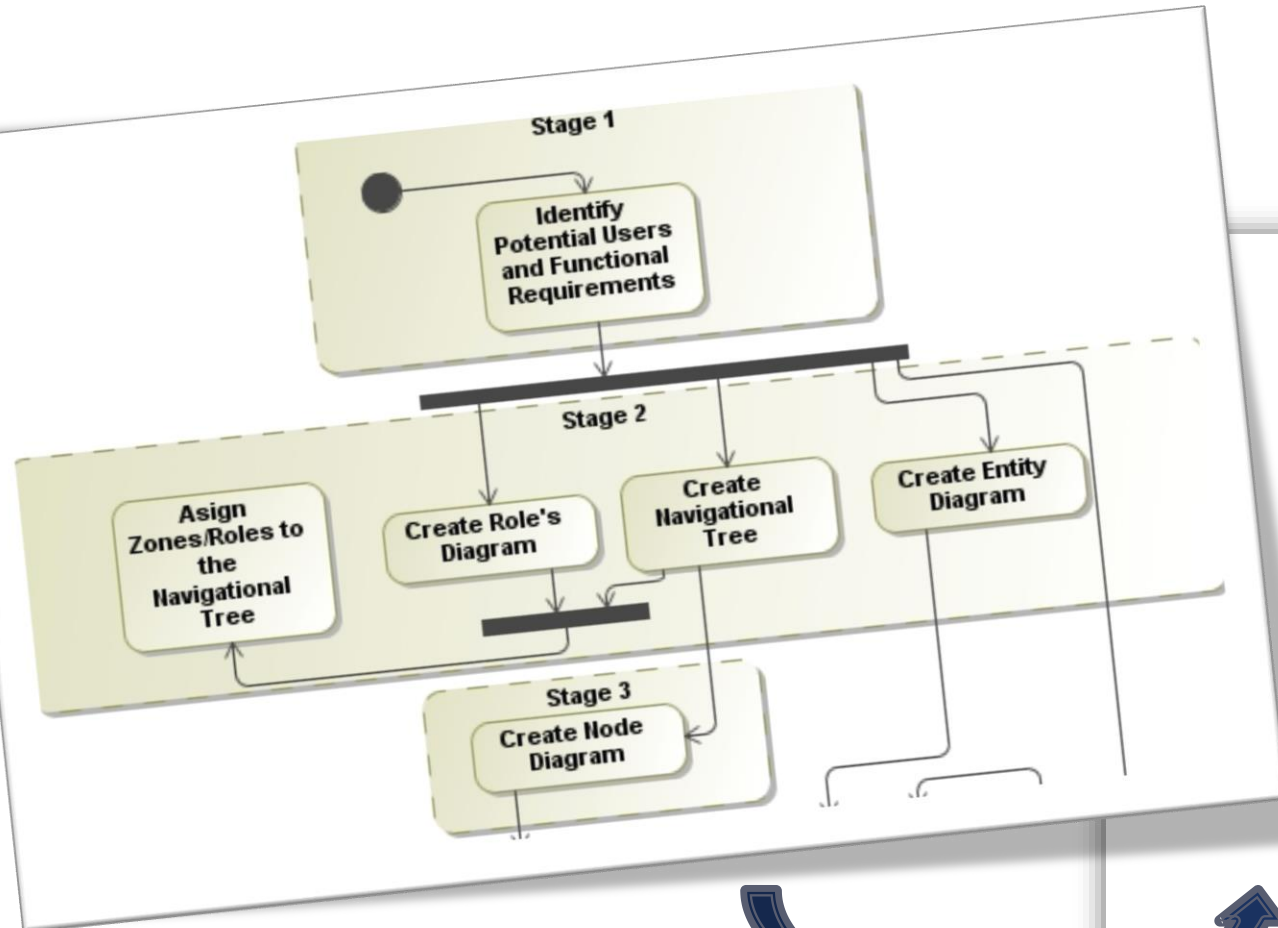
MOWEBA



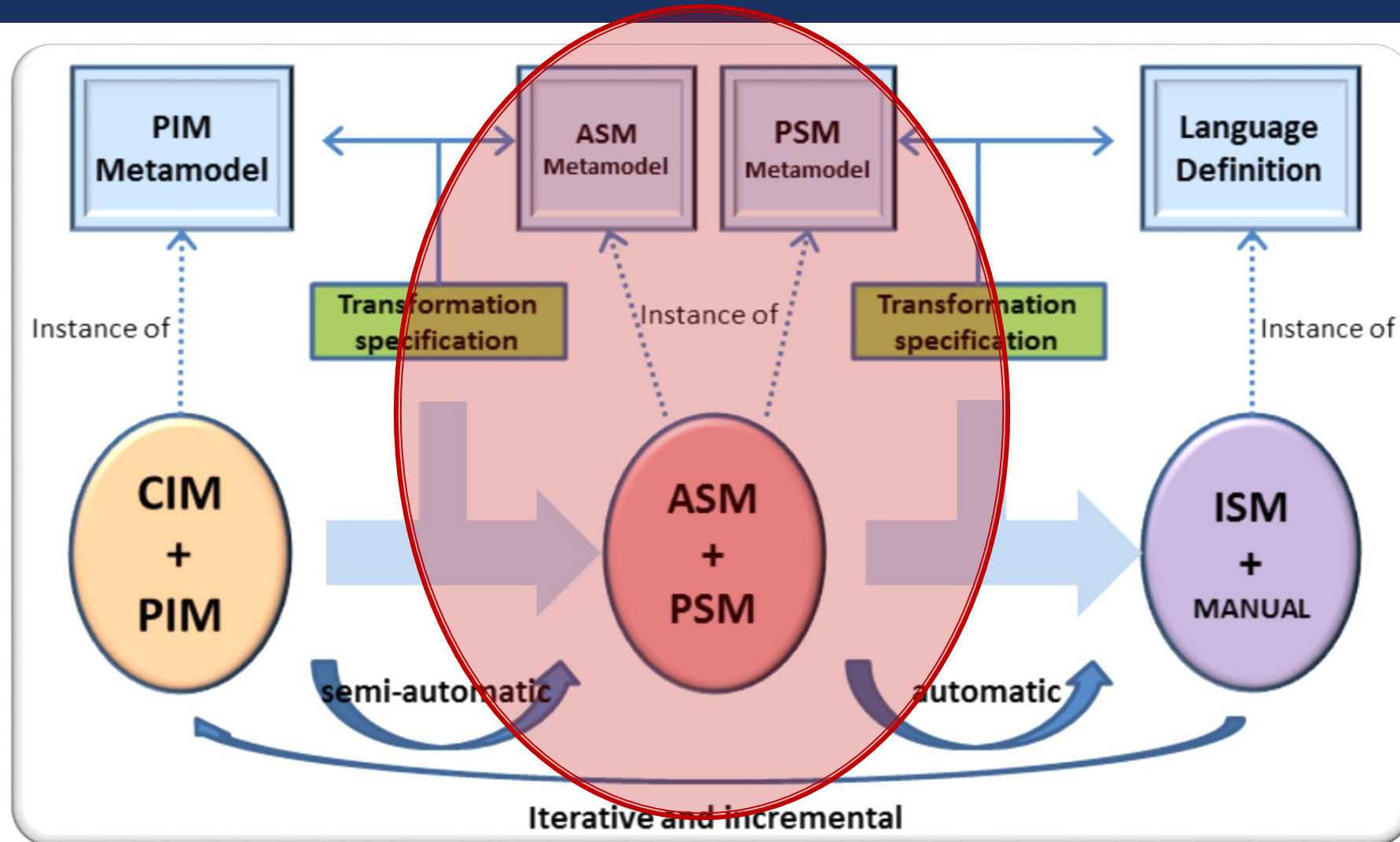
MOWEBA



MOWEBA: MODELING PROCESS

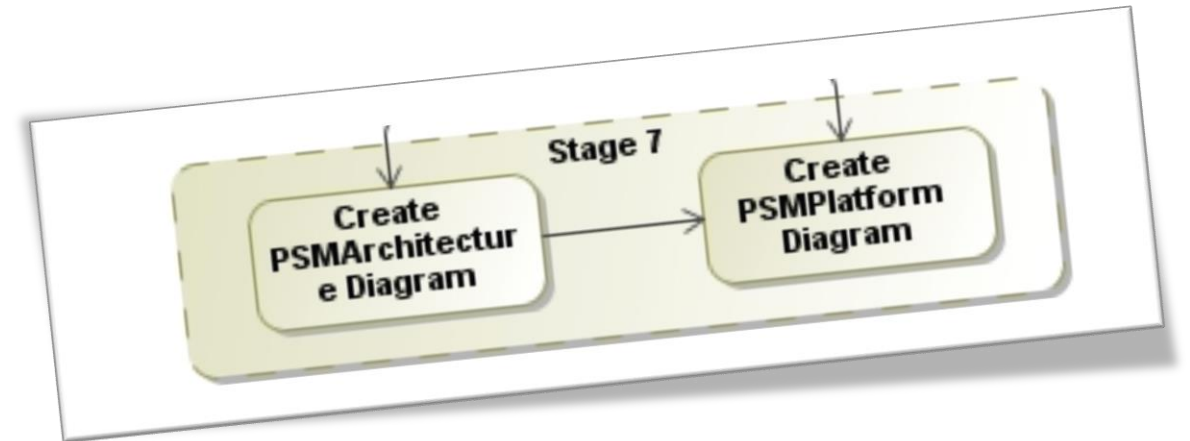


MOWEBA: TRANSFORMATION PROCESS



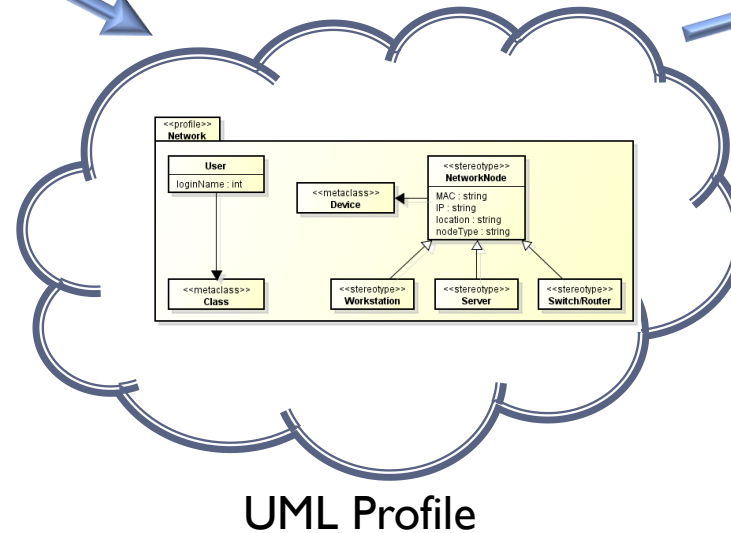
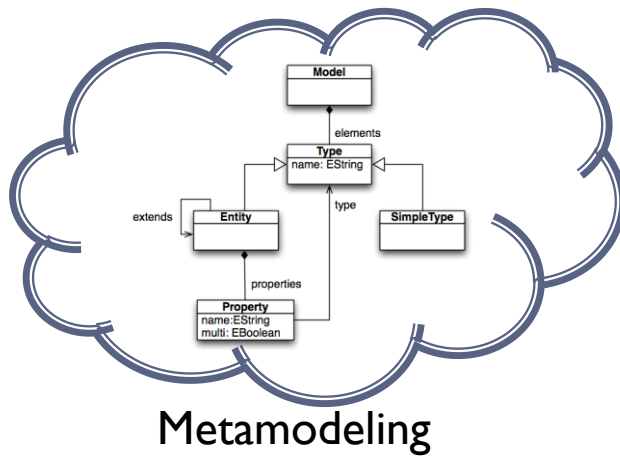
MOWEBA: ARCHITECTURE SPECIFIC MODEL (ASM)

- Stage 7 of the MoWebA modeling process
- Semi-automatically generated from PIM
- Enriches previous models with additional information related to the system architecture (e.g. RIA, mobile, SOA)

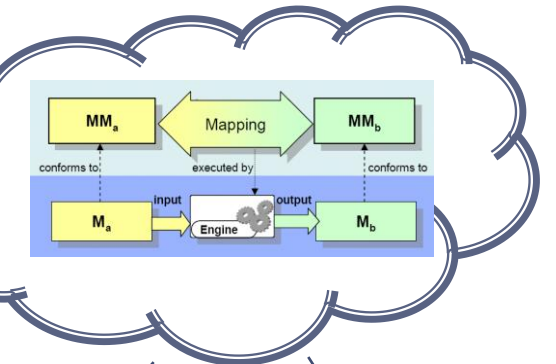


MOWEBA: ASM DEFINITION

- If the ASM for a given architecture does not exist, it must be defined first

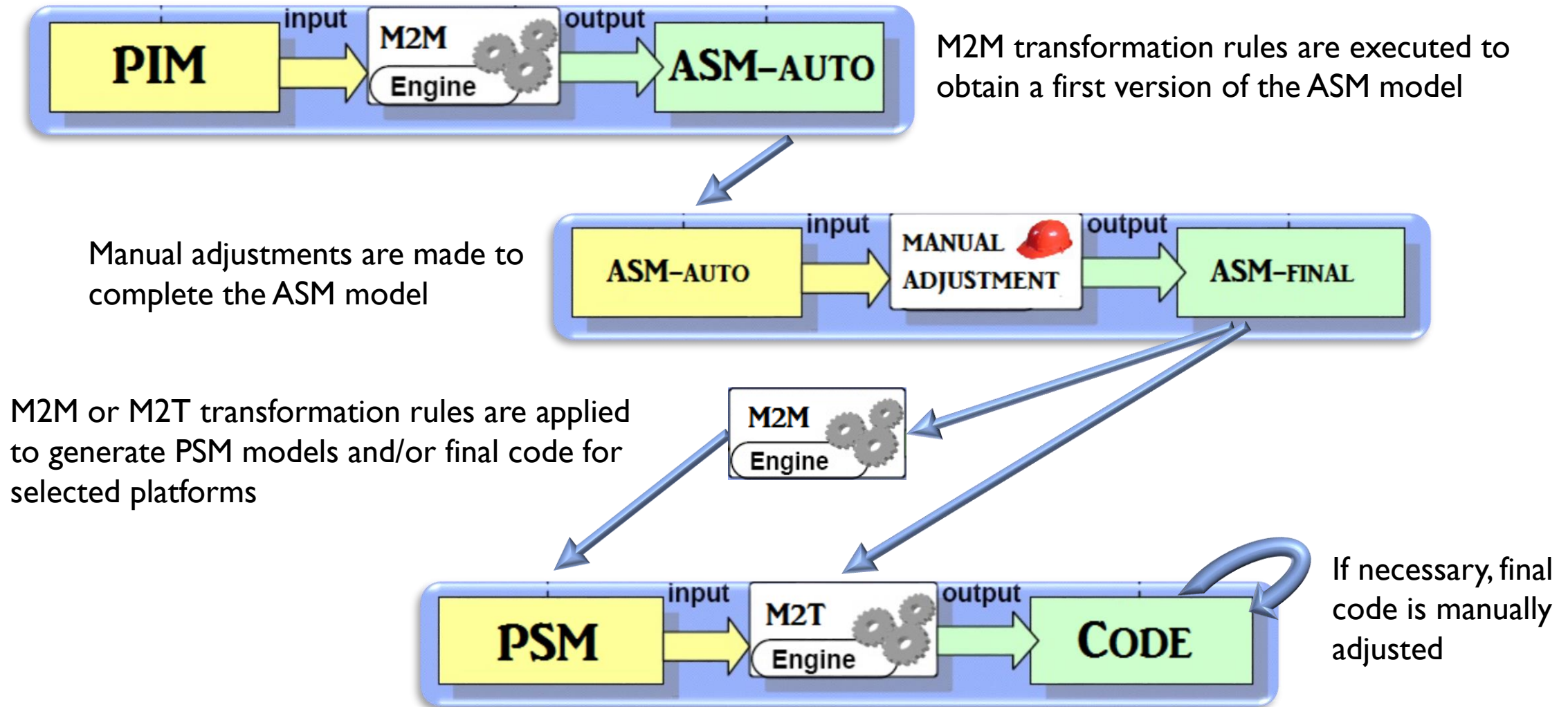


M2M Transformation rules



Query / View / Transformation

MOWEBA: APPLYING THE ASM PROCESS



AN ASM EXPERIENCE

- There has been an MTM transformation definition for the RIA and persistence for mobile architectures using the ATL language (Daniel Bonhaure work)
- RIA model was completely obtained by an configuration file included to the transformation process
- Persistence mobile model needed some manual adjustments