

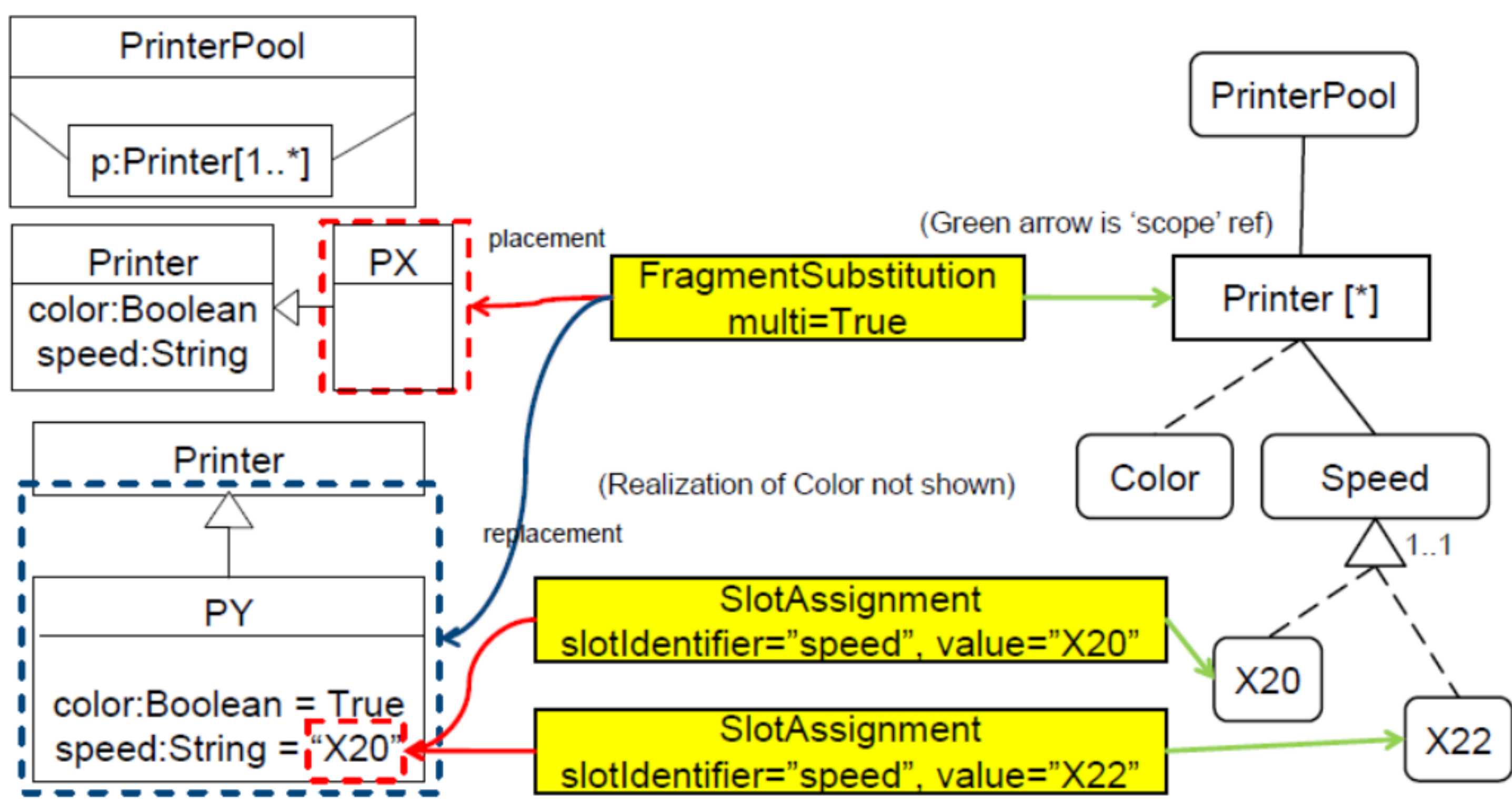
Jorge Echeverría Ochoa [jecheverria@usj.es]
Doctoral Program in Computer Science
SVIT Research Group
Universidad San Jorge Zaragoza, Spain

Supervisor
Ph.D. Carlos Cetina Englada
SVIT Research Group
Universidad San Jorge Zaragoza, Spain

Supervisor
Ph.D. Óscar Pastor López
Research Center on Software Production Methods
Universitat Politècnica de València

1.-Introduction

Software Product Lines (SPLs) has proven to be successful at reducing the costs and time to market of product development through the planned reuse of software components into products within the same scope. SPL adoption has been typically regarded to follow pro-active approach, although recent surveys show that most of the SPLs are planned following re-active approaches. It seems necessary to refocus SPL engineering research, methodologies and tools for existing systems into SPL. We believe that systems following a Model Drive Development approach can highly benefit from these re-engineering efforts, in order to enable them to manage variability. However, to achieve this kind of adaption, there are challenges that need addressed.



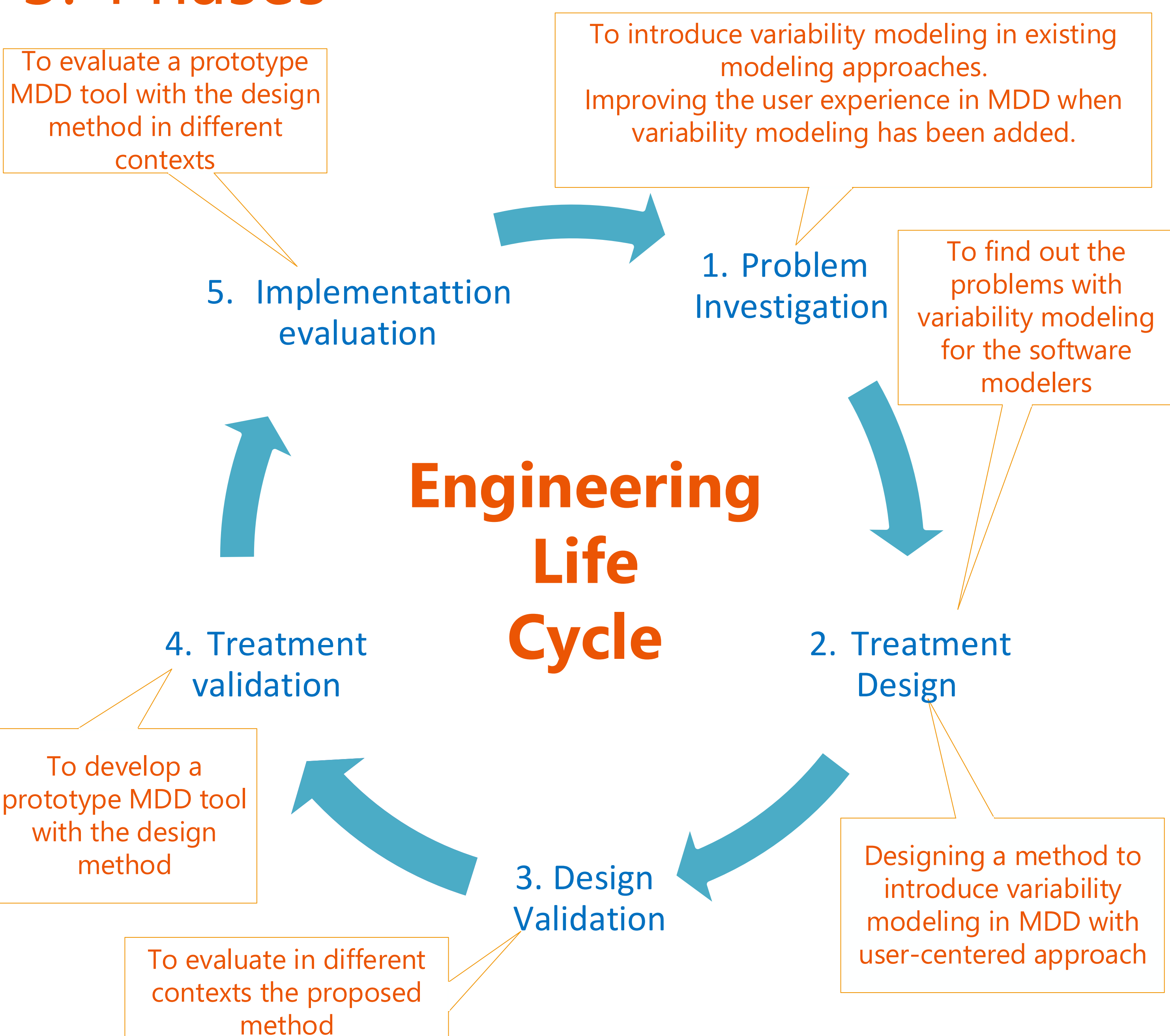
2.-Objectives

General objective: to propose a method that allows augmenting a MDD process with variability according an user centered design view.

Specific objectives:

- To introduce variability modeling in existing modeling approaches.
- Researching the required capabilities of a user-centered approach for variability formalization when modelers develop software with Model Driven Development.
- To build a tool that supports above capabilities.

3.-Phases

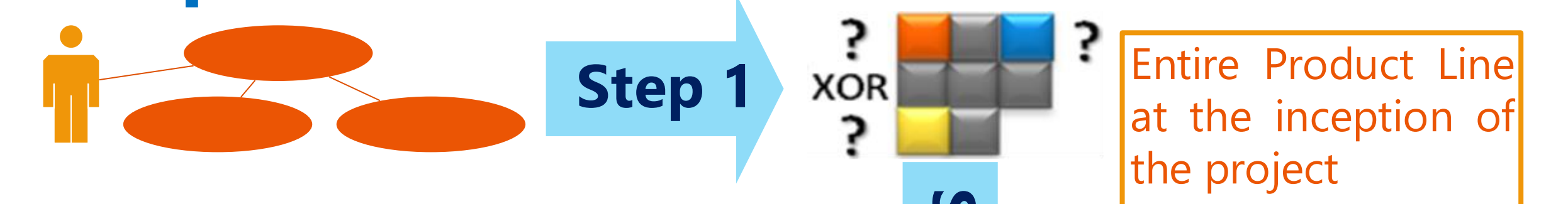


4.-Results

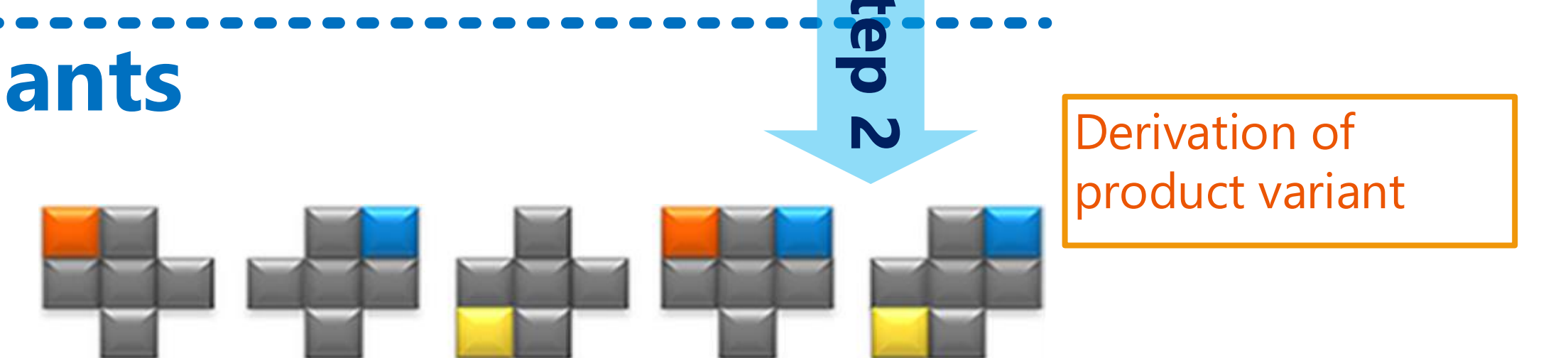
Expected results:

- A method to add variability modeling in MDD process according user-centered design.
- A prototype tool to develop software with both MDD paradigm and variability modeling.

Inceptive Product Line



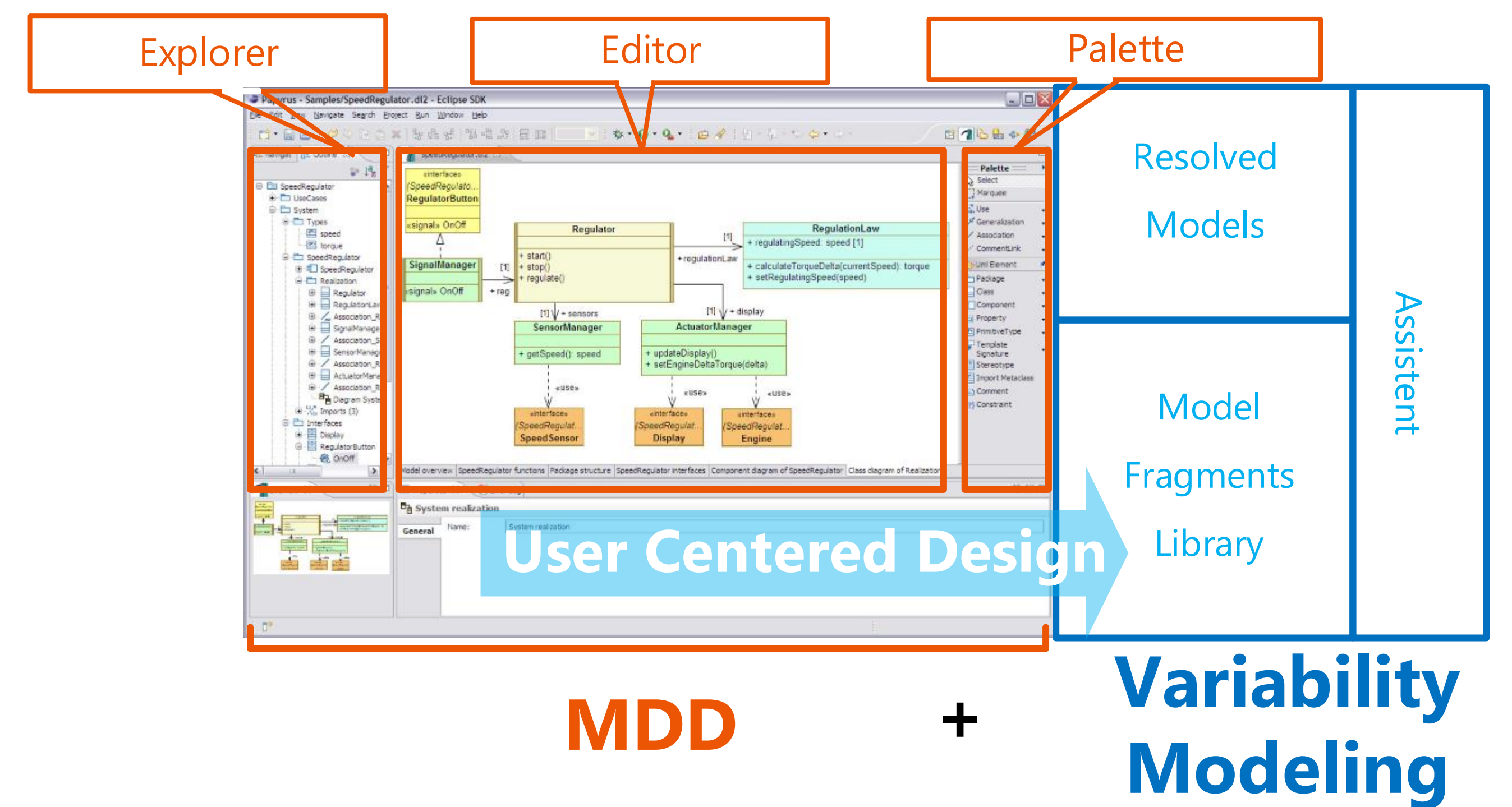
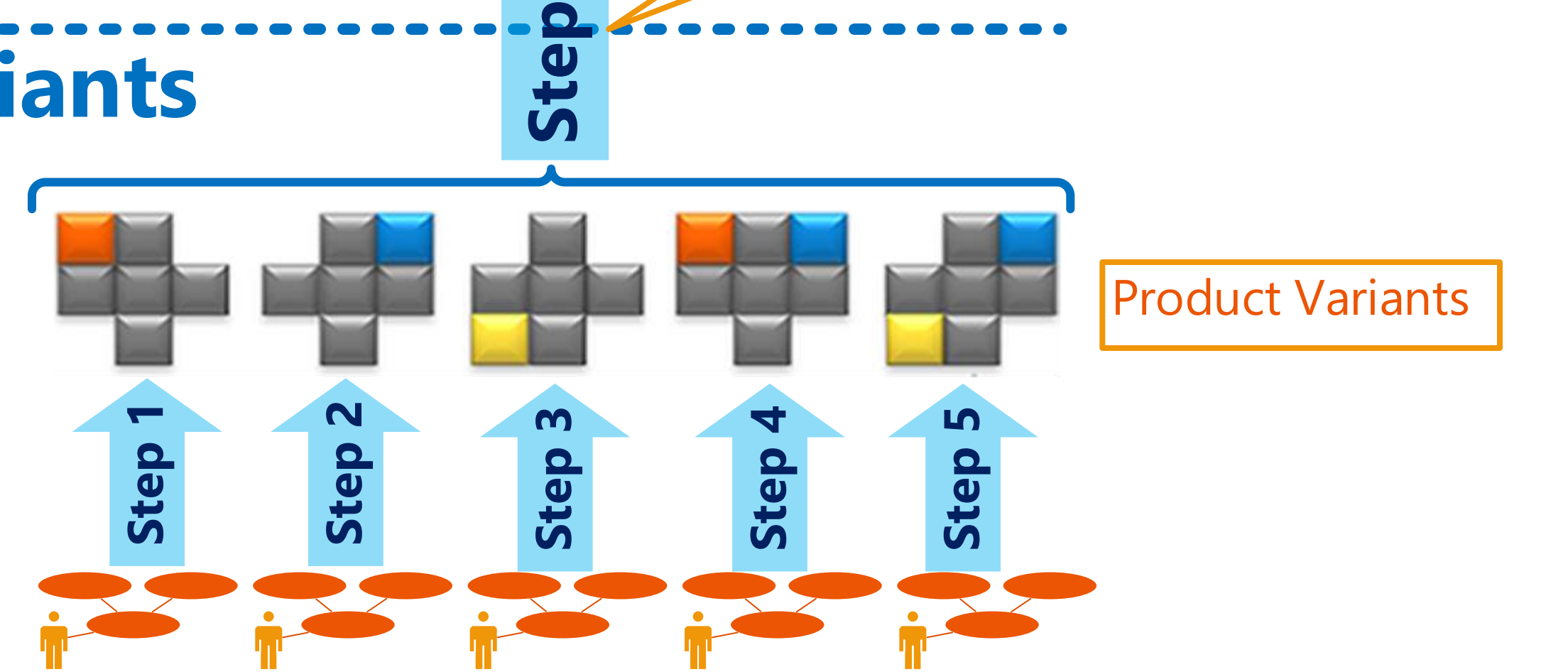
Variants



Anytime Product Line



Variants



Partial results:

- From the point of view of model-based software developers, the usability evaluation results suggest that Common Variability Language (CVL) can complement the modelling tools to formalise and configure variability.
- We have found out evidence that the current CVL proposal should be extended to provide a concrete syntax for the model fragment concepts.
- Results reveal that modellers require new editing capabilities to work with independent model fragments such as explicit creation, fragment comparison, fragment-based filters and propagations of changes.

5.-Conclusion

We propose a method to augment MDD process with variability modeling and developed with the principles of user-centered design.

Our currently research shows that visual notation is an important unstudied concern in variability modeling. We have found out that the lack of a correct visual notation can lead modelers to bad performance in the modeling process.

We are collaborating with an industrial partner. For this reason, we expect the thesis' findings will be release in a real industrial environment.