# UML-DSimulator Final presentation

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**ENSTA Bretagne** 

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### Acknowledgement





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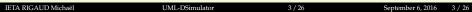
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### Introduction



Figure: Rhapsody



Figure: Papyrus

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#### **Teodorov Simulator**



Figure: Teodorov Simulator Interface

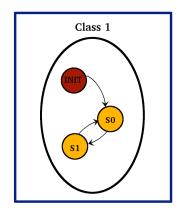
The Teodorov simulator is a simulator of uml diagram. This simulator needs some object:

- A Class diagram
- A State Machine diagram for all class



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### Explanation about the simulation



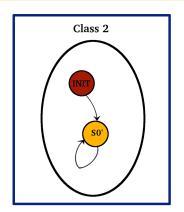


Figure: Representation of the most important elements of the simulator



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# UML Designer

Introduction



Figure: UML Designer Interface

UML Designer is an opensource tool to edit and visualize UML2 models created by the French company: *Obeo*. The project is licensed under the EPL





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# UML Designer kernel

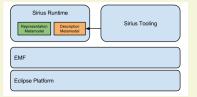


Figure: Sirius kernel [6]

#### UML Designer is based on:

- UML Designer plugin
- Sirius
- EMF
- Eclipse kernel



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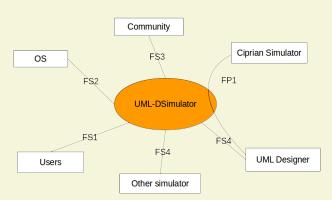
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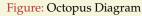
### Goals



#### 0----

- Caption
   FP1: Visualise the simulator in UML Designer
- . FS1: Be user-friendly
- FS2 : Be multiplatform
- FS3: Be open source and well documented
   FS4: Have the possibility to integrate an other simulator





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### Organization

Introduction



Figure: Git repository



Figure: Kanban diagram



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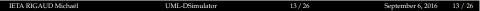
# Planning

Tasks/weeks	1	2	3	4	5	6	7	8	9	10	11	12	13	14
State of the art	-	-								Х				
Create a plugin			-							X				
Visualize the simulation				-	-	-	-	-		Х				
Unit tests								-		Х				
Integration tests									-	X				
Try an other simulator										X	-	-		
Redaction		-	-	-	-	-	-	-	-	X	-	-	-	
Oral						-				X				-

Figure: Planning



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   Technical choice
   Plugin
   Functionality implemented
   SCCD
   Tests
- **6** Contribution of this internship for my professional project



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### Technical choice

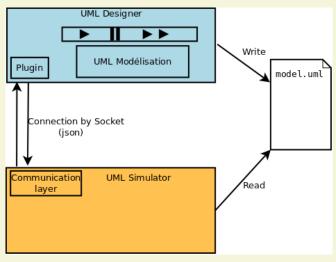


Figure: Overview of the project



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### Plugin

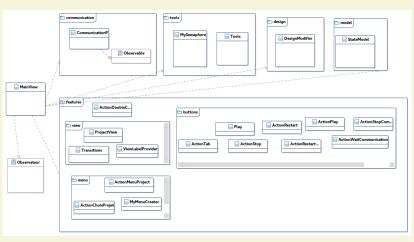
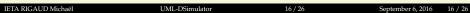


Figure: UML class diagram





### Functionality implemented

#### Work done

Introduction

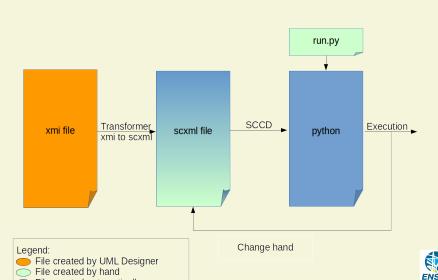
- Integration of the Ciprian simulator in UML Designer
- Visualization of the simulation on State Machine Diagram and Class Diagrams
- Possibility to choose the next step
- Possibility to change the simulator
- A play mode
- Take care about instances creation
- Possibility to chose the instance visible

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### **SCCD**





#### **Tests**

▼ 😂 org.ensta.uml.sim	Γ	36,0 %	
▼ @src		25,4 %	
▶ <b>#</b> json			
▶ ⊕ org.ensta.uml.sim.views		0,0 %	
<ul> <li>org.ensta.uml.sim.views.features.buttons</li> </ul>	0,0 %		
<ul> <li>org.ensta.uml.sim.views.features.menu</li> </ul>	0,0 %		
	0,0 %		
<ul> <li># org.ensta.uml.sim.views.design</li> </ul>	0,0 %		
# org.ensta.uml.sim.views.features		0,0 %	
<ul> <li># org.ensta.uml.sim.views.model</li> </ul>		76,9 %	
<ul> <li># org.ensta.uml.sim.simulateur</li> </ul>	L	90,9 %	
<ul> <li># org.ensta.uml.sim.views.communication</li> </ul>	L	88,9 %	
▶ ⊕ org.ensta.uml.sim.views.tools		88,9 %	
▶ <b>@</b> test	L	90,9 %	
▶ @ mock		94,7 %	

Figure: Coverage of my Unit Tests



Figure: Screen-shot of the Windows virtual machine



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### Contribution of this internship

#### Acquisition

Introduction

- Discover how work a research laboratory
- · Learn lot of things about SCCD and Statechart
- Improve my scholarship abilities

#### **Encountered difficulties**

- Understand how works UML Designer and the Ciprian Simulator
- Find the good API
- Block by the Simulator



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#### Conclusion

Introduction

#### To conclude

- The project has some trouble due to the simulator
- Need some improvement in Debugging fields
- It can't be use by everybody

#### But, I am happy because...

- The plugin is stable, modular and documented
- I learn a lot of things, and I overwhelm myself
- Mr Champeau is satisfied of my works



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#### Demonstration





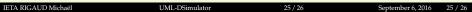
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### Questions?





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### MSDL organization

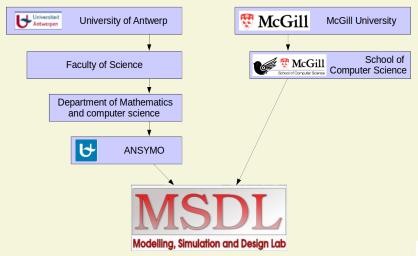


Figure: Position of MSDL



# How to write plugin

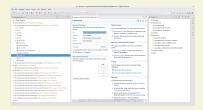


Figure: Eclipse environment



Figure: Structure of an eclipse plugin



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# Why Socket

Advantages	Drawback					
Work with every language	Message need to be formatted					
(python, java,)						
Allow communications enter	Not very fast					
process which don't use the	-					
same language						
Work on all platform (Win-						
dows, Linux, OSX)						



### TODO (13/07/2016)

#### Planned

- Give the choice of the simulator
- Show states in the State Machine diagrams
- Improve the User experience

#### If I have time...

- Create a Sequence Diagram automatically
- Create a Debug view
- Show real time

Functionality implemented

