TITLE: Development of Cameo Systems Modeler plugins

Duration and period

Minimum of 2 months

Maximum of 6 Months

Context

Samares-Engineering delivers services in systems engineering and specially to support Model-Based Systems Engineering (MBSE). Samares-Engineering provides consulting and innovative solutions for design offices of different domains: avionics, space, energy, railway…

MBSE gets more and more importance in the industry, especially when consistent method is provided with tools. Indeed, modelling language such as UML / SysML is just a notation. Within Samares-Engineering, we are developing a SysML-based methodology called "SAMAREQ" that enables system engineers to simulate their System-of-Interest at each step of the modelling process, from context to architecture.

In order to guide systems engineers in the use of model-based approach, tooling should provide guidance:

- Guidance in using the right diagram at right stage (process)
- Guidance in checking possible "mistakes" in the model
- Guidance in transforming the model for refinement of for verification
- Guidance in providing simulation support…

Goal and tasks

Goal: main goal is to develop plugins for Modelling tool (currently Cameo Systems Modeler) in order to provide support of SAMAREQ methodology within the tool.

Tasks

1. Understanding how to develop a simple plugin with Cameo Systems Modeler (there will be support for that).
2. From list of software tools to develop to support SAMAREQ methodology, choose 2 or 3 and interview team to fully understand needs and constraints. Write a small specification with a set of intended use scenarios for this tooling.
3. Define design for each of the chosen software tools and present it to the team.
4. After review of design, implement the software tools as Cameo Systems Modeler plugins. Test it on scenarios defined in step 2 and with data provided by team.
5. Final report: synthesis, recommendations, and suggestions of improvements.

Note: time allocated to each task is not yet defined and will be established at the beginning of the internship according to the data already available to prepare each task. Some tasks might be updated during internship to be extended if needed or shorten if results are available before planned period. In addition, it may happen that a new task is requested if it can help improving topic. New task may come from intern, Samares-Engineering, or other partners.

Pedagogical goals

Intern will develop skills/knowledge in systems engineering and more especially in model based system engineering with focus on architecture modelling, model-driven engineering technologies, (distributed) simulation and co-simulation.

Technical and functional environment

For implementation, deep knowledge in Java language is required.

Intern profile and expected skills

Engineering background and especially in Software Engineering. Knowledge in model based engineering with UML or SysML appreciated.

Motivated and serious, you are curious about learning new methods and tools and have some autonomy to find by yourself a first level of answers to your main questions. Consider that Samares-Engineering will bring vision, context, regular guidance and support.

Location

TOULOUSE / BLAGNAC

Internship compensation

750 € / month for internship between 2 and 3 months
825 € / month for internship between 4 to 6 months

Contact

You can post your candidature by a form on Samares-Engingeering web site: *http://www.samares-engineering.com/fr/contact-2/#a99b4ba4b2c1195c3*
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