INTERNSHIP OFFER

Ref : SE-STG-2018-19-SetupOfModelLibrary

TITLE: Setup of a model library

Duration and period

6 Months

Two words about Samares Engineering

Samares-Engineering is recognized expert in field of systems engineering and more specially in Model-Based Systems Engineering (MBSE). Samares-Engineering provides consultancy for design offices of large companies in different domains: Airbus, Zodiac Aerospace, Comac (China), Schneider Electric, Continental Automotive, Rockwell Collins…

Samares Engineering also does research and provides training courses. It has strong relationships with high schools and research institutes in Toulouse: ISAE Supaero, Enseeiht, Cnam, IRT St Exupery...

Internship context

Samares-Engineering is currently developing a MBSE methodology that enables system engineers to simulate a model of their System-of-Interest at each step of the development process, from context to architecture, design up to production.

During architecture stage, it is common to identify existing products that partially address some functions of the system. It is useful to get a logical representation of those products as models and to select them to support definition of architecture (assembly, satisfaction of requirements).

Samares has decided to provide model library support and requests support to setup that solution.

Goal and tasks

Goal: main goal is setup a model library that can store product models, and to provide associated services: store, search, select, compare, and support to assembly and integration of components (check of compliance in connections and in dynamic).

Tasks

1. Understanding and analysis a set of library solutions, commercial and open source solutions., including Aras Innovator, OpenMBEE. MDEForge…
2. Characterization of a product model: you will investigate list of key properties to define to characterize a product model for future integration in architecture. With support of R&D manager you will list key meta properties of a product and you will apply it to a UAV for agriculture with products like nozzles and pumps.
3. Setup of services to access product models and populate a system model. You will specify and design the services. You will propose technical architecture for connection between library and modelling tool. Can use web technologies like OSLC services or others.
4. Verification of approach on a catalogue: you will insert 30 to 40 products from Excel data sheets and you will check that services allow storing and searching products in the library. You will provide some services to support assembly and integration in the architecture of a system model developed in SysML.
5. Setup of demonstration and video: from previous steps you will build a demonstration and video showing how it works. You will be supported by whole team of Samares and by Ethics Group partners for multimedia and lab access. We will promote your work through publication to a journal or a conference and you will present it jointly with R&D engineer from Samares. Work will also be presented to industrial customers if interest is confirmed.
6. Final report: synthesis, recommendations, and suggestions of new features to be implemented.

Note: for us, internship is considered as a first step toward job application. In case there are good relationships and good results, Samares Engineering is likely to propose a job and you will have opportunity to continue and extend your work as technical leader of product model library at Samares Engineering or become modelling consultant.

Pedagogical goals

Intern will learn and develop skills/knowledge in systems engineering best practices, practical use of models to support development of complex systems, and learning of tools applied in industry, all with good support of experts at Samares Engineering.

Working environment

Samares Engineering is part of Ethics Biotope, an eco-system with different companies and partners involved in building a new vision called “good company”. Collaboration is encouraged and there are many facilities to support companies in their development. It is located in Ethics village at 6 mn from Airport.

Concerning technical environment, you will access to powerfull computers and to Samares Lab’ . You will also access multimedia studio to build professional videos with support of specialists (Ethics partners).

Intern expected profile

We are looking for interns with first engineering background and especially in Software Engineering to be able to develop a prototype, and curious about learning new methods and tools.

Location

BLAGNAC- 2, Avenue de l’Escadrille Normandie Niemen, Ethics Biotope.

Internship compensation

900 € / month

Application for this offer

You can apply directly from our web site: *http://www.samares-engineering.com/fr/contact-2/#a99b4ba4b2c1195c3*
You can also apply to this offer by email to: contact@samares-engineering.com