

EMBARQUEMENT IMMEDIAT

La lettre d'information de Créalie

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All Créalie team members wish you a happy new year 2008.

Our trade :
**Embedded software and
Electronics systems specialists**

For more than 10 years, Créalie supports its customers in their most crucial projects. The partnerships we could build are reinforced by the quality of our team's work.

Our contributions to the projects of our customers are mainly related to expertise missions, technical studies and software developments.

Our team is well known for its knowledge of the trades of embedded software and communication networks. That leads us to deal with whole or part of the development cycle. We work on any type of micro controllers, with all OS and associated development environments.

At the beginning of 2007, Créalie joined the ESG Group and our range of competences have been strongly extended, from embedded software towards systems engineering.

At the heart of an autotransfusion equipment...

Originally coming from Italy, Sorin Group is world leader in the design and development of medical devices and equipment. Blood management is one of the areas of competence in which Sorin has more than 25 years of experience. During this time, Sorin has been able to gain profound knowledge of the needs of medical personnel: in order to meet these requirements the "Electa Concept", an electronic system which serves the autotransfusion concept has been developed. This system is in charge of the blood management during cardiac surgery, orthopedic surgery, vascular surgery and other surgical applications. From basic to expert design, the features offered by "Electa Concept" reach from the essential features of this type of equipment (complete automatic processing included) to advanced features like the possibility to save data into USB memory keys. Saved data are further transferred to a PC in order to be analysed and exploited by the "Electa Data Base Manager Software". All the patients' data are also centralized for complete traceability.

Concerning the PC, USB memory key access is rather easy to manage, but with regard to

the embedded system side things become difficult. Indeed USB memory keys are devices which need to be connected to a USB host. Adding a USB memory key

connection to an embedded system also requires the development of host characteristics. Of course, some basic features are supported by hardware components, but there's some work left to develop all the software for USB mass storage and file system management.



When Sorin's development team had to add a USB memory key connectivity to the "Electa Concept", it decided to use the USB memory key bridge made by Créalie. This gateway, based on the Cypress EZ-Host micro controller, enables the embedded system to read and write data from/to USB keys very easily: the embedded system only has to manage a classical serial interface.

Integrating this gateway into an already designed system is as simple as Plug & Play.

The USB port was added to the "Electa Concept" at the end of the year 2006. Soon, there will be produced more than 900 machines equipped with the Créalie USB memory key bridge...

Christophe BRUNSCHWEILER

ESG-Créalie cooperations

Since the beginning of this year, the cooperation between ESG and Créalie's engineers has grown considerably. One of the main supporters of these business relations is Joachim BAUCHROWITZ, ESG senior engineer, who mainly works in Munich. On several projects concerning processes definition, Joachim helped us as an expert. His position as CMMI Lead Appraiser enabled him to define and improve processes during the project. Thus, during the year 2007, he helped some of Créalie's engineers concerning requirements management, integration / verification / validation at system level and configuration management.

E.I. : What kind of support did you bring to Créalie's engineers?

J.B. : The main focus of my work with Créalie engineers was to be the backbone for the methodical development of processes for the work to be done at the customers. I served as a backoffice support to transfer the best practices from my experience to the Créalie engineers. And I was involved in activities concerning project management, configuration management, requirements development and requirements management. I tried to transfer my knowledge from my past experience to the daily work of Créalie engineers.

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E.I. : What are the keys of your success in Germany, and how do you apply them to the French model?

J.B. : The key success factor of my work is the practical experience I have been able to gain since I joined ESG in 1984, starting as a realtime software engineer and continuing with positions as method engineer, project manager, quality manager, line manager, sales representative and consultant.

In a company like ESG, which is normally big enough not to collapse due to individual errors, you learn which solutions (theoretically perfect) have success during practice or special constellations, and which don't. During my career at ESG, I made a lot of errors and I am therefore able to share my experience with other people, who haven't got over the problematic points. One of ESG's foundations in today's automotive business is to transfer the experience from military business to civil market. Automotive industry is relatively fresh in process engineering. So the experience of military industry over 30 years can be transferred to that specific domain, adapted by personal experience.

Another factor is the aspect, that I was not planned to cover complete work packages. So I had to transfer my experience and knowledge to Crealie engineers. After I transferred the basic process engineering aspects, I only had to supervise the work and to answer specific questions, which came up during daily work.

A very problematic point was my missing knowledge of the French language, which is not even mature enough to complete a simple conversation. Therefore, I was not able to step in when problems were arising "at the customer front", only on the methods side. But that led to the understanding of Créalie's engineers, that they had to solve the problems on their own, there was no "superman", who would come for help. But that led to a very high identification of Créalie's engineers with the individual tasks, and that turned out to be very effective.

E.I. : What do you think are the main benefits of the ESG-Créalie cooperation for our customers?

J.B. : The win-win situation of Créalie with ESG is basing on various aspects.

Crealie knows the French business and its engineers are French native speakers, an absolute must for the French market. Foreign companies and persons, who are not familiar with the French culture will be the losers.

On the other hand, ESG engineers have long lasting experience in the development of processes, assisting and managing of projects in military, civil and automotive development domains to an extent, that engineers of a small company will never have the chance to gain.

E.I. : Which impression do you have today with regard to the maturity of Créalie's engineers on these subjects?

J.B. : Créalie's engineers are young with

various personal experiences, and they are very ambitious to learn. When confronted with new aspects, they try to become acquainted and clarify points of own "darkness". Then they try to apply their new knowledge and ask for help, if questions should arise. All these aspects make it very fruitful and satisfactory to do work with Créalie's engineers.

E.I. : How do you see the future of ESG-Créalie cooperations in the projects?

J.B. : Due to emission aspects, European automotive industry will have to face further changes in the near future. There are already some cooperations in the preliminary stage, but they will have to be intensified by the manufacturers as well as the suppliers.

Suppliers are working cross country already, but the demand for clear interfaces and mature processes will give that company-internal country-spanning work another "kick". There will be even more development process work in the next years, and the knowledge and performance of best practices in the development processes will be transferred from single "method gurus" to all engineers – so there is enough to do for the next years.

For my person, I will be happy to assist anybody who wants to share my experience.

I hope that the very fruitful and positive cooperation of Crealie and ESG will continue and lead to a further step of market presence in the future.

Requirements management with tools

It is important to keep in mind that a tool for requirements management, however powerful, cannot guarantee any result regarding the implementation of the process. It is mandatory to define a process adapted to the organization before selecting the tool.

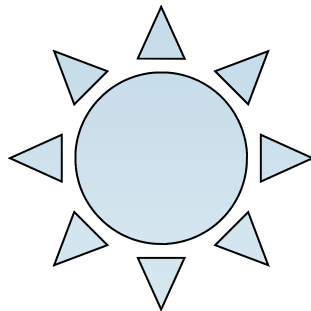
The requirements regarding the tool can then be identified and one can finally select the tool most adapted to the defined process.

There are many tools for requirements management. The functionalities provided by these tools can be separated into 3 categories: requirements wording, requirements traceability and requirements management.

Requirements wording interfaces are often proprietary HMI added to an existing tool. They provide syntax templates to homogenize capture of requirements.

Requirements traceability tools do not allow to capture or store requirements: they parse already existing requirements and rebuild their traceability according to the information captured. The impact of implementing the new process is thus reduced for users, because they can continue to work with the former requirements wording tools. Requirements traceability tools require being handled very vigilant with regard to the new process, because the user will not change his working environment and will be tempted to keep his old practices.

Requirements management tools need more adaptation from the user, but have the advantage to centralize the whole process features



(documents management, requirements syntax and traceability, stakeholders agreement) in a single tool.

These tools are often difficult to handle, and interfaces for the import of Office® documents are often added to simplify the transition between the initial process and the managed process. The error to avoid is then to continue working on local files, while not being able to

guarantee that the specifying information is stored on the requirements management tool.

Within the scope of its counsel and expertise services in the automotive sector, Créalie was confronted with the problem of traceability for the management of Integration-Verification-Validation tests on a complex system.

DOORS® was used to manage the system's requirements, and Word® templates were used to write tests, plans and reports.

A simple means had to be defined to link the content of Word® documents to DOORS® modules. The adopted solution, which is the creation of specific modules for tests on DOORS®, took advantage of the possibility provided by the DXL language (DOORS® eXtension Language) and of VBA (Visual Basic for Application) macros on Word®.

This solution presents true benefits regarding the time saved with tests management. Actually, each task that has to be manually done is realized on the most adapted tool, and all tedious operations like the creation of links between DOORS® modules are done automatically.

William FOTSO & Pierre-Damien CHARLES

En Bref...

On 28 and 29 of January, Créalie will be present at the first « Trades atrium » organized by the Pierre & Marie Curie University (Paris VI).

The objective of these days is to reinforce links between universities and industrial world.

« Embarquement Immédiat » changes

The first major change was colour printing.

Our newsletter is now also available in English...

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