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funStep Case Study: Factory Control Systems

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Brighton based Factory Control Systems (FCS) has been supplying Enterprise Resource Planning (ERP) software solutions to the furniture industry since 1995.

FIRA is the UK contact point for funStep, involved in the funStep project since 2000, was contacted FCS Managing Director Peter Jones about getting involved with the scheme to promote easier data exchange within the industry. He was encouraged to contact FIRA's equivalent organisation in Spain, AIDIMA, which co-ordinates the project, and this led to Peter becoming an integral part of the funStep Interest Group, which now has 700 members.

"The concept of funStep as an all embracing data sharing solution sounded an exciting and interesting idea, and with so many incompatible systems around it made perfect sense to have a standard," said Peter.

"I went to a series of meetings in Spain and Brussels where responsibilities of the project were refined, and soon became instrumental in developing the software, especially in respect of XML. Initially there was talk of having complete databases available to all users, but this was neither practical nor desirable, as such transparency would mean important data such as customer records would be compromised.

"I gave a presentation in the UK where someone said: 'We have systems in our own company which are incompatible with each other, why would we want to share information with the world?' There is a definite fear factor attached to funStep, but that shouldn't be the case.

"You only publish what you want to publish; it's not about making your intellectual property public knowledge or releasing other private details about your business.

"The way companies do things is another factor. Big retailers have their own systems and don't want to feel 'restricted' by standards, while many small retailers still take orders using a pen and paper without having any PCs.

"People have said to me they could have written down the order by the time they had turned on a computer, but that's missing the point. What if the paper gets lost? What if the details are incorrect?

"With funStep such ambiguities are taken out of the equation, as information is consistent. It also takes a straightjacket approach in that all conceivable questions must be answered at the time of purchase, eliminating potential problems. And because it is designed to be compatible with other funStep users, there is no need to re-enter data, saving time, cost and the possibility of human error."

Seminar shows UK developers benefits of funStep

UK software developers recently attended a seminar on interoperability in the furniture industry at FIRA's Stevenage office.

Uninova's Carlos Agostinho presented the programme, 'Fundamentals on interoperability and the ISO standard for the exchange of product data'.

He began by offering two examples of why interoperability is so important. Engineers involved in the construction of the A380 Airbus used design software called CATIA. The problem was the factory in Hamburg used an old version from the 1980s, while their counterparts in Toulouse used

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ISO 10303-236 "funStep" Products and Services: **On line furniture dictionary.**

funStep provides a range of products and services that enable businesses across the furniture supply chain to become compliant with and implement ICT standards that will help to facilitate greater efficiency across their business processes. It also provides a route for developing new products/ service offerings and an access to new markets. By linking in with a community that comprises furniture companies, ICT professionals and R&D organisations, funStep enables SMEs to develop their businesses at reduced risk through a supporting network.

One of the tools developed under the funstep initiative is the furniture dictionary. The dictionary is available online and freely accessible. It is continuously updated and expanded with terms linked to a glossary.

Proposals of different taxonomies have been collected across the world and are now harmonised to fit in as many processes as possible. Works on a common ontology are also being performed by the funStep team.

A search for a specific term provides a list with the search results, related terms and the possibility for further information about its classification. The results are provided in Portuguese, Spanish, English, German, Italian, French and Swedish.

The dictionary is freely accessible from http://www.funstep.org

New training programme to boost understanding of funStep

INNOVAFUN has launched the funStep training curriculum to help the furniture industry in the use and adoption of funStep standards and to help raise awareness and expertise among the research, academia, and standardisation bodies.

Tutorials are prepared taking into account the requirements and prior knowledge of the different parties, and so training is tailored to suit each specific audience and all stakeholders so they can learn about product catalogue exchange and the funStep technologies and standards.

The blended learning approach uses the latest training, education and knowledge management IT solutions. Classroom training is carried out as tutorials at conference as well as in-house courses at customer or partner sites. Virtual classroom training material is prepared offering access from anywhere to the training courses, without the need to have the student physically present in the classroom. E-learning courses enable the trainees to work online anytime and anywhere at their own pace.

The curriculum structure is based on eight tutorials that together cover the main issues that have been concerning the furniture industry:

T0 Fundamentals on the ISO Standard for the Exchange of Product Data (STEP)

T1 Use-Case Guidelines for the funStep standard Adoption

T2 ISO 10303-236, the funStep standard

T3 Business documents for product transaction and management

T4 – Testing and validation of funStep standard implementations

T5 – Semantic enrichment of product catalogues

T6 – Enhanced Adoption of funStep Standards

T7 – Data interfaces for the funStep standard

Seminar shows UK developers benefits of funStep

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the latest version.

Pre-assembled bundles containing hundreds of miles of cabin wiring were delivered from Hamburg to Toulouse, where workers found that the bundles, called harnesses, didn't fit properly into the plane. Assembly slowed to a near-standstill, as workers tried to pull the bundles apart and re-thread them through the fuselage. Airbus had to redesign the wiring system, causing a 2 year delay costing $6 billion.

In 1999, the Mars Explorer probe disappeared on entering the Red Planet's orbit. The target altitude for the probe to enter Mars' orbit was 140km, with the minimum survivable distance estimated at between 85km and 100km. Why then was contact with the craft lost? In reality, the probe got too close, at 57km. This was because the software used to control its thrusters used English imperial measurement units (feet, inches, pounds) while the calculations had been made in the metric system.

"There is a need for a coherent set of open, interoperable and internationally accepted ICT standards as a basis for interoperability," Carlos told the audience. "This will increase efficiency, efficacy and innovation within organisations."

"SMEs are a major economic driving force, but they cannot compete with large companies on an equal basis because of a lack of resources. They have small IT budgets, so cannot afford to implement systems which are not compatible with their suppliers. The funStep standard means they do not have to try to implement change on their own, as there is a support network available to help them achieve interoperability."

He then moved on to a detailed examination of how the standard is applied in the furniture industry, covering catalogues, products, product series, document assignment, properties and multilingual support.

The standard allows companies to digitise their catalogue information in such a way that each product contains details of its composition, the variables offered (number of drawers, colours, materials etc), pricing information, supporting documentation (eg technical datasheets, marketing PDFs), if it is part of a series of products, images, CAD representations and roomset options, so users can show customers how a particular product would look in different settings.

Carlos explained how this is all achieved using XML programming, and showed a video to illustrate the advantages of adopting the standard. In it, a couple want to buy a three piece suite. The first shop they visit is traditional, and uses conventional catalogues and sample books. By the time they have asked about different materials and other options, they are overwhelmed by a vast array of books, yet have no way of visualising how each option would look in their home. The second shop is more minimalist, with clean desks and computer terminals. When the couple ask their questions, the retailer is able to check various options on a PC, and show them exactly how different combinations look, to the extent that different light variations can be shown (dusk, dawn, artificial light etc).

Currently under development is the capability of adding other variables into the equation, known as Boolean expressions. These define complex expressions which are not suitable or are too complicated to be included in previous categories such as product, composition etc, for example the price of roomset composites.

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