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IFCToolboX: Extended tool support for IFC implementations

Background

IFC Toolbox from Eurostep is a software tool (C++ library) supporting reading, writing and data access for Product Model Data defined by the IFC specification from IAI (International Alliance for Interoperability). During the autumn 1999 the IFC ToolboX project was initiated to define and develop extended support for IFC implementations. The objectives for the project were defined as follows:

- Develop new commercial products around the IFC Toolbox.
- Provide continued, extended, more comprehensive, more versatile and more easy-to-use tool support for IFC implementations.
- Extend the potential implementor market base from software house C++ professionals to include construction companies' in-house software developers.
- Provide implementation support towards shared IFC project models and IFC over Internet.

Project deliverables

The IFC ToolboX project's main deliverables consist of software products as well as demonstrators and beta products.

Software products


The actual software products are Active IFC Toolbox and Classic IFC Toolbox. Active Toolbox is a totally new piece of software the main purpose of which is to provide simple access to IFC data using a COM (Common Object Model) interface. This means all developers familiar with Visual Basic™ or VBA™ Visual Basic for Applications programming can start using Active Toolbox objects for reading and writing IFC model data. The Classic Toolbox is an enhanced version of the original IFC Toolbox product. Active Toolbox uses the Classic Toolbox core C++ libraries as its implementation foundation.

The following versions of Toolbox products are commercially available as the development project was completed:

- *Classic Toolbox for IFC 1.5.1*
- *Classic Toolbox for IFC 2.0*
- *Classic Toolbox for IFC 2x*
- *Active Toolbox for IFC 1.5.1*
- *Active Toolbox for IFC 2.0*
- *Active Toolbox for IFC 2x*

More information about these products can be found from:

<http://www.eurostep.com>

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Demonstrators & beta products

During the project several demonstrators were built in order to evaluate the feasibility of state-of-the-art distributed client/server technologies which could be used for commercial IFC Model Server implementations.

IFC Java/CORBA Server demonstrator

This demonstrator was basically adding a generic CORBA interface to an IFC Toolbox based server implementation. The User Interface was implemented as a Java Applet which runs on any standard Web browser. The actual performance was good with IFC models up to 200.000 instances. In addition, this architecture proved very reliable. However, known security problems related to CORBA-based architectures and, on the other hand, the low programming productivity when combining Java, CORBA and C++ raised some issues.

IFC Share-A-Space™ demonstrator

The Share-A-Space™ product could perhaps best be described as a "product data portal" for collaborative projects. It integrates the subsets of product information and processes that partners in an extended enterprise wish to share. Share-A-Space™ was originally developed for discrete manufacturing industries. In this demonstrator IFC product model data was mapped onto the internal structures of a Share-A-Space™ database. Users can log into the collaboration area and browse the actual building decomposition structures as defined in the IFC Release 2.0 schema.

More information about Share-A-Space™ can be found from: <http://www.share-a-space.com>

IFC R1.5.1 to IFC R2.0 Mapper beta product

When the IFC ToolboX project started in late 1999 there were quite a lot of discussions about the need to convert IFC R1.5.1 files to IFC R2.0 files. Based on these presumed requirements work on converter software specifications and implementation was started. However, later on it became evident that there would be no commercial demand for such a tool and the development task was put on hold. As a result from the development work there is a detailed mapping specification and a converter software prototype.

Information

For further information about the IFC ToolboX project and related products, please contact:

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