I-X technology for intelligent systems

This technology is available to access under the University's Open Technology initiative

The I-X technology is a systems integration architecture with a design based on the O-Plan agent architecture. I-X incorporates components and interface specifications which account for simplifications, abstractions and clarifications in the O-Plan work.

I-X provides an issue-handling workflow style of architecture, with reasoning and functional capabilities provided as plug-ins. Also via plug-ins it allows for sophisticated management of the internal model representations. I-X agents may be recursively or fractally composed, and may interwork with other processing cells or architectures. This is a systems integration approach now being advocated by a number of groups concerned with large scale, long-lived, evolving and diverse systems integration issues.

I-X technology has five aspects:

- **Systems Integration** - A broad vision of an open architecture for the creation of intelligent systems for synthesis tasks (such as planning, design and configuration) based on the handling of ‘issues’ and the management or maintenance of the constraints describing the product of the process.

- **Representation** - a core notion of the representation of a synthesis process and the product(s) of such processes as a set of nodes making up the process or product, along with constraints on the relationship between those nodes, a set of outstanding issues, and annotations related to these - <I-N-C-A> - Issues, Nodes, (Critical and Auxiliary) Constraints and Annotations. Engagement with various standards setting groups is a part of this work.

- **Reasoning** - the provision of reusable reasoning and constraint or model management capabilities.

- **User Interface** - to understand user roles in performing collaborative activities and to provide generic modules which present the state of the processes they are engaged in, their relationships to others and the status of the artefacts/products they are working with.

- **Applications** - work in various application sectors which will seek to create generic approaches (I-Tools) for the various types of task in which users may engage.

**Key benefits**

- Supports the construction of intelligent systems and intelligent agents
- Designed to be intelligible to human users
- Provides issue-based and issue handling architecture

**Potential applications**

- Collaboration Technology
- Intelligent Agents
- Planning Applications

**Open technology**

The I-X software will be provided via download following acceptance of the University’s Open Technology standard terms and conditions.

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