

GeneXus™

Grow thru knowledge

GeneXus Philosophy

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GeneXus, its essence and its fundamental characteristics

GeneXus is, essentially, a system enabling a very good automatic management of the business systems knowledge.

Paradigm

GeneXus is based on a paradigm that is completely different from the usual systems development paradigm: it does not start from a preexistent data model or from abstract conceptions of what is important and what is not important for the company:

In any organization, there are multiple users (from the General Manager to the lowest positions in the company). But, is there someone with a comprehensive knowledge of the organization's data? Is there someone who knows the data with a suitable level of objectivity and detail? Certainly not. This is not an exclusive problem of large corporations, it occurs in companies of any size.

GeneXus takes as its starting point the different visions of its users. Each user, at any level of the company, has a very good knowledge of the vision of the data he works with daily.

GeneXus starts from these visions and finds the ideal data model derived from them (it can be rigorously proved that, given a number of users' visions there is one, and only one minimal relational model that supports them).

Artech has achieved a great *know-how* about the topic, particularly a very good reverse engineering process that, starting from a number of data visions from different users, develops the ideal model, and the corresponding relational database.

GeneXus systematizes all this knowledge in a Knowledge Base. In addition, as sub-product, it also systematizes a good description of the users' visions and, starting from that, it can generate, for example, the programs required to operate with them.

Automatic knowledge management

Pure knowledge. GeneXus works with pure knowledge, and this knowledge is independent of the technology used.

100%-automatic maintenance. GeneXus "*really knows*" the database and the programs (since it has the knowledge to generate them). Consequently, it is able to automatically, and at any time, infer a report on the impact caused by the changes made on the programs and the data base. And once this report is accepted, it can automatically propagate all these changes to the data and the programs.

GeneXus guarantees a 100%-automatic maintenance of the applications because of its unique technology, and it is the only product worldwide able to do this.

Independent of platform, architecture and technology. The pure knowledge has a permanent value, and is independent of quite lower level elements such as the platform (hardware, operating system, database server, applications server, etc.), the architecture (centralized, 2-tier client/server, 3-tier client/server, network-oriented multi-server such as Java or Microsoft .NET), or the available technology. Consequently, the knowledge that has been compiled in the development of a system with a specific platform and architecture and in a specific technological context, can be used to generate systems for other platform, architecture and technological context (e.g.: applications that were developed ten years ago for a centralized platform and text format screens, can be now taken to Java or Microsoft .NET platform).

GeneXus protects the knowledge of all users regardless of the technology: It does not matter which technologies will be used in the future, the knowledge will be the same, therefore, by building the necessary generators, this knowledge will be reused to generate systems for the new technologies.

Knowledge Business. Another consequence of the above mentioned automatic knowledge management is that this knowledge can be "easily integrated" and, consequently, knowledge can be bought and sold so as to ease and optimize systems development.

Why should I choose GeneXus?

Because applications and their databases are becoming more and more complex; because when designing large databases (with hundreds or thousands of tables) we make many human mistakes; and basically, because **NOBODY** in a large organization knows the company data with a suitable level of objectivity and detail. Thus, the paradigm introduced by GeneXus that consists in taking the knowledge starting from the users' visions (somehow making an isomorphic development with the perspective), is much better than the traditional paradigm.

Usually, GeneXus customers develop and maintain large Mission Critical applications with it, it is not uncommon for a GeneXus applications to have over 500 tables.

How is GeneXus developed?

GeneXus is developed in Montevideo Uruguay, in Artech's laboratories.

Artech stays in Uruguay since it benefits significantly from the high academic level of the local IT Engineers, and for the synergy it produces over the local software industry.

GeneXus is developed using state of the art technologies available worldwide, and an important part of its programming, and particularly the prototypes and tests, are developed by means of predicates logic and its Prolog language.

Artech has a research & development team made up with 30 engineers, but its productivity level is quite higher than the standard one showed by software companies worldwide.