Chapter X
From the Model to the Code Generator

INTRODUCTION

Surely, the design phase is one of the most important in the whole information system life cycle. The design phase allows realizing of the information system according to an engineering approach that by abstracting itself completely from the implementation details, it can adequately focus itself on the design aspects allowing for provision of a clear and precise methodological guideline to the developers. In this way, a high level of quality is guaranteed to the information system that will be not influenced by ad hoc decisions made up by the developers; decisions that, in the greatest part of the cases, are deprived of a suitable methodological support, and that inevitably bring to a diminution of the total quality of the project.

All of the details of the design phase have been underlined in the first part of the job and have been provided both approaches from the methodological point of view (specialized for the different typologies of users that will use the information system) and case studies oriented to understand the real applicability on the field of these methodologies.

At this point, it is essential to provide a technological aspect to the book thinking that the design methodologies are useful up until when they simplify the job of
the designer: in the moment in which the design methodology adds complexity it is immediately abandoned by the designer.

During an accurate analysis of the designer requirements, it is evident that the tools that he/she needs are primarily of two types:

- Tool of graphic design
- Tool of automatic code generation

The tools of graphic design must have realized in order to simplify how much more possible the application of the methodologies of design previously exposed and to get, of course, a graphic representation conforming to the primitives of those methodologies.

In parallel, it is essential to have a tool that allows, starting from a machine readable representation of the gotten models, automatic production of the whole necessary code to obtain an application very close to that final application. To avoid that, this effort is not suitable, as it will be clearer subsequently, the generation of code will not be elegant in itself, but it will use some advanced technologies that will allow obtaining an application that, if on one hand, answers to the design choices, and on the other hand is a good base that can be used for the following development.

THE SUPPORT TOOLS

A methodology of design not adequately supported by a tool it is a little effective and this is very more true how much anymore methodology is complex, or rather it holds in consideration more aspects as in the case of the methodology PIDM process that it unites different aspects going from the design of the business process and up to the definition of the pages through which the business process will be performed by the final user.

To ask a designer to remember all of the methodological guidelines that allow obtaining from an IDM design the relative P-IDM process means, in concrete terms, forcing the designer to distract his/her attention from the real design problems with a consequent diminution of the quality of the final product. In the long run, the designer will refuse to use this methodology of design landing in the best hypotheses toward the realization of a well structured design of the information system or directly passing in the development phase, realizing an application without a good design support.

In order to provide support to the designer, it is necessity to realize an integrated tool that on one hand supports him/her to use the methodology and on the other side supports him/her in the following phases of export of the model in machine readable...
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