Informationbase – A New Information System Layer

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INTRODUCTION

Information is a set of data purposefully organized into a report. In the database of an information system, only the raw material for the information is stored, that is, the data. To get the information one needs:

- To find an adequate option in the information system menu.
- To understand the possibilities of the option and to enter appropriate values for the parameters required.
- Execute the option and …
- … wait to get the report.

The concept of the informationbase eliminates these steps and enables the user to get the information directly and instantly.

Informationbase is a top layer of the information system that uses information systems database and information system reporting options to automatically maintain set of reports and graphs, permanently available to the user. Hence, it acts as an information manager that:

- enables free design of the informationbase contents and structure,
- automatically activates predefined information system options ...
- ... and delivers parameters for those options to produce up to date reports,
- reports produced automatically and/or manually stored in an informationbase, where they could be easily accessed by authorized users, and
- manages authorization of informationbase usage.

The rationale for the informationbase concept is the following:

Instead of being repeatedly and randomly produced by individual users, information could be once generated by the editor and/or automatically generated and stored in the informationbase, that is, be permanently available to all potential users.

Thus, the final product of the information system - information - could be available as up to date reports, rather than as a vague potential possibility, hidden in the complexity of the information system.

One of advantages of the informationbase is that it solves the problem of computer capacity overload, so commonly present and caused by simultaneous information retrieval of many users.

As Zygmont (1999) states: "The usual lifecycle goes like this: The user first accepts the reporting tools and templates provided by the ERP vendor. The honeymoon ends shortly after implementation, when workers become comfortable enough with a new system to begin making demands".

"Structure of data within ERP systems generaly prevents efficient reporting. Data tables are very normalized, containing minimal cross references, so that transactions move rapidly. But that means to get reports, you have to hit up against many different tables. That eats a lot of CPU cycles."

But even more important is that it makes easy to grasp what are the most important deliveries of the information system to the user organization. Namely, the scope of information system coverage is carefully structured and clearly presented in the informationbase. Thus, the user gets the understanding of the system far faster, more completely and with less effort than studying system manuals. The cognitive and organizational learning dimensions of the information system are recognized and considered as important issues in the literature (van Stijn, 2001, p. 502).

BACKGROUND

Informationbase concept is developed by the author of this paper, working for SUPER-KING Inc., Zagreb, Croatia, and implemented in TOMAS (**TO**tal **MA**nagement **S**ystem) ERP (enterprise resource planning) software. In the Croatian version, the name of software is SUPER (**S**ustav **U**pravljanja **P**oslovanjem **E**lektronickim **R**acunalom). The first version of informationbase was implemented in 1994 (Kovach, 1996). SUPER has been implemented in an organization with a multimilion transactions database. This caused problems with computer overload during the day,

for many users had been making reports that required handling large database. First, we tried to solve that so that computer operators were producing the most frequently needed reports after normal working hours and during the night, so that the next day printed reports were distributed to users. The first version of informationbase was a report management system that enabled storage of generated reports and retrieval at will.

In this article the second version, developed in 1996, is presented, to describe the concept first presented in Kovach (2001, 2004). In this version, capabilities of informationbase have been extended to the limits of our imagination and remain to the present time unchanged.

PROPERTIES OF THE INFORMATIONBASE

Informationbase is a structured set of reports and/or graphs ready to use. TOMAS' informationbase offers the following capabilities:

- Informationbase is built for the user organization and a calendar year, but any number of informationbases could be kept simultaneously.
- Each informationbase could have:
  - up to 99 chapters,
  - up to 34 reports/chapter, and
  - unlimited number of pages/report.
- Structure of chapters and reports could be defined by the user. The default structure of the informationbase is available, but the user could modify or change it completely.
- Access to the informationbase is controlled by an authorization system. User password determines what chapters and/or reports are available to the user and whether the user is allowed to change informationbase structure.
- Reports in the informationbase could be updated automatically and/or manually. For each informationbase entry to be updated automatically, there should be stored parameters that are described next.

  Based on these parameters, informationbase is automatically updated, using standard information system options for report generation, which are used apart from the informationbase as well.

Hence, informationbase is a new layer of an information system for maintaining a permanently available and up to date set of reports and graphs predefined by the user.

CREATING THE STRUCTURE OF THE INFORMATIONBASE

Informationbase structure is created in the following way:

- Chapter is defined by the chapter number and the chapter title.
- Chapter entry, that is, report or graph, is defined by entry number and entry title.
- For each chapter entry (report or graph) to be generated automatically, the following parameters are to be stored:
  - Number of the option from the information system menu that makes the report. These options are used to produce reports normally, apart from informationbase, but also could be used for automatic report generation for the the informationbase. This requires additional considerations in information system development.
  - Option template number, with specified values of parameters. Options for report generation in TOMAS have usually 15 - 20 parameters and the capability of producing billions of report variations, depending on user chosen values of parameters. Combinations of parameters values could be stored as option templates.
  - Type of date interval – reports are always made for some period of time. This period is defined by several parameters. Type of date interval is one of parameters and refers to one of the following:
    - date of data entry
    - document date
    - payment due date
    - financial month/year
    - planned due date
    - order delivery date, and so forth
  - Relative report time period – defines the period for which the report is to be made in relative terms, which could be:
    - yesterday
    - today
    - previous month
    - current month
    - current year up to today
    - current year up to the end of previous month, and so forth
    - to previous could be added +/- N days, where N is defined by the user

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