

Congruence Control Management for University Governance

Claudia-Georgeta CARSTEA

“George Baritiu” University of Brasov, Romania

15claudia.carstea@gmail.com

Abstract— With a view to improving U-governance we created a collaborative networking based on academic partnership aimed at conceiving an integrated informational system to be implemented and generalized. The informational system was developed in the SOA context. Reducing funding designated to national education, creates big problems concerning the university management in Romania. SIMUR is an integrated Informational System, designed as an instrument for university management (U-GOV). We consider the fact that educational system is not an independent entity and exist in an environment. The system created allows activating a series of controls on the planned appointments.

Keywords— Congruence Control, University Management, Compatibility, Overlapping, SOA, Integrated System, Overlapping

1. INTRODUCTION

Specific objectives of the SIMUR project are: [1]

- a) Designing and implementing a standard configuration in the five universities which should be adapted to the requirements of Romanian universities to the Romanian legislation in force and to the European priorities;
- b) Redesigning and optimizing the main existing informational flows;
- c) Increasing the transparency level by providing up to date information at any moment;
- d) Increasing the efficiency of the activities of the staff involved in university management;
- e) In the context of Romania's integration in the European Union and according to the Lisbon priorities, Romanian universities are faced with the necessity to meet the new requirements and standards. [12]

The management cycle of the logistics of the university's resources can be divided into three macro phases, not necessarily sequential, which can thus be considered, also simultaneously, by an operator:

- Planning – the first drafting of the timetable, if possible in diagrammatic form in the case of a recurrent event or a simple calendar of single dates.
- Management of variations – once activities have started, the provisional calendar may certainly undergo single variations over time, which can be managed in such a way as to provide a precise and punctual communication transmitted to the persons involved and to simultaneously monitor the effective use of the resources.
- Monitoring – defined as a final opportunity to detect the actual course of events planned and the actual employment resources. These recordings – normally registered on a sample basis – can then be the subject of statistical analyses or used by the decision-making support system.

2. CONGRUENCE CONTROL FOR UNIVERSITY MANAGEMENT

SIMUR system allows a context management. [7] There are three types of control:

- Availability: actual availability of resources-event-people is controlled by the system, comparing the planned events with the availability calendar. For fixed resources, it will be opening timetable and closing days, for events, it will be the didactic period, for people, it will be the attendance days agreed.
- Overlapping: the Program indicates the appointments overlapping on the same resources-event-people. In order to avoid overlapping between different events, use the function of generation and management of links.
- Compatibility: the Program indicates that the characteristics of an event match the characteristics of the available fixed resource.

The collaborative network includes universities from Italy and Romania. The Romanian universities have been selected in such a way as to allow sensing different university fields (economic, technical, and pedagogical) as well as different education forms (private and state universities). (Fig. 1)

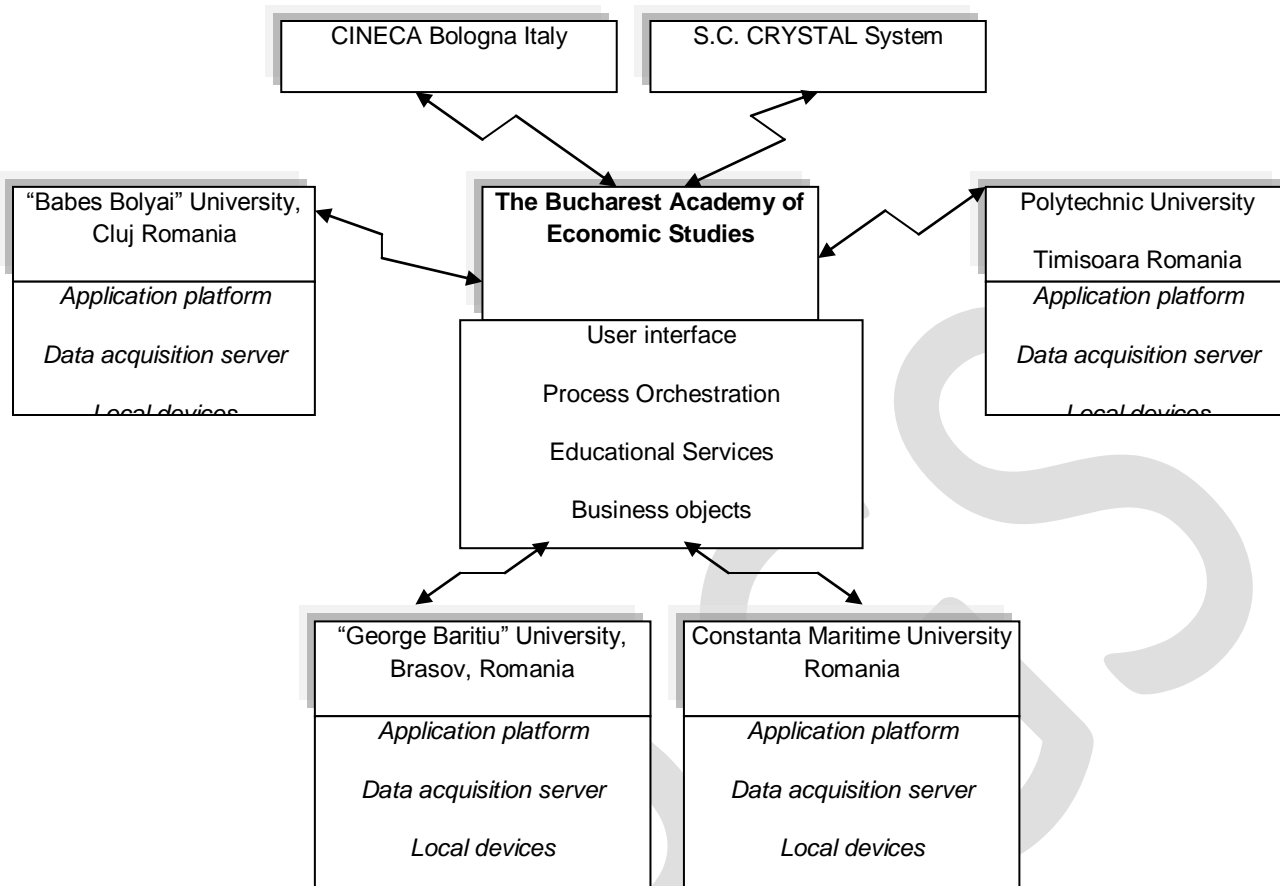


Fig 1: Collaborative network architecture

The advantages of collaborative networks are the following:

- Offers the possibility to reduce the duration of development and implementation of the system;
- Increase the chances to achieve a performed system because it is based on previous achievements, verified in practice and on the accumulated experience of partners along the time;
- Offers the possibility of cost reduction for the development and implementation of the system because we can use partially or totally the software already made (software reusability);
- Decreases the risk of implementing the system because it is based on the achievements already verified in practice.

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3. ADAPT TO CHANGES AND DATA INTEGRATION

Starting from the observation that a main characteristic of each level is to finalizing with a check up and a validation in order to eliminate certain anomalies, it is underlined the fact that a good security of the I.T. and the administration practice's control of the complex I.S. projects is essential.[4] Under these circumstances, one can search new managerial solutions in order to integrate:

- Time control,
- Cost control,
- Quality control of the working team,
- Obtained results control

There are many different personality and motivational models and theories, and each one offers a different perspective. [9] The more models you understand, the better your appreciation of motivation and behavior. For organizational change that entails new actions, objectives and processes for a group or team of people, use [workshops](#) to achieve understanding, involvement, plans, measurable aims, actions and commitment. Encourage your management team to use workshops with their people too if they are helping you to manage the change. [2,7]

You should even apply these principles to very tough change like making people redundant, closures and integrating merged or acquired organizations. Bad news needs even more careful management than routine change. Hiding behind memos and middle

managers will make matters worse. Consulting with people, and helping them to understand does not weaken your position - it strengthens it. Leaders who fail to consult and involve their people in managing bad news are perceived as weak and lacking in integrity. Treat people with humanity and respect and they will reciprocate.

For complex changes, refer to the process [project management](#) and ensure that you augment this with consultative communications to agree and gain support for the reasons for the change. Involving and informing people also creates opportunities for others to participate in planning and implementing the changes, which lightens your burden, spreads the organizational load, and creates a sense of ownership and familiarity among the people affected. [5, 8, 7]

The ethical values of one organization can not be better than those of the employees (the leading positions are included) that create them, that make them work and supervise them! AND All this because there are some organizational factors that contribute to unauthorized actions such as:

- the inefficiency of controls within the company;
- the inefficient decentralization of the report system;
- the penalizations of some employees that weren't announced to the entire company

But the employees' ethical manner is not enough. [1, 3, 9] Their abilities are another essential element of the control medium. The ability, that is knowledge and aptitudes necessary in every line of work, must be mentioned by the leaders. It is in the interest of every company to have the best employees. (Fig.2)

We focused about a number of different levels of data integration like:

- shared files – all tools recognize a single file format
- shared data structures- the details of data structure are agreed in advance by all tools and are “hard-wired” into the tool

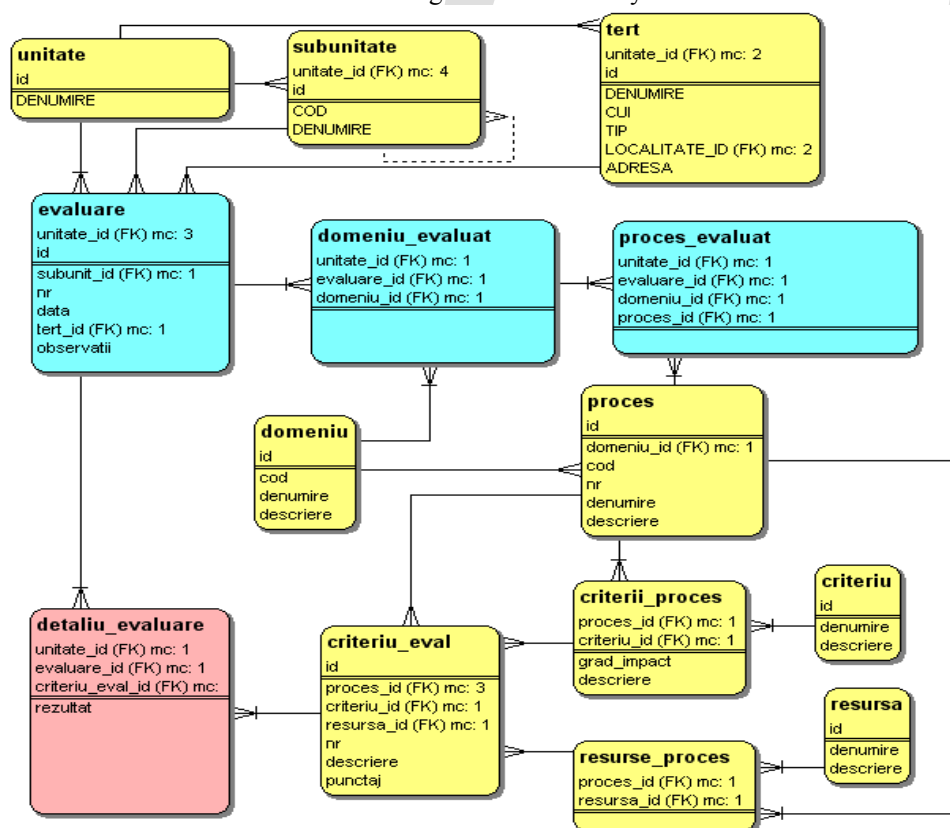


Fig. 2: Activities Diagram

Problems come out in different ways. The Feedback can offer information regarding the gap between actual performance and the desired one. We could say that feedback highlights the problems. Also the external feedback is extremely important and must not be ignored.

The three most relevant and key elements in order for the project to be realize are:

- Technical feasibility – added to the present system, available technology for the users requests
- Economic feasibility -the period of time in which a project is designed, the cost for its planning, the cost for the employees time of study, the estimative cost of the hardware and software equipments and their development.
- Operational feasibility – The well function of the system after it has been installed, the usage of the designed project.

For the approval of each project there must be identified needs at first. It is also necessary that the project is possible from the technical point of view. The question is if the present technology allows its accomplishment, and if these technologies exist, are they accessible taking into consideration the knowledge, the abilities, the budgets, the human and material resources.

4. SISTEM REQUIREMENTS

The project manager is responsible for the correct investment of the resources, as well as for their usage in order to obtain the desired result. (Fig.3)

The first mode to operate on the controls, the most immediate is to activate the engine and work directly on the open scheduler. Every time the engine detects the problems on each appointment, a warning signal will appear. In this mode, the engine works indicating the problems in sequence, so not all at the same time. You can configure and customize the controls by default that the procedure carries out during activation of the appropriate panel in options. [1, 7, 10]

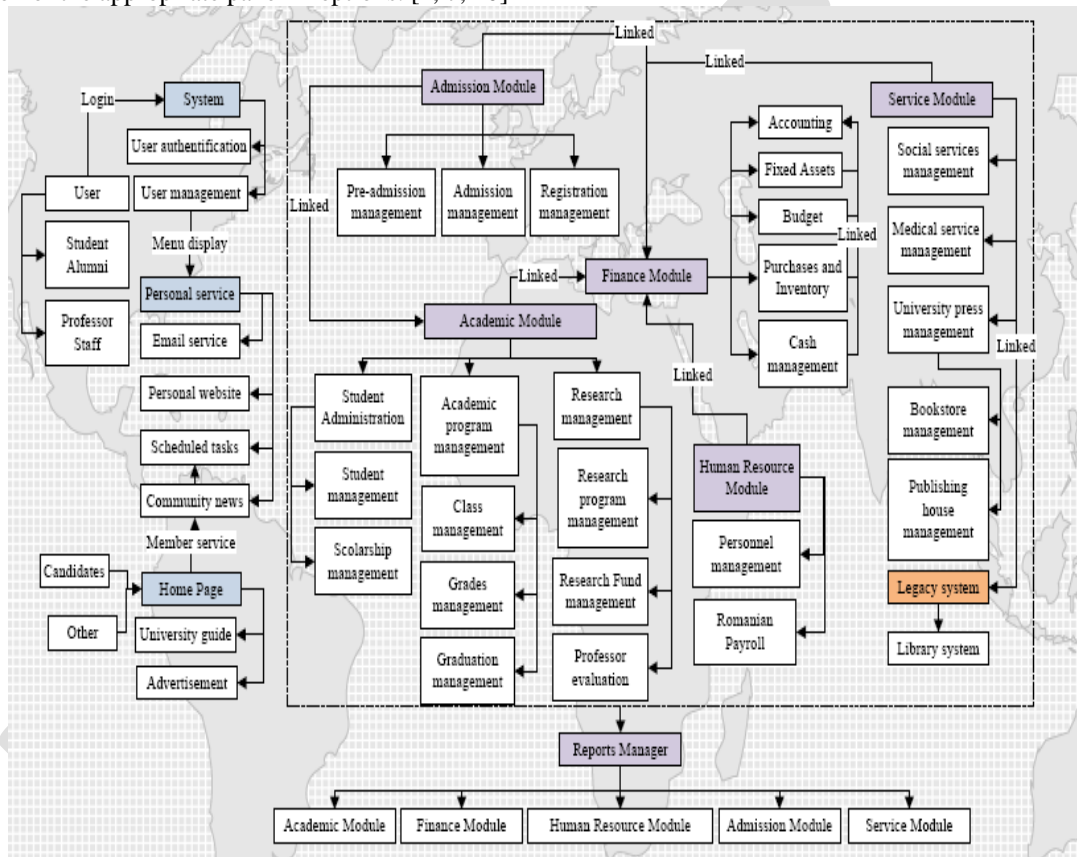


Fig.3: A possible solution for an efficient ERP system

Establishing system requirements was very difficult because of system complexity. We concentrate on the following types of requirements:

- Functional requirements – the basic functions that the system must provide. There was set out at an abstract level and then in detail. Detailed functional requirements specifications took place at the sub-system level.
- System proprieties – means the non-functional emergent system proprieties, such as availability, performance and safety. These non-functional system proprieties affect the requirements of all sub-systems.
- Characteristics which the system must non exhibit – what the system must not do.

An important part in requirements definition phase was to establish a set of over-all objectives which the designed system should meet.

Some of the activities involved in SIMUR design was:

- partition requirements – during this phase we analyzed requirements and collected them into related groups
- identify sub-systems – we identified the different sub-systems that can, individually or collectively, meet the requirements. We focused about influence of other organizational or environmental factors.
- Assign requirements to sub-systems – as we know in practice is never a clean match between requirements partitions and identified subsystems.
- Specify sub-systems functionality – as a part of the system design phase.
- Define sub-systems interfaces

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6. CONCLUSION

In the actual context, analyzing the academic environment we have drawn a series of conclusions, among which we can mention:

- The activities in the university environment are characterized by dynamism and complexity;
- There are several factors that generates a series of changes; for this reason there is much more emphasis placed on strategic planning and management control;
- It is necessary to develop an efficient Informational System for U-GOV;
- The development of an Informational System in the SOA context is highly advantageous.

Based on the conclusions reached in fig 6 we proposed our own solution of U-GOV. Our solution is SOA oriented.

The collaborative network of the system U-GOV has been achieved on the base of academic partnership, including several universities and some companies specialized in developing and implementing software in the university domain.

The role of the universities within the partnership is that of making an inventory of the problems of the Higher Education and of proposing solutions; the specialized companies are supposed to ensure the transfer of the logistic and technical support for the implementation of the system.

In a partnership of this kind, the numerous entities involved constitute a collaborative network based on synergism. Within this context synergism means simultaneous action or entities collaboration towards the same goal with a view to achieving a common objective with economical material, financial and human means, which otherwise would have been difficult to achieve.

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