

Virtual Educa 2001

College/University Name Unicentro Newton Paiva

Proposal Title: Gestão de cursos e conhecimentos baseado na metodologia de processos para um modelo de aplicação do software R3 na integração curricular

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Executive Summary –

The project “ **Management of Knowledge and Courses based on processes methodology for an application model of R3 (SAP software technology ERP) software in curricular integration**” aims at creating a model of management of knowledge for academic programs following the procedures used in the implementation of the program “**University/Enterprise Integration from a curricular proposal of reality simulation based on R3 software**” at Unicentro Newton Paiva. This project has the purpose of creating a technological and academic environment of controlled enterprise simulation to be used in undergraduate classes for the courses of Applied Social Sciences, more specifically the ones related to business.

The basic proposal of this project is motivated by the need of implementing R3 as a tool for entrepreneurial reality simulation for undergraduate courses. We are always facing a significant load of information and knowledge to be organized and assessed in a systematic and controlled way. Besides dealing with the amount of information and knowledge, the project aims to display this information in different ways for students, teachers, coordinators and managers, generating a demand of a management of knowledge model for an effective implementation.

We will describe next how we plan to build this model, based on the ARIS tool:

From the idea of a traditional curricular organization, we would have as a model a set of subjects, with or without integrated contents, usually not taught with contents interchange. Even in contexts where interchange of contents is stimulated, there is, from the manager, a Great difficulty in assessing how the teachers are teaching their contents, for the lack of control in the traditional model. If we consider the number of different approaches each teacher may use, we will to evaluate the complexity of the process of knowledge management. Adding to this complexity are the natural replacements that occur in the teaching faculty, for various reasons.

At this point many questions come up. How can we insert a new teacher in the project? How can we introduce him to the proposal of content interchange? How to adapt the curriculum to a new reality of market application? How to construct a project of course really integrated, with planning and control? How can we assess if the implicit knowledge is being worked out in the course context?

What we are planning to do is: From a model of integrated enterprise, implemented in the R3 software and using a reference model generated from ARIS software, to generate an organizational view of this process. Using the diagrams, knowledge map and Knowledge structure, to document the curricular structure, subject by subject, in an integrated way, specifying the adequate teacher's profile for the subject, the expected objectives of knowledge for the students, the implicit and explicit integration with other subjects, the relationship between this subject and the events and processes diagrams, among thers.

Infra-structure

Unicentro Newton Paiva has implemented a specific infra-structure for the project of R3 use as a tool of entrepreneurial simulation. This infra-structure, which will also be used for this project, comprises 4 labs and 4 support rooms.

The configuration of the labs will be described below:

Three providers with the following configuration:

NetFinity 5000 multiprocessed
2Mb memory
100Mb in hotswap HD
DAT tape
Windows NT

125 stations divided in 4 floors

1st floor – 50 IBM PT II
64 Mb memory
1 Xerox Laser printer 4512

2nd floor – 25 IBM PT II
64Mb memory
1 Xerox Laser printer 4512

3rd floor - 25 IBM PT II
64Mb memory
1 Xerox Laser printer 4512

4th floor - 25 IBM PT II
64Mb memory
1 Xerox Laser printer 4512

Other data

Local Net 100 Mbits
Internet Connection 1Mb
SAP version 4.6 b
Databank SQL provider
ARIS version 5.0
Support rooms : 7 Pentium II 64 Mb

- Description and scope of the project

In its first stage, this paper aims to put together an integrated structure among the contents of the subjects studied in undergraduate courses such as Business Administration, Accounting and Economics. In a second stage, the curricula of courses such as Marketing and Foreign Trade will be dealt with. The last phase of the project deals with the insertion of various post-graduation courses and the undergraduate course in Tourism Enterprising Projects and Management.

In the first stage the following subjects are being shaped to meet the requirements of this new profile:

Course: Business Administration

Subjects:

Principles of Management
Management Theory
General Accounting
Organization, Systems and Methods I
Organization, Systems and Methods II
Financial Planning and Budgeting A

Financial Planning and Budgeting B
Assets and Material Resource Management
Production Management I
Production Management II
Marketing Management I
Marketing Management II
Project Analysis and Development
Managerial Information Systems

A total of 18 teachers and 1 coordinator are involved in this course. We plan to be working with 1,522 students each semester when the project is fully implemented, and each student will have 35% of the course credits inserted in this proposal.

Course: Accounting

Subjects:

General Accounting I
General Accounting II
Commercial Accounting I
Commercial Accounting II
Accounting for Public Institutions
Managerial Accounting
Cost Accounting and Analysis I
Cost Accounting and Analysis II
Cost Accounting and Analysis III
Accounting Practice Lab
Organization, Systems and Methods
Public Budgeting
Advanced Accounting
Financial and Budgeting Business Management
Accounting Report Analysis I
Accounting Report Analysis II
Auditing I
Auditing II
Auditing III
Accounting Audit and Appraisal
Applied Accounting
Fiscal and Tributary Accounting
Professional Practice

In this course 12 teachers are involved in this project, and 14 others will join in this semester, besides an area coordinator.. When the project is fully implemented, we will be working with 1.185 students each semester, and 52% of the credits will be inserted in this proposal.

Course: Economics

Subjects:

Introduction to Accounting
Macroeconomic Theory I
Macroeconomic Theory II
Project Elaboration and Analysis
Accounting and Balance analysis
Enterprise Economics I
Enterprise Economics II

In this course 4 teachers are involved in this project, and 3 others will join in this semester, besides an area coordinator. There are 678 students enrolled in this course. When the project is fully implemented, we will be working with all students, and 20% of the credits will be inserted in this proposal.

Next semester, Marketing and Foreign Trade will be implemented, each with a number of expected 315 and 879 students respectively involved.

At the end of this first stage we will have been working with 4579 students involved in this program. This means 35% of the students from this institution.

The project has as reference some proposals that will guide the actions of teachers and coordinators. They are:

Proposal 1

To create a structure of knowledge management, through ARIS, that will allow for the documentation of the curricular structure of the courses and program contents of each subject mentioned in the project.

Expected result with implementation of proposal

To create a new model of academic documentation. From this model, it will be possible to use other facilities and potecialities of the ARIS software integrated with a reference model for R3.

Proposal 2

We propose, from the model generated, to examine the documentation considering the criteria of integration among the contents, the adequacy of approach overlapping, the inter-relationship among contents of the subjects according to the integrated management model,

the objective of the approach and the expectation related to implicit and explicit knowledge to be acquired by the students.

Expected result with implementation of proposal

The expected result is related to the possibility of managing a teaching/learning method integrated among subjects and contents. It will provide the course manager with documentation to supply the teacher, not only content-based, but also with orientation about how to conduct the contents.

Proposal 3

From the careful examination of contents and relationships among subjects, we propose to identify the adequate teacher's profile involved in the process, which, once effectively integrated needs a suitable or adapted professional.

Expected result with implementation of proposal

We expect to have an integrated management of knowledge as if we were the enterprise whose simulation we are using. If we can attain this purpose, we can get the overview of an integrated course, in its operational and pedagogical proposal. Being practical, we will have documented a relationship among subjects and business processes mapped on R3, the consequences of each activity and/or process related to other subjects, the interaction and integration of data worked from the focus of each academic and methodological approach. Moreover, we will be able to work the several possibilities of administrative action and reaction from a controlled and simulated change of scenario.

- **Methodology**

The methodology for the construction of this project is, partially, based on R3 model in the software ARIS from IDS Sheer.

The first step for the development of the project was to create a unique work and knowledge base. This base needed some characteristics in order to be used. Some of them are the possibility of sharing, to allow the insertion of the model enterprise and of the model data, to permit the description of processes related to the enterprise activities, to present a graphic interface that eased its academic use, among others.

From the knowledge and training of ARIS software, taken by teachers involved in the project we started its modeling and documentation.

The idea behind the project consisted of the construction of some diagrams with the functioning models of the enterprise and its processes. From this diagram we could identify and document the macro-processes and relate them to academic activities and its subjects. After these two stages had been carried out, we constructed using the ARIS tool, the detailing of each process and generated links with the R3 reference screen.

Thus, the teachers orientation to students always uses the following process:

It starts from a macro overview of the enterprise

It locates the activity or process where the content is focused in that class

It shows, within the detailing model of ARIS, how this process helps and interferes in the enterprise activities.

It uses the specific detailings of the process as academic documentation.

It uses links with R3 screens to perform orientation activities to students directly in the software (practice)

This activity is related to academic orientation about the behavior of the user concerning constructed scenario and possibilities of executive action.

The next step is the analysis of the reflexes of this action in other sections of the enterprise which have been affected by this action, showing, in practice, the integration of data and processes.

Thus, when the other subjects (which are also dealing with the same scenario and same implications) use the knowledge base or simulation, the students will be able to examine these reflexes through anew point of view. This is our methodological proposal, to provide students with an integrated, conceptual and practical formation of the different subjects.

- Project milestones and timetable

June / 2001

Curricula Analysis and adaptation to projects' needs
Changing proposal submitted to academic appreciation

August to December / 2001

Development of project with pedagogical coordination team (August)
Identifying explicit and implicit relationships and overlapping (September)
Defining new knowledge basis to be inserted in the system (October)
Defining and documenting each subject, integration processes from previous modeling (November/December)

January to June / 2002

Identifying teachers profiles
Training and capacitation of teachers towards new academic proposal
Adaptation of modelings and parametering SAP

Validation of bases and procedures

August / 2002

Model Implementation

It is important to emphasize that this proposal will be implemented together with the the growing project of R3 use as simulation tool in an entrepreneurial environment.

- Project team members, qualifications, and/or rationale for each team member's involvement

Teachers involved in the project:

Pedro Luiz Pinto da Cunha Msc
Program Coordinator

Graduated in Social Communication
Post-graduated in Business Administration, marketing e information systems.
Master in Production Engineering focusing in midia and knowledge

Lucia Alves de Faria Dr^a
Education Coordinator

Graduated in Pedagogy
Post-graduated in Education
PhD in Education

Walter Couri Dr.
Education Coordinator

Graduated in Economy
Post-graduated in Economy
PhD Economy

Sâmia Nagib Maluf Msc
Area Coordinator – Foreign Trade
Master in Midia and Knowledge
Post- Graduated in Strategic management- Marketing

Graduated in Foreign Trade

Alexandre Eustáquio Sydney Horta

Area Coordinator – Accounting

Graduated in Accounting

Post- Graduated in Strategic management- Systems information and analysis

Alexandre Souza Lopes Msc

Area Coordinator - Business Administration, marketing

Master in Production Engineering

Graduated in Data Processing

Graduated in Mechanical Engineering focusing production

José Marcos Carvalho de Mequita Msc

Area Coordinator - Economics

Master in Administration

Post- Graduated in Financial Administration

Graduated in Economics