VR Studying Business Education

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Introduction

At the department of business education and human resource management (University of Innsbruck; Austria) we offer all relevant information services for the students via the internet with a 3-D interface. Students (but also other visitors) can choose an avatar and move around in the virtual reality environment. They cannot only explore all the relevant information for their study in an interactive way, e.g. knocking at the door of a professor and asking for the outline of her lecture but they can also start the necessary action for the university administration, e.g. booking the lecture, download the literature etc.

This is a pilot project not on the technical but on the organizational level. Linking all the relevant information together is primarily an organizational task which will change the university structure. The project is embedded in a three year development project funded by the Austrian government which will restructure the whole university.

Background information

The University of Innsbruck, situated in the center of Innsbruck (130.000 inhabitants), has about 30.000 students. The faculty of Social and Economic Sciences has 5.000 students and consists of five major field of studies: Business Administration, Economics, Business Education, International Economics and Business Studies and a doctoral program.

The idea to build a virtual faculty is linked to three major university developments:

Firstly more autonomy for Austrian Universities. With a new law (University Organization Act 1993) all Austrian universities will get more autonomy in a transition period of about 10 year. Formerly all major decisions like budget, areas of specialization, appointment procedures were directed by the ministry of science in Vienna. Now we are building different university organs which will overtake these responsibilities. This process is very complex and has different phases; one of them is a kind of dual control of the old and new bodies. The new self-governing bodies are preparing their statutes but do not yet have the decision power for everyday business. The transfer of power from the old to the new bodies is a crucial process and called "to tip over" ("german: kippen"). Currently the University of Innsbruck is undergoing this difficult transition period.

Secondly, the move towards greater autonomy is accompanied by a strategic initiative of the senate (the self-governing body at the executive level at the university). In a three year project, funded by the ministry of science, the members of the university are discussing organizational changes and future alternatives with regard to the content of services and performances. The main idea of this project is to motivate as many members of the university as possible to participate and cooperate in the transition process. Within the project ten different subgroups work on issues such as "Teaching & Research", "Personnel Management", "Central Information Services", "Financing & Controlling etc. One subgroup "New Media" investigates the future possibilities and organizational consequences of New Media for teaching and will provide the ruling body of the university with all the necessary information for strategic decisions.

Thirdly, a further condition for the project presented here is the fact that in the summer term the complete faculty will move to a new building. This building was designed, constructed and built by a more than ten year participatory process. The new university building has not only already won some architectural prizes but has also led to a certain mood of awakening of faculty members.

Studying Business Education

In this atmosphere of change our project tries to collect and concentrate all the different information for the studies of Business Education in one common interface. At the moment we have different approaches (database, booklets, internet services, introductory information by the faculty and student union,...) coming from different sources (ministry, center of EDP, initiatives of the department, individual information via a personal homepage,...). Most of this information is text-based with just a small amount of interactivity and time control. Redundant and complicated access to the relevant information are the consequences.

Business Education as a virtual world

Virtual worlds are three-dimensional representations of objects in the space and their reproduction on an display. To program virtual worlds the *Virtual Reality Modeling Language (acronym VRML)* is used as a standard platform-independent language for describing interactive 3-D objects and worlds delivered across the Internet.An extended type of the virtual worlds are the so-called *multi-user worlds*. In a multi-user world the visitors are shown by so-called avatars (which means as much as incarnation), so that visitors of multi-user worlds can see themselves among themselves.

The details of the project "VR Studying Business Education"

This pilot project offers service performances for the students (in particular those in their first-year), the instructors and the administration. Beyond that it should also promote communication by using multimedia between instructors and students and among the students themselves.

The three-dimensional reproduction of the faculty building and selected interiors and the virtual world resulting from it form the basis for the planned supplies and service performances. The information will also be callable in a pure HTML page version for faster access to the data.

The remainder of the paper will now describe the individual supply and service performances implemented in this project.

Study plan: The compilation of the complicated study plan can be done comfortably from home by the accessible list of lectures and linked cgi-based HTML forms.
Virtual information: Students can receive closer information about lectures, seminars and exercises on-line at the virtual information boards. At any date modifications can be placed by the instructors. This up-to-date information can help to avoid unnecessary journeys.
Meeting allocation: At the virtual information boards the students can themselves into the lists for the respective meeting. This must not be done anymore at the real faculty in Innsbruck.
Email pool: By the collection of the email addresses of the students in an email pool, indicated for the entry to a meeting, the instructors and the students receive the possibility of taking up with all users of the appropriate meeting by email contact.
Virtual self-manifestation of the institute and its areas: Here instructors can publish up-to-date information about their institute e.g. research results, new book publications or job advertisements for projects, tutors or a scientific co-worker. Over an appropriate HTML form and email the application can be dispatched on-line.
Virtual consulting hour: In the lecture-free time the students can discuss any problems after previous log-on by HTML form with the instructors in the virtual consulting hour.
Virtual office for examination: Through a link to the examination office the students can check what documents are needed for the examination and request the missing ones by email or develop at least a precise routing plan to get all certificates.
Virtual communication: By the implementation of the virtual faculty as a multi-user world, the possibility of a communication among themselves exists for the students. When meeting at the points of information or in the cafeteria experiences can be exchanged, seminars be selected and occupied together.
Virtual "black boards": Students can enter themselves at the virtual black boards into different lists (room search, riding along opportunity, teaching materials etc.) and/or look up relevant information.

The administration of the updateable sections in the virtual faculty is made in each case by the responsible persons (e.g. office for examination, secretariat, instructors) over the Internet/Intranet by using a simple and self-describing interface.

The updated virtual world is available directly, without further maintenance by a system administrator from the outside. A virtual information world developed in such a way can be administered by the users (the lecturers) themselves. When the system is accepted by students and faculty members it can be extended to other major field of studies, faculties or universities.