

Making portals: the inside story of failures and successes

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Introduction

All materials, conclusions, advices and opinions in this article are based on authors experience and knowledge. This article was written as a base for lecture at the CARNet Users Conference 2000. Author of this article Mr. Vinko Kojundzic will be referred as "Author" in the following text.

Definitions

Today when word "portal" is in everyday use not only in IT community, but also in non-technical ones, meaning of the word itself is sometimes not clear. It is due to its various interpretations and at the beginning of this presentation there is a need for several definitions.

Portals are sites designed as a starting and ending point of interest for some group of people. In other words, idea of the portals is that users in fact never leave portal, because they are able to retrieve all data or information they need from the portal. There are two closely tight ideas behind portals: first to have efficient, reliable and fast retrieving of data or information and the other, since you are offering the user everything he needs at one place user is supposed to stay at the portal the whole time while on the net and therefore portal can have financial benefits of this behavior.

Basically, portals can be divided to the public and private ones. While almost everyone talk about the public portals, private ones are neglected but are very important as a central place where company data can be retrieved. Furthermore it can be stated that private (company) portals have given an opportunity for all levels of management, but surely this is most useful to the top management, to organize retrieving company data in a way is it most useful to them and as soon as it is produced.

Making portals: steps

Steps mentioned below are derived from the author's experience in building web sites and later portals (since 1995).

1. **Why? (Defining idea):** Reasons for entering the project and expectations of the project.
2. **Presenting idea:** First of all steps is to present idea to the top management of the company in order to get initial approval for the idea. Experience is that in an organization where Head of IT Department is directly responsible to the Director is much easier to present ideas than in organization where Heads of IT Departments have another superiors who than have to presented idea to Director (or anyone who can make decisions). Probability that original idea will be accepted in this second case is less than in the first case.
3. **Defining audience:** When thinking about making portal, first thing is to define targeted audience. Basic rules for defining targeted audience is that it is a group of people that have something in common. It can be anything: music fans, students, sport fans, news addicts, pupils, young professionals, women in the 30s etc. An only exemption from this is when you are targeting everyone on the Net.
4. **Choosing the team:** Having approval for initial idea, it is right time to choose Project Managers. One from IT staff and another Chief Editor of the portal. It is recommended that Project Managers choose their team, because team will be under pressure to complete the project in specified time.
5. **Defining content:** After you have defined targeted group of people, you are defining content of the site. General idea is to define content that will suite targeted audience and keep them as long as possible at the portal.
6. **Technology:** Having defined targeted audience and content it is right time to define technology that will be used. There are several important factors that have to be taken into consideration: estimated number of accesses, financial resources available for the project, HR factor etc.
7. **Final proposal:** Next step is to make detail proposal to the top management and if everything goes normal to get approval for the start of the project.

Making public portal: www.sczg.hr

According to the steps mentioned above, phases of making www.sczg.hr web pages will be discussed.

Why? (Defining idea)

Design and content of the web site of the Student Center in January 2000 was not only inadequate in design but also in content. Therefore idea was to redesign the site, and also to radically change the content in order to have all available information about Student center as well as information about current events.

Presenting idea

Defined idea was put on the one paper and presented to the Director of the Student Center. After brief discussion and explanation of the reasons and expectations Director has approved it and on the first meeting with other heads of Departments, idea was presented in order to have cooperation of other Departments.

Choosing the team

Author was the head of the team. System administrator for Sun server was Mr. Bernard Grgic, employee at the IT Department. Other members of the team were all students that were working at computer classroom in "Stjepan Radic" and dormitory: graphic designer was Ms. Ivana Milicic, technical staff Jozo Dakula, Drazen Dimoti, Dejan Marijic and Igor Sebo

Defining audience

Audience of new www.sczg.hr site was defined in two main categories: the largest and more interesting was: students of the University of Zagreb and subcategory was: student who are using services of the Student Center in Zagreb and those who are not. Second category was people that are interested in an organization and the way of functioning of the Student Center in Zagreb.

Defining content

Defining content is usually the most difficult task because according to the content (that is adjusted to the targeted audience), site will succeed or fail. Another problem was that employees or student groups within the Student Center were using Internet for only couple of months at that time (January 2000.). This is due to the situation back in spring 1999 when author came to the Student Center. At that time Student Center have had permanent connection to CARNet (Internet) for year and a half but only several computers were connected to it. Most of computers (users) were connected to Internet in autumn 1999. Despite the fact that Director had approved the idea, explaining importance of having quality content and brainstorming the type of the content with other heads of the Departments was quite difficult.

At the end we had content: main page with links to the: about SC, restaurants, Theater ITD, workshops, computer classrooms, IT school etc. Main page had also: News, free positions for student work, current sport events etc.

Technology

There was old Sun 5 server that was used as an Internet server. Apache web server was installed and virtual www.sczg.hr site was opened. Web pages were in HTML. Graphic elements were done in Freehand and Fireworks. All elements were composed in Dreamweaver. We used Java script mostly for manipulation of gif's.

Administrators of computer classrooms entered changes to the web site at only one place.

Final Proposal

Reactions at the presentation for the top management were excellent and the site was opened on March 12th 2000.

Remarks

After a month there were several obvious problems. First of all, author didn't have enough time (because of his other responsibilities) to work on getting daily information for the site. Collecting information about current activities was big problem as well as communication with some parts of the Culture Department was not as good as it could be. Secondly grammar of the texts was awful and texts itself were boring. With everything mentioned above, site still had lot of information that was put on main page (sometimes with delay) but since main page was designed with an idea of not so much information, it looked like a mess.

On the other hand, input from the users was surprisingly good with the main message: you idea is excellent; we can't believe that SC had such a project. E-mail comments had some good ideas and remarks that we used later.

Author realized that there should be one person that would lead SC web site team and that person should have education in humanistic field. In May 2000. Mr. Bosko Pestic was hired to lead web project. Having started to work, Mr. Pestic analyzed situation and improved content of the web pages. However there was still problem that we were dealing with all the time: ration of pages that were dealing with SC and those dealing with current events. Furthermore we realized that it would be interesting to put not only news that was strictly related to some SC events, but also to student events in general.

Thinking about solutions Mr. Pestic and the Author came to the idea to divide www.sczg.hr site into two new sites. First, new www.sczg.hr site will basically have information about Student center and its facilities. Those pages would mostly be static. Second, student portal student.sczg.hr will be established.

Making public portal: new www.sczg.hr and student.sczg.hr

According to the steps mentioned in the chapter "Making portals: steps", phases of making new www.sczg.hr and student.sczg.hr portal will be discussed.

Why? (Defining idea)

Since web site of Student Center (www.sczg.hr) which was opened on March 12th, soon become unsuitable for amount of information that was published, there was idea to divide it into two new sites: new www.sczg.hr which will have information about Student Center and its facilities and student.sczg.hr portal which will have not only information about SC activities, but also information that is interesting for students in general. According to that www.sczg.hr will have mostly static information, and student.sczg.hr will have more dynamic content. Since no one before us managed to collect information for students at one place we called student.sczg.hr: First Croatian Student Portal.

Presenting idea

Defined idea was put on the one paper and presented to the Director of the Student Center. We had to explain several issues: why we changed conception and wanted to divide old www.sczg.hr into two sites; how many people will be working on it etc. After long discussion Director has approved idea and on the first meeting of the STRUCNO VIJECE, idea was presented in order to have cooperation of other Departments.

Choosing the team

Author was head of the team and head of IT part of the project. Mr. Bosko Pesic was chief editor. Other member of the team were students that were working at computer classroom in "Stjepan Radic" and "Cvjetno naselje" dormitory: graphic designer was Ms. Ivana Milicic, PHP and MySQL gurus were: Jozo Dakula and Drazen Dimoti.

Defining audience

Audience of First Croatian Student Portal (student.sczg.hr) was defined: student population in Zagreb, and later in Croatia.

Defining content

On the new www.sczg.hr site, main page will have general information about Student Center (structure, organization, figures etc). From the main page there will be eleven links. Nine of them will lead to the pages of Departments, one to impressum and one to comments of readers.

Discussion about content of the First Croatian Student Portal was long and at moments quite interesting. At the end decision was that main page will have following columns: SC today, Daily News, Open Student Jobs, Current Topics, What have you eaten, What will you eat? And Links. Links are: Student adds, Cinemas, SKUC, Theater ITD, Gallery, Multimedia Center, Workshops, Club SC, Music Salon, Sport, Student Video Pages, Comments, Impressum, Who is in computer classroom right now?

Technology

Student Center participated in CARNet Contest for new equipment. Among 29 faculties and academic institutions that participated in contest, Student Center was first on rank list. Therefore in July we had new Sun Ultra 5 server and this platform enabled us to put both new www.sczg.hr and student.sczg.hr portal. New server assured us that it would be able to

respond to the estimated traffic. Our experience with Apache web server was satisfying and we choose him.

Web pages of the www.sczg.hr site were written in HTML. Graphic elements were done in Freehand, Fireworks and Photoshop. All elements were composed in Dream weaver. Java scripts was used mostly for manipulating with gif's

First Croatian Student Portal had different conception because it had to be flexible in changing content of the pages on the one side and on the other side to have all content well structured in order to have easy implementation of the search engine in the future. Having all mentioned above in mind, decision was to put all data into database. Since our platform was Solaris and we didn't have great financial resources, we choose MySQL database with PHP scripts (PHP is scripting language that is executed on server side) for manipulating the data in the database. Therefore all content on the student.sczg.hr is stored in MySQL database. Administrating the portal is quite easy through internal web pages. So chief editor is completely technically autonomous in changing content of the portal. There is limitation when you want to change design or add some links to the main page. Java script was used mostly for manipulation of gif's.

In order to make flow of information to the portal as quick as possible, we have decentralized entering of precise defined information. For example, employees at that restaurant through administration web pages mentioned above enter menu of the restaurant at the student dormitory "Stjepan Radic". Of course that employee at "Stjepan Radic" cannot with his/her username/password enter web page for entering menu of "Cvjetno naselje". Second example is open job positions for students. They are entered at the Department for part-time student work. Idea of such decentralization is to make information available on the net as soon as it is produced. Intention is to decentralize input of information where it is possible. Usually it is information that is always same in structure, but change often.

Design of the pages was done with student population in mind. Putting link in the middle of the pages, using bright colors, having three great-animated gifs at the beginning of the page resulted not only in great "young" design, but also in very "readable" pages.

Final Proposal

After presentation for the top management, First Croatian Student Portal was opened in August 2000.

Remarks

It is Authors opinion that First Croatian Student Portal has good foundation to become what is said in its name. Currently, all information that is produced in Student Center is online in a short period of time. Cooperation with the Student Council is established and information for publishing is coming. Information from the press is also selected and published. In the near future we except formal cooperation with one daily newspaper, cooperation with: the Ministry of Science and Technology, University of Zagreb and its faculties, other Student Centers. We are always listening to student organizations to help us to make this portal even better.

Publishing content of the portal using WAP technology is also in plan.

Making private (company) portal: svasta

According to the steps mentioned in the chapter "Making portals: steps", phases of making internal portal will be discussed.

Why? (Defining idea)

Lack of precise and timely information is always a problem in big organizations such as Student Center (SC had more than 1000 employees at 14 locations in Zagreb). On the other hand, communication between employees and managers was in paper form. There was even a case when one employee prints dozens of papers, brings them to a room next to his and then a second employee enters this information in some other program and so on.

Therefore, just these few examples mentioned above assure us that having an internal portal as a starting point for employees will not only speed up the process of sharing information, but also lower the cost of doing business.

Presenting idea

The defined idea was put on paper and presented to the Director of the Student Center. We were very enthusiastic about this project because he knew, from his own experience, how he was getting information when he asked for it.

Choosing the team

The author was head of the team. Members of the team were: Bernard Grgic, Andrija Rubelj and Damir Sakoronja, all of them working in the IT Department of Student Center. Ivana Milicic was the designer of the web pages.

Defining audience

The audience is strictly defined only to employees of the Student Center. Employees are divided into groups. Each group has its own level of access to the internal portal. The level of access is defined upon entering a username and password.

Defining content

Defining content in this case was relatively easy. Content was everything that an employee could need in everyday work. However, a more difficult task was to define what data can be put right now and what later.

Technology

In the spring of 1999 when the author came to Student Center, the level of implemented IT technology was very low. It looked like time stopped there somewhere in 1992. Structured cabling was an unknown idea, communication between two buildings on the same location (distance of 50 m) was done with discs, there was even an example of BNC network finishing in one room and in the second room you had another network, but those two networks weren't connected to each other. Therefore, the first task was to connect all rooms and buildings at the same location on one network. Due to the financial situation, most of it was done with internal resources of the Student Center. Connection of distant locations (student dormitories "Stjepan Radic", "Cvijetno naselje", "Lascina" and restaurant at the Faculty of Economics) was done together with CARNet through a project of building a Virtual Private Network of Student Center. Having network connectivity was the first requirement for building an internal portal.

Existing applications at that time could be divided into two groups: those based on old SCO Unix and Sculptor database and those based on Novell and Clipper.

New technology decision was to start with Windows NT servers as a server platform, SQL server as a database, IIS as a web server and Internet Explorer with ASP pages as a client interface. Features of Internet Explorer that are used are: DHTML and data binding. Those techniques enable web page to act as a classic stand-alone application written for example in Visual Basic. VB scripting is used in ASP pages. Composition of the application is done in Visual InterDev. Design Time Controls (DTC) is used in Visual InterDev. DTC acts as a standard control in Visual Basic. DTC is used to access SQL server database through data binding in Internet Explorer. Naturally, data binding is true ODBC.

Decision about new technology was based considering several factors such as: performance, financial issues, HR issues etc.

First version of internal portal (internal name for it was: svasta) was opened in summer 1999 and since then it was constantly upgraded.

First big application that was done according to the new technology decisions was HR Application that covered all information about more than 1000 employees of the Student Center. Application was warehouse and material business. This application covered data about the goods that are entering five big warehouses in Zagreb, manipulation of the goods, exit of the goods and material coverage of it.

Users are defined in groups: administrators, finance, administrators of the computer classrooms, Department for part time student jobs, Food Department, IT Department, Special users etc. It is possible to link web page for specific users that belong to the group that is not allowed to read that web page.

Today, if you belong to the group with highest priority you can see following links at the main page of internal portal: manuals, documentation, phone directory, warehouses and material business, HR application, tourism, administration of the computer classrooms, administration of the First Croatian Student Portal, documents etc.

Final Proposal

In this case there wasn't final proposal. For each phase there was separate final proposal and acceptance of the Director.

Remarks

Internal portal changes in its content very often. Idea that will be realized in the near future is not only to build new applications and embed them into portal, but also to retrieve data from old applications written in Clipper or Sculptor in order to share them or make online reports based on them.

One big advance of this technology is that when you change something in some application, you don't have to go to client PC and install new application, but just to download it to server.