eRegion

- supporting regional development through a collaborative world wide web based information portal

Note: This abstract is based on of my final thesis paper 'eRegion – Chancen der Anwendung und Umsetung eines Regionalen Informationssystems für die Region Bonn'

Introduction

During the last decade new information and communication technologies have affected the structure of our society. The rise of information society is even being described as the 'Third Wave' (Toffler 1980) of development. Information have become one of the most important goods in a more and more globalised economy, affecting the social and cultural structures of our everyday life. New information and communication technologies have emerged, with the World Wide Web being one of the most important media infrastructures of today.

Europe finds itself somewhere in between globalisation and regionalism, trying to use the new technologies to promote the overall development. European policies have been forwarded to describe the importance of the new information and communication technologies for the economic development. These policies further more ask for new and progressive applications to support regional development.

eRegion can be considered as an example of these progressive applications that has the potential to promote and support regional development, using the World Wide Web infrastructure.

The information age

Today, there is a great variety of literature available that tries to explain the phenomenon of the information society. When Bell (Bell 1976a, 1980a) talks about the rise of information society, he was by then anticipating a way out of a stumbling economy with dropping production rates. His research did focus on the changes in economy and not so much in society.

Drucker (Drucker 1994) develops the idea of the information society further and calls it the knowledge society. He explains this as "an economic order in which knowledge, not labor or raw material or capital, is the key resource; a social order in which inequality based on knowledge is a major challenge; and a polity in which government cannot be looked to for solving social and economic problems" (Drucker 1994) .

Castells (Castells 1996, 1998, 2001) describes the information society as network society, developing the idea of the 'space of flows'. The circulation of information and knowledge will be of major importance for a global economy, giving a central role to the what he calls 'networker'. "Knowledge and Information are the essential materials of the new production process, and education is the key quality of labor, the new producers of informational capitalism are those knowledge generators whose contribution is most valuable to the (...) economy" (Castells 1998 p.345).

No matter how the 21st century society might be called, it is obvious that information have become quite important, not only for the economy, but also for the everyday social and cultural life. The rise of the information / knowledge / network society does offer both opportunities and challenges that have to be faced in order to be(come) part of this

development. For this, it is fundamental to understand the difference and correlation of the terms data, information and knowledge.

Data – Information – Knowledge – (Wisdom) – what's the difference?

Politicians and managers like to talk about the challenges of the information age, stressing the importance of information and knowledge. The terms of data, information and knowledge are often mixed up, lacking a clear understanding of the meaning and relationship. Living in an information society, one would expect to have a clear impression on the exact meaning of these terms.

Bellinger provides an understandable explanation, identifying data as isolated and non-interpreted fact, information as connected data with a clear meaning. Knowledge is created when information are individually digested and combined with one's personal experience.

Fleming (Fleming 1996) – he even introduces a further difference between knowledge and wisdom – presents the correlation of the evolution of data to information to knowledge with the degree of understanding and context interdependence.

This bottom line is that this basic and plain context has to be kept in mind at all time when dealing with information related subjects. Providing information should be carefully arranged, otherwise the information is not being transferred to the recipient in a correct way, making it unable to make us of the information to create personal knowledge out of it. The World Wide Web might be the most famous system that neglects the difference between data, information and knowledge.

The World Wide Web – a global information system?

The World Wide Web – developed by the European Research Centre KERN to accelerate the exchange of research information and knowledge – is the central infrastructure of the information society. Even though the expressions Internet and World Wide Web are being used as synonyms, it has been the invention of the graphical surface and the freely available browser software that enabled the global success of the network.

The World Wide Web is often referred to as a global information system, but this has to be called into question. As one would expect from an information system to provide information in a structured way, the World Wide Web is the complete opposite, lacking of any system to organise and provide access to information (Gnest 2001 p.43). Therefore, the World Wide Web should more be considered as a basic infrastructure element.

It is then up to specialised applications that use the World Wide Web interface to offer information and services, and not the plain infrastructure. Infrastructure might be the basic element to become part of the information society, but only professional applications enable the participation in today's globalised world.

Regionalism and Regional Development in Europe

The structure of Europe and the European Union is mainly influenced by the new information and communication technologies. The new technologies - of global and boarder-less character - made it possible to scrutinise existing boarders and structures. So it might even be reasonable to claim that the development of the global networks have influenced the European process towards the European Union. Today, the tendency of regionalism in Europe can be regarded as a counteract development to reply the threads of globalisation (Keating 1998).

Regions and regional development are key elements of the European spatial development policies, even though there is still no final definition of what a region really is. Keating puts it like this: „We can most usefully conceptualize regions as spaces, but extending the notion of space beyond the purely territorial to include functional space; political space; and social space. A region is constituted from a territory, whose significance is given by its functional and political content. It is also an institutional system, in the form of a regional government, or a set of administrative institutions operating in the territory. It may contain its own institutions, practices and relationships to contribute a district civil society. Finally, it may have constituted itself as an actor, able to articulate and peruse a common interest in the state and global systems“ (Keating 1998 p.79).

This functional area that is considered to be a region plays a central role in the European development strategy. Regions are considered to be the most suitable and sustainable unit to promote development in a globalised world. Therefore, regional development means the development of regions in terms of economy, social, culture and ecology, also being described as sustainable development.

According to Keating (Keating 1998 p.72-111) regional development does cover the following main targets:

- promote and initiate strategic regional co-operation amongst regional actors
- make use of existing endogenous potentials
- develop a collaborative marketing strategy to present the region to both the inside and the outside
- support the development of a regional identity.

Regional development is based on a set of instruments to promote and implement development strategies. Regional marketing and regional management are two of these instruments that aim at endogenous potentials to strengthen the region in the global competition (Heintel 2001).

Regional Development and the role of the World Wide Web

The World Wide Web clearly is a global network, but is it possible to use this infrastructure for local and regional purposes as well? Towns and municipalities have created town portals to offer information about the city and to give access to electronic services, paying attention to the eGovernment development.

Moving on to the regional level, existing websites try to present the region either as economical or touristic unit, but never cover a complete ‘virtualisation’ of a region. Economic focused regional websites try to present the region as investment opportunity, providing information about vacant investment sites and the existing technical infrastructure.

Tourism websites understand it the best to combine a broad variety of information, looking at the example of visitemalta.com, it is interesting to see what role specified web maps can play to transfer and present information.

Surprisingly there are no regional websites to cover the topic of housing, event though everyday life has become more and more regional and the topic of housing can be regarded as the one of the basic concerns of each city/region. During my research I only managed to find one example to deal with this topic, the 1997 established service www.umzug-nach-bonn.de.

In order to promote regional co-operations and the use of endogenous development potentials RegIS online (www.regis-online.de) has been initiated by a region in north-west Germany. The offer includes a database with all local businesses and companies, providing information about their business and production. The aim of this offer is to keep orders and contracts inside the region. First reviews of this offer reveal a lack of marketing so most companies did not know that this service even exits and therefore did not make any use of it.

The analysis of existing World Wide Web applications shows a clear tendency towards sectoral information offers, no region has been found that maintains a regional presentation platform. Initiating such a collaborative regional website might be able to support regional development as described before. Regional portal sites cannot offer the qualitative integration of information sources, they are mainly limited to a plain collection of links.

But if a public actor is able to make efforts towards a regional portal site that is able to offer easy access to structured information the public sector can revive the old assignment to provide access to information, like it has been done in former times with the establishment of pubic libraries.

An interesting issue is the use of web maps to transfer and present information. Kraak and Brown (Kraak/Brown 2001) provide an excellent overview of the existing technical opportunities. They claim: “The map, as such, has started to play a completely new role: it is not just a communication tool but also a tool to aid the user’s (visual) thinking process” (Kraak/Brown 2001 p.12). Transferring this argumentation to the filed of regional development, interactive and dynamic maps might have the potential to make the user aware that a region exists and to make the user aware of regional patterns and connections. This could then serve to establish a regional identity to support the overall regional development.

The concept of eRegion

The concept of eRegion tries to integrate the issues of regional development in Europe with the opportunities and challenges of the World Wide Web. eRegion is therefore considered to be an innovative approach to initiate a collaborative and progressive regional WWW portal to support the regional development of the Bonn city region in Germany.

Innovative hereby means that there is a certain amount of venture included in the project, whereas collaborative means that the project is based on a broad co-operation amongst municipalities and regional actors. eRegion is also considered to be a progressive project as it tries for the first time to integrate different information sources dynamically into one common system.

eRegion is meant to

- serve as marketing instrument, both to the inside and the outside;
- serve as information source to initiate regional co-operation amongst local actors and companies;
- support the development of a regional identity though the presentation of regional information.

The centre of eRegion is the InternetGIS application ROPS (Regional Online Planning System, currently under development in the Bonn city region). This application is able to collect various amounts of existing data and information resources to include them into one common presentation tool. The InternetGIS application makes it possible to 'virtualise' the Bonn city region, creating a digital mirror online. This enables the user for the first time to grasp the region in its whole complexity. By working with the interactive and dynamic features of the InternetGIS application, the user's thinking process should be positively influenced in terms of making him aware of regional patterns and interdependencies.

It is of great important that eRegion can both be used in a local as well as in a regional sense. The municipalities are the main information supply for eRegion. The regional image of the Bonn city region does include regionally balanced information, so that each municipality includes the same amount of information. This is meant to provide a most objective image of the region as well as an opportunity to easily compare. The local level is meant for municipalities to add individual information, only covering the area of the municipality.

To serve as tool for regional development, eRegion will focus one three different issues, namely the presentation of the Bonn city region as economic region, as region for tourism and leisure, and as housing market region. Even though the eRegion is separated by topics to allow a high density and complexity of information, basic data and information sources are shared in all presentations.

Next to the up-to-date information and presentation, strategic concepts for the development of the region will find their way into the overall presentation. For instance will the presentation of the regional housing market include information on sustainable building and the regional strategy to ensure a sustainable settlement development. By displaying these concept upon the digital mapping environment, the concepts can then easily be understood. This should be part of a greater understanding and learning process, trying to influence the user's thinking process.

The InternetGIS application has two main advantages that could help eRegion to be successful. First, it is able to collect existing geo-referenced information from municipalities without having to make great efforts on including the data and information. So information are kept up-to-date at the satellite source only once, there is no additional work to be done. Second, for smaller municipalities the InterneGIS application does provide an easy to use infrastructure to be used in and for municipalities. This free available system could help to promote the information exchange within the region, leading to a better understanding of regional patterns.

Considering the explained evolution of information from data to knowledge and wisdom, eRegion is meant to provide qualitative information and existing knowledge. The information portal therefore has to make sure that everybody is able to use the offered information. If this happens, information become part of the productivity process, as Castells states: "Information processing is focussed on improving the technology of information processing as a source of productivity" (Castells 1996 p.17). Productivity in the sense of regional development then does not only consider economic developments, but also the consciousness about sustainable development and strategic planning needs.

Presenting the Regional Housing Market within the eRegion

I would like to further concretise the concept of eRegion using the example of regional housing market. As indicated before, city portals often lack of qualitative information concerning the local and regional housing market. Only few cities give information about their

neighbourhoods, and most of the time it is only information about physical and social infrastructure.

eRegion will try to cover the issues of a regional housing market, providing objective and qualitative information. This is the main advantage in contrast to private information offers, as municipalities and the region is not bound to economic issues but should more be concerned about the issues of sustainable development.

The first step does include a basic map of the entire region. Within this map, the region is presented in a balanced way, small villages have the same depth of information as bigger towns. The region is presented by including different information layers into the InternetGIS application, where it is at the user's will to switch to the most useful way of visualisation. The basic information layer are:

- basic maps showing the settlement structure of the region (urbanised areas, forests, industrial areas) on a regional scale.
- regional information on traffic infrastructure (highways, railway tracks and stations).
- aerial pictures of the entire region, allowing the user to zoom down from the regional to the local level without loosing image quality.
- city maps scale 1:10.000 that appear only when zooming to the local level.

These information layers present common information that allow the general virtualisation of the region and are therefore also be used to present the region in terms of economic and tourism unit. This is part of the progressive character of eRegion, as information are collected once and then integrated in different presentations.

The layers allow a general visualisation of the region, paying attention to the construction of the region and the individual municipalities. In addition to the map information, database information can be included as well, it is for instance possible to click on a train / subway station to get information on the current time table. The user does not have to move on to another website to find out about the train connections, he/she can access this information directly from the InternetGIS application. This is realised by a dynamic link to the time table database of the regional transportation authority.

Further more, each municipality is given room to make a short individual written presentation of itself. This should only includes a few lines about the identity and structure of the municipality, but for the user who is interested in the regional housing market is it hereby possible to easily get information that can be compared. Of course this is only meant to serve as a first-step information, making only sense at the regional scale. More information are provided by the municipalities anyway on their own homepages.

The housing market itself is presented by including information about available or so available housing development sites. These information are as well collected dynamically from the municipalities. The areas are to be included into the InternetGIS application, details information about the area itself is again realised by a dynamic link to presentations provides by the municipalities. Including the areas into the InternetGIS application, the user can easily get an idea on the location, as he has the opportunity to get additional information on the traffic infrastructure and the general structure of the region. Including land prices for the entire region – these information are also available from the local authorities – it is even possible to compare different offers, positively influencing the regional competition.

Further information layer that might come in handy when looking at the regional housing market might also be included, for instance information about available schools and leisure opportunities. These information also only have to be located in the map system and dynamically linked to the individual information websites.

So far, it can be regarded as a progressive service offer from the region to the ones interested in the regional housing market. If this system wants to serve as tool for regional development, it need more than these basic, 'popular' information. That's the point where strategic planning information have to be includes as well. In the case of the Bonn region, it will be strategic information on common quality criteria (that have been developed by the municipalities within a regional working group) to ensure a sustainable settlement development.

There is a main advantage including these professional information into the InternetGIS system as well as into the presentation of the regional housing market. These information can be displayed in the mapping system, so there is a real connection of the strategic information to the regional environment, allowing a broad understanding and acceptance of the information.

So, to counteract suburbanisation – remember that until today there is basically no instrument available to do so – the integration of professional planning information into a popular information system might help to educate people to a certain degree. For instance by objectively showing them the advantages of living close to a public transportation access point, the mapping environment might have the chance to make them think about the regional context.

Some Conclusions...

Both the field of planning as well as the world wide web offer room for experiments, to find out what is working and what not. The findings might even be helpful for other regions working on similar information systems. eRegion is a major experiment to create a progressive application upon the World Wide Web infrastructure to support regional development in the Bonn city region. Its innovative character means that there is only limited research knowledge available, what demands the development of the eRegion to be evolutionary any cyclic. Evolutionary due to its innovative character, as it is partly based on a try-and-error progress, and cyclic du to the fact that the project is quite massive and should be developed step by step.

The future will show if the eRegion can be a successful tool for regional development. The implementation of such an information system will need a certain amount of co-ordination and co-operation, what is expected to tighten the regional co-operation in total. But evaluations will have to show if the regional co-operation is strengthened by a better information flow and availability. When it comes to judge about the effects on the regional housing market it will take even longer to come up with results.

eRegion might even be able to serve as objective information supply for the political decision making process. If this can be reached, the system has a good chance to further develop in the near future.

As the World Wide Web is still a very young media infrastructure, it is impossible to foresee the future developments in these areas. Other than eGovernment applications, eRegion will not be able to be measured by daily hits or web page impressions of the information offer. The success of the information system will be integrated into the further development of the region and the general atmosphere of regional co-operation.

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