Chapter VIII

The Design of a Web-Geographical Information System: An Experience in the Integration of Territorial Reclamation Support Services

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ABSTRACT

The design of a Web-geographical information system strongly requires methodological and operational tools to deal with information distributed in multiple, autonomous and heterogeneous data sources, and a uniform data publishing methodology and policy over Internet websites. In this chapter, we describe our experience for the activities of requirement analysis and conceptual design of the DEAFIN Web-geographical information system whose objective is to improve the quality and the comparability of information about available industrial vacant sites, coming from different regional data...
sources. Heterogeneity and web availability requirements have been taken into account in the system architecture design. The DEAFIN system is thus conceived as a federated web-based information system, capable of managing and providing access to all the regional relevant information in an integrated and complete fashion. Furthermore, since the data available by a given DEAFIN region partner can be both spatial data and alphanumeric data, for each regional component system in the DEAFIN system, a Web-GIS system is defined.

INTRODUCTION

The DEAFIN (Development Agencies and their impact on Foreign direct Investments) project was conceived in Spring 1997 by Province of Milano (Italy), Västernorrland County (Sweden) and the Freie Hansestadt Bremen (Germany). It aims at contributing to regional restructuring and revival by improving the quality and comparability of information on available industrial sites and on environmental conditions, in order to improve each region’s capability to attract foreign direct investments. Target users have been identified in the potential final investors—mainly small or medium sized companies—and in the regional agencies charged with the task of finding and assigning them vacant industrial sites.

The DEAFIN project comprises three actions and five sub-actions:

1. Regional environment analysis including:
   • inquiry towards the end users to understand their information needs in order to choose an industrial site;
   • a comparative SWOT (Strength Weakness Opportunity Threats) analysis to characterize the three partner regions;
   • a benchmarking activity, the aim of which is to show the development potentialities and the success factors in attracting investors to the successful areas and to suggest the regional authorities’ harmonious development strategies.

2. Operational tools definition including:
   • an information system with a data bank recording both macro economical and infra structural data on each regional area and detailed data about each vacant industrial site;
   • an eco-auditing action aimed at developing a methodology to classify, following unified criteria, the vacant sites in each region along the dimensions of their environmental criticality and of their state of pollution due to previous industrial activities.
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