Pitney Bowes
Business Insight

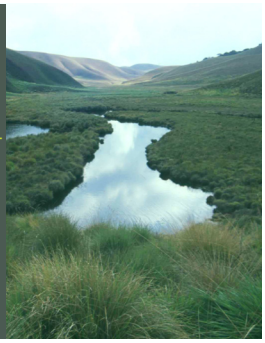
CASE STUDY

Ashoka Trust

"MAPXTREME WAS THE ANSWER TO OUR QUEST TO PROVIDE ONLINE ACCESS TO SPATIAL INFORMATION RELATED TO RESEARCH IN ECOLOGY AND ENVIRONMENT."

Dr. Mohammed Irfan Ullah, Convenor of the Eco-Informatics Centre

BANGALORE-BASED ASHOKA TRUST FOR RESEARCH IN ECOLOGY AND THE ENVIRONMENT (ATREE) IS A NON-PROFIT TRUST THAT WORKS TOWARDS THE CONSERVATION AND SUSTAINABLE USE OF INDIA'S NATURAL RESOURCES.



Challenge

To address an urgent need to integrate relevant scientific knowledge to deal with natural resource management and conservation issues, by establishing a centre which brings together knowledge of information technology and ecology to further the conservation and wise management of India's natural resources.

Solution

Using Pitney Bowes Business Insight's MapXtreme® Java mapping development tool, ATREE created an Eco-Informatics Portal (www.ecoinfoindia.org) with a web-enabled GIS providing geographic information on conservation and the environment to the scientific community in India and abroad, at no cost. The Portal allows users to visualize, analyze, and integrate various types of data.

SUMMARY

Company

Bangalore-based Ashoka Trust for Research in Ecology and the Environment (ATREE) is a non-profit trust that works towards the conservation and sustainable use of India's natural resources. Since its establishment in 1996, ATREE (www.atree.org) has been commissioned by local, state and federal bodies to assist in the planning and execution of many projects in conservation and sustainable development and has made a significant impact in India by building scientific and social capital that address pressing environmental challenges. ATREE is involved in a number of national and international conservation programs.

The Challenge

To address an urgent need for an umbrella mechanism to integrate relevant scientific knowledge to deal with natural resource management and conservation issues, ATREE embarked on a project to establish an Eco-Informatic Centre that aims to bring together knowledge in the fields of information technology and ecology to further the conservation and wise management of India's natural resources. In addition, the Centre would actively promote India's national and international collaboration in applied research and capacity building in the field of eco-informatics.

This Centre involves collaboration from the University of Agricultural Sciences, Hewlett-Packard and NCL Centre for Biodiversity Informatics (NCBI) and was supported from the United Nations Foundation and the Indo-US Science &Technology Forum.

As one of its many services, the Centre decided to set-up an Eco-Informatics Portal (www.ecoinfoindia.org) with a web-enabled Geographic Information Systems (GIS) facility that would provide geographic information on conservation and the environment to the scientific community in India and abroad, at no cost. The Portal would allow users to visualize, analyze and integrate various types of data.

The Solution

One of the key considerations in developing the web-enabled GIS Portal was to build a robust platform that would ensure reliable up-time and secure data transfer. Additionally, platform interoperability in terms of hosting or porting to other systems such as Linux, and the overall performance stability of the product were key conditions in ensuring the success of the Portal.

With these key considerations in mind, the development team at ATREE embarked on a search for a leading-edge Web-based GIS technology. Several mapping software solutions were evaluated for speed and other features. Through a stringent selection process, the ATREE development team selected MapInfo's MapXtreme Java mapping development tool.

MapXtreme® Java™ is a 100 per cent Java mapping server designed to enable the use of Location Intelligence over the Internet or through an organization's intranet or extranet.

"WE HAVE BEEN USING MAPINFO SINCE 1997 AND SO DEPLOYING MAPXTREME SEEMED LIKE A NATURAL SUCCESSION. IT WAS HOWEVER, THROUGH A VERY STRINGENT FEATURE COMPARISON AND EVALUATION PROCESS THAT THE DECISION WAS ARRIVED AT BY THE ENTIRE TEAM."

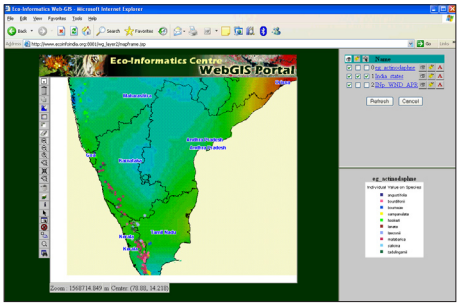
Dr. Gladwin Joseph, Director of ATREE

RESULT

"MapInfo has been the primary workhorse for geospatial data management and processing right from the conception of the GIS laboratory at ATREE. We have been using MapInfo since 1997 and so deploying MapXtreme seemed like a natural succession. It was however, through a very stringent feature comparison and evaluation process that the decision was arrived at by the entire team," explained Dr. Gladwin Joseph, Director of ATREE.

The Geographic Information Systems and Remote Sensing (GIS/RS) Laboratory at ATREE support the organization's mission through research, service and outreach. Members of this lab work closely with other scientists at ATREE to develop and facilitate research projects. The GIS/RS Laboratory rely heavily on spatial information supported by MapInfo technology for conservation planning, studying land use and land cover change, research on forests and watershed services, and the development of tools for conservation.

It took the development team at ATREE only three months to develop, test and deploy the WebGIS portal. The team was supported by MapInfo's online developer community information in the process. In May, 2005, ATREE successfully launched India's first Eco- Informatics Centre providing online mapping and analysis application for research in ecological issues and conservation of biodiversity.



The WebGIS Portal provides a powerful visualisation and analysis tool for the study of bio-diversity in India

Using the web-enabled GIS-function on the Eco-Informatic Centre's Portal, a policy-maker with the Forest Department could for example, map all the districts having a particular endemic plant within a minimum specified level of a particular forest type, whilst a student of wildlife management would be able to map the probable distribution of an endangered species. This facility is an important contribution towards the conservation community.

In addition to the WebGIS facility, the portal also offers a wealth of information on the Western Ghats - a globally significant biodiversity hotspot - in the form of value-added, published maps that have resulted from almost a decade of ecological and environmental research at ATREE and its partner agencies. This information benefits stakeholders ranging from policy makers - especially within the Ministry of Environment and Forests - to officials of the Forest Department, researchers, students and educators.

The Benefits

"MapXtreme was the answer to our quest to provide online access to spatial information related to Research in ecology and environment. MapXtreme enabled us to generate maps and do analysis using the information. The visual presentation of data enabled by the mapping application offers us important and fresh insights to better address the need for conservation of the dwindling biodiversity," said Dr. Mohammed Irfan Ullah, Convenor of the Eco-Informatics Centre.

"The benefit of using MapXtreme is immense. We were able to develop the solution on Linux which helped us save the cost of proprietary OS and expensive development tools. The time and effort required for coding of functionality from scratch, was instead deployed to developing more features on the application and adding more data. This makes it easy for the end user to get most of the functionality at one place," concluded Dr Irfan.

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