



## Case Study



**Icreon**

# Database Driven CMS and Regional Networking System

**Our client in partnership with others launched a program to promote information exchange and human resource development. To implement this program, they required a comprehensive content management system that would be used for training & education, establishing regional networks and developing relevant materials and tools. Icreon developed this application for the program. The solution was developed as a capacity building network for the program. Aiming to strengthen the information exchange process, the solution facilitates the establishment of regional program networks for creating and managing content, globally.**

## Customer Profile

Our client is a non-profit organization working in various areas of welfare for the United Nations and other such bodies. They operate in more than 166 countries and assist the UN system and its partners to raise awareness and track progress. It connects countries to the knowledge and resources needed to achieve development goals defined by the UN system. Our client works in partnership with other organizations to establish regional institutional arrangements to protect and manage seas, rivers, lakes and other bodies of water that surpass national boundaries.

## Business Requirements

Our client and other international bodies collaborated for an extensive program that would educate and train people about water related issues and how these issues can be managed. In this effort, the program required extensive content management for regional and global bodies. Thereby, the concept of an online content management system came into existence. This application had to cater to the needs of authors, editors and publishers, who supply online content about various water resource issues. The basic requirement was to develop the solution as the largest networking portal in the area of water management.

## Agile Content Management over a Robust and Scalable Architecture

### Benefits

- Global accessibility and management of content
- High data integrity & reliability over a networked setup
- Language compatibility for easy content usage in different

## Technologies used in developing this application are:



Water is a precious natural resource. Various countries and regions are dealing with water related problems and issues. Our client in partnership with others launched a program for educating and training water professionals, individuals, and organizations about water related issues in various regions. Since the scope of this program catered to a global audience, the program required an Internet based solution, which would enhance its reach to a worldwide audience. The solution would serve the needs of the program by allowing individuals and institutions to contribute their knowledge base towards training and educating water professionals. The solution was required to allow water professionals from over 130 countries to interact, and learn from each other's experiences. To implement this, the application required functionality to allow water professionals, worldwide, to create their sub-networks and manage & publish content on the local network.

Icreon, in co-operation with our client had to design and develop the solution as a dynamic and comprehensive content management portal, with capabilities to edit and publish content, while maintaining data integrity. In addition, the application required to allow water professionals to setup their own regional networks and manage content, news, & events on these networks.

The objective behind developing the solution as a Web-based content management solution was to provide a common platform to organizations & individuals dealing with water related issues, worldwide. We realized that solution required to be compatible with different languages because the application would be used by different types of users in many countries.

After studying all the aspects of this project, the most evident fact was that the audience was highly diverse. So, we had to consider the requirements of all types of users, while developing the application. We developed the solution as a knowledge portal for dispersing information for new networks, where project studies, reports, training material and other content related to the program, would be displayed. In addition, we had to make the solution compatible for use by water managers in developing and developed countries.

The entire project was carried out in modules and the hardest part of this was that the we worked on the project with an Indo-European company without interacting with our client.

Before detailing the modules of the solution, it is essential to understand its process flow and its user types. Being a content management system, there are five types of users:

- **Portal Webmaster** - can add or delete regional Webmasters. At this level, the user can add or modify the content on the portal.
- **Region Webmaster** - can add or delete date entry operator, editor, or publisher within the content management system.
- **Author** - can add content such as text, pictures, or other file types, on the Website template. There are several programs, which enable the author to convert the file in the required format, on the server. For example, if an image on the Website has a resolution of 300 by 400 pixels, the backend automatically converts it to the desired format for the specified template.

- **Editor** - can combine several content types such as, pictures, sound, and video into one article. The content types can be categorized, while the ongoing content is managed by the editor, easily.
- **Publisher** - is responsible for every publication on the Website. At this level, the user can add a certain publication time/date and area on the Website.

The whole publication process starts with the digitization from several sources into one digital content library. The publisher or editor will use one or more templates to create a publication article. For an author (data entry operator), the editor may or may not approve the publication. People in the closed user group can access the publication by using an authenticated login ID and password. The publisher can also publish the article for access by the Internet community.

Icreon developed the solution to allow publishing of articles, events and creating user defined networks. With predefined format of articles, events, and networks, the layout is structured and organized keeping in mind the consistency and the need of various users. The data is stored in a database and is parsed through different templates. This enables users in different countries to view articles and events in their native language. The solution is a user-driven networking portal, which facilitates communication between water professionals across the world. The portal allows the facility to create virtual communities, and conduct distance-learning programs to enable capacity building of the network. In addition, the distance learning program allows water managers to access training material and seek past references.

The solution architecture uses PHP: Hypertext Preprocessor (PHP), which increases the effectiveness and functionality of the application. The website was built using **Apache Web server**, which runs on **Linux**. The database server is powered by **MySQL**. Much of the code used for the solution was customized from **HTML/SHTML** based templates. **Javascript** was used as a client-side scripting language for client-side validations.

## Summary

The solution is a vast and dynamic content management system that can be easily used by different countries, in their native language. Allowing complete integration of resources across the globe, this application enables the program to achieve its aim of reaching out to water managers and professionals, and allow them to interact through a common platform. At Icreon, we identified the level of diversity of the audience that solution had to cater. Designing a vast application as per global standards and within the specified timelines, has been an achievement for Icreon and one of the key success factors for the program.