

Cap-Net – Power Website – Case Study



Cap-Net – Database-Driven Content Management and Regional Networking for IWRM

UNDP, IHE Delft, UNOPS, and the Dutch Ministry of Foreign Affairs launched the Global Water Partnership program to promote information exchange and human resource development for Integrated Water Resource Management (IWRM). 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 Global Water Partnership program. Cap-Net was developed as a Capacity Building Network for IWRM. Aiming to strengthen the information exchange process, Cap-Net facilitates the establishment of regional IWRM networks for creating and managing content, globally.

Customer Profile

The Dutch Ministry of Foreign Affairs, UNDP, IHE Delft, and UNOPS are non-profit organizations working in various areas of welfare for the United Nations and other such bodies. United Nations Development Program (UNDP) operates in more than 166 countries and assists 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. IHE Delft specializes in water education and conducts post-graduate education and training programs for more than 40 years. UNOPS works in partnership with the UN Development Program and the Global Environment Facility to establish regional institutional arrangements to protect and manage seas, rivers, lakes and other bodies of water that surpass national boundaries.

Business Requirement

International bodies such as UNDP, IHE Delft, UNOPS and Dutch Ministry of Foreign Affairs, collaborated for an extensive and Global Water Partnership 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 – Cap-Net 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 Cap-Net.org as the largest networking portal in the area of water management.

Solution

Benefits

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



Technologies Used

- PHP: Hypertext Preprocessor (PHP),
- Apache Web Server
- Linux
- MySQL
- HTML/SHTML
- JavaScript

Requirement

Water is a precious natural resource. Various countries and regions are dealing with water related problems and issues. IHE Delft, UNDP, Dutch Ministry of Foreign Affairs, and UNOPS are non-profit organizations, which launched the Global Water Resource 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. Cap-Net would serve the needs of the Global Water Partnership program by allowing individuals and institutions to contribute their knowledge base towards training and educating water professionals about water related issues. Cap-Net 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, to create their networks or sub-networks, while managing & publishing content, news, and events on Cap-Net.

Icreon, had to design and develop Cap-Net as a dynamic and comprehensive content management system, with capabilities to edit and publish content, while maintaining data integrity.

Agile Content Management over a Robust and Scalable Architecture

The objective behind this project was to provide a common platform for interacting and creating a knowledge base for organizations & individuals dealing with water related issues.

The most evident fact that appeared after studying all the aspects of this project was that Cap-Net would be used by a diverse set of users, working on multiple platforms & technologies and most of all multiple dialects. To cater to these requirements, we developed Cap-Net as a content management system, where project studies, reports, training material and other content related to IWRM, would be managed.

There are five types of Cap-Net users -

- **Portal Webmaster** - controls & manages the entire Cap-Net system. The portal Webmaster can add, modify, or delete editors, authors, and publisher along with regional Webmasters, regional editor, and regional author. The content on www.cap-net.org can be managed & modified by the Portal Webmaster.
- **Author** - can add content such as text, pictures, or other file types, on the Website template. Dynamic image resizing is one of the features of Cap-Net, allowing automatic conversion of the image size in accordance with the selected or specified template.
- **Editor** - can combine several content types into one article. Content types can include pictures, sound, and video. The editor reviews the content sent by authors and provides feedback. If the content is approved by the editor, then it is escalated to the publisher for final review and publishing.
- **Publisher** - is responsible for every publication on the Website. Content can be published on Cap-net.org after it is reviewed by the publisher. However, if the publisher does not approve the content then it is sent back to the editor. This process continues, until the publisher finally approves the content.
- **Region Webmaster** - controls & manages sub-networks created through Cap-Net. The Region Webmaster can add, modify, or delete regional authors or editors, within that particular network.
- **Regional Author** - can add content such as text, pictures, and other file types on the regional Website template. All the features available to the regional author are similar to that of an author.
- **Regional Editor** - reviews and edits contents provided by regional authors. The content approved by the regional editor is escalated to the Cap-Net publisher for publishing on the regional network.

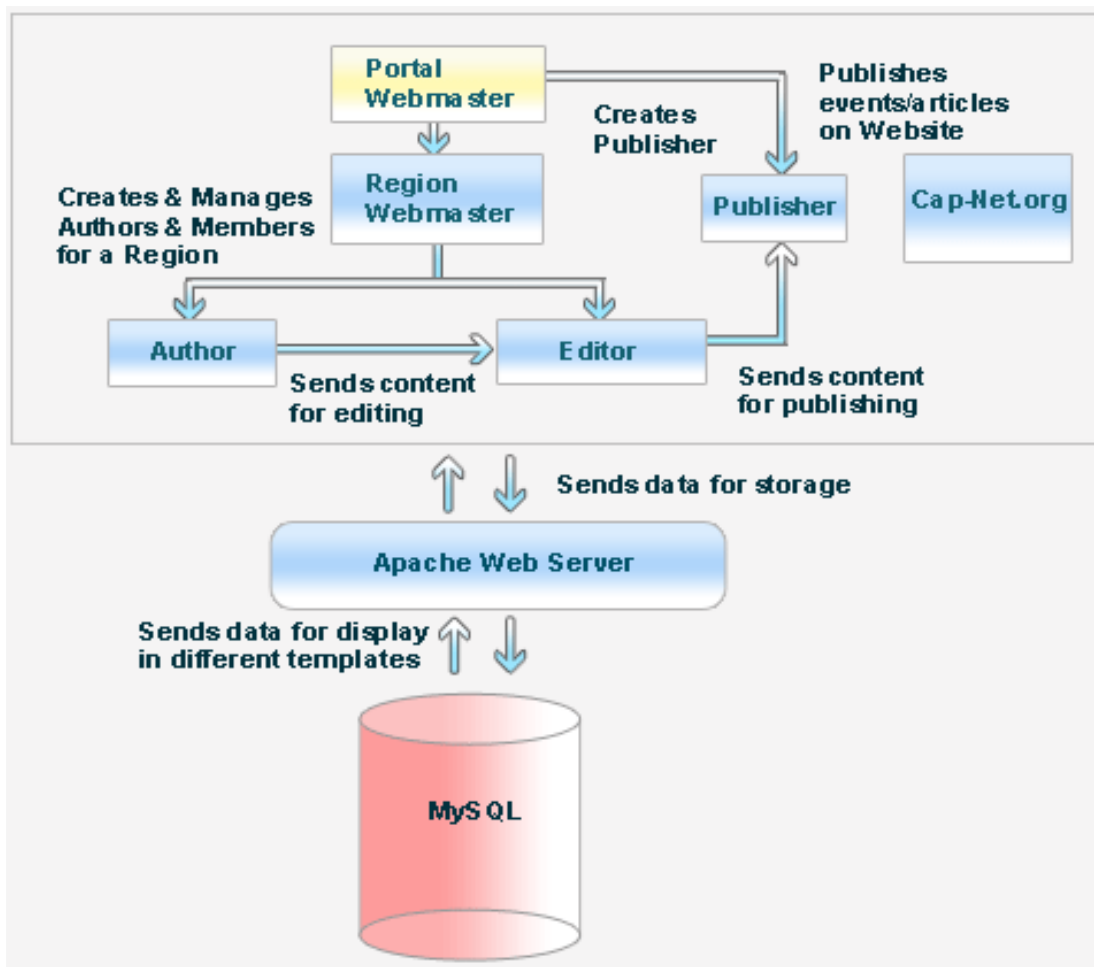
The publisher or editor use one or more templates to create a publication article. The editor may or may not approve the publication. People accessing a regional network of Cap-Net can access the publication by using an authenticated login ID and password. The publisher can also publish the article for access by the Internet community through Cap-Net.org.

Icreon developed Cap-Net 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. Cap-Net offers a user-driven networking portal, which facilitates communication between water professionals across the world. It 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 regional networks created through Cap-Net are managed by the Regional Webmaster. Water managers who need to setup regional networks, place a request with the Portal Webmaster. The Portal Webmaster escalates this request for review by the editor and then the publisher. Once, the request is approved the publisher creates the regional network.

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

The architecture for Cap-Net is displayed below:





Summary

Cap-Net is a vast and dynamic content management system that can be easily used by different users across different countries. Allowing complete integration of IWRM resources across the globe, this application enables the Global Water Partnership program to achieve its aim of reaching out to water managers and professionals, and allow them to interact through a common platform. The entire project was implemented in modules and the most challenging part was that we worked on the project with an Indo-European company without actually interacting with client, directly.

We identified the level of diversity of the audience that Cap-Net had to cater. Designing a vast application such as Cap-Net, as per global standards and within stringent timelines, has been a milestone in implementing the Global Water Partnership program.

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