

Do you
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AquaPort.ca

The AquaPort Project
c/o Institute for Coastal Research
Malaspina University-College
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Request for Information

No: 08.01

AquaPort.ca: web tools to mobilize
knowledge in the Canadian
aquaculture sector

Closing date for receipt of proposals:
Friday, August 31st, 2007. 2:00pm PST

Contact information for queries related to this document:

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Request for Information

AquaPort.ca: web tools to mobilize knowledge in the Canadian aquaculture sector

1.0 Introduction

The Institute for Coastal Research at Malaspina University-College (on behalf of the AquaPort Project Steering Committee) is seeking assistance in identifying potential technology sources for the AquaPort Project (AquaPort). This document is intended to provide sufficient information for suppliers to determine whether they are interested in participating in a more detailed selection process. It will enable suppliers to provide sufficient information for AquaPort to select a shortlist to which a Request for Proposal (RFP) will be issued.

1.1 AquaPort overview

AquaPort is a Canadian national initiative that originated in a collaborative partnership of government, academic, and industry organizations (see section 1.2 for details) that is in the process of phasing into a not-for-profit society (The Canadian Aquaculture Portal Society).

Funding for the AquaPort initiative has come from:

- Aquaculture and Environment Research Fund of the BC Aquaculture Research and Development Committee (BC Innovation Council)
- Aquaculture Research and Development Program of Fisheries and Oceans Canada
- AquaNet, the Network of Centres of Excellence for Aquaculture.

Further funding is currently being sought from other agencies.

AquaPort's mandate is to provide an interactive web platform for multiple stakeholder groups in the Canadian aquaculture sector to access, create, and share purposeful information in digital formats.

AquaPort's mission is to become a key component of the growth of sustainable and publicly supported aquaculture in Canada by being its knowledge connecting agent. AquaPort will:

- provide "just in time" access to critical knowledge to support decision-making and competitive intelligence
- increase efficiencies in knowledge management,
- enhance the knowledge flows needed for innovation,
- aid decision making in government, communities, industry, and research organizations,
- catalyze collaboration, partnership building, and networking between industry, communities and researchers

The idea for AquaPort began in 2004, when the need for better dissemination of information related to aquaculture in Canada was recognized as being necessary to boost knowledge transfer and innovation in the sector. A Needs Assessment and other substantial planning and research work carried out over the last two years led to the recognition that a web-based knowledge and people-connecting platform utilizing current web technologies was the optimal solution. This RFI

addresses the required functional and technical requirements for the development of that web platform.

The AquaPort team is seeking a cost-effective, flexible, and scalable solution that will meet the functional requirements as set out below. With the recognition that there is likely to be a number of different technologies and methodologies that may be applicable, vendors are invited to describe how their solutions can best meet these needs. It is expected that solutions might include off-the-shelf, custom applications, or hybrid solutions. The RFI includes several sections, some of which may not be applicable to all vendors. Please refer to Section 4.0 (Proposal Response) for directions on how to respond.

Additional background information about AquaPort can be found on the project website at <http://www.aquaport.ca>

Specific questions about this RFI should be directed to Barbara Thomas at thomasb@co3.ca

1.2 AquaPort project partners

A number of organizations and individuals are involved in the planning and development of AquaPort. These include the BC Innovation Council, Fisheries and Oceans Canada, aquaculture industry associations at the federal and provincial levels, and researchers from Malaspina University-College, Université du Québec à Rimouski, University of Guelph, Memorial University, University of Regina, and the University of New Brunswick.

1.3 Project timetable

The schedule at Appendix 1 is planned. AquaPort reserves the right to cancel or change the schedule at any time. The timing of activities on this schedule is subject to funding.

1.4 Proponent's expenses

Proponents are solely responsible for their own expenses in preparing a response to this RFI and for subsequent negotiations with AquaPort, if any. If AquaPort elects not to proceed further with any of the responses to this RFI, AquaPort will not be liable to any proponent for any claims, whether for costs or damages incurred by the proponent in preparing the response, loss of anticipated profit in connection with any final contract, or any other matter whatsoever.

2.0 High-level requirements

2.1 The vision for the AquaPort web platform

AquaPort requires a suite of web tools to enable multiple stakeholder groups in the Canadian aquaculture sector to access, create, and share purposeful information in digital formats. These tools are to be integrated into a web-based "service platform" that will help users to get the information they need when they need it, then to use, re-use, and share it. AquaPort will be able to deliver customized information to the user's desktop or handheld. It will enable people to contribute and share information on-line. It will create opportunities for people to interact and collaborate.

The platform will be built around a set of "web 2.0" or "social computing" tools – think of it as "Scirus™, del.icio.us™, digg™, Pageflakes™, and Wikipedia™ for the Canadian aquaculture sector".

The prime function of AquaPort is to *connect* users with knowledge objects, rather than to serve as a content *provider* or *producer*. AquaPort content will be obtained from a number of sources: a core collection of urls pointing to relevant materials on third-party web servers that has been built up during the past 6 months; a distributed network of subject experts who will identify resources; resources captured and created by the AquaPort team (such as workshop presentations); resources identified by users.

2.2 Technology and content already in place

In terms of technology, AquaPort is essentially a start-up entity. The existing website at the domain aquaport.ca has been created as a temporary solution to support the development of the initiative. No part of the current website will be used for the future web platform.

The core content collection already in existence consists of around 7,000 resources, all of which reside on third-party web servers. The content is mainly in the form of html, MS Word, Adobe pdf, and MS PowerPoint formats. Basic metadata has been created for these resources, consisting of document title, url, subject (there are 19 high-level subject categories), and publisher type (there are 4 broad publisher categories). This metadata is currently being stored in an MS Access database. The intention is that once the new web platform is in place, this metadata will be exported to a new database, and will provide the preliminary source urls for the search engine crawl.

2.3 Overview of core tools and functions required

Vertical search tools: An aquaculture-specific “vertical search” solution capable of crawling and indexing meta-data contained in a local database, and files stored both on the AquaPort web server and third-party web servers. Content to be indexed will include html, text, pdf etc documents and multimedia including video, “webinars” and podcasts. Content will be in both English and French.

Faceted navigation tools: Ideally, the solution will include an engine that can utilize existing metadata, as well as extract and create meaningful metadata from indexed content for use in the creation of an intuitive navigation interface.

Discovery and retrieval tools: A “collaborative tagging” or “social bookmarking” solution that will allow users to tag resources and store “bookmarks” on the site for retrieval and sharing with other users.

Feedback / commenting tools: A mechanism to allow users to evaluate and comment on resources available via the platform.

Push / alert tools: To allow users to choose topic themes for knowledge to be pushed to them through customized alerts such as email or RSS feeds.

Contribution and collaboration tools: To enable people to contribute knowledge to the platform as well as use it (AquaPort will be a read / write platform).

Personalization and customization tools: To allow users in different industry sectors, different regions, and distinct organizations to customize the interface and define their own information views.

Visualization tools, maps and mashups: The capability for the visual display of information, via maps or other interfaces.

2.4 Target audience(s) and users

Access to the web platform will be open to any internet user. Use of AquaPort will not be confined to a particular enterprise or pre-registered user group. Password protected areas for particular content may be developed, but any software licensing arrangements must presuppose the context to be that of a public web server, with a theoretically unlimited number of users.

Target users will be from Canada (although usage from other countries is expected), and will use both or either official languages of Canada (English and French).

The platform is targeted at the following user groups:

- People who work in the aquaculture industry. The industry is defined as including primary producers (of shellfish, seaweeds, and saltwater and freshwater finfish), suppliers (of netting, feedstuffs, transportation etc), and buyers (seafood wholesalers and retailers, chefs etc).
- People who work in government and regulatory agencies responsible for aquaculture policy and regulation.
- Scientists and researchers in the aquaculture field from academic and research institutions.
- Non-governmental organizations with an interest in aquaculture and food production
- Communities and the general public who wish to find out more about aquaculture

3.0 Functional requirements for the web platform

This RFI can be separated into several different elements. Vendors may wish to respond to these elements separately as individual firms, collaboratively as a group of firms responding in partnership, or a single vendor may present an integrated solution.

3.1 Vertical search tools

The search engine will index both structured and unstructured data within a proscribed “knowledge domain” including pre-selected quality web content (via URLs for web content identified by AquaPort editors or contributed by end-users), content residing on the AquaPort server (a variety of media types), metadata residing in a database on the AquaPort server, and resources residing on third-party servers and databases (the “deep web”). Content will be in both English and French.

Please provide information against each of the following criteria in your response:

Platform and scalability
Hosted service or Server-based
Hardware platform the product runs on
Software platform the product runs on
Data volumes that can be handled (in Mb)
How long data collection takes (in Mb)
Upper limit for query response times
Utilization of bandwidth-saving technique

Data gathering
Remote (third party) web servers be indexed
Formats other than HTML can be indexed by default (specify what they are)
Meta data can be indexed
Image maps can be handled
JavaScript can be handled
CGI scripts can handled
Duplicate links can be automatically detected
The spider can determine how often to revisit a page
The crawling be restricted to particular urls
The search depth can be specified
The product can handle proxy servers
The product can handle password protected servers
The product can cope with image-protected pages (CAPTCHA)
The spider can find directories on its own (without direct links)
The spider is easy to set up and control
The product can handle the indexing of video and audio files (metadata? Captions?)
Users can add URLs for crawling
User-created tags (meta-data) can be indexed
The index and the internal structure of the index
The index is updated in real-time
The full text is indexed
Abstracts can be created automatically
The product can handle several collections (ie. search can be limited to a part of the index)
The product supports stemming
The product correctly indexes national characters, and handles both English and French
Numbers are indexed correctly (so that searching by numbers is possible)
Stoplists are supported
There is built-in support for automatic categorization
Search functionality and features available to users
Boolean type queries can be asked
True natural language queries are supported
The product supports full text search
Fuzzy matching is supported
The product supports + (require, MUST) and - (exclude, MUST NOT)
Case sensitivity can be turned on/off
Relevancy ranking can be tuned (the ranking algorithm is modifiable)
Attributes or fields can be searched
Stemming is done automatically
The product recognizes phrases
The index can utilize a custom thesaurus
"Query by example" is supported
The product has proximity search (NEAR)
The search interface be customized
The layout of the results page be customized
There are both Simple and Advanced interfaces
The user can select the level of output (compact, normal, summary)

Search terms are highlighted in the results
The product show individual word count
The product supports "refine search" (search within result set)
The index displays modification date per document
The search can be restricted (by date, by domain etc)
Relevance feedback is implemented
The results can be ranked on both relevancy and date
The product has good online help and user documentation
The product supports clustering of results
The product supports federated search
Operational issues and product maintenance
The product is easy to install and maintain
The product comes with an embedded HTTP server
The spider and the index can be run independently
Old/bad links can be removed easily or automatically
Logging/monitoring features are included
There is a graphical Admin interface
The product can be administered remotely via a standard web browser
There is good quality documentation

3.2 Browse, faceted navigation, and visualization tools

In addition to access to content via a conventional search interface and search results pages, the user will be able to browse content or refine their search using categories or facets. Categories/facets might be generated through a process of automatic or semi-automatic semantic annotation, from both structured and unstructured data sources. For example meta-data pre-applied by editors, "tags" created by users, and automatically generated meta-data or content clusters could be leveraged to produce a high-value categorization of search results and an interface that supports knowledge discovery.

An example of this in practice would be a full-text keyword search for "shellfish research" that returned a search results page with the hits displayed in a structured fashion, organized (for example) by species and location.

This capability would be required to function both in English and in French (via separate interfaces).

Some metadata has already been created (see Section 2.2), and it is anticipated that basic metadata will continue to be created by AquaPort editors for certain high-value resources on an ongoing basis.

The AquaPort team is also interested in solutions that can support other visualization tools, such as dynamic topic maps, that encourage exploration of the knowledge domain, and mash-up technology that can provide access to content via a geo-mapping interface.

3.3 Collaborative tagging / social bookmarking tools

The collaborative tagging functionality required is similar to that available at (for example) <http://del.icio.us/>. In your response, please indicate the proposed technology by which this feature could be integrated, and the functionality that could be supported, with respect to the following functional requirements.

- When a user discovers a resource at AquaPort she can use an application to apply keyword tags and a description to the resource and save it in a tag collection for later retrieval from a personalized page on the AquaPort website.
- The user can download a “bookmarklet” tool for integration into her browser toolbar.
- As she applies tags, keywords relating to similar material in her tag collection can be “suggested” to her. Popular tags used by other people for similar materials can also be “suggested” to her.
- The tags in her tag collection can be viewed in a “tag cloud” a chronological list, and an alphabetical list.
- For retrieving the resource that has been tagged, she can combine two or more tags to narrow down her search within her own collection (eg. *fishHealth* + *IHN*)
- She can also view the resources tagged by other AquaPort users, for example, via a link to “resources other users have tagged *fishHealth*”
- She can share and suggest resources for other users in her AquaPort network
- RSS feeds can be created for any tag or tag combination.
- Suggestions for new resources that might be of interest to her can be made automatically via email or RSS feed. For example when another user discovers something new and adds a particular tag to it – if she has “subscribed” to that tag, she will get an update.
 - I discover a resource and tag it with “fishHealth”
 - You also have a “fishHealth” tag, so the article or video I have discovered will be suggested to you (either actively, through RSS or email), or by means of a “new for tag X” area on the website.
- Tagging can be done in either French or English, or both languages

3.3.1 Integration of tagging with search and navigation tools

- Any new resources (ie. not already available through AquaPort) that are discovered by users can either be “tagged” by them and added to their personal “bookmarks” page, or can be “suggested” to AquaPort. New resources added by either of these means can be automatically added to the list of sites to be crawled, and thus added to the content included in the AquaPort vertical search index. It may be that a “gatekeeper” function may be required to be interposed prior to the crawl, for editorial control before a resource is added to the index.
- User-generated keyword tags can be used to improve relevance ranking
- User-generated keyword tags can be used to improve the quality of automatically generated metadata

3.4 Feedback / commenting tools

Users will have the capability of indicating their view of the quality of a resource, by means of adding a “review”, a “comment”, or other quality criteria (“votes”) that will be available for viewing by all other users. Popular or highly rated resources can be highlighted on content area pages (see section 3.8.1), and/or given higher ranking in search results.

3.5 Push / alert tools

Users will be able to create RSS feeds and/or email alerts for any of their own “keyword tags”, and from AquaPort newsfeeds etc. If a user subscribes to an RSS feed from a particular keyword tag from the social bookmarking application (see section 3.3) then they will receive an alert any time another user applies the same tag to a new resource.

3.6 Other contribution and collaboration tools

New resources discovered by users can be “suggested” to AquaPort via a form interface and thus added to the content included in the AquaPort vertical search (see section 3.3.1 for other means for users to add content).

It is intended that the platform have “read/write” functionality, and thus it may include wiki, blog, or forum tools for collaboration and knowledge sharing and creation.

Vendors are invited to propose additional tools for users to create and discover content for the platform.

3.7 Personalization and customization tools

Users will have the capability of building their own personal view of AquaPort. This might consist of their “bookmarks” collection, RSS news feeds, preferred content etc. Vendors are invited to propose technologies to achieve this feature.

3.8 Interface design and development

3.8.1 Public interface

Detailed specifications for the public-facing website interface to the web tools described above will be created at a later date. Respondents are requested to indicate their interest in developing this interface, and their capabilities and track record in working with standards-based tools (XHTML 1.0 / CSS). The website interface (including home page, content area sections, search and browse interface, search results pages, news pages, etc) will be developed in parallel English and French versions.

In addition to the search, tagging etc. tools, the web platform will include “content area” sections for particular interests or specializations within the aquaculture sector that will provide access to resources related to that specialization. These might include pre-selected resources (canned searches), the most popular or high quality resources, as selected by users (see section 3.4), RSS news feeds etc.

3.8.2 Administrative interface

Some vendor solutions may require custom programming of an administrative interface to the web platform, in order to integrate and manage the toolset from the administration side.

3.9 Integration considerations

There are no considerations with respect to integration with existing technology to take into account. (See section 2.2).

4.0 Proposal response

We are looking forward to hearing about your capabilities, but would like to minimize the amount of preparation that you need to do at this stage. We are looking for information as to the nature of your proposed solution and its associated costs.

It is not intended that suppliers prepare highly detailed proposals at this stage. However, to enable the selection team to draw up a supplier shortlist, it is very important that you supply sufficient information regarding your firm, and the approach you would take to working with AquaPort, to enable our team to evaluate your capabilities to achieve the objectives set out in this document.

Please contact Barbara Thomas at thomasb@co3.ca should you have any queries.

4.1 Response to functional requirements

Your proposal should provide a point-by-point response to this RFI following the format included in this document. If a certain requirement cannot be met, please indicate as such. The RFI includes several sections that may not be applicable to all vendors. In your response, please indicate clearly the sections of the RFI to which you are responding. Where individual vendors are proposing to form an alliance to provide joint solutions in response to this RFI, please indicate the lead vendor and the areas of expertise of each individual firm.

4.2 Costs

Please include all pricing scenarios and arrangements and provide the following:

- A summary of the total costs related to the proposed solution.

- For software: a breakdown of costs, to include, where applicable:
 - The licensing costs for individual parts of the solution
 - The cost of new software releases if chargeable separately.
 - Your hourly consultancy rates to assist with implementation
 - Details of your charges for customization (with an indication of the extent of customization required)
 - Details of maintenance and support costs.

- For custom application development
 - Average hourly rates for:
 - Technical / application development
 - Other staff, including project managers, designers, information architects etc
 - Consulting fees

4.3 Information about your firm

Please answer the following questions about your firm to the best of your ability.

Company name Parent company
Company address
Name of person responsible for the information contained in this RFI
Telephone number Facsimile number Email address Web page
Initial year of operations
Company location: Corporate office Other offices
Number of employees:
Please indicate any terms and conditions of trading together with an indication where it is agreeable to amend or alter those terms. If there are any terms, which you are not able or agreeable to alter, please specifically indicate those terms.
Give details of your business continuity arrangements.
Total number of installations of the version of the software being proposed (where applicable). Have you supplied to customers in a similar industry that would act as a reference site for you?
If you are a VAR, give the total number of installations of the version of the software being proposed, which have been carried out by your organization.
Describe any third party alliances/relationships
Are there any anticipated mergers or acquisitions pending?
Please provide information on your implementation methodology.
What documentation is provided for the software / system?
Was your software written by your organization or acquired from a third party?
Please provide details of how the product is supported. What levels of support are available? Please provide a definition of each level and the hours of operation and response times. Where are the support services located? Does support include product updates, as well as bug fixes at no extra charge?

4.4 Date, time, and format of submission

Please submit your proposal electronically in PDF format to Barbara Thomas at thomasb@co3.ca with a copy to thomasb@mala.bc.ca

Please also submit two (2) original hard copies:
For the Attention of : Barbara Thomas
The AquaPort Project
c/o Institute for Coastal Research
Malaspina University-College
900 Fifth Street, Nanaimo
BC, Canada, V9R 5S5

Any marketing collateral or other information you feel would be helpful to us should also be included in your submission package.

Proposals will be accepted up to and no later than August 31st, 2007 at 2:00pm PST (Closing Date). Submissions received after the Closing Date will not be accepted.

Appendix 1

AquaPort Project Timetable

AquaPort reserves the right to cancel or change this schedule at any time. The timing of activities on this schedule is subject to funding.

