Functional Specification

Project Requirements and Architecture

January 16, 2001
Written by Portent Interactive
About this Document

Purpose and Contents

What this specification does

This document provides outline functional specifications and requirements for the BIGORG web site projects, phases 2 through 4. Phases 2 and 3 are described in great detail – Phase 4 is left more ambiguous, as Phase 4 specifications will be determined at a later date.

It is designed to guide system development and design, including:

- Database structure
- Site information architecture
- Site functionality
- Administrative toolset
- Use cases

What this specification does not do

This is not a project plan. It is a guide for system architecture and development, not for phasing, timelines or deliverables. Portent will provide project scheduling information as necessary.

A ‘Living Document’

Finally, this specification will change, continuously, as the project proceeds. We will add details and edit existing information as the database structure, site architecture and use cases evolve in the course of the project.
Document structure

This document is divided into five sections:

- Project Overview
- Information Architecture
- Site Design
- Application Layer Specifications
- Storage (database design)

Other information, such as detailed designs, will be generated during each phase.

Assumptions

- The BIGORG content management system will be written in Active Server Pages (ASP).
- The system will use a SQL 2000 database.
- The BIGORG web site will run on Windows 2000 servers.

Questions and Comments

If you have questions or comments regarding this document, contact:

Ian Lurie
Portent Interactive
ian@portentinteractive.com
206.575.3740
Project Overview

Goals, Audience, Phases and Tools

The BIGORG project is divided into four separate phases, each with its own goals, and a steadily evolving audience focus.

Project goals and audience were developed based on discussions with BIGORG staff, researching competitor web sites, and a survey posted on the BIGORG web site.

Goals

As developed in the strategic brief, the overall goal of this project is threefold:

- Attract and excite a diverse audience
- Provide useful, timely content in a compelling, easy-to-use design
- Allow BIGORG staff to maintain most site content using only their web browser

Original Goals

BIGORG and Portent developed a detailed list of goals in early January, prioritized as follows:

1. Get a diverse audience excited about BIGORG
2. Educate that audience about BIGORG's role, services
3. Increase usability
4. Develop a more sophisticated, web-savvy look for the entire web site
5. Ease site maintenance
6. Incorporate multimedia (Flash, video) where it helps tell BIGORG's story
7. Develop a site referral program
8. Develop an opt-in email newsletter tool that BIGORG, or specific BIGORG territories, can use to keep members up-to-date.
The Survey Results and Revised Goals

Portent Interactive set up a survey asking visitors to rate the current BIGORG site. At the time of this writing, the BIGORG site survey has been on the web site for three weeks. 206 visitors have completed the survey.

- 45% of visitors come to the site more than once per week. The site should be updated at least that often, preferably daily.
- 75% visit the site from home. BIGORG.ORG must be a fast-loading site, because very few web surfers have high-speed connections at home.
- Most visitors come to the site to read about current events, their territories, or politics/legislation, and said that current events would bring them back to the site more often. Again, this means that the site should be updated more often.
- Only 25% of visitors said that the site was neutral or worse when it comes to finding information. However, most commented in open questions that they wanted the site to be easier to use. This implies that the site needs to be more accessible – we need to simplify navigation and provide easier access to the kind of information visitors want.

Given this information, we have revised the project goals slightly, to emphasize updated content, simpler navigation and faster download times:

1. Get a diverse audience excited about BIGORG
2. Increase usability
3. Educate that audience about BIGORG’s role, services
4. Ease site maintenance
5. Develop a more sophisticated, web-savvy look for the entire web site
6. Develop a site referral program
7. Incorporate multimedia (Flash, video) where it helps tell BIGORG’s story
8. Develop an opt-in email newsletter tool that BIGORG, or specific BIGORG territories, can use to keep members up-to-date.

Audience

The target user for this site will be between 25-55 years of age. They will be a novice web user who understands email and how to use a web browser. This user also accesses the Internet every day.

Target site users will also come from diverse cultural and professional backgrounds: Part of the goal of this project is to open BIGORG.ORG to more xxxxxxxxx, such as medicine.
Project Phases

This project is divided into four phases:

In **Phase 1**, BIGORG and Portent created a site map, strategic brief and this specification, as well as hosting hardware specifications.

In **Phase 2** Portent will create the visual design for the BIGORG web site. We will also implement the core content management engine build and deploy the video library.

**Phase 3** will extend the content management system to all site areas.

**Phase 4** will introduce additional interactive tools and ‘microsites’ that individuals can maintain.

Tools

Content Management

The new BIGORG.org web site will use a content management system. This system will permit staff to edit content using their web browser, without learning HTML.

The first implementation of this system will come in Phase 2 – the video library will use the content management engine to allow easy uploads of video content. At the end of phase 3, all site content will be accessible from the content management system.

Email

The new site will also implement an opt-in email system. Visitors will be able to subscribe to receive notification of new site content, or email newsletters dealing with general or specific topics.
Hardware and Hosting

Server and hosting specifications and configuration

BIGORG’s servers will be hosted at Adhost Internet Advertising. Adhost is Portent Interactive’s primary hosting partner.

Bandwidth and Hosting Environment:

- Redundant OC-3 connections
- Bandwidth scalable to OC-12
- Fast Ethernet switched environment
- Uninterruptible power supply (UPS)
- 24-hour dedicated backup diesel generator
- Scalable bandwidth up to 100 Mbps per port
- Climate-controlled room with dedicated HVAC system
- RealSystem G2 Server

BIGORG will be hosted on two servers: One to host the actual website and ASP code, and the other to host the SQL database. Server configurations are as follows:

<table>
<thead>
<tr>
<th>Database Server:</th>
<th>Catalog Number: 04 04</th>
</tr>
</thead>
<tbody>
<tr>
<td>PowerEdge 2400:</td>
<td>PowerEdge 2400, Pentium III 733 w/256K Cache 24733 - [220-2321]</td>
</tr>
<tr>
<td>Additional Processors:</td>
<td>Dual Processor Pentium III 733 w/256K Cache 2P7733 - [311-5000]</td>
</tr>
<tr>
<td>Memory:</td>
<td>1GB SDRAM, 4X256MB DIMMs 1GB4D - [311-0853]</td>
</tr>
<tr>
<td>Keyboard:</td>
<td>Standard Windows Keyboard S - [310-4100]</td>
</tr>
<tr>
<td>Monitor:</td>
<td>No Monitor Option N - [320-0058]</td>
</tr>
<tr>
<td><strong>Database Server:</strong></td>
<td><strong>Catalog Number: 04 04</strong></td>
</tr>
<tr>
<td>----------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>1st Hard Drive (all drives must match for RAID):</td>
<td>18GB SCSI 10K RPM HD 18LVD10 - [340-7645]</td>
</tr>
<tr>
<td>Primary Controller:</td>
<td>On-board PERC2/Si w/64MB Cache Single Channel ROMB64 - [340-1754]</td>
</tr>
<tr>
<td>Diskette Drive:</td>
<td>3.5&quot; 1.44MB Floppy Drive FD - [340-0551]</td>
</tr>
<tr>
<td>Mouse:</td>
<td>LOGITEC SYSTEM MOUSE, GRAY LDN - [310-3776]</td>
</tr>
<tr>
<td>First Network Adapter:</td>
<td>Two Intel Pro 100+ Dual Port NICs w/Adaptive Load Balancing and Adapter Fault Tolerance 2IND100 - [430-0465]</td>
</tr>
<tr>
<td>Tape Backup Unit:</td>
<td>DDS4 Single Tape Internal TBU DDS4LVD - [340-7416]</td>
</tr>
<tr>
<td>CD ROM:</td>
<td>17/40X SCSI CD-ROM Drive #1 CD40X1 - [313-0372]</td>
</tr>
<tr>
<td>Hard Drive Backplane:</td>
<td>6 Bay Hot Pluggable Backplane (1.0&quot; or 1.6&quot; drives) 1X6BKPL - [311-0861]</td>
</tr>
<tr>
<td>Documentation:</td>
<td>Electronic CD ROM Documentation EDOCS - [310-0438]</td>
</tr>
<tr>
<td>2nd Hard Drive (all drives must match for RAID):</td>
<td>18GB SCSI 10K RPM HD 18LVD10 - [340-7645]</td>
</tr>
<tr>
<td>Tape Backup Software:</td>
<td>Veritas Standard Software for Dell Power Suite PSVESTD - [420-2832]</td>
</tr>
<tr>
<td>Hard Drive Configuration:</td>
<td>Motherboard RAID 5 MR5N - [340-1757]</td>
</tr>
<tr>
<td>Chassis Configuration:</td>
<td>Inner and Outer Rails RACKFUL - [310-4446]</td>
</tr>
<tr>
<td>Hardware Support Services:</td>
<td>3Yrs Same Day 4Hr Response Parts &amp; Onsite Labor (M-F 8am-6pm) W3YSX10 - [900-2940][900-2942]</td>
</tr>
<tr>
<td>3rd Hard Drive (all drives must match for RAID):</td>
<td>18GB SCSI 10K RPM HD 18LVD10 - [340-7645]</td>
</tr>
<tr>
<td>Power Supply Kits:</td>
<td>Dual 330 Watt Power Supply REDPWR - [310-0385]</td>
</tr>
<tr>
<td><strong>Web Server:</strong></td>
<td><strong>Catalog Number: 04 04</strong></td>
</tr>
<tr>
<td>-----------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>PowerEdge 2450:</td>
<td>PowerEdge 2450 Pentium III 1GHz w/256K Cache 245100 - [220-0991]</td>
</tr>
<tr>
<td>Additional Processor:</td>
<td>Single Processor 1P - [311-0840]</td>
</tr>
<tr>
<td>Memory:</td>
<td>512MB RAM 2X256MB SDRAM DIMMs 512M2D - [311-0851]</td>
</tr>
<tr>
<td>Keyboard:</td>
<td>Standard Windows Keyboard, for Dell PowerEdge Servers, Factory Install S - [310-4100]</td>
</tr>
<tr>
<td>Monitor:</td>
<td>No Monitor Option N - [320-0058]</td>
</tr>
<tr>
<td>1st Hard Drive (all drives must match for RAID):</td>
<td>9 GB 1” SCSI Hard Drive 10K RPM 9GB10 - [340-8912]</td>
</tr>
<tr>
<td>Diskette Drive:</td>
<td>3.5” 1.44MB Floppy Drive FD - [340-5986]</td>
</tr>
<tr>
<td>Mouse:</td>
<td>LOGITEC SYSTEM MOUSE, GRAY LDN - [310-3776]</td>
</tr>
<tr>
<td>First Network Adapter:</td>
<td>Two Intel Pro 100+ Dual Port NICs w/ Adaptive Load Balancing and Adapter Fault Tolerance 2IND100 - [430-0465]</td>
</tr>
<tr>
<td>CD ROM:</td>
<td>24X Ide CD-ROM CD24X - [313-5986]</td>
</tr>
<tr>
<td>Documentation:</td>
<td>Electronic CD ROM Documentation EDOCS - [310-0438]</td>
</tr>
<tr>
<td>2nd Hard Drive (all drives must match for RAID):</td>
<td>9 GB 1” SCSI Hard Drive 10K RPM 9GB10 - [340-8912]</td>
</tr>
<tr>
<td>Hard Drive Configuration:</td>
<td>Motherboard RAID 5 MR5N - [340-2256]</td>
</tr>
<tr>
<td>Chassis Style:</td>
<td>Rack Rails shipped with the system RACKFUL - [310-5986]</td>
</tr>
<tr>
<td>Hardware Support Services:</td>
<td>3Yrs Same Day 4Hr Response Parts &amp; Onsite Labor (M-F 8am-6pm) W3Y5X10 - [900-2940][900-2942]</td>
</tr>
<tr>
<td>3rd Hard Drive (all drives must match for RAID):</td>
<td>9 GB 1” SCSI Hard Drive 10K RPM 9GB10 - [340-8912]</td>
</tr>
<tr>
<td>Power Supply Kits:</td>
<td>Dual 330 Watt Power Supply REDPWR - [310-0604]</td>
</tr>
</tbody>
</table>

All streaming video will be hosted on Adhost’s existing RealSystem G2 server.
Information Architecture

Site Structure and Navigation

BIGORG.ORG must allow visitors easy access to all information. As a general rule, no piece of content should ever be more than three clicks away from the visitor. Drawing from the survey results, we have built a site structure that emphasizes the content visitors most want to see, simplifies navigation, but still allows quick access to all content:

First level navigation will be as follows:

- **Politics and Legislation.** Contact, campaign and calendar information, as well as current events and special topics.
- **Organizing.** Information current organizing efforts.
- **News.** Current events.
- **Member Advantages.** Special offerings available to BIGORG members.
- **Territories.** General, calendar and news information for each BIGORG territory, including headquarters.
- **Visit BIGORG Headquarters.** Information about BIGORG, BIGORG’s departments, and a calendar of events for headquarters.
- **Library.** Links to other sites, articles and written resources, as well as the video library.

All pages will include a set of secondary 'standard' links, as well:

- **Feedback.** The survey has proved invaluable – we will continue to offer surveys as a way of measuring visitor satisfaction with the site, and to determine how to evolve the site over time.
- **Search.** A full-text search of the entire site. Fully implemented after Phase III.
- **Join BIGORG.** Registration form.
- **Contact.** Contact information for BIGORG headquarters and key staff.
- **Email Newsletter Signup.** Opt-in email list for all BIGORG members.
The video library will be a pop-up, SMIL-based tool that is also accessible throughout the site. However, videos will be linked where relevant – some pages will have links to video, and some will not. Thus, the site structure does not include the video library as part of the navigational scheme.
Section 5

Site Design

Aesthetic/HTML Requirements and Guidelines

BIGORG.ORG must deliver a compelling visitor experience. However, it cannot sacrifice usability and accessibility – BIGORG’s web site should be, first and foremost, make its rich content offering available to as diverse an audience as possible.

Requirements

The BIGORG web site ‘look’ must conform to the following requirements:

- The site should be HTML 4.0 compliant.
- All pages (except video or multimedia) must download in less than 10 seconds over a 56k modem connection.
- All pages must fit in a web browser displayed on a computer set to 640 x 480 pixels.
- All pages must use a web safe color palette.
- The site must be compatible with Internet Explorer 4, 5 and 5.5, and with Netscape 4-6, as well as AOL 4.0 and later, and Opera.
- The site must conform to the WAI Accessibility Guidelines outlined at http://www.w3.org/TR/WAI-WEBCONTENT/, wherever possible.
- The site should not use frames.
- All site pages should be available for search engine robots.
- All pages that use multimedia, such as Flash, must ‘sniff’ for the correct plug-in and display a static image if necessary.

Design Guidelines

BIGORG is about people. The design should reflect that, portraying the many different cultures and professions to which BIGORG can appeal. The site should include images of
BIGORG members that immediately demonstrate to visitors that BIGORG can work for
them.

To insure broadest possible appeal, the web site should use colors that evoke a
professional feel (blues, grays, black and green) without looking industrial. The interface
must be welcoming, clean, and demonstrate BIGORG’s status as an up-to-date
organization with broad appeal.

Each of the seven major site areas should use the same interface, but a slightly different
color scheme, which is also carried over into the buttons themselves. For example, Politics
and Legislation might use a white background with a navy interface – the button linking to
that section would also be navy. This color-coding will reinforce the different site sections
to the visitor.

Flash and other motion graphics should be used sparingly, and only where motion
graphics better communicate the message than static ones. No motion graphic should
occupy more than ¼ of total page real estate.

The site menus can use DHTML to provide second-level navigation.
Section 6

Application Layer Specifications
Architecture and Requirements

By the end of Phase 4, BIGORG will include the following functions:

- Content Management and on demand streaming media library
- Opt-in email newsletter and new content notification
- Microsites
- Surveys
- Site linking/partnership program

This section includes a brief description of each functional component, plus requirements and use cases for each potential user of that component.

System Architecture

The BIGORG site will consist of five conceptual components:

- The public web site is the content that most visitors can see.
- The administration web site is the interface for managing content and sending bulk emails.
- The CMS is the engine for managing site content.
- The email application lets administrators and editors send email to subscribers.
- A Security layer controls the administrative functions that different staff can access.
BIGORG.OR.G’s administrative functions – both email and content management – will be protected and organized by a security layer. When staff log into the administrative site, the security layer will determine their user level (administrator, editor or author) and what site areas and tools they can use.

<table>
<thead>
<tr>
<th>Ref #</th>
<th>Function</th>
<th>Cat.</th>
<th>Attribute</th>
<th>Details/Constraints</th>
</tr>
</thead>
</table>
| 1.1  | Multiple administration security levels | Evident | Security contexts | The system will support three levels of administrative security:  
Administrators will be able to add and delete users, change security settings for those users, secure content areas on the public site, select which tools users can access (email and CMS) and perform all actions permitted for other users.  
Editors will be able to approve content and schedule its publication, as well as add, edit and delete content and ‘nodes’. They will also be able to use the email tools by default.  
Authors will be able to submit and revise content. They will not be able to use the email tools, by default.  |

Evident | Specified areas | Administrators and editors should be able to indicate which sections of the
Content Management System: Administration

BIGORG.ORG will be a ‘dynamic’ web site – after phase 3, all site pages will be published ‘on the fly’ from a database.

BIGORG staff will be able to log into a site administration interface to edit, delete or add pages of content, images and videos to the site. This content management system is the core of the BIGORG site.

The Content Management System will support multiple authors in multiple locations, with one or more editors approving content for publication to the site:

The CMS is based on a ‘tree’ metaphor. Each section of the web site is one ‘branch’ in the tree, with one or more pages of content associated with that branch. Editors and administrators will be able to add, remove and edit all but the top-level branches of the site tree:
<table>
<thead>
<tr>
<th>Ref #</th>
<th>Function</th>
<th>Cat.</th>
<th>Attribute</th>
<th>Details/Constraints</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>Content publication approval</td>
<td>Evident</td>
<td></td>
<td>When content is first added to the system, it will not be available from the public web site. Editors and administrators will need to ‘approve’ the new content.</td>
</tr>
<tr>
<td>2.2</td>
<td>Content publication scheduling</td>
<td>Evident</td>
<td></td>
<td>Editors and administrators will also be able to schedule content for publication at a later date. When that date arrives, content is automatically upgraded to ‘approved’ and made available on the public site.</td>
</tr>
<tr>
<td>2.3</td>
<td>Content area ‘locking’</td>
<td>Evident</td>
<td></td>
<td>Editors and administrators will be able to lock any branch of the content tree, so that only public users who know a password can access that content. A single username/password combination can be made available for all users accessing that area.</td>
</tr>
<tr>
<td>2.4</td>
<td>Branch editing</td>
<td>Evident</td>
<td>Interface</td>
<td>Editors and administrators will be able to add, edit and delete whole branches from the site tree, using a folder/document tree metaphor.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hidden</td>
<td>Orphans</td>
<td>When a branch of the tree is deleted, all content from that branch will be assigned to a separate, ‘orphaned content’ branch. Editors and administrators can also specify that all content under the branch be deleted.</td>
</tr>
<tr>
<td>2.4</td>
<td>Browser-enabled content entry</td>
<td>Evident</td>
<td>Meta data</td>
<td>When someone adds new content using the administration system, they will first be prompted to enter basic information about that content: Type, Author, date entered, description/abstract, title and subject. See Sample Metadata Screen, below.</td>
</tr>
<tr>
<td>2.5</td>
<td>CMS should handle three content types: Text with or without images, photo albums, or streaming content.</td>
<td>Evident</td>
<td>Content Type</td>
<td>When the CMS user adds new content to the system, they will select the type of content they are uploading: text, photos, or video.</td>
</tr>
<tr>
<td>Ref #</td>
<td>Function</td>
<td>Cat.</td>
<td>Attribute</td>
<td>Details/Constraints</td>
</tr>
<tr>
<td>-------</td>
<td>----------</td>
<td>------</td>
<td>-----------</td>
<td>--------------------</td>
</tr>
<tr>
<td></td>
<td>Evident</td>
<td>Text/images</td>
<td>If the metadata type field (see 1.7) is set to 'text', then the Word-based editor will display in the next screen. See Sample Editor Screen, below.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Evident</td>
<td>Photo Album</td>
<td>If the metadata type field is set to 'images only', the CMS will display an image upload and caption screen as the next page.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Evident</td>
<td>Video Library</td>
<td>If the metadata type field is set to 'video' the CMS will display the video library page next.</td>
<td></td>
</tr>
<tr>
<td>2.6</td>
<td>HTML-less text content entry</td>
<td>Evident</td>
<td>Word-style text entry</td>
<td>When an author sets the metadata type to 'text' and clicks 'update' or 'next', the CMS will display a Word-style control embedded in their web browser to visually format their HTML content. Control should allow cutting and pasting of MS Word content into the window.</td>
</tr>
<tr>
<td></td>
<td>Evident</td>
<td>Paragraph by paragraph text entry</td>
<td>Someone adding new content can either add that content one paragraph at a time (one paragraph per screen in the editor) or enter an entire page into one editing screen (see Sample Editor Screen, below).</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Evident</td>
<td>Images</td>
<td>Someone adding new text-based content can associate a single image with each paragraph they enter into the system.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Evident</td>
<td>Preview</td>
<td>Editors and authors should be able to preview the new content, as it will appear on the live site, before approving it.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hidden</td>
<td>Style independence</td>
<td>A site-wide cascading style sheet should determine font size, typeface and spacing, as well as layout – changes made to these attributes in the content editor will have no effect.</td>
<td></td>
</tr>
<tr>
<td>2.7</td>
<td>Photo Album Creation</td>
<td>Evident</td>
<td>Multiple photo upload</td>
<td>When an author sets the metadata type to 'photo album' and clicks 'update' or 'next', the CMS will display a Java Applet that allows them to upload 1 or more images to the system.</td>
</tr>
<tr>
<td></td>
<td>Evident</td>
<td>Photo Captions</td>
<td>After those photos are uploaded, the CMS will display a screen that allows the author to enter captions for each image.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hidden</td>
<td>File format validation</td>
<td>System will enforce file size and type constraints.</td>
<td></td>
</tr>
<tr>
<td>2.8</td>
<td>Video upload</td>
<td>Evident</td>
<td>Video upload</td>
<td>When an author sets the metadata type to 'video' and clicks 'update' or 'next', the CMS will display a form that allows them to select the file for upload. See Video Library Requirements, below, for more details.</td>
</tr>
<tr>
<td></td>
<td>Hidden</td>
<td>Size detection</td>
<td>The CMS will detect the uploaded file size and enter that into the database.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hidden</td>
<td>File format validation</td>
<td>System will enforce file type constraints. All files must be in Real format.</td>
<td></td>
</tr>
<tr>
<td>Ref #</td>
<td>Function</td>
<td>Cat.</td>
<td>Attribute</td>
<td>Details/Constraints</td>
</tr>
<tr>
<td>-------</td>
<td>---------------------------------------</td>
<td>-----------</td>
<td>------------</td>
<td>-------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>2.9</td>
<td>System will support relational linking</td>
<td>Evident</td>
<td>Cross-linking</td>
<td>Editors will be able to create 'relational categories' to which many different pieces of content can belong. If a visitor views a page, for example, and that page is in the same relational category as a video and a photo album, then the page will include links to those other items. This is a critical feature that will allow site managers to link video and images to relevant articles, as well as articles to each other.</td>
</tr>
<tr>
<td>2.10</td>
<td>System will support low-level syndication</td>
<td>Hidden</td>
<td>Open data</td>
<td>The V-Lodge Intranet/Extranet will be able to query the CMS for specific video or text content, and display that content on that site.</td>
</tr>
<tr>
<td>2.11</td>
<td>System will be secure</td>
<td>Hidden</td>
<td></td>
<td>The CMS will be as secure as possible, and include all relevant security patches from Microsoft</td>
</tr>
<tr>
<td>2.12</td>
<td>Technology</td>
<td>Hidden</td>
<td></td>
<td>System will use Active Server Pages, based on IIS 5.0 and Windows 2000</td>
</tr>
<tr>
<td>2.13</td>
<td>Search</td>
<td>Evident</td>
<td></td>
<td>The site will allow full-text searches.</td>
</tr>
</tbody>
</table>

Sample Metadata Screen – note fields are not correct
**Video Library Administration: Special Requirements**

The video library will actually be part of the CMS. However, it includes some special requirements:

<table>
<thead>
<tr>
<th>Ref #</th>
<th>Function</th>
<th>Cat.</th>
<th>Attribute</th>
<th>Details/Constraints</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.8.1</td>
<td>CMS will automatically organize videos according to the content tree</td>
<td>Hidden</td>
<td>Automation</td>
<td>While video will be displayed in a separate location on the web site, the CMS will organize videos and display them according to the content tree. (see Video Library Front End, below)</td>
</tr>
</tbody>
</table>

**Content Management System: Front End**

The front-end of the CMS is the public web site. While most of the requirements for this area are covered in Section 5 of this specification, there are some performance and component requirements:

<table>
<thead>
<tr>
<th>Ref #</th>
<th>Function</th>
<th>Cat.</th>
<th>Attribute</th>
<th>Details/Constraints</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>Display content</td>
<td>Hidden</td>
<td>Performance</td>
<td>System should use database or server caching to improve performance. Total server time to assemble and a page for delivery to</td>
</tr>
</tbody>
</table>
one user should never exceed 50 ms.

The site should display content and links to content grouped according to the content tree.

### 3.2 Display relationally linked content

<table>
<thead>
<tr>
<th>Ref #</th>
<th>Function</th>
<th>Cat.</th>
<th>Attribute</th>
<th>Details/Constraints</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.2</td>
<td>Display content</td>
<td>Evident</td>
<td>SMIL</td>
<td>The video library will display in RealPlayer 7.0 or later, using SMIL. The opening 'page' will show a list of videos. Clicking on a video title will play that video in the same window (see below).</td>
</tr>
</tbody>
</table>

Hidden Platform The video library will use RealSystem G2.

---

**Video Library: Front End**

The CMS will drive the video library – however, the video library will be delivered in SMIL format:

---

**Opt-In Email Newsletter and New Content Notification**

Site visitors will have the opportunity to provide their name and email address, and specify:

- That they want to receive regular emails regarding BIGORG events
- That they want to receive regular emails regarding events in a specific region
• That they want to receive regular emails regarding events in a specific industry

• That they want to receive an email when new content is added to a specific site area

<table>
<thead>
<tr>
<th>Ref #</th>
<th>Function</th>
<th>Cat.</th>
<th>Attribute</th>
<th>Details/Constraints</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1</td>
<td>Opt-in email: Clicking ‘Email newsletter signup’ will bring site visitors to a form where they can enter their name and email address and indicate that they want to receive updates from the site.</td>
<td>Evident</td>
<td>Double Opt-in</td>
<td>When someone registers for the email list, the system sends them an email asking that they verify that they want to receive emails from BIGOR. If they don’t want to, they can send an email to BIGOR and ask to be removed.</td>
</tr>
<tr>
<td></td>
<td>Evident</td>
<td>Feature selection</td>
<td>A subscriber can choose to receive the BIGOR-wide newsletter, a newsletter specific to their territory (if available), and/or email when new content is posted to a specific site section. They can return and reenter their email address to change their settings at any time.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Evident</td>
<td>Newsletter</td>
<td>Subscribers can choose to receive a newsletter dealing with BIGOR-wide issues and current events</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Evident</td>
<td>Territory-specific newsletter</td>
<td>Subscribers can choose to receive a newsletter specific to their territory</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Evident</td>
<td>Industry-specific newsletter</td>
<td>Subscribers can choose to receive a newsletter specific to their profession</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Evident</td>
<td>New content notification</td>
<td>Subscribers can choose to receive an email when new content is posted to a specific section of the web site.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hidden</td>
<td>CMS integration</td>
<td>New subscribers should be inserted into the ‘users’ table of the CMS as ‘public’ users</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Evident</td>
<td>Opt-Out</td>
<td>Every email will have a link to a web form – if the list member enters their email address into that form, they will be unsubscribed from that list.</td>
<td></td>
</tr>
<tr>
<td>4.2</td>
<td>Email will be plain text</td>
<td>Evident</td>
<td>Attachments</td>
<td>Editors will be able to attach files to emails.</td>
</tr>
<tr>
<td>4.3</td>
<td>Email system administration</td>
<td>Hidden</td>
<td>CMS integration</td>
<td>The email system should be part of the same interface as the CMS.</td>
</tr>
<tr>
<td></td>
<td>Hidden</td>
<td>General Security</td>
<td>When someone logs into the system the security module detects whether they have access to the email tools, and the specific tools they can use.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hidden</td>
<td>Content Security</td>
<td>The security system also determines which specific email groups the logged-in staff can use. They may, for example, only be able to send email to a single territory.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Evident</td>
<td>Tree structure</td>
<td>The email system should use the same tree paradigm as the CMS. The basic branches will be ‘General’, ‘Territories’ and ‘Industries’. When an editor adds a sub-branch to any of these areas, that selection becomes available on the email subscription form.</td>
<td></td>
</tr>
<tr>
<td>Ref #</td>
<td>Function</td>
<td>Cat.</td>
<td>Attribute</td>
<td>Details/Constraints</td>
</tr>
<tr>
<td>-------</td>
<td>----------</td>
<td>------</td>
<td>-----------</td>
<td>---------------------</td>
</tr>
<tr>
<td>Evident</td>
<td>Branch-specific email</td>
<td>Editors will be able to send email to specific territories, industries or all of BIGORG’s email subscribers by selecting a specific branch of the email system tree.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evident</td>
<td>Footer creation</td>
<td>Administrators will be able to set up a single ‘footer’ that is used in every email sent.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evident</td>
<td>Opt-Out searching/deletion</td>
<td>Administrators will be able to see a list of all opted out users, and delete them.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evident</td>
<td>Searchable/list editing</td>
<td>Administrators will be able to list members by specified search criteria (group, opt-in status, name, etc) and edit status for those members.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Microsites**

The BIGORG site will eventually use existing CMS functionality to allow territories and other specific groups within BIGORG to build and maintain ‘microsites’. Microsites will be specific, second or third level branches of the site tree.

<table>
<thead>
<tr>
<th>Ref #</th>
<th>Function</th>
<th>Cat.</th>
<th>Attribute</th>
<th>Details/Constraints</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1</td>
<td>Allow specific individuals to maintain BIGORG microsites.</td>
<td>Evident</td>
<td>CMS integration</td>
<td>This feature will use existing security layer and CMS tools</td>
</tr>
<tr>
<td>Evident</td>
<td>Domain-specific access</td>
<td>The public will be able to access these microsites either by entering a specific URL such as BigOrg.org?site=nursing, by providing a subdomain of BIGORG, such as nursing.BigOrg.org, or by using a referer page to point a full domain, such as <a href="http://www.nursingBigOrg.org">www.nursingBigOrg.org</a> at the correct area. The latter two options will require assistance from a webmaster.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Survey Engine**

Portent Interactive has an existing survey engine – this engine is in use on the BIGORG.org site right now. While it is ColdFusion based, and therefore does not meet the ASP requirement of this project, the best solution is very likely to provide BIGORG with their own license for the survey system, and to let BIGORG continue to use our server to host the survey engine. The license price is only $200 and is included in this contract.

**Site Partnership/Linking Program**

Because ‘popularity’ – the number of links to your site – is the single strongest tool in increasing search engine ranking, Phase 2 of this project should include a site partnership
and linking program. While this will not involve any actual coding, there are several requirements worth noting:

<table>
<thead>
<tr>
<th>Ref #</th>
<th>Function</th>
<th>Cat.</th>
<th>Attribute</th>
<th>Details/Constraints</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.1</td>
<td>Provide specific instructions for linking to the BIGORG web site.</td>
<td>Evident</td>
<td></td>
<td>A page on the BIGORG web site will include code and graphics for creating a link to BIGORG.ORG.</td>
</tr>
<tr>
<td>6.2</td>
<td>Provide four possible graphics for use</td>
<td>Evident</td>
<td></td>
<td>We will provide four GIF images for linking to BIGORG: Two square and two rectangular, with one each for a dark or light background.</td>
</tr>
</tbody>
</table>
**Capital Advantage**

BIGORG will provide information regarding connecting BIGORG to Capital Advantage.

<table>
<thead>
<tr>
<th>Ref #</th>
<th>Function</th>
<th>Cat.</th>
<th>Attribute</th>
<th>Details/Constraints</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.1</td>
<td>Capital Advantage functions</td>
<td>Evident</td>
<td></td>
<td>BIGORG's site will continue to link to Capital Advantage resources.</td>
</tr>
</tbody>
</table>
Use Cases

Workflow diagrams

This section includes diagrams of typical workflows for each site component. Use cases display, step-by-step, how users interact with the system.

Security

Login:
Adding/editing users:

1. Start
2. Add, edit or delete?
   - Add
   - Edit
   - Delete
3. Delete
4. Select User
5. Display user data
6. Delete
7. Edit
8. Basic user info
9. Security settings
10. Verification process
11. User deleted
12. Save user data
Content Management

Adding/editing/deleting nodes:

Start

Edit Node

Add Node

Delete Node

Edit Metadata

Enter Metadata

Verify/Delete

Save Node

System deletes node

System adds/updates node

Complete

Move any content to Orphan node

Delete content?
Content addition and approval:

Start

Select Parent node

Add Content

Enter Metadata

Video library

Content type?

Text

Word-style text editor

Add Paragraph

Complete?

Yes

System stores new content as unapproved

No

Images

Photo uploader

Caption editor

Ok to publish?

Yes

System acts content to approved

Scheduled?

Published or scheduled date

Published instantly

Ok to publish?

No

Select content

View all unapproved content

Approve

To Edit Content
Content edits are the same, except that only editors can modify content that has already been approved.

Content Deletion:
Public site process flow – what happens when a visitor comes to the web site:

Start

Visitor's home page

Query for initial navigation

Query for features

Query for content

Display page with next level navigation

Click a link

Secured area?

Password dialog

Password OK?
Email System

Email maintenance:

Start

Edit categories

Category tree

Add/edit/remove category

Update tree

Edit Footer

Footer form

Edit system-wide footer

Update footer

Edit list

User list

User information and selected options

Edit/delete

Update user
Sending an email:

1. Start
2. Select email category from tree
3. Email form
4. Preview
5. Send
Opting in for email:

1. Start
2. New Subscriber: Opt-in form
3. Select opt-in options
4. Verification screen
5. System sends verification request
   - Reply?
      - Delete user
6. Activate user
7. Existing subscriber: Enter Email form
8. Query subscription settings
9. Edit Options
10. Update options
Project Schedule
Phases 2, 3 and 4

This schedule allows a phased implementation of the functionality in this specification. Note that later tasks, especially Phase 4, may be subject to change.

Phase 2: Site design, content management system core, video library

1.29.01: Phase 2 start
1.29.01: Detailed system design begins; CMS interface design and code
1.29.01: Graphic design begins
2.12.01: First graphic design comps posted to project site
2.16.01: BIGORG comments on design comps; detailed system design complete
2.21.01: Revised comps to BIGORG; review and revise further
2.27.01: Final site design created and finalized; HTML production begins
2.27.01: Servers arrive; configuration begins
3.08.01: CMS core engine complete, including video library; production begins
3.08.01: ‘Static’ site areas complete
3.08.01: Server configuration complete; servers installed at Adhost
3.15.01: CMS connected to BIGORG staging site; all code placed on Adhost servers; testing begins; survey engine linked to BIGORG site
3.22.01: Alpha testing complete
3.29.01: Beta testing complete; site launch

Phase 3: Complete CMS setup

4.01.01: New staging server setup at Portent
4.03.01: Phase 3 start
4.10.01: ‘Static’ site areas ‘sliced’ for CMS
4.17.01: All content entered into CMS
4.18.01: Alpha test
4.25.01: Beta test
4.27.01: Beta test complete; new code transferred to production servers at Adhost
5.11.01: Training for BIGORG staff
5.11.01: Documentation delivered to BIGORG
Phase 4: Email system

5.15.01: Detailed system design begins; interface design and code
6.05.01: Code complete; production begins
6.12.01: Email system integrated with staging site
6.12.01: Alpha test
6.19.01: Beta test
6.26.01: Email system integrated with site
7.02.01: Updated documentation delivered to BIGORG; Training