



InterPARES 2 Project

International Research on Permanent Authentic Records in Electronic Systems

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*HorizonZero/ZeroHorizon Online Magazine
and Media Database*

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A. Overview

HorizonZero is an online magazine that focuses on digital art in Canada. Its first issue appeared in August 2002; in total, sixteen issues have been published to date. Each issue of *HorizonZero* combines text, images, sound and video in an interactive environment encapsulated in a Flash Web site.¹ ZeroHorizon is an Internet-accessible database of media objects drawn from *HorizonZero*. The magazine is published at The Banff Centre, although the entire publication, including computer programming code, graphic design, artist commissions, editorial scripts and underlying database architecture, remains the joint property of The Banff Centre and The Department of Canadian Heritage (funders of the magazine).

This case study focuses on the documents that are created in the process of producing an issue of *HorizonZero*.

B. Methodology

The primary research tool was an interview with the producer of *HorizonZero*, Sandra Dametto. The interview took place in Banff, Alberta, in November of 2003. Subsequently, the interview was transcribed and sent to Ms. Dametto; she reviewed her responses and offered a number of corrections and additions. The narrative answers to the twenty-three core research questions that comprise Section D of this report are primarily based on the interview, and in some cases based on additional documentation and answers to supplemental questions supplied by Ms. Dametto.

A tentative activity model of this case study was developed in collaboration with the case study participant (see Section E, below).

C. Context

Provenancial

HorizonZero is a production of the Banff New Media Institute, which is a part of The Banff Centre. The chart below shows the position of *HorizonZero* within The Banff Centre's organizational structure:

The Banff Centre

- **Arts Departments at The Banff Centre**
 - Aboriginal Arts
 - Banff Centre Press
 - Creative Electronic Environment
 - International Artists
 - Leighton Studios
 - **Media and Visual Arts**
 - Creative Residencies

¹ www.horizonzero.ca.

- **Banff New Media Institute**
 - Banff Summer Arts Festival
 - ***HorizonZero***
 - Co-productions
 - Summits
- Banff International Curatorial Institute
 - Music and Sound
 - Theatre Arts
 - Walter Phillips Gallery
 - Writing and Publishing
- Centre for Mountain Cultural
- Centre for Leadership Development
- Conference Centre

HorizonZero's internal structure:

Leadership Team:

Editor-in-Chief [responsible for overall direction; has sign-off authority on editorial content]

Executive Producer [bridge to institutional policies and practices]

Director of Creative Development [responsible for creative direction; has sign-off authority on both editorial content and design]

Producer [oversees budget, contracts, reports to funders, day to day operations]

Editorial Team:

Editor-in-Chief

Director of Creative Development

English Language Editor

Assistant (work/study)

French Language Editor

Production team:

Technical Production Lead

Technical Developer

Graphic Designer

Assistant (work/study)

Interactive Designer

Administration:

Line Producer [responsible for staffing, scheduling, budgeting, critical path]

The mission statement of The Banff Centre: “The Banff Centre is an incubator of creativity that inspires and empowers artists, the mountain community, and business and community leaders from Alberta, Canada, and around the world. Located in the Canadian Rocky Mountains, the Centre provides a unique learning environment where individuals and groups pursue personal and professional development, create new work, engage in applied research, share ideas and

experiences, and celebrate accomplishments through performances, exhibitions, and special events.” [The Banff Centre Web site]

The mandate of *HorizonZero*: “*HorizonZero* is a collaboration between The Banff New Media Institute and the Canadian Cultural Online Portal, with the objective of disseminating to the public the rich array of digital arts and culture in Canada with an emphasis on commissioning and promoting Canadian new media content and innovators in the convergent fields of science, technology, media arts, and research. *HorizonZero* is dedicated to opening the new field of new media to the larger realm of Canadian culture, to build new audiences, to engage cultural and ethnic diversity and to foster dialogues between new media practitioners and their audiences.

“*HorizonZero* delivers on these objectives through its monthly publication of a high broadband, media rich flash site and an accessible text-based site, published in both official languages. Issue thematics evolve out of the spectrum of digital production of culture, centering the presentation, interpretation, analysis, and oeuvre of a particular artist, artistic movement, cultural scene, event, or a combination thereof.

“*HorizonZero* further delivers on its dissemination objectives through *ZeroHorizon*, the database driven web space where the goals of developing rich resources for collaborative and cross-collaborative exchange are realized. *ZeroHorizon*’s growing repository of learning objects and unique digital assets provides a platform by which to engage partners in new collaborative ventures aimed at generating cultural knowledge through the creation of curriculum based lesson plans.

“*HorizonZero* supports the mandate of the CCOP to encourage a uniquely Canadian perspective on the Internet. As an active partner, *HorizonZero* provides both its audience and the CCOP with the digital cultural content that will help promote Canada’s rich culture, history, arts ad heritage.” [*HorizonZero* Business Plan, 2004]

It is important to note that the documents created by *HorizonZero* are jointly owned by The Banff Centre and The Department of Canadian Heritage.

Juridical-administrative

HorizonZero is not bound by specific laws or regulations governing its activity.

Procedural

The procedural context of the documents created in the production of *HorzionZero* is addressed in the narrative answers to the twenty-three core questions, specifically in response to question 6 and in the accompanying activity model (see Section E, below).

Documentary

Most of the documents created by *HorizonZero* remain in the *HorzionZero* recordkeeping system, with the exception of e-mail (part of The Banff Centre's system) and contracts (which are paper records and are preserved in the paper records of the department of Media and Visual Arts within The Banff Centre). The documents of *HorzionZero* are organized by the issue for which they were created; the organization of the files pertaining to each issue is ad hoc (i.e., not governed by any formal and/or documented policies and procedures).

Technological

HorizonZero staff work on personal computers networked to servers at The Banff Centre. They can save files to their own hard drives and/or post them to shared server space. For the most part, the shared space is navigated using tracking software that organizes postings into threads. Files destined for preservation are posted to the server and then burned to CD-ROM on an issue-by-issue basis. Tracker postings are preserved using the data archiving function implemented in the tracker software. E-mail is preserved for a limited time on The Banff Centre's e-mail server.

D. Narrative Answers to the Twenty-three Core Questions

1. What activities of the creator have you investigated?

The primary activity is the production of an issue of the online magazine, from conception to publication. We have not studied the production of a specific issue, but rather the generic process by which an issue is produced. An informal activity model breaking down this activity into its component stages is provided in Section E, below.

2. Which of these activities generate the digital entities that are the objects of your case study?

The digital entities that are the object of this study are all generated by the activity of producing the magazine. Specific documents are mapped to sub-activities in the model included in Section E, below.

3. For what purposes are the digital entities you have examined created?

The digital entities fall into three broad categories: (1) administrative documents that facilitate communication and control of the production process; (2) journalistic/artistic documents that are drafted, revised and ultimately incorporated into the published magazine; and (3) programming code that creates the presentation and interactive features of the Flash Web site. This case study is especially interested in the documents of the latter two categories. Some documents become part of the ZeroHorizon database and are potentially repurposed for educational or other use.

4. What form do these digital entities take? (e.g., e-mail, CAD, database, sketches, sound files, images, etc.)

The types of digital documents created by *HorizonZero* include: text, layout, audio, still images, video and Flash.

4a. What are the key formal elements, attributes, and behavior (if any) of the digital entities?

Text: text

Layout: layered images

Audio: audio

Still images: still image

Video: video

Flash: presentation/navigation/interactivity

4b. digital components

Text: Word files

Layout: .psd files

Audio: .aiff, .wav files

Still images: .tiff, .psd., .ai files

Video: .mov, .avi., .swf files

Flash: .fla, .swf files

4d. How are the digital entities identified?

Naming conventions are ad hoc, though some staff members have evolved consistent naming conventions for their own work.

4e. What kind of aggregation levels exist, if any?

The main filing system is organized by issue on a shared server entitled TEAM. The sub-directories within each issue folder are ad hoc, though each issue folder has a sub-directory labeled "Editorial," which is further divided into sub-directories labeled "General Site Text," "Ready for Layout," and "Unedited."

Much of the audio and graphic material is kept on the personal hard drives of *HorizonZero* staff. The organization of this material is ad hoc.

Many of the documents created through the process are posted to a tracker (server space navigated using tracking software that organizes postings into threads). Tracker entries are saved using an archival function implemented in the tracker software (Mantis 0.18.0A4).

Contracts and other legal documents are kept in a paper filing system.

4f. What determines the way in which the digital entities are organized?

Individual staff members organize the documents they create at their own discretion. After each issue is published, documents are gathered in the issue directory on the shared server (TEAM).

5. How are those digital entities created?**5a. What is the nature of the system(s) with which they are created?**

HorizonZero staff work on personal computers networked to servers at The Banff Centre. They can save files to their own hard drives and/or post them to shared server space, either in the folder dedicated to each issue or to the tracker. Files destined for preservation are saved in the shared folder and then burned to CD-ROM on an issue-by-issue basis. Postings to the tracker are periodically backed up to CD-ROM.

5b. Does the system manage the complete range of digital entities created?

No.

6. From what precise process(es) or procedure(s), or part thereof, do the digital entities result?

The production process is modeled in Section E, below.

7. To what other digital or non-digital entities are they connected in a conceptual or technical way?

The documents created are conceptually connected to the e-mail correspondence and paper contracts that led to their creation; they are technically dependent upon a variety of software for access. Many of the documents are saved in a file interchange format (such as .aiff or .tiff), but some are saved in proprietary formats (such as Word, Photoshop or Flash) that require specific software to be accessed.

8. What are the documentary and technological processes or procedures that the creator follows to identify, retrieve and access digital entities?

The editorial staff have developed and documented a procedure for identification and filing of the documents they create. Likewise, the technical production lead keeps a version history for each of the media products developed. The graphic design-related documents (developed largely in Photoshop) are less carefully identified, but a version history is embedded in each Photoshop document. In a small production environment with a single designer, the need for rigorous naming conventions and access processes and procedures is less pressing. In any case, the relatively small number of documents created in the production of each issue allows for retrieval

by scanning the issue directory and sub-directories, or by scrolling through the tracker. The person who created the document generally knows where it is.

9. Are those processes and procedures documented? How? In what form?

Some of these procedures are documented, and some are not. A directory called the Production Bible is maintained on the server. It is a compendium of documentation of the processes and procedures that have been or will be developed. While some documentation of procedures is in place, other procedures are documented as need arises. The producer of *HorizonZero* is responsible for refining and adding to the Production Bible.

10. What measures does the creator take to ensure the quality, reliability, and authenticity of the digital entities and their documentation?

The creator assumes the authenticity of their documents on the basis of controlled access and a lack of incentive for intentional tampering. The documents have not existed for a long enough period of time to have become technologically obsolete and/or to have been migrated to a new platform.

11. Does the creator think that the authenticity of his digital entities is assured, and if so, why?

The issue of authenticity is not a high concern for the creator. The *integrity* of the documents is important, but no specific procedures have been developed to ensure the integrity of the documents over the long term. The creator understands integrity to mean “not altered over time.”

12. How does the creator use the digital entries under examination?

The documents are used for reference and as templates for new documents. Copies of the Flash site are made for publicity and promotional purposes. Media documents may become part of the ZeroHorizon database, which has an educational mandate.

13. How are changes to the digital entities made and recorded?

A revision history is kept for media products (Photoshop and Flash files) as they are in development. Naming conventions are used by the editorial staff to distinguish between drafts and complete documents.

14. Do external users have access to the digital entities in question? If so, how, and what kind of uses do they make of the entities?

External users only have access to the published Flash site and Text site. Users experience the sites as journalism and as artworks. In some cases, users can contribute comments or chat online; the commentary and chat functionality is preserved online as long as *HorizonZero* is published.

15. Are there specific job competencies (or responsibilities) with respect to the creation, maintenance, and/or use of the digital entities? If yes, what are they?

Within the process of creating an issue of *HorizonZero*, there are points at which the work done to date must be signed off on by both the Editor-in-Chief and the Director of Creative Development. These include the issue synopsis, treatment, submission proposals, final text, final translated text, and final artwork.

The responsibility for creating these documents is by team (editorial and production) rather than by individual, although each individual makes specific contributions to the work of the team.

16. Are there access rights (to objects and/or systems) connected to the job competence of the responsible person? If yes, what are they?

The Flash site and text site are publicly available online. All members of the *HorizonZero* team have access to all the documents on the server. Sensitive documents are kept on the personal hard drives of staff.

17. Among its digital entities, which one does the creator consider to be records and why?

The producer of *HorizonZero* considers the contents of the production folders relating to each issue to be the records of the project. In addition, the Production Bible and postings to the tracker are considered to be records.

18. Does the creator keep the digital entities that are currently being examined? That is, are these digital entities part of a recordkeeping system? If so, what are its features?

The creator keeps the documents related to each issue in a folder on a server, backed up on CD-ROM. Some documents are maintained on the personal hard drives of employees, and occasionally backed up to CD-ROM.

18a. Do the recordkeeping system(s) or procedures routinely capture all digital entities within the scope of the activity it covers?

Yes, though this is not an automated procedure.

18b. From what applications do the recordkeeping system(s) inherit or capture the digital entities and the related metadata?

As the recordkeeping system is not an RMA (Records Management Application), the documents are “captured” by transferring them from individual hard drives to the shared server space. Metadata are attached to those documents (once again, not automatically) that are subsequently transferred to the ZeroHorizon database.

18c. Are the digital entities organized in such a way that reflects the creation processes? What is the schema, if any, for organizing the digital entities?

To an extent, the file organization reflects the creation process, at least on an issue-by-issue basis. The naming conventions in use by the editorial team create a further level of organization. Still, the organization of digital entities is not standardized.

18d. Does the recordkeeping system provide ready access to all relevant digital entities and related metadata?

Yes.

18e. Does the recordkeeping system document all actions/transactions that take place in the system re: the digital entities?

No.

19. How does the creator maintain its digital entities through technological change?

To date, no technological change has transpired that creates an issue for maintenance.

19a. What preservation strategies and/or methods are implemented and how?

No plan is in place for the long-term maintenance of the documents in questions. Should *HorizonZero* be closed, a strategy will be developed to preserve some documents. Additionally/alternatively, a print publication may be undertaken that captures *HorizonZero* through images and literal description. [Follow-up point: since the time of the interview with the *HorizonZero* producer, the decision has been made to close the project at the end of 2004. At that time, all of the files pertaining to the project will be transferred to a single personal computer (Mac G4) equipped with the necessary hardware and software to access all of the files, including the *HorizonZero* Web site, the tracker, and the various files in the issue folder. Maintenance of the Web site will be contracted for a period of ten years, though much of the interaction (chat rooms, message boards) will be disabled.]

19b. Are these strategies or methods determined by the type of digital entities or by other criteria?

N/A

20. To what extent to policies, procedures and standards currently control records creation, maintenance, preservation and use in the context of the creator's activity? Do these policies, procedures and standards need to be modified or augmented?

HorizonZero is not a highly regulated working environment, and records creation, maintenance and preservation are not strictly controlled. Contributors to *HorizonZero* must follow a Technical

Specifications sheet that substantially limits the number of file types that the creator has to manage. Policies and procedures relating to the technical production and editorial content are kept in a “Production Bible,” which is a set of Word files on the shared server space. These procedures are in place to govern workflow, but do not specifically address document creation.

21. What legal, moral (e.g. control over artistic expression) or ethical obligations, concerns, or issues exist regarding the creation, maintenance, preservation and use of the records in the context of the creator’s activity?

HorizonZero enters a copyright licensing arrangement with each of its contributors. The terms of each arrangement may be unique, although a standard template is in place. Typically, the contributor retains the copyright over the work, but waives the moral rights to the work. The standard license agreement is very broad, allowing *HorizonZero* to use the work for any purpose without further royalty.

22. What descriptive or other metadata schema or standards are currently being used in the creation, maintenance, use, and preservation of the recordkeeping system or environment being studied?

No descriptive or metadata schema are consistently used for the records of *HorizonZero* pertaining to the production of each issue. There are naming conventions that describe the content of some records, but most records can be identified only by their context in the filing system.

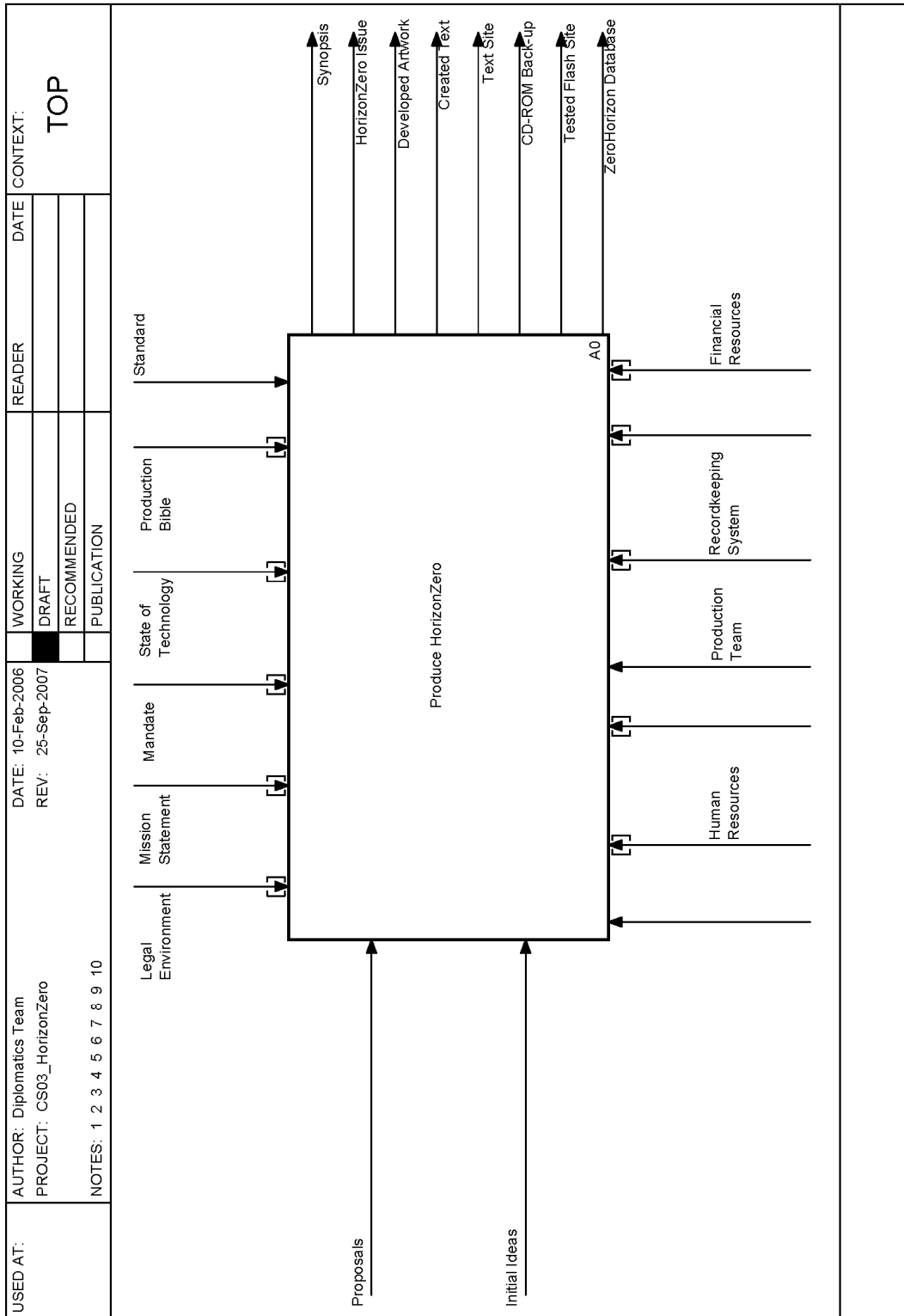
Media assets that are identified as such may be copied into the ZeroHorizon database. These documents are well-described with metadata following the CanCore standard (see below), with *HorizonZero* tags added.

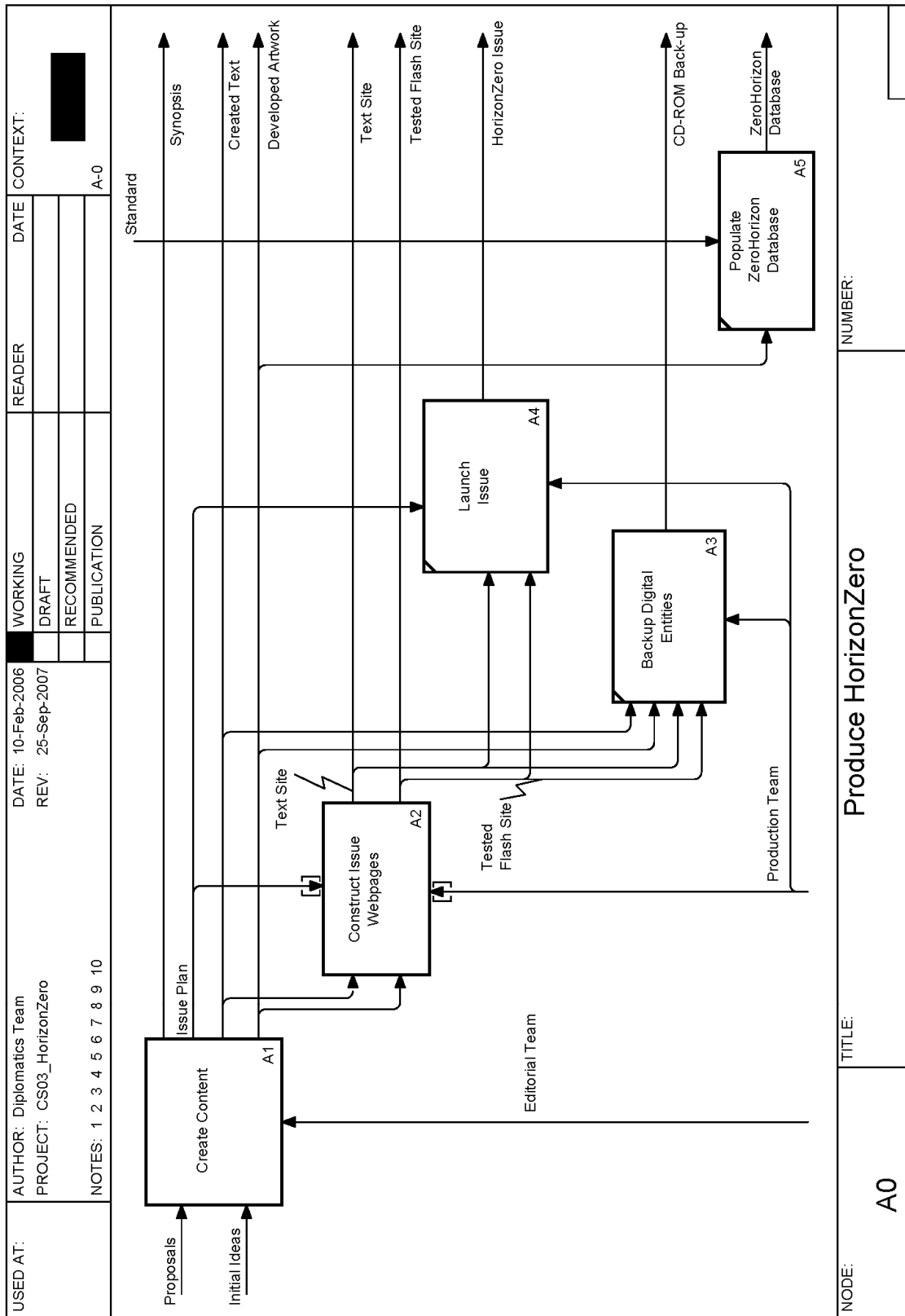
Objects that are part of the *HorizonZero* Flash site or Text site are described with a set of metadata developed for this purpose. It is not possible to tag objects embedded in the Flash site, but the .swf file itself has a set of metadata attached.

23. What is the source of these descriptive or other metadata schema or standards?

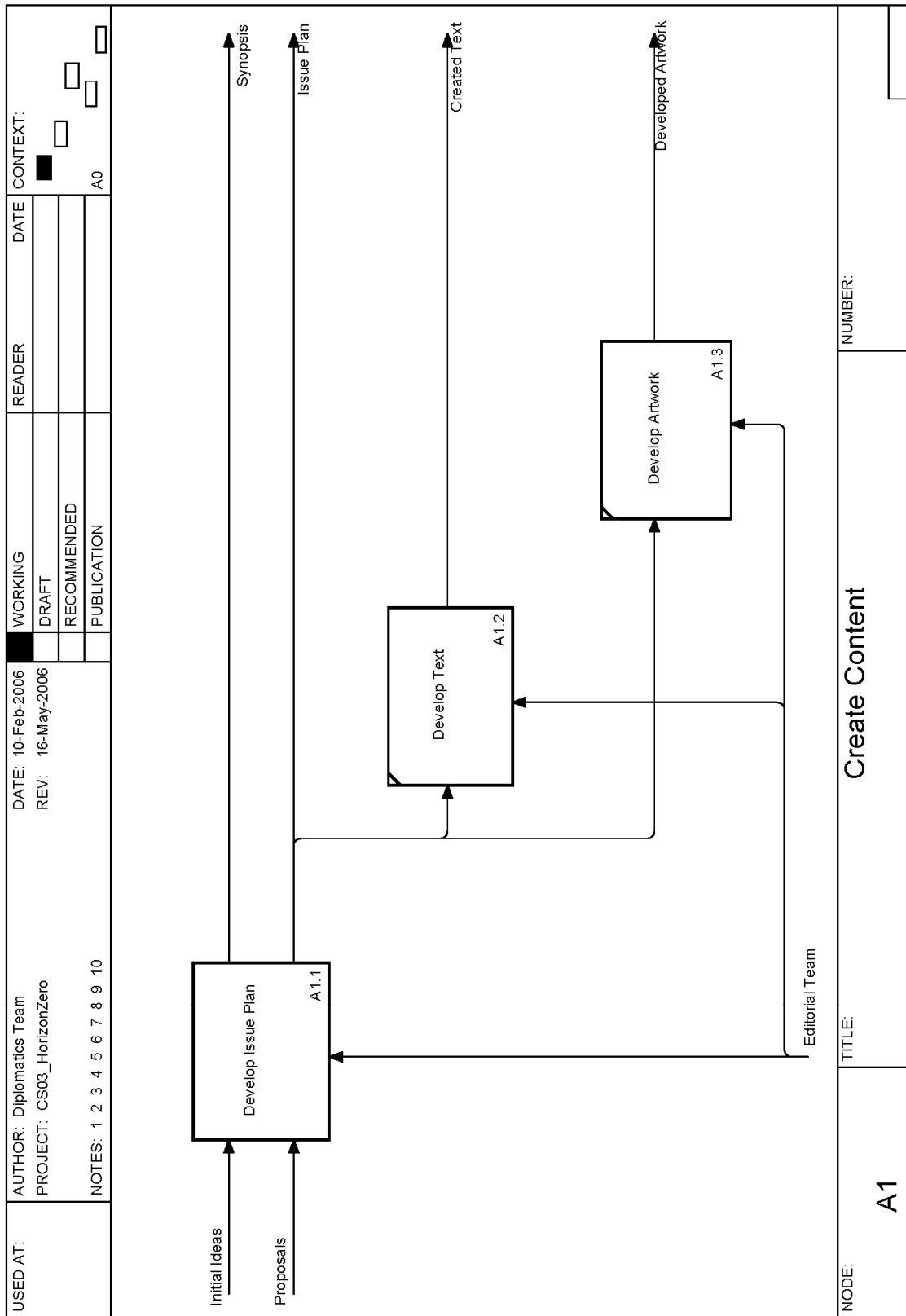
The CanCore standard is derived from the Dublin Core metadata set, and is based on, and fully compatible with, the IEEE Learning Object Metadata standard and the IMS Learning Resource Meta-data specification. Other metadata sets are the result of individual practice.

E. Case Study Activity Model





NODE: A0
 TITLE: Produce HorizonZero
 NUMBER:

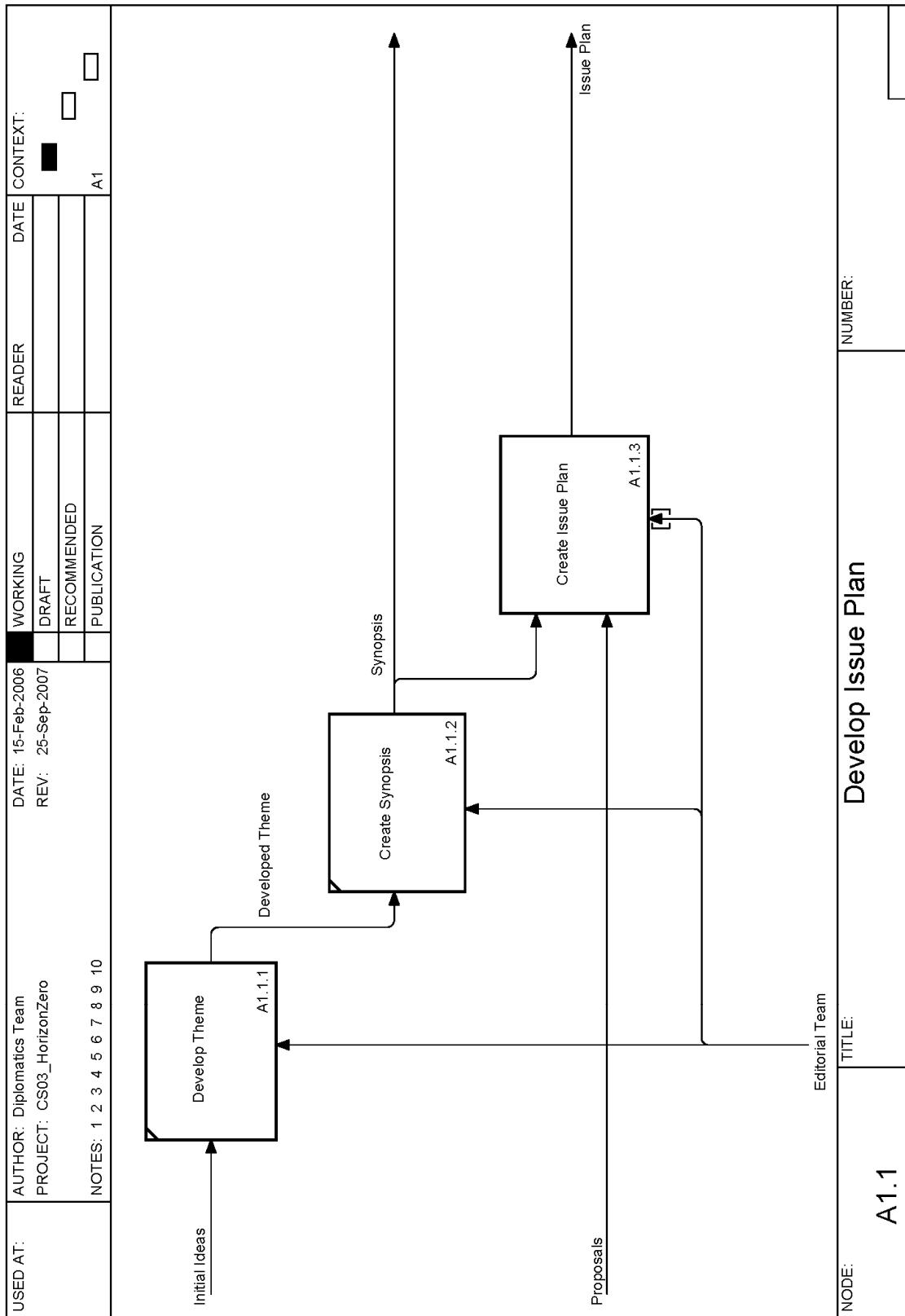


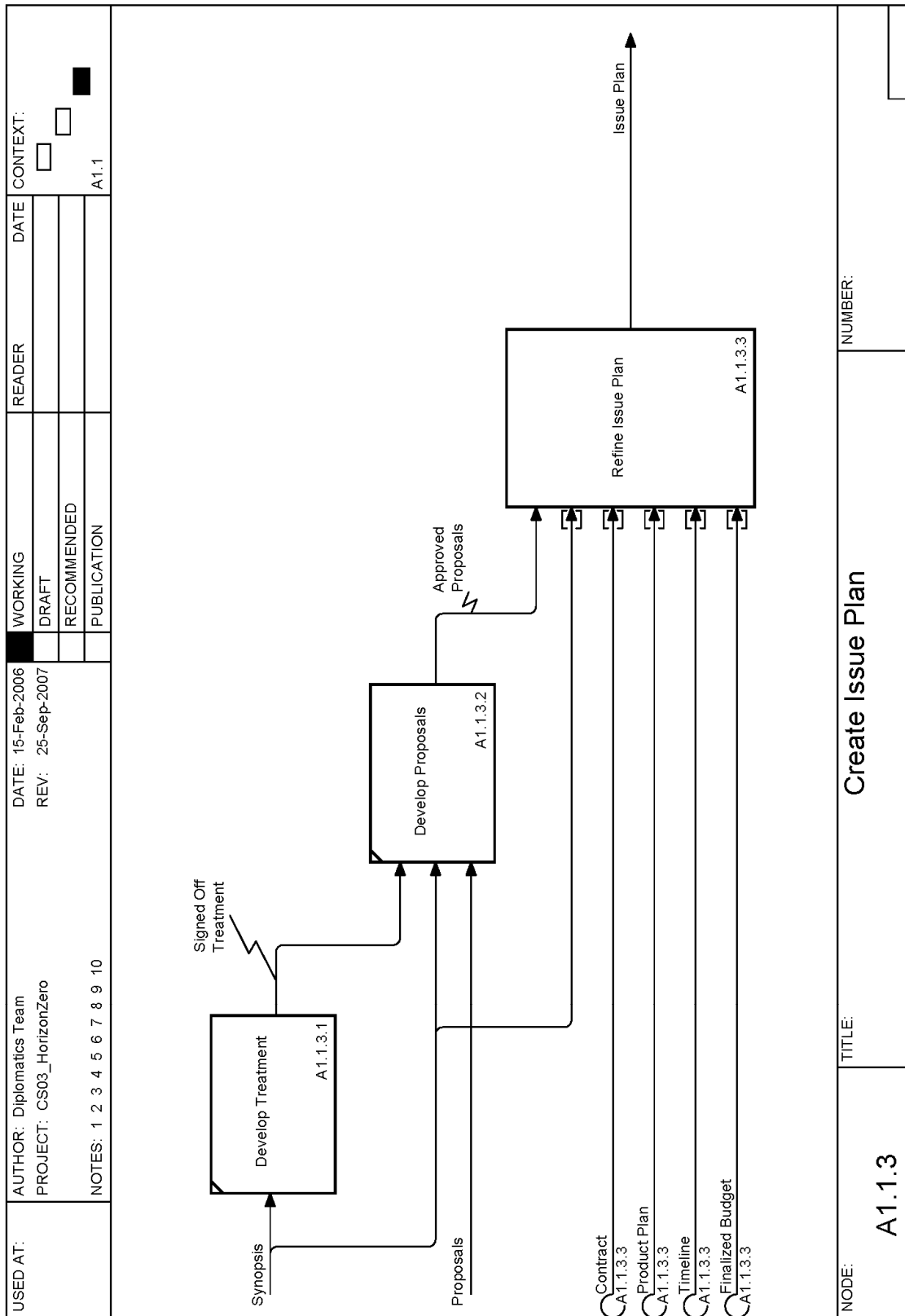
NUMBER:

Create Content

TITLE:

A1

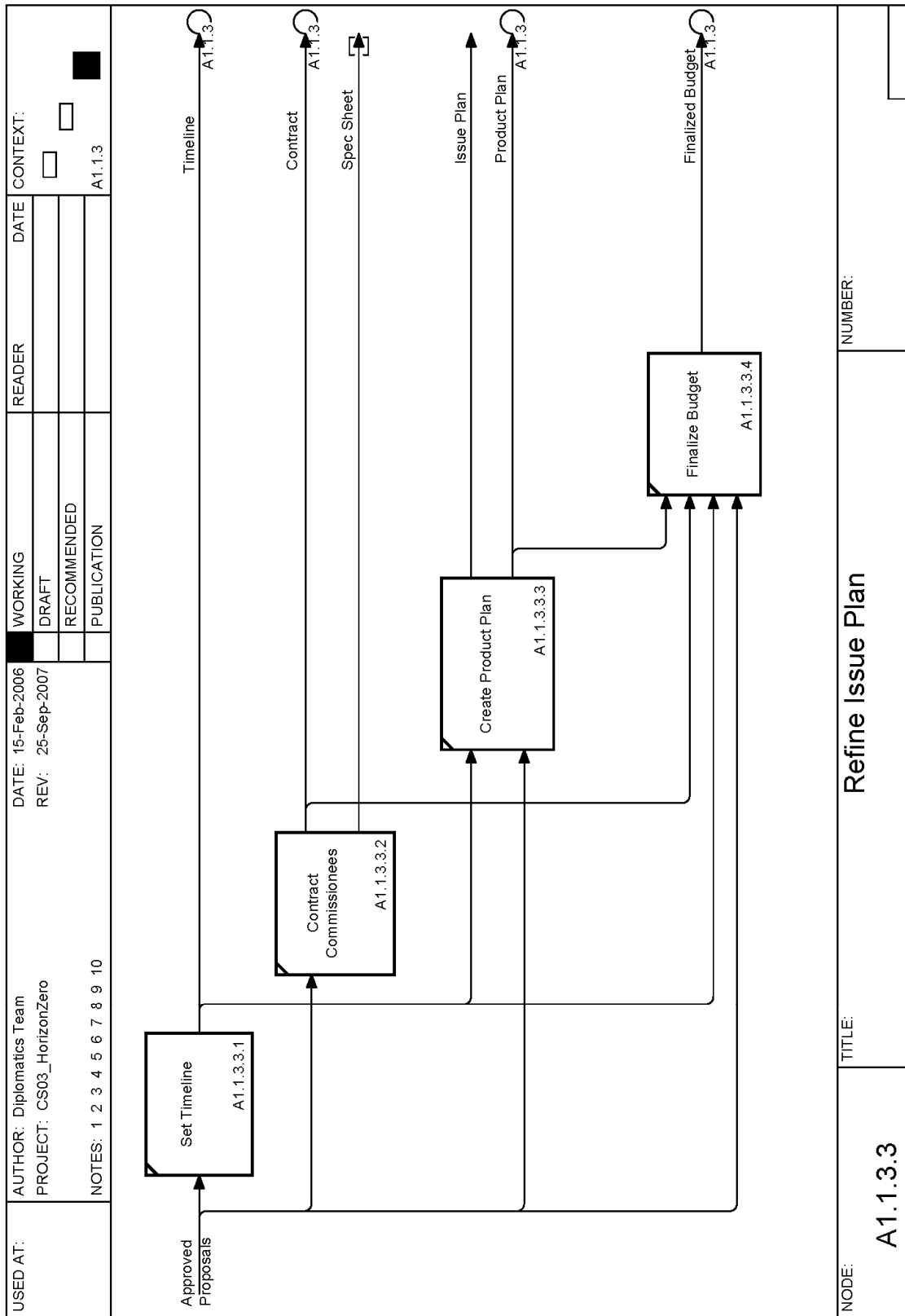




NODE: **A1.1.3**

TITLE: **Create Issue Plan**

NUMBER:

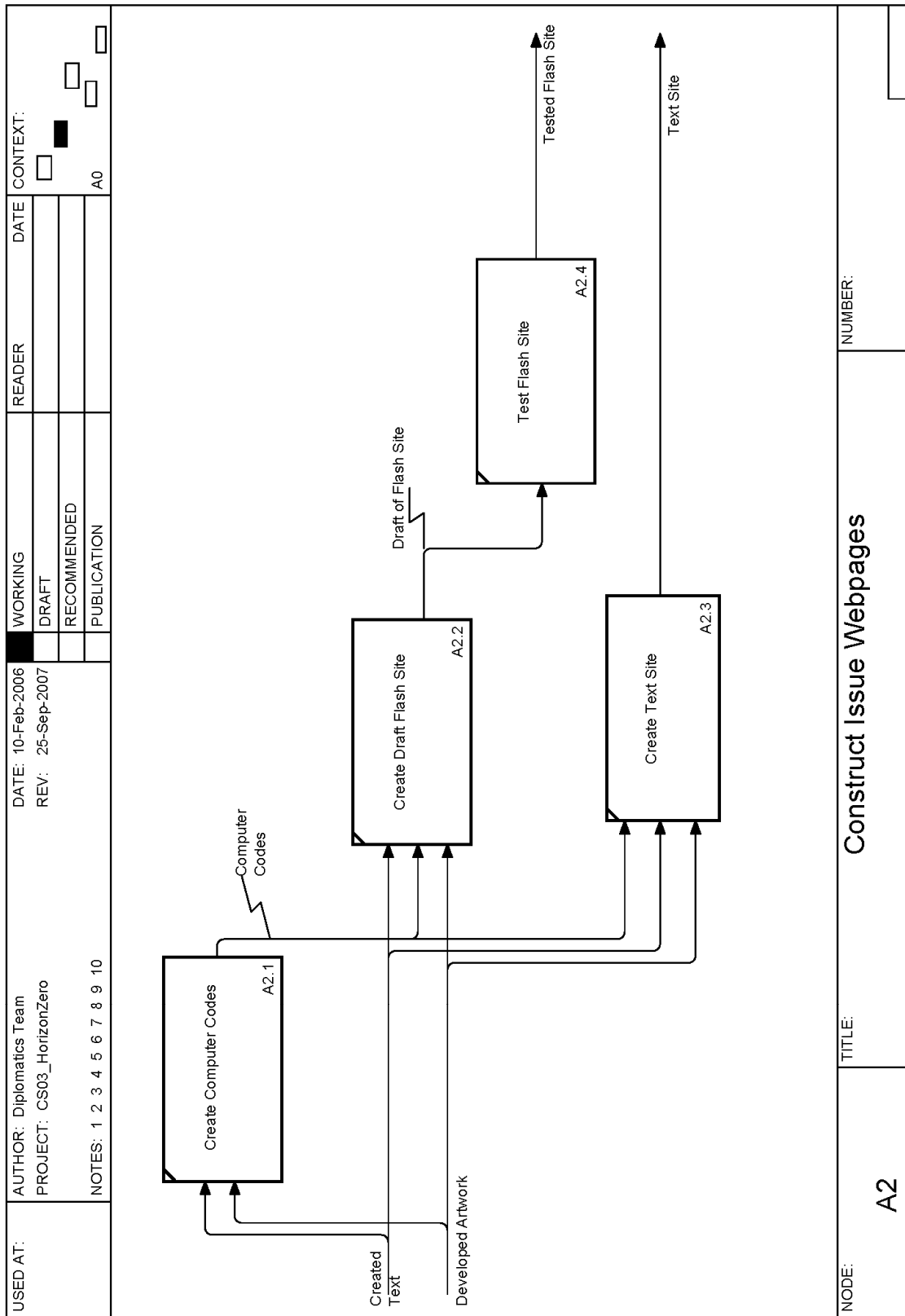


NUMBER:

Refine Issue Plan

TITLE:

A1.1.3.3



NODE: A2

TITLE: Construct Issue Webpages

NUMBER:

Case Study 03, <i>HorizonZero/ZeroHorizon</i>: Activity Model (20070925) - Activity Definitions			
Name	No.	Definition	Note
Produce <i>HorizonZero</i>	A0		
Create Content	A1	To develop issue plan, text and artwork.	
Develop Issue Plan	A1.1	To determine theme of the issue.	
Develop Theme	A1.1.1	To brainstorm and develop the theme for a particular issue.	
Create Synopsis	A1.1.2	To create the document that summarizes and articulates the developed theme.	This will go through a draft phase and be signed off by the Editorial Team.
Create Issue Plan	A1.1.3	To develop treatment, develop proposals and refine issue plan.	
Develop Treatment	A1.1.3.1	To articulate the high level look and feel of the issues.	
Develop Proposals	A1.1.3.2	To develop proposals includes soliciting and revising proposals.	
Refine Issue Plan	A1.1.3.3	Revise issue plan based upon approved proposals.	
Set Timeline	A1.1.3.3.1	To set timeline for achieving deliverables.	The timeline includes stages in the development of the content for everything that will appear on the Web site.
Contract Commissionees	A1.1.3.3.2	Negotiate contract with commissionees and issues spec sheet.	
Create Product Plan	A1.1.3.3.3	A plan to guide the productive activities involved in creating an issue.	
Finalize Budget	A1.1.3.3.4	To finalize a budget for a particular issue.	
Develop Text	A1.2	To receive, write and approve the journalistic text that will be used in the issue.	Text is submitted both by outside and inside writers. Development includes drafts, revisions, the translated text and the sign-off on both languages.
Develop Artwork	A1.3	To receive and approve submitted artworks.	Development includes drafts, revisions, and sign-off on final versions.
Construct Issue Webpages	A2	To create computer codes, text site, draft Flash site, and test Flash site for each particular issue.	
Create Computer Codes	A2.1	To create computer codes for electronically publishing developed content.	
Create Draft Flash Site	A2.2	To build a Web site containing media objects such as sound, still images, and audio/visual files.	This also includes to import text into Flash site.
Create Text Site	A2.3	To build the site containing necessary textual elements in both French and English languages.	
Test Flash Site	A2.4	To conduct alpha, beta and gold tests of the draft Flash site.	
Backup Digital Entities	A3	To create a CD-ROM backup that contains issue-related files, text site and tested Flash site.	
Launch Issue	A4	To upload text and Flash site from the development server to the Web server.	
Populate <i>ZeroHorizon</i> Database	A5	To copy selected media objects for preservation to <i>ZeroHorizon</i> database.	

Case Study 03, <i>HorizonZero/ZeroHorizon</i>: Activity Model (20070925) - Arrow Definitions		
Name	Definition	Note
Accepted Proposal	Proposals accepted for further development.	
Accepted Proposals		
Approved Proposals	Proposals that have been refined and approved.	Proposals may include submitted artwork which can be documents of any type allowed by <i>HorizonZero</i> Technical Specifications.
CD-ROM		
CD-ROM Back-up	CD-ROM backup that contains issue-related files, text site and tested Flash site.	
Computer Code		
Computer Codes	Computer codes for electronically publishing developed content.	
Contract	Agreement reached between the commissionees and the Editorial Team.	
Created Text	The journalistic texts that will be included in the issue.	
Developed Artwork	Received artwork that has been developed according to <i>HorizonZero</i> 's procedures.	
Developed Theme	The theme of the issue discussed and approved by the meeting.	
Draft of Flash Site	The draft of the Flash site.	
Editorial Team	Editorial team consists of the Editor-in-Chief, Director of Creative Development, English and French Language Editors, and assistant.	
Facilities	The office and equipment in the Banff Centre used during the production of <i>HorizonZero</i> .	
Finalized Budget		
Financial Resources	Banff Centre and the Department of Canadian Heritage are the funders of <i>HorizonZero</i> .	
<i>HorizonZero</i> Issue	The issue of the <i>HorizonZero</i> published each month.	This is an online magazine with no paper copies available.
Human Resources	The personnel of <i>HorizonZero</i> involved in the creation of each issue.	This includes the Editorial Team, Production Team, Leadership Team and the Administration.
Initial Ideas	Creative ideas that fulfill <i>HorizonZero</i> 's mandate in promoting Canadian heritage.	
Issue	One issue of <i>HorizonZero</i> .	
Issue Plan	The overall plan for the development of the issue.	
Issue Theme	Issue Theme	
Legal Environment	Relevant legislation.	This includes contract law and copyright licensing agreement with each contributor of <i>HorizonZero</i> .
Mandate	The visions and goals set forth by <i>HorizonZero</i> .	
Meetings	Issue kickoff and editorial meetings.	The meetings are attended by writers, artists, and editors.
Mission Statement	The mission statement of the Banff Centre	See the final report.

Case Study 03, <i>HorizonZero/ZeroHorizon</i>: Activity Model (20070925) - Arrow Definitions		
Name	Definition	Note
Product Plan	A plan guiding the productive activities involved in creating an issue.	
Production Bible	The policies and procedures that govern the production of <i>HorizonZero</i> .	
Production Team	The Production Team includes the Technical Production Lead, the Technical Developer, Graphic Designer, and the Interactive Designer.	
Proposals	Submissions received from various contributors.	These will include digital text and artwork.
Recordkeeping System	An electronic filing system contains most of the records generated in <i>HorizonZero</i> .	Except e-mail and paper records.
Research Results	Results from researching themes, artists and writers.	
Signed Off Treatment	The treatment approved by the Editor-in-Chief.	
Spec Sheet	Unknown specifications issued to the commissionees.	The final report is unclear as to what these specifications are and what they are used for.
Standard		
Standards	CanCore metadata standards used to describe records generated in <i>HorizonZero</i> .	
State of Technology	The capabilities of technology available at any given time.	
Synopsis	Document that articulates the theme and ideas for the upcoming issue.	
Technology	Technology used in the generation of <i>HorizonZero</i> .	
Tested Flash Site	The Flash site after the alpha, beta and gold tests and ready to be launched.	
Text Site	Site containing the developed textual content.	
Timeline	The timeline includes stages in the development of the content for everything that will appear on the website.	
ZeroHorizon Database	Internet accessible database of media objects selected and preserved for further dissemination and educational purposes.	