Joey Heinen

Assignment 1: Review of the Rhizome ArtBase

In tracing the long, evolutionary life cycle of the Rhizome Artbase, one also observes the expansion of internet art as a practice and how it brought attention to a glaring need in the field of media art conservation at large. Initially Rhizome embarked on this project in order to create a platform for discussion on internet art and emerging technologies. This listserv, established in 1996[1], allowed artists and designers to share perspectives on best practices for identifying the essential components of webpage-as-art. A website, after all, is not a solitary, static object but a system of files which rely on various media readers in order to view and interpret this material all together. It soon became apparent that one major issue was a lack of an archival model or repository to house these elements for the purposes of long-term access. This need led to the Artbase as a web archive for the media works, and later for larger discussions to take place in the archival and conservation fields as to whether this model could also be used to encompass works involving other forms of interdependent, complex media - interactive, software-dependent, ephemeral (documentation, or "scores" serving as the only archival material). The Artbase in its current iteration serves to "provide free, open, and permanent access to a living and historic collection of seminal new media art objects," ultimately striving to create an environment in which artists can contribute to the conservation process while at the same time liberated from the responsibility of maintaining their own work such that they can continue to innovate and explore new territory.[2] The Artbase is now host to over 2,500 works of digital media art on a 24/7 basis, serving a community of new media audiences, educational institutions, and the artists themselves who wish to observe and research the digital processes which the works employ.

But before going any further with this historical trajectory and the specifics of the Artbase's use, perhaps it is best to first identify what exactly makes "Net Art" and similar multi-modal practices so complex to deal with from a conservation standpoint. Rhizome describes the three inherent vices of new media as diffusivity, data obsolescence, and physical degradation.[3] Diffusivity deals with works that reference external/linked media, several simultaneous style sheets, real-time sources, and so on. Data obsolescence deals with formats, readers, or software that are no longer supported or which use outdated versions of the data. Other data obsolescence issues could be related to fixity or data integrity such as bit rot and data corruption. Physical degradation is listed as "currently" out of the scope of the Rhizome Artbase given that it deals with failure of hardware such as hard disc drives, monitors, or physical interfaces. Artbase is, however, concerned with failure of storage devices given its role in the archival process.[4] Additionally, given Rhizome's propensity to expand its pedagogy, they may one day involve other forms of hardware (the largest encumbrance to this effort obviously being physical storage space).

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[1] Fino-Radin, Ben "Digital Preservation Practices and the Rhizome Database," p. 5 Last Accessed 10/1/2013, http://pdf.textfiles.com/academics/rhizome-dpp.pdf.
[2] Ibid, p. 21
[3] Ibid, p. 8
[4] Rinehart, Richard, "Preserving the Rhizome Artbase" p. 16, last accessed 10/01/2013. http://media.rhizome.org/artbase/documents/Preserving-the-Rhizome-ArtBase.pdf.

In terms of issues of diffusivity, works that are self-contained (e.g. a piece that only incorporates CSS or a multi-media page which also contains a directory structure of the related media) are easily ingested into the repository. A web-page that uses external media that is not contained in a directory or that involves dynamic media (e.g. live updates from other sources, wiki-generated content) can be ingested but may not retain all elements of the original piece such that it can deemed fully authentic. For example, a work that involves Yahoo! Answers for an audience poll may only be archived by use of crawls and screen-shots that create a window in time as the piece evolves. This allows visitor to the Artbase a chance to see the contexts under which the piece existed and how it originally functioned but does not guarantee its continual functionality. Rhizome does assist the artist in identifying the core relationships within the piece and maintaining those so long as those dependencies are feasible. If, for example, the artist does not continue to pay for their own web hosting service on which the piece is based or the programming language becomes obsolete, other strategies will need to be implemented which may resemble but not completely replicate the original processes. More strategies and examples related to diffusivity will be explored later on.

Data obsolescence and diffusivity are in some senses a linked issue, largely based on the complex relationships between languages and applications which might disintegrate in the event that one of those platforms is no longer supported. One example of a piece in the ArtBase, globalmove.us by the collective JODI, uses HTML, Javascript, and GoogleMaps API to create a random web animation which samples from the more than 150 icons used in GoogleMaps. This piece has many dependencies but the crux of the issue relates to the Javascript that interacts between and interprets the two external elements - the HTML of the JODI animation and the GoogleMaps source material. If the Javascript is not continually updated or is no longer able to interpret the two external computer languages the piece as a whole will no longer function. It would be important at this stage for the repository to determine whether the piece needs to be recreated (i.e. the entire structure adapted to current technologies/modalities in bridging two different existing computer languages) or if the original, outdated modes of all technologies are best contained in an emulated environment.

Now that we have explored some of the issues related to the work within the Artbase's collection scope, we can examine some of its workflows and ingest processes. When the Artbase took on the role of a fully-hosted web repository in 1999, they looked to another model in complex media conservation, that of the Variable Media Iniative's publication Permanence Through Change.[5] One of the major developments of this initiative was the creation of an open-ended taxonomy of variable media works, acknowledging that technology is ever in-flux but that conservation approaches can be made efficient by means of streamlining. They created a questionnaire approach of working with the artist to define what elements of the work are absolutely essential in order to retain the original intent and what elements can change over time in keeping with emerging technologies and inevitable media obsolescence. When artist hands over the material to the Artbase they also submit to a completed questionnaire which is used to create the Submission Information Package. This includes basic descriptive information (title, created date, byline, URL, summary, statement) the general contents (images, videos, other

[5] Fino-Radin, Ben, p. 7, http://pdf.textfiles.com/academics/rhizome-dpp.pdf.

media) and the technological dependencies (software, programming language, Internet protocols, etc.). The questionnaire gives the artist a chance to express their conservation opinions, definition of authenticity, and essential elements of the work that are not to be modified through conservation.

As mentioned earlier, the simplest situation found in the Artbase is when a work incorporates, for example, a static HTML page with a directory of all external media and/or works that do not involve any dynamic or changing content. In the case of interdependent works, the archival copy must involve a "stabilized" external infrastructure which means that the existing versions and operating systems remain unchanged or non-updated.[6] The dynamic content obviously poses an immediate threat for these works given that they rely on external elements. The immediate future for Rhizome in terms of external dynamic content involves partnerships with outside organizations who would host the archived copy and connect to the other elements within the Artbase. In the example of the JODI project, Google would agree to host the necessary version of Google API to interact with the "stabilized" versions of the Javascript and original HTML such that the work will function without risk of external data obsolescence. Of course, this controlled environment does not entirely protect against the failure of the piece. To monitor the continuous functionality, Rhizome checks for broken URLs and data fixity on a regular basis. For works that connect to external sources, Rhizome must rely on user-generated alerts since there are few foolproof tools in existence that can test connectivity to external elements.

In conserving a work, Rhizome is very careful to retain the artist's intent and to not erase any element of the original process regardless of obsolescence. In a situation where content needs to be migrated to a different file format due to impending obsolescence of the original format, the Artbase will create a new copy of the work with the migrated format while also retaining the original, unchanged copy. One cannot completely foresee whether the piece will be easier to emulate based on the original formats rather than continually having to migrate the material to the currently-supported environments. For this reason, any changes made to a piece involves the creation of an entirely different version/copy. In the case of a work that involves physical/hardware components, the Artbase retains documentation around the piece and its relation to the external elements. Examples could be installation diagrams, technical schematics, images of earlier iterations of the piece, or an analysis of the various formats/source code and the specifics of their interdependencies. All of these versions and documentation inform the creation of the Archival Package.

Naturally the archival package also involves various approaches towards metadata, both from the artist-generated submission information and its continuous preservation actions. The metadata involving the original artwork and the original software/technology are retained as separate elements. The distinction between artwork and technology is seen in instances where copies of the work are created as a result of migration or other preservation methods. If a work is recreated as a preservation or reinstallation method, the work needs to be "unhitched" from the metadata that informs its technological dependencies since these will no longer be true. Given the unique situation that faces each work, the data created around a new iteration of the work

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[6] Fino-Radin, Ben. p. 15 http://pdf.textfiles.com/academics/rhizome-dpp.pdf

needs to be distinct in its structural metadata.[7] The structural metadata is also used for categorizing and indexing within the Artbase as works are tagged and categorized based on the technologies incorporated within the works. For basic description, elements in Dublin Core describes the file format, programming languages, technologies of the archival package and can be browsed based on at-risk elements. These Dublin Core elements are parsed out to contain sub-elements for objects and technology, fulfilling three functions: standardized core cataloging data for management and access, documenting the original state of the work (at time of submission to ArtBase), recording information needed for future emulation.[8]

The future of Rhizome, as mentioned, involves partnering with outside hosts and developers to assist in the "stabilizing" of their dynamic content. Additionally, their burgeoning attention to bibliographic complexity is making the Artbase more usable and scalable as they adopt works with ever-broadening definitions of "net-based" media. They certainly stand as a model for how a collection can span disciplines and continue to advocate for end-user access even when dealing with material with inherent vice.

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[7] Rinehart, Richard, p. 16, http://media.rhizome.org/artbase/documents/Preserving-the-Rhizome-ArtBase.pdf.

[8] Rinehart, Richard, "Preserving the Rhizome Artbase" p. 16 http://media.rhizome.org/artbase/documents/Preserving-the-Rhizome-ArtBase.pdf.