



# InterPARES 2 Project

International Research on Permanent Authentic Records in Electronic Systems

**Title:** Case Study 10 Final Report:  
*The Danube Exodus: Interactive Multimedia Piece*

**Status:** Final (public)

**Version:** 1.0

**Submission Date:** September 2006

**Release Date:** September 2007

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**URL:** [http://www.interpares.org/display\\_file.cfm?doc=ip2\\_cs10\\_final\\_report.pdf](http://www.interpares.org/display_file.cfm?doc=ip2_cs10_final_report.pdf)

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## A. Overview

This case study examines *The Danube Exodus: The Rippling Currents of the River*, an interactive gallery installation displayed at the Getty Research Institute (August 17- September 29, 2002) that attracted over 16,000 visitors. The installation has a complicated history and provenance, and may be regarded as one manifestation of a nexus of related pieces drawing on, for the most part, the same original material.

The Hungarian filmmaker and artist Péter Forgács created a video piece entitled *The Danube Exodus (A dunai exodus)* in 1998. This film combined World War II era material—including found 8mm film footage shot by riverboat captain Nándor Andrásovits, newsreel footage, and narration of excerpts from private diaries—with a minimalist musical score composed by Tibor Szemző. The film documented two journeys made on Andrásovits' ship the *Queen Elizabeth*: in 1939 the liner was transformed into a carrier for refugee Jews escaping Nazi-occupied Slovakia, by way of the Danube River and the Black Sea, to Palestine. In 1940, it was employed to travel in the opposite direction, carrying ethnic Germans as they fled Bessarabia, following its Soviet re-annexation, to German-occupied Poland.

In 2001, while Forgács was a resident scholar at the Getty Research Institute, he conceived the idea of developing the material as an interactive DVD. This initiated collaboration between Forgács, The Getty Research Institute, the Los Angeles-based art collective The Labyrinth Project, and the Hungarian group C<sup>3</sup> (The Center for Culture and Communication). The collaboration resulted not in a DVD but in a multimedia gallery installation that first appeared at the Getty Center, and then traveled—minus material from the Research Institute special collections—to other institutions.

*The Danube Exodus* installation at the Getty was held in three connected spaces: a gallery that visitors passed through before entering the main installation space; the main installation itself; and an adjacent lecture hall that visitors passed as they left.

The gallery contained physical exhibits and contextual text, provided by the Research Institute—including 18th-century maps and drawings of the Danube region compiled in an encyclopedia by Count Luigi Ferdinando Marsili—that provided some historical counterpoint and background to the 20th-century stories told in the other spaces.

The main interactive multimedia installation presented three narrative strands: the two migratory voyages documented in Forgács' video, and biographical material on Andrásovits' own life and of the Danube River itself. It was made up of eighteen video segments or “orchestrations” that viewed end-to-end made up in total four hours of footage, and incorporated visual and other material that could not be included in the original film. The installation also included a remix of Szemző's score, ambient river sound, and recordings of prayers, songs, voiceovers, and regional music. Visitors to the installation used a touch-screen interface to navigate through the stories and effectively construct their own Danube narrative by projecting different video segments on one of five screens.

The lecture hall featured a large screen onto which the “original” 60-minute video piece created in 1998 was projected. Two terminals presenting an interactive Web-based database (still available as of September, 2006 at [www.danube-exodus.hu/en/](http://www.danube-exodus.hu/en/)) flanked the central screen. The database offered “pure documentation” of the materials used in the installation and the video, effectively just listing them one after another. It also had a feature that allowed visitors to record their reactions to the installation, asking them which section they found most effective, the three words that best described the experience, etc., and another feature that solicited personal commentary from visitors who might have relevant or related experiences.

## **B. Statement of Methodology**

The primary data-gathering methodology of the study was in-depth interviews. Hubbard met with Labyrinth Project staff in May and June 2004, conducting an in-person interview with Marsha Kinder (Director) and a phone interview with Rosemary Comella (Interface Designer and Software Developer, and Project Manager for *The Danube Exodus* at The Labyrinth Project). She met with Péter Forgács and Miklós Peternák (Director of C<sup>3</sup>) in Budapest in July 2004. She was also able to have on-going interaction with staff at her own institution, the Getty Research Institute, particularly with Barbara Anderson, the head of Exhibitions, and to access the on-site documentation.

Two problems emerged with the data gathering. Firstly, even with the greatest goodwill and generosity on the part of interviewees, it is very hard to gather all the information needed for a study of this kind with just one interview, even with follow up e-mails and phone calls, especially when two of the interviews are with people with whom the interviewer does not share a first language, or when the primary interviewee is not the technical expert on the project. Where possible some more longitudinal methodology, such as ethnographic style participant observation, would be preferable. Secondly, at least two key people involved in the development of *The Danube Exodus* had left the employ of their institution by the time interviews got underway: the project manager at C<sup>3</sup> (Szilvia Seres), and the primary research assistant at The Getty Research Institute (Zaia Alexander). This has made it particularly difficult to gather technical information from C<sup>3</sup>, though it is to be hoped that the information will be forthcoming for the final report.

## **C. Description of Context**

### **Provenancial**

*The Danube Exodus* installation had a complicated provenance. Forgács was the central figure in its creation, collaborating closely with each of the other contributors. The Getty Research Institute provided text and materials (from the special collections of the Getty Research Library) for the gallery space, as well as providing physical and technical equipment not supplied by the Labyrinth Project. The Labyrinth Project staff, in consultation with Forgács, was responsible for the programming and conceptualization of the interactive multimedia installation shown in the main exhibition space, while Forgács edited the eighteen video segments it used. C<sup>3</sup>, again in consultation with Forgács, created the databases.

Péter Forgács is Budapest-based artist and filmmaker, whose early work was influenced by the Hungarian fluxus and concept art movement, as well as experimental theatre and film. He has worked extensively with “found” and amateur still and moving images, creating compilation documentaries that “psychoanalyze history.” In 1982 he started collecting snapshots or home photographs, and in 1983 he broadened his focus to include home movies. He established the Private Film and Photo Foundation (Privát Fotó és Film Alapítvány) in Budapest that same year. Forgács also works as a researcher at the Hungarian Sociological Institute of the Hungarian Academy of Sciences Private Film and Photo Research Project, and is concerned with reclaiming Hungary’s lost or disappearing history. *The Danube Exodus* video is one of a series of “Private Hungary” films.

The Getty Research Institute is an operating program of The J. Paul Getty Trust, a wealthy, private, non-profit foundation dedicated to the visual arts. The Research Institute is based at the Getty Center in Los Angeles, which also houses the J. Paul Getty Museum, the Getty Conservation Program, and the Getty Grant Program. The Research Institute offers research, exhibition, and publication programs and provides scholarly residencies, fellowships, online resources, and one of the largest art and architecture libraries in the world, with special collections that include rare books, artists' journals, sketchbooks, architectural drawings and models, photographs, and archival materials.

The Labyrinth Project is an art collective and research initiative founded in 1997 and based at the University of Southern California’s Annenberg Center for Communication. It is funded by the Annenberg Center, with additional grants from the Rockefeller, Ford and James Irvine Foundations and from USC’s Provost. The Labyrinth Project collaborates with writers and filmmakers, such as Forgács, who have not previously worked in the new media realm to create “database narratives,” i.e., works of non-linear storytelling whose structure emerges through the choices made by the viewer (cum accomplice) between individual narrative elements, such as characters, images, sounds, events, and settings. Most of these projects are available as published CDs or DVDs, but the cost of commercial licensing for a piece of footage made this impossible in the case of *The Danube Exodus*. A DVD would have included only that part of the installation seen in the main gallery, known as “*Danube Exodus: the Central Immersive Story Space*” in a legal agreement between Forgács, the Labyrinth Project and the Getty Research Institute.

C<sup>3</sup> began in 1996 as a program of the Soros Foundation Hungary, as a result of cooperation between the Soros Foundation, Silicon Graphics Hungary and MATÁV, the Hungarian telecom. In 1999 the C<sup>3</sup> Foundation was established as an independent, public, non-profit institution that incorporates the functions of the former Soros Center for Contemporary Arts (SCCA): to support the development and international exposure of contemporary art in Eastern and Central Europe. It was one of the founder members of ICAN (the International Contemporary Art Network), and provides a meeting place for the spheres of art, science and technology. C<sup>3</sup> is a principal or partner in a broad range of activities, including several art production and archival projects. They have a small income from the sale of a freemail system to MATÁV, but otherwise rely on grants from a wide range of sources. Their participation on *The Danube Exodus* was primarily funded by a National Cultural Fund grant.

## **Juridical-administrative**

The subjects referred in a general way to adhering to applicable national and international laws, for example C<sup>3</sup> is adjusting to the entrance of Hungary into the European Union and the attendant new regulations. The most commonly referred to specific legal issues or constraints were around copyright, copyleft and intellectual property. Secondly they referred to the obligations laid upon them by funding bodies, and thirdly to what may be characterized as unofficial ethical restraints—such as the obligation to the individuals shown in the video or to historical accuracy—rather than systematic ethical codes formulated by a professional body or anything similar.

## **Procedural**

None of the groups interviewed had rigid workflows or codes of practice, although most had developed a customary way of doing things or a usual creative process. These, however, were flexible, adjusting according to circumstances, such as the needs and abilities of the partner organizations with whom they were collaborating.

## **Documentary**

All of the subjects held in-house fonds of greater or lesser completeness and formality. Forgács, as with most filmmakers, makes extensive, even obsessive, notes on all his work, all of which he stores, though he seldom refers to them after a project is finished. Video copies of the Private Film and Photo Foundation's films are held by the Open Society Archives of Central European University, which also provides a finding aid for the collection. The Labyrinth Projects stores work files, rendered files, and some supporting records (depending on the particular project manager), and again organizes them by project.

Records within the Getty Research Institute are generally stored by the creating department through whatever process that department ordains. The Exhibition Department holds and stores most of the files created during the course of each exhibition—generally correspondence, planning documents, meeting agendas and the like—and organizes them by exhibition. Scholarly text created for exhibitions is also stored. Since *The Danube Exodus* installation was in place the Getty Center has established an Institutional Archives, and those records of each department still extant that are deemed worthy of retention will eventually become part of the formal Getty Archive.

C<sup>3</sup> is probably the most complicated institution. We were unable, given the limitations in our communication, to gather much information of their archival fonds, but the institution is very concerned with documenting contemporary Hungary Art and holds extensive records to that end. A great deal of material is offered through their Web site. For instance, <http://marcheo.c3.hu/> provides a database that offers a “concise, surveyable overview of Hungarian and international media history” and provides “source materials, documentation, descriptions, studies and still and moving images.” (This is in Hungarian, and therefore we have not been able to explore it effectively.)

## **Technological**

We were unable to gather very specific data on the technological environments of most of the institutions involved. Forgács used a Macintosh computer to edit his films, but administratively works in a PC environment. At the time of interview all work was backed up onto zip drive and two hard drives. The Labyrinth Project is a Macintosh based environment. Projects—that is, actual work files for the final installations—are backed up onto a password-protected “archival” server, but many administrative records may only be stored on individuals’ hard drives, if at all.

The Getty Research Institute Exhibitions Department is a PC-based environment. Files deemed worth keeping are stored on a central drive with tape backup and minimal security, and periodically backed up to CD. (We do not deal here with the academic computing environment of the Research Institute, which includes its Library Management System.)

C<sup>3</sup> had the most sophisticated and apparently robust technical environment, of which their Web site gave detailed (but not recently updated at the time of access) information. They provide Internet services to several universities and other institutions. They have a mixed environment, with Mac, PC and Silicon Graphics workstations.

## **D. Narrative Answers to the 23 Core Research Questions**

### **1. What activities of the creators have you investigated?**

The creation of a complex multimedia installation.

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

The digital entities are generated by the above activity, which can be broken down into administration and preparation, video editing, multimedia authoring and the creation of a Web-enabled database.

### **3. For what purpose(s) are the digital entities you have examined created?**

Largely to display, and to allow interaction with, the multimedia installation. Others are created to guide the correct display, or as a by-product of the creation process, documenting budget, staff, equipments lists, legal relationships, creative and administrative decisions, etc.

### **4. What form do these digital entities take?**

All the institutions seemed to use Microsoft office applications, particularly Word and Excel, to create word-processed documents and spreadsheets. The Labyrinth Project and the Getty Research Institute both occasionally saved e-mails as text files. The Labyrinth Project uses Macromedia Director software to create its interactive pieces for DVD and kiosk, Macromedia Flash software to create interactive pieces for the Web, Adobe Photoshop for image editing, and

DVD Studio Pro for DVD authoring. Forgács' production format for his videos is digital beta. Both the Labyrinth Project and Forgács use Final Cut Pro for video editing, creating MPEG-2 encoded files. The database created by C<sup>3</sup> used PHP scripting, calling on RealPlayer audio and video files and JPEG and GIF images. (It was not possible to discover the version of each software application in use at each institution at the time of the installation's creation.) File naming seemed to be largely *ad hoc*, although some individuals did develop their own system. No alternative attempt to apply persistent unique identifiers was noted. Most files were organized in folders whose directory structure seemed to follow the intellectual conceptualization of the project.

### **5. How are those digital entities created?**

See the description of the technological context above. Most of the institutions seemed to use a basic network model, where individual staff worked at particular workstation networked to a central server. They were able to save either to their own hard drives or to a shared server, usually to a folder dedicated to each project. Forgács, when not working in another space, may be the exception to this model.

### **6. From what precise process(es) or procedure(s), or part thereof, do the digital entities result? What is the nature of the system(s) with which they are created? Does the system manage the complete range of digital entities created in the identified activity or activities for the organization (or part of it) in which they operate?**

Generally, the files seemed to emerge from an iterative, collaborative process between Forgács and the other creators. Beyond that, the lack of longitudinal exposure to the production process of the installation, together with the flexibility that all the subjects seemed to have regarding procedure, makes this question hard to answer except where the files themselves indicate their origin. For example, meeting minutes clearly emerged from meetings on particular dates.

The priority for the file or records management systems, to the extent that these existed, seemed consistently to be the work or works, or parts thereof—the MPEG2 video or videos, the Director movies, the database itself—and the work files that could be used to render the work. Secondly, the files that documented how the final installation should look, work, behave were considered important, but were generally not detailed enough to be effective without a human interpreter familiar with the installation. Least important were the administrative files documenting the creation process (meeting agendas, correspondence, etc.), and these were managed only intermittently. Obviously, in this case relevant files are scattered across four different institutions, with no centralization or rationalization.

### **7. To what other digital or non-digital entities are they connected in either a conceptual or a technical way? Is such connection documented or captured?**

Certain equipment was required for the installation to be manifested: DVD-Players, a DVD-synchronizer, a sound system including speakers, projectors, and headphones. In addition certain software, such as RealPlayer, had to be present on the PCs used. This relationship was documented in the word-processed documents and spreadsheets kept by the Getty Research



Institute Exhibition Department, who were primarily responsible for the physical management of the installation at the Getty, and by the Labyrinth Project, who have been responsible for re-installations in other venues. The installation is also conceptually connected to Forgács “Private Hungary” video series.

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

Generally, the institutions seemed to use a combination of file naming, directory structure and individual memory to access files available online through the internal networks, and on backup optical disks. Forgács generally starts each project with the list of material to be used from his archive, a process that exploits the Open Society Archive’s Finding Aid, and additionally uses his own documentation, such as edit decision lists.

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

These processes and procedures are generally informal and undocumented.

### **10. What measures do the creators take to ensure the quality, reliability and authenticity of the digital entities and their documentation?**

Both Forgács and the Labyrinth Project are used to having published and copyrighted versions of their work, Forgács with his distributed video and the Labyrinth Project with their DVDs. Their working assumption was that these constituted the definitive and final version, and its authenticity, quality and reliability was guaranteed by being able to oversee and control the publication or finalization, and then “stamp” the work with credits and copyright statements. Though they consider that they jointly created and own that part of the installation called “*Danube Exodus: the Central Immersive Story Space*,” because *The Danube Exodus* installation never had a DVD publication it is something of an anomaly within this system. Personal oversight of the installation and its re-installations seems to be the primary guarantee of quality used.

Forgács suggested that it (authenticity) was a problem, but it was not his problem—meaning that film historians who examined his files in the future might be concerned as to the authenticity of the files, but that guarding against this was not a high priority for him personally.

In the case of the Getty Research Institute, its ability to oversee and control the installation as it appeared at the Getty Center also served as the guarantee of its accuracy, reliability and authenticity. The Getty has not been actively involved in the re-installations, which have not used the materials from the special collections at the Getty Research Library, but seems to trust Forgács and the Labyrinth Project to manifest it appropriately. There is an agreement to credit the Getty for any text or design ideas that the Getty Research Institute contributed to the installation.

Similarly, all subjects considered that the fact that files relating to the installation remaining under their own stewardship in more, or less, secure environments was the best guarantee of their authenticity, quality and reliability. That is to say, few or no systematic controls independent of personal memory and integrity were in place.

**11. Do the creators think that the authenticity of their digital entities is assured, and if so, why?**

To the extent that either the works are published, or the stewardship discussed in the above question continues, yes, but beyond that, for instance beyond their own life spans, no.

**12. How do the creators use the digital entities under examination?**

In the first place, the files were used to create the installation. Since then, the Labyrinth Project and Forgács have used them to recreate it in other locations, while the Getty Research Institute has used them to document the original installation. C<sup>3</sup> has *The Danube Exodus* database as a “permanent” component of its Web site, although it is only periodically part of an actual installation.

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

Active authoring and editing of the work files ceased upon the opening of the first installation. Final Cut Pro has a feature that stores previous edit decisions; otherwise new versions of files were differentiated by filename.

**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?**

The C<sup>3</sup> database is permanently available on the Web, but visitors are unable to change the data (unless there were able to hack into the C<sup>3</sup> system). Otherwise no external users have access to the files, though some files were shared between the institutions. For instance, the Getty Research Institute sent all the scholarly and contextual text files created for the gallery space to the Labyrinth Project for use in subsequent installations.

**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?**

The creation was divided between the creators according to their skills; for example, Forgács edited all the video segments. Maintenance of the files has largely fallen to the particular creator of those files.

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

The files under examination here are distributed among the creator bodies, and access rights are restricted to the staff of each institution, with some additional gradation based on both seniority and role within the particular project. Again, some files have been shared between institutions, but there seemed a general assumption that these file would not be subject to editing by the receiving institution, even where this was technically possible.

**17. Among its digital entities, which ones do the creators consider to be records and why?**

None of the subjects was familiar with archival terminology, but all seemed to make the distinction between works, files used in the actual installation, and supporting documents, or documents created as a by-product of work production, and to be willing to see the latter as records.

**18. Do the creators 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?**

None of the subjects has a formal or automated recordkeeping system, although all have some process by which records are kept. There is therefore no system in place to track changes, actions or transactions to digital files, beyond renaming by individuals and such strategies, and as far as can be ascertained, none of the subjects employ any kind of digital or media asset management system that could perform similar functions. (It has not been possible to confirm this with C<sup>3</sup>.) All the subjects stated that they attempted to keep all possible relevant files, despite only really being concerned about the fate of work files and any secondary files that would allow them to remain functional. What constituted relevant or important files was largely left to the discretion of whatever individual was regarded as responsible for the project; for instance, the Project Manager at the Labyrinth Project.

**19. How do the creators maintain their digital entities through technological change?**

The Labyrinth Project generally uses migration to keep its files functional, and did have some problems with upgrading to Mac OSX and Director MX, which destroyed the files of *The Danube Exodus*, although there were restored from the version kept on the archival server. Although all of the subjects were aware to a greater or lesser extent that technological change would at some future point present a problem. However, only C<sup>3</sup> had pondered deeply how to respond to it: they concluded that it was not wise to leave preservation or maintenance of new media works solely in the hands of the artist, and considered that neither migration nor emulation was likely to be an effective long-term preservation strategy for multimedia works, though they had adopted it for video works. Their intention was follow a strategy inspired by the Variable Media Network, and to document multimedia works (especially those works which they were themselves partners in creating, but also works that came under their stewardship) so thoroughly that it would be possible to re-create or reconstruct them in the future using the technology of the day, rather than trying to extend the lifetime of the original indefinitely. At the time of the interview, they had not been able to systematically implement this strategy. It should also be noted that C<sup>3</sup> is a prolific organization, and that *The Danube Exodus* database was a relatively minor project for them and therefore likely to be relatively low-priority.

Forgács hoped that redundancy, or the existence of many copies of a work, would increase the chances of one copy surviving and that advances in technology might reanimate that copy if it was no longer viable. However, while there are many copies available of his other films and the Labyrinth Project's other collaborations, there are only a few copies of *The Danube Exodus* installation files in existence.

**20. To what extent do 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?**

The policies, procedures or standards are used by the subjects are generally informal and either undocumented or sporadically documented. One could say that the model is artisanal, to the extent that practices are often passed on through personal transmission from one staff member or collaborator to another. As regards preservation, all of the subjects except the Getty Research Institute suggested that they simply did not have enough money to adopt a more systematic approach. (It should be noted that the Exhibitions Department competes for funds with several other priorities within the Getty, and its budget is by no means unlimited. However, its recordkeeping process is likely to become more rigorous and systematic with the inauguration of a Getty Institutional Archives.) Moreover, all of the subjects tended to give the highest priority to their current projects, rather than previous ones. To give their works a better chance of long-term survival, it seems that policies need to be put in place rather than modified, and that low-cost preservation strategies need to be explored. However, these are all creative bodies that are likely not to adapt particularly well to intrusive regulation or anything perceived as too bureaucratic.

**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?**

*The Danube Exodus* installation and the records documenting it are vulnerable for two reasons. Firstly, because there was no publication of it in DVD form, and therefore there is no definitively “final” or easily distributed version. Secondly, because ownership, legal or physical, of *The Danube Exodus* and its component parts is distributed not only among the institutions who contributed to its creation but also among other institutions that hold the copyright to individual items it utilizes—which is in turn the reason no publication took place. To give a more detailed explanation of this, Forgács never embarks upon a project without clearing copyright, either with the individuals whose films he uses or their heirs, for the use of any films, interviews or archival footage. The problem in this case was that the Bundesarchiv in Germany charged only educational exhibition fees for the use of their footage in the installation, but wanted prohibitively expensive commercial fees for its use in a publication. The incentive of the Labyrinth Project to maintain *The Danube Exodus* is somewhat lessened by their inability to publish it in DVD, which is their primary archival motivator, though at no point did anyone from the Labyrinth Project suggest that they intended to abandon the files.

Beyond this all subjects expressed an ethical obligation to be historically accurate, to the extent that this is possible, while maintaining their own right to be provocative in its exploration. Forgács additionally feels an obligation to those he call his heroes—that is all the people who figure in his films—to represent them fairly, even or perhaps particularly when they are deceased and unable to protest.

**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?**

Generally, neither standard, public metadata schemas nor ones developed in-house are being used consistently in the environments studied. C<sup>3</sup> did express an awareness of descriptive and other metadata schemas, citing Dublin Core, and the importance of using standard schemas to (a) receive funding and (b) participate in certain collaborations. However, we were unable to ascertain the extent to which any metadata schema is currently used within the institution. Forgács does capture metadata in the course of his work, but it is a system largely based on individual need, as informed by standard professional filmmaking practice.

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

Not applicable.

**CONCLUSION**

*The Danube Exodus* installation is likely typical of many, if not most, artistic or quasi-artistic productions: its creation was *ad hoc* and governed—to the extent it could be characterized as governed at all—by artistic considerations, custom, and immediately practicality, rather than by formal, documented rules and procedures geared towards preservation. Its creators did not consider the long-term viability of the piece their first priority as they worked, and since completing it they have moved onto other projects that they find, for the moment, more compelling. While most would be pleased if their work were to survive into the future they do not face any compulsion to ensure that this occurs. If they were to be confronted with such a mandate, most would not know what steps should be taken to make survival possible, and many—already working within over-stretched budgets—assume, perhaps correctly, any steps would be prohibitively expensive. In the case of *The Danube Exodus*, these general ills are exacerbated by the distributed creation and ownership of the installation. Management of the digital entities related to the installation would obviously be simplified by their centralization into a unified archival collection, where they could have all appropriate metadata applied to them, and be migrated or subjected to other preservation measures as they became necessary. Any preservation plan at this point would be complicated and would constitute a form of digital archeology, and under ideal circumstances preservation would have been factored into the creation process.

## Appendix 1: Bibliography of Relevant Material, Including Articles about the Methods and Works of the Subject(s)

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C<sup>3</sup> Foundation and the authors, *C<sup>3</sup> Kulturális és Kommunikációs Központ / C<sup>3</sup> Center for Culture & Communication, 1996-2001*, C<sup>3</sup> Foundation, Budapest, 2001.

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Rinehart, R. "The Straw that Broke the Museum's Back? Collecting and Preserving Digital Media Art Works for the Next Century," *Switch*, 2000.

### Relevant Web Sites

The Labyrinth Project: <http://www.annenberg.edu/labyrinth/>

C<sup>3</sup>: <http://www.c3.hu>

The Getty Research Institute: <http://www.getty.edu/research/>

Finding Aid to the Private Film and Photo Foundation collection:  
<http://www.osa.ceu.hu/db/fa/320.htm>

(From the Open Society Archive at Central European University)

The Variable Media Network: <http://variablemedia.net/>

Daniel Langlois Foundation: <http://www.fondation-langlois.org/>

AIC Electronic Media Group Special Sessions Presentations (June 13-14, 2004):

<http://aic.stanford.edu/sg/emg/portland2004.html>

## **Appendix 2: Glossary of Terms**

### **Database Narratives**

A term coined by Marsha Kinder of the Labyrinth Project and apparently interchangeable with “interactive documentaries.” Works made up of a network of interwoven stories that “disclose the dual processes of selection and combination that are at the center of all storytelling.” Such narratives are without linear structures and are made up of narrative elements (such as characters, images, sounds, events, and settings) held in a series of databases that may be combined in a variety of ways to generate different narrative outcomes.