



Preserving Virtual Worlds 2 (PVW2) follows the initial Preserving Virtual Worlds project, which was funded by the Library of Congress' National Digital Information Infrastructure and Preservation Program (NDIIP). PVW2 focuses on determining significant properties for a variety of educational games in order to provide a set of best practices for preserving the materials through virtualization technologies and migration. Funded by the Institute of Museum & Library Services, PVW2 is a collaborative project of the Graduate School of Library & Information Science at the University of Illinois, the School of Interactive Games & Media at Rochester Institute of Technology, Stanford University Libraries, and the Maryland Institute for Technology in the Humanities at the University of Maryland.

The original Preserving Virtual Worlds project focused on: 1. investigating what makes digital games difficult to preserve, and in particular how they differ from other digital resources as objects of preservation, and 2. determining whether existing metadata standards and preservation systems provide adequate support for the long-term preservation of games. Our research identified several problems with the long-term preservation of computer games, including obvious issues such as media and hardware platform obsolescence and restrictions on preservation strategies resulting from intellectual property law, and less obvious issues such as the failure of emulation and virtualization techniques to adequately preserve critical aspects of game behavior. We also found that

preservation of complex, compound objects such as computer games is highly dependent on detailed description of a game down to a component level. This includes traditional bibliographic description, more detailed technical description necessary to understand a component part's operation, and contextualizing information needed to provide an intellectual frame for future analysis of the game and its use. Based on this research, our project developed an OWL ontology that incorporates aspects of the data models from both the Functional Requirements for Bibliographic Records and the Open Archival Information System Reference Model, and successfully used it in conjunction with both METS and OAI-ORE to package games for deposit into institutional repositories at Stanford University and the University of Illinois. The final report for the original Preserving Virtual Worlds project is now available from the University of Illinois IDEALS repository at <http://www.ideals.illinois.edu/handle/2142/17097>.

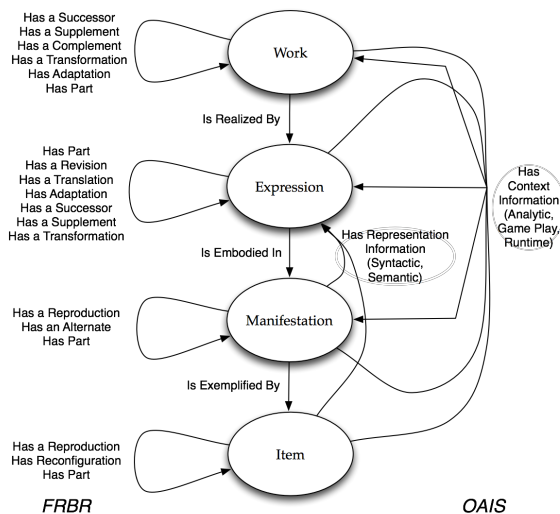


Figure 1 - Preserving Virtual Worlds Ontology

Preserving Virtual Worlds 2 focuses on identification of the significant properties of computer games, and creating recommendations for preservation strategies for computer games based on significant property analysis. PVW2 is a two-phase project,

with the first phase investigating the nature of significant properties in computer games, and the second phase focused on determining how well different preservation strategies preserve particular significant properties. In Phase 1, we are employing a case set methodology in which we are performing content analysis on a variety of game series, including:

- The Oregon Trail Series
- Sid Meier's Civilization Series
- Typing of the Dead
- Larry Bond's Harpoon Games
- Super Mario Brothers
- DOOM
- The Carmen Sandiego Series



Figure 2 - The Oregon Trail

Content analysis will be used to establish an initial property set for each game series, and we will employ interviews with both game designers and the larger gaming community to try to determine the level of significance they associate with these properties and how some properties come to be seen as more or less significant.



Figure 3 - Harpoon

Phase 2 will investigate how successfully different preservation approaches, including emulation, migration, re-enactment, and documentation strategies, manage to preserve various significant properties of games. Much of the research in Phase 2 will focus on double-blind experiments in which game players will be asked to identify any differences between games running in their original form and running in either migrated or emulated form. By determining how effectively different strategies preserve different significant properties of games, we hope to develop recommendations that

preservationists can employ when determining the best means of preserving games in their collections.

Preserving Virtual Worlds 1 was sponsored by the Library of Congress' National Digital Information Infrastructure Preservation Program. Preserving Virtual Worlds 2 is funded by the Institute of Museum & Library Services under grant LG-06-10-0160-10. For more information about the Preserving Virtual Worlds projects, please see our web site at: <http://pvw.illinois.edu/pvw2/>

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