The Variable Media Network was initiated by the Guggenheim, originally as the Variable Media Initiative, as part of its efforts to preserve its world-renowned collection of conceptual, minimalist and video art, and is now supported and, co-ordinated in conjunction with, the Centre for Research and Documentation (CR+D), Daniel Langlois Foundation. The VMN is not solely dedicated to the documentation and preservation of digital art forms. It is primarily geared to support artists working in numerous ‘ephemeral’ formats – of which digital technologies are one - who want posterity to experience their work more directly than through second-hand documentation or anecdote, and those collections that seek to acquire them. As such, it integrates the preservation of digital artworks alongside other contemporary art mainstream practices such as installations and conceptual.

The VMN puts forward an unconventional new preservation strategy, for which it has developed a set of new terms that encourages artists to define their work independently from medium and in terms of behaviours, so that the work can be translated once its current medium is obsolete. This requires artists to envision acceptable forms their work might take in new mediums, and to pass on guidelines for recasting work in a new form once the original has expired.

The aim of its affiliation with the Daniel Langlois Foundation for Art, Science, and Technology is to help build a network of organizations that will develop the tools, methods and standards needed to implement this strategy.

Terms (for further details, see links at http://www.variablemedia.net/e/welcome.html)

Categories of ‘behaviour’:

**Contained:** Such works are "contained" within their materials or a protective framework that encloses or supports the artistic material to be viewed.

**Installed:** to say that an artwork must be "installed" implies that its physical installation is more complex than simply hanging it on a nail, e.g. works that scale to fill a given space or make use of unusual placement such as the exterior of a building or a public plaza.

**Performed:** "performed" works include not only dance, music, theater, and performance art, but also works for which the process is as important as the product.
**Interactive:** mostly commonly applied to electronic media such as computer-driven installations and Web sites, interactivity also describes installations that allow visitors to manipulate or take home components of a physical artwork

**Reproduced:** a recording medium is "reproduced" if any copy of the original master of the artwork results in a loss of quality. Such media include analog photography, film, audio, and video

**Duplicated:** To say that some aspect of a work can be duplicated implies that a copy could not be distinguished from the original by an independent observer. This behavior applies to artifacts that can be perfectly cloned, as in digital media, or to artifacts comprising readymade, industrially fabricated, or mass-produced components.

**Encoded:** part or all of a work is written in computer code or some other language that requires interpretation (e.g. dance notation). In the case of works with nondigital components, this code can sometimes be archived separately from the work itself.

**Networked:** A networked artwork is designed to be viewed on an electronic communication system, whether a Local Area Network (LAN) or the Internet. Networked media include Web sites, e-mail, and streaming audio and video.

**Strategies**
The variable media paradigm allows artists to choose from four strategies to tackle the obsolescence of a particular medium, such as the bulbs of Dan Flavin's fluorescent light installations.

**Storage:** The most conservative collecting strategy—the default strategy for most museums—is to store a work physically, whether that means mothballing dedicated equipment or archiving digital files on disk.

**Emulation:** To emulate a work is to devise a way of imitating the original look of the piece by completely different means.

**Migration:** To migrate an artwork involves upgrading equipment and source material.

**Reinterpretation:** The most radical preservation strategy is to reinterpret the work each time it is re-created.

**Tools** (for further details, see links at http://www.variablemedia.net/e/welcome.html)

The VMN has developed, and is refining, a questionnaire in conjunction with the Daniel Langlois Foundation, and now also as part of the *Archiving the Avant-Garde* consortium. It is an interactive form linked to a database and designed to assist artists and museum staff in writing variable media guidelines. The questionnaire is not intended to be exhaustive, but is intended to spur questions that must be answered in order to capture artists' desires about how to translate their work into new mediums once the work's original medium has expired.

In its current interface, the questionnaire prompts questions for each inherent artwork behavior that requires preservation. The database to which it is linked will be available in Autumn 2003 to members of the Variable media Network and to artists and other persons who would like to try it.
The Guggenheim organised **Preserving the Immaterial**, a conference held at the Guggenheim in New York in March of 2001. It was the **first public presentation** about the variable media ‘paradigm’. Participants included artists Ken Jacobs, Robert Morris, Mark Napier, and Meg Webster as well as preservation specialists Jennifer Crowe, Steve Dietz, Jon Gartenberg, Richard Rinehart, Jeff Rothenberg, and Benjamin Weil.

It has also staged the exhibition **Seeing Double: Emulation in Theory and Practice**, from 19 March to 16 May 2004. The exhibition paired artworks in endangered mediums side by side with their re-created doubles--and sometimes triples--in newer mediums, offering visitors a unique opportunity to judge whether the emulated works capture the spirit of the originals.

Over the course of the **Seeing Double** exhibition, the Guggenheim surveyed artists, preservation experts, and the general public to assess the success or failure of the re-creations on view. **Echoes of Art: Emulation As a Preservation Strategy**, a symposium staged on 8 May 2004 at the Guggenheim, drew on the results of that survey to stimulate a discussion about the role of emulation in keeping digital culture alive. Artists, programmers, conservators, curators, gamers, and intellectual property experts debated the merits of emulation as an approach.

**Publications**

In 2003, the VMN published **Permanence Through Change: The Variable Media Approach**. It presents viewpoints, methods and case studies concerning the preservation of art created with non-traditional materials, tools and technologies. It includes texts by such authors as Bruce Sterling, Steve Dietz, Jon Ippolito, John Handhardt, and Nancy Spector, as well as excerpts from the 2001 "Preserving the Immaterial" conference. The various contributions can be downloaded as pdfs. from [http://variablemedia.net/e/preserving/html/var_pub_index.html](http://variablemedia.net/e/preserving/html/var_pub_index.html).

In 2004, the VMN have published Isaac Dimitrovsky’s final report of the **Erl-King Project**. The *Erl-King* is a pioneering interactive video artwork by Grahame Weinbren and Roberta Friedman. It was originally created in the early 1980s using a Sony SMC-70 CP/M computer, three laser disk players, and assorted custom electronics and other hardware (see my proposal for a diagram of the original hardware organization). In October 2003 Dimitrovsky was consulted about the feasibility of producing an updated version of the *Erl-King* that would allow it to be run in the future, since it was becoming more difficult over time to keep the original system in working order. The updated version displayed at Guggenheim from March 18 2004. The report is available at [http://www.variablemedia.net/e/seeingdouble/report.html](http://www.variablemedia.net/e/seeingdouble/report.html).