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Setting the Agenda for preserving video games as part of our cultural heritage

By the European Federation of Video Game Archives, Museums and Preservation projects (EFGAMP)

Acknowledgement

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Efgamp e.V. (European Federation of Game Archives, Museums and Preservation Projects) (www.efgamp.eu)

The **SIG Long Term Preservation** of the German Association of Informatics/ **SIG Emulation** (<https://en.gi.de/startpage/special-interest-groups.html>) of the German competence network for digital preservation nestor (<http://www.langzeitarchivierung.de/Subsites/nestor/EN/>)

The Alexander von Humboldt Institute for Internet and Society (<http://www.hiig.de/en/>)

Media Science Department of the Humboldt University (www.hu-berlin.de)

The European Union as well as national institutions like the German Informatics Society (Gesellschaft für Informatik) have identified the long-term preservation of digital cultural heritage as one of the great challenges for computer science to be solved over the coming decades. In addition to the technical challenges a multitude of other issues exist impeding the long-term preservation of digital cultural artefacts. Copyright regulations in particular – both at the national and the European level – pose a serious challenge. This is particularly relevant when dealing with complex multimedia artefacts such as video games.

Video games in all its facets are a relatively new cultural phenomenon whose, cultural and economic significance is continually increasing. As a media type formed in and by the digital era games reflect the ongoing cultural transition of society across generations and social classes. Games studies is by now a well-established and ever growing scientific research field. These facts stipulated along

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¹ <http://digitale-bewahrung.de/gamesworkshop2015/>



with the general societal importance of games highlight the need for adequate and manageable preservation efforts in the area.

In our Statement we would like to address the legal situation surrounding game preservation and its impact on the work of memory institutions and communities. What are the obstacles one has to overcome when collecting and preserving our cultural heritage and making it accessible to the public? There are many issues at stake, and they are not only caused by the particular current rights situation but also by numerous uncertain or unclear legal practices across Europe and abroad.

An example that illustrates this issue at a fundamental level: Presently there are no or very different legal definitions of *video games* (and related complex multimedia objects) in European and national legislative practice. In Germany no exact definition is known neither in Community law nor in Federal law. Video games are treated as “Computerprogramm” or as “Filmwerk”. This leads to a high degree of legislative uncertainty. This uncertainty hinders activities in concrete long-term preservation efforts and the dissemination of objects and their metadata. In particular patent and copyright laws as well as license agreements affect the on-going efforts of the various video game preservation communities and institutions.

Preservation

The long-term preservation of cultural objects is one of the most important tasks of museums and libraries. A long tradition in the conservation and restoration of physical objects exist, constantly improved by new technical measures. With the beginning of the digital age significant changes in the types and ranges of media types broadened the field of responsibility for these institutions. In addition to the conservation of the digital objects themselves issues concerning future usability of the digital material have become more and more important.

Interestingly, the issue of game preservation has activated a parallel group of interested parties. For instance these groups comprise the hundreds and thousands of hobbyist and dedicated enthusiasts who have created comprehensive game databases and developed preservation related tools, like emulators, which are of great value to the general preservation effort.

From a technical standpoint the issue is pressing: An ongoing loss of data stored on original data carriers over time is observed, whether due to unavoidable magnetic, chemical or mechanical defects. Data

will fall over the “digital cliff” once it becomes impossible to distinguish between logical 0 and 1.

Because of this, preservation of such assets is much different than e.g. preserving films, where even severely damaged prints can be restored and viewed after decades. A single false bit can render computer code unusable, as the resulting instruction may crash the complete system. Such assets would then be lost forever. Images need to be made sooner than later – before it is too late and our digital heritage is lost forever. While film prints may last a century if stored well, e.g. 1.44MB HD disks start failing after only a decade, in some cases even sooner. Furthermore the preservation of the digital object itself, particularly complex digital objects such as games, can only be successful, if the technical environment to render these objects remains available.

Since it is unfeasible to insist on preserving original hardware in the long term, a preservation strategy based on emulation of the technical environment has been generally proposed and accepted by many memory institutions. The subject is still in its infancy: Due to the constantly changing technical conditions long-term preservation of complex digital objects is not a singular activity but an advancing process.

Copy protection

Many emulators support the use of virtual copies of the original data carriers (i.e. floppy disks, cartridges or ROMs). For this purpose, the data carriers (data and data structure) are transferred to files, which can be mounted in the emulator or another virtual representation of the original technical environment. Nowadays various technical procedures allow reliable copying.

However, most European countries have legal restrictions on the creation of digital disk copies. Even heritage institutions are permitted to produce a copy *only* if there is no copy protection. Unfortunately, however, the majority of media with video games are endowed with copy protection methods, originally placed there to prevent software piracy. Hence a legal copy - even for memory institutions – is usually disallowed.

On the German situation:

„The Urheberrechtsgesetz (German Copyright Act) prohibits the circumvention of technical measures of protection and enables the author of copyright protected software to claim for the destruction of any unlawfully created or distributed means that have been solely



designed to facilitate the removal or circumvention of technical measures., (KEEP, Laymans Guide)²

This obstruction not only affects the central task of preservation; the preservation of the original bit codes of the video games themselves, but also the preservation of the necessary operating systems and supporting programs that are needed in the emulation process.

Orphan works

One way to overcome the legal obstacles for the preservation of digital objects is to make a direct agreement with the rights holders. European law has recently been supplied with a new set of rules concerning unclear copyright situations; in particular the so-called *orphan works*. Having performed a “reasonable” yet unsuccessful search for the current rights holder, measures can be taken by the institutions themselves to preserve these objects and to use them. The situation in the video game sector is distinguished by a high level of competitive business takeovers amongst publishers and a (on average) fairly short game company life cycle. Particularly in the first 20 years of video game production many development and publishing companies existed for only a short time. Often it is impossible to determine which company or individual who currently owns the legal rights to certain video games or even specific parts of video games. This means that many works from the first decades of video game production cannot (legally) be preserved in an adequate way.

Digital Rights Management

The Digital Rights Management raises new technical and legal issues. The past two decades have seen a change in the type of user license granted when purchasing a video game. Previously a user bought a game on some kind of physical data carrier giving a clear distinction of ownership. Today it is becoming the norm that only a license to use a game is purchased. There are no guarantees that a purchased game will be accessible to the buyer (or subscriber) over a mid- to long-term time period. Online activation systems and registration processes are often needed to play the game. Serving this purpose, publishers establish a registration server to which the user has to connect via the Internet. This kind of Digital Rights

² Anderson, David: Layman's Guide to KEEP Legal Studies, 2011
<<http://www.keep-project.eu/ezpub2/index.php?/eng/Products-Results/Public-deliverables/D2.6-Layman-s-Guide-to-KEEP-Legal-Studies>>



Management (DRM) is very unstable, because of the limited lifetime of these registration servers. This is a problem for preserving games.

Access and Dissemination

Archives and museums are committed to make their digital collections accessible to the public over the Internet. Internet portals like Europeana³ or the German Digital Library⁴ have been established with the purpose of facilitating access to digital cultural heritage from various nations to a wide public. Unfortunately there are a numbers of legal limitations for disseminating video games in this way and for this purpose.

Legal restrictions affect not only the use and preservation of the digital object but also the accessibility of analog materials like scans of sales packaging, manuals and other documents of video games. While it is usually possible to allow access to games and the associated analog materials within the physical boundaries of a memory institution, there are quite severe limitations for doing the same via the internet. For example, it is usually not possible to provide online access to a digitized copy of the peripheral material surrounding a game (i.e. a scanned version of the manual, the original cover, etc).

What we need

Memory institutions such as museums or libraries are both committed and obliged to preserve and to make our common cultural heritage available. In the case of video games (and related digital work and media types) this task is rendered almost impossible by a number of legal obstacles or ambiguities concerning the matter at hand. The planned renewal of European copyright legislation offers the opportunity to implement the necessary changes and to precise legal rights management. We propose that a set of rules should be put in place to ensure that no legislation will hinder the efforts by memory intuitions to perform the technical tasks necessary to preserve this vital part of contemporary (digital) cultural practice!

Berlin, 22. 04. 2015

³ www.europeana.eu

⁴ www.ddb.de