```
#include <conservation_ethics.h>
#include <digital_preservation.h>
```

/* Long-term preservation of software-based artworks: from single case studies to best practice */

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```
int main(void)
{
  while (date < August 2019)
  {
    char* What_is_the_challenge?;
    char* Goal_of_this_research();
    char* Steps_to_reach_this_goal;
  }
  Return dissertation;
}
```

char* What_is_the_challenge?

```
{
  example[1]= “Albert’s Ark” by
   Bill Spinhoven;
  example[2]= “Horizons” by Geert Mul;
}
```

/*
Software-based art poses conservation challenges from multiple points of view. Bill Spinhoven, a Dutch media artist, created “Albert’s Ark” in 1990. This closed circuit video installation resembles a sun dial. A video camera is filming the visitors, which in turn are represented on a monitor built in the sun dial on the floor.

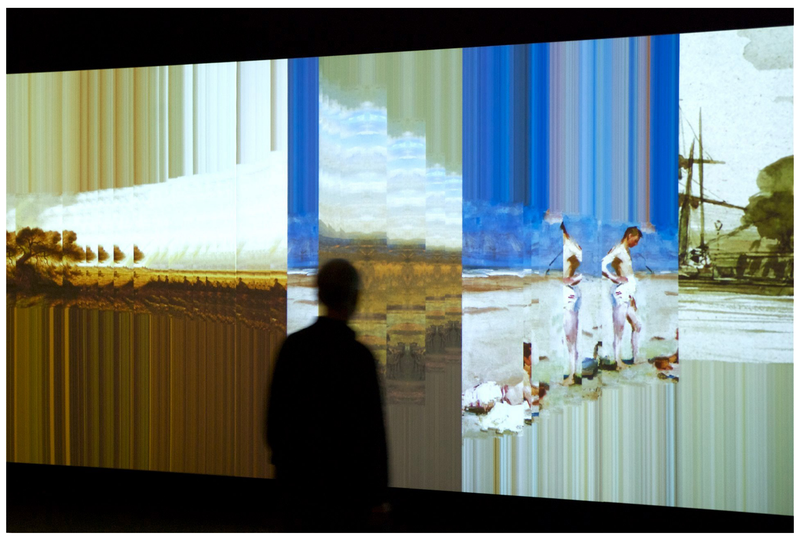
Albert’s Ark, 1990/version 2007. Bill Spinhoven. RCE collection. (Source: INCCA website)

Relating to Albert Einstein’s findings, that space and time are not constant, Spinhoven distorted and delayed the recorded video of the visitors. This distortion was achieved by a software hardwired in a custom-built device.

However, in 2007 when this artwork was selected as a case study for the project “Inside Installations”, this device did not exist any more. The artist and the conservators decided to replace it by a software that runs on a generic computer.

Today, ten years after this major restoration of the artwork, the same questions arise again. How should the more than twenty-years-old camera and monitor be replaced when they fail? Can a computer program that is ten years old still run on a current computer and look the same? Is the quality of the video image produced by the obsolete camera a significant property of the artwork? New questions have emerged, since. How sustainable was the conservation approach, then considered as top-notch? What could be learned from it for future restorations? Given the development of digital preservation since 2007, how should a museum approach the long-term preservation of such an artwork?

A second, more recent artwork, equally illustrates the challenge to find sustainable preservation solutions. The artist, Geert Mul, created “Horizons” in 2008 and had to update it for a major exhibition in 2017. “Horizons”, a generative, interactive video projection, is based on a selection of digitised landscape paintings from the Museum Boijmans van Beuningen’s collection. Each time a visitor enters the space, he or she triggers the display of a new painting and further influences the video image by walking around.



Horizons, 2008. Geert Mul. (Source: geertmul.nl)

This video installation runs from a computer with specific hardware and a custom-made software adapted to these components. Thus, transferring the software to a newer computer involved also adapting the program, which meant, flying in the programmer.

This substantial effort triggered several questions. How should this artwork ideally be preserved in the long-term? What preservation strategies should be chosen? Should these preservation strategies be known before the digital components of the artwork are stored? How can two different preservation strategies and two instances of the same artwork be compared?
*/

char* Goal_of_this_research ();

```
{
  printf(“goals”);
}
```

/*
The research intends to find the following results:

- Criteria for the success of long-term preservation measures.
- Comparison of conservation strategies in the field of contemporary art to digital preservation strategies. Long-term effects and risks of different digital preservation strategies. Useful combinations of preservation strategies.
- Relevance of significant properties for long-term preservation.
- Method to compare two instances of an artwork regarding their adherence to the significant properties of the artwork
- Recommendations for the long-term preservation of software-based artworks in a museum

*/

char* Steps_to_reach_this_goal (case studies);

```
{
  printf(“research methods”);
}
```

/*

- Literature review: Different definitions and success factors of conservation strategies, state of the art in digital preservation. Significant properties of software-based artworks in relation to long-term preservation
- Comparative case study analysis in order to compare preservation strategies and their sustainability. Two new case studies (one of them “Horizons” by Geert Mul) will be carried out and two different preservation strategies applied to each one. In addition to these two new case studies, two existing case studies will be selected in order to study the artwork’s change over time (one of them is “Albert’s Ark” by Bill Spinhoven). This practical part of the research is carried out at LIMA in Amsterdam.
- Interviews of artists and curators in order to establish significant properties of the artworks used in the case studies. Interviews of computer scientists and software engineers in order to investigate the current state of the arts and future developments of emulation and migration technologies.

*/

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NEW APPROACHES IN THE CONSERVATION OF CONTEMPORARY ART

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