

AoC | Art of Coding – The Demoscene as Intangible World Cultural Heritage

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Abstract

Art of Coding – abbreviated as *AoC* – is an initiative to get the demoscene recognized as first digital culture of UNESCO intangible world cultural heritages. The demoscene, rooted in the home computer revolution, shows how skills and creativity can be stimulated and implemented in a digital cultural practice. With producing *demos* as digital art pieces, many of its techniques and mindsets became core influences of digital change, still vibrant today. Seven decades after the invention of computers the demoscene concluded it is time to push for the next step to take born-digital culture seriously as part of the world’s cultural heritage. This paper serves as both an introduction and an invitation to all sceners and non-sceners to join the initiative and support it in the upcoming years.

Demos and the Demoscene – Primer and Evolution

Demos were presented to the Bridges Conference in 2008 by *Barrallo* with his short paper “The Speed of Mathematics.” He summarized that “Demos are real time computer presentations made within a computer subculture known as Demoscene. Demos shows off the programmer’s ability to squeeze visual effects, graphics and music into very little space, often by generating images and sound data by means of optimized mathematical formulae and algorithms rather than just reading it from a data file. [4]” The community devotes itself to producing this digital audio-visual works, is internationally active and considered a non-commercial *digital culture*. Key objective is entering a competition and displaying the self-made demos live at a scene-event, a *demoparty*. Self-limitation drives a *scener’s* creativity: Contributed programs compete in categories, with e.g. file size limits (*size coding*), hardware restrictions or historic computing machinery (Commodore C64, Amiga, Atari ST, etc.). Presentation via real-time rendering on-platform is the norm.

Since 2008, the field has continued to develop due to the urge of sceners to improve skills and achieve higher artistic merits. Particularly in size coding, a domain attracting talented coders, major leaps have been made. Sceners tried and succeeded in further downsizing already tiny algorithms. This trend has led to a peak at renowned demoparty *Revision* at Easter 2020, when *HellMood* of *DESiRE* released “memories” in the “pc 256b intro” competition. Math art at its best, he compressed seven effects plus a transition and music in 256 bytes. Including parallax checkerboards (raycasting with dynamic geometry leveraging programming technique *Rrrola Trick*) and rotozoomer (*Sierpinski* triangle *without* using trigonometric functions), it deserves its subtitle “the tiny megademo”. The deeply impressed audience voted first rank and party favorite [5].

Art of Coding – Demoscene meets UNESCO

Demoscene, born at the heart of the home computer revolution, shows how skills and creativity can be stimulated and implemented in a dynamic cultural practice adopted to digital contexts. Inherent mindsets and techniques became core influences of the digital change, and are still vibrant today. It is the prototype of a distinct digital culture, being a melting pot for digital technology freethinkers and artists and a realm in which know-how can be shared and traditions can be exercised and preserved. Being declared “dead” more than once during its existence, it is still at large and active after more than 30 years since its inception. It considers itself a born-digital culture, which deserves being recognized as such, in fact being a significant part of the world’s

greater cultural heritage. Being related, linked or blended with other digital cultures, distinctive factors are clear: *Internet culture* or *cyberculture* required networking, *e-sports* means consuming a software product, not creative expression. Industries like *game development* and *movie production* are creativity-driven for-profit endeavors but career homes for demosceners. Close ties exist with *retro computing* which commemorates and preserves obsolete machinery, as retro platforms frequently serve as demoparty competition categories.

An ideally suited assembly point for preservation of world heritages is the *UNESCO (United Nations Educational, Scientific and Cultural Organization)*. Its mission includes the safeguarding of *intangible cultural heritage*, for which UNESCO maintains the *Representative List of the Intangible Cultural Heritage of Humanity*. *Art of Coding (AoC)* is the transnational initiative to bring the demoscene onto this list [3]. Demoscene is a global phenomenon, enrolling cultures nationally step-by-step is typical for a transnational application. AoC challenges UNESCO for the first time with an original digital culture [1]. It may become a door opener for other digital cultures, as their procedural nature aligns with the intangible heritage definition.

The demoscene's hacking attitude and founding on social personal gatherings are meanwhile accepted as core methods for innovation in digital contexts, aspects why it leads the way in digital and hybrid culture. Even though the demoscene works fine without being officially approved by UNESCO or other institutions, there will be gains with it. Adopting existing schemas to the demands of players of digital cultures and raising awareness for safeguarding and preserving of digital culture are a start. With approaching an official structure, the demoscene application creates an opportunity to discuss all aspects of digital heritages concretely, helping to set up an appropriate policy, which takes implications and benefits into account and serves as an example of good practice, guaranteeing cultural diversity and sustainable development in the future.

AoC Status Quo and a Call for Contribution

AoC is spearheaded by *EFGAMP (European Federation of Game Archives Museums and Preservation Projects)* as international applications coordinator and *Digitale Kultur e.V.* as link to the demoscene. AoC receives strong support from scene initiatives, various demoscene groups, related organizations and individual supporters. After intense community engagement in 2019, AoC achieved its first goal: Both German and Finnish applications for the UNESCO project were submitted, supported with historic scene materials, event videos and releases. AoC was rewarded with intermediate success in April 2020: First Finland accepted the demoscene on its national UNESCO list of intangible cultural heritage of humanity, then UNESCO in North Rhine-Westphalia (NRW) nominated the demoscene for its lists of intangible cultural heritage in Germany [2]. This reinforced AoC's momentum significantly, leading to scene outreach extension and involvement of more countries: E.g. Switzerland is already active via *Echtzeit – Digitale Kultur*, Poland, Italy and others are getting started. Contributions to the multi-year initiative are highly appreciated, everyone is invited.

References

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