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Social Committee Chronicles of Polish Demoscene



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# *Challenges and opportunities in preserving intangible cultural heritage: lessons from the Demoscene*

*Wyzwania i możliwości w zakresie ochrony niematerialnego  
dziedzictwa kulturowego: wnioski z Demosceny*

## **Introduction**

The Art-of-Coding<sup>1</sup> campaign, initiated by individuals deeply engaged in the Demoscene and broader digital culture, emerged in Germany in 2019. It quickly gained momentum, with Demosceners from Finland and Poland joining the cause. This collaboration achieved a breakthrough in April 2020, as Finland recognised Demoscene as part of

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<sup>1</sup> An initiative to enlist the Demoscene as the first digital culture on the list of UNESCO intangible world cultural heritage, cf. <https://demoscene-the-art-of-coding.net/>.

its UNESCO intangible cultural heritage, a milestone soon echoed by Germany, Poland, and later by the Netherlands and Switzerland in 2023. This series of recognitions pivoted the campaign's focus towards achieving global recognition under UNESCO.

The early stages of the enlisting process in Poland revealed that this endeavour was more than just a bureaucratic exercise. Delving into the 2003 Convention for the Safeguarding of the Intangible Cultural Heritage<sup>2</sup> inspired the formation of the Social Committee Chronicles of Polish Demoscene (KSKPD). This initiative aimed not only to secure a place for Polish Demoscene works on the national cultural heritage list, but also to emphasise their preservation and documentation.<sup>3</sup>

Although today's Demoscene is a vibrant and active community that creates, presents, shares, and stores Demoscene productions with other community members, the topic of their long-term preservation, including ensuring reliable access to future members and the wider public, is an open question. Therefore, with this research, we wanted to understand the perspectives of the Demoscene community in Poland and abroad on the different goals, methods and media moderating the experience of Demoscene productions. Our specific research questions are:

RQ1: What are the current and preferred methods of engaging with Demoscene productions?

RQ2: What would Demoscene members like other members and the society to learn about the Demoscene, its context and its productions?

Exploring answers to these questions may help us to better understand the challenges and opportunities around preserving Demoscene content, with all of its complexity, both for the members of the Demoscene and for the general public. Moving beyond the grassroots level of the community, we also draw connections to related fields such as media art, net art, home computer and game console history, as well as the overarching domain of digital heritage.

### **What is Demoscene?**

The Demoscene is a distinctive digital subculture, which emerged in the mid-1980s, at the same time as home computers were on their way to becoming common household items (Wasiak 2021). During this era, software, particularly games, was primarily distributed on floppy disks through computer stores or direct mail orders from

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2 "Safeguarding' means measures aimed at ensuring the viability of the intangible cultural heritage, including the identification, documentation, research, preservation, protection, promotion, enhancement, transmission, particularly through formal and non-formal education, as well as the revitalization of the various aspects of such heritage".

3 KSKPD mission statement is "We want to cultivate the best traditions related to the Polish Demoscene and preserve valuable materials for future generations involved in digital creativity and cultural research", cf. <https://kskpd.pl/>.

publishers. The US and the UK dominated software creation, making it challenging to access official software in other countries. This scarcity led to the rise of ‘crackers’, individuals who stripped software of its copy protections and redistributed it, often tagging their work with handles reminiscent of hip-hop/graffiti culture. Driven by the challenge of overcoming technological safeguards, these crackers soon started to compete to see who could bypass protections first, a motivation to this day shared by many crackers (Goode, Cruise 2006).

As defeating standard protections became more straightforward and games were leaked pre-retail (Breddin 2021), the competition shifted towards creating the most technically or visually impressive introductions for these cracked games. Eventually, some groups focused exclusively on these intros, a shift likely influenced by the introduction of stricter copyright laws and increased police action. This new avenue of competition laid the groundwork for the birth of the Demoscene, a phenomenon primarily observed in Europe but also present in the United States, Latin America and Australia. Demoscene’s hallmark is the creation of ‘demos’, audiovisual presentations that differentiate from 3D animations or videos in their real-time rendering (Shor, Eyal 2004). Its essence, though, lies in pushing hardware and software limitations, often by discovering undocumented graphics card modes, using floppy-disk drive’s processor to parallelise calculations, and other technical feats (Breddin 2017; Wojtowicz et al. 2021; Czerski 2014).



**Fig. 1.** A screenshot of the “Exodus” intro by Aberration Creations group. Entire executable that generates graphics, music and animation for a 1m 40s worth of presentation fits into exactly 4085 bytes (equivalent to 0,02 seconds of music stored as a CD quality MP3 song).

In 2008, the Horror Vacui Art and Cultural Association organised “DEMOSCENE: Art straight from the computer”, a cultural event that first brought together Demoscene artists, art historians, and digital art enthusiasts. This event, and others like it, have since sparked a growing interest in the Demoscene as an art form within both popular and scholarly circles (Shor, Eyal 2004; Sawicka 2014).

### **Related Work on Preservation**

The “viewing problem” is a primary concern in the longevity of digital artifacts (Besser 1999). Unlike analog or physical items, digital artifacts require a proactive approach to preservation. However, even diligent efforts do not always guarantee the ability to access documents stored on forty-year-old 8-inch floppy disks (Winget 2011). As time progresses, the risk increases that devices from the early digital era will become harder to find due to hardware breakdowns, decluttering of private collections, or hobbyists moving on to new interests. Furthermore, possessing hardware alone does not protect against the threat of lost heritage, given the challenges of ageing components, outdated software, decaying media, and the lack of expertise or supporting legislation (Heinonen, Reunanen 2009; McDonough et al. 2010; Swalwell, de Vries 2013). While there is a justifiable focus on historical hardware and retro-computing for its immediate importance (Grzeszczuk, Skorupska 2023), the preservation of modern digital artifacts, often described as “born obsolescent” (Morrissey 2020), is equally crucial.

Retro-game communities were among the first to recognise the threats to the longevity of digital games, a realization that came before the wider acknowledgment of digital media’s fragility (Swalwell 2013). Their experiences have highlighted four primary strategies currently in use for digital preservation (Winget 2011): refreshing, migration, emulation, and reinterpretation or remix. These methods, drawn from the gaming world, offer valuable insights into broader digital preservation efforts.

### **Refreshing**

The strategy of refreshing in digital artifact preservation involves maintaining the accessibility of digital objects by safeguarding them against both media deterioration and technological obsolescence (Waters, Garrett 1996). This approach encompasses initiatives like establishing “computer museums” with Pelikonepeijoonit (Heinonen, Reunanen 2009) being a perfect example, or academic laboratories like Piotr Marecki’s “Ubu Lab” (Marecki 2019) or Nick Montfort’s “The Trope Tank” (Marecki 2016), all of which aim to preserve the entire technical environment. This includes maintaining operating systems, application software and media drives. A key aspect of refreshing is the adaptation of legacy hardware to integrate with modern peripherals. An example

of this is equipping an Atari dating from the year 1985 with a WiFi module,<sup>4</sup> allowing the older system to function within contemporary technological contexts. Such adaptations are crucial in ensuring that these digital artifacts remain functional and accessible, thereby preserving a vital part of our digital heritage.

## Migration

Migration, a key strategy in digital artefact preservation, involves transferring or converting data from one technology to another while retaining the data's essential characteristics. This process often includes converting software, such as games and demos, into a media-neutral format, such as a universally readable digital file. Additionally, if the source code is available or can be reengineered, the strategy may involve recompiling or porting it to newer systems. However, these activities, particularly reengineering, raise significant legal questions. These include issues around the right of reproduction, which constitutes licensed use (Barwick, Dearnley, Muir 2011), and the need to circumvent technological protection measures that often prevented unauthorised copying (Harkai 2022). In the Demoscene context, while reproduction rights are generally respected, the licensing of Demoscene productions is not as straightforward. This is largely due to the underground and somewhat anarchistic nature of the Demoscene community (Czerski 2014).

## Emulation

Emulation, a pivotal strategy in digital artefact preservation, involves replicating the functions of one system (the emulated) using a different system running specific software (the emulator). The primary goal of emulation is to enable programs or media designed for a particular environment to operate in a different, usually newer, environment. In recent years, along with migration, emulation has become one of the primary methods in the digital preservation world. Researchers distinguish between merely archiving data and preserving the behaviour of programs (Guttenbrunner, Becker, Rauber 2010; Lorie 2001). A notable application of emulation in digital preservation is by The Internet Archive,<sup>5</sup> which employs a web-based

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4 An example of a hobby project to expand Atari ST with network connectivity via WiFi-to-serial-router at 19.2 kbit/sec transmission speed: <https://www.chzsoft.de/site/hardware/connecting-the-atari-st-to-the-internet/> or the FujiNet project, offering not only a WiFi connection, but also virtual adapters for many protocols including: TCP, UDP, HTTP, FTP, TNFS, HTTPS (SSL/TLS), SSH, TELNET, WebDAV and JSON parser accessible even from the level of BASIC programming language. FujiNet was first created for 8-bit Atari computers from 1979, later for Coleco ADAM, with Apple II and Commodore 64 support in progress: <https://fujinet.online/>.

5 The Internet Archive is a non-profit with a mission of building a digital library of Internet sites and other cultural artefacts in digital form (<https://archive.org>).

version of the MAME<sup>6</sup> emulator. This platform allows users to access and interact with various software, including games and a select number of Demoscene productions. Emulation, while effective, also presents challenges such as ensuring long-term functionality and compatibility, or stripping the technological and social context of emulated digital artifacts, which are critical considerations for projects like The Internet Archive and others in the field of digital preservation (Cloonan 2001).

## Reinterpretation

In the realm of digital artifact preservation, interesting approaches can be observed in the video game industry. For instance, in “Day of the Tentacle” players can interact with the earlier game “Maniac Mansion” within the game world. Similarly, “Borderlands 2” features a hidden room with an Easter egg from “Minecraft” showcasing a pixelated environment and enemies. These instances are not just playful nods to earlier games; they serve as a form of digital preservation, embedding pieces of gaming history within new contexts. This concept is akin to the remixing practices seen in various schools of Buddhist thought, where historical and cultural elements are reinterpreted and recontextualised to create new expressions of tradition (Lorie 2001). Such practices reflect the influence of the digital age on cultural production and interaction, as described by Lev Manovich, who suggests that cultural concepts are increasingly influenced by the principles of computer technology, altering the way cultural artifacts are created, perceived and preserved (Manovich 2002). This “computerisation” of culture, evident in video games and religious traditions alike, underscores the evolving nature of digital preservation, where remixing and reinterpretation become key tools in safeguarding our cultural heritage.

## Methods

In December 2023 we prepared a survey addressed to members of the Demoscene community, examining preferences and practices regarding the way of experiencing productions such as demos or intros. The survey was prepared in two language versions, English and Polish, and was distributed on the Demoscene Facebook group, the Demozoo and Pouet websites and on the Demoscene Discord server. In the short demographic part, we asked about the country of residence, past and recent (within 5 years) activity in the Demoscene, and the respondent’s role, selected from the options of a content creator, content consumer or person archiving Demoscene resources for future generations (where one respondent could share all three). Then, we asked

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<sup>6</sup> MAME stands for Multiple Arcade Machine Emulators and started as just that. An emulator for Arcade games, yet over time it expanded to cover a wide variety of (mostly vintage) computers (<https://www.mamedev.org/>).



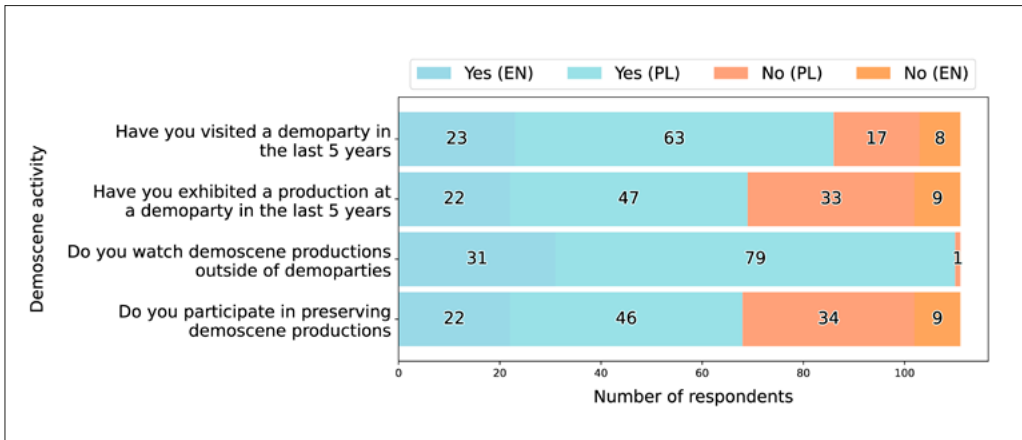
**Fig. 2.** A view of a 11.5 × 6.5 m Bigscreen and around 1000 sceners gathered in Rundsporthalle in Bingen am Rhein for the Demoscene party Breakpoint 2010.

our respondents to specify, on a 5-point Likert scale, their preferences for consuming Demoscene products, such as demos and intros, and how they actually engaged with them most often. The options were: on the Bigscreen while attending a Demoscene party (see Figure 2), on original hardware at home or at a museum, as an on-line video from one of the streaming services, on an emulator, or remixed with modern products, such as a minigame within another title. We also asked open questions about what the respondent would like others to learn about the preserved Demoscene productions, both in the context of Demoscene audiences and members of the general public. At the end of the study, we subjected the open questions to a thematic analysis, and we also unified the open answers regarding the country of residence and unified the language. Due to a limitation of chosen tool, a survey allowed our respondent to mark two or more answers on a Likert scale, we eliminated such cases from the analysis as uncertain (4 cases out of 112 for the question about current content consumption and 5 cases out of 112 for the question about preferred form of preservation).

## Results and Discussion Participants

During the two weeks – between 19 December and 31 December 2023 – that the survey was active, we collected a total of 112 responses, 81 and 31 for the Polish and English versions, respectively. The results of the survey were then analysed, described and interpreted between the 1 January 2024 and 6 January 2024. The majority of respondents came from Poland, then Germany (9), UK (6) and other countries in Europe

(15), from outside Europe we had one respondent from Russia, two from the USA and four who did not disclose their country of residence. At the beginning of the study, we collected declarations regarding current Demoscene activity (for sake of question 1 and 3, due to the Covid-19 pandemic we assumed “current” to involve a 5-year period) in four categories: as a creator of Demoscene productions, as a consumer of content, as a participant in Demoscene events, and as a person actively participating in preserving Demoscene products. The data broken down into Polish and English-speaking groups is presented in Figure 3:



**Fig. 3.** Declared Demoscene activity among survey participants, broken down into Polish- and English-speaking groups.

### The preferred mode of engaging with Demoscene productions (RQ1)

Most of our respondents consume Demoscene content via video recordings, then original hardware and finally the Bigscreen at Demoscene events and emulators (see Fig. 4 for details). Very few people actually consume content inserted into pop culture products, which may be explained by the fact that there are still very few products that offer this opportunity. When it comes to differences based on the language, English respondents were less likely to indicate they “always” consumed content in some way, and more of them leaned towards consuming video content compared to other mediums. Interestingly, also those who create content are less likely to always consume it on original hardware (32% vs 47% for non-creators). Creators are also more likely to always consume content on the Bigscreen (44% vs 29% for non-creators). Unsurprisingly, there are significant differences between people who have been to parties in the last 5 years and those who have not. While 47% of goers indicated that they always consume content on the Bigscreen, 8% of non-recent



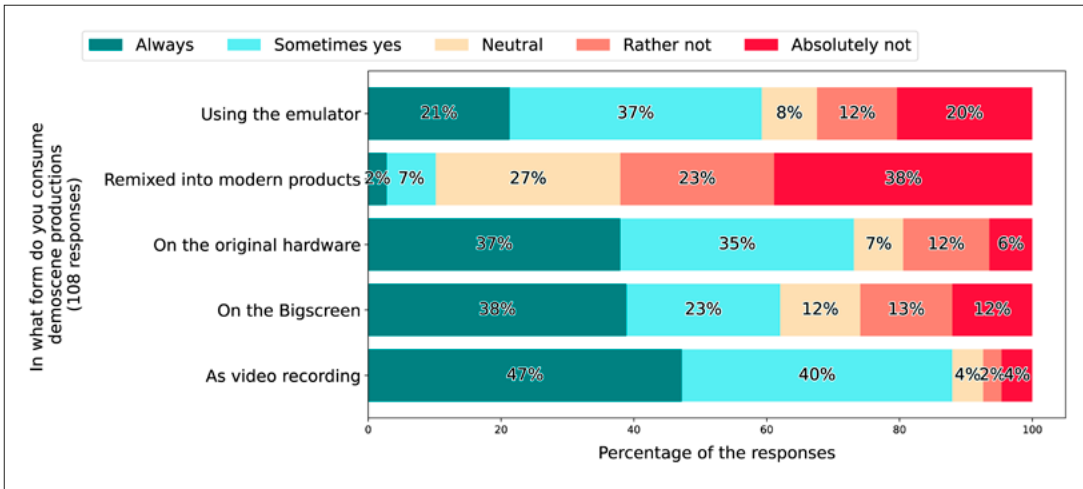


Fig. 4. Data on the actual consumption of Demoscene productions according to the respondents' declarations.

party goers indicated the same. Those who go to parties still consume content via YouTube (42% indicated always, and 45% sometimes, for a total of 87%), just not as exclusively non-goers (62% indicated always, and 24% sometimes, for a total of 86%).

Overall, most people think that content should be presented on the Bigscreen in a demo party setting, then original hardware regardless of social context, then YouTube videos, emulators, and only few people consider inserting it into other pop culture productions, perhaps partly due to limited familiarity with this format as seen in current ways of content consumption. Another reason for the limited interest in this preservation method could be the belief that it results in the loss of context. Our findings reveal that respondents consider its existence crucial for understanding and appreciating Demoscene works. This insight is significant for creators choosing to give tribute or a nod to demos in other cultural products, who ought to consider how to include their technological and social background. There were no significant differences between the views of English- and Polish-speaking respondents, with the order of preferred media the same across languages. However, English-speaking respondents seem to be somewhat more open to the idea of Demoscene productions shown as YouTube videos or remixed or reinterpreted within other pop culture products.

Those respondents who are active content creators are actually more open to presenting content in any way than those who do not create content. 82% of active content creators either agreed or strongly agreed that video recordings are among acceptable ways to present content, compared to only 60% of those who did not create anything in the last five years. Moreover, it was the non-creators who felt slightly stronger about the need to present it using original hardware, with 72% strongly agreeing, versus 67% of creators. It would appear that those who create content value the

fact that it can be seen and experienced in any way, more than the medium. It is interesting that by both groups emulators were rated lower than video recordings in terms of how content should be consumed, as about 60% either agreed or strongly agreed that it is a good way to consume content. This is only slightly higher than how people declare they consume content, which may point to some barriers to using emulators for this purpose. Although, a more significant barrier is visible for original hardware, as while slightly over 82% of respondents either strongly agree or agree that it is the way to consume content, only 76% of Demoscene party-goers always or sometimes consume it this way versus 58% of non-goers.

It is worth noting that although the declared preferred way of consuming Demoscene productions is on the Bigscreen or on the real hardware, the actual way of consuming content for our respondents is usually through the video recordings. This may be due to the much greater availability of this type of method in the daily routine (not everyone has the time, resources and space to prepare and use a proper hardware setup, while video content can also be watched even on a phone, in between other activities), perhaps also due to limitations in the possibility of attending a party (budget, pandemic, scheduling, other commitments).

This discrepancy between the preferred and actual method of content consumption points to the importance of the performative aspect of Demoscene, such as the ceremony around the Bigscreen events (Schechner 2017). This importance is contrasted with the limited availability of such events and the opportunity costs of engaging in them, such as time (usually weekends), money (hotels, often international travel). Still, as they largely function also as social gatherings, many of them continue to thrive. The scene is adapting to the new reality of content distribution and consumption and with YouTube, it has become more approachable to newcomers (Helsen 2021).

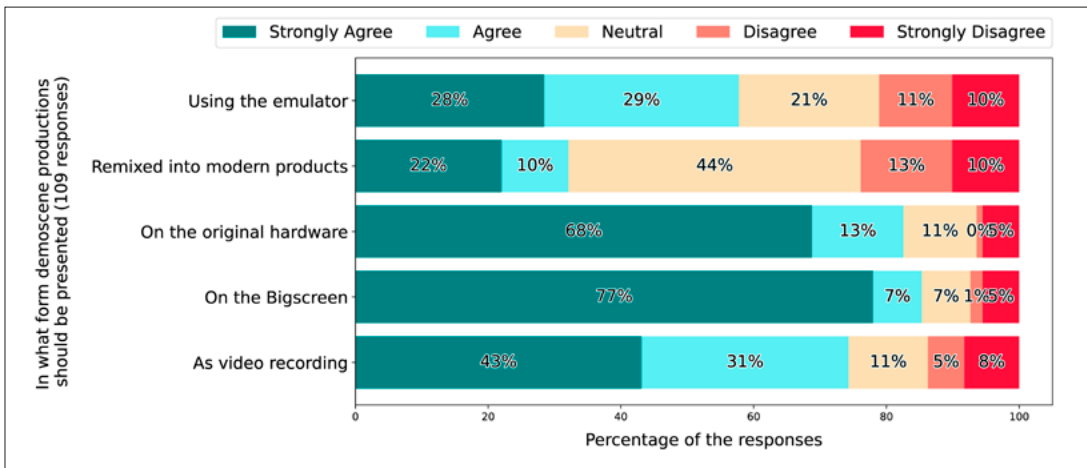


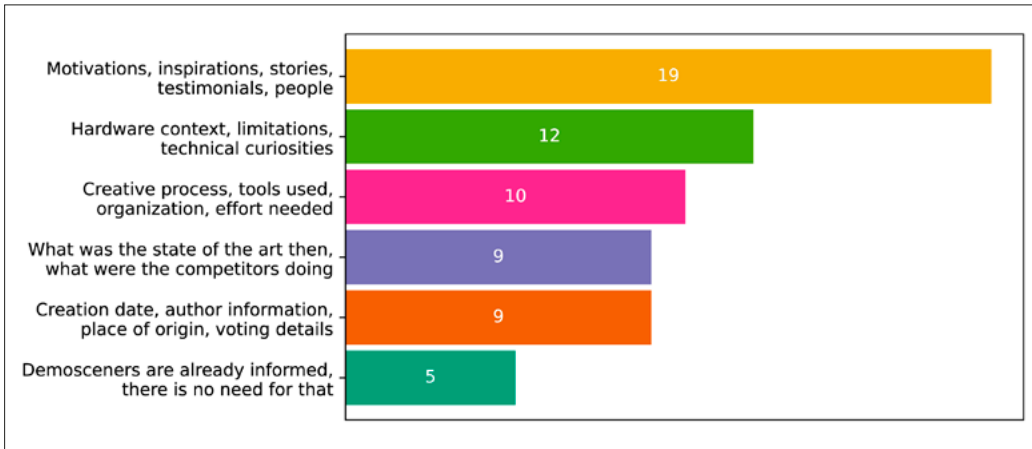
Fig. 5. Responses to the question on the way the respondents think the Demoscene productions (demos, intros) should be presented.

## What should others know about the Demoscene? (RQ2)

Our respondents wished for other members of the Demoscene to document the context of the work and its inception: **the circumstances in which the work was created**, the information **about authors and their inspirations** (“It would be great to also preserve making-ofs or explanations from the authors. These are sometimes given in blogposts that are linked to Demoscene sites like pouet.net, but they are not actively archived, which sometimes makes them sadly disappear”, P90) as well as the **specific constraints and curiosities related to the production platforms** (“Members of Demoscene usually know the social context of the scene but often can’t know all the limitations of every individual platform. These should be pointed out to create a context for exhibited pieces”, P103). One respondent, P91, mentioned longevity as a concern for other Demoscene members, as “YouTube videos disappear etc. I think we should also perhaps document their original context, technically, artistically and status quo”. These concerns are also supported by the real experiences of people who try to reach historical but no longer active figures. Daniel “dely” Koźmiński, in an interview,<sup>7</sup> says: “They respond to e-mails efficiently, they associate some facts, and when they are asked about some topic, they say: ‘Oh, yes! I did something like that once! But unfortunately, I simply don’t remember anything and I’d love to help you, but I can’t because I have a hole in my memory’”. Another historian of the topic, Paweł Grabarczyk, during a discussion panel on digital heritage at Machine Intelligence and Digital Interaction 2023, mentioned an interesting, although disturbing, phenomenon where projects that are dedicated to securing history against loss are often not protected against it themselves and disappear from the Internet when the person leading the topic is gone or their motivation runs out (Grzeszczuk et al. 2023).

Some Demoscene members would appreciate access to contact information, both to the Demoscene production authors, groups and the organisers of Demoscene parties to “enable easy flow of information, help take first steps and give support in creating Demoscene productions”, as stated by P53. In contrast, P30 claims that current Demoscene members “by definition, should be in touch with the community and learn about Demoscene through contact with the Demoscene community”. The same respondent mentions that “Demoscene is underground in nature, and over-promoting it partly kills the spirit of Demoscene”, cautioning against making it too forthcoming. This is in line with seeing Demoscene as a participatory culture (Clinton, Purushotma, Robison, Weigel 2006), where a large share of the community is encouraged to actively contribute to it, as creators, makers or organisers; in turn, this explains some members’ reluctance to share it with the general public, who may represent the consumer culture. Some more qualitative insights based on thematic analysis are visible in Fig. 6.

<sup>7</sup> The full text of the interview from 16 December 2023 is available on the website of the Foundation for the History of Home Computers at: <https://fhkd.pl/2023/12/o-archeologii-protosceny-atari/>.



**Fig. 6.** Results of thematic analysis of the open question on what other members of the Demoscene would be able to learn about these preserved productions and the realities that shaped them.

Demoscene members believe that the general public should know more about some aspects of its culture, especially the general context, and the specific limitations that the creators work with to make their demos. To add to this note, the wish is for the general public to know that “on real equipment they look much better than on YouTube”, as noted by P62 pointing to a deeper importance of the connection between the intangible software and the tangible hardware, whose symbolic importance to this community is not limited to their function as data machines. Often the rescued, repaired and used hardware also carries a meaning on its own, as exhibited by the overlap of the retrocomputing and Demoscene communities. Hardware preservation and remix is a social practice with similar core values of the maker culture, sharing the drive to explore the limits of what was and is possible (Takhteyev, Dupont 2013).

This connection to technology is also underlined in the opinion of P103 who states: “Every Demoscene production exists in its context of time, technology and in the reference of other demos. It’s often difficult or impossible to exhibit one single piece without pointing out this context”. The creative process itself with its imposed limitations is also very important, as the public should be aware of “technical limitations (disk space, amount of memory), amount of work put in”, as stated by P62. This is further explained by P75, who urges to emphasise to the general public how “the effects shown on the screen are created (...) in real time (...) [how] hardware limitations work (especially when it comes to demos on old computers) what people have to contend with when creating their productions”. There is clearly a concern that without the knowledge and understanding of these constraints the general public will not be able to appreciate the skill and artistry behind these demos. One respondent, P76, would disseminate the knowledge of Demoscene in the form of “more documentaries available

on popular platforms (YT) explaining to people not connected to this phenomenon what the phenomenon of this movement/community was/is all about". According to P30, the general public ought to get to know "general information about the Demoscene and its most outstanding works as part of the promotion of the Demoscene as digital art". The same respondent (P30) cautions against treating all scene productions the same as "copyright and rights related to the author's personal image (...)" should be agreed individually with the authors" and mentions that "excessive publicity of the Demoscene in today's commercialised internet defined by social media is not needed by the Demoscene only by promoters and consumers of the Demoscene, outside the scene, who see personal interest and publicity in it". This is not the only voice against fighting for spotlight among the general public, as P47 says: "I don't care about promoting Demoscene to people who are not interested in it. (...) It's a waste of time and effort to explain what it's all about to someone who won't understand it anyway, can't evaluate it. It is better to act among people interested in the subject than to play in a Demoscene kindergarten with no future". It appears that knowledge about the authors themselves was not as important, although this aspect may be implicitly understood as something that is already there and therefore was not mentioned in this open question. However, as many Demoscene members use nicknames and artistic handles, this aspect may be of less importance to this community.

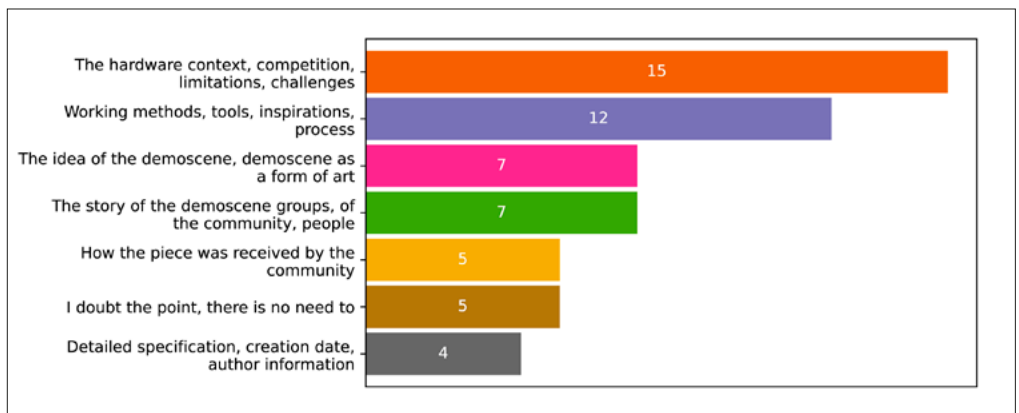


Fig. 7. Results of thematic analysis of the open question on what members of the general public would be able to learn about these preserved productions and the realities that shaped them.

### Limitations

In our research, we have surveyed the preferences of a portion of Polish- and English-speaking communities; therefore more research is needed to verify these preliminary insights. Moreover, we did not ask about the extent and nature of the engagement in the Demoscene or the exact frequency of consuming Demoscene content,

just the fact of having been a contributor within the last 5 years. We do not know whether the frequency of viewing Demoscene productions influences the preferred form of their presentation. We also do not account for the differences between the subsets of the Demoscene, that is creators working with 8-bit platforms, such as Atari or Commodore, 16-bit computers, such as Amiga or early PC, and modern hardware, consoles, etc.

## Conclusions

First of all, it is important to note that, because of the artistic and creative nature of the community, it is its content creators, the Demosceners, who ought to be supported in preservation efforts, to disseminate and archive their works for the general public and future generations. Given this, we can offer some insights into the needs of the community when it comes to the context information and documentation. These include (1) **information about the content authors**, together with a way to contact them, which should be available both with the archived version of the demo and at the Demoscene events; this may also help with the licensing process should the artwork be chosen to be included in another cultural production; (2) **information on the creative constraints**, the hardware used to create and exhibit the work, together with its limitations and challenges, and the self-imposed limitations related to the creative process and the size of demo file; (3) **a recording of the demo** archived to secure the demo against challenges such as incompatible hardware and volatility of video platforms, as YouTube, although not preferred, may be better than no strategy at all, as it is still an acceptable, relatively easiest to achieve and widely used option to enjoy the Demoscene content for many Demosceners; (4) **information about the context of the work**, both historical and in relation to other Demoscene works which may have served as its inspiration; and finally (5) **the reception that the work has received** among the Demoscene, and the changes/inspirations it may have stirred in its wake.

While the need to communicate information about the authors of the work did not often appear in the answers to open questions, knowing the Demoscene, it can be assumed that it might be obvious to those who commented that such information is usually contained in the productions themselves, either in text scrolls that are part of the production, or in text information files attached to the demo file. However, authors usually sign their work with Demoscene aliases and group affiliations; while scene members are able to decode this information and associate it with specific, personally known people, this information and those connections will become illegible to people who do not have the social context, so care should be taken to appropriately augment this information.

The social context is not the only one that fades with time. In-depth knowledge of the technologies used, hardware requirements and how to keep demos operational

disappears as well. Considering how much members of the Demoscene are committed to creating an authentic experience when interacting with productions, the transfer of knowledge and education to new generations seems to be necessary to ensure access to the original form in which the work was intended to be seen, or seen by the author – before it is too late.

### Future Work

In future work, we would like to explore the community's view on methods, tools, and vessels to preserve Demoscene productions in the long term. Since the Demoscene is definitely not a monoculture, with a diverse approach to hardware used, different creation methods and creation of social networks, we are interested in equally diverse perspectives on the current and future evolution of the Demoscene. We are especially curious about the view of the community on the impact of this evolution on the preferred and sustainable methods for preserving its cultural heritage for future Demoscene members as well as the public. We are also interested in practical questions arising around the licensing of Demoscene productions that should clearly regulate means of distribution and preservation, with or without derivatives and remixing to align with the preferences of the authors. We would like to understand, study and evaluate how to exhibit Demoscene productions and their cultural, artistic, and technical context in a way that is true to their heart, in accordance with the core values of the community, but at the same time, in a way that will make it easier to share them with people who are not yet familiar with the Demoscene community.

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### Summary

The Demoscene is a pioneering digital culture and an art form. Its roots in Poland date back to the mid-1980s. In 2019, the Polish Demosceners, alongside their Finnish and German counterparts in the Art of Coding campaign, embarked on an initiative to advocate for the recognition of the Demoscene by UNESCO. This move highlighted the tension between the inherently decentralised and demarcating nature of the Demoscene and formal requirements of cultural heritage preservation. In this paper, we present a brief overview of the Demoscene, combining personal observations from the UNESCO enlisting process with insights gathered from a supportive study conducted among Demoscene community members. The results of this study are presented in the context of digital preservation challenges in various domains, offering a comparative perspective. The paper concludes with some insights into what information to store alongside the Demoscene productions themselves and outlines potential further work, addressing both current and emerging challenges faced by the Demoscene community.

**Keywords:** Demoscene, digital culture, digital art, preservation, computer interaction

## Streszczenie

Demoscena to prekursorska kultura cyfrowa i forma sztuki. Jej korzenie w Polsce sięgają połowy lat 80. ubiegłego wieku. W 2019 r. polscy uczestnicy Demosceny, wraz ze swoimi fińskimi i niemieckimi kolegami z kampanii Art of Coding, podjęli inicjatywę na rzecz uznania Demosceny przez UNESCO. Decyzja ta podkreśliła napięcia, jakie istnieją pomiędzy z natury zdecentralizowanym i demarkacyjnym charakterem Demosceny a formalnymi wymogami ochrony dziedzictwa kulturowego. W artykule przedstawiamy krótki przegląd Demosceny, łącząc osobiste obserwacje z procesem wpisywania na listę UNESCO ze spostrzeżeniami zebranymi podczas badania przeprowadzonego wśród członków społeczności. Wyniki tego badania zostały przedstawione w kontekście wyzwań związanych z ochroną zasobów cyfrowych w różnych dziedzinach, prezentując perspektywę porównawczą. Artykuł kończy się kilkoma spostrzeżeniami co do tego, jakie informacje należy przechowywać wraz z samymi produkcjami Demosceny, a odnosząc się zarówno do obecnych, jak i pojawiających się wyzwań stojących przed społecznością Demosceny, nakreśla kierunek potencjalnych dalszych prac.

**Słowa kluczowe:** Demoscena, kultura cyfrowa, sztuka cyfrowa, konserwacja, interakcja komputerowa