VIDEOTEX ART RESTORATION

Technical and Conceptual Challenges

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Abstract – This poster will discuss the technical and conceptual challenges associated with achieving an authentic restoration of videotex art, in the context of a project currently underway to recover Canadian Telidon videotex artwork from the early 1980s. Strengths and weaknesses of various strategies will be discussed, including emulation, format migration, software reconstruction, and the use of period hardware. Goals of the poster include showcasing the strategies employed to date, and inviting criticism and comment from others with relevant experience to share, so as to refine and improve our methodology going forward.

Keywords – Videotex, artwork, emulation, authenticity

Conference Topics – The Cutting Edge: Technical Infrastructure and Implementation.

I. INTRODUCTION

The Digital Preservation Coalition has identified videotex materials as "practically extinct," requiring urgent action if these important early examples of our emergent digital culture are to be preserved [1]. This poster will discuss the challenges associated with achieving an authentic reconstruction of videotex art in the context of a project to recover Canadian Telidon videotex artworks from the early-mid 1980s.

The project to recover and restore Telidon art began in 2015 with the restoration of several Telidon artworks in the collection of University of Victoria Archives. The project has since grown to involve artists and arts organizations across Canada, as more digital files and video recordings have since come to light, and news of the project has spread. Participants in this collaborative project now include the University of Victoria Libraries and Archives, the Toronto-based arts centres InterAccess and Trinity Square Video, the Artexte Archives in Montreal, and a group of independent artists and curators, working together to achieve our goals of developing web and gallery exhibitions, and a permanent digital archive of Telidon Art and related materials [2].

II. BACKGROUND

From 1978 through 1985 Telidon was a project of the Canadian federal Department of Communications to create interactive computer-based information networks using a made-in-Canada version of videotex. Although Telidon was only one of several international efforts to create videotex networks, the Canadian version was capable of presenting more sophisticated graphics than its competitors and for a time was seen as having a strong potential to become the dominant standard [3]. .

There was considerable interest in Telidon from across the cultural sector, as corporations, technologists, educators and artists all sought to harness its potential in various ways [3]. Several hubs of Telidon content production formed, such as at the Creative Writing Department at the University of Victoria, Video Inn in Vancouver, Trinity Square Video and Toronto Community Videotex (later InterAccess) arts centres in Toronto, the University of Quebec in Montreal and NSCAD University on the east coast. These hubs provided access to the tools of production to a broad spectrum of cultural producers, including artists. .

During the heyday of Telidon art production (roughly 1981 through 1987), Canadian Telidon artworks were exhibited regionally on networks of

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public kiosks as part of Telidon field trials; at national events such as Expo '86 in Vancouver; and at international arts exhibitions, representing Canada in the 1983 Bienal de São Paulo, and in the "Technology and Informatica" section of the 1986 Venice Biennale..

As some of the earliest examples of interactive, networked art in Canada, these works stand as an important tributary in the development of Canadian digital art. However that significance that has been impossible to fully assess or appreciate due to the near total disappearance of the artworks as their supporting hardware and software obsolesced following the end of the Telidon project.

III. Current Status

Information services built upon Telidon were not ultimately commercially viable, and federal funding was withdrawn from the project in 1985. Although considerable content was created for Telidon systems during the time it was active, little of it has survived into the present in an intelligible form. Until recently, the remaining digital files known to exist were thought not to be viewable due to their dependence on long-obsolete Telidon terminals, special-purpose devices for interpreting and displaying vector-encoded Telidon files [4]. .

As Telidon was never widely adopted, a relatively small number of Telidon terminals were produced and very few are still known to exist. Alternative, approaches to rendering Telidon graphics have been developed for this project, combining emulation, format-migration and software reconstruction, but none perfectly recreates the experience of Telidon on period hardware, due to differences in timings, colours, fonts and visual textures. One may question whether a "perfect" restoration is even possible given the variation that existed even among hardware implementations in the 1980s.

IV. Challenges

Telidon art recovery is complicated by the fact its data encoding protocol went through two distinct iterations. The first, Telidon 699, was a draft specification deployed in early field trials. The second version, NAPLPS, was more widely deployed across North America. It served as the graphics encoding for several networked information services of which the IBM/Sears joint venture Prodigy was the best known and most successful.[5, pp.142-144] Although software that can display NAPLPS graphics still exists, the same cannot be said for Telidon 699, which was entirely dependent on dedicated hardware terminals. NAPLPS was by design not backwards compatible with Telidon 699. [3, pp.395-400].

Restoring NAPLPS graphics is therefore easier than restoring Telidon 699, though not without challenges. A standards compliant rendering is not always enough to achieve fidelity to the original works, as an accurate rendering is also generally dependent upon emulating the clock speeds and data transmission rates of early 1980s computing hardware. For the more complex, interactive works, the software and database that controlled the sequencing of the images must be recreated, and new software was written for this purpose. In addition, encoding problems with the original files are fairly common, requiring manual correction to repair visible defects in the rendered works. .

Recovery of Telidon 699 artwork has so far been achieved by recording the output of one of the few functioning Telidon 699 hardware terminals still in existence. In addition to the ever-present possibility of hardware failure prior to the completion of the project, problems with this approach include the lack of interactive features in the resulting recordings, and a noticeable loss of visual clarity in the recorded output. To address these issues, an alternative strategy of forward-migrating Telidon 699 to NAPLPS is being actively explored. .

Finally, there is a small but important group of works for which only period video recordings remain. Interventions in these cases have been limited to digitizing the video and using HTML5 and javascript to rebuild the interactivity that was lost when the works were transferred to videotape. This work goes beyond restoration into the realm of reconstruction, and the active participation of the artists is critical to ensuring the result remains true to their original intent. .

This poster will use examples to illustrate the challenges identified above, discuss the interventions

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we have found to be necessary in the restoration of works of Telidon videotex art, and consider to what extent such interventions can be made without compromising the authenticity of the original works.

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