An Architecture for Community-Based Curation and Presentation of Complex Digital Objects

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Abstract. Preservation of complex, non-linear digital objects such as digital art or ancient computer environments has been a domain reserved for experts until now. Digital culture, however, is a broader phenomenon. With the introduction of the so-called Web 2.0 digital culture became a mass culture. New methods of content creation, publishing and cooperation lead to new cultural achievements. Therefore, novel tools and strategies are required, both for preservation but in particular for curation and presentation.

We propose a scaleable architecture suitable to create a community driven platform for preservation and curation of complex digital objects. Further, we provide novel means for presenting preserved results including technical meta-data, and thus, allowing for public review and potentially further community induced improvements.

1 Introduction

Preservation of complex, non-linear digital objects such as digital art or ancient computer environments has been a domain reserved for experts until now. Digital culture, however, is a broader phenomenon. With the introduction of the so-called Web 2.0, digital culture became a mass culture.

For instance, a lot of digital art could and should be easily accessible, without too much emphasis on traditional aura and exclusivity. Like digital culture did in many areas, wide availability of tools and constant change in technology and theory made it an attractive entrance into the art world for newcomers and young artists. In the field of digital art, the general attitude of most participants is that anyone is always welcome to join in and spur the discourse. When it comes to longevity, however, it is quite difficult to find a suitable place for the resulting amount of artworks to survive in the swiftly changing technological landscape. This is an imbalance that needs to be tackled if digital art and digital culture as a whole should be able to create a notion of history: artists are having difficulties building a recognized body of work, institutions are having difficulties building
a reputation. As a result, many mid-career artists will turn to more durable and therefore, sellable objects and formats \[1\].

A useful and quite promising approach to curate highly volatile digital art is recognizing it as mass culture, which in turn requires a mass-curation approach. In the domain of digital art there is no quasi standard on software used nor a uniform manifestation or appearance, since many artists have used software and tools in new, creative ways. This leads us to the assumption that a collection of digital artworks provides most likely the widest possible variety of complex digital artifacts of their time. Alike, preservation and presentation of digital art faces memory institutions with almost insolvable curation challenges. Since each artifact is unique there is no uniform approach, and thus, each object needs to be addressed separately. Pursuing a migration-based strategy then is either inadequate for presentation or inefficient w.r.t. the required development effort. Hence, due to its special appeal and diversity, digital art is not only able to expose structural and technical shortcomings of today’s preservation strategies, but it also is an ideal use-case for a community-based curation model.

Therefore, we propose a scaleable architecture suitable for supporting technically and organizationally a community-driven platform for curation and presentation of complex digital objects. The proposed architecture focuses on making available emulation as a curation and presentation tool for a wide range of users. Institutions and individuals should be able to easily present preserved digital objects, including technical meta-data, and they should thus promote public display and review of the object’s presentation but also allow the community to comment and potentially further improve the result.

2 Requirements

In theory it might be possible to reconstruct environments for almost any single digital artifact that re-enacts its performance exactly “as the artist intended” given suitable (financial) resources. In general, however, such an approach is either inefficient, i.e. too laborious for many artifacts, or it makes no sense because the artist’s specifications cannot be met technically or logistically. Finally, the whole idea of individual technical restoration may not match the artifact’s main performance features because it unfolds its impact in mass usage and distribution, and therefore has no “form” outside of practice.

Since there is no single way to render, view or use a digital artifact, it is futile to attempt to define one. Instead, making the largest possible amount of artworks accessible in combination with providing broadly generalized forms for their interaction and manipulation seems like the most worthwhile approach. The outcome is a reduced amount of rich simulated environments that enable the interaction of and with more artifacts. Hence a community-based approach with a scalable and user-friendly usage-model is required. Based on the afore-mentioned problem setting and use-case, we derive the following requirements for a scalable, emulation-based architecture, suitable for providing the technical backend for a community-based curation and presentation platform.