Innovating the Classical Music Experience in the PHENICX Project: Use Cases and Initial User Feedback

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ABSTRACT

The FP7 PHENICX project focuses on creating a new digital classical concert experience, improving the accessibility of classical music concert performances by enhancing and enriching them in novel digital ways, In this paper, we present the project's foreseen use cases. Subsequently, we summarize initial use case feedback from two different user groups. Despite the early stage of the project, the feedback already gives important insight into real-world considerations to make for interactive music content consumption solutions.

Keywords

multimedia information systems, music information retrieval, performing arts, multimodality, interactivity, social networks, user studies

1. INTRODUCTION

The FP7 PHENICX project ('Performances as Highly Enriched aNd Interactive Concert eXperiences'[1]) started in February 2013 and focuses on creating a new digital classical concert experience, improving the accessibility of concert performances by enhancing and enriching them in novel digital ways. There are many academic challenges regarding the handling of multimodal concert data, both at the side of automatically analyzing the data, as well as providing new interaction and discovery mechanisms for it [1]. Next to this, there are interesting business cases connected to it, and due to the societal and industrial embedding of the non-academic project partners, the project will allow for sustainable end user validation of developments in these directions.

In this paper, we present a set of initial project use cases: reference scenarios which are easily understandable to (possibly non-technical) end user audiences, and illustrate how foreseen PHENICX academic advances could be integrated and combined in real-world user settings. They are meant to outline an application agenda for the academic advances of the project, and will be continuously refined and revised following end user feedback. We discuss how an initial round of such feedback was solicited and summarize corresponding outcomes and important notions.

2. USE CASES

In this section, we will shortly summarize the different initial use cases of the PHENICX project.

[1] http://phenicx.upf.edu

WSICC workshop at EuroITV'13, June 24, 2013, Como, Italy.

Digital program notes: Automatically generated, tailor-made multimedia editorials are offered to prospective audience members, introducing the concert that will take place. The purpose is to inform, educate and pre-engage, supporting concert anticipation.

Virtual concert guide: Alongside a concert performance, many information streams are available (e.g. video from different perspectives in the hall, editorial notes, visualizations, musician's or conductor's commentary...). Since audience members cannot consume all these streams at once, the virtual concert guide provides a tailor-made 'route' through all of these streams and possibilities.

Overseeing the music: While a concert performance is attended or an audiovisually recorded performance of it is watched, more insight is given regarding the temporal development during the performance. Corresponding visualizations can relate to features of the musical piece (e.g. structure, harmonies, themes) and range from simple abstractions for non-expert audience to musical score information for people with musical experience. Alternatively, visualizations can also reflect expressive performance characteristics.

Focusing attention and switching viewpoints: While a concert is attended or its recording is watched, it is possible to focus on a particular section, or choose a particular viewpoint towards the stage. Increased visual focus will trigger increased auditory focus, by intelligently adapting the audio mix. Alternatively, concert audience in a visibility-reduced or acoustically suboptimal seat can virtually watch the concert from a better-situated seat.

Comparing different performances: In anticipation of a concert, existing alternative performances of a piece can be presented to raise awareness about typical performance differences or strategies, or (for recording producers) to make a production plan. As a result of this use case, alternative performances are to be presented in such a way that it is possible to flexibly switch or cross-fade between them.

Capturing the moment: During a concert, audience members can capture personal concert highlights or impressions by making notes, setting markers at moments they found special, storing favorite viewpoints, etcetera. After the performance, the concert can be relived based on these personal highlights, and highlights that were not encountered yet can be newly discovered and captured.

Sharing the magic: Audience members can share personal impressions and highlights (following from *Capturing the moment*) with peers, friends, or the world in general, and as such become 'information anchors'. Especially for 'outsiders' unfamiliar with typical concert 'rituals', an anchor with whom they can personally identify and who speaks their language can help in raising interest in the concert. It is the intention that this way, outsiders can ultimately become concert audience members in the future.

Joining the orchestra: After a concert registration was made, it is possible to impersonate the conductor or a musician and create

an own version of the concert through gestures, which influence expressive parameters of the performance such as tempo and dynamics. This can be used for entertainment, raising interest and engagement with the music (especially for children), but also to generally raise awareness of expressive parameters and their influence on a music performance, and to allow for own artistic expression.

Editorial support: Behind the screens, producers and editors are working on creating and facilitating information streams that will constitute a digital concert experience. For this, they can strongly benefit from automated technological support, which helps them in the process of sorting out all possible information (e.g. through intelligent information segment selections, analyses, annotations and visualizations) and synchronizing all these segments.

3. INITIAL USER FEEDBACK

Foreseen users for PHENICX technologies both consider *end users*, who will undergo the new digital concert experience as audience members, and *system users*, who support the realization of the new digital concert experience behind the screens. As for the end users, we will distinguish between opportunities for *music professionals* and *general consumers*, also taking different levels of expertise and familiarity into account for the latter group.

The Royal Concertgebouw Orchestra (RCO) and the Escola Superior de Música de Catalunya (ESMUC) are two PHENICX consortium members with the status and network to concretely reach out to such envisioned end users. In the current early stage of the project, initial feedback rounds on the use cases were therefore already held with potential users connected to these partners.

First of all, an informal feedback round was held at ESMUC involving 10 Sonology students and 2 teachers (some of these also being active as performing musicians). Next to this, a formal focus group session was held with 13 frequent audience members of RCO, which apart from assessing spontaneous reactions to the use cases particularly focused on assessing opportunities and risks regarding the appeal, enrichment and acceptance of novel digital music consumption scenarios. The most important general findings from these feedback rounds are as follows:

- The RCO subjects point out that the *own exploration of related information to a concert*, with immersion in browsing the web, reading about musicians and listening to relevant performances, is an *essential and much-appreciated aspect of their concert experience*. As such, they like the process of searching through an abundance of multimedia data, and would not like all relevant results to be readily presented.
- In terms of visualization, both groups agreed that a simple time span overview of a piece (e.g. indicating when a piece will finish and applause is allowed) would be useful, in particular for novice audience.
- The RCO subjects have particular interest in getting enriched information on the *interpretational choices of musicians*. Interest in performance aspects is shared by the ESMUC students. Both groups also strongly support the possibility of comparing different performances of a piece.
- Apart from entertainment opportunities, the ESMUC students recognize *educational opportunities* of the foreseen use cases, and show particular interest in having synchronized access to information about the score, the musical structure, and musician interaction during the performance. This last point was of strong interest to the RCO subjects too. The *Joining the orchestra* use case could, in an advanced stage, be very valuable for the training of conducting students.
- Surprisingly, the ESMUC students do not have much interest in sharing concert experiences. At the same time, several RCO subjects did see the potential of social sharing for attracting new audiences, were enthusiastic about this, and also would be interested in receiving musicians' impressions.
- Both the ESMUC and RCO subjects showed *concern about the acceptance of live, on-site implementations of use cases*. While there was general agreement about the usefulness of the scenarios for off-site situations, especially before and after the concert, there was serious concern that implementing them in a concert hall will provide distraction and loss of concentration, both for the user and the surrounding audience. In both groups, augmented reality was mentioned as a possibly less distracting solution than tablet applications (while the latter is an originally intended direction of the project). However, under a situation in which novel audiences would be targeted in a dedicated non-conventional concert setting, subjects thought that such on-site solutions, also involving tablets, could be more acceptable.
- The RCO subjects consider their concert experience to mostly be an *emotional, focused, individual, isolated* experience. This may be a possible explanation why the ESMUC students are not eager to share their concert impressions, and is an important aspect to consider regarding side-effects of practical implementations.

A main initial conclusion from these feedback rounds is that live, on-site enrichment applications are currently considered controversial, due to fear of distraction of a user and the surrounding audience. Special investigation is thus needed into practical deployment opportunities and optimal presentation forms for these. However, especially for off-site scenarios, there is general support for the ideas in the use cases, with particular interest in performance aspects. Finally, personalization strategies should not yield final data selections, but still allow exploration and immersion into the rich available information sources.

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