PhD research proposal

John Smith, Autumn 2009 Proposed supervisor: **Hugh Grant**

Computer support of creativity in music composition for cinema and television

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Overview

My research will be at the junction of three areas: creativity support, musical composition and human-computer interaction. I will investigate methods for extending the support of high technology for artists composing music, particularly focusing on music composition for feature films and advertising. The idea is to provide new ways of interaction with computers that artists can easily and fully appropriate for themselves and so freely express their creativity with.

Introduction

Music clearly plays an essential role in film making, as it creates atmosphere and colours the tone of the picture. It is this unique ability to influence the audience subconsciously that makes music truly valuable to the cinema and television. Constant evolution of technology tempted many composers to adopt digital tools from hardware to software (samplers, sequencers, virtual instruments, synthesizers, etc.). These tools usually facilitate technical tasks such as making mock-ups, applying sound effects, or editing records and many more.

The Problem

Although digital tools are more and more powerful and can now perform very complex tasks they may also restrain music composers. Indeed, the power of these tools tends to reduce the range of artists' creativity as they are a lot more complex to utilise. Artists have to learn their use thoroughly to keep a full control on their work. Thus it may happen, as well as in other forms or art, that technology diminishes the room for maneuver of artistic expression. Moreover, the digital tool support faces more difficult challenges and unpredicted problems due to the unique characteristics of the film industry. Indeed, different specific constraints have to be taken into account. For example the music has to make particular emotions stand out, either to support the story of a feature film, or to induce adverts viewers to buy a certain product. Another major constraint is time synchronisation, as music must be tightly coupled with the pictures. It also has to be considered that composers are generally not the only actors – in fact, film music composition is often a collaborative work achieved by composers, music editors, directors and producers.

Numerous books and essays have been published about general principles and different attitudes of music for the film and TV industry by famous composers such as [1] to [5], and [10]. These references can give a good guideline as what needs to be taken into consideration. Beside these general principles, the state-of-the-art research works endeavoured in this domain in a larger scope has been also undertaken (see [7] and [8]). For my own work I propose to focus on the creativity aspects similarly to the approach taken by [6] and to the research orientations taken at the Creativity and Cognition Studios, at the UTS.

Although music composition for films is a recent art, there is often a certain stigma attached to film music, accusing cliché-ridden material and lack of creativity. My research is to fill this gap by providing film composers with tools that genuinely encourage a creative approach rather than a conservative one. I believe that the effective interaction through digital tool support can help composers to escape from established conventions and therefore express their personal creativity to shade emotions, lighten or darken moods, heighten sensitivities in a way that will make their artistic work original and unique.

Research Plan

I will conduct my research adopting an empirical and iterative approach. First and foremost, a preparation phase will involve a study through literature of the history and evolution of the film music composition practice. This initial phase will build an essential basis for the rest of my work, as it will provide an overview of the different processes of how music can be produced for movies, as well as the different basic rules and conventions that have been set in this domain. A study of the solutions and reflexions raised by previous research endeavours will also be conducted to complete and narrow down the orientation I will take for the following steps of my project. Then a few months will be dedicated to an analysis phase, during which I will realise a survey (structured interviews in person and by phone as well as a questionnaire) with composers for movies, in Australia and world wide. I compose music myself, and I am a member of a few communities through which I have already contacted many composers in particular from France, the USA and Australia. Moreover, I am also in relation with some music producers and people working in the cinema industry in Sydney, through which I will be able to reach a lot of professionals of the local industry. These relations will be a good opportunity to extend the scale of the survey and so collect a maximum of replies. The previous preparation phase would have provided me with an orientation for the questions aiming at bringing out the composers needs and expectations in terms of creativity and computer support as well as to learn about the characteristics of the different current practices. In a local scope I will organise some meetings, and beside that I will also set up a website with the questionnaires so they will be easily and widely accessible. Then, as often, it can be difficult to extract relevant information from

questionnaires and interviews with professionals and especially artists, as they are not used to describe their thinking process. So I will explore different methods such as protocol analysis [9] to guarantee the significance of this survey.

All the results and relevant outcome will finally be synthesised and published, and a feedback will be given to all participants.

As a result of the analysis phase, I will be in a position to identify problems and opportunities for computer support of the creative process. Thus, I will elaborate prototypes integrating the cutting edge tools (software and hardware) available at the Creativity and Cognition Studios, at the UTS, which amongst others are gesture recognition, movement tracking, graphical programming environments (MAX/MSP, Jitter), musical instruments and recording devices. The perspective of these prototypes will be to break off from conventional tools. They could either be completely original, or propose bindings and patches with existing tools. Thus, as an imaginary example, we could consider the integration of gesture recognition to allow the composer to set the volume intensity of a virtual instrument by the way he moves his arms up and down.

Every prototype will be evaluated with the partnership of some music composers, ensuring the participatory and user-centered design approaches of my research, as recommended in [6]. The most interesting prototypes would then be shown in exhibitions at the UTS or in art galleries of Australia. Videos, music files and descriptions will be publicly accessible from the internet.

The evaluations will aim at revealing new concepts and reorienting the research to another analysis phase and so starting a new cycle. Thus, this process will be iterated along my thesis (analysis – prototypes – evaluations), each iteration aiming at focusing on the interesting ideas, developing new ones, and finally refining and enhancing the different prototypes.

Therefore, at the end of my PhD, I expect to come out with a set of evaluated tools to be shown in exhibitions, and also develop some packages that may be commercialised and/or utilised in further research projects on related domains. The tools and demonstrations will illustrate the conceptual advances made within the PhD as well as providing an approach to evaluating those advances in practice.

References

[1] Fred Karlin, Rayburn Wright, John Williams. On the Track: A Guide to Contemporary Film Scoring.

[2] Richard Davis. (1999). Complete Guide to Film Scoring. The Art and Business of Writing Music for Movies and TV.

[3] Tony Thomas, Music for the movies, 2nd edition.

[4] George Burt. The Art of Film Music.

[5] Jeff Rona. (2000). The Reel World, Scoring for Pictures. A Pratical Guide to the Art, Technology and Business of Composing for Film and Television.

[6] Candy, L., and Edmonds, E., ed. Explorations in Art and Technology: Intersections and Correspondence. London: Springer Verlag, 2002.

[7] Abrams, S., Bellofatto, R., Fuhrer, R., Oppenheim, D., Wright, J., Boulanger, R., et. al. (2002). QSketcher: An environment for composing music for film. Proceedings of Creativity & Cognition, October 14-16, Loughborough, UK.New York: ACM Press.

[8] Sloboda, J.A: Composition and Improvisation, in The Musical Mind, chapter 4, Oxford, pp.102--150, 1985.

[9] Anders K. Ericsson, Herbert A. Simon: Protocol Analysis: Verbal Reports as Data, Cambridge,MA: MIT Press, 1993.

[10] Robynn J. Stilwell: Music in Films. A Critical Review of Literature, 1980-1996, in: The Journal of Film Music.