

Users Say: We Do Not Like to Talk to Each Other

Rikard Lindell

MRTC
St:a Ursulasv. 2A
SE-623 24 Västerås Sweden
rikard.lindell@mdh.se

Abstract.

This paper presents an evaluation of computer supported collaborative music improvisation to inspire interface design for information navigation and manipulation of multi-modal content. The trend in current music technology is towards software emulation of music hardware equipment. Users interact through the desktop interface, designed for one on one interaction, hence complicates collaboration. A collaborative environment test was created with only computers and software. The users enjoyed creating music together, although the lack of visual feedback, poorly designed sounds navigation and tension in the group made them frustrated. In debriefing focus group evaluation of the test, users argued that they preferred not to talk to each other.

Introduction

The trend in current music technology is toward software emulation of music hardware equipment. This software is often referred to as "native synthesiser", from that it runs natively on a computer's processor. It has the advantage of letting users save all parameters to disk, being limited only by the processor for the number of notes played simultaneously, saving space and money. A vintage synthesiser of the 70s had physical knobs and sliders for every parameter with direct audible and tactile feedback. With software the tactile feedback and precision are gone. Another major drawback is the desktop metaphor interface design for one on one interaction that impedes collaboration [1]. Hardware units were accessible to multiple users, whereas the computer is only accessible to one user. Creating music used to be a social activity, now it is a solitary one. A possible way of introducing collaboration back into computer-supported composition would be to synchronise a set of computers via MIDI. From a studio point of view this would lead back to the problem of having all the files related to one song spread out on multiple machines. However from an improvisational point of view it might be interesting - which is the basis for the experiment reported here.

2. Why collaborate and how?

The study was designed to answer a number of questions about how current state of the art music software supports or can support collaboration and improvisation. The study will serve as requirements input for the design of a collaborative user interface metaphor for information navigation and manipulation of multi-modal content.

- Would the subject users enjoy the type of improvisation and collaboration the test was designed for?
- Would the users take roles with different responsibility?'
- Is a shared acoustic space enough for vital music improvisation and collaboration?
- Should there be a shared visible space as well?
- Can users navigate sound files by name conventions usually found on sound collection CD-ROMs?
- Should there be other means of content navigation?
- Can music improvisation be vital across the Internet?

3. Collaborative Music Improvisation Test

Current state of the art music software enabled the creation of a common acoustic space. Three PowerBook computers were connected and synchronised through MIDI. The software used for the test was Ableton Live™, it has a sequencer that performs pre-recorded phrases of a track known as loops. The test was divided in three sessions, all in 10 minutes each. First a free private improvise tutorial, to let the users become acquainted to Ableton Live™. The users were only able to listen to their own song into their earphones. The second session was an Internet collaboration scenario designed to simulate collaboration via the Internet. The users were asked not to communicate with each other. The computers were synchronised and all the music came out of the speakers creating a public acoustic space. The third session was a live collaboration jam-session scenario. The purpose was to see if the users would negotiate roles and responsibilities. The users were allowed to communicate in any form; verbally, exchange glances, and gestures. The users were observed and protocol method was pen and paper notes. Focus group interview followed up the observations. The themes for the questions were: collaboration, role, satisfaction, and usability problems.

4. The Subject Users

Two groups with three persons each were invited as subjects for the test. The first group consisted of users with little music software experience; the second group was music software experts. In the second group the one subject user forgot to show up, leaving us with only two music software expert users. The subject users of the first

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group were good musicians; hence the scale novice to expert only refers to the subject user's skill in music software tools.

4.1. Observations of Music Software Novice Users

While they were unable to communicate one of the users tried to use body language and facial expressions to show his frustration with sounds that were out of control. When the users eventually were given the opportunity to communicate they expressed vigorously that they were tired of certain sounds, two against one. They gave each other cues of what they were doing, for instance: "I'm working with the bass and the drums." When they communicate, they use very short utterances and direct instructions like: "Remove your drums!" or "Listen to this!"

4.2. Debriefing focus group results

The users thought it was difficult to find a role. They needed a form or convention for how to improvise music with this kind of tool; they claimed it was dangerous not to have an idea to start with. Surprisingly, the users thought it sounded better and was more fun when they did not communicate. This contradicts observations when the music was richer and more entertaining when they communicated. Also two users were eager express their wish to get rid of some sounds that had annoyed them. The users enjoyed the test, they commented: "It was fun!" They like the idea to be able to sit at home and create music with others by collaborating via the Internet. However, they thought bad and coincidental cataloguing and anonymous file labels made it time consuming to search for sounds and impeded collaboration. They thought that sound collecting should be done from groups of spatial semantic organised sounds, and they wanted a visual shared workspace.

4.3. Observation of Music Software Experts

During the first session the expert users almost immediately found a method to examine sounds, but did not use the time to explore the capabilities of the software. They started to build songs slowly and carefully, but erased everything after a minute; this behaviour was repeated a few times. In the second session the users tried out the sounds cautiously before they put anything into the public mix. The novice users had created a rich and thick sound, whereas these users created a minimalistic sound. In the third session the users started to negotiate; the tempo and what the overall idea should be. They made expression of need for better control like: "I need two mice to cross-fade". The users thought it was difficult to figure out what sounds came from whose machine.

4.4. Debriefing focus group results

The expert users found it simpler to collaborate when they did not communicate with each other. Acoustic feedback was enough. They thought that you needed a plan. Something they only could form in the third session. They thought it was difficult to put words to what they wanted to achieve. The users did not take on any particular role; they felt to be controlled only by the tempo that set frame to what they could do. The overall sound was most important to them; what sound had to do with this and

that? They felt it was entertaining, but only one step beyond how one performs as DJ. They would like to vary beat or melody with a group of sound in each loop to select from, like the 15-game.

5. Discussion

There is much more to these two groups of subject users than the level of experience. The novice group vividly combined loops from different genres, whereas the expert group built songs by carefully evaluate each loop. The novice users thought only in retrospect that they should have had an idea, while the expert group had the idea of a "backward song". Their common denominator was that they did not like to talk to each other while improvising music. This came as a surprise, especially since the music result more interesting and of higher quality during the third session. It also contradicts their observed behaviour during the second session, in which the novice users were annoyed by elements in the music they disliked that were beyond their control. If there were a difference form observed behaviour to what users claims, the former would be more valid. It is more comfortable not to complain about annoying sounds, however for collaboration in the long run it is an unacceptable situation and it would be more satisfying to communicate. According to Cohen [5] spoken references to objects that are perceptually available to the listener are nearly always indirect. Sounds are difficult to describe verbally, why the subject users had to use direct utterances, thus taking the risk to offend each other. Creative work has an unstructured form of conversation [6], thus it is not possible to force theory of a generic structure upon this experiment such as conversation for action [7].

For the design of a collaborate tool this aspect has to be really though through. The users should have some degree of control of the elements of a song that was put there by another participant. The subject users suggested a common visual workspace with feedback of what everybody else is doing to simplify collaboration and communication. Another problem the users points out is the navigation of sound files. The users suggest spatially semantically organised groups according to characteristics of genre, tempo, timbre, and key.

7. References

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