Novice Collaboration in Solo and Accompaniment Improvisation

Hansen, Anne-Marie; Andersen, Hans Jørgen

Published in:
In proceedings of the International Conference on Sound and Music Computing 2012

Publication date:
2012

Document Version
Early version, also known as pre-print

NOVICE COLLABORATION IN SOLO AND ACCOMPANIMENT IMPROVISATION

Anne-Marie Skriver Hansen
Architecture, Design and Media Technology,
Aalborg University
Niels Jernes Vej 14, A5 206,
9220 Aalborg Ø, Denmark
amhansen@create.aau.dk

Hans Jørgen Andersen
Architecture, Design and Media Technology,
Aalborg University
Niels Jernes Vej 14, 3-111,
9220 Aalborg Ø, Denmark
hja@create.aau.dk

ABSTRACT

This study investigates how non-musicians engaged in a solo-accompaniment music improvisation relationship. Seven user teams interacted with two electronic music instruments integrated in two pen tablets. One instrument was a *melody* instrument and the other a *chord* instrument. The study was done in order to understand how future shared electronic music instruments can be designed to encourage non-musicians to engage in social action through music improvisation. A combination of quantitative and qualitative analysis was used to find characteristics in co-expression found in a solo-accompaniment relationship. Results of interaction data and video analysis show that 1) teams related to each other through their experience with verbal conversation, 2) users searched for harmonic relations and 3) were able to establish rhythmical grounding. The paper concludes with some design guidelines for future solo-accompaniment shared improvisation interfaces: How real time analysis of co-expression can be mapped to additional sound feedback that supports, strengthens and evolves co-expression in improvisation.

1. INTRODUCTION

Currently numerous music oriented interfaces are distributed among non-musicians as entertainment. The definition non-musician covers people with less than 5 years of experience with a traditional music instrument. In these game-like interfaces users are challenged to manipulate sound parameters through graphical elements and compose rhythms and melodies in sequencer oriented grid structures. These interfaces belong to the category of "casual games", because they are easy to learn and players engage with them in short concentrated amounts of time [6]. None of these games have so far challenged users to collaborate about simultaneous improvisation where attunement and mutual awareness is necessary. The game-like music applications seem to be more focused on the "building blocks" of music composition.

Within the field of new interfaces for musical expression some interesting designs have been presented for collaborative music interfaces, some of which are presented in [2][9]. Some collaborative interfaces focus on planning/compositional aspects and tuning of music and sound parameters [5]. Others focus on turn taking where players get an individual space of expression in which each user can relate to other users through imitation, variation and opposition of previously produced musical phrases [1]. Examples of collaborative interfaces that allow users to engage in simultaneous play are [3][10].

The majority of these interfaces were mainly presented as prototypes and demos with only little focus on user studies. Therefore there is a need to get an understanding of user collaboration in a variety of shared electronic music improvisation interfaces. In [8], for example, some concepts of mutual engagement are studied. An understanding of how users engage in and negotiate co-expression can inform further development of shared electronic music interfaces – especially the mapping from co-action to sonic co-expression parameters. The present paper presents a thorough study of user collaboration in improvisation when interacting with a simple solo-accompaniment interface. The interface allowed for the form of simultaneous play where users, or players as we would like to call them, were challenged to take in roles according to each other. The study is a part of a series of studies that are intended to pave the way for the development of shared music improvisation interfaces that encourage many forms of co-expression among novice players.

It is important to note that novices are not used to musical expression where various forms of simultaneous play is possible. In conversation theory it has been found that the turn taking relationship is essential for a conversation [7]. Overlaps and long pauses are avoided, and if overlaps happen, they are structured according to tacit conversational rules, where the person who overlaps with another needs to show some understanding of the speaker's topic. This can happen through "projectability": The person, who overlaps with the speaker, finishes the current sentence at a transition relevant place that is given by the speaker.

In music therapy a solo and accompaniment relationship can be established between therapist and client. The accompanist (a music therapist) is an experienced musician with good listening and attunement skills. The accompanist adapts to the soloist (a client) to find common ground either in rhythm or harmonics. When common ground is established the music therapist can challenge clients to vary and expand their forms of expression [11].

The objectives behind this study were to:

1) Get an understanding of how non-musicians, who are used to a conversational style of communication, engage in a solo and accompaniment relationship.

2) Formulate some design guidelines for solo and accompaniment improvisation interfaces based on the findings in this study.
3) Make proposals for analysis algorithms that identify characteristic forms of co-expression in solo and accompaniment improvisation done by non-musicians.

Results show that 1) teams related to each other through their experience with verbal conversation, 2) players searched for harmonic relations and 3) were able to establish rhythmical grounding. In addition to this there were signs that players tried to vary a found musical theme. In the discussion we evaluate the results according to usability, conversation theory and improvisation in music therapy. In the conclusion we present some design guidelines for call and response interfaces that support solo-accompaniment relationships through additional sound feedback. In addition to this we suggest how a software application can perform real time and memory based analysis of co-expression so that reactive and adaptive sound feedback can be realized.

2. BASIC SOLO ACCOMPANIMENT INTERACTION

In this section we explain the design of the solo and accompaniment interface, the experiment setup and measurements, the quantitative analysis of interaction data and the qualitative video analysis method used.

2.1 Interface Design and Experiment Setup

The shared electronic sound interface used to investigate solo and accompaniment play was very basic. It contained a solo *melody instrument* and an accompanying *chord instrument*. The melody instrument was designed so that a player could draw *melody lines* in twelve directions, corresponding to the numbers in a clock (see figure 1). Tones were spaced evenly on each line according to a vertical and a horizontal grid (see figure 2). Six melodies would go up in pitch and be in the A major scale if a person drew lines from the bottom to the top of the tablet and in reading direction. These six melodies would be played backwards in the f minor scale if a person drew lines from the top to the bottom of the tablet and against the reading direction. Scratching movement backwards and forwards caused a melody to be played backwards and forwards.

The chord instrument was designed as a piano with two rows of 8 chord fields. Eight different chords consisting of three tones matched the currently active melody scale. The eight different chords were one octave higher in the top row (see figure 3). The amount of pen tilt would delay the middle chord and the upper chord tones in time: At maximum pen tilt in any direction the middle chord tone could be offset up to 150 milliseconds (ms) and the top chord tone could be offset up to 150 times 2.5 milliseconds. Five female teams and two male teams with two players in each team tried the shared solo and accompaniment interface. The experiment participants were university students aged 20 to 40.

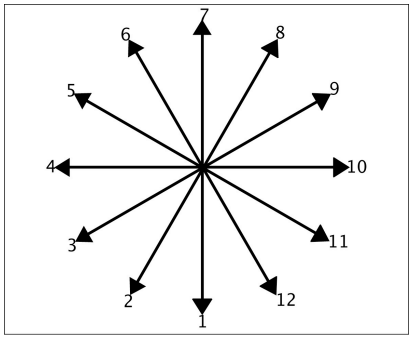

Figure 1. The 12 different line directions: one every 30°. Note that each melody line started at one end of the tablet and ended at the other end of the tablet. One melody line went from 2 to 8, another one from 4 to 10 etc. The succession of tones on a melody line would go in the opposite direction if drawn backwards (down or against reading direction). The start and end positions of the pen mattered: only the tones in the part of the melody line that the pen touched would be played.

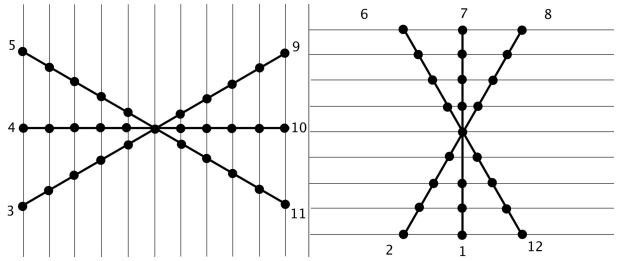

Figure 2. Tone grids. How tones were spaced evenly on the melody lines. If melody lines were mainly horizontal 11 tones were distributed evenly on each melody line according to a vertical tone grid. If melody lines were mainly vertical 9 tones were distributed evenly on each melody line according to a horizontal tone grid.

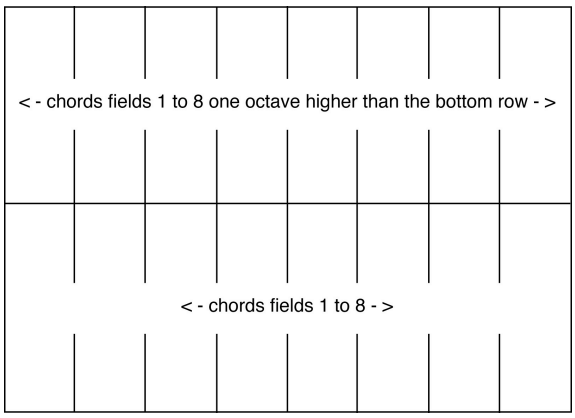

Figure 3. Chord fields on the tablet. Eight chords were placed in fields along the x-axis. There were two rows of eight chord fields. Chords in the upper row were one octave higher than chords in the bottom row.

In each play session, the two experiment participants were positioned as musicians in an ensemble: They partly faced each other and an audience: A video camera (see figure 4). The video recorded each play session. The laptop that ran the music software also recorded and stored

interaction data and relevant software events. The shared interface application did not have a visual interface. Players could focus entirely on the physical pen tablet and each other. At the beginning of each play session an instructor introduced the team to the sound interface: How to draw melody lines in different directions, play chords in different fields. Then players engaged in two kinds of play:

Part 1 (learn): Players were asked to play together for two minutes and get to know the interface. After the two minutes, players could ask questions.

Part 2 (collaborate): Players was asked to play for another two minutes and collaborate about making a melody together.

After the second part there was a short interview, where players could talk about their play experience.

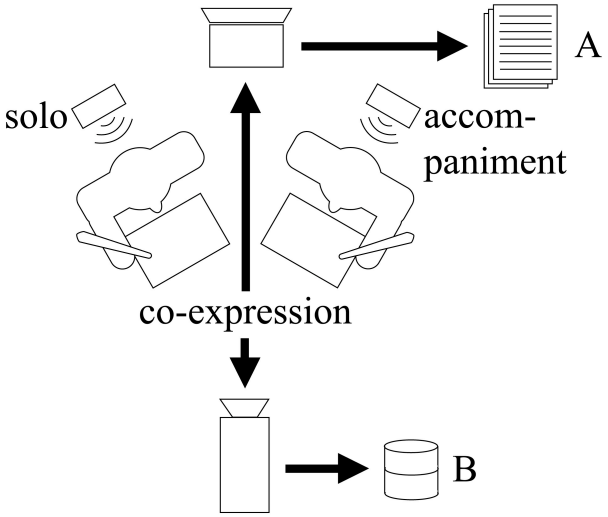

Figure 4. Diagram over experiment setup. Two pen tablets were connected to a laptop that recorded and stored all interaction data and relevant software events into data files [A]. A camera video filmed and stored the documentation of two participants' collaboration into a video database [B]. A speaker placed behind each participant played the corresponding solo and accompaniment instruments.

The measured interaction data regarded mutual expression: Expressional features for each instrument, navigation, amount of chords per phrase and pause, phrase lengths, pause lengths and general activity and timing. The video analysis was based on "thick description" that is typically used in ethno methodology [4]. For each team individual and co-expression was described and the succession of these different relationships were described according to participant gesture, posture, gaze, talk and pen movements.

3. INTERACTION DATA RESULTS

This section presents some general characteristics of how 7 teams engaged in solo and accompaniment play in part 2 (the collaboration session). In the below sections the collaboration is seen from different perspectives:

3.1 Navigation in the Two Interfaces

Figure 5 and 6 give an overall impression of how participants in each team used the expression framework that the simple solo-accompaniment interface offered:

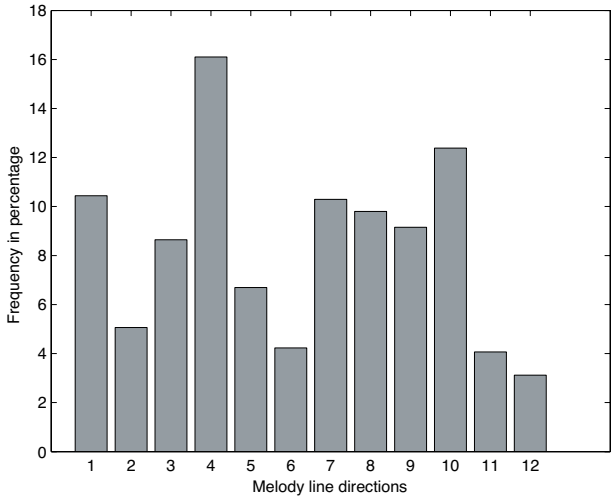

Figure 5. Most popular melody line directions, all teams. X-axis = the 12 melody line directions. Y-axis = frequency in percentage. Note that the most popular melody lines were drawn in the directions 1, 4, 10 and 7. This indicates that players oriented themselves according to a cross (see also video 2B, Left player). Other popular melody lines were 8, 9 and 3. Seen from an ergonomic perspective this indicates that for a right handed person it took less wrist motion to draw lines in a diagonal between the bottom left and top right corners.

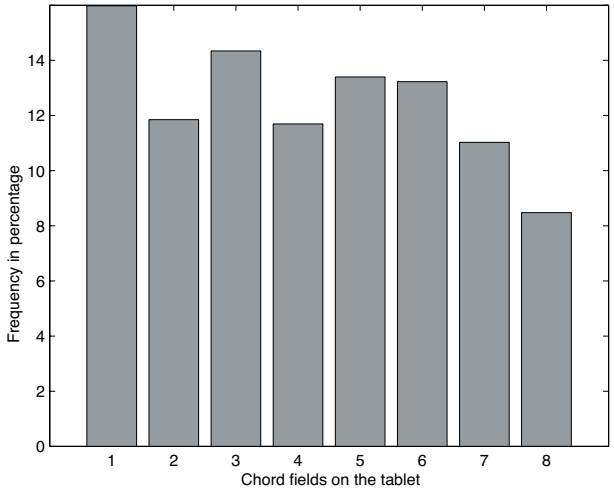

Figure 6. The most popular chord fields. All teams. X-axis = the 8 chord fields. Y-axis = frequency in percentage. Note that all chord fields were used fairly evenly, but that the field in the left side was most popular. Videos of the teams show that there was a tendency that players made chords in reading direction, starting in the left side.

3.2 Chords per Melody Phrase and Pause

In order to get an idea of how the accompanying player arranged chords according to the melody, the amount of chords per melody phrase and pause were registered. It was clear from the histograms over chords per phrase that there were a more varied amount of chords per phrase than chords per pause. The majority of chords per phrase ranged between 1 to 7 and the majority of chords per pause ranged from 1 to 4. This shows that there was a small tendency that the accompanying player activated chords while the solo player was active. Team 6 differed from the rest of the teams with only one chord overlapping a phrase. This team also had 3 or more chords per pause. This indicates that team 6 took turns playing chords and phrases in a call and response manner. Most players only activated one chord per pause.

3.3 Activity and Duration

Amount of tones and chords showed how active the different teams were. Phrase and pause lengths gave an overview of the balance between phrases and pauses. According to table 1 all teams made more tones than chords per second. This could be because tones were positioned on one line. It was clear in the videos that players tapped chords with the pen in the different fields on the tablets. This slowed down the process of activating chords fast after each other: players had to orient themselves which field they tapped in, before they tapped. However, in team 1, 5 and 6 the ratio between chords and tones was relatively low. The low amount of both tones and chords and the low ratio of chords to tones shows that some teams may have regarded the solo and the accompany instruments as two solo instruments. From the video it was clear that team 6 took turns playing chords and melody phrases.

Phrase lengths varied greatly with the shortest phrases at 150 ms and longest phrases at 12 seconds. In only one team the majority of all phrases were between 400-1000 ms. Pauses between two melody phrases were more similar in length. In all teams, apart from team 6, the majority of pauses were between 100-1000 ms. Team 1 also had a concentration of pauses between 1400-1800 ms. This can indicate that the soloist may have given the accompanist room to add chords between phrases and that there were sections of turn taking.

Teams	Tones	Chords	Ratio
1	2.0	0.8	2.5
2	4.2	0.8	5.25
3	4.7	1.4	3.36
4	4.9	1.5	3.27
5	1.3	1.0	1.30
6	1.2	0.6	2.0
7	3.3	0.7	4.71

Table 1. Amount of tones and chords per second and ratio of chords to tones.

3.4 Play Dynamics

Through an inspection of graphs that display the increase of phrases, chords and tones in all collaboration sessions it was possible to see how players paced their play tempo according to each other. In all teams, except from team 6, it was clear that team members shared pauses. Team 3 and 5 increased chords and tones in a constant manner. In teams 1, 2, 4 and 7 tones increased rapidly in several sections or "steps", compared to the increase of chords. This shows that melody lines were drawn in a fast manner: a) if steps were short, tones were drawn fast after each other in rapid strokes as if they were chords, b) if steps were long players would probably have activated a bunch of tones in a more random manner. Apart from team 1, 3 and 6 chords were activated in a fairly regular manner. This indicates that the chords were used to create a background rhythm for the melody. In other cases chords increased in steps that corresponded to phrases in the melody (see figure 7). The turn taking structure was very clear in team 6 (see figure 8).

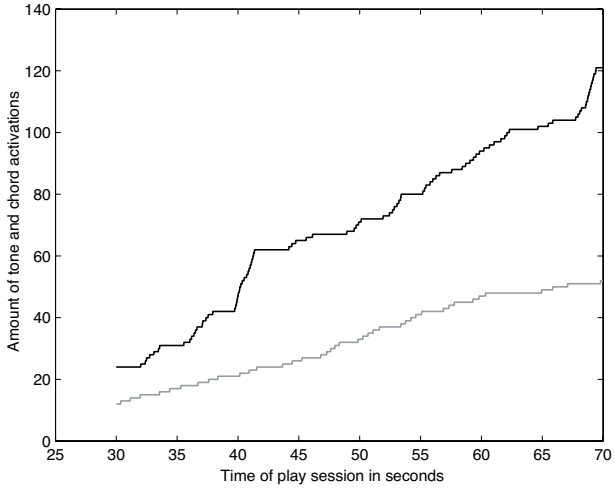

Figure 7. The total amount of tones (black) and chords (grey) in team 1, part2. X-axis = play time in seconds, y-axis = amount of tones and chord activations. Note that

the steps in the chords between 45 and 60 are offset from the steps in the melody. This indicates turn taking.

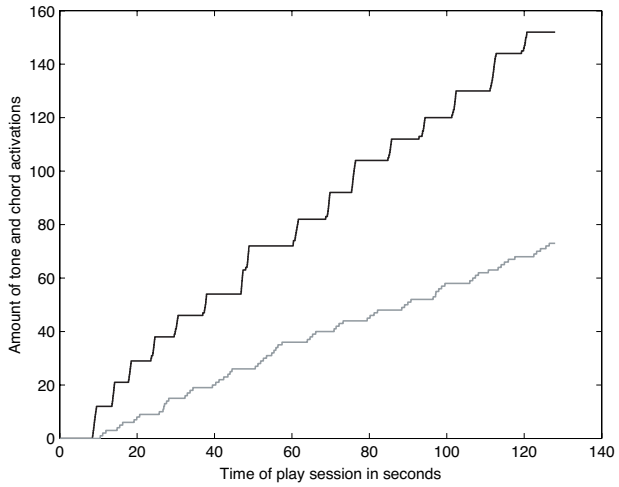

Figure 8. The total amount of tones (black) and chords (grey) in team 6, part2. X-axis = play time in seconds, y-axis = amount of tones and chords. Note the clear turn taking pattern.

4. VIDEO ANALYSIS

From the video analysis we learned how future solo and accompaniment interfaces could be designed when understanding a) what players expected from the interface and b) which relationships player teams engaged in. Through the video analysis the following kinds of interaction took place: 1) Players coordinated their individual and mutual action according to graphical parameters and expected the graphical parameters to correspond with sound parameters. 2) Harmony was important: a) soloists searched to activate the same tones as were contained in chords and b) accompanists searched to activate the chords that contained the tones appearing in the melody phrases. 3) Players made variations of previous play. 4) Often the accompanist guided the soloist or created a rhythmical base for the soloist. 5) Repeats of the same melody phrases and chords helped players relate to each other. 6) Few tones per melody phrase and a succession of only 3-4 chords at a time strengthened the collaboration. 7) There was imitation: Chords became tones in a melody and single tones or fast successions of tones became chords. In the following some examples are described along with references to videos that can be found in the appendix.

4.1 Graphical Navigation

Players in all teams drew lines and made chords in reading direction. In team 2, Right made chords along Left's melody line and ended at the spot where Left ended her phrase (see video 2A). Note that Right sometimes tapped the chord in low volume in order to check if it also matched harmonically. With a graphical match there was clearly an expectation of a match in harmony as well. A coupling of graphical navigation and harmonics would make sense to players. In team 3 the player who made chords drew circles around the spots where he activated chords. In team 4 and 6 chords were also drawn on a line, and in team 6 it was important for Right to demonstrate her chord path to Left. Note that she positioned the tablet on her leg, so that it was tilted towards Left (see video 6E). In team 6 Left explored melody lines by revisiting previous lines and crossing a previously drawn diagonal line with another diagonal line (see video 6B). Left also tried to draw lines through the points where the chords were made (see video 6C). In team 7 Right suggested that Left would follow her succession of chords (see video 7D).

4.2 Harmony

The teams were very aware of harmonic matches. To reach a harmonic match seemed to be a desired goal. In team 1 Left smiled when she partly succeeded in hitting a tone that matched Rights chords (see video 1C). In video 1G both tried to end in a matching harmony. Team 2 agrees to end their play session because they ended on the same tone (see video 2D). Right recognized a chord succession in a pop song in team 4 and repeated this (see video 4A). Left sang along with the tune, but was not able to reconstruct the melody with his pen. Often Left played the melody in low volume, because he was unsure of what he drew and perhaps wanted to avoid bad harmonic results. Team 5 had some success with a melody matching the chords (see video 5A and 5B). Note that Right repeated the succession of chord to establish a rhythm and a harmonic base for Left's melody tones. Note that Left first tried to find the tones that matched the chords in 5A, then in 5B she played a melody on top of the chords.

4.3 Variations

Team 1 repeated and varied clusters of 3 to 4 chords (see videos 1A, 1E). Note that in 1A Left also varied her melody by adding a tone. In video 1B the variation happened because Right could not remember the exact spots where she activated the chords: her rhythm was too fast. In video 1D Left made the same downwards line offset in the x-direction as if she expected that the succession of tones would vary. In team 2 Left repeated and varied the volume and pace of horizontal lines made in reading direction (video 2B and 2D). Note in 2D that the horizontal lines were repeated downwards in order to see if any changes happened according to the changed y-position. In team 6 Right made a variation of her chord progression by reversing the draw direction and the order of chords (see video 6B).

4.4 Chord Rhythm as a Base for Melody

In all teams, except from team 6 and only till some extend team 7, there were examples of chord rhythms that either contained repeated successions of chords or seemingly random chords were played back in a regular

fashion (see video 5A). In some cases players paused their chord rhythm to time chords with tones (see video 2B and 2C). In team 3 Right carefully timed his chords to key points of Left's melody. This made the chord rhythm irregular. Right then asked Left: "Can you make a melody on it?" (See video 3A). Team 6 differed from the other teams in that players avoided simultaneous play. They took turns making melody tones and chords.

4.5 Connection: Repeated Chords and Short Phrases

In each team, players were able to follow each other when there was some consistency in the succession of chords. Since harmony was important, players who played melodies had time to find tones that matched repeated chords. When team members made short melody phrases where each tone sounded separately from the other it was easier for the player who made chords to follow. Typically the player who made chords tried to find "key points" in the melody phrases where she could add some chords (see video 7A and 7B). In video 3A this caused an irregular chord rhythm.

4.6 Imitation

Melody phrases functioned as chords, successions of chords were turned into a melody and chords with a wide chord spread became melody snippets. In team 3 Left tapped tones as if they were chords (see video 3C). Right started to paint with the pen and then tap chords along invisible lines as if they were tones in a melody (see video 3B). Note that Right drew Left's attention with a "knocking" gesture, perhaps because Left continued to draw random lines that were difficult to follow. In team 7 Right suggested that Left would play her melody phrases as chords (see video 7E).

4.7 Remarks about Difficulties

Typically when players were unsure they activated tones and chords in a low volume. When they were more confident, they increased the volume of their play. Volume was not used as an expressional element other than to indicate uncertainty. Players were able to repeat a succession of 2-4 different chords, but had difficulties remembering 5 and more different chords in a succession. Similarly, players had difficulties remembering a succession of chords if they were activated in a fast manner. As soon as melody phrases contained many tones that were activated fast after each other it was difficult for the other player to accompany the soloist with chords. In most teams it was the person who played the chords who guided the collective play. This could be due to the two kinds of interface designs: The keyboard like chord interface was clearly easier to master than the melody line interface.

5. DISCUSSION

From the interaction data and the video analysis it was clear that teams of non-musicians used their experience from conversation when engaging in solo and accompaniment play. One team avoided simultaneous play completely, while there were sections of turn taking in other teams. Soloists mainly had relatively short pauses (below one second) between their phrases: Like in a conversation "talk" was continuous.

Even though the solo and accompaniment was relatively simple, there were some usability issues. The fact that players mainly drew lines in a cross could indicate that the amount of melody lines was too big. It would have been enough with four melody line directions - eight, if ergonomic aspects should be taken into consideration. Furthermore, it was confusing to the soloists that the melody lines were independent of the x and y start position. Soloists expected that the same line drawn at different areas of the tablet surface would sound differently. It can be discussed whether it would be easier to play melodies, if the tone grid contained less grid lines (see figure 2). With fewer tones per melody line, the ratio of chords to tones would perhaps be different. Navigation could be improved with a graphical visualization of phrase paths and chords spots on both tablet surfaces. However, if this visualization existed, our hypothesis is that players attune more to each other on the graphical level than on the harmonic and temporal level. Instead we recommend that a compositional aspect would be added to the interface where a soloist and an accompanist can build their own chords and melody lines from scratch. In this way players can rehearse while building melody lines and chords. This will also help them to remember the available musical content while playing together.

6. CONCLUSION

This paper presented a shared music improvisation interface where teams of two players engaged in a simple solo and accompaniment relationship. Through logged interaction data it was possible to describe and characterize typical relations in novice improvisation: There were signs of "projectability" in that solo players imitated chords and accompanists imitated melody tones. Players related musically to each other: 1) accompanists in most teams established a ground rhythm, 2) players searched for a harmonic match and 3) players searched for thematic development by varying previous phrases and chords. The video analysis revealed how players negotiated solo and accompaniment play and how they navigated, expressed themselves and related to each other through the two different instruments. Based on the interaction data results and the findings in the video analysis we now propose some design guidelines for shared music improvisation interfaces that can support solo-accompaniment relationships through additional sound feedback.

6.1 Design Guidelines

If a team of non-musicians should play together in a solo and accompaniment manner, the interface should:

1) challenge players to gradually learn how to use the interface so that no graphical cueing is needed.

2) challenge players to relate to each other harmonically and rhythmically (players already did this).
3) challenge soloists to shorten phrases so that collaboration is strengthened (short phrases strengthened collaboration).
4) vary the pause lengths between phrases and chords so that play diverges from tacit conversational rules and becomes more musical.
5) challenge players to repeat and vary a musical theme (some players revisited previous phrases and chord successions to orient themselves towards each other)
6) challenge players to engage in thematic development (when they become more familiar with the interface).

If additional sound feedback should be able to support co-expression in a solo and accompaniment improvisation interface, there should be some real time and memory based co-expression analysis algorithms that:

1) identify harmonic relations
2) identify a range of rhythmical relations
3) notice regularity of tone and chord activations
4) identify rhythm patterns in individual play
5) identify repetitions and variations
6) notice if length of phrases increases or decreases
7) notice if time between chords increases or decreases.
8) notice the ratio of chords to phrases
9) notice when a thematic transition has happened

Acknowledgments

We thank university students at Aalborg University, Denmark for their participation in the study.

7. REFERENCES

[1] Blaine T. and Forlines, C. "JAM-O-WORLD: Evolution of the Jam-O-Drum Multi-player Musical Controller into the Jam-O-Whirl Gaming Interface", In Proc. Int. Conf. New Interfaces for Musical Expression (NIME2002) Dublin, 2002, pp.1-6.

[2] Blaine, T. and Fels, S. "Contexts of Collaborative Musical Experiences". In Proc. Int.Conf. New Interfaces of Musical Expression (NIME2003), Monreal, 2003, pp.129-134.

[3] Cappelen, B. and Andersson, A.P., "Expanding the Role of the Instrument". In Proc. Int. Conf. New Interfaces for Musical Exporesion (NIME2011) Oslo, 2011, pp.511-514.

[4] Crabtree, A., "Designing Collaborative Systems: A Practical Guide to Ethnography", Springer, London, 2003.

[5] Jordà, S., Geiger, G., Alonso, M., Kaltenbrunner, M., "The reacTable: Exploring the Synergy between Live Music Performance and Tabletop Tangible Interfaces", In Proc. Int. Conf. Tangible Embedded and Embodied Interaction (TEI2007), Baton Rouge, 2007, pp.139-146.

[6] Juul, J., A Casual Revolution: Reinventing Video Games and Their Players, MIT Press, 2010.

[7] Sacks, H., Schegloff, E. A., Jefferson, G., "A Simplest Systematics for the Organization of Turn-Taking for Conversation", In Language, Vol. 50, 4. Linguistic Society of America, 1974, pp.696-735.

[8] Swift, B., Gardner, H., Riddell, A., "Engagement Networks in Social Music-making". In Proc. Int. Conf. OZCHI (OZCHI2010), Brisbane, 2010, pp.104-111.

[9] Weinberg, G., "Interconnected Musical Networks: Toward a Theoretical Framework", in Computer Music Journal, vol. 29, No. 2, MIT Press, 2005, pp.23-39.

[10] Weinberg, G., "The Beatbug – Evolution of a Music Controller", in Digital Creativity, vol. 19, No. 1, 2008, pp.3-18.

[11] Wigram, T., "Improvisation. Methods and Techniques for Music Therapy Clinicians, Educators and Students", Jessica Kingsley Publishers, London, 2004.

8. APPENDIX

Links to videos mentioned in this paper. Please use the following password to see the videos: amshSMC2012.

1A: http://vimeo.com/39471136
1B: http://vimeo.com/39471164
1C: http://vimeo.com/39471193
1D: http://vimeo.com/39471226
1E: http://vimeo.com/39471260
1F: http://vimeo.com/39471297
1G: http://vimeo.com/39471322
2A: http://vimeo.com/39471352
2B: http://vimeo.com/39471382
2C: http://vimeo.com/39471412
2D: http://vimeo.com/39471447
3A: http://vimeo.com/39471473
3B: http://vimeo.com/39471496
3C: http://vimeo.com/39475987
4A: http://vimeo.com/39471535
4B: http://vimeo.com/39471562
4C: http://vimeo.com/39471597
5A: http://vimeo.com/39471633
5B: http://vimeo.com/39471679
6A: http://vimeo.com/39471714
6B: http://vimeo.com/39626842
6C: http://vimeo.com/39472725
6E: http://vimeo.com/39471779
7A: http://vimeo.com/39471803
7B: http://vimeo.com/39471826
7C: http://vimeo.com/39471850
7D: http://vimeo.com/39471874
7E: http://vimeo.com/39471918