

Open-Track Stickers: Musical Collaboration Across Cultures of Music

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ABSTRACT

Emerging technologies allow new forms and methods of collaboration to occur between different genres, (such as mash-ups, remote performances, sharing of recorded materials) and over long distances. However, a gap in cross genre collaboration still exists on a local scale. Open-Track Stickers is a method of promoting musical collaboration between different musical cultures by placing digital musical samples in physical space accessible via stickers. This paper provides documentation of the fieldwork and design process for the prototype of the Open-Track Stickers system.

Categories and Subject Descriptors

H.5.5 [Sound and Music Computing]: Methodologies and Techniques; H.5.3 [Group and Organization Interfaces]: - Asynchronous Interaction, Collaborative computing, Computer-supported cooperative work, Organizational design;

General Terms

Documentation, Design, Experimentation, Human Factors.

Keywords

Music, community, physical presence, collaboration, QR-Code, social computing, network, cultures of music.

1. INTRODUCTION

The encoding of music in standardized digital forms such as MIDI and Open Media Files allow a fluid and unconstrained method of musical creation. Not surprisingly a number of software tools, online services and communities have been developed to enable collaboration between musicians. In addition to home studio software suites, some focuses include real-time remote performances, sample distribution, or collaborative authoring[1].

Musical collaboration both in the pre-digital era of modern music and through contemporary digital use has played a significant role to musicians in the development of new genres through experimentation, and also in community building[2].

However the majority of music does not subsist in just a digital context. Live performances, apparel, community are all manifestations that contribute to a total culture of music, of which the physical locality plays an important role.

Though rich in functions and creative freedom, digital tools for musical collaboration have traditionally not utilized an explicit awareness of the geographical context in which music is borne.

Locality and community building is significant to a musician in their success. It also contributes to a social value and overall experience for both musicians and consumers.

Collaborations exist on a local level today, but are often impeded by the cultures in which they are developed from branching into other genres or creating new ones entirely.

Open-Track Stickers addresses the question of how creative collaboration between independent musicians of different cultures of music can inspire new qualities and combinations of music within a local context.

Open-Track Stickers uses a combination of emerging mobile technologies, existing music editing and creation tools, online databases and metadata, and simple distribution in physical space via traditional “band stickers” to give social networking and collaboration in musical cultures a hybrid physical / digital presence.

2. CULTURES OF MUSIC

The design team defines a culture of music as a community of musicians, people, and supporting infrastructure identifiable by the association with a particular musical style, genre, or subset thereof. Members of one culture of music often belong to one or more others. A culture of music is not limited to an ethnic, religious, or gender based grouping. While those attributes may be present and visible, the concept of music as central watering hole is the focus.

3. FIELD STUDY

In determining a design focus within the music community of Malmö, Sweden the design team conducted a field study over a week consisting of interviews, observations, and a probing kit.

The participants included a student of classical composition, a member of a Balkan band, a heavy metal band, and a musician who is part of a rock band and who also composes music digitally. All were from the Malmö community and independent, unsigned musicians.

The major findings of the study indicated:

- a) A strong but closed community within each of their respective cultures of music

- b) A tendency to collaborate with those already existing in their own culture of music
- c) Awareness of other cultures of music, but frustration with the lack of cross-over in musical expression between them
- d) The use of traditional means for self promotion (flyers, stickers, word of mouth, newspaper listings) in combination with digital tools (email lists, MySpace, websites).

4. OPEN-TRACK STICKERS

4.1 Project Description

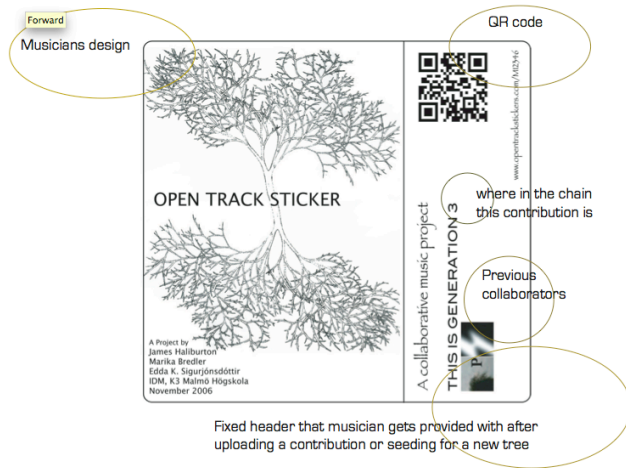


Figure 1 A QR-Code enabled sticker

Open-Track Stickers uses an organic branching network of files and participants to create iterations of musical tracks and links between musicians. It asks that participants download a musical file and create versions (branches) for redistribution and allows for the creation of entirely new material (seeds). It also provides a method for visualizing iterations and tracking the progression of branches.

From a participant's perspective Open-Track Stickers involves a multi-stage process, though it does not demand that a participant engage in all stages to take part.

It begins by discovery of a QR-Code enabled Open-Track Sticker "band sticker" (see Figure 1) placed in a public place by a band or musician already taking part in the process. These stickers are recognizable by an Open-Track Sticker logo and attached QR-Code.

The QR-Code enables the sticker to contain a link to an MP3 stored at a web address. A mobile phone which can read QR-Codes by camera (of which there are an increasing number of models) using freely available software is linked to a preview MP3 music file associated with the sticker. The preview file can be listened to in situ with the mobile phone.

A participant having listened to this file and wishing to build upon the track is prompted to save a unique ID, so that they may access a file later containing all tracks. A link is also given in text on the

sticker, so that one without a mobile phone or QR-Code access can take note of the web address, though the preview would not be immediately accessible in this manner.

Once at home (or wherever the participant has access to the Internet) they may enter the unique ID from the sticker at the Open-Track Stickers website. If the participant is not a member of the Open-Track Stickers community they are prompted to join. This allows them to create a user profile and to track and access the files that they upload and all subsequent iterations created thereof. A file including fully editable tracks, vocals, and instruments is downloaded for editing, manipulation, remixing, or augmentation. The use of Open Media Files (OMF) is encouraged to ensure cross program compatibility. The system gives the participant complete control to decide what type of changes they will make to the audio file.

Once the file is uploaded to the system, the participant is directed to a dynamically created QR-Code enabled sticker template which when distributed allows future users to have access to their altered file. Participants are free to print as many copies and variations with personalized artwork as they require. A submission also enables the participant to begin again with a new track of their own, if they so choose.

4.2 Branching growth factors

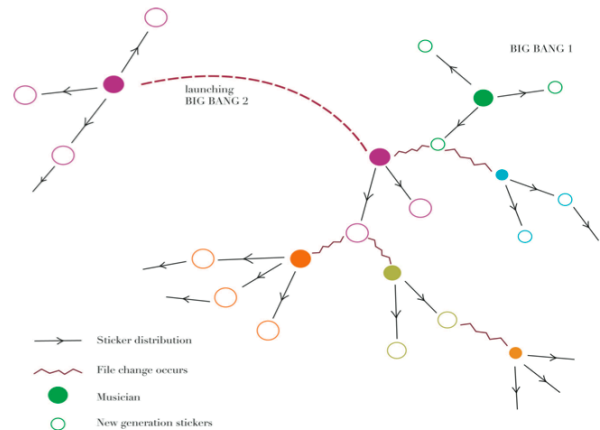


Figure 2 Growing network

Once a participant has contributed to the Open-Track Stickers database with a submission they are able to track the iterations of their file (see Figure 2). The number of branches of variations that their contribution receives depends on a number of factors.

- a) Number of stickers printed and distributed: A participant who prints only one sticker may reasonably expect to receive less traffic than a participant who prints several dozen.
- b) General interest: if the majority of people who listen to the track deem it to be unsuitable for their interests (due to taste, quality, or other subjective factors) a contribution may only appeal to a small audience.
- c) Sticker placement: Stickers placed in high traffic and visible areas or areas known to be frequented by musicians are expected to receive more contributions than secluded stickers. Environmental factors such as

exposure to rain may also play a role in the durability of the sticker.

- d) Recognition: A sticker containing identifiable artwork as a belonging to an artist whose work lends itself to remixing or augmentation may garner a reputation as a desired track.

4.3 Expected Participant Types

Open-Track Stickers expects three primary participant types.

- a) The Full Participant: The Full Participant would be characterized by taking full part in the process of obtaining new files, augmentation, redistribution of altered stickers, and distribution of stickers containing new roots.
- b) The Remixer: The Remixer is differentiated from the Full Participant in that they would not distribute new root seeds of entirely new sound files, but only redistribute augmented stickers.
- c) The Lurker: The Lurker does not take part in the distribution of stickers in any form, but uses already distributed stickers and sound files as inspiration and samples in their own work.

Other kinds of use of the stickers and sound files are also anticipated at different levels, such as sticker collectors or those who only listen to the sample tracks via QR-Code in situ.

4.4 Location

Sticker distribution is not required to stay local. However, a special focus is given to independent artists in the conceptualization of the system. Those taking part would be required to release the music available via stickers in a variation of the Creative Commons license to minimize the possibility of copyright infringement. The Creative Commons is an established license written to help promote the free distribution of media, in particular music, and has sought to associate itself with independent production, and has also been used in several experimental collaborative projects to date[2].

The sticker is also a natural and affordable promotional tool for the independent artist and requires no special equipment to produce and distribute.

The location in which a sticker is placed or distributed will be an important role in the creative outcome of the branching of the seed. A sticker containing traditional Balkan music placed near a record store where electronic DJs are known to frequent may receive a substantially different treatment than if the participant placed the sticker within a familiar Balkan community.

The goal of using the QR-Code enabled sticker is to move towards the physical manifestation of a digital file. This ambient familiarity with both the phone interface and sticker as media provide an accessible situation to enhance the participant's experience[3].

When participants first access a found sticker file at home they are asked to enter meta-data that includes the location in which the sticker was found or received. Participation in entering this data allows the originating musicians (there may be several, as it could be several generations into iterations) to track how their placement of the sticker has affected the musical results. A navigable visualization of all subsequent branches is also made

available to the participant based on what generation they first contributed to the process.

The Open-Track Sticker system lends itself towards artists who are looking to see options within their music, which they could not otherwise anticipate. It also seeks to create a greater understanding of local neighbourhoods and cultures of music within a small geographical area.

The system does not seek to manipulate the environment (the city or neighbourhood) as freeform instrument[4], but instead to utilize natural flow and tensions between communities and cultures of music, such as those found in Malmö, Sweden, to provide a social, experimental, and iterative musical experience.

4.5 Community building

Coupled with the awareness of local cultures of music, the inclusion of detailed (though not mandatory) profiles allows participants to make connections for musical collaboration or other social or professional reasons outside of the Open-Track Stickers context.

5. PROTOTYPE

5.1 Description

A simple working prototype of the Open-Track Stickers system, including QR-Code enabled stickers, branching online database and download / upload methods, and dynamic QR-Code generation, was produced for a presentation to faculty and students of Malmö University, and members of the local design industry in November of 2006.

Though not as robust as a full version, the prototype was developed in a two-day period, indicating the ease at which such a system could be implemented.

5.2 Prototype in Use

The prototype, when used in a full single-use scenario (sticker preview, full file download, upload, sticker redistribution) reinforced the seamless qualities that can be achieved between analogue and digital media, and between home and public usage.

The strength of the system relying on powerful existing and familiar technologies and recontextualizing them in new use situations became apparent. Access to the preview file was simple and provided a strong sense of reward in its immediacy.

A greater understanding of the relationship of the music file to the QR-Code was developed when the code image was generated dynamically and in the sequence of usage in the prototype testing.

Difficulty accessing preview files arose when resizing of the QR-Code image was performed in separate imaging programs prior to sticker printing, and should be addressed in subsequent versions.

6. TECHNOLOGY

The threshold for the use of technology by a participant is low. Open-Track Stickers only requires a home computer with Internet Access and sound editing software capable of handling OMF files. The experience of the user would be enhanced, however, by having broadband access to deal with large file sizes and a mobile phone with Internet access, camera and the QR-Code software installed.

Coding of a full version of the Open-Track Stickers front-end and visualization is expected to be relatively uncomplicated. The

database will be required to handle extreme scenarios of scalability due to the branching nature of the system and large file sizes.

7. DISCUSSION

Open-Track Stickers is in a stage ready for further development. A number of questions remain to be answered considering the use qualities that can only be answered in the deployment of such a system in a real use scenario.

With the field study, prototype usage and demonstration, the design team is confident that a full implementation in a community such as Malmö, Sweden would attain a level of sustainability and would prove a useful tool for musical exploration and creation. More in-depth observations of prototype usage would likely be very valuable in making remaining design decisions.

Questions regarding the use of stickers as a medium for distribution remain. Although stickers are regarded by the design team as an ideal method for distribution, it is recognized that scenarios of different media being used for distribution are quite plausible because of the unmonitored and open nature of how one may contribute.

The open nature of the system poses a number of questions of how content will be handled and if an organic community moderation will arise. The physical removal of stickers is one scenario of how tracks could be removed by other participants (or by non-participants).

Issues of trust arise for musicians when they are asked to give their music over to the public to be used and redistributed in unexpected ways. Simultaneously a reward for participation resides in this quality of surprise and inspiration (see figure 3).

Open-Track Stickers provides a framework for several usage scenarios. The ones required by the system to be a sustainable and growing entity have been outlined in this paper. However, a few other possible scenarios include: the creation of maps associated with music files; mobile phone sound editing suites for in situ interaction; musical tours through local communities; limited run stickers attaining value in their rareness.

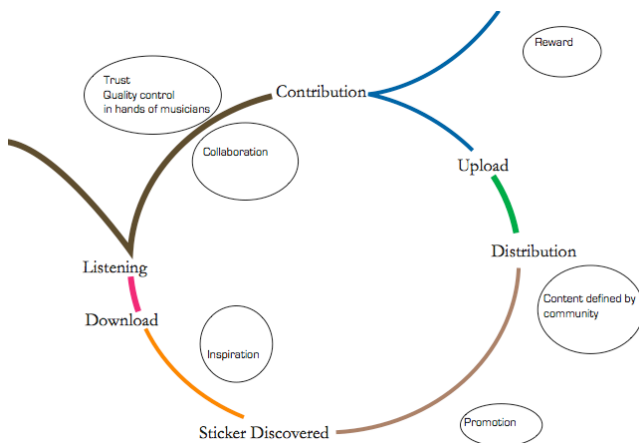


Figure 3 Value cycle

Several values which have proved important in other musical collaborative communities include: shared goals, reciprocity, engagement, awareness, and belonging[2]. Open-Track Stickers seeks to make these values inherent in its system while building specifically upon awareness and belonging with physically manifested collaboration.

8. CONCLUSIONS & FUTURE WORK

This paper has described the concept of Open-Track Stickers, a system to facilitate creative musical production and experimentation between cultures of music through the distribution of stickers containing links to accessible digital files. It also outlines some of the expected use qualities and affordances that such a system would offer in full implementation.

The next stage for Open-Track Stickers would involve a more robust prototype that includes visualization of the branching musical development, and implementation in a real world situation, involving several musicians or bands from different cultures of music. A participative study involving these bands and musicians producing many generations of musical files would be expected to provide significant insights into the true value that Open-Track Stickers can hold for musical creation, and the social nuances that surround it.

Further work in study and prototyping could reasonably provide a base of technology and content that could be scaled for full implementation.

9. ACKNOWLEDGMENTS

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