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Global Patchbay: developing Popular Music expertise through international collaboration

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The practice of music production is by nature, collaborative (Negus 1992, Kealey 1979). Furthermore, the connection which emerging technology now facilitates means that increasing numbers of practitioners collaborate with others around the world (Watson 2014). The way in which they do this is in keeping with Tapscott and Williams' (2006) concept of peer-production. The collaborative and technological skills to do this are now needed to work in Popular Music production. Furthermore, learning through collaboration with others is an established and effective concept (Bruffree 1999, Gaunt *et al.* 2013). However, it is rarely practiced in Universities due to a variety of organisational and cultural barriers. This paper shares the practice of Global Patchbay, an initiative aimed to bring together Universities and practitioners around the world and to exploit the potential of collaborative learning in music. The project initially involved partners in the UK and the US, and continues with others from South Africa, Australia and New Zealand. Learners have collaborated on recording projects, mixing projects, acoustic design projects and sound design projects using cutting edge participatory technologies as well as common audio production technologies.

Keywords: Online collaboration, Emergence, Music Production, Popular Music, Peer Production.

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Introduction

Global Patchbay is a virtual community and environment designed to facilitate collaboration in and around the practice of music production. It involves those formally looking to develop their skills (such as music technology students), practitioners who can see the benefit of collaboration to develop their work, and organisations ranging from Universities to Recording Studios. Organisations and individuals can manage their profiles on the site, and communicate using typical social networking features. Furthermore, previous projects are hosted on the site, and a series of 'templates' provide organisations and members with practical frameworks which can be used to collaborate on projects. Organisations can post projects, which members then join, the result of which is new working methods and new creative outcomes otherwise not likely to take place.

Theoretical Framework: The Case for Global Patchbay

Collective creation lies at the heart of most musical productions (Negus 1992, Kealey 1979). Until recently, musicians and technical personnel had to inhabit the same space in order to work together, though recent technological advances have enabled unimpeded collaboration across vast networks. In working together over networks, direct sensory input and output is replaced by electronic interfaces that do not allow for the same level of richness of direct communication. Considering these challenges, why do we consider Global Patchbay as a powerful vehicle to facilitate creative collaboration and to develop expertise? The barriers introduced by interfacing via networked technologies are not necessarily a handicap. The expression 'necessity is the mother of invention', hints at the potential of limitations to serve as a catalyst of novelty.

Facilitates Emergence

Complexity theory shows that a system can produce results beyond the capabilities of a single agent (Cilliers 2000: 25). Termite mounds are an example of this: no single termite has the knowledge and skills to construct a nest, yet these impressive structures emerge through simple interactions of a large number of agents (Turner 2011: 19). The South African writer Eugene Marais (1934) was the first person to consider a termite colony as a single organism. He incorrectly assumed that there is some form of executive control being exercised that coordinates the efforts of the individual termites. In fact, termite mounds arise through the indirect coordination that Piere-Paul Grassé (1959: 41) dubbed *stigmergie*. The construction of a termite mound starts with the random aggregation of grains of sand by a single termite. As soon as this heap reaches a critical height, other termites are attracted by the increasing concentration of pheromones that were deposited with the sand. The implication hereof, according to

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Bonabeau *et al.* (2000: 14), is that “the regulation of the building activity does not depend on direct interactions among workers but on the nest structure”.

Global Patchbay relies on a similar mechanism to facilitate projects: project proposals serve as conceptual structures that either succeed or fail to attract collaborators. Unlike traditional music production that is managed through executive control, the projects on Global Patchbay rely on self-organisation as a control mechanism. The remarkable aspect about self-organisation around a simple structure is that it can lead to end results above and beyond the potential of the agents involved. The paradox of an ecosystem like Global Patchbay, and other online collaborative platforms like Wikipedia, is that complex coordinated activities can exist in the absence of planning, project management, or even a shared vision among collaborators (Heylighen 2016: 4).

Encourages Scientific Method

In the absence of direct executive control, self-regulating systems rely on feedback to shape the future course. According to Forrester (1958: 39): “A feedback control system exists whenever the environment causes a decision which in turn affects the original environment.” By using the output of a system to modify the input of future behavior, the system ‘learns’. Sterman (1994: 292) describes this phenomenon:

All learning depends on feedback. We make decisions that alter the real world; we receive information feedback about the real world, and using the new information, we revise our understanding of the world and the decisions we make to bring the state of the system closer to our goals.

In the case of online collaboration via Global Patchbay, a platform is provided where data is shared, evaluated, revised and communicated. The structure of the collaboration effort, where participants are far removed from each other, requires an approach where progress is regularly shared. This type of peer-production naturally evolves into an orderly method for scientific enquiry. This is achieved because a hypothesis is formed. For example, a collaborator might envision that a creative goal might be achieved through either creative signal processing or rearranging the musical structure through editing. The data generated as a result of this process is evaluated by the production peers. If not found in accordance with the creative objective of the work, a new hypothesis is formed and the cycle is repeated until the product satisfies the goal. Since the collaboration is online, the communication of any results, which is the important conclusion of any scientific enquiry, is built into the process and therefore facilitates learning.

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Real World Relevance

While audio production is often described in literature (Hepworth-Sawyer 2008: xvi; Zager 2012: 11; Izhaki 2013: 28), as a functionally divided process of pre-production, tracking, mixing and mastering, this model no longer holds. In the past a tape recording had to physically move to different studios for subsequent steps in the production. Nowadays networks have fundamentally transformed the creation and consumption of music (Leyshon *et al.* 2005:177).

Aided by networks, music production for broadcast has shifted to a file-based model of production (Kovalick 2013; Pizzi & Jones 2014: 160). This approach to production is described by Hoffmann, Kouadio and Overmeire (2009: 380):

The file-based media production paradigm has established an innovative, content-centric pull-based work model in broadcast production, by replacing the old concept of linear push tape-based production. Production systems are no longer self-sufficient, independent islands that are rigidly interconnected with each other in a sequential production chain. Instead, they can now be highly integrated with each other, such that the same media can be accessed and processed in parallel by multiple clients.

The advantage of Global Patchbay is that the nature of the platform necessitates a shift towards file-based production. When used in an educational context this approach is much closer to the methodologies currently employed in the industry, and therefore, students are better prepared for the future challenges they might face.

Agile

While the structure of Global Patchbay facilitates creativity to emerge through iterative cycles with real world relevance, it is noteworthy that it does this without being rigid. The platform is remarkably agile and does not place limits on the kind of creative production that can be facilitated as is evident by the diverse projects that have been hosted by Global Patchbay in the past.

Case Studies and Practical application

The approach facilitated by Global Patchbay includes practitioners and Universities from around the world, collaborating over music production and related activities such as acoustic design. The overall initiative involves a number of projects each of which aims to reflect the practice of collaboration in real world music production practice. Each project is designed to develop the expertise of those involved, and also to interrogate the practice of collaboration—particularly with respect to any outcomes achieved through this approach.

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A variety of projects have presently been undertaken including two-way critical listening, three-way critical listening, recording/remixing projects, sound design projects and acoustic design projects. Furthermore, the work continues to find new ways of replicating the collaborative element of music production by way of future project initiatives. In the three-way critical listening project, music produced by one cohort was critically appraised by a second cohort in another country in real time using videoconference. The initiating cohort were able to see the immediate response of the evaluating cohort on screen, as well as discuss the finer points of the work after playback. The three-way critical listening work took a similar approach but with the addition of a world-leading record producer who provided the principal critical listening evaluation expertise. In this activity, the record producer evaluated material from two cohorts and discussion took place between the three sets of participants, again using participatory technologies. With the recording/remixing projects, an initiator (University or industry practitioner) provided material to a project 'actor' to work with—this typically involved multitrack session masters which could be mixed or remixed as appropriate. Communication could take place between the project initiator and the project actor, ultimately resulting in the project initiator giving feedback on the work produced. The sound design project involved project initiators in the form student music technologists in the UK providing finished sound design work for a cohort of film production students in Australia. The Australian cohort critiqued the work and provided feedback to the project initiators. With the acoustic design projects, an Australian recording studio which was to be rebuilt provided the back-drop for a group of UK students to re-design.

For the purposes of this paper, three of the projects are provided as case studies. The first is what may be considered to be a 'remix' project, where an orchestral recording from South African was used by a student in the UK. The second was a mix project where the source material came from a student and music producer in the US which was then mixed by a UK-based student. The third is a further 'mix' project, though in this case, the material came from a commercial studio for mixing by a UK student. Clearly, using just three cases cannot address fully the issues with collaboration. However, these three cases have been chosen because they effectively interrogate the typical 'barriers' or interfaces which effect successful collaboration. For example, the first case study centres on the interface between classical music (with its established culture) and contemporary music production techniques (in the case here, the genre of 'Trap'). The project undertaken in the first case study also has to overcome cultural differences between South Africa and the UK. The second case study centres on the differences between the US and the UK. Finally, the third case study

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explores the interface between the professional recording world and that of the aspirant.

Case Study #1: South African orchestral recording remixed

With this project, the session master of a high quality orchestral recording produced in South Africa was provided for a music technology student in the UK (the project actor). The project actor used very small elements of the recording and imported them into PropellorHeads Reason software to be manipulated and moved around for the purposes of producing a remix.

In interview, the project actor described the source material as attractive to him because it provided an opportunity to do something abstract, and to undertake work which no-one else was likely to do. He also decided to use Reason for its ability to generate what he describes as 'abstract sounds' quickly and easily. Out of the complete recording, only nine seconds of the audio was used. As an influence, he described aiming to emulate the work of DJ Rashad, a pioneer of the Chicago-originated 'Footwork' genre and part of the Teklife crew. This sound was described as typically consisting of 'short stabs over a rolling 808 drum' and interestingly, often featuring compound time signatures (unlike most other dance music). In using Reason to bring about the remix, he described making it more rhythmical and using filter gates and panning to achieve the desired effect.

When the project initiators listened to the remix, their main comments were that of the missed opportunity to use more of the original source. Artists such as Norman Cook and Moby were cited as practitioners more adept at being 'true to the original'. The suggestion was made that the many 'percussive elements and timbres' could be used more, typically reversing them or octave shifting to produce an interesting result.

The main outcomes from this collaboration are therefore that the project initiator chose to produce a style which rarely uses sampled orchestral recordings in its palette and for this reason, it deviated a long way from its source. Whilst it could be argued that the orchestral recordings provided a novel ingredient, this was not something which was recognised to the project initiator (it would be interesting to hear the views of typical 'Footwork' music listeners on this point). The manner in which the project actor used the material exposes how, when working virtually, appreciating source material and the intention of the producer/initiator can be more difficult.

Case Study #2: jazz mix

With this project, a student and aspirant music producer in the US provided the session master of a jazz recording which was mixed by a music technology student originally from Bulgaria now based in the UK. The original session was

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recorded with the band in one room with the use of an omnidirectional microphone in the centre and additional close miking on all of the instruments. The drum overheads were described as the ‘basis of the sound’, and in the originator’s own mix, the room sound provided a small element to give ‘flavour’.

In describing the mixing process, the project actor firstly referred to the time-consuming process of moving some tracks into time. He also described the challenge of mixing a track when not having been in control of the recording – for example, the choice and placement of microphone and placement effectively predefines the mix. The experience showed him how underdeveloped his mixing skills were, the need to pay more attention to his own recordings bearing in mind how they may be mixed by others, and how much more difficult it is to deal with acoustic instruments rather than electronic.

After listening to the mix, the project initiator stated that the project had taught him much about ‘intention’. He quoted Victor Wooten’s point that a child picking up a bass guitar may produce sounds which he had never thought of – the project was the mixing equivalent of this. The result was something different from his own intention, and coming from a different angle.

The main outcomes are therefore how the mix process cannot be fully disconnected from the recording process, and working with other people’s material challenges ways of working and can teach a great deal. However, it also showed how bringing in new collaborators can push a project to produce new results previously unthought-of.

Case Study #3: ‘Trap’ remix of an acoustic singer

With this project, the project initiator was a professional music producer who provided the session masters for an acoustic singer. A music technology student in the UK (project actor) remixed the track into a ‘trap’ style.

When interviewed, the project actor described the material as attractive to him partly because of the clear strong vocals which would provide a good basis. He observed that lots of work had gone into the recording process, with extensive instrumentation. When doing the remix, he described how undertaking this process had meant him taking longer over the project. For example, he had started several different versions and given up on them before focussing on finishing his final version. This was mainly because of the need to understand the existing recording, to appreciate what the artist and producer had done, and what their intention was. Partly for this reason, the ‘electronic/trap’ influence was toned down considerably compared with other tracks which had been previously produced.

The project initiator was very positive about the remix both in terms of its technical proficiency and stylistic approach. For example, he was complimentary

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of the manner in which hooks were used and repeated, parts coming from left and right and used of interesting processing. He did provide some further ideas for developing the 'front to back' of the mix through use of reverb, delay, modulation or tape saturation. However, overall he was very positive over the fact that the 'urban' style had not been over-hyped and that the approach whilst taking the artist's music in a new direction was sensitive and suited her style.

The main outcomes here then, are how, when working with other people's material, it takes time to understand the artist, producer and their approach. When compared with constructing a track from scratch, sensitivity and thought is needed. When it is done well though, it can push the material into new realms as happened here.

Summary

In summary, these projects explore a number of themes and some key common outcomes emerge. Firstly, the novel approach which the platform facilitates enables new ways of working which deviate from the well-worn path of pre-production, recording, mixing etc. Just as producing music with a group of people gathered in a studio has been the standard approach for over fifty years, the new construct of a virtual production path changes what is possible. This produces value to the project initiator in the delivery of novel new recording masters. The project actor needs sensitivity and understanding of the 'intention' of the project initiator though. Where this is not considered (and case study 1 is perhaps the most poignant example of this), the results may not work for the project initiator. They may be hugely creative but not sensitive to the original in a way in which working in the same room would be. Where appreciation and sensitivity exists though, results can be good for both parties in case study 3. There are many challenges for project actors though. They need to take time to understand the recordings and the intention of those involved. They may also need to work hard to understand how the recording process has taken place as part of this. Lastly, these projects all expose the value of exegesis and the value of being able to explain approach taken in a project.

References

- Bonabeau, E., Guérin, S., Snyers, D., Kuntz, P. & Theraulaz, G. 2000. Three-dimensional architectures grown by simple 'stigmergic' agents. *BioSystems*, 56(1): 13–32.
- Bruffee, K. 1999. *Collaborative Learning*. Baltimore: John Hopkins University Press.
- Cilliers, P. 2000. What can we learn from a theory of complexity? *Emergence*, 2(1): 23–33.
- Forrester, J.W. 1958. Industrial dynamics: a major breakthrough for decision makers. *Harvard Business Review*, 36(4): 37–66.

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- Gaunt, H. and Westerlund, H. 2013 *Collaborative Learning in Higher Music Education*. Farnham: Ashgate.
- Grassé, P.P., 1959. La reconstruction du nid et les coordinations interindividuelles chez *Bellicositermes natalensis* et *Cubitermes* sp. la théorie de la stigmergie: Essai d'interprétation du comportement des termites constructeurs. *Insectes sociaux*, 6(1):41–80.
- Hepworth-Sawyer, R. 2008. Introduction. In: R. Hepworth-Sawyer Ed. *From demo to delivery*. Burlington: Focal Press: vx–xviii.
- Heylighen, F., 2016. Stigmergy as a universal coordination mechanism I: Definition and components. *Cognitive Systems Research*, 38(2016): 4–13.
- Hoffmann, H., Kouadio, A. & Overmeire, L. 2009. Broadcast Applications. In: P. Schelkens, A. Skodras & T. Ebrahimi Eds. *The JPEG 2000 Suite*. Vol. 15. Chichester: John Wiley & Sons 377–420
- Izhaki, R. 2013. *Mixing audio: concepts, practices and tools*. Oxford: Focal Press.
- Kealey, E. 1979. From Craft to Art: The Case of Sound Mixers and Popular Music. *Sociology of Work and Occupations*, 6(1), 3–29.
- Kovalick, A. 2013. *Video systems in an IT environment: the basics of professional networked media and file-based workflows*. Burlington: Focal Press.
- Leyshon, A., Webb, P., French, S., Thrift, N. & Crewe, L. 2005. On the reproduction of the musical economy after the internet. *Media, Culture & Society*, 27(2): 177–209.
- Marais, E. 1934. *Die siel van die mier* (The soul of the ant). Pretoria: Van Schaik.
- Negus, K. 1992. *Producing Pop: Culture and Conflict in the Popular Music Industry*. London: Arnold.
- Pizzi, S. & Jones, G. 2014. *A broadcast engineering tutorial for non-engineers*. Fourth edition. Burlington: Focal Press.
- Sterman, J.D. 1994. Learning in and about complex systems. *System Dynamics Review*, 10(2-3): 291-330.
- Tapscott, D. and Williams, A.D. 2006. *Wikinomics: How Mass Collaboration Changes Everything*. London: Penguin.
- Turner, J.S. 2011. Termites as models of swarm cognition. *Swarm Intelligence*. 5(1): 19–43.
- Watson, A. 2014. *Cultural Production beyond the Recording Studio*. New York: Routledge.
- Zager, M. 2012. *Music production: for producers, composers, arrangers, and students*. Lanham: Scarecrow.