Collaboration in the Spotlight: The Open Symphony Case

by Kate Hayes

A New Open Humanities

EDITOR'S SUMMARY

The voice of the performing arts is an important – though seldom heard – disciplinary component of information science research. The Open Symphony, a collaboration between a performing musician and computer science students, allowed for creative audience interaction with live music performances. But such interdisciplinary collaboration is difficult and needs to be put within the larger context of questions surrounding value, individual contribution in artistic expression and ownership in the performing arts. Indeed, tensions around the economics of art and commercial versus academic value may hinder collaborations between artists and academia, but with the right framework and definitions of value these efforts could lead to additional forms of cross-disciplinary exploration.

KEYWORDS

music	research and development
collaboration	interdisciplinarity
performing arts	colleges and universities
business	

Kate Hayes is a music artist and entrepreneur whose work centers on mutual engagement and collective expression. As a multi-genre singer, she has a keen awareness of both the relationship between music and its listeners, and the singer's unique position between the more subjective nature of music and the more concrete content of lyrics. Her work includes *Abstract Songs*, a collection of vocal compositions that challenges the audience perception of lyrical meaning; *Compass Rose*, using interactive technology to showcase traditional singing of female immigrants and; Open Symphony, a live music performance using audience interactive compositions and technology. Her latest project, CoreUs, is developing music composition styles and digital technology to disrupt the current roles within music performance, utilizing the audience as an additional creative source.

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In September 2014, I began working on a concept of audience interaction for live music as part of my master's degree at Guildhall School of Music and Drama (GSMD). The pathway of this masters was leadership (the other two being composition and performance). To give some idea of what *leadership* means in this context, the pathway was focused less on developing an instrumental skill or performance technique and more on developing an artistic craft, with a strong focus on collaboration – either with other musicians, with communities, with artists of other disciplines or in different fields. It provided a performance arts environment and a space to experiment with all aspects of what influenced you as a musician, something which is common in other art practices, such as visual art and theatre, but sadly often missing from formal music training. For the final exam, students present a subject, chosen by them, in a format of their choice. Some examples from previous presentations include an oboist collaborating with an electronic musician and light artist to explore the Japanese concept of Wabi-sabi; a flautist exploring the love songs of fruit flies to create a music piece and visual presentation; and a singer exploring her Israeli identity and how its history impacts on Palestinians today through Holocaust song and collaboration with Palestinian singers.

Although I am a singer, technology has always had a strong influence on my work, which uses different sound processing techniques, stereo and

Author Kate Hayes in performance

quadrophonic manipulation, and interactive technology. When I entered the program, my work was developing beyond integrating technology in music production towards joining technology and music to imbed people back in the music-making process. Rather than focusing on person-to-computer to create music, I was focusing on person-to-person *supported* by technology and music to create a true community of collaborators.
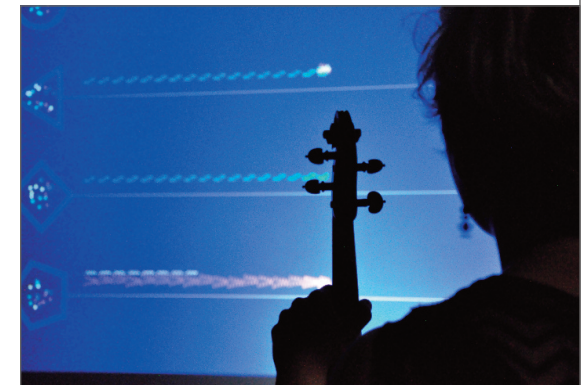
Open Symphony's Conception

I conceived Open Symphony on two levels: democratizing creativity and recommissioning our digital selves as engagers rather than distractors. My desire to share the musical space was undoubtedly influenced by my musical upbringing in traditional Irish music, where like all folk music, each participant's contribution is valued, regardless of musical level. Access to participation is always possible and encouraged as a learning method. The performer's role was to give voice to the community, which serves to strengthen the relationship between performer and audience. This sense of community ownership and belonging generated a profound value in these shared musical experiences for me, something I felt was disappearing in the music industry I had been working in. The record industry's narrow emphasis on product over process and the classical music industry's insistence on sacrificing creative interpretation for instrumental excellence were not fully serving the creation, expression or purpose of music.

Alongside these issues, live events are plagued by audience members' phones obscuring the view for others, causing distractions and threatening copyrights. Consumers are paying to attend events that they are increasingly experiencing virtually. As the internet revolution of Napster destroyed the recording industry, I was aware that our digital selves were devaluing the experience of live music. My concerns were not with the loss of revenue for the music industry but for the loss of cultural value. The idea came to harness our phones to connect with the music rather than our digital profiles, enabling deeper listening, ownership and sense of community. The creative interaction of Open Symphony not only allows audiences to invest in music pieces, but exposes the creative process of the performers, thus creating a second level of valuation on music. It moves music away from a content industry to one of socially created value, in line with the great value shift created by the community-curated nature of the internet. Open Symphony offers music as a live community event, rescued from celebrity profiles or virtuosic gods.

The Technology Development

Open Symphony has three dimensions of research – music composition, music performance and interactive technology. As I continued the research of the musical parameters of the system at GSMD, I established a collaboration with the School of Electronic Engineering and Computer Science at Queen Mary University of London (QM) to co-design the technology architecture. Two master's students, Yongmeng Wu and Leshao Zhang under the supervision of Mathieu Barthet, began designing this system, based on my brief. Over two months, we met regularly to co-design the visuals to suit both the musicians' and the audiences' needs, settling on a linear graphic score for the musicians and a touch-button app with voting displayed. Using my music ensemble, we tested the system from a performer's perspective, gathering feedback and letting this input inform the tech development. Unfortunately, the technology missed my own master's deadline for which I presented a multimedia piece on the

Digital silhouette

perception of the singer and the relationship between song and audience. The first presentation of Open Symphony was for the Viva of the QM students. For this occasion, we presented the system with my ensemble plus an audience. Based on this performance, we wrote the paper which led us to presenting Open Symphony at the 2016 Conference on Human Factors in Computing Systems (CHI2016) in San Jose, California.

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Collaboration

Research as artistic practice is not a new concept for the creative artist. Picasso wonderfully describes this process: "Paintings are but research and experimentation. I never do paintings as a work of art. All of them are researches. I search constantly and there is a logical sequence in all this research" [1, p. 33]. This narrative can quite directly transpose to academic research, with its own twist and turns, new directions and unfolding discoveries. But despite this similarity, the border between academic research and artistic creativity remains uneasy and at times contentious.

From my Open Symphony experience of cross-collaboration, I suggest that this friction is caused by unresolved forces on two levels: individual competence for interdisciplinary collaborations and environmental differences.

Competence in Collaboration

Collaborations benefit from shared resources and knowledge but collaborative behaviors are often an overlooked key component. Just as one would expect teachers to have knowledge of their subjects as well as the skills to deliver the material, collaborations need to be conducted with subject knowledge plus collaborative skills. While every sector requires staff to work with a range of people, both inside and outside an organization, collaboration across fields relies far more on that skill set. To enable interdisciplinary work, there needs to be a leader with the skills to draw together a disparate team around a common goal, developing new practices for combined methodologies, terminology, manner of discourse and personal conduct. According to the 2010 NESTA report *Creating Value Across Boundaries* [2, p. 21], "the skills most relevant to successful interdisciplinary innovation appear to arise from personal attributes and good leadership." The ability to create cohesion among the team, display congeniality, recognize, accept and celebrate successes that do not arise directly from their own work or vision were cited as *feminization* while an alpha-male style of leadership was described as counterproductive to these collaborations. A wider combination of personality types is needed for an interdisciplinary team to be successful, with an updated understanding of what good leadership qualities are [2, p. 21].

If collaboration skills such as communication and flexibility are a challenge in a collaborative enterprise, how can we minimize this risk? This question brings me to the wider environmental issues related to the varying pursuits of the academic institute and the artistic domain.

The Bigger Picture: The Music Environment

The Purposes for Creating Music. Let me clarify four distinct and important aspects within the music realm. These are not the structural nature of music such as pitch, tempo or dynamics, nor the performance elements of emotional communication, stage presence, gesture and so forth. They are not the listener's reaction to the performance nor the setting of it. These four are the dynamics, the magnets, which interplay overtly and subtly throughout music's practice and purpose. They answer the question of why we engage in music. These are the four aspects:

- education
- entertainment
- economy
- artistry

Regardless of one's music playing ability, we all engage in music on some level for different purposes. There's an interaction between each, but I think it's helpful to distinguish them to understand their influences on each other and to distinguish the artistic nature of music, the least tangible of the four. While we have some clear understanding of music as an entertainment or education and of its economy, artistic practice within music remains a misunderstood domain for both non-musicians and at many times, musicians themselves. Once one identifies which of these functions of music a collaboration is exploiting or researching, the value of the artistic contribution may become clearer.

However, setting aside the more immeasurable questions around art, such as its meaning, function and importance, let's look at the economics surrounding art. What is the good, the product, the service that is being produced, and what framework supports this product? These questions are easier to answer for research institutions, but are murky waters for creative expression.

Economic Realities of Music and Their Possible Impact on Academic Collaboration. First, how is value measured in something as subjective as music? A look at one of music's own ecosystem reveals an

uncomfortable truth. Let's look at orchestras as one financial model. The United Kingdom has world-leading orchestras, with an earned income of £56m in 2016 [3]. However, this figure represents less than 50% of total orchestra income, the rest coming from public investment and contributed income. In the same year, the orchestras employed 2,411 musicians in regular or full-time positions. Orchestras represent the pinnacle of instrumental skill, selecting the best candidates from leading conservatories. But the student intake for the UK's eight conservatories between 2013 and 2015 was 2,900. In this market, there is a clear over supply, compounded by the fact that the industry isn't financially self-sufficient. On top of these problems, the classical industry is in steady decline as audiences seek immersive, unpredictable and more personalized music experiences. The takeaway here is this: top instrumental skill does not equate to top earnings. Of course, orchestras add more than financial value to an economy, but the dichotomy between the pursuit of excellence and the lack of public demand is a recurring theme across the orchestral music sector. *Question: How can the music sector be explicit in its value in a cross-sector collaboration when it lacks transparency within its own sector?*

Second, how is individual contribution valued in music? In the 18th and early 19th centuries, musicians had the freedom to express themselves in the works of composers, with composers like Mozart leaving room in the music for individual improvisation. Musicians gained fame through their individual flair demonstrated in these improvisations. In the late 19th century, the focus shifted away from the individual musician's improvisation and more to the musician's interpretation of the composer's work. Music institutions became the guardians of these works focusing on instrumental skill above all else. A similar narrowing of focus has occurred in the record industry. In the 1970s, bands dominated the music industry, with acts such as Led Zeppelin, Pink Floyd, Queen, the Eagles and Fleetwood Mac ushering in an era of stadium rock. While in 2016, according to the Forbes ranking (www.forbes.com/celebrities/list/), the highest paid music acts were more noticeably solo artists, with the exception of one boyband.

1. Taylor Swift $170m
2. One Direction $110m
3. Adele $80.5m
4. Madonna $76.5m
5. Rihanna $75m

These massive incomes from music are not being distributed across the music sector where a staggering 78% of musicians in the UK earn less than £30k ($36.6k) per year [4]. *Question: When income doesn't reflect the talent and experience of a musician, how will this reality impact collaborations between the music industry and the research industry?*

The third and final issue lies around ownership. Intellectual property rights (IPR) are the economic framework that underpins music, with copyright its currency. Historically, a musician's creative expression was encapsulated in the following:

- live performances, protecting performers' rights through attendance fees;
- print, score, writings and so forth, protecting composers' rights through sales;
- recordings, vinyl, CDs and so forth, protecting recording musicians' rights through licensing.

Ownership of copyright has been a brutally fought battle within the industry since the rise of recording technology, with recording industries exploiting musicians and musicians exploiting fellow musicians. However, since the growth of the internet, copyright is rapidly becoming uncontrollable. Each previously protected realm is shattered by the ease with which recordings are reproduced online, live shows recorded by individuals' smartphones and lyrics and scores are shared across a digital community. *Question: As music's own framework dismantles, what assumptions of ownership need addressing for cross-collaborations to correctly accredit contribution?*

The Possibilities

With the rapidly changing landscape of the music industry and from my experience of the Open Symphony collaboration I certainly believe that there is great potential in exploring the territory between academic research and artistic output. There are obvious clashes such as opinion bias and the length of time it takes to establish arts impact, but there are signs that pursuing these collaborations would benefit both communities.

During the height of the record industry, record companies acted in a similar way to research academies providing financial support for recording albums, studio time to develop the work and being the spokesperson for the artist. In return, the artist assigned creative rights to the record label. With the demise of the record industry, this structure has been lost within the music sector. This bodes well for art and research collaborations, which could re-establish this framework in another context.

In the 20th century, the arrival of the record industry transformed popular music culture in to a commercial entity. As money has interacted with music, it has transformed the relationships within it. Within certain genres, the concept of copyright disrupts the tradition of the music itself. Quotation within jazz, for example, and recycled lyrics in blues and folk display the musicians' expertise of that genre rather than plagiarism. Copyright has and continues to serve as a significant part of music's economic framework, but it is far from a one-size-fits-all. Organizing intellectual property rights in affiliation with an organization such as a university, rather than a purely commercial entity such as the record industry, could protect genuine artistic research and development.

Musicians are an underused yet highly skilled resource of creativity, flexibility and curiosity. Musicians' intense dedication to their craft and portfolio careers provides the expertise and adaptability to explore new creative contexts. The strongest common ground for practicing artists and researchers is their curiosity. As John Cage said, "I can't understand why people are frightened of new ideas. I'm frightened of old ones" [5, p. 211]. With the right language and framework in place, true collaborations between arts practices and research academia would prove fertile and exciting ground.

Music is in dire need of transformation. The record industry has been in denial of the internet revolution and music conservatories have been slow to adapt to the changing environment of artistic pursuit. However, we are seeing a shift within music schools to encourage creativity alongside instrumental skills. In 2015, GSMD introduced an undergraduate course in performance and creative enterprise. Open to musicians, composers, theatre makers, devisors, spoken word artists, beatboxers and poets, it is intended for those who want to develop their performance, production, collaboration and leadership skills for employment in the arts industry.

Conclusion

Open Symphony transforms traditional composition and performance. It challenges the concept of ownership and the role of the musician to the audience. My aim for the collaboration was to utilize the rigor of academic research and a diverse skill set with the creative drive and underutilized skills of musicians. It encountered the issues outlined above but has had levels of success. From an academic research point of view, I presented at CHI2016 and published papers. From an artistic point of view, I had proof of concept.

For future success, academies of art and research institutions need to develop their understanding of each other's realm and where, how and why their borders intersect. A structure needs to be developed with advocates and stakeholders that guide collaborators across new terrains.

I believe a lot of change needs to come from the music sector in defining value, diversifying skill sets and embracing change. It would also benefit from removing the many untrue and unhelpful stereotypes of musicians.

Not all a musician's contributions can be captured on a score, a recording or in a live performance. In training or professional experience musicians will sometimes reference music that influences them but rarely supply a thorough and in-depth analysis of their music or performance. Musicians need to develop their craft beyond performance and composition to develop robust research skills and understand their value contribution.

Music artists are radical non-conformists. Our practice is a process of discovery and disruption. But given the instability and misrepresentation within our own industry, the risks involved in artistic-academic collaborations will remain far greater to the musician and the art than to the academic institute and the research findings. Both sectors can resonate on the other's passion and purpose but the territory of interdisciplinary exploration is dependent on far greater societal and commercial restructuring.

Acknowledgements

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