

How Technology Can Support Artistic Collaborations

Nora Fleury



Arts Management & Technology Laboratory

Carnegie
Mellon
University



INTRODUCTION

Watson and Crick. Braque and Picasso. The Wright Brothers, Wozniak and Jobs ... and Jony Ive. Great collaborations all. Transformative. But what really made them work? How did collaborative relationships so ingeniously amplify individual talent and impact? Was there a secret to success (Schrage 2015)?

Michael Schrage, a thought leader on innovation, first posed these questions to himself 25 years ago while writing his book *Share Minds: The New Technologies of Collaboration*. In a March 2015 article for the *Harvard Business Review*, Michael Schrage revisited those very questions.

Successful collaborators don't just work with each other; they work together through a shared space. Share space—whether physical, virtual or digital—is where collaborators agree to jointly create, manipulate, iterate, capture and critique the representations of the reality they seek to discover of design. This holds true for collaboration around products, processes, services, songs, or the exploration of scientific principles. Shared space is the essential means, medium, and mechanism that make collaboration possible. No shared space? No real collaboration (Schrage 2015).

What happens in the arts when there are barriers to collaborating across a physical shared space? How can arts organizations benefit from emerging technological trends and harness the capabilities of online collaborative technologies for the unique purpose and needs of collaborative artistic projects? Increasingly, arts organizations, artists, choreographers, and designers are collaborating across greater distances. Improved communication, increased mobility, and a heightened awareness of global opportunities have facilitated partnerships around the globe. In this environment, artistic collaboration depends on new technologies to coordinate the art-making process and create digital shared space that can be accessed from around the world.

While the concept of collaboration in business has been a hot topic over the past quarter century, it has always been an essential practice in the performing arts. The creation of a new play involves collaboration between playwrights, directors, actors, producers, designers, technicians and more. For a new ballet, add a composer, choreographer, and dancers. The use of shared space is inherent to the collaborative artistic practice. Resident companies and artist residencies bring together the collaborators necessary to produce new artistic projects.

As projects pull from an increasingly global pool of collaborators, how can arts organizations build upon their strengths at creating a physical shared space to create collaborative artistic output and expand the collaboration to a digital shared space for collaborators from across the globe to engage and produce innovative projects? In our increasingly technological world, new online collaborative technologies are popping up every day. Online communication tools like Skype and Slack, file sharing and collaborative writing tools like Dropbox, Box, and Google Docs, and shared workspaces like Microsoft SharePoint, are just a few notable examples. How can these technologies influence and be integrated into the workflow?

It is important to note that although online collaboration is a key facet of innovation, it does not replace face-to-face collaboration. If technology is expected to be a seamless replacement, the users are bound to be disappointed. Rather, as Alexandra Samuel, technology researcher, writer and strategist, recently posited in a *Harvard Business Review* article,

Online collaboration is not a second-best substitute for face-to-face work: It's a complement with its own perks and benefits. Online collaboration, like most digital phenomena, is good at solving very specific kinds of problems: time problems, distance problems and communication problems. By solving time problems it creates the benefit of 24/7



production cycles; by solving distance problems it enables newly diverse teams; and by solving communication problems, it lets us work together in ways that tap into a broader set of skills and capacities (Samuel 2015).

METHODOLOGY

How can arts organizations benefit from emerging technological trends and harness the capabilities of online collaborative technologies for the unique purpose and needs of collaborative artistic projects?

To answer this question, first, interviews were conducted with staff from the Luminato Festival and Aspen Music Festival to understand the production process and the current technology used to facilitate projects. Second, interviews with other creative industries were conducted to understand how technology is being used to facilitate collaborative projects digitally. Third, specific products were reviewed to understand what new tools could best support the needs of collaborative artistic projects.

Armed with this information, opportunities were identified for arts organizations to create digital shared space and enhance their collaborative art making practices by extending the opportunity for real collaboration online. This report will outline the process and corresponding point of collaboration that can be influenced or affected through the application of a technological solution. Potential solutions to those needs will be offered with related case study examinations.

For the purpose of this report, we will define artistic collaboration based on the definition in the International Co-Production Manual commissioned by the International Network for Contemporary Performing Arts: an artistic collaboration is two or more artists/companies/presenters coming together to produce a project, contributing the financial and infrastructural needs of the project and also the creative needs (Stains 2011).

COLLABORATIVE NEEDS AND TECHNOLOGICAL SOLUTIONS

Arts organizations need not reinvent the wheel. With so many new and emerging online technologies that create digital collaborative spaces, there are existing tools that can be integrated into a production's workflow to enhance a production's collaborative needs by mirroring a physical shared space with a digital one.

Need: Communication

An ongoing and salient need for successful artistic collaboration is open communication between stakeholders to ensure that everyone is aware of their responsibilities and is updated on the progress of the project. As aptly stated in the International Co-Production Manual "It is easy to make assumption regarding every aspect of a large and complex project and therefore an established methodology for checking progress, clarifying confusions and dealing with changes to the plan can guide you through most challenges" (Stains 2011). Currently, emails, Skype, and phone conversations provide for the requisite frequent communication. In some circumstances, especially in large collaborative projects, producers representing different stakeholders lead the communication to manage the flow of information between numerous players.

While this communication is satisfying the need of collaborative projects, it fails to fully create a digital shared space. Rather, conversations via email, phone, and Skype only concern those directly involved in the conversation and do not engage broader collaborators. Communication is fragmented and not easily tracked. Because of this, the collaborative nature of face-to-face shared physical interaction is lost once communication is taken online. There are some issues that must remain private in the production process, such as contracting, and the minutia of planning may also be unimportant to many of the stakeholders beyond the producers themselves. Nevertheless, by creating a digital shared space for communication, technology can centralize the communication process, involve broader



collaborators, and help everyone feel engaged with the process even when separated by distance.

Tech Solution:

Team Communication Tools

Team communication tools support persistent online communication in one centralized space, bringing a team’s physical collaborative efforts into the digital realm. These tools allow collaborators to communicate easily amongst each other both as a whole team and as smaller task forces, on issues of team-wide importance or smaller group and individual need. All without inundating email inboxes. Increasingly, they are being modeled after face-to-face communication and social patterns, allowing them to increase collaborator communication and engagement with a project and easily integrate into existing workflow.

The most recent addition to the realm of team communication is Slack, which AMT-Lab contributor Sarah Murphy covered in a product review. Slack links all stakeholders of a project, helping them update the team on their particular progress while also providing them with the opportunity to follow the progress of others in the team. The following features facilitate this:

1. Dedicated chat channels

Numerous chat channels can be created under one project. Channels can be organized by topic of conversation, member involvement, and privacy. For example, a public channel could be created to be a repository of general updates on the progress of the production, where anyone, artists, producers, designers, could upload comments, pictures, videos from their computer or cell phone for all to see. A private channel could be created for producers to communicate about sensitive issues. Additionally, one-to-one messaging can also be used by collaborators to chat privately about the production or have casual conversations as they would if they were working together in the same room. Every conversation held on Slack is searchable.

2. Integrated platforms

With Slack, all project communication and file sharing can be centralized into one place. Slack can be integrated with most platforms such as those used for document-sharing—Box, DropBox, and Google Drive—or social networking—Twitter and Facebook. For example, if a production has a social media channel, say a Twitter handle, a channel can be created that integrates Twitter and instantly updates with all Tweets sent from and to the Twitter account. Slack becomes a one stop shop for all communication updates about the production.

Individual vs. Team Communication

Individual Communication Tools: Email, Phone, Skype	Team Communication Tool: Slack
Cost by usage	Free
Fragmented communication	Centralized communication (digital shared space)
Siloed process	Transparent process
Limited Online Engagement	Team-wide online engagement

With this flexibility, Slack can be set up to mirror a production's unique communication and workflow needs and the online shared space promotes transparency where possible and engagement with the project's development to the degree collaborators desire.

Need: Document Sharing

The need to share documents, visuals, audio and video pertaining to the collaborative project is just as vital as communication. All partners must be contracted, one or more creative development periods occur, and the project must be announced and marketed. Throughout these phases, many documents exchange hands. Contracts and budgets must be shared between artists, producers, and presenters. Venue specs must be shared between the host venues and artists. Stage plots, set designs and riders must all be shared between the artist, tech and the co-presenters. At the interviewed organizations, email—or Box and Dropbox for larger files—are used to satisfy these document sharing needs. The documents are shared with the appropriate recipients and then often stored in each organization's hard-drives.

While this document sharing is satisfying the need of collaborative projects, it fails to fully create a digital shared space. Documents, while shared, are hosted and maintained by each individual given access to the document via email, Box, or DropBox. This process duplicates efforts by requiring each individual to save to document on their local drive. Additionally, when multiple individuals edit documents, old versions can become confused with newer versions. The resulting back in forth communication to clarify document iterations and edits further duplicated efforts. Nevertheless, by creating a digital shared space for document sharing, technology can centralize document hosting, track document iterations, and, in some cases, allow for group editing of documents.

Tech Solution:

Cloud-based File Sharing Tools

Cloud-based file sharing tools support document-sharing in an efficient manner by providing a

digital shared space for documents to be uploaded, accessed, and edited by all parties involved. Hosting documents in a cloud creates one designated digital space, a central repository of sorts, for all parties to access and work together in. Hosting documents in the cloud enhances efficiency by reducing data fragmentation and improving version control needed when working on numerous iterations of production documents.

AMT-Lab contributor Stewart Urist, recently discussed the in's and out's of cloud based work in "Navigating the Cloud: A Practical Guide for Arts Managers." Box, Dropbox, and Google Drive are cloud-based file sharing tools. Simply put, they allow documents to be shared across multiple people and devices and ensure that everyone is looking at and working off the same documents. The following features of these tools would allow collaborators to share documents more efficiently:

1. Centralized Hosting

Box, Dropbox, and Google Drive form centralized drives that can be accessed from anywhere in the world by anyone granted access. Similar to a local shared drive, documents uploaded into the drive can be organized into files that best mirror the need of the project and are shared amongst different sets of stakeholders. For example, a private folder for producers and co-producers could house contracts and budgets. A public folder could house sub-folders with finalized set designs, marketing materials, and production schedules.

2. Editing

In addition to sharing documents, Box and Google Drive allow collaborators to work on documents together. One collaborator can update a document and then those updates can be saved on the cloud for everyone to view. In Box, editing is done offline. When you click the editing tool, the document opens on your computer just as a regular word document would. Edits are then made offline. The document hosted in Box is updated every time the individual doing the offline editing saves the document. Google Drive

takes this one step further by allowing live edits. Google Drive generated documents allow more than one collaborator to make edits at one time because those edits are done online in real time.

3. Comments

Box and Dropbox (for Business) both have features that allow document collaborators to leave comments linked to the document. When collaborators open a document, a comment column appears to the right of the documents. Anyone can leave their thoughts and feedback, and specific people can be notified of the

comment by linking their name or email address at the beginning of the comment such as @JohnSmith. JohnSmith will then be notified by email of the comment made, allowing him to be instantly clued in to the discussion on the document.

While shared access to production documents might not be needed regularly, and many will require a certain level of privacy, the universal availability of cloud hosted documents enables collaboration by creating a digital shared space for document hosting, accessing, and updating.

Local vs. Cloud-based File Sharing

Local File Sharing: Local Hard-drive	Cloud-based File Sharing: Dropbox, Box, and Google Drive
Fragmented data	Centralized Data (digital shared space)
Inefficient version tracking	Iteration tracking
Duplication of document hosting efforts	Comment features hosted alongside documents

Local vs. Cloud-based File Sharing

Box for Business	Dropbox for Business	Google Drive
\$15/user/month	\$15/user/month	Free
Centralized document hosting	Centralized document hosting	Centralized document hosting
Comment feature	Comment feature	
Offline editing		Online editing
Restrict privacy to certain members	Restrict privacy to certain members	Integrates with Google for Nonprofits

CASE STUDY: BREATHER INC.

It may be difficult to visualize how the aforementioned tools could support the process behind collaborative artistic projects. To better understand the opportunity these tools provide, we can turn towards another creative industry currently using team-communication and cloud-based document management tools to support their production processes.

Breather Inc. is a tech start-up likened to the Airbnb for workspaces. Headquartered in Montreal, Canada, the startup connects individuals with temporary workspace rooms rented by the hour in Montreal, Ottawa, New York, and San Francisco. In a similar fashion to an artistic collaboration working towards opening night, Breather staff designers, marketing, and IT developers all must work together whenever they launch a new space. With designers solely located in Montreal, IT developers scattered in different locations, and the launch city's staff all separated by distance and time zones, online collaborative technologies are vital to Breather's business process.

Thanks to Slack, Breather Inc.'s employees communicate efficiently and transparently about the launch of new spaces as well as day-to-day happenings in each of their four cities. To do so, Breather Inc. relies on dedicated public channels. There is a channel for each city office for communications about staff in that city or up-and-running spaces. A city launch channel facilitates all discussions pertaining to the launch of new sites in a particular city. The Twitter channel updates every time Breather Inc. is tweeted at which allows the staff to be quickly notified of customer complaints and tag the person who should respond immediately. Additionally, there are numerous private channels and one-to-one staff discussions. In addition to Slack, Breather Inc. relies on Dropbox, as well as a realty specific document sharing tools, to share and host all documents pertaining to their current spaces and the launch of new spaces. Breather's Dropbox holds location images, contracts, blueprints, and design mock-ups. The folders are

designed to mirror the Slack chat channels, based on city and then further organized into specific locations.

Breather Inc. provides fitting examples of how performing arts organizations could leverage the communication, document sharing, and global team engagement properties of Slack and Dropbox. Both tools have been adapted to the unique needs of Breather Inc.'s business model, allowing for efficient and transparent communication and document sharing while fostering a team dynamic despite the barriers of working towards the launch of new spaces across four cities and three time zones. Artistic collaborations could benefit from similar support by adopting available technologies to centralize communication, share documents, and engage all collaborators involved.

CONCLUSION: SHIFTING ASSUMPTIONS

Deciding to implement new processes and technology in an organization is not without obstacles. In the arts, there is widespread hesitation to become a first adopter of these new technologies. Many believe technology to be separate from the art making process. For others, it can seem unnecessary to consider novel ways of managing tried and true processes. This holds especially true with regard to the art making process, as it is at the absolute core of performing arts organizations. However, these assumptions must be questioned. By failing to leverage emerging technologies, the arts miss opportunities for innovation and improved processes.

The technology discussed in this report does not require arts organizations to reinvent the wheel. Rather, it is an opportunity to expand upon the physical shared space that is essential to the art making process and imagine the benefits that would transpire for the art and the collaborators if it were mirrored in a digital space. By letting the digital space mirror the physical collaborative environment, artistic collaborations would be marked by efficient,



transparent, and unsiloed communication and document sharing. Collaborative coordination, both physical and digital, would promote frequent desired engagement among collaborators. The end result: transformative and innovative projects that would not exist without the power of many—and one shared physical and digital space.



BIBLIOGRAPHY

- Angeles, Sara. "Box Notes Enhances Cloud Collaboration for Business." *Business News Daily*. February 4, 2014. Accessed March 1, 2015. <http://www.businessnewsdaily.com/7744-box-notes-update.html>.
- Box. "Box for Media & Entertainment." Accessed March 1, 2015. <https://www.box.com/industries/media-and-entertainment/>.
- Bradley, Tony. "Box Notes brings streamlined document collaboration to Box." *PCWorld*. September 16, 2013. Accessed March 1, 2015. <http://www.pcworld.com/article/2048822/box-notes-brings-streamlined-document-collaboration-to-box.html>.
- Cools, Guy. "International Co-Production & Touring." Paper presented at Informational European Theatre Meetings, 2004.
- Coscarelli, Joe. "Color Guard Is David Byrne's New Project. Yes, Color Guard." *The New York Times*. January 21, 2015. http://artsbeat.blogs.nytimes.com/2015/01/21/color-guard-is-david-byrnes-new-project-yes-color-guard/?_r=2.
- Doing Things Differently: Oregon Shakespeare Festival*. 2009 EmcArts Innovation Lab for the Performing Arts. http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=4&ved=0CDEQFjAD&url=http%3A%2F%2Fartsbeat.blogs.nytimes.com%2Fwp-content%2Fuploads%2F2012%2F10%2FOregon-Shakespeare-Festival_FINAL1.pdf&ei=DbI1VeycMMa2yAS2yIDoBg&usg=AFQjCNHzNvqJcBeZnjgPY-T4WCGX_5xS6TQ&sig2=WzyYamkS8LOAbZgT9nNwEw&bvm=bv.91071109,d.aWw
- Goodwin, Bill. No more email? Why companies are turning to collaboration technology. *Computer Weekly*. Accessed April 4, 2015. <http://www.computerweekly.com/feature/No-more-email-Why-companies-are-turning-to-collaboration-technology>.
- Hamilton, Mary; Alex Kass and Allan E Alter. "How collaboration technologies are improving process, work force and business performance." *Accenture*. December 2013. Accessed April 4, 2015. <http://www.accenture.com/SiteCollectionDocuments/PDF/Accenture-Outlook-How-collaboration-technologies-are-improving-process-workforce-business-performance.pdf>.
- Harnessing Collaborative Technologies: Helping Funders Work Together Better*. 2013 Deloitte Consulting LLP and the Foundation Center. http://foundationcenter.org/gainknowledge/research/pdf/collab-tech.pdf?utm_source=rss&utm_medium=rss&utm_campaign=harnessing-collaborative-technologies.
- Key finding from *Harnessing Collaborative Technologies: Helping Funders Work Together Better*. 2013 Deloitte consulting LLP and the Foundation Center. [http://www.monitorinstitute.com/downloads/what-we-think/collaborative-technologies/Harnessing_Collaborative_Technologies_\(ExecSummary\).pdf](http://www.monitorinstitute.com/downloads/what-we-think/collaborative-technologies/Harnessing_Collaborative_Technologies_(ExecSummary).pdf).
- Luminato Festival. "Contemporary Color." Accessed March 1, 2015. <https://luminatofestival.com/festival/2015/contemp-color>.

- Samuel, Alexandra. Collaboration Online is Sometimes Better than Face-to-Face. *Harvard Business Review*. April 1, 2015. Accessed May 4, 2015. <https://hbr.org/2015/04/collaborating-online-is-sometimes-better-than-face-to-face>.
- Schaffner, Mike. How Technology Enhances Collaboration. *Forbes*. Accessed April 4, 2015. <http://www.forbes.com/2010/01/19/collaboration-cisco-software-technology-cio-network-schaffner.html>.
- Schrage, Michael. Collaboration, from the Wright Brothers to Robots. *Harvard Business Review*. March 23, 2015. Accessed April 4, 2015. <https://hbr.org/2015/03/collaboration-from-the-wright-brothers-to-robots>.
- Staines, Judith, Sophie Travers, and M J Chung. "International Co-Production Manual." Commissioned by International Network for Contemporary Performing Arts, 2011.
- Warrior, Padmasree. The Next Generation Collaborative Enterprise. *Cisco Blogs*. January 11, 2010. http://blogs.cisco.com/news/the_next_generation_collaborative_enterprise.

