Title of the work
Diamonds in Dystopia

Year work was created
2016

Specific Work Details
Audience Participation

Description of your work
Diamonds in Dystopia is a body of work and web framework for creatively datamining large sources of text for mobile interaction. So far we have used it for live-streaming poetry performances at various locations such as SXSW Interactive and TEDx in addition to fine arts installations. As a performance it is primarily web driven app for incorporating improvisation into experiential storytelling. The audience acts as collaborator by sending word selections by tapping language on their mobiles to trigger reactions to send a distilled, improvisational stanza culled from a massive corpus of text to the poet on stage. The individual taps coming from the audience also trigger synthesized audio effects at varying pitches to create a musical experience as well as contributing to a visual projection of the poem and audience interactivity. Created by Vincent A. Cellucci (poet), Jesse Allison (Professor of Experimental Music), and Derick Ostrenko (Professor of Digital Art), the applications use natural language processing on text to generate an innovative media stage project. The app creators are interested in creative data mining and incorporating interactive media into performances that challenge people's perceptions and expectations for the mediums of music, digital art and design, and poetry.

For each rendition of *Diamonds*, the collaborators adapt the seed poem, corpus, and language reconstruction technique for the location and performance context. This new storytelling method celebrates the site specific resonance between language, interactivity, and performance to create unique performance-specific text and data artifacts. For Ars Electronica, we propose to use subtitles and matching video of classic international films set in Austria as our corpus to creatively datamine the literary and visual vernacular of film harnessing interactive media.

**Fig 1.** *Featured image, theater view.*

Credits
Derick Ostrenko (USA), dostrenko@lsu.edu, frederickostrenko.com; Jesse Allison (USA), jtallison@lsu.edu, allisonic.com; Vincent Cellucci (USA), vcellu1@lsu.edu, vincentacellucci.com

Work Technical Details

Software
Diamonds in Dystopia is a clustered Node.js application that is served and balanced between Google Cloud Compute and a custom OpenStack installation for interactive art. It was built with the intention of future performers to be able to upload a large collection of texts and a seed manuscript. With these two items the system is prepped for an interactive poetry performance. Users connect to an Express.js HTTP server that displays the original manuscript. They click on individual words that resonate with them which get passed along to a server via WebSockets. Each time a user taps a word the collection of texts, hosted on a Redis server, are searched for the top results that contain that word. Those texts are used as a source material for generation through something such as a markov chain algorithm to generate a new stanza of found text. These new stanzas are fed to the performer who can choose via a "controller" interface running on their own mobile device which to read and display on a theater view.
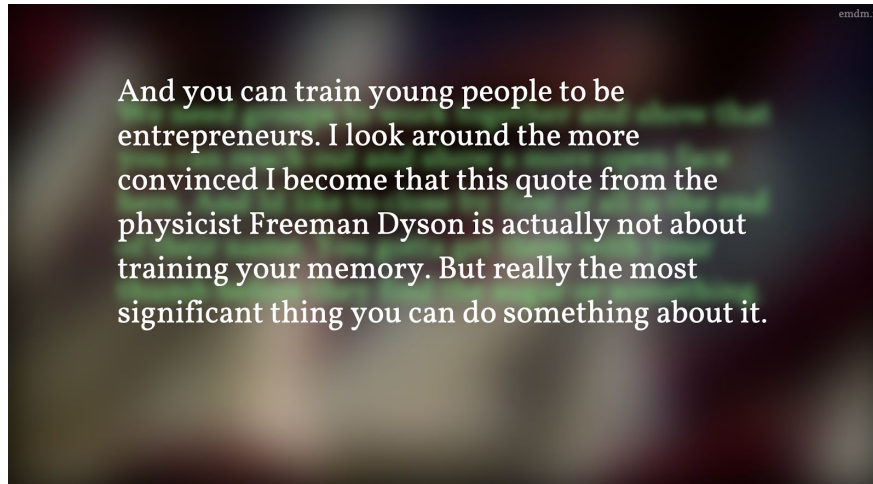
Fig 2. *Theater view.*
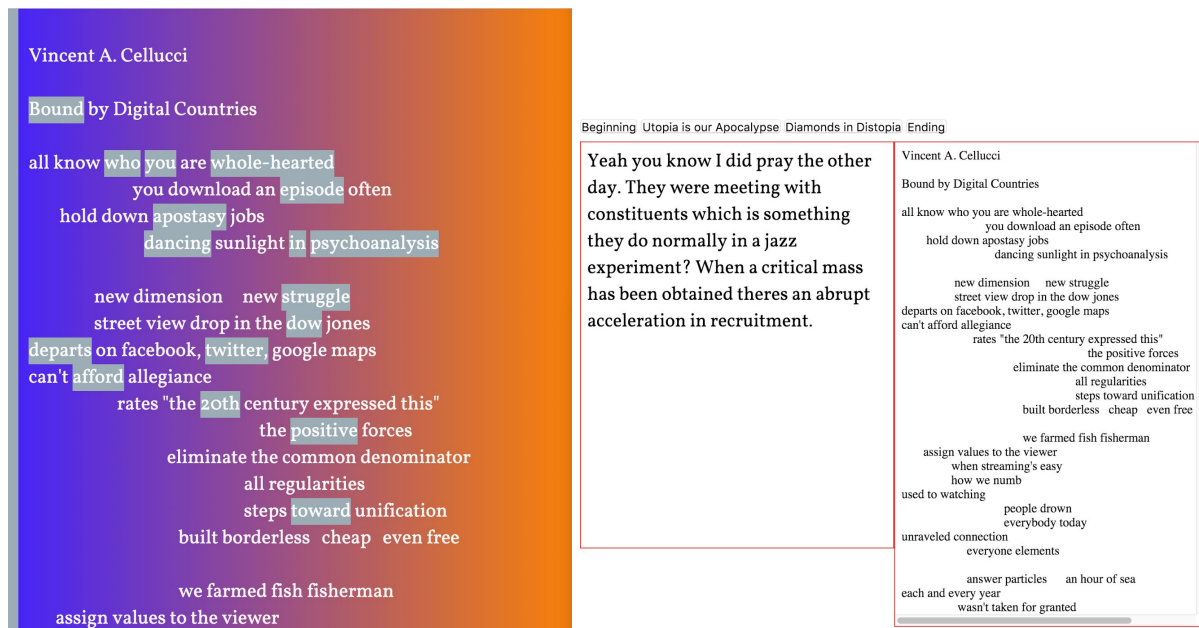
Fig 3 & 4. *User view (left), controller view (right).*

Hardware

Audience members use their own mobile devices that are connected to the internet via WiFi or a cellular network; these devices also add to the musical sound installation by contributing sound effects that vary the pitch for each user, synthesized voices of the tapped words, and pushed audio effects sent from controller. As for serving the content Diamonds in Dystopia relies on virtualized "infrastructure as a service" products such a OpenStack. A venue's projectors and speakers further visualize and sonify theater performance content for the audience.

Technical Requirements

Diamonds in Dystopia can be showcased as a performance or installation. For a performance, we need a venue with projection and loudspeaker capabilities. The projector would need to be connected to a computer that is running a fullscreen version of Google Chrome. For an installation we would need a space large enough for a mounted TV that is connected to a small computer like a Mac mini with WiFi.

Documentation Links

Project Website
http://diamonds.emdm.io

Featured Image
https://c2.staticflickr.com/2/1622/25478611772_76ffc3ee1b_o_d.jpg

Images
https://www.flickr.com/photos/fredeerock/albums/72157665538561266

Video
https://youtu.be/xAzwXL3NcUE
https://www.youtube.com/watch?v=sVCpmvTHlgw

Biographies
Jesse Allison, Derick Ostrenko, and Vincent Cellucci are Louisiana artists who work at the intersection of art and technology. Jesse is a sonic artist and Assistant Professor of Electronic Music at Louisiana State University. Derick is an Assistant Professor of Digital Art and media artist who creates physical and virtual systems that examine the intersections of media, culture, and technology. Vincent is a writer and poet with a curious aptitude for digital fabrication and visual arts; he teaches communication for the LSU College of Art + Design.

Jesse Allison is a leader in sonic art technology, thought, and practice. Dr. Allison holds the position of Assistant Professor of Experimental Music & Digital Media at Louisiana State University. As part of the Cultural Computing focus of the Center for Computation & Technology, he performs research into ways that technology can expand what is possible in the sonic arts. Prior to coming to LSU, he helped to found the Institute for Digital Intermedia Art at Ball State University. Email: jtallison@lsu.edu. Website: allisonic.com.

Vincent A. Cellucci is a writer and the College of Art + Design's Communication across the Curriculum Studio Coordinator at Louisiana State University. He specializes in poetry, 3D scanning and printing, digital documentation, portfolio development, and teaching and writing in the art and design disciplines. Vincent received his MFA from Louisiana State University and he attended Loyola University New Orleans to earn his Bachelor's degree in English Writing with a background in studio arts by cross-enrolling at Tulane University. Email: vcellu1@lsu.edu. Website: vincentacellucci.com.

Frederick "Derick" Ostrenko is a media artist and creates physical and virtual systems that examine the intersections of media, culture, and technology. He employs custom hardware and software that use various interfaces such as mobile applications, brain waves, generative visualizations, video processing, animation, and games. His research focuses on pushing art and technology to reveal hidden networks between people by creating structures for innovative forms of expression and discovery. Email: dostrenko@lsu.edu. Website: frederickostrenko.com.