

# Owego System Trade Routes: Round Trip

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**Abstract.** This performance will highlight the AppiOSC, a live interface that enables wireless, bi-directional control between a live coding graphics interface (*the\_force*)<sup>1</sup> and a modular synthesizer. Our intention with the AppiOSC in the context of *Owego System Trade Routes: Round Trip* is to extend beyond the typical, unidirectional manifestation of interactivity in audio-visual performance, in which the audio signal drives, or influences the graphics, while the graphics signal has little to no direct impact on the audio. With bidirectional control, both the visual and audio artist can explicitly impact the other's outcome, enabling performative possibilities beyond a unidirectional system.

**Keywords:** live coding, OpenGL, fragment shader, modular synthesizer, Arduino, control voltage, Owego

## Description

*Owego System Trade Routes: Round Trip* is an extension on the author's collection of work titled *Owego System Trade Routes*. The latter demonstrates the first iteration of the AppiOSC, a hardware and software communication interface that enables the *transformation* of text within the live coded graphics into musically-useful control voltages that can be sent to the modular synthesizer. The former completes the *trip* by sampling control voltages from the modular synthesizer, and transmitting these values wirelessly to the live coding interface for usage by the visual performer. *Owego System Trade Routes: Round Trip* is a performance that incorporates this live communication interface, and will demonstrate how each performer grapples with the unexpected, real-time changes to the functionality of their *instrumentation*, live coded text or modular synthesizer respectively. By tethering each performer to the other via a constant stream of malleable and often uncontrollable variables, the performers must react and respond in real-time. And as each performer reacts with particular modifications to their respective performance device, those changes are immediately reflected back on their counterpart, creating a constantly evolving feedback loop of mediated influence.

## Documentation

Most recently, we have performed our prior works *Kessel Run* (2014) and *Sarlacc* (2015) at the Experimental Media and Performing Arts Center (EMPAC) in Troy, NY, Radical dB Festival at E\_Topia in Zaragoza, Spain, International Conference on Live Interfaces (ICLI) at ZdB in Lisbon, Portugal, CultureHub in New York City, ACM Creativity and Cognition at The Art School in Glasgow, Scotland, Access Space in Sheffield, England, and the International Symposium on Electronic Art (ISEA) at The Fortune Sound Club in Vancouver, CA. In addition, *Sarlacc* was awarded Gold Level recognition in the 7th Annual Pixie Awards by the American Pixel Academy.<sup>2</sup>

*Owego System Trade Routes* (2016) short example:

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<sup>1</sup>See [http://shawnlawson.github.io/The\\_Force/](http://shawnlawson.github.io/The_Force/)

<sup>2</sup>See <https://www.pixieawards.com>

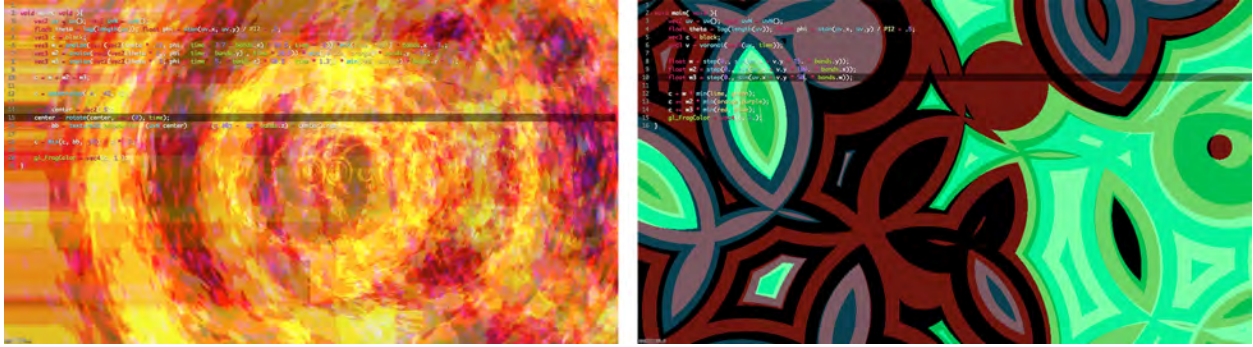


Figure 1: Two images from *Owego System Trade Routes*.

<https://vimeo.com/153029100>

*Sarlacc* (2015) short example:

<https://vimeo.com/121737715>

*Kessel Run* (2014) short example:

<https://vimeo.com/130168696>

## Technical Details

Preferred Venue:

- traditionally this music is played in a club, but is scalable to perform in a variety of venues.

Instrumental Performers:

- none required

Duration:

- 15 - 20 minutes

## Rider

Preferred Stage Layout:

- Single large table (approximately 6 feet long) in front of large projection surface

Equipment to be provided by artists:

- visual: laptop with VGA, DVI, and HDMI adapters, usb powered m-audio audio interface
- audio: laptop with stereo (2 channel) output, will send two 1/4 inch cables
- audio: modular synthesizer (will terminate at the same two 1/4 inch cables listed above)

Equipment to be provided by conference:

- Projector
- Appropriate cabling depending on length to projector to stage
- Minimum preferred projected pixel size 1024x768 or 1280x720
- Projection surface
- Stereo speakers, ideally with sub-woofer
- Tables to perform on
- Two chairs
- Low light on performers
- If possible, small mixer with four 1/4" inputs, 2 1/4" outputs + headphone out

## Biographies

### Shawn Lawson

*Shawn Lawson* Shawn Lawson is an experiential media artist creating the computational sublime.<sup>3</sup> As Obi-Wan Codenobi, he live-codes, real-time computer graphics with his open source software, The Force.

He has performed or exhibited in England, Scotland, Spain, Denmark, Russia, Italy, Korea, Portugal, Brazil, Turkey, Malaysia, Iran, Canada, and the USA. He received grants from NYSCA and the Experimental Television Center, and he has been in residence at CultureHub and Signal Culture.

Lawson studied at CMU and ÉNSBA. He received his MFA in Art and Technology Studies from SAIC. He is an Associate Professor in the Department of Art at RPI.

### Ryan Ross Smith

*Ryan Ross Smith* is a composer and performer currently based in Fremont Center, NY.<sup>4</sup> Smith has performed throughout the US, Europe and UK, including performances at MoMA and PS1 [NYC] and Le Centre Pompidou [Paris, FR], has had his music performed throughout North America, Iceland, Australia and the UK, has presented his work and research at conferences including NIME, ISEA, ICLI, the Deep Listening Conference and Tenor2015, and has lectured at various colleges and universities.

Smith earned his MFA in Electronic Music from Mills College in 2012, and is currently a PhD candidate in Electronic Arts at the Rensselaer Polytechnic Institute in Troy, NY.

## Additional Information

**Acknowledgements.** Special thanks to Signal Culture for providing time and space through their Toolmaker Residency program to develop the software and hardware solutions to jump-start this work.<sup>5</sup>

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<sup>3</sup>See <http://www.shawnlawson.com>

<sup>4</sup>See <http://www.ryanrosssmith.com>

<sup>5</sup>See <http://signalculture.org>