GG Music

Performance Proposal

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Figure 1: *GG Music* performance in progress.

1. TITLE AND DESCRIPTION

Our proposed performance, entitled *GG Music*, examines the possibilities of using a preexisting computer game as the interface to a rich musical environment. In a performance of *GG Music*, two players go head-to-head in a competitive match of *StarCraft 2*. As they build bases and battle against each other, a custom software package, SoundCraft, collects gameplay data, which we extensively sonify in real-time. The sonification rises and falls with the development of the match, exploring the relationship between *StarCraft 2*'s gameplay and mechanics and musical performance and progression.

A reduced-length video demonstration has been attached alongside this submission. This video serves as a demonstration/proof of concept; we intend to further develop our sonification in the coming months.

2. PARTICIPANTS AND SUBMITTERS

Mark Cerqueira is a Software Engineer at Smule, a mobile application development company focused on building social music experiences. He graduated from Princeton University where he researched improvements for networked laptop orchestra performances and created the Laptop Orchestra Network Toolkit. He has extensive experience developing for the iOS and Android platforms, including applications such as Glee Karaoke, Magic Piano, Magic Guitar, and Magic Fiddle.

Spencer Salazar is a doctoral student at Stanford's CCRMA, researching computer-based forms of music performance and experience. In his past he has created new software and hardware interfaces for the ChucK audio programming language, developed prototype consumer electronics for top technology companies, architected large-scale social music interactions for Smule, an iPhone application developer, and composed pieces for laptop and mobile phone ensembles and other computer music works. He has worked on mobile applications ranging from Ocarina, a virtual wind instrument for iPhone, to I Am T-Pain, which gives iPhone users the ability to auto-tune themselves in real-time. I Am T-Pain is consistently one of the top 10 music apps in the iPhone App Store.

Ge Wang is an Assistant Professor at Stanford University in the Center for Computer Research in Music and Acoustics (CCRMA), and researches programming languages and interactive software systems for computer music, mobile and social music, and education at the intersection of computer science and music. Ge is the author of the ChucK audio programming language, the founding director of the Stanford Laptop Orchestra (SLOrk) and of the Stanford Mobile Phone Orchestra (MoPhO). Concurrently, Ge is the Co-founder and Chief Creative of Smule, and the designer of the iPhone's Ocarina and Magic Piano.

NIME'13, May 27 – 30, 2013, KAIST, Daejeon, Korea.

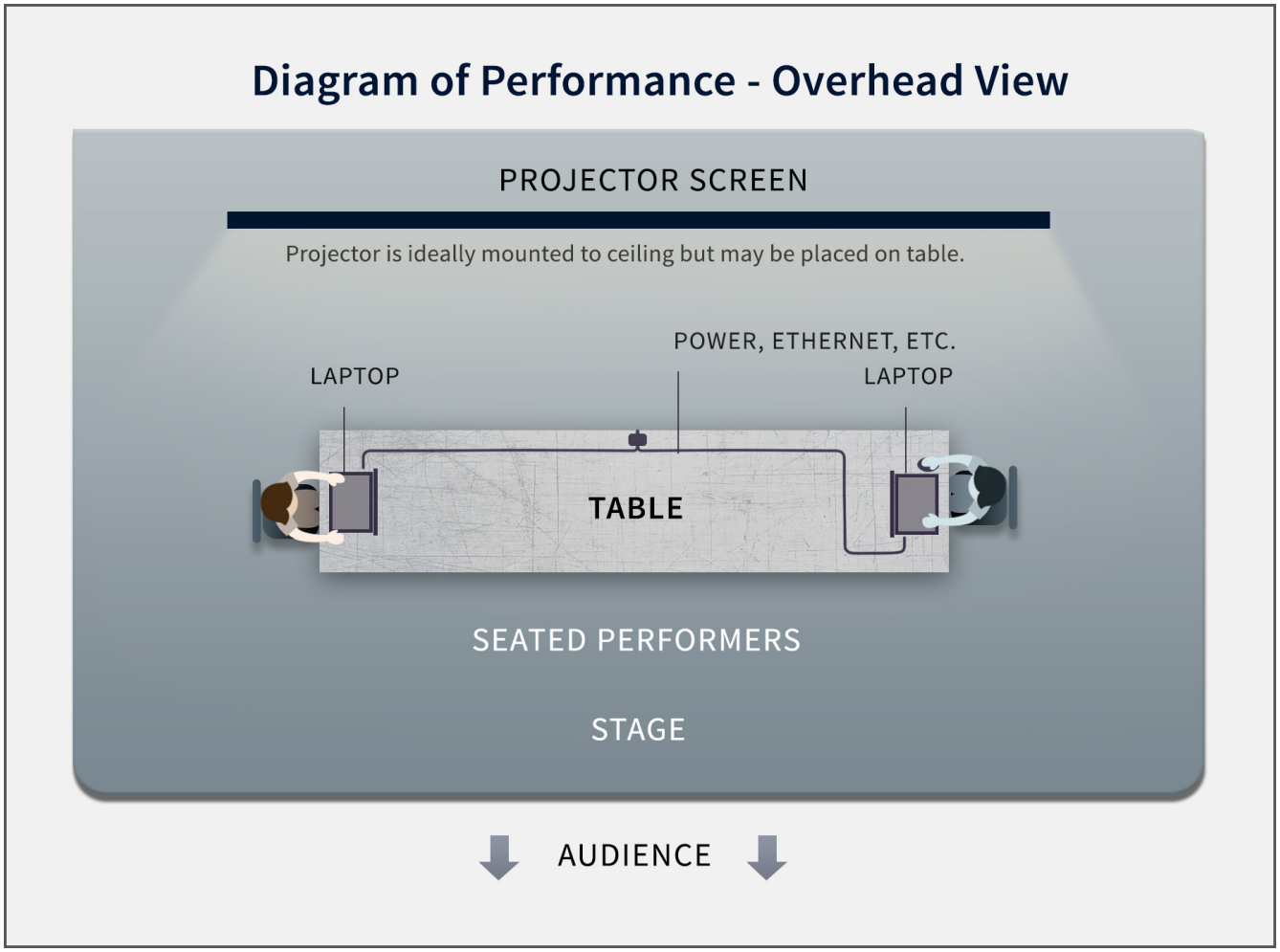

Figure 2: An overhead view of the preferred stage set-up.

3. PERFORMERS / INSTRUMENTS / TECHNOLOGIES USED

This piece involves two performers, each playing *StarCraft 2* on a laptop with a mouse. These laptops will collect and transmit *StarCraft 2* gameplay data in real-time to a third laptop, which will synthesize 8-channel audio accordingly. (An optional third performer may serve as an "observer", a neutral player whose function is to control the view of the game that the audience sees. This observer role would serve to more clearly convey the game state to the audience, in turn clarifying the nature of our game sonification.)

4. REQUIREMENTS FOR THE VENUE

The two performers will be seated on stage at opposing ends of a long table, preferably 6-10 feet in length (two shorter tables positioned next to each other would also work). The venue will need to accommodate projecting a single video feed visible to the audience behind the performers. See Figure 2 for more detail.

5. EVIDENCE OF FEASIBILITY

The framework to enable this performance, SoundCraft has already been developed, tested, and documented in depth in a paper submitted to this conference entitled *SoundCraft: Transducing StarCraft 2*. Towards the end of development on SoundCraft, we performed with two players playing against each other online over the BattleNet service and captured the video and audio of the performance. Furthermore, we plan to perform the piece at the upcoming Music and Gaming Concert at CCRMA in April 2013.

The submitters have extensive experience in computer music performance and laptop music, each having performed with and composed for the Princeton Laptop Orchestra and Stanford Laptop Orchestra for numerous concerts.

A selection of recent works by submitters:

- Spencer Salazar. *Muted Voices* (2012)
  `http://www.youtube.com/watch?v=x6s4QMfPDgg`
- Spencer Salazar. *Cirrus Pattern II* (2012)
  `http://www.youtube.com/watch?v=LxdPFEkTuTg`
- Hongchan Choi, John Granzow, and Spencer Salazar. *Im/mobile* (2011)
  `https://vimeo.com/44023076`
- Hongchan Choi, John Granzow, and Spencer Salazar. *Mondegreen* (2011)
- Jieun Oh and Ge Wang. *Converge* (2010)
  `http://www.youtube.com/watch?v=dhA2IUsZubk`
- Rebecca Fiebrink and Ge Wang. *Joy of Chant* (2007)
- Ge Wang. *TBD* (2007)
- Ge Wang. *Crystalis* (2006)
  `http://plork.cs.princeton.edu/listen/NYC/crystalis.mp3`

- Ge Wang. *ChucK ChucK Rocket* (2006) `http://plork.cs.princeton.edu/listen/green/ccr.m3u`
- Ge Wang. *CliX* (2006) `http://plork.cs.princeton.edu/listen/green/clix.mp3`
- Perry Cook and Ge Wang. *Non-specific Gamelan Taiko Fusion* (2005)

6. LIST OF EQUIPMENT TO BE PROVIDED

- Video projector
- Projection screen
- 8x 1/4" TRS connection to 8-channel PA/mixer
- 3 Ethernet cables with Internet access provided - potentially unreliable WiFi should ideally be avoided as it can cause lag in the game
- Surge protector or power strip with power provided (with standard US 3-prong power sockets)
- 6-10 foot table and chairs for 2-3 people

7. INSTRUMENTAL PERFORMERS

This performance does not require any instrumental performers to be provided by the organizers.