UC SANTA BARBARA
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Music in Real Time

When the UC Santa Barbara Chamber Choir and the Jazz Ensemble perform in separate concerts via YouTube this week, the performers and audience will experience something novel: live music.

With the campus closed and the limitations of Zoom, performing together for an audience is so early 2020. Like shaking hands and hugging, live shows feel like a relic from another time. But thanks to the magic of technology, they're coming to a screen near you.

The Chamber Choir will perform its "LIVE — Resilience" show Wednesday, May 26, at 6 p.m. on UCSB's YouTube channel. The next day, the UCSB Jazz Ensemble will perform its "(Almost) a Century of Jazz — 1927 to 2021" show from 5 to 6 p.m., also on the campus's YouTube channel.

Beating Zoom Doom

By now, most everyone knows Zoom doesn't handle sound well. It is impossible to sing or play music in unison on Zoom because of the sound delays inherent in the system. Latency — the time it takes for a computer-generated signal to travel to its destination and back — varies with every user. Anyone who's tried to sing "Happy Birthday" over Zoom knows how disjointed the experience is.

Nicole Lamartine, the Sorenson Director of Choral Music in UCSB's Department of Music, was all too familiar with these problems. Her choir members couldn't sing together, and what recordings they could make were tedious and time-consuming.

What’s more, Lamartine, who came to UCSB from Wyoming early in the summer of 2020, didn’t have a live rehearsal until this quarter.

Jon Nathan, a continuing lecturer in the music department and director of the Jazz Ensemble, had shared Lamartine’s frustration. But that all changed thanks to Jim Mooy, an associate professor of music at Santa Barbara City College.

Mooy, who directs the SBCC Symphony Orchestra and the Lunch Break Big Band, had taught electronic music sound production at City College for 10 years. Before that he waded into music technology when he taught high school in Long Beach.

Faced with the familiar Zoom problems in music, a year ago Mooy and James Watson, an aide in SBCC’s music department, began researching Jamulus, a software that allows bands and choirs to perform together with minimal or no delay. In a few months they established a dedicated server for the technology and on Oct. 23 the Lunch Break Big Band gave the first livestream Jamulus concert in the U.S. Since then they’ve put on five more performances with three bands.

Nathan, who has known Mooy for more than 20 years, liked what he saw at SBCC. Before long Mooy was helping Nathan and Lamartine set up their own Jamulus systems.

“Jim is a mastermind,” Lamartine said. “He is amazing. He’s the kind of person who says, ‘This is a challenge and how are we going to get through it? How are we going to solve the problem that produces an outcome that is good for a lot of people?’ He is generous with knowledge and he wants people to be successful. He’s the epitome of working for good. And I am so honored to be able to work with him.”

Inside the Box

Jamulus was created by Volker Fischer, a German software developer. Mooy and Watson talked to him about their needs and what could be done with the software.

“That was pretty exciting,” Mooy said. “James Watson actually had a development put in the software that enables us to use these Raspberry Pi computers, which are basically $35.”

Paired with headphones, an SD card and ethernet cables, the “jam box” allows musicians and singers to work together for roughly $130. And it’s not difficult to put together, as Lamartine, “a self-professed technophobe,” can attest.

“I’ve never thought of myself as being technologically savvy,” she said. “And so when Jon and I first started talking about these jam boxes, my instinct was, ‘Oh gosh.’ And then I thought, ‘OK, I'm going to do this because my students deserve that.’ ”

Lamartine ordered the choir’s 33 jam boxes and assembled them herself.

“I put every computer together,” she said, “put the little circuits inside the box, put the fan in there, connected everything together and programmed all of the SD cards, which is the software on which the jam boxes run.”

For Nathan, Jamulus has been a godsend, a way to reconnect with students and get the work of teaching back on track.

“We had a rehearsal with the rhythm section and three horn players,” he said of a recent session. “And we rehearsed for like 10 minutes and then we ran through it once and we were done in 15 minutes. We did the arrangement and got it all done, and it sounded great. I recorded it. It sounded great.”

The Future?

For the Chamber Choir and Jazz Ensemble concerts, Mooy will be monitoring remotely to ensure the sound is good and balanced.

“I'm going to be tapping into their Jamulus session,” he said. “And I will have a fader on the screen for every person who’s singing or playing an instrument. I’ll be able to balance the sound of each player; for instance, if the bass player is a little bit too loud and the piano player is too soft, I can adjust that and get a perfect mix, one that you would find on any professional recording.”

If all this sounds like the beginning of a new era in live performances, you may be right. Both Lamartine and Nathan said the technology has the potential to bring together performers regardless of where they are.

“I think this is the future,” Lamartine said. “Now I say that in a very optimistic way, because this technology opens doors in terms of people getting together to make music who aren’t in the same location. So I believe this is the future for UCSB. I really hope that we can be together in the fall. But if we ever do encounter delayed openings or pandemic lockdowns again, now we have the technology to continue the music making, to continue the learning. Even if we can’t be in the same room

together.”

“I think that is something we have to embrace wholeheartedly,” Nathan said. “I think gone are the days where people come to a concert hall and watch a performance of people playing live in that space.”

About UC Santa Barbara

The University of California, Santa Barbara is a leading research institution that also provides a comprehensive liberal arts learning experience. Our academic community of faculty, students, and staff is characterized by a culture of interdisciplinary collaboration that is responsive to the needs of our multicultural and global society. All of this takes place within a living and learning environment like no other, as we draw inspiration from the beauty and resources of our extraordinary location at the edge of the Pacific Ocean.