

Chattanooga Public Library's new system creates instantaneous collaborations

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Rob Wichtman adjusts a camera that helps connect a music lesson from Burlington, Vermont, with students at the Chattanooga Public Library on Tuesday, June 21, 2016, in Chattanooga, Tenn. For Make Music Day, the library hosted interactive events that connected digitally to Burlington.

Photo by [Doug Strickland](#) /Times Free Press.

Gallery: Lo-Lo-Lo-Lo-La: Library's new system creates instantaneous collaborations



While people all over town were creating all manner of music as part of International Make Music Day on June 21, a group of adults and kids gathered into one side of the fourth floor in the Chattanooga Public Library downtown to learn to play the harmonica from an instructor who was in Burlington, Vt.

There were other performances throughout the day featuring musicians at the library and the Fletcher Free Library in Burlington.

For the early demonstration, about a dozen people huddle around microphones, armed with Hohner harmonicas donated by the instrument maker. On a TV monitor facing the audience is Mark LaVoie, a music instructor in Burlington; facing them in front of the stage, the would-be harmonica players have their own monitor with LaVoie on it.

LaVoie and his crew have a similar setup back in Vermont, allowing them to see and hear what is happening in Chattanooga.

"Puff, puff, blow, blow," LaVoie instructs and the Chattanooga group — mostly young kids — puff, puff, blow, blow into their new instruments. It's not about the quality of the song being made. This is about the technology that allows LaVoie to communicate in real time with a group of players 1,088 miles away, technology known as LoLa (Low Latency Audio visual streaming system).

There are only a handful of communities that have LoLa capabilities similar to the Chattanooga and Fletcher Free libraries. Here, the library has been testing its gig-powered LoLa Stage for months and decided the June 21 Make Music event was a good time to make it public.

"We want to finally put it out there," says Mary Barnett, public relations coordinator at the library.

The technology is so new — with Chattanooga at the very forefront of it — even the people presenting it are not sure of its future uses. They just imagine it could be far-reaching.

"We are the first mover out there," says Ken Hays, president and CEO of the Enterprise Center, an organization focused on creating and helping community efforts related to Chattanooga's gig capabilities.

Hays has been imagining and working on LoLa for almost six years and says that this past week and the week prior represent the launch of something exciting.

"We are past the 'if it's going to happen' and are now at the 'when this happens' stage," he says. "What I'm looking forward to is getting this sort of group of younger, future-minded folks thinking about how to use this. Now they can go play with it. And people will figure out how you can make money with it."

What the LoLa software does is remove most of the latency, or delay, in sending audio and video over the internet. It relies on Internet2, the advanced technology community owned and run by higher education institutions across the country.

LoLa allows, for instance, musicians on opposite sides of the country to perform live together without any noticeable delay. The singer in one city hears the striking of the piano key in another city at virtually the same time as the person striking it.

Library Integrated Library System Administrator Rob Wichtman says the hoped-for — or expected — latency is 0.003 seconds, the same as a housefly's wing flap, but the real test is if the musicians notice any delay.

"When they start to notice it is when there is a problem," he says.

"I was pleasantly surprised at how well it worked," says Shane Morrow, a local musician and director of Jazzanooga, which presents concerts, a festival, workshops and lectures promoting jazz in Chattanooga.

Morrow participated in a previous practice LoLa run last month. From the Chattanooga Public

Library, he and singer Ellen Sturgill Cummings joined a singer/keyboard player in Vermont.

"We were able to perform together and do three-part harmony," Morrow says. "That was a very eye-opening experience. For us to clearly hear them and they to clearly hear us and do an a cappella song was amazing. I look forward to doing it again."

Morrow says he is already discussing ways to incorporate LoLa into a Jazzanooga event.

Currently, music applications are the most obvious uses for the technology. For instance, using LoLa, an instructor in another part of the world can teach a master's class to several groups in other countries. Or two artists could collaborate on a song, as T-Bone Burnett did in 2012 as part of RiverRocks, the annual celebration of outdoor events and attractions in the area.

To show off the city's new gig capabilities, RiverRocks put together a closing day concert called Gig City Roots. While the Secret Sisters played live in Coolidge Park, Burnett joined them via a low latency hookup from the University of Southern California's Annenberg Innovation Lab.

Since then, however, the technology has improved quite a bit and gotten cheaper, Hays says.

"I think it was around \$10,000 when we bought it, and it's now around \$2,000 to \$2,400," he says.

The setup for the LoLa Stage at the library looks similar to other music/video setups. There are microphones, a video camera on a tripod, a couple of monitors, speakers, a stage and a mixing/sound board. The computer used to run the LoLa software is a fairly common 64-bit unit running Windows 7.

There are several advantages to having LoLa at the Public Library, according to Barnett. First, it's available to the general public. Second, the library also has the space to make the LoLa Stage permanent, keeping the equipment in place and making it relatively accessible at any time.

That doesn't mean you can just walk in and use it, however. It takes staff to get it up and running and operate it, and you must coordinate with someone in another part of the country who has the same technology. Barnett says the plan is to make LoLa available on a regular weekly basis with hopes of doing more events as other communities come onboard and demand rises.

"We can do seminars and workshops," she says, and the library also is hoping to partner with student filmmakers.

Hays says the possibilities are limited only by imagination.

"I've very excited to see what people come up with."

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