

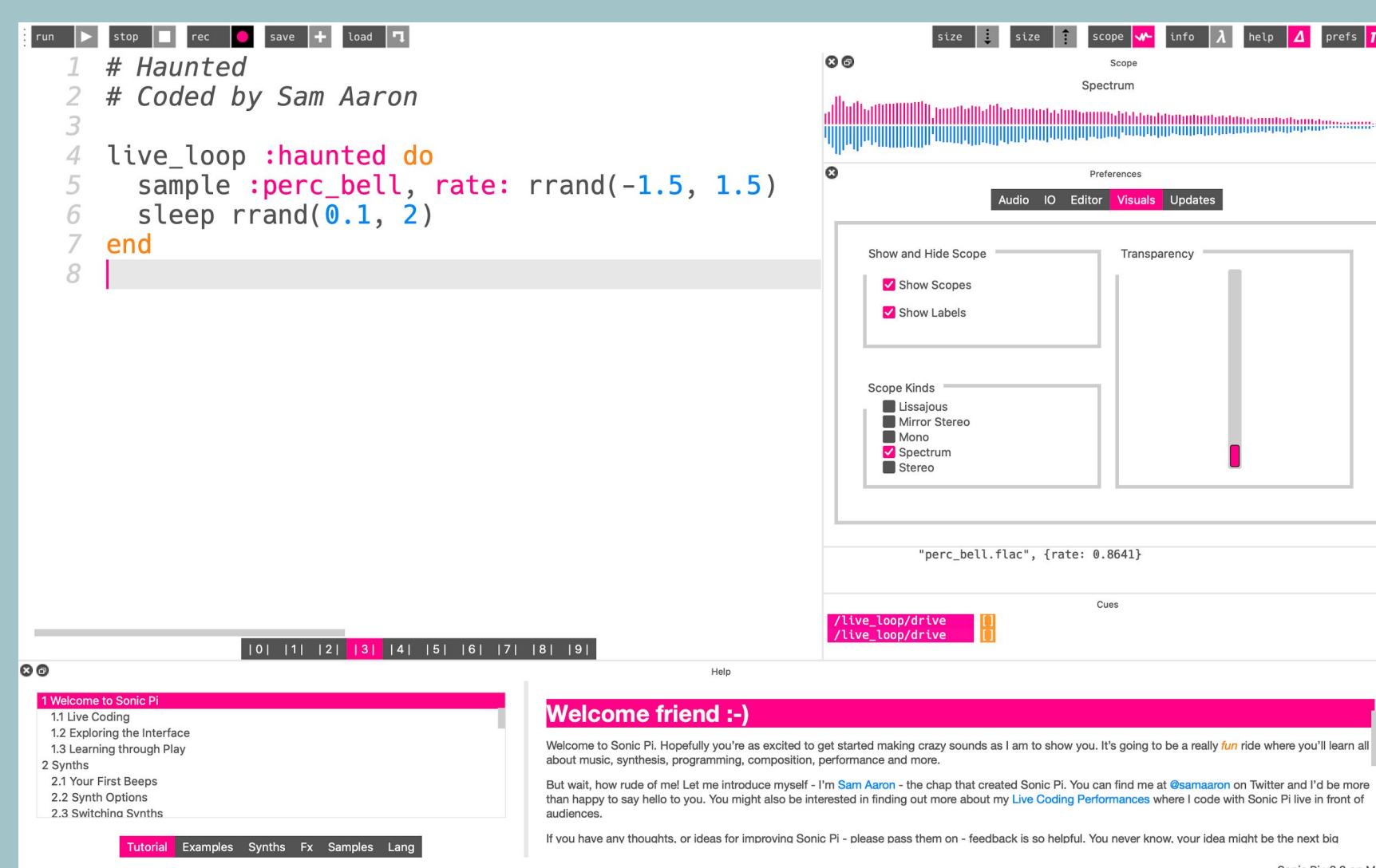


CSCI 462 Capstone Project

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Sonic Pi is an open-source live coding music synthesizer originally designed to teach programming concepts through the process of creating new sounds. We chose this as our capstone project because the GitHub has good documentation and the community is active.

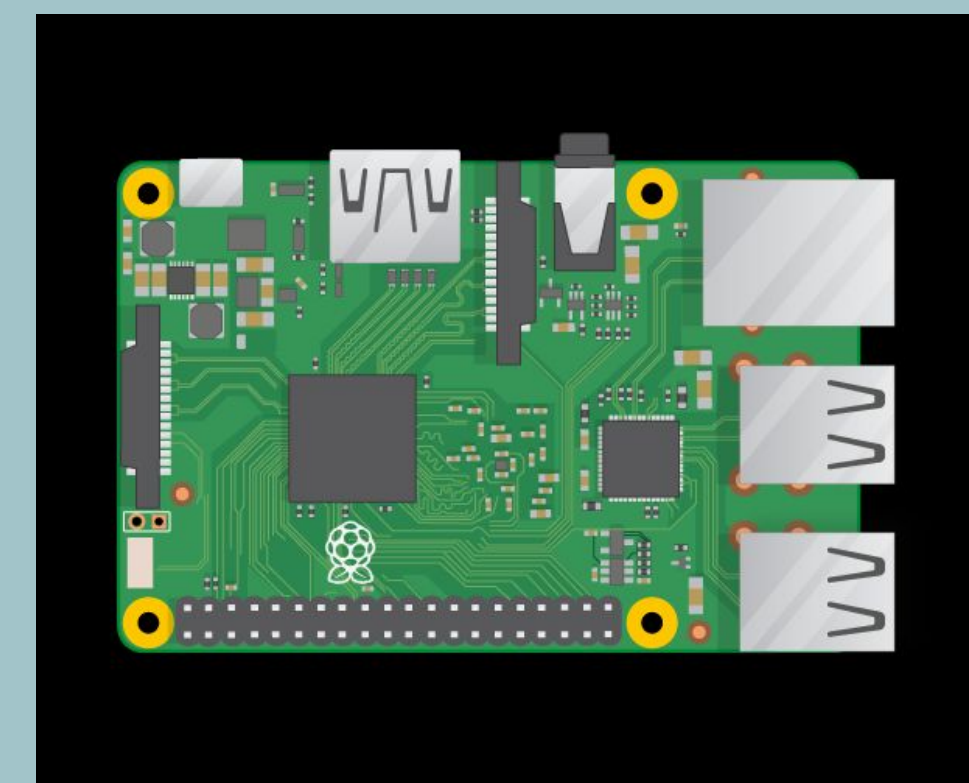


Issues

- Memory Leak #2168
- Installation Scripts
- Developing interface for communication between multiple systems on a LAN

We constructed a script to make downloading all the dependencies required to run the developer version of Sonic Pi. The reason for the script is that we had multiple different Pi's or virtual machines acting as instruments. We wanted to make it easier for the developers or user to build their own Sonic Pi image. Once the script was debugged we moved on to using NetCat for basic use and proof of concept for basic communication. Then more scripts were written to run the conductor and the instruments.

Networking Sonic Pi on several Raspberry Pi machines



Raspberry Pi's are designed for use in large groups. We decided to adapt Sonic Pi to take advantage of this functionality, allowing users with multiple Raspberry Pi's to create orchestras. In order to allow networking on multiple Pi's, and even virtual machines, we needed to make several custom scripts to download dependencies and run the software on multiple machines.

Reflection

Overall, this was a big learning experience from learning about Raspberry Pi's to understanding Ruby to learning how to network those Raspberry Pi's together. We got to get involved in the open source community and get some real world experience with this project. Being able to get our hands dirty and fix bugs and develop scripts has given us a lot of insight of what to expect after graduation.