**Release 2**

**What’s Changed?**

We finished the Chip-8 Emulator. It is in working order with no apparent bugs. The Emulator now runs on the major web browsers. The Emulator has been tested with an already-existing Chip-8 game, and although the animations and the speed of the Emulator are not optimal yet, everything is working smoothly.

In addition to these changes, the user has the ability to pause the Emulator and advance the Chip-8 program line by line. After pausing the program, the user is also able to resume the Emulator cycles.

In this release, we also include a file called “auto\_test.js” that runs automated testing. The program in this file tests all 35 opcodes for possible errors by passing through a range of inputs. It then matches the outputs produced by our Emulator with the expected outputs. When it finishes, the program will print to the console the number of opcodes tested, the total number of errors, and the locations of each error (if there were any).

**What’s Next?**

**Visualizer**

We have hoped to finish the Visualizer by Release 2. Unfortunately, we will not be able to have that as a part of this release. Our team member that is in charge of this task has other obligations to attend to and therefore is unable to complete this task in time. Although a bit of progress has been done, the Visualizer will be postponed until the next release.

**Tools**

We plan to have the Assembler done by Release 2. However, as the midterm season is coming up, many of our members are kept busy by other courses. In addition, the tool proves to be challenging to finish on time.

**Games**

We are still working on the Chip-8 games. We have a plan for a draft for one of the games, but we don’t really have anything out yet.

**Instructions for Running the Provided Software**

*At the moment, the Emulator only runs properly on Firefox and Microsoft Edge.*

1. Double-click on “Chip8.html”.
2. Click on “Load Pong!”.
3. Wait for the game to load.
4. Enjoy.
5. Press F12 to open the web console to see the Emulator’s details.
6. Press the tilde key to pause/resume the Chip-8 program.
7. Press F2 to execute the next opcode in order to advance the program line by line.
8. Close the web browser or the tab in order to stop the Emulator.
9. All done

**Instructions for Running Automated Testing Software**

*At the moment, the Emulator only runs properly on Firefox and Microsoft Edge.*

1. Double-click on “Chip8.html”.
2. Press F12 or open the console to see the testing in action.
3. Click on “Run Automated Testing”.
4. See the results in the console.
5. All done