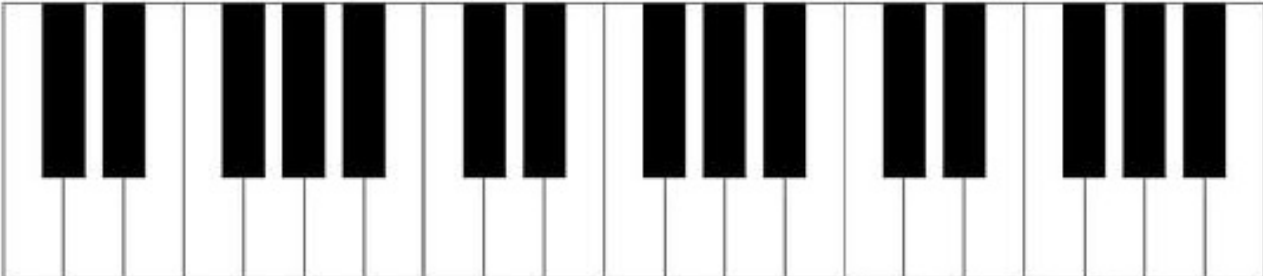The Keyboard-Keyboard

        The Keyboard-Keyboard is an interactive on-screen keyboard piano that is played by typing on the computer's keyboard. The tones of the keyboard represent three octaves of a piano and are customizable, allowing the user to assign a unique tone to each typing key. The 26 alphabetical and 10 numerical keys are usable, allowing a unique typing key to be assigned to each of the 36 piano keys. A representation of the piano is displayed at the bottom of the window; each key turns blue when its respective typing key is pressed. Above the keyboard are two panels. One has a list of the saved settings/keyboard configurations. When one of these saved configurations is clicked, the keys are re-matched to the saved configuration. The other panel allows the user to assign new tones. This panel also displays the current keyboard configuration. See below for a representation of the program window.

Saved Configurations	Choose New Tones
• Example 1 • Example 2 • Example 3 • Neil's Beats • Cool Tones	Click the "Choose New" button, then press a piano key below. Then, type the letter or number that you want to match it. Choose New Currently Assigned: a Low C b Low C# c High F#

        The initial configuration (when the window is opened) assigns tones in order to computer keys in alphabetical, then numerical, order. Tones will be assigned starting with the left-most key on the keyboard. For instance, a = low C, b = low C#, … , 9 = high A#, 0 = high B.

        When the user types a key on his/her computer keyboard, the respective piano key will play and hold for as long as the computer key is held. Also, the piano key will turn blue for as long as the key is held, but then return to white/black once it is released.

   The user can save current configurations and access them later under the "Saved Configurations" panel. A "Save" button is found in the "Choose New Tones" panel under the Currently Assigned list. You must scroll down to see the Save button. The user can also assign new tones under the "Choose New Tones" panel. The panel has a scroll-down section to view your current configurations. As described in the directions, the procedure of assigning new keys is simple.

   A possible modification to the program is to allow tones to be played by clicking on the piano keys as well as by typing the respective computer keys. The focus of this program is mainly keyboard-exclusive. The user will click on the piano keys to assign new tones, but not to play tones. Allowing tones to be played by clicking is one of the many possible modifications to the program that may or may not appear in the final product.

   It is important to recognize that this program is not a game. There are no rules or objectives, and there is no way to win. It is simply an applet for the user's enjoyment.

Goals / Stages of Development

1. Display the window with the appropriate layout, including the piano. No words are displayed at this stage, and the piano is not yet interactive.

2. Play a tone when a computer key is struck. At this stage, the same tone will be played for all keys.

3. Assign the initial configuration of keys. Each computer key now matches a unique tone and piano key.

4. Have each piano key turn blue when its respective keyboard key is played.

5. Display the currently assigned keys under the "Choose New Tones" panel, and have the scrollbar fully functioning.

6. Configure the "Choose New" option.

7. Configure the "Save" button to name and store configurations. The "Choose New Tones" panel is now complete.

8. Display all saved configurations on the left panel.

9. Rematch the keys when a saved configuration is clicked. The "Saved Configurations" panel is now complete.

By the end of the last stage, the program will function and display as intended. However, many modifications can be made to enhance the program.