# Visualizer 98

By Jacob Reed

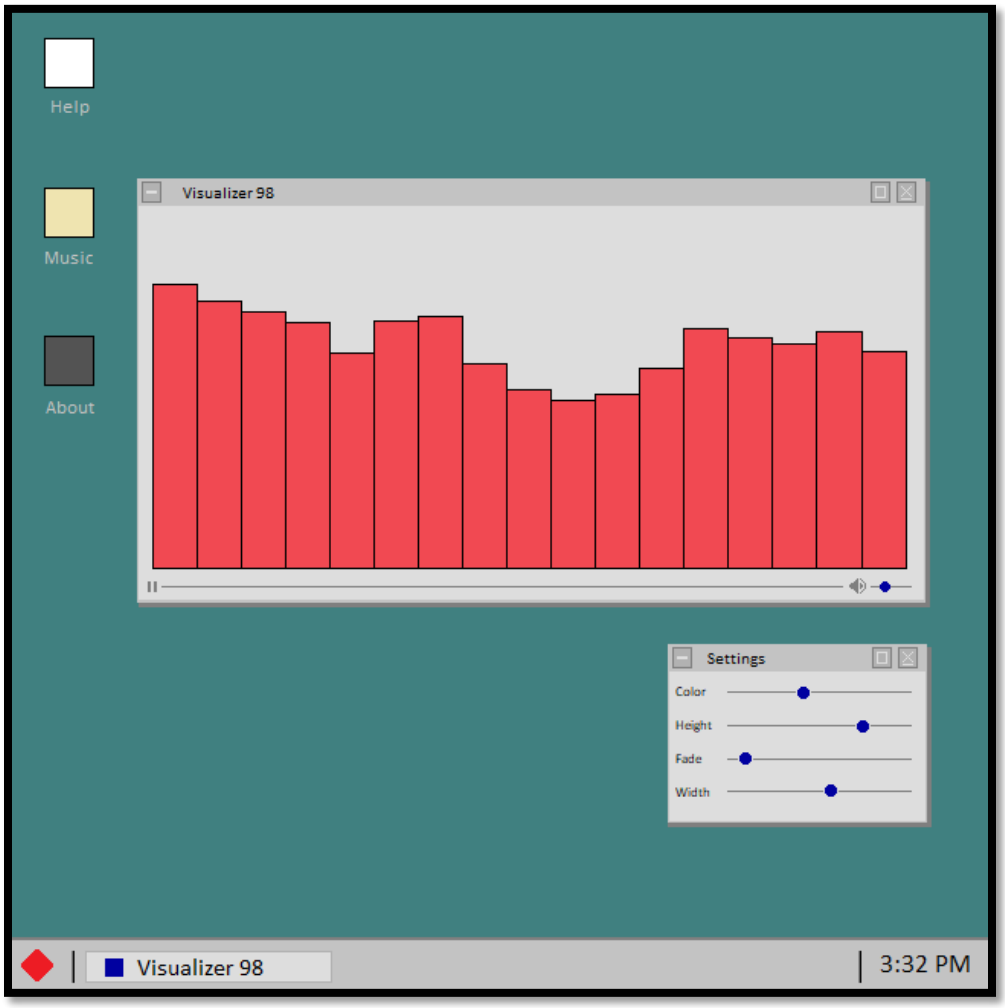


Figure 1 – Draft representation of *Visualizer 98*

## Summary

Presented in a virtual desktop environment from yesteryear, *Visualizer 98* seeks to capture the nostalgia of the desktop music listening experience. Users will be able to enjoy locally uploaded music while exploring an interactive retro environment ("open" folders and files, set themes, and adjust visualizer effects).

Utilizing the "Web Audio API" allows for the extraction of frequency, waveform, and other audio data from a source of audio. This data enables waveform/oscilloscope and frequency bar graph audio visualizations to be generated and presented live to users.

### Summary of Content

- An audio visualizer
    - Options for users to manipulate the audio visualizer
- A graphical representation of a virtual desktop environment
    - Interactive icons and folders
    - Interactive files that display additional content to users
        - A help "text file"
        - An about me "text file"
        - Wallpaper images
        - (Stretch) Royalty free music library to test audio visualizer
    - Interactive settings that allow for changes to appearance of virtual desktop environment
        - Wallpaper
        - Colors (taskbar, window borders, icons, etc.)
        - (Stretch) Ability to manipulate size and location of "windows" and files

## Justification and Professional Goals

Creative and interactive web content is something that interests me greatly. The backbone of this type of content is high-level, dynamic, and often complex programming languages. I have identified one of my greatest weaknesses as a web developer to be my understanding and implementation of JavaScript and associated frameworks. *Visualizer 98* presents me with an opportunity to further study JavaScript, hone my skills with API integration, and further refine my design techniques. I have never created something this ambitious and interactive. I am confident that a cohesive, unique, and beautiful experience will speak for itself and serve as an impressive addition to my portfolio.

## Timetable

As research, design, and implementation are intertwined in this process, it is essential to keep on track and not get bogged down in one activity or the other.  As such, assigning "deliverables" by the end of each week is ideal (W1 = Week 1, W2 = Week 2, W3 = Week, and so on) and will give me a clear goal. All progress will be logged each day in personal journal to keep me in check and accountable.

## Sequence of Events

1) Research "Web Audio API" concepts and usage (W1 – January 26)
    - Uploading and parsing audio file data
    - Displaying audio file data in visualizer form
2) Implement draft visualizer capabilities on local environment (W2 – February 2)
    - Create working audio visualizer
    - Web hosting options
    - Further research if needed
3) Research JavaScript integration with "Web Audio API" in order to manipulate visualizer settings and appearance (W3 – February 9)
    - Waveform/oscilloscope and frequency bar graph
    - Appearance (size, color, speed, etc.)
    - User controls
    - Control in real time without needing to reload webpage
4) Implement visualizer manipulation options on local environment (W4 – February 16)
    - Create working audio visualizer settings
    - Explore further customization options
    - Bug test visualizer settings and manipulation
5) Draft and design the "virtual desktop environment" setting (W5-W6 – March 2)
    - Adobe Illustrator for wireframes and draft
    - Explore display options for varying devices (desktop, tablet, mobile, etc.)
    - Create scripts for text files ("About Me", "Help")
6) Research options for styling and manipulating virtual desktop environment (W7 – March 9)
    - JavaScript or other language options for real time manipulation
    - Setting theme, changing wallpaper, "minimizing" or "closing" folders and files, etc.
7) Create graphical assets for virtual desktop environment (W8-W9 – March 23)
    - Color palettes and themes
    - Wallpapers, icons, and other graphics.
8) Implement virtual desktop environment manipulation and graphical assets (W10 – March 30)
    - Create working virtual desktop environment
    - Bug test manipulation settings
    - Survey potential users and solicit feedback
9) Create online presentation of final product (W11 – April 6)
    - Write detailed report on this project
    - Record video presentation (if required)