

CS 320 Course Project Final Report

for

Sound Recorder

Prepared by

Group Name: Tune Deaf Interactive

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# Introduction

## Project Overview

Sound Recorder is a simple, web-based audio mixing tool. The goal of the project is to provide a simple, free alternative to its more expensive, more complicated, non-web-based counterparts. Sound Recorder provides a user with the ability to record and download audio files to each of a total of five channels. The user can play and pause each channel individually or play the mixed result all together. Additionally, the Sound Recorder application provides full documentation of use for new users on its landing page.

## Definitions, Acronyms and Abbreviations

No special definitions, acronyms, nor abbreviations are used in this report.

## References and Acknowledgments

[1] katspaugh, “Overview,” wavesurfer.js. [Online]. Available: https://wavesurfer-js.org/. [Accessed: 03-Dec-2018].

# Design

## System Modeling

A close up of text on a white background

Description automatically generated

A screenshot of a cell phone

Description automatically generatedA screenshot of a cell phone

Description automatically generated

A picture containing screenshot

Description automatically generated

A screenshot of a cell phone

Description automatically generated

A screenshot of a cell phone

Description automatically generated

## Interface Design

A screen shot of a computer

Description automatically generated

A screenshot of a computer screen

Description automatically generated

A screenshot of a computer

Description automatically generated

# Implementation

## Development Environment

This project used HTML, CSS, and JavaScript in association with the Meteor web application framework. The team used IntelliJ with ESLint for Code Quality assurance. Additionally, the Semantic UI library was used for the UI implementation and wavesurfer.js [1] was used to implement audio elements.

## Task Distribution

Shawn Hillstrom was responsible for some UI implementation and non-audio related back-end implementation. Additionally, Shawn was responsible for code refactorization.

Brad Hendrickson was responsible for audio implementation including the discovery and implementation of wavesurfer.js.

James Kerinan was responsible for UI implementation and helped out with any back-end features that he was called on to add.

## Challenges

The biggest challenge encountered during this project was learning how audio works in HTML and trying to integrate wavesurfer.js [1] with Meteor. Another challenge, although not as time consuming, was trying to make the UI look nice.

# Testing

## Testing Plan

[List the items or functions we want to test and provide a schedule for performing said test(s).]

## Tests for Functional Requirements

[List the use cases or functions we tested, as well as the results.]

## Tests for Non-functional Requirements

[List the non-functional requirements we tested, as well as the results.]

## Hardware and Software Requirements

[Describe the hardware and software requirements for performing our tests.]

# Analysis

**Milestone 1:**

Shawn Hillstrom – 4 hours

Brad Hendrickson – 4 hours

James Keirnan – 4 hours

Milestone 1 was mildly time consuming because it was the group’s first time working on the project together and the members did not really know exactly what the project was going to turn into yet. The members were able to complete it with approximately 12 labor hours between everyone involved.

**Milestone 2:**

Shawn Hillstrom – 2 hours

Brad Hendrickson – 2 hours

James Keirnan – 2 hours

Milestone 2 was much easier than Milestone 1 because the members of the group had put much more thought into the project and now had an idea of where to start and how to organize the system on a high level.

**Milestone 3:**

Shawn Hillstrom – 25 hours

Brad Hendrickson – 25 hours

James Keirnan – 25 hours

Milestone 3 was by far the hardest project milestone out of the three. This milestone involved the members of the group figuring out how to actually implement the system in Meteor and dealing with changing requirements and time constraints along the way. The group worked tirelessly over the course of three weeks putting in 75 labor hours between everyone involved.

# Conclusion

There have been several highs and lows throughout the project. One thing we wish we had done was select our external resources for the project earlier. If we had found wavesurfer.js [1] and figured out how to make it work with Meteor earlier in the course, the final project would have taken a lot less time to complete. Additionally, our requirements changed quite a bit during the process which is generally normal for any team but due to time constraints we were not able to re-visit our design documents; instead we were required to simply work with what we could in the time alloted. This taught us that design documents are great, if you have completely thought out the project before you begin. In practice, though, often a team will have to adjust to new constraints in the moment rather than re-visiting the design documents for the project.

[Add more if you wish.]

Appendix A - Group Log

Throughout the completion of this project, the group did not meet in person. Instead, the members chose to use Discord as an online forum for project discussion. Communication was frequent and constructive and progress on the project was equally frequent as can be seen on the project GitHub respository which can be viewed [here](https://github.com/shawn-hillstrom/cs320-finalproject).