



Mori 2021 Grant 研究成果報告書 / Research Report (22-02-27)

Sangbuem Choo

Media and Governance, Master's 2nd year

82025634

1. Research Summary

Background

Dystonia is a neurological movement disorder characterized by involuntary muscle contractions, affecting as many as 250,000 people in the U.S. alone. Among the types of

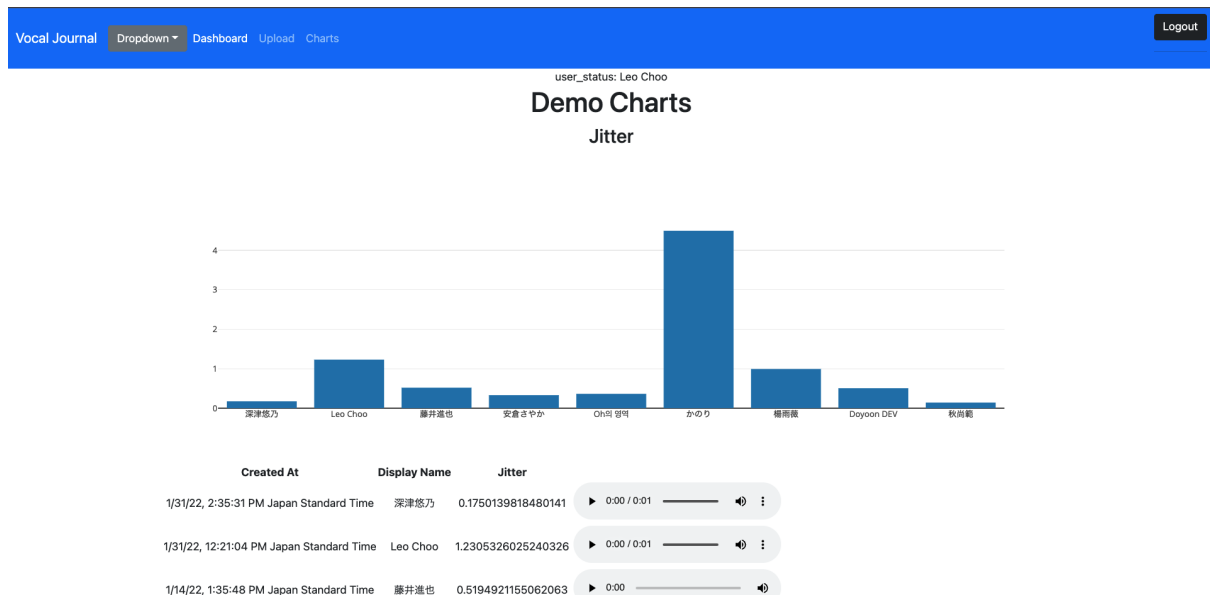
dystonia, vocal dystonia (dysphonia) accounts for 20%. **Currently, dysphonia patients cannot get reliable feedback on their voice unless they see a doctor.**

Because patients cannot monitor their vocalization to correct themselves, it can potentially lead to inefficient practice that can worsen the symptom.

As a dysphonia patient myself, I have experienced the difficulty of lack of feedback during rehabilitation. Therefore, I decided to take on this research to make software that can help people quantify and objectively monitor their voice.

Pain point: People do not have an easy way to receive objective feedback on their voice, which is essential for rehabilitation and learning.

Solution: Vocal Journal



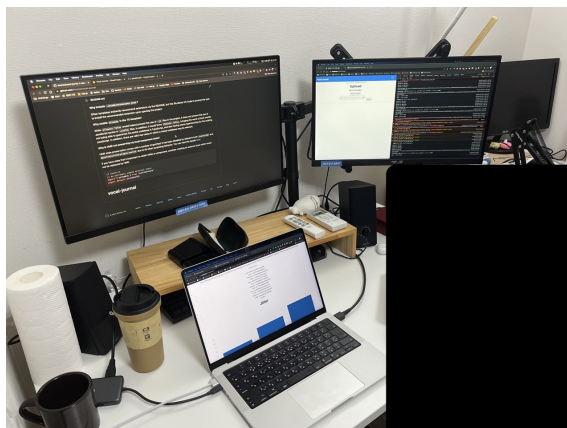
Vocal Journal is a web application provides quantified feedback on user-submitted voices. Traditionally, it has been difficult for the user to know whether their vocalization is “good” or “bad” or “healthy” or “unhealthy”. Vocal Journal will analyze user-submitted voices and return them with the numbers that can be used to help them judge whether their voice was “good” or “bad”. In the future, it will include a feature based on artificial intelligence to actually judge whether the voice is “good” or “bad”.

As my expertise is in software engineering, I am working closely with the renowned voice trainer Yasukura Sayaka and my advisors to fill the gap in singing education and phonetics.

2. Grant Usage (2021)

I utilized the Mori grant to purchase a personal laptop. Previously, I have been borrowing a laptop from my research lab to continue my research. However, since this device was not my personal

device, the usage was limited. Therefore, I purchased a laptop to be able to work on my research whenever I can, increasing productivity and speed of my research. The purchased model was Apple's MacBook Pro, the most popular choice for a software engineer developing web/mobile applications.



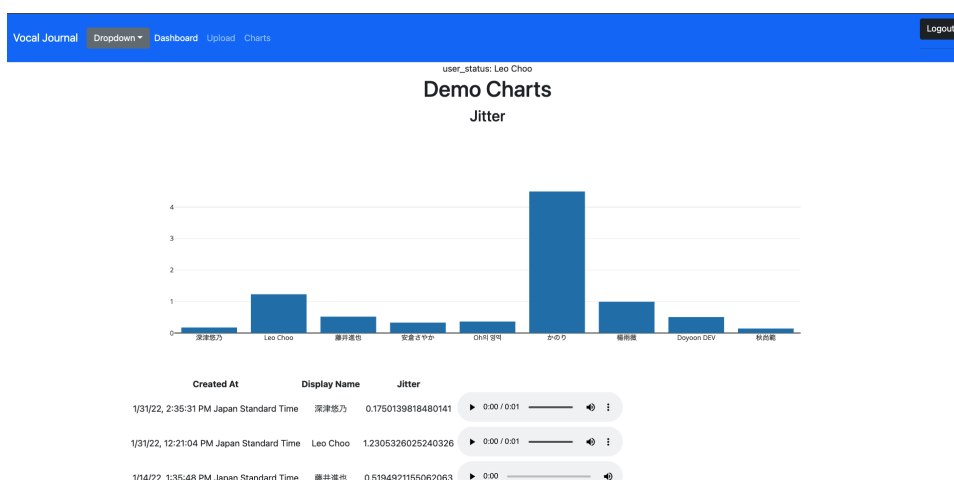
3. Progress

Thanks to Mori Grant, I achieved three goals I initially set by February 2022.


- ✓ ~~Proof of Concept~~
- ✓ ~~Develop prototypes~~
- ✓ ~~Release the app online~~

As a result, I was able to write code and deploy Vocal Journal on the internet thanks to the grant. A high-performance laptop helped greatly with the development speed for both frontend and backend.

Currently, Vocal Journal is live here: <https://vocal-journal.web.app/>

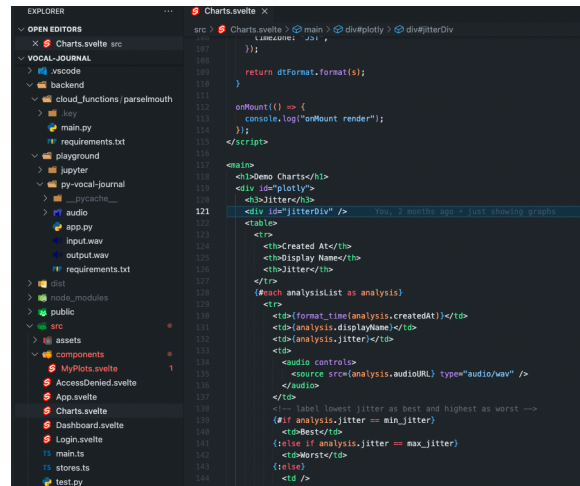
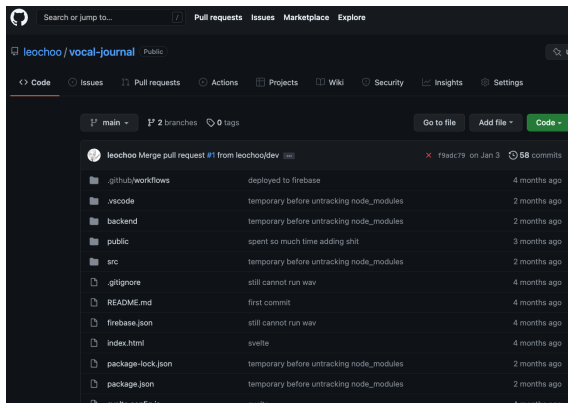


Vocal Journal

 <https://vocal-journal.web.app/>

Here is also the link to GitHub which contains source code of my project (the proof of my work and progress).

<https://github.com/leochoo/vocal-journal>



<https://github.com/lechoo/vocal-journal>

Video

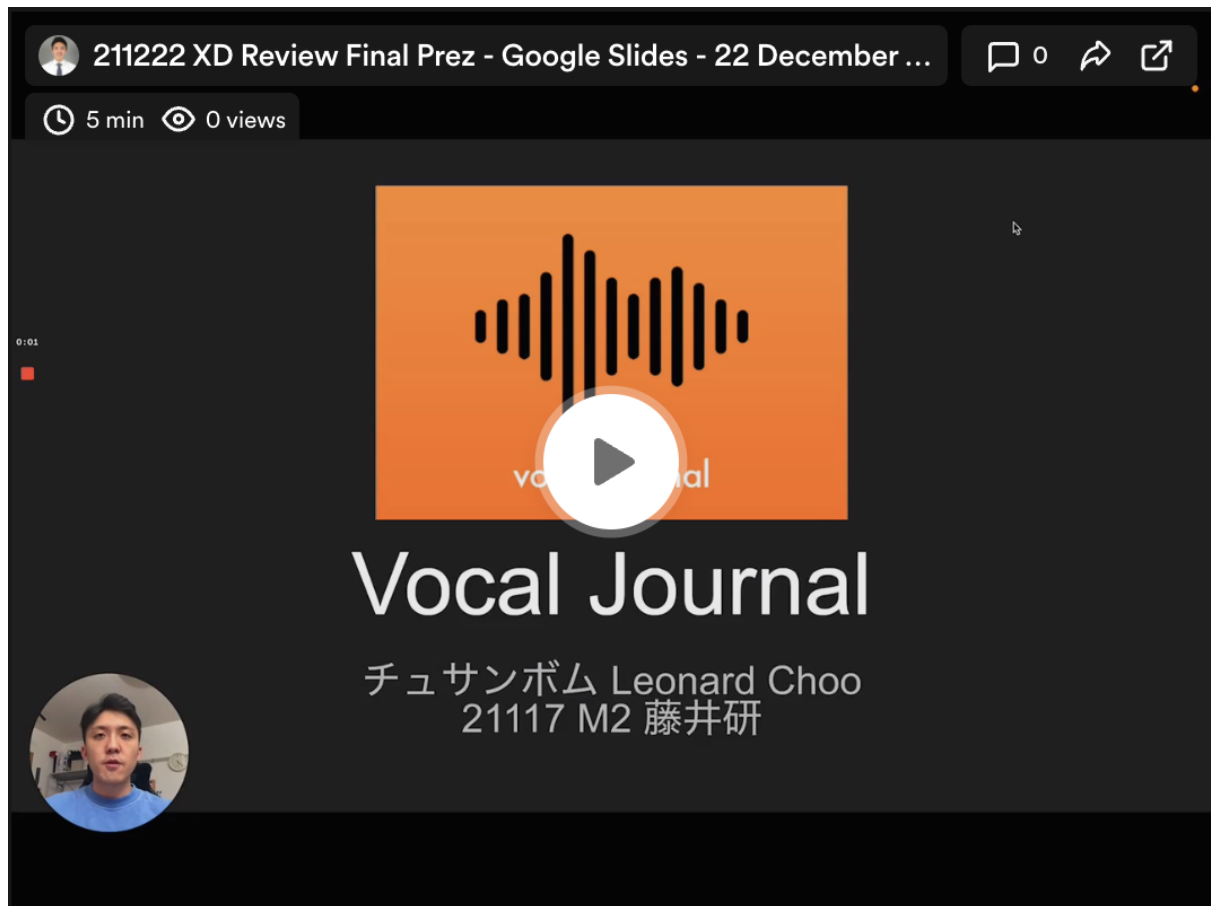
Further detail on how to use this application is explained in the below URL.

Video Presentation:

<https://www.loom.com/share/41e7b946ab6f46a2b53dc15b8cbdd962>

211222 XD Review Final Prez - Google Slides - 22 December ... 0 0

5 min 0 views



The image shows a video player interface for a presentation titled "Vocal Journal". The video is 5 minutes long and has 0 views. The main content area features a large orange square with a black waveform graphic and a white play button. Below the square, the text "Vocal Journal" is displayed in a large white font. Underneath, the presenter's name "チュサンボム Leonard Choo" and affiliation "21117 M2 藤井研" are listed. A small circular profile picture of the presenter is visible in the bottom left corner of the video frame.

0:01

Vocal Journal

チュサンボム Leonard Choo
21117 M2 藤井研

<https://www.loom.com/share/41e7b946ab6f46a2b53dc15b8cbdd962>