

The Music Assistant

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Motivation

- It's hard to practice singing on your own without a way to measure your improvement
- Coordinating choirs is difficult when members can only meet once a week

Project Goal

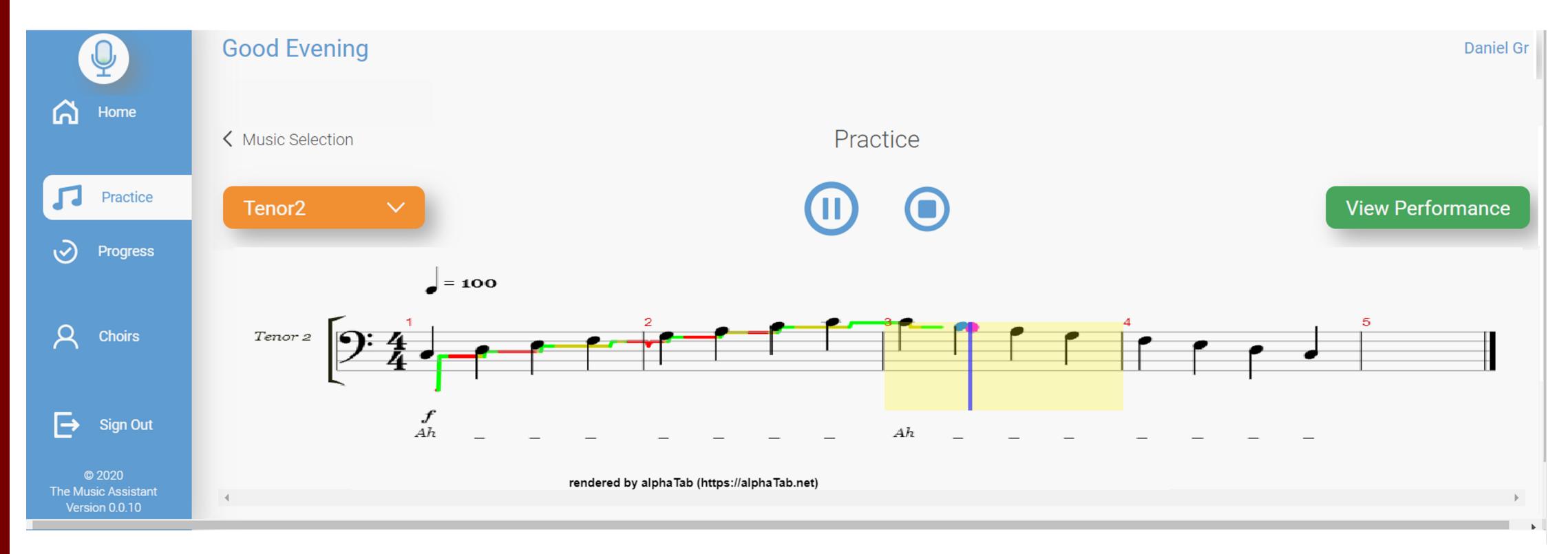
- Create a web application that helps singers practice their performances
- Display real-time feedback as students sing
- Show a progress summary highlighting measures that should be practiced.
- Provide teachers with an overview of student performances so they can better plan lessons

Choir Management

- Choir directors can add members to choir and assign them roles according to their part in the performance
- Sheet music is limited to the choir to protect copyright

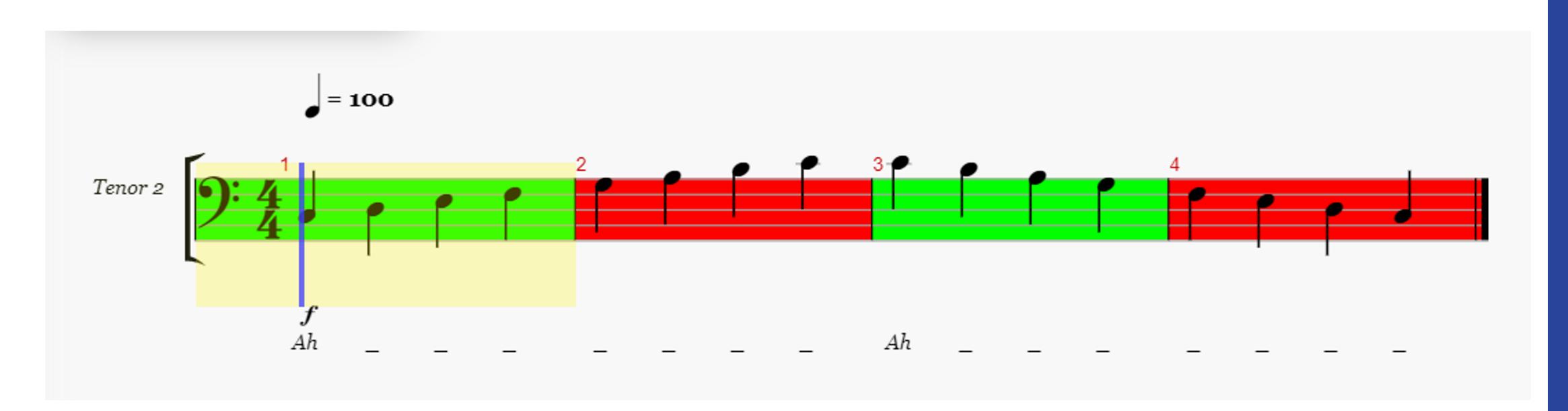
Real-Time Feedback

 Displays student performance as they sing, drawingin green, yellow, and red to show accuracy



Progress Summary

 Performs an in-depth analysis once the performance is completed to recommend specific measures for students to practice



Performance Database

 Stores student performances so teachers can see how often students practice and who needs the most help

Future Improvements

- Choir Management
 - Create an OCR to allow sheet music to be easily added to a choir

Performance Database

- Generate individual statistics for students and aggregated statistics for teachers
- Detect similarities in sheet music to identify problematic patterns for students

Interesting Challenge:

- What measure should students focus on?
- We decided students should focus on the first measure in the worst series of measures. However, we also allow students to judge for themselves after seeing the progress summary.