

Team Rust:  
Carlton Brown  
Jackson Dukes  
Tony Imbesi  
Abri Witchett  
November 9, 2022

## Guitar Tuner App

### User Requirements

1. User should be able tune guitar to EADGBE tuning using app
2. Users should be able to see the frequency of the plucked string, regardless of closeness to the correct frequency.
3. Users shall be able to see how close they are to the correct tuning via a color-coded accuracy rating.
4. Users should be able to choose between a chromatic and non-chromatic tuner.

### System Requirements

1. The app shall be able to read values from a frequency-to-pitch database to calculate accuracy.
2. The app shall provide accurate visual feedback of the note within 4 seconds of plucking a string.
3. The app shall use the built-in device microphone to read audio input and obtain the frequency value.
4. The app shall run as either an Android app or a webpage.

### Risk Analysis

1. In the event that a teammate gets sick (COVID, Flu, etc), and/or drops out of the project we will distribute their assigned work across the remaining teammates, and ensure it does not overwhelm anyone with the task they currently have.
2. If our team cannot learn how to work with the proposed technology stack in time, the project will be made as a Javascript web application instead.
3. If the microphone input functionality cannot be implemented in time, the user will be able to input numerical frequency values manually.