**MetroGnome  
Software Requirements Specification**

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**Revision History**

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| **Date** | **Author** | **Description** |
| 5/12/24 | All | Initial document creation |
| 5/14/24 | MA / RH | Updated project plan and SRS, post interviews with musicians |
| 5/19/24 | All | Updated SDS and SRS, created models for various systems |

**1. SRS**

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# ConOps

## 1.1 System Overview

The workflow for a typical musician includes a tuner and a metronome. Often, at the beginning of a practice session, a musician will tune their instrument, and then rely upon a separate tool to configure their metronome. To maximize performance and output, we propose conjoining the two processes into a single tool.

## 1.2 Justification for a New System

Musicians alternating between applications creates an opportunity for distraction. Studies have shown that switching apps, in instances separate from musical training, can decrease productivity (Madore & Wagner, 2019). By combining these components, musicians will be able to focus on their practice rather than their technology, increasing the efficacy and productivity of their practice sessions.

## 1.3 Operational Features of the Proposed System

The proposed system will provide a combination of a tuner and metronome, seamlessly integrated so that users can switch between the two. The system allows the opportunity for the addition of future music-related technologies, such as transcription. The system will be designed to support such additions.

## 1.4 User Classes and Modes of Operation

Our system allows for only one user class: musicians. The application requires no configuration of a database, nor admin setup. Rather, the web-application focuses on curating the skills of musicians. The modes of operation are binary and simple: The musician is using the metronome; the musician is not using the metronome; the musician is using the tuner; the musician is not using the tuner. The system will not allow for the synchronous use of both the tuner and the metronome, as the microphone input may be disturbed by the sound of the metronome.

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## 1.5 Operational Scenarios or Use Cases

**Description:** This use case describes how a musician would use the app.

**Actors:** A musician with a microphone.

**Preconditions:**

1. The musician has access to the internet, a web browser, and a microphone.
2. The student wishes to use the tuner and the metronome.

**Steps to Complete the Task:**

1. The student will use the tuner portion of the app, playing a note on their instrument, and reading off the frequency reported from the tuner, and adjusting their instrument until the note is within an acceptable range of the expected note.
2. Then the student will launch the metronome from the landing page, input their desired BPM and time signature, and click play.

## 1.6 Real-World Users

To find real world users we can poll music students entering the music buildings on campus and ask if they are willing to be interviewed. We can then poll them about which tools or apps they use to tune their instruments, and which metronomes they use. We will ask about what features they like and which features they dislike.