MetroTune Project Proposal Document

DESCRIPTION:

This project, MetroTune, provides the user with several pages where they can access different instrument tools. On one page, they will access a tuner that they can use for their guitar. This tuner will be immediately available for use to the user as soon as they click the start button and give microphone permissions to their browser. The notes that the user is tuning to will light up one of four colors to intuitively indicate how close they are to being in tune. On another page, they will be able to access a metronome so that they can practice their rhythm. This metronome will be available for the user to use in the same way as the tuner. Once they hit start, the metronome will begin clicking and the user can practice freely. Additionally, the metronome will be as customizable as possible when it comes to beats per second and time signatures so that the user can express their creativity. In addition to these two tools, additional pieces of information such as reference notes will be available for use as well. The customers for this project are anyone who is a musician and has a need to access tools such as a tuner or metronome. This web app is simplistic in its design with accessibility and efficiency at its forefront. It uses HTML, CSS, and Javascript in order to create this project as well as functioning in combination with the Web Audio API that allows the use of incoming audio from the mic and the ability to manipulate frequencies. The Web Audio API is the backbone of this project as it allows for the computer to take in the frequencies for the tuner as well as send frequencies to the output for the reference notes to be playable and so the user can hear the clicking of the metronome. Ultimately, this project will be an all-in-one place for musicians to access the tools that they need to get started playing.

JUSTIFICATION:

This project is something that I have been passionate about working on as it combines multiple interests of mine - computer science, guitar and audio processing, and interaction design. Among the courses I have taken at Loyola Marymount University, I found myself being highly intrigued by the Interaction Design course I took and the many things I learned from it. This course taught me to look at how not just digital applications are designed, but everything around me on a regular basis. I have had experience with guitar tuners and metronomes that I do not find effective in both the way they are designed and how they operate. I prefer a tool that is much more straightforward in the way it is designed. Often, many apps, whether they are tuners or metronomes, are over-designed and can be too complicated for a beginner to grasp. MetroTune seeks to remedy that issue. Additionally, I want experience with live audio processing as it is another passion of mine that I am excited to explore more through this endeavor. Furthermore, it is often required to have multiple apps (tuner, metronome, etc.) whereas MetroTune will place everything in one web app. Overall, the main goal is to implement a design that I believe will be more effective over other instrument tool apps.