

## **FPGA Tuner**

This is a small project. As such, I intend to work alone.

A tuner is a device for musicians to help to tune their instruments and voice relative to a set of predetermined pitches. A tuner listens to the musician's notes, and if they are of a certain threshold volume, it will display what note the player is playing with a measure of how flat or sharp that note is.

The device would work by recording samples, and after a sufficient number have been recorded, it will take the Fourier transform of the recorded samples. The device will use the resultant peaks to determine the pitch being played, potentially using harmonics to determine whether a pitch is being played at all. The device will display on a monitor the pitch as well as a visual indication of how flat or sharp the played note is.