

Guitar Hero: Nursery Rhyme Edition

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Abstract

This project will implement a version of the popular game Guitar Hero. The project will be composed of visual, audio, and interactive parts. The goal of the game is to be able to “play” the notes of a song chosen from a given list by pressing the appropriate buttons on the keyboard to match the ones on the screen.

On the keyboard, keys F5-F12 will be used for the “notes” and Enter will substitute for strumming of the strings of the guitar. This allows the player to hold the keyboard like a guitar. Enter must be pressed for the note to be interpreted as “played.”

First, the different tones will be generated and matched with a key. Simple nursery rhyme songs will be created with these tones, such as Mary had a Little Lamb, Twinkle Twinkle Little Star, etc, and stored in a BRAM. There will also be a buzzer tone that indicates incorrect notes played by the user. The song will play as the user is playing the correct notes.

For the visual part, the appropriate notes for the song will be displayed, and scroll to the bottom of the screen as they should be played. The note should be played when the note reaches the designated area at the bottom of the screen. The color of the note will change slightly to show that it was played.

Additional features may include different levels of difficulty that would involve more notes for the song, increasing the speed of the songs, and smaller detection window to hit the note accurately. Points could also be kept track of depending on the player’s accuracy.