Project Description

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App name: PolyChord

App Category: Educational Music Web App

Application Overview and Description

PolyChord is an online synthesizer with multiple input options, that can identify chords as they are played, as well as suggest chord progressions based on the chords the user already knows, and the selected genre and feel. We found that the existing tools for learning chords and chord progressions on piano were fairly limiting so PolyChord aims to help growing musicians learn by experimentation, allowing them to discover new chords organically, or learn new chord progressions that will be useful to them. PolyChord will also further the user's music reading skills by displaying the chords on a musical staff as well as on the piano. While we don't aim to replace any of the existing online synthesizers, we intend to build in enough features that our product can satisfy the needs of any beginner users, no matter the genre they play, who want to practice their chords, and learn many new chords and chord progressions.

PolyChord allows the user to play a virtual piano with either their keyboard, or a MIDI instrument through WebMidi Integration. What separates PolyChord from other online synthesizers is that it will recognize chords that the user inputs as they play them on the virtual piano. In fact, the primary intent of PolyChord is to be an application for recognizing and learning chords: it is not built to replace the many existing online synthesizers, though we do aim to have a wide enough synthesizer feature-set that PolyChord can be used in a variety of musical genres. In our experience, the best way to learn music theory is to play around with it and practice it yourself, and PolyChord is built to encourage that type of learning by identifying chords as they are played. Current tools for chord recognition are clunky and slow, designed for reference purposes, not for making music, like ChordChord and the Chord Identifier. By combining an online synthesizer similar to midi.city with a chord recognizer, PolyChord aims to bridge the gap between education and fun experimentation by providing a fast, easy, and fun way for musicians to explore and learn chords.

Furthermore, PolyChord plans to implement further tools to encourage exploration of chords and chord progressions. This is accomplished via two features, chord suggestions and a chord library. Chord suggestions takes a sequence of user inputted chords and provides a suggestion to continue the sequence. Giving the user potential musical ideas that they wouldn't have thought of themselves, and urging them to explore new chord progressions. When the chord progression tool is used, it can play the progression automatically, as well as display it on ledger lines so that the user can play it for themselves, and give the 'proper' 1-3-5 style name of the chord. This chord progression suggestion tool can also be set to different 'feelings' to better provide the user with

suggestions that are applicable to their style of playing. The second the feature, a chord library, is a collection of all the different types of chords. By selecting a tonic and a chord type the digital synthesizer will play the chord and show the user how to play the selected chord themselves. This gives the user an easy way to learn new types of chords, amplifying the rate of exploration.

Overview of similar Applications

midi.city

midi.city is an online synthesizer with many different sound options, drum kits, and WebMIDI integration, allowing the user to use either their keyboard or a MIDI instrument. This application is similar to our concept in that it is a web app that allows piano-style input through multiple channels, and provides some good basic synth options, as well as some extra great features, like a drum machine, metronome, and a multitude of synth options. PolyChord improves upon their online synth concept by making it more educational with the addition of chord identification as you play, helping musicians who tend to learn by experimentation see what chords they have found by ear. PolyChord will then further their learning and experimentation by suggesting chord progressions based on the chords they are playing, while maintaining the high level of customization and integration that is exhibited in midi.city's synthesizer.

Chord Identifier

There are many different chord identifiers out there with different subsets of our desired feature-set, but none of them are quick or easy to use. The best one that we were able to find was the Piano Chord Finder from scales-chords.com but even there the input is still slow and clunky, requiring the user to check boxes over the notes to enter the information of the notes. PolyChord aims to provide the functionality of a chord identifier with the easy input of online synthesizer, allowing the user to identify chords simply by playing them on their keyboard or MIDI device. This additional functionality will greatly improve the usability and user experience, while also simplifying the user interface, making PolyChord much more than simply a reference tool. PolyChord also allows the user to go the other direction and play chords by name, and show the chord both on the musical staff as well as the piano, improving it's versatility even further.

ChordChord

ChordChord is an online chord generation tool: it can play chords (with piano fingerings), as well as play chord progressions. ChordChord is great in that it has a wide selection of chords and chord progressions, and it shows the chords as they're played on the keyboard. PolyChord improves on this by showing the chords as they play on ledger lines in the user's selected clef as well as on the keyboard. ChordChord also takes input from the keyboard, but it does not identify the chords played through that input. This application is similar to PolyChord in that it shows chord fingerings on a piano, and allows the user to generate chord progression based on their "feel", but does not give the "proper" names of the chord progression. PolyChord improves on this by identifying chords as you play the keyboard by default, with the option to generate chords and chord progressions. PolyChord relates the "feeling" of the chord with it's "proper" name, which is important to become more familiar with the music theory behind the chord progressions. These improvements

allow the user experience to be more free flowing while also more educational, encouraging more broad use than simply a point of reference: it is designed to be a tool for learning.