Project 2

Product:

A software that can automatically harmonize the melody.

The software can analyze the pitch melody imputed and automatically harmonize the melody under the rules of musical theory. It can generate the harmonies for a given melody in different music styles. Integrated with AI and machine learning, the product can analyze the database of harmonized music and generate the harmony that suit the melody.

Existing products and their limits

1. **Sibelius**

Professional music notation software program that offers features for harmonization.

Limitations:

Complexity: Significant music theory knowledge is needed to fully utilize the harmonization tools.

Customization: Users are required to manually adjust settings, which are difficult for the beginners.

Lack of AI

2. **Band-in-a-Box**

A software for creating musical accompaniments, including harmonization.

Limitations:

Style Limitation: certain styles are generic or lack sophistication.

Lack of Creativity: the harmonies are sometimes predictable and formulaic.

Target Users:

Composers and songwriters

Music educator and students

Producers

Hobbyist musicians

Film, TV, and game scorers

User Story:

As a composer or songwriter, I want to harmonize my melody quickly to streamline my workflow. Such product can generate the harmony of given melody in different styles so that I determine the mood and style of the work.

As a music student, I want to know different possible harmonies of the same melody so that I can distinguish difference of chords and allow experimentation on harmonization techniques. If I am a beginner, the product can make it easier for me to understand different function and rules of the chords.

As a producer, I want to generate harmonies that fits the mood of my track, so that I can add harmonic depth without interrupting the creative flow. I want it to automatically create harmonies in a specific style like pop or jazz to blend with the track.

User Needs:

Ease of use:

users need a simple interface to input melodies. For example, through MIDI, notes, or recordings.

Customization:

Ability to select different styles, mood, instruments, and harmonic approaches. (classical, jazz, pop, experimental music)

Real-time feedback:

Audio feedback and five-line staff to visualize the harmonies, with option to adjust.

Aids and explanations:

Explain the function and mood of certain chord so that students can quickly understand why the chord was chosen.

Collaboration:

Integrating the software into the digital audio workstation (DAW) so that the music producer can invoke it without having to switch the software.

What is the MVP

Basic Input System:

Users should be able to input a melody either via a MIDI file or manually through an interface.

Automatic Harmonization:

The software should be able to generate simple harmonic progressions based on the input melody. This could include basic chords like triads or 7th chords in a chosen key or genre (e.g., classical or pop).

Playback Feature:

Users need the ability to listen to the harmonized melody in real-time to assess the output.

Export Function:

The ability to export the harmonized melody as a MIDI file or music notation so users can use it in other music software or further refine it.

User Interface:

The interface should be simple and intuitive, allowing users to easily input melodies, choose a harmonization style, and listen to or export the result.

Basic Genre Support:

Support for at least one or two popular music genres (e.g., pop, classical) to give users a taste of the software's potential in generating harmonies in different styles.

ChatGPT Prompt

I am going to design a software which can automatically harmonize the melody. can you give me some information about this kind of software.

What are the target users of this kind of product? what is the user story of this product?

Do you know such software that are already existed? and what are their limits that I can improve in my own software?