

Research on Holistic Music Creation by Six Principles and Artificial Intelligence Software

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ABSTRACT

In contemporary society's fast pace, individuals face escalating life stress. Nonetheless, there's a growing awareness of the significance of holistic health—not merely physical well-being but also mental wellness. Consequently, the holistic (Body, Mind, Spirit, or Body, Mind, and Soul) industry has flourished recently.

Through years of in-depth research into music associated with holistic wellness, the author has deduced six key compositional principles. These include slow tempo, steady rhythm, musical continuity, repetitive melodies, use of major keys, and incorporation of environment sounds. In the music creation process, familiarity with and application of these six principles aid in producing effective holistic music.

This paper employs the generative music AI software AIVA (Artificial Intelligence Virtual Artist) [1] to explore the creation of holistic music, integrating these six principles to explore creating holistic music in various styles. Besides introducing autonomous holistic music creation that meets specific needs with AIVA, this thesis also validates how AI-generated music, combined with these six holistic music creation principles, assists individuals and non-professional composers in quickly creating holistic music that meets their personal needs.

Keywords: Six Principles of Holistic Music, Relaxation Music, Body-Mind-Spirit Music, Generative Music AI, AIVA.

I. INTRODUCTION

Today's rapid societal pace continually elevates individual stress levels. People are increasingly recognizing the importance of holistic health and incorporating it into their concerns. Thus, the holistic industry is flourishing, exploring diverse themes such as mindfulness, meditation, Reiki healing, esotericism, tarot, and yoga, extensively discussed in videos and online courses.

Music creation poses a challenge for non-professional composers, even with generative music AI as an aid, requiring analysis and modification. However, creating holistic music is comparatively easier. Anyone, by mastering the characteristics (the six principles mentioned in this paper), can create relaxing music at home to meet their needs. This paper focuses on using AIVA to create three different styles of holistic music.

In addition to creating relaxing holistic music, many free environment sound resources are available online. Utilizing these resources helps produce music suitable for different times of the day. For those who enjoy playing background music at home, this especially allows for the enjoyment of various tunes at different moments, such as waking up, working, doing household chores, taking a nap, meditating, and before sleeping. By using the six principles outlined in this paper to create different music and sound effects, each moment can have a suitable atmosphere and setting.

II. Definition of Holistic Music

2.1 Holistic (Body, Mind, Spirit) Definition

Holistic well-being can be succinctly explained as encompassing the "Body," "Mind," and "Spirit/Soul." The body refers to the physiological and physical aspect; "Mind" to emotions; "Spirit" to the spiritual aspect. True health necessitates maintaining a balance among these three.

Maintaining this balance is crucial. For example, excessive stress might lead to hypertension, illustrating how the mind affects the body, a manifestation of psychosomatic illness. Similarly, physical discomfort can impact mental health, as seen in menopausal women experiencing emotional instability due to decreased estrogen. Although the "Spirit" aspect may seem abstract, it is evident in life, such as extreme shock leading to restlessness. These examples show that "Mind" can affect "Spirit" and vice versa, like superstition altering the "Spirit" and causing unusual psychological reactions.[2]

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2.2 Holistic Music Definition

The academic community has not yet reached a consensus on a clear definition of holistic music; however, numerous documents have verified the health benefits of music. For instance, music therapy, as defined by the American Music Therapy Association (AMTA), is an intervention therapy supported by clinical and empirical evidence. It involves certified therapists conducting planned therapy sessions to help individuals achieve personalized therapeutic goals. Through music as a medium, planned therapy aids in the recovery of physiological, psychological, emotional, cognitive, and social functions, possessing both therapeutic and educational qualities.[3]

However, this paper discusses a broader concept of holistic music, capable of relaxing the mind or serving as an aid in holistic activities (such as yoga, meditation, etc.). Therefore, this type of holistic music is not suitable for severe condition cases, which should seek professional treatment and assistance.

2.3 Six Principles of Holistic Music

Firstly, the speed of music should be slow. Studies suggest that when the tempo of music matches the heartbeat, it usually ranges between 60 to 85 beats per minute (BPM). This music speed has been found to help relax the body and mind, reduce anxiety, regulate heart rhythm, and improve sleep quality. [4]

In addition to speed, music must possess the following characteristics: a stable tempo and rhythm, continuous harmonic progression, repetitiveness (which can be in harmonic progression, melody, or environment sounds, such as in minimalistic or ambient music), or environment sounds (most commonly including rain, fire crackling, birds chirping, running water, etc.), all of which can create a sense of tranquility. [5]

The author notes the significant importance of choosing major keys in music. The aforementioned principles all contribute to a sense of stability, and if music primarily uses major keys, it can further bring a sense of mental peace. Due to long-standing cultural conventions, music in major keys often evokes positive emotions, whereas minor keys are typically associated with sad emotions. Therefore, combining the above principles with the characteristics of major key music can help create holistic music that brings a sense of comfort.

Although individuals may have different interpretations of "relaxation" or "tranquility," the aforementioned characteristics are generally considered to help relax and slow down the heart rate. For example, the slower the music, the more likely it is to induce a sense of calm; the faster the music, the more likely it is to excite. Given that each individual's requirements for "relaxation" may vary, creating personalized holistic music can tailor music to meet personal needs.

III. AIVA and the Six Principles of Holistic Music Creation

3.1 Holistic Music Creation with AIVA Incorporating the Six Principles

The process of creating holistic music with AIVA, incorporating the six principles, is illustrated in Figure 1.

Firstly, select a music style that aligns with the holistic music, then instruct AIVA to compose music according to this musical style. During the composition process, the six principles of holistic music mentioned in this paper can be applied: setting a slow tempo, maintaining stable rhythm, continuous harmony progression, repetition, and using major keys as the foundation. If necessary, composers can make slight adjustments to the music. Next, incorporate environmental sounds. After completing these steps, if satisfied with the music, save the file to finalize the music composition. If unsatisfied, return to the previous steps to reset the composition.

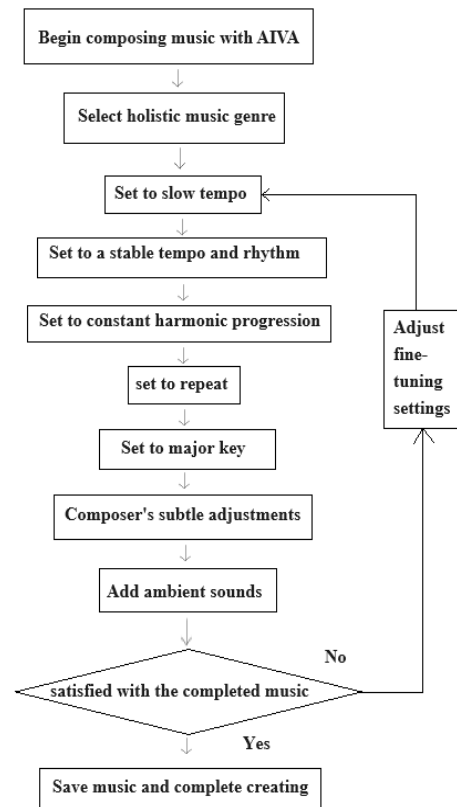


Figure 1. Holistic Music Creation Process with AIVA Incorporating the Six Principles

3.2 The Process of Creating Holistic Music with AIVA

The following briefly introduces how to use AIVA to create personalized holistic music.

Figure 2 shows AIVA's main interface. Next, select the green "+ Create" (Start Creating) button in the top left corner, which will bring up "Composition", then choose the third option "step by step".

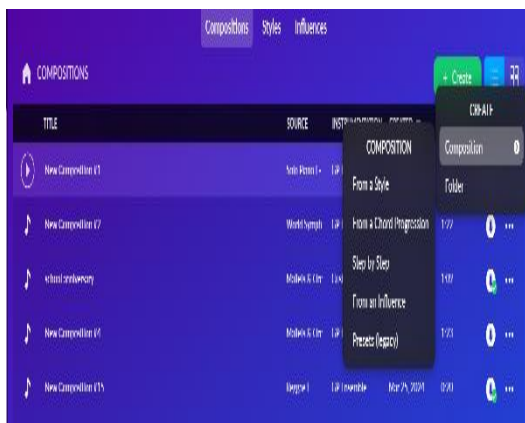


Figure 2. AIVA Main Interface

Selecting "step by step" will bring up the screen shown in Figure 3. Here, many different music styles (such as Lo-Fi, etc.) can be seen. You can click the arrow to the left of each style name to listen to a sample. After deciding on a preferred music style, select the blue "Select" button to the right of the name.

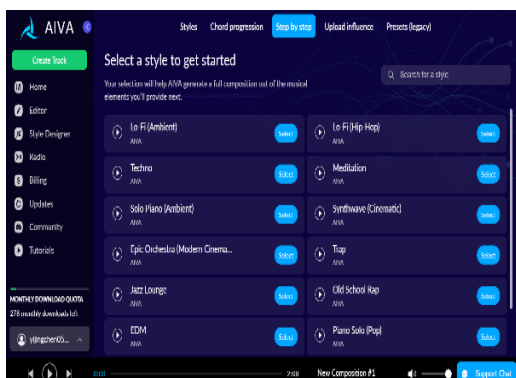


Figure 3. AIVA Offers a Selection of Music Styles

Figure 4 shows the first step after selecting a style. This step clearly displays the harmonic progression of the music. One point to note at this step is the tempo. Clicking "Settings" in the top right corner of the page will bring up the screen shown in Figure 5, where you can check the "Tempo" at the bottom. If the music tempo generated by AIVA does not meet the required speed, it can be adjusted here.

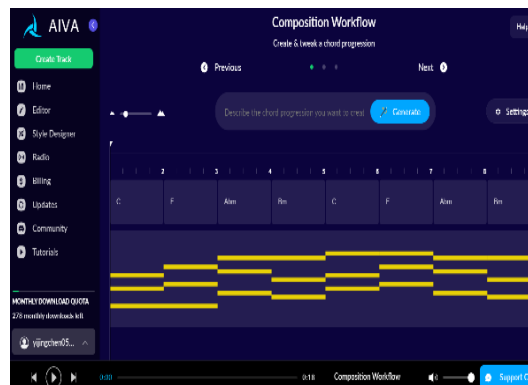


Figure 4. First Step After Selecting a Style in AIVA

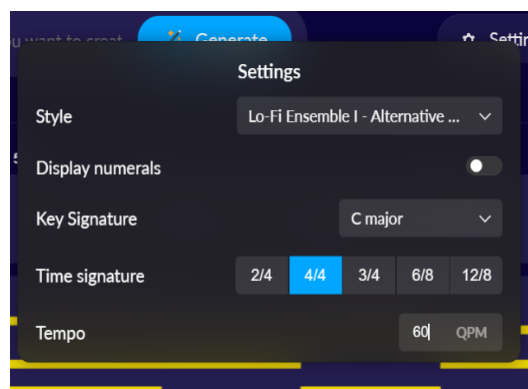


Figure 5. Options in the "Settings" of the First Step

The second step will display several tracks, as shown in Figure 6, such as "Melody" or "Chords". For detailed modifications, click the "pen" on the left side of each track, or directly move the mouse to the right side of the track screen and click "Regenerate" to let AIVA generate a new melody.

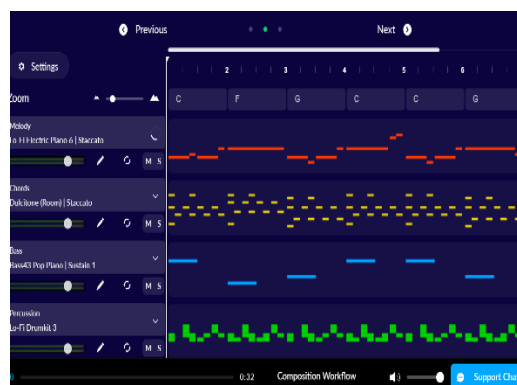


Figure 6. Second Step

The third step, which is also the final step, is shown in Figure 7. The first option "Enter your workflow's name" requires entering the name of the work. The second option "Composition duration" is for entering the length of the music. The third option "Number of Compositions" asks how many pieces of music you want to generate with the above settings. As of the author's use, up to five pieces of

music can be generated. After setting everything, click "Create composition" at the bottom to create the music.

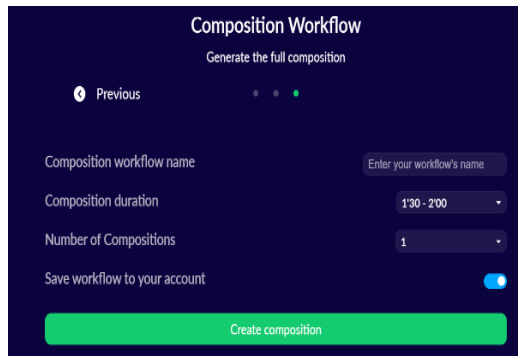


Figure 7. Third Step

IV. EXPERIMENT

4.1 Creating Three Different Styles of Holistic Music with AIVA

AIVA offers many different music styles for creators to use. In this paper, the author used Lo-Fi (Ambient), Meditation, and Synthwave (Cinematic) styles to create holistic music

4.1.1 Creation of Lo-Fi (Ambient) Style Holistic Music

This example of AIVA's built-in demo music features a heartbeat-like beat, slow tempo, simple harmony, and psychedelic instrument timbres (using synthesizers), making this style suitable for holistic music. The music's tempo after completion is 60 BPM, with the score for the first 24 seconds shown in Figure 8 (scored using MuseScore 3)[6].

As shown in Figure 8, the piece begins with the chord and percussion sections, with the bass part appearing in the third measure. The melody does not appear in the first 24 seconds due to a longer introduction and slow tempo.

To make this music more soothing and in line with the six principles mentioned above, the author made minor modifications. The flowing eighth notes in the chord section were changed to longer notes, thus creating a more pronounced slow harmonic movement. The bass was modified to appear from the beginning to add a sense of stability, and the fast beats in the percussion rhythm were removed. The music after these adjustments is shown in Figure 9 (only the first 24 seconds, scored using MuseScore 3).



Figure 8. Holistic Music Created by AIVA in Lo-Fi (Ambient) Style



Figure 9. Modified Lo-Fi (Ambient) Style

4.1.2 Creation of Meditation Style Holistic Music

Different from the Lo-Fi (Ambient) music style offered by AIVA, the Meditation style focuses on harmonic blocks, slow rhythm, and is adorned with a harp. The music tempo completed by AIVA is 37 BPM, with the melody played by a flute, creating a distant and even exotic atmosphere. The clearly audible part is the harmonic progression, with the drum sound being softer, almost like a heartbeat. Additional parts use an instrument similar to a bell, with a low volume primarily providing atmosphere, making it

difficult to discern a clear pitch. The author has approximately noted the notes in Figure 10. Besides, AIVA added bell sounds into the chord section, with the bell pitches matching the harmony but creating an additional effect like the wind moving through wind chimes. Figure 10 shows the music created in this style by AIVA for the first 49 seconds, scored using MuseScore 3.

Although Figure 10 seems to feature a fast rhythm, the low volume does not cause tension. However, the larger intervals between some notes in the melody may cause listeners to feel anxious. Therefore, the author made slight adjustments to the melody and changed the harmony to a major key basis, making this music more in line with the six principles mentioned in this paper, as shown in Figure 11 (limited to the first 49 seconds, scored using MuseScore 3).



Figure 10. Holistic Music Created by AIVA in Meditation Style



Figure 11. Modified Meditation Style

4.1.3 Creation of Synthwave (Cinematic) Style Holistic Music

The style of Synthwave music is similar to the previously mentioned Meditation style, with the difference being the use of synthesizers for instruments and repetition of the same frequency as the main melody, creating an echo effect. The slow movement of harmony adds a sense of stability, but some rhythms are faster, causing a slight tension. If the final music still retains this tension, it can be resolved by manually adjusting the rhythm or eliminating this track.

The music tempo completed by AIVA is 60, with the drum rhythm being steady and not having the significant fast rhythm seen in the example music. Although the melody is slightly faster in some places, it does not serve as a bass rhythm, hence not inducing tension. Additionally, AIVA uses an echo method, making even the faster parts feel like the sound of wind chimes echoing in the air, creating a tranquil atmosphere. Moreover, the harmony is pure and harmonious, creating a calm atmosphere. Notably, the bass part appears relatively later in this music. However, because AIVA uses a more prominent synthesizer sound here, when it appears in the latter part of the music, it feels more like thickening the harmony of the music rather than the stable bass effect seen in the previous two pieces. This section of the music is shown in Figure 12, only including the first 32 seconds, scored using MuseScore 3.

This piece already sounds harmonious and relaxing, so the author believes it does not require modifications.



Figure 12. Holistic Music Created by AIVA in Synthwave (Cinematic) Style

4.2 Adding Environment Sounds

Although AIVA does not offer options for environment sound, there is an abundance of resources available online. The author recommends a free sound website "Freesound," whose creators have accepted CC0 (Creative Commons 0) terms, meaning they have completely relinquished copyright and contributed to the public domain. It should be noted that while the sounds are free to use, the source should be clearly cited when used, and the website also provides instructions on how to cite. Users should carefully read the website's regulations. [7]

When it comes to copyright and intellectual property issues, the author reminds that while AIVA can be used for free, the copyright of the free version belongs to AIVA company. Therefore, music created using AIVA cannot be used for commercial purposes. To obtain personal copyright, one needs to use the subscription version. [8]

The "Freesound" website offers a variety of sound effects, including rain, fireplace crackling, bird chirping, and more. Thus, after AIVA completes ideal mind-body-spirit music, one can add specific sound effects according to different times, such as listening to self-made holistic music with bird chirping in the morning or adding rain or fireplace sounds in the evening to aid sleep.

V. CONCLUSIONS

Despite the vast availability of holistic music online, each individual's understanding and needs for "relaxation" vary significantly. Therefore, this study chose AIVA as the main tool to provide the capability to create personalized holistic music at home that meets individual needs and preferences.

AIVA serves as an auxiliary tool for music creation. Currently, the music created by AIVA lacks the flexibility of human composition and has a higher degree of repetition. However, the primary goal of holistic music is to relax the mood and reduce heart rate, among other effects. By grasping a few music characteristics, such as the six principles of holistic music mentioned in this paper—slow tempo, steady rhythm, block-style harmonic progression, high repetitiveness, major key basis, and the use of environmental sounds—it's possible to use AIVA to create music that effectively relaxes the body, mind, and spirit.

For music created by AIVA, individuals can freely make adjustments. Therefore, for holistic music that does not require complex harmony and rhythm, AIVA can be used at any time to create music that meets personal needs. Through the application of the six principles mentioned in this study for holistic music creation, the results confirm that this method can quickly and effectively create holistic music that meets individual needs.

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