

## Composer's Note

# Shi-awase: A Five-Character Tang Verse Interface for Generative Poetry and Sound

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### Abstract

Shi-awase is an interactive sonic installation that allows participants to compose a short poem by arranging Chinese characters and triggering generative sound behaviors. The work explores how visual-semantic units (characters) can function as modular musical gestures, enabling non-expert audiences to “play” poetry and sound through intuitive interaction. Technically, the system is implemented as a web-based, dual-screen setup: an input interface captures user actions, while an exhibition display renders the poem layout and produces real-time audio. Sound generation is implemented with in-browser synthesis and loop control, and the two interfaces communicate via WebSocket for low-latency synchronization. This note discusses the mapping strategy between characters and sonic textures, the interaction flow designed for public exhibition, and reflections on authorial control versus user agency in computational poetry.

### 1. Introduction

Shi-awase is an interactive sound art piece. Visitors can “play” poetry and sound by moving Chinese characters, much like playing a game. In this work, each character is both a part of a poem and a specific sound behavior. I designed this project so that regular visitors at an exhibition can enjoy creating art easily. It does not require a long learning process. Users can get feedback immediately and finish a piece of work quickly.

### 2. background and Motivation

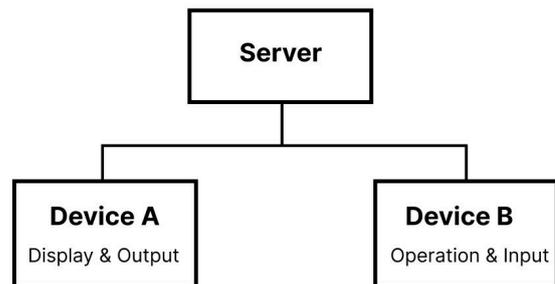
In many exhibitions, interactive sound works are often hard to use. Professional music controllers are powerful, but they are often too complex for most people. I wanted to try a simpler way. Chinese characters have clear meanings and strong visuals, such as “wind” or “rain.” People can choose words based on their intuition. They listen to the sound while discovering how it links to the text.

I chose the rule of five-character Tang poems. This length is perfect because people can finish a line very quickly. In the music system, these five characters make one short

loop. This turns writing and listening into a repeatable action. Users can finish a poem in seconds and then change words to hear the difference.

### 3. System Architecture

The system uses web technology and a two-screen setup. One screen is the operation interface where users pick words. The other is a display for the poem and the sound. The two screens connect through a local WebSocket server. This makes the data synchronization very fast with almost no delay.



**Figure 1.** System Architecture. The controller sends data, and the display generates sound and visuals in real-time.

When a user moves a character, the system sends a small data packet (JSON format). The display screen receives this signal, updates the layout, and changes the audio layers. This setup is great for groups. One person can play while others watch the screen and listen to the music.

### 4. Character Set and Mapping Strategy

I picked a small set of words from *Quan Tang Shi* (Complete Tang Poems). To make the sound more layered, I divided these words into four groups. Each group has a different musical role.

This design follows the style of classical poetry. Nouns build the image, and verbs add movement. This also works as an “automatic mixer.” It limits how many sounds of the



**Figure 2.** Display UI. The system renders the poem and plays the musical loop.

same type play at once. Because of this, the music stays clear even if a user picks random words.

### 5. Results

The system is very stable. When a user fills all five slots, the poem is "complete." At that moment, the separate sounds turn into a full musical loop. This process gives users a direct sense of achievement. I noticed that users usually start with nature words like "mountain" or "cloud" to set the mood. Then, they add emotion words to change the musical color. Once the five slots are full and the loop starts, people often pause to listen. Then, they might swap just one word to compare the small change in sound. This helps them understand the logic between the text and the music.

### 6. Conclusion

This project successfully combines Tang poetry with generative music. By grouping the characters, I kept the art style consistent while giving users freedom to explore. In the future, I want to define loop behaviors for each



**Figure 3.** Operation UI. Users select characters and place them into five slots to create a line.

Classification	Example CC as	Reflected Music Effect
Nature objects	山、水、风、月、花、霜、叶、雨、烟	Synth sound w. different features
Emotion/Feelings	念、思、愁、寂、惊、梦、醉	Change of pitches & scale
Time indication	朝、夜、秋、暮、晨、春、今、昔	reverb, filter, ambient
Verbs/Actions	起、落、归、飞、行、照、化	rhythm, loop length

**Figure 4.** Character Classification and Sound Mapping. Different types of words affect different parts of the sound.

character with additional logic, so the system can carry a stronger semantic layer. This will let me expand the character library beyond a small fixed set, while keeping the sound clear and balanced.

### 7. References

- Quan Tang Shi (Complete Tang Poems). (n.d.). Corpus reference.
- Tone.js. (n.d.). Retrieved from <https://tonejs.github.io/>
- MDN Web Docs. "Web Audio API". Retrieved from [https://developer.mozilla.org/en-US/docs/Web/API/Web\\_Audio\\_API](https://developer.mozilla.org/en-US/docs/Web/API/Web_Audio_API)
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### 8. Author's Profile

#### Zhang PEIYI

Zhang Peiyi is a graduate student at Waseda University. Her research focuses on interactive sound art and web-based generative systems. She explores how character-based interfaces allow non-experts to create poetic sounds in exhibition settings.



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