

DELIVER YOUR PATTERNS THROUGH SONG! – A HANDS-ON WORKSHOP ON CREATING ORIGINAL PATTERN SONGS WITH GENERATIVE AI

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In the ‘Imagination Run Wild’ session, we conducted a workshop focused on creating ‘Pattern Songs’—musical expressions of pattern languages—utilizing generative AI technology. Pattern Songs are auditory expressions of pattern language content, designed to make patterns accessible and listenable in everyday life. In this workshop, we first introduced what a Pattern Song is, followed by an explanation of three types of Pattern Song lyrics for transforming patterns into lyrics: Type I, Lyrics Structured According to a Single Pattern’s Context, Problem, Solution, and Consequence; Type II, Lyrics Presenting a Summary of Essential Practices, Mainly Using Pattern Names; and Type III, Lyrics Incorporating Contents from Multiple Patterns, such as Problems, Solutions, Pattern Names, and more. Then, during the workshop, participants worked in groups on their musical compositions. They brought their own pattern languages and created lyrics either independently or by utilizing conversational generative AI. Subsequently, they employed an AI-powered music composition system to generate melodies that complemented their lyrics, culminating in the creation of Pattern Songs. The workshop yielded diverse musical pieces, including songs about collaborative learning patterns and software-related patterns. Some participants enhanced the creative process by generating AI-produced CD cover artwork that aligned with their lyrical themes. The session concluded with a shared listening experience where participants presented their compositions while displaying the lyrics, enabling everyone to appreciate the unique qualities of each song. Through this collaborative experience, participants explored the future potential of conveying pattern languages through music, enhanced by the capabilities of generative AI technology.

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1. INTRODUCTION

Pattern languages are crafted to support learning and thinking for design and practices. To fulfill this purpose, we, the Iba Lab, have explored various non-textual expression methods to help people engage with pattern languages more regularly in their daily lives, including Pattern Objects (Iba, et al., 2016b; Iba, et al., 2023a) and Pattern Manga (Iba, et al., 2023b). Pattern Songs (Iba, et al., 2017) represent one such initiative. By incorporating pattern language content into lyrics and setting them to resonant music, Pattern Songs are expected to convey the insights and suggestions intended by the pattern language even during busy daily routines, while also providing encouragement through the musical experience.

Our first Pattern Song, “Everyday World” (Iba, et al., 2017), was created as a musical adaptation of a pattern language, *Ways of Everyday-World Making* (Ogo, et al., 2017), which focuses on conducting both working and parenting. This musical expression makes pattern language content accessible to working parents without

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requiring them to read documentation or attend workshops. The song aims to convey pattern insights while providing encouragement through a format that seamlessly integrates into their busy routines.

This Pattern Song was composed and performed by Mayu Gene. (Mayu Ueno), who was a singer-songwriter studying at the Iba Lab at the time. The lyrics were collaboratively written in Japanese by Mayu Gene. and Iba, while the musical recording featured performances by members of her band network. The song was initially released as a demo version on YouTube in 2016, followed by its official release in 2017. It remains available on more than ten music streaming platforms, including Spotify, Apple Music, and Amazon Music (it can be accessed at: <https://open.spotify.com/intl-ja/track/4soJPMUcXaTxOEUm9ZrR22>). As of January 2025, the song has garnered 3,600 plays on YouTube and 2,000 plays on Spotify, accumulating at least 5,600 plays on these two platforms alone.

However, despite the significant potential of Pattern Songs, creating them is far from simple. The composition of Pattern Songs requires musical expertise and experience that many Pattern writers do not necessarily possess. Indeed, even at the Iba Lab, the production of Pattern Songs could not continue after the singer-songwriter student graduated. As a result, seven years have passed since the creation of the first Pattern Song.

Recently, a transformative technological advancement has emerged that fundamentally transforms this situation. The advent of generative AI capable of music composition has democratized song creation, making it accessible to virtually anyone. For instance, ‘Suno AI’ (<https://suno.com>), a song generation artificial intelligence system, enables users to input lyrics, select genres, and generate complete songs with computer-generated instrumentation and vocaloid performances through a simple interface. Through an iterative process of selecting preferred segments from multiple generated options, refining them, and generating additional content, users can now create original songs that incorporate their lyrics. This represents a significant technological breakthrough. With this technology, Pattern writers can now create Pattern Songs that express their patterns through music, overcoming the previous barriers to musical creation.

Against this backdrop, in 2024, the Iba Lab undertook an initiative where every member created at least one Pattern Song, as introduced in another paper of ours (Hikino et al. 2025). Through this endeavor, patterns from various pattern languages were transformed into songs, revealing both an engaging new dimension of pattern expression and the significant potential of Pattern Songs. Although created with generative AI, each song reflected its creator’s unique perspective, and members successfully produced pieces they found personally meaningful and satisfying.

Motivated by our desire to share this experience with other PLoP participants, we decided to conduct a workshop at PLoP 2024 Conference’s ‘Imagination Run Wild’ session, focusing on creating Pattern Songs using generative AI. In the following sections, we will present how this unique workshop was conducted and showcase the creative works that emerged from it.

2. EXPLANATION OF CREATING LYRICS FROM PATTERNS

The workshop began by introducing Pattern Songs as an auditory expression of patterns designed to make patterns listenable in everyday life. Using Pattern Songs created by the Iba Laboratory members as examples, we explained the relationship between patterns and lyrics.

Through the creations of Pattern Songs at the Iba Lab, we discovered several types for transforming patterns into lyrics. These include: Type I, Lyrics Structured According to a Single Pattern’s Context, Problem, Solution, and Consequence; Type II, Lyrics Presenting a Summary of Essential Practices, Mainly Using Pattern Names. Type III, Lyrics Incorporating Contents from Multiple Patterns, such as Problems, Solutions, Pattern Names, and More. Regardless of the approach, the fundamental purpose remains consistent: to convey patterns through music and encourage their practical implementation.

2.1 Type I: Lyrics Structured According to a Single Pattern’s Context, Problem, Solution, and Consequence

The first type of pattern song lyrics involves focusing on a single pattern and structuring the lyrics according to the pattern’s Context, Problem, Solution, and Consequence components. This is exemplified by the Pattern Song based on the **A New Journey** pattern from *Words for a Journey* (Iba and Okada 2015, Iba et al. 2016a), a pattern language for living well with dementia (Figure 1). Created by Nguyen Tu Quyen of the Iba Lab, this song combines ballad-style music with meaningful lyrics to convey both the poignant reality of living with dementia and the quiet strength of maintaining a positive outlook despite challenges. The song can be accessed at: <https://youtube.com/shorts/G6lcukmUXkk>

A New Journey

From “Words for a Journey”

By Nguyen Tu Quyen

(Verse 1)

My heart's heavy, trembling hands
Feels like my world's shifting sands
This disease's a battle, how do I find
Peace amidst this storm, leaving me blind?
Do I shield it, from those I hold dear?
Afraid to burden, to bring them near?
Or do I brave it, walk this road alone?
In this new journey, where fear has grown

Context

Problem

(Pre-Chorus)

I feel useless, stripped of my might
Dreams once vivid now fade from sight
Trapped in fear, in shadows I hide
Yet they don't see the storm deep inside
I pause, uncertain, what path to choose
In this maze of doubts, which way to cruise?

Problem

(Chorus)

Starting a new journey, new trails to tread
With fellow travellers, no fear or dread
I bare my soul, let emotions flow
Crafting my travel plan, as I go
Listing what I can do, aspirations high
In this moment, I'll truly fly

Solution

Starting a new journey, dreams in my hand
With people by my side, we'll make a stand
Through chores mundane, and simple delights
In this newfound journey, I'll find my light

Consequence

Fig. 1. Relationship between the lyrics of the pattern song “A New Journey” and the embedded **A New Journey** pattern from *Words for a Journey*. The development of the lyrics is written based on the contents of Context, Problem, Solution, and Consequence.

2.2 Type II: Lyrics Presenting a Summary of Essential Practices, Mainly Using Pattern Names

The second type of pattern song lyrics involves directly using many pattern names in the lyrics to create a summary of the essential practices within the pattern language. An example of this is the Pattern Song “Essence Intuition” by Takashi Iba, based on the *Essence Intuition Patterns* (Iba and Nitta 2024). This song incorporates pattern names from all categories to structure lyrics that explain how to conduct essence intuition, a phenomenological method for grasping essences, and what is crucial in its practice (Figure 2). It was produced in two versions—for girl groups and boy groups—which can be accessed at: [Girls] <https://youtube.com/shorts/SYR2J3gV6A> and [Boys] <https://youtube.com/shorts/iA0X-giOPts>. These songs are very unique in that they present philosophical methodologies through K-POP music with rap elements.

Another example of the second type of pattern song lyrics is the Pattern Song “Beautiful Days” by Elly Shimamura of the Iba Lab (Figure 3), which was created based on *Generative Beauty Patterns* (Arao et al. 2012). In this song, while many Pattern Names appear directly in the lyrics, they are not just mentioned as they are. The lyrics also include descriptions and emotions that are concretely developed based on the content of the patterns. This song can be accessed at: https://youtube.com/shorts/X7_79XIYYiw. The song effectively conveys the concept of living beautifully and vibrantly through its charming lyrics and pop music composition.

Essence Intuition

From “Essence Intuition Patterns”

By Takashi Iba

[Intro]

When we want to grasp the target's essence, what should we do?

Let's **LOOKING WITHIN CONSCIOUSNESS**, just me and you

[Verse]

Let's dive deep into our minds, let's begin

RECALLING EXPERIENCES, GRASPING KEY FEATURES within

To avoid being selfish, arbitrary, let's win

Consider **SOME CONCRETE EXAMPLES** and **IMAGINED**

TRANSFORMATION CASES, our kin

Aim for **NECESSARY AND SUFFICIENT, UNTIL REACHING 'AND SO**

ON', our spin

[Chorus]

The essence, it's not somewhere out there, you see

The essence of meaning, within our minds it'll be

Our journey to seek the essence, to perceive

A quest to put in words the **ESSENCE FOR LIVING BETTER** to

achieve

ESSENCE INTUITION!

Fig. 2. Relationship between the lyrics of the first half of the Pattern Song “Essence Intuition” and the embedded patterns from *Essence Intuition Patterns*. The parts in red uppercase letters directly use the pattern names.

Beautiful Days

From “Generative Beauty Patterns”

By Elly Shimamura

(Verse 1)

Woke up sleepy as usual, morning light anew

Good morning to myself in the mirror, “**Make Magic!**” start anew

Gonna wear this outfit, my friend said it's just right

Now, which accessories will make me shine so bright? **01 Make Magic!**

04 Starting item

05 Finishing touch

09 Guaranteed Fashion

(Verse 2)

Hello, new day, let's start the show!

Time to rise and shine, ready to go!

Off to embrace the world, here I flow!

33 Boot Button

(Chorus)

I press my boot button, ready to take on the day,

I find my spark, let motivation lead my way.

Cheer-up cookies in hand, sweeten up my mood,

Little joys and comforts, they always see me through.

In my personal wonderland, I find my peace,

Surrounded by the things I love, my happiness unleashed.

With my ponytail high, I'm ready to fight,

Facing the world with all my might.

33 Boot Button

25 Personal Wonderland

Fig. 3. Relationship between the lyrics of the pattern song “Beautiful Days” and the embedded patterns from *Generative Beauty Patterns*. In the lyrics, along with the pattern names, words that depict concrete descriptions and emotions based on the content of the patterns are also used.

2.3 Type III: Lyrics Incorporating Contents from Multiple Patterns, such as Problems, Solutions, Pattern Names, and More

The third type of pattern song lyrics incorporates contents from multiple patterns, such as Problems, Solutions, and Pattern Names. An example of this type is “Everyday World,” written by Mayu Gene. and Takashi Iba in 2017, based on the patterns from *Ways of Everyday-World Making* (Ogo et al. 2017). Figure 4 illustrates how the lyrics incorporate various categorical content, Problems and Solutions from patterns, and Pattern Names (Iba et al. 2017). The figure displays Japanese lyrics in the left column and their English translations in the right column. This song is available on various music streaming platforms, including Spotify, where it can be accessed at: <https://open.spotify.com/intl-ja/track/4soJPMUcXaTxOEUm9ZrR22>.

3. WRITING LYRICS BASED ON PATTERN LANGUAGES CREATED BY PARTICIPANTS

In the workshop, after learning about Pattern Songs and lyric crafting methods, participants began developing Pattern Songs based on their own pattern languages (Figure 5). They worked in small groups, each supported by an Iba Lab members serving as a “generator”—a facilitator role described by Akado et al. (2016)— who had prior experience creating Pattern Songs using generative AI.

Within each group, participants selected patterns for musical adaptation and developed corresponding lyrics. During the lyric crafting process, participants utilized AI tools such as ChatGPT and Claude to incorporate rhyme schemes and rhythmic elements. Some participants employed generative AI to transform their pattern content directly into lyrics. The following sections examine several notable works that emerged from this creative process.

3.1 Pattern Song “Pair Learning”

Mary Tedeschi, Sridevi Ayloo, and Hugo Sereno Ferreira created a Pattern Song on **Pair Learning** based on their patterns (Danoff et al. 2024), with support from Kiyoka Hayashi. This Pattern Song was created based on a single pattern and designed with reference to the Type I structure. The verse presents the Context and Problem, the pre-chorus introduces an additional Problem, and the chorus conveys the Solution and its Consequence. Their composed lyrics are as follows:

Pair Learning

[VERSE]

Collaborative pairs enhance learning efficiency

Ideal for adult and university learners

Useful in larger, time-limited classes

Applicable for virtual and in-person lessons

Time constraints hinder active participation

[PRE CHORUS]

Students lack time to engage

Personalized feedback is often insufficient

Learning by doing is limited

participation can be rushed

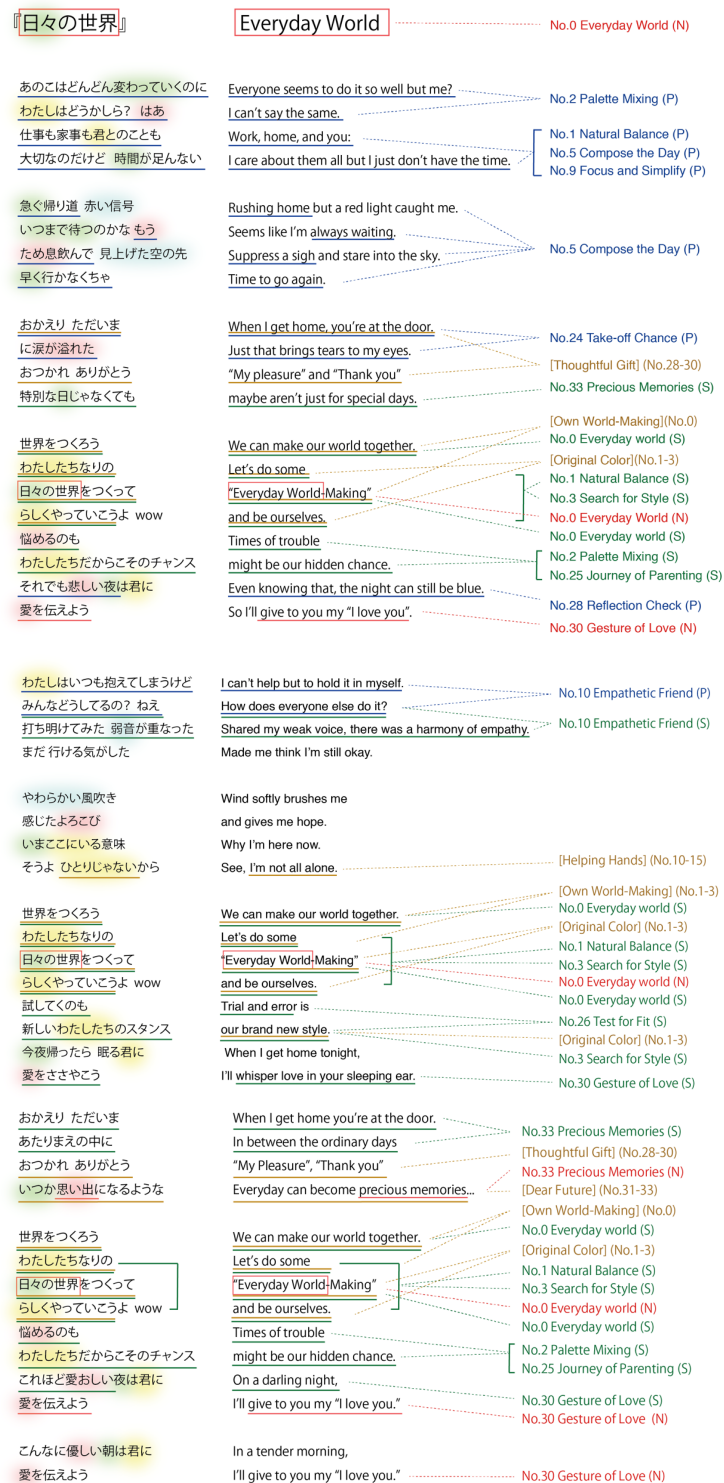


Fig. 4. Relationship between the lyrics of the Pattern Song "Everyday World" and the embedded various contents of patterns from *Ways of Everyday-World Making*. This figure is from our paper (Iba et al. 2017).



Fig. 5. Scenes from our Imagination Run Wild workshop on Pattern Song Crafting.

[CHORUS]

Students work together in pairs
 Each one gets to share
 They explore new idea together
 Learning becomes deeper and shared

The song “Pair Learning,” generated using Suno AI with the genre specification “Instrumental - thoughtful, with a steady build-up,” can be listened to at the following link, which is based on these lyrics:
<https://youtube.com/shorts/KwkKdMrWao0> .

3.2 Pattern Song “Big Ball of Mud Blues”

Joseph Yoder, another participant, created a Pattern Song for Blues using his own pattern called **Big Ball of Mud** (Foote and Yoder 2000). The Big Ball of Mud pattern describes software code becoming disorganized and convoluted during the programming process. Mizuki Ota provided support in the creation of this song.

Instead of writing the lyrics himself, Joe utilized ChatGPT to generate them. The prompt he used was, “Create the lyrics for the big ball of mud pattern.” ChatGPT’s response to the prompt and the generated lyrics are as follows:

Here’s a fun and catchy song about the Big Ball of Mud anti-pattern—a messy, tangled system that developers often encounter. This playful set of lyrics brings humor to the chaotic world of poorly-architected software.

“Big Ball of Mud Blues”

(To the rhythm of a slow, bluesy tune—imagine it with a harmonica intro!)

[Verse 1]

Started out simple, code was clean,
A little module, sleek and lean.
But deadlines hit, and hacks got made,
We patched it fast, thought we’d be paid.
Spaghetti code, mixed and crude,
Welcome to the Big Ball of Mud, dude!

[Chorus]

Big Ball of Mud, can’t break free,
Tangled code as far as I see.
Quick fixes here, band-aids there,
Architects? Well... they don’t care!
Features first, structure last,
Technical debt piling up so fast!
Big Ball of Mud, oh what fun,
We just pray it doesn’t come undone!

[Verse 2]

No patterns here, no guiding star,
Every class feels so bizarre.
Functions long and names unclear,
We don’t know why half of it’s here.

Dependencies everywhere,
Copy-paste like we just don't care!

[Chorus]

Big Ball of Mud, can't break free,
Tangled code as far as I see.
Quick fixes here, band-aids there,
Architects? Well... they don't care!
Release it now, deal with it later,
No time to refactor—hello, chaos creator!

[Bridge]

Every new dev asks, "What is this?"
We say, "Just make it work—no need to reminisce!"
"Rewrite later," the old team lied,
Now we swim through bugs, just trying to survive.
Test coverage? Oh, yeah, that's a dream,
We just hope the system don't break at the seams!

[Chorus]

Big Ball of Mud, can't break free,
Tangled code as far as I see.
Quick fixes here, band-aids there,
Architects? Well... they don't care!
Patch it up, ship it fast,
'Cause management thinks good code won't last!

[Outro]

One day, we'll rebuild it clean,
Use solid patterns—what a scene!
But until that day, we'll make it run,
In the Big Ball of Mud, under the sun.
♪ Big Ball of Mud, that's how we roll,
In the chaos, somehow, we find our soul! ♪



Fig. 6. A Jacket image for “Big Ball of Mud Blues,” generated by ChatGPT.

The song “Big Ball of Mud Blues,” generated using Suno AI with the genre specification “R&B hybrid reggae,” can be listened to at the following link: [https://youtube.com/shorts/ CUowY9gcws](https://youtube.com/shorts/CUowY9gcws) . In addition to generating the lyrics, Joe also utilized ChatGPT to create an image for the record or CD jacket cover. He made a request stating, “Create a delta blues big ball of mud album cover,” which produced the album cover shown in Figure 6.

3.3 Pattern Song “Microservices Symphony”

Chris Richardson, another workshop participant, created a Pattern Song based on his own *Microservices Patterns* (Richardson 2018). An Hikino provided support during the song’s creation process. To generate the lyrics, Chris provided the pattern details to ChatGPT and requested lyric generation. His prompt was: “Create the lyrics for this software architecture pattern <https://microservices.io/patterns/microservices.html> .” The generated lyrics in response to this prompt are as follows:

Here’s a fun, creative take on lyrics that describe the Microservices Architecture Pattern, inspired by the essence of the article you linked! These lyrics blend software engineering concepts with playful rhythm and rhyme.

“Microservices Symphony” (To the tune of a jazzy, upbeat song – think something you can sing along to at a tech meetup!)

[Verse 1] We used to build it all in one, A monolith so strong and done. But scaling up, oh, what a grind, A tangle of code—left us behind!

Break it down, split the seams, Each module runs its own little dream. No more waiting for a giant deploy, Microservices—oh, what joy!

[Chorus] Each service small, doin’ its part, Talks through APIs, playin’ smart. Independent, fast, and free, That’s the microservices symphony!

Scaling out, scaling wide, Failures caught, and we divide. Deploy them quick, release with ease,
That's the way to build, please!

[Verse 2] Loose coupling, yeah, that's our way, Bounded context saves the day. Kafka streams,
events that flow, Keeping data in the know.

Containers runnin' in a cloud, Docker and Kubernetes—make us proud. Logs and metrics? We
got tools, To monitor well—that's the rules!

[Chorus] Each service small, doin' its part, Talks through APIs, playin' smart. Independent, fast,
and free, That's the microservices symphony!

Scaling out, scaling wide, Failures caught, and we divide. Deploy them quick, release with ease,
That's the way to build, please!

[Bridge] Oh, the challenges, they arise, Distributed systems—no surprise! Network calls and
retries too, But we've got tricks to see it through!

Circuit breakers, fallbacks ready, Keep the load light, hold it steady. With observability in the
lead, We find the bug, oh yes indeed!

[Chorus] Each service small, doin' its part, Talks through APIs, playin' smart. Independent, fast,
and free, That's the microservices symphony!

Scaling out, scaling wide, Failures caught, and we divide. Deploy them quick, release with ease,
That's the way to build, please!

[Outro] So if you wanna move with speed, Microservices plant the seed. Autonomous, agile,
light as air, A pattern built with thought and care!

♪ Microservices, take the lead— Build it smart, meet every need! ♪

This playful tune captures the spirit of microservices: small, autonomous services that
communicate effectively while scaling smoothly. Feel free to tweak the lyrics to better fit the
vibe you're aiming for!

Chris proceeded to ask ChatGPT about the most suitable music genre for the “Microservices Symphony”
lyrics. His query was: “What genre of music is best for ‘Microservices Symphony’?” The response provided by
ChatGPT was as follows:

The best genre for “Microservices Symphony” would be jazz! Here's why jazz fits perfectly:

Modularity & Improvisation:

Like microservices, jazz is all about individual instruments (or services) working independently but harmonizing together. Each instrument (service) can improvise and have its own moment to shine without disrupting the whole composition. Loose Coupling:

Jazz is known for loose, adaptive structures, where musicians are free to adapt in real time. Similarly, microservices allow independent updates without breaking the whole system. Orchestration vs. Choreography:

In jazz ensembles, there is a mix of coordination (orchestration) and spontaneous collaboration (choreography), just like microservices can use orchestration (e.g., with Kubernetes) or let services interact autonomously. Scalable and Resilient:

Just like microservices scale independently, jazz bands can expand (big band) or shrink (small quartet) without losing their essence. So, imagine “Microservices Symphony” as a jazzy track, with each instrument (piano, trumpet, saxophone, bass, drums) representing a microservice—each playing its part, occasionally soloing, but always syncing back into a smooth, coherent groove!

The song “Microservices Symphony,” generated using Suno AI with the genre specification “big band swing jazz,” can be listened to at the following link: <https://youtube.com/shorts/9wm5oDhBJV4>.

In addition to generating the lyrics, Chris also utilized ChatGPT for image generation to create an album cover. His prompt was: “Create album cover for microservices symphony,” which resulted in the images shown in Figure 7.

Here is the album cover for “Microservices Symphony”! The design captures the dynamic flow of interconnected services with vibrant gradients, abstract shapes, and modern typography—perfectly reflecting the orchestration and complexity of microservices. 🎵

Chris really liked this attempt and his pattern song, and he happily introduced it during his session the next day, titled “The Evolution of the Microservice Architecture Pattern Language.”

4. SURVEY AND FEEDBACK

Although the workshop’s value can be clearly seen in the created works introduced thus far, a survey was also conducted after the session, which is worth mentioning. Of the 13 workshop participants, 11 completed the survey (two left early).

When asked, “Did you enjoy the workshop?” on a 5-point scale, all respondents gave the highest rating of 5. In the free-response section, the following feedback was received:

- *Awesome*
- *It was so much fun to explore Suno AI!!! Also context of using their patterns really worked!*
- *It was funny, informative and entertaining.*
- *I had thought of trying to write songs around the ideas of evolutionary design, but never imagined it would become a reality. Thank you for figuring out how to do this and make it so fun!*
- *Very well prepared, great to have so many outputs a hands-on activities.*
- *So many great Songs and it gave me so many ideas of what I could do with it!*



Fig. 7. A Jacket image for “Microservices Symphony,” generated by ChatGPT.

For the question, “Did the workshop make you want to create Pattern Songs for other patterns as well?” 10 people chose the highest rating of 5 on a 5-point scale, and 1 person chose 4. Respondents commented:

- *Also other contents besides patterns, like lecture contents*
- *I want to do everything in Songs now!*
- *I’m sure I’ll be experimenting with this going forward. Music is a great way to inspire people*

When asked, “Do you feel that creating Pattern Songs is helpful in conveying the content of the patterns?” 6 people chose the highest rating of 5 on a 5-point scale, and 5 people chose 4. Feedback included:

- *The patterns feel even more appealing!*
- *It’s great that the 27 patterns become simple messages.*
- *For complex patterns, this is a great way to explain the key points of the pattern in a simple manner.*
- *Music can convey the spirit of what I’m trying to do better than just about anything else*
- *It’s great for motivation and summary.*

Other noteworthy comments from the free-response section included:

- *Please do that again at another PLoP!*
- *I had a lot of fun!!*
- *I appreciate how you put your creative energies toward expanding our ability to share ideas through patterns and pattern languages*
- *Thank you for showing what AI can do today*
- *It might be interesting to explore how being able to easily generate content tailored to a specific person might lead to the dead internet theory, where majority of the content on the internet is generated by AI.*
- *An evolution of this workshop would be finding a way to generate the singing using our voices. I know there are tools where you can make it sound like your voice (or a celebrities voice) is singing an existing song.*
- *You could also generate light sequences like what would be used on stage at a concert.*

The survey results and feedback clearly demonstrate the workshop’s success in engaging participants, sparking interest in creating Pattern Songs, and effectively conveying pattern content.



Fig. 8. Workshop participants and generators

5. CONCLUSION

This report has presented an overview and the outcomes of the ‘Deliver Your Patterns Through Song! A Hands-On Workshop on Creating Original Pattern Songs with Generative AI’ session held during the Imagination Run Wild track at PLoP 2024.

In conclusion, this workshop was a resounding success, showcasing the exciting possibilities at the intersection of generative AI and pattern languages. we would like to express our deep gratitude to all the participants for their enthusiastic involvement, as well as to Suno AI, ChatGPT, and Claude for their invaluable support (Figure 8). Thank you all for making this such a memorable and fruitful experience!

REFERENCES

- Yuma Akado, Masafumi Nagai, Taichi Isaku, and Takashi Iba. 2016. “Workshop Generator Patterns: A Supporting Tool for Creating New Values in a Workshop,” in *the 6th International Conference on Collaborative Innovation Networks (COINs 2016)*, published in Matthäus P. Zylka, Hauke Fuehres, Andrea Fronzetti Colladon, and Peter A. Gloor (eds), *Designing Networks for Innovation and Improvisation: Proceedings of the 6th International COINs Conference*, Springer, pp.87-94.
- Rinko Arao, Ayano Tamefusa, Megumi Kadotani, Kaori Harasawa, Shingo Sakai, Keishi Saruwatari, and Takashi Iba. 2012. “Generative Beauty Patterns: A Pattern Language for Living Lively and Beautiful,” in *the 19th Conference on Pattern Languages of Programs (PLoP 2012)*.
- Charles Danoff, Sridevi Ayloo, Mary Tedeschi, and Isaih Battiste, 2024. “Pair Learning as a Pattern,” in *the 31st Conference on Pattern Languages of Programs, People, and Practices (PLoP 2024)*.
- Brian Foote, and Joseph Yoder. 2000. “Big Ball of Mud,” Neil Harrison, Brian Foote, and Hans Rohnert (eds), *Pattern Languages of Program Design 4*, Addison-Wesley.
- An Hikino, Erika Inoue, and Takashi Iba. 2025. “Crafting of Pattern Songs with Generative AI and Their Attractive Delivery,” in *the 11th Asian Conference on Pattern Languages of Programs, People, and Practices (AsianPLoP 2025)*.
- Takashi Iba and Rio Nitta. 2024. “Crafting Essence Intuition Patterns: A Pattern Language for Grasping and Expressing the Essence of Anything based on Husserl’s Phenomenology,” in *the 10th Asian Conference on Pattern Languages of Programs, People, and Practices (AsianPLoP 2024)*.
- Takashi Iba, Aya Matsumoto, Arisa Kamada, Nao Tamaki, Tomoki Kaneko and Makoto Okada. 2016a. “A pattern language for living well with dementia: Words for a Journey,” in *the International Journal of Organisational Design and Engineering*, Vol. 4, No. 1-2. pp. 85-112.
- Iba, T., Okada, M. (eds), Iba Lab. and Dementia Friendly Japan Initiative (DFJI). 2015. *Words for a Journey: The Art of Being with Dementia*, CreativeShift.
- Takashi Iba, Elly Shimamura, and Haruto Aoki. 2023a. “Pattern Coins: Practice-Gifting Media to Encourage Practices of Pattern Languages within Communities,” in *the EuroPLoP ‘23: Proceedings of the 28th European Conference on Pattern Languages of Programs (EuroPLoP 2023)*, Article No.25, pp.1–26.
- Takashi Iba, Hiroaki Tanaka, Sae Adachi, Mizuki Ota, and Urara Tajima. 2023b. “Pattern Manga: Attractively Expressing Patterns of a Pattern Language in Manga Style,” in *the 30th Conference on Pattern Languages of Programs (PLoP 2023)*.

- Takashi Iba, Ayaka Yoshikawa, Tomoki Kaneko, Norihiko Kimura, and Tetsuro Kubota. 2016b. "Pattern Objects: Making Patterns Visible in Daily Life," in *the 6th International Conference on Collaborative Innovation Networks (COINs 2016)*, published in Matthäus P. Zylka, Hauke Fuehres, Andrea Fronzetti Colladon, and Peter A. Gloor (eds), *Designing Networks for Innovation and Improvisation: Proceedings of the 6th International COINs Conference*, Springer, pp.105-112.
- Takashi Iba, Mayu Ueno, and Ayaka Yoshikawa. 2017. "Pattern Song: Auditory Expression For Pattern Languages," in *the World Conference on Pursuit of Pattern Languages for Societal Change (PURPLSOC 2017)*, published in Richard Sickinger, Peter Baumgartner, Tina Gruber-Mücke (eds), *Pursuit of Pattern Languages for Societal Change: A Comprehensive Perspective of Current Pattern Research and Practice*, Edition Donau-Universität Krems, 2018, pp.560-579.
- Iroha Ogo, Takashi Iba, Kimie Ito, and Seiko Miyakawa. 2017. "Ways of Everyday World-Making: Living well with Working and Parenting," in *the World Conference on Pursuit of Pattern Languages for Societal Change (PURPLSOC 2017)*, published in Richard Sickinger, Peter Baumgartner, Tina Gruber-Mücke (eds), *Pursuit of Pattern Languages for Societal Change: A Comprehensive Perspective of Current Pattern Research and Practice*, Edition Donau-Universität Krems, 2018, pp.490-508.
- Chris Richardson, 2018, *Microservices Patterns: With examples in Java*, Manning.