antara

Between the Notes

An Audio Installation Report

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FilmEU Resound — Masters in Sound

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1. Concept

Antara — Between the Notes started with a question I kept coming back to: how much of a raga's identity actually lives in its microtones, and what is left when you take them away? In Indian classical music, the spaces between notes are not decorative. They carry meaning. The bends, the oscillations, the characteristic ways of approaching and leaving a note are not added on top of the music. They are the music. Antara was an attempt to make that audible to anyone, regardless of whether they had ever heard Indian classical music before.

I chose three ragas that each represent a different emotional world. Darbari Kanada is one of the most recognisable ragas in the Hindustani tradition, heavy, late-night, deeply serious. What makes it interesting for this project is that its notes are almost identical to a Western major scale, and yet it sounds nothing like one. Its entire character comes from the

slow oscillations on the flattened third and sixth. Remove those, and the raga disappears. Raga Jog is one of my personal favourites, pentatonic, deeply touching, using both a flattened and a natural third. It has specific rules about how notes are approached going up versus coming down, and those rules are what give it its distinctive feel. Raga Kafi brought a third emotional register into the installation, providing contrast against both the gravity of Darbari and the intimacy of Jog.

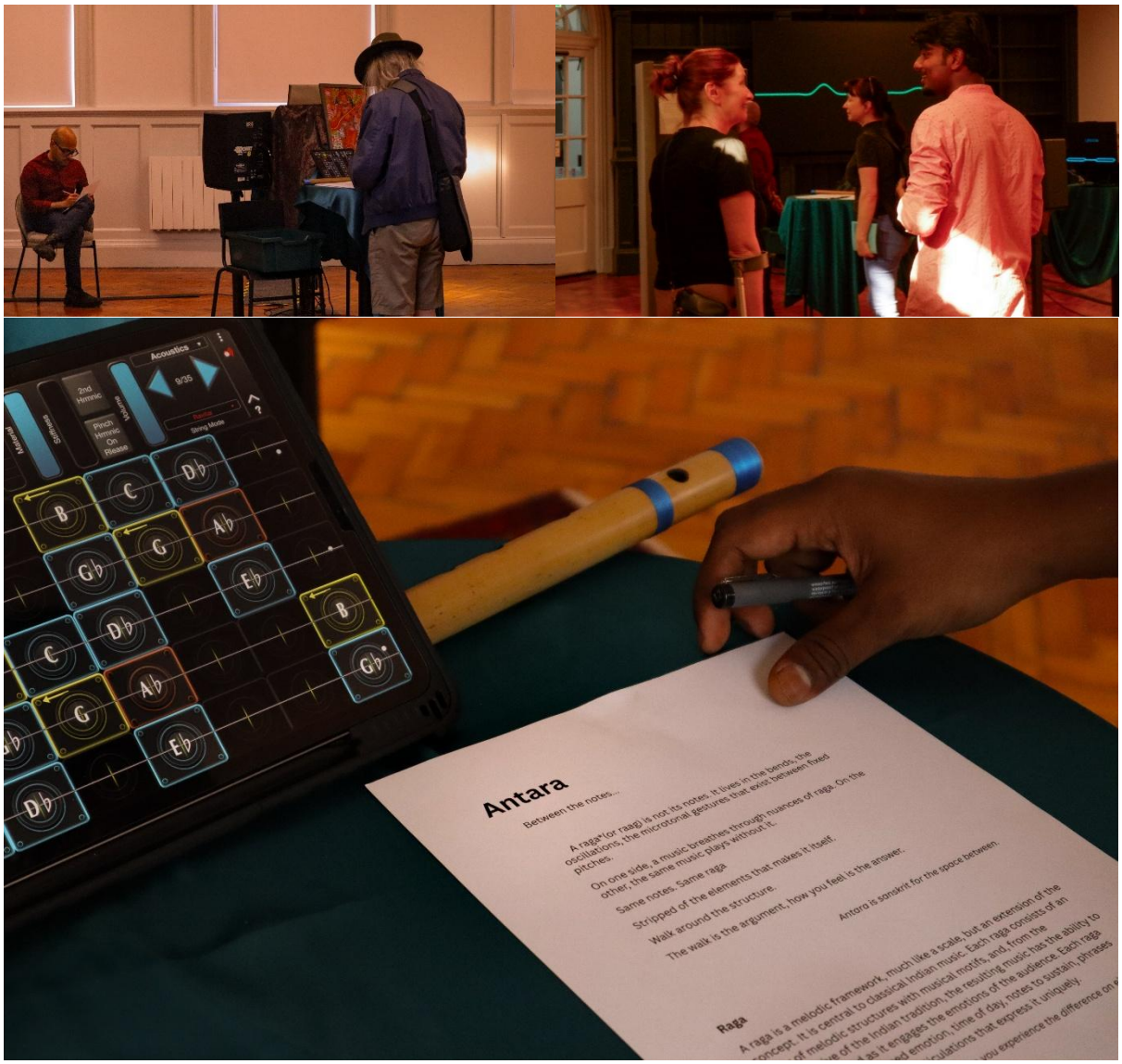
The two-sided physical structure was important to me because I did not want to make a statement. I wanted to create an experience. By placing the flute version and the piano version back-to-back, with the audience free to walk between them, only one variable was changed: the instrument, and with it, the capacity for continuous pitch. Everything else stayed the same. That single change was enough to make the two sides feel like completely different music to almost everyone who walked through.

2. Design and Production

The installation was held at Carnegie Library, Dun Laoghaire, in a hall with a high ceiling, wooden floors, and generous open space, 22 by 19 feet, 14 feet high. The room itself felt right for the work. Something about the scale and the wood gave it a natural acoustic warmth that suited the music.



Installation View



Pictures from the installation

The centrepiece was two paintings placed back-to-back on a freestanding structure, each facing its own half of the room. Finding the right paintings was important to me. I wanted an ancient depiction of Goddess Saraswati, the goddess of music and knowledge, specifically in a form rendered almost entirely in curved lines, because those curves directly mirror the smooth, continuous motion of microtonal ornamentation. Against this, my friend Hrithwik Paresh designed a cubist version of the same painting, the same image broken into geometric



Art on Side 1

fragments, clean edges, fixed angles. The contrast between the two paintings was intended to mirror the contrast between the two sounds. Beneath the structure, a peacock blue silk saree, iconic to Indian textile culture, was draped in a wave shape, signifying the flowing nature of microtonal movement. The floor carried a maroon carpet with intricate symmetric patterns, and the space was lit with electric candles and lamps to create the calm, meditative atmosphere the music required.

Each painting had a speaker positioned alongside it. A real-time audio visualiser, Z Game Audio Visualizer running within FL Studio, generated a fluid waveform on screen with changing colours for each raga, giving the audience a visual cue to identify which piece was playing, which also helped while filling in the response forms. On a side table, a GeoShred app on an iPad and a physical flute were available for anyone who wanted to interact directly. The acoustic panels used for audio management doubled as information displays, guiding visitors on how to engage with the installation.



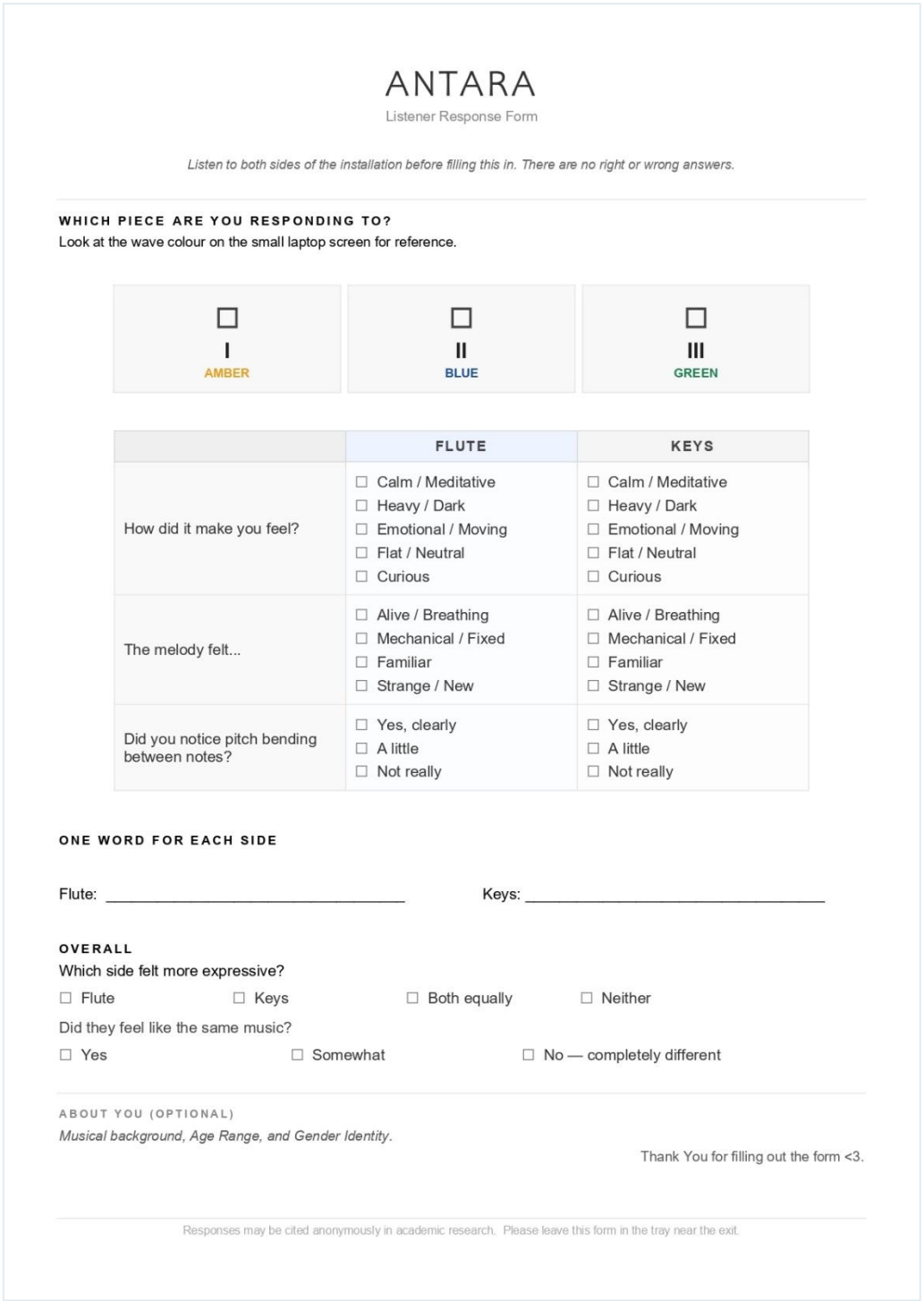
Art on Side 2

The setup took close to four hours. A last-minute speaker shortage, a consequence of the number of simultaneous installations, forced me to reduce from four speakers to two on the day itself. This broke the symmetry I had planned around, which meant the paintings could no longer be centred as intended. Repositioning the structure to restore the aesthetic balance introduced some audio leakage between the two sides. Managing that leakage while maintaining both the audio separation and the visual symmetry of the space was the hardest challenge of the day.

The Installation Experience

Visitors were given a response form on arrival and were free to move through the space at their own pace, sitting or standing on either side as they chose. What stood out most was the quality of attention people brought to the experience. Without any instruction to do so,

visitors observed silence. Several closed their eyes to listen more deeply. The music demanded time, and people gave it.



ANTARA

Listener Response Form

Listen to both sides of the installation before filling this in. There are no right or wrong answers.

WHICH PIECE ARE YOU RESPONDING TO?

Look at the wave colour on the small laptop screen for reference.

☐ I AMBER	☐ II BLUE	☐ III GREEN

	FLUTE	KEYS
How did it make you feel?	☐ Calm / Meditative ☐ Heavy / Dark ☐ Emotional / Moving ☐ Flat / Neutral ☐ Curious	☐ Calm / Meditative ☐ Heavy / Dark ☐ Emotional / Moving ☐ Flat / Neutral ☐ Curious
The melody felt...	☐ Alive / Breathing ☐ Mechanical / Fixed ☐ Familiar ☐ Strange / New	☐ Alive / Breathing ☐ Mechanical / Fixed ☐ Familiar ☐ Strange / New
Did you notice pitch bending between notes?	☐ Yes, clearly ☐ A little ☐ Not really	☐ Yes, clearly ☐ A little ☐ Not really

ONE WORD FOR EACH SIDE

Flute: _____ Keys: _____

OVERALL

Which side felt more expressive?

☐ Flute ☐ Keys ☐ Both equally ☐ Neither

Did they feel like the same music?

☐ Yes ☐ Somewhat ☐ No — completely different

ABOUT YOU (OPTIONAL)

Musical background, Age Range, and Gender Identity.

Thank You for filling out the form <3.

Responses may be cited anonymously in academic research. Please leave this form in the tray near the exit.

Questionnaire used for information collection

Indian classical music does not state its emotional content immediately. It builds gradually, and the audience seemed to understand this instinctively. Most visitors stayed for seven to eight minutes, and many returned multiple times across the exhibition to experience

a different raga on each visit. This was not anticipated, but it became one of the most meaningful observations of the day. The installation was designed as a single contrast between two sides, but the audience turned it into a repeated experience across all three pieces.

The response to the contrast between the two sides was consistently strong. Visitors frequently approached me after listen ing to share their reactions, wanting to understand more about what they had heard and why the two sides felt so different. Several were firm in saying the two pieces felt like completely different music, not simply different versions of the same thing. That reaction, unprompted and repeated across different listeners, was the clearest confirmation that the installation had communicated what it set out to.

Audience Response

Twenty responses were collected across the three ragas. The audience was predominantly musicians, with seventeen out of twenty having a musical background and three identifying as non-musicians. This skew is worth noting, as it means the responses reflect a largely trained ear. However, the three non-musician responses did not differ significantly from the musicians. All three identified the flute side as more expressive and noticed pitch bending clearly. This suggests the perceptual difference between the two sides is not dependent on musical training. It is accessible to any listener.

The most significant finding was the response to expressiveness. Eighteen out of twenty listeners identified the flute side as more emotionally expressive. Only one chose the keys side, and one felt both equally expressive. This near-unanimous response occurred despite the only variable being the instrument and its capacity for continuous pitch.

The pitch bending question produced the sharpest contrast. Nineteen out of twenty listeners clearly noticed pitch bending on the flute side. On the keys side, nine said they did not notice it at all, seven noticed only a little, and three said yes clearly. The three who perceived bending on the keys side likely registered the equal-tempered sustain as movement, which is itself a perceptually interesting result.

The structural perception mirrored this divide directly. Thirteen listeners described the flute as feeling Alive and Breathing. The keys side was most commonly described as Mechanical and Fixed by seven listeners, and Strange and New by six. This second finding is worth pausing on. For listeners trained in Indian classical music, the equal-tempered version did not feel neutral or familiar. It felt foreign. Removing microtonal ornamentation did not produce something recognisably Western. It produced something unrecognisable entirely,

which directly supports the argument that ornamentation is not decoration layered onto the music but the source of its identity.

The one-word responses made this contrast most visible. Flute words included: Emotional, Spiritual, Transcendent, Human, Breath, Fluid, Whispering, Ethereal. Keys words included: Mechanical, Static, Harsh, Distant, Sharp, Anxious, Clean. The two vocabularies did not cross at all. Nobody used the word Human for the keys side. Nobody used Mechanical for the flute side. Listeners were reaching for entirely different registers of experience when describing the same melody played two different ways.

A raga-level pattern also emerged. Three out of the five responses that described the two sides as completely different came from Harikauns listeners, suggesting that its microtonal character produced the most stark perceptual contrast between the two sides. Darbari Kanada, despite being the most theoretically extreme case of microtonal specificity, had the fewest responses, likely due to fewer visitors encountering it during its cycle.

On similarity, thirteen felt the two sides were somewhat the same music, five felt completely different, and only two felt they were clearly the same. Most listeners held both things simultaneously, recognising a shared melodic identity while experiencing the two sides as emotionally distinct. That tension between sameness and difference is precisely what the installation was designed to produce.

Reflection

The central aim of the installation was to make the role of microtonal ornamentation perceptible to anyone who walked through the space, without explanation or instruction. The audience responses confirmed that this worked. The contrast between the two sides was understood and absorbed independently, through listening alone. That was the most important thing the installation set out to do, and it did it.

There are things I would approach differently in a future version. The instructions for interacting with the space and filling in the response form could have been clearer, particularly for visitors who were less familiar with the format. A larger space would have opened up other possibilities, specifically the ability to lie down and listen, which would have deepened the meditative quality the music asked for. The most significant change I would make to the concept itself would be to include a section featuring Jugalbandi, where both the flute and keys play simultaneously in call and response. This would allow the contrast to be heard not as a

choice between two separate sides but as a live dialogue, making the difference between continuous and fixed pitch audible in a single moment.

Beyond the installation itself, this project gave me a deeper understanding of Indian classical music than I had held before. I have always been drawn to it, but I came to this project without formal training. Building Antara required me to study the ragas closely, interview two musicians working at a high level in their respective traditions, and engage seriously with the academic literature on raga identity. That process changed how I hear and think about music. More practically, it has given me a stronger sense of how microtonal expression can be used intentionally as an emotional tool in composition and sound design. That understanding will carry into everything I make next.

References

Mr. Paulson K J, Hindustani Classical Sitarist, Thrissur, Kerala, India.

Mr. Abhay Nayampally, Carnatic Classical Guitarist, Bengaluru, Karnataka, India.

Deshpande, V. H. (2024). Understanding and assessment of Hindustani classical music: Constraints in present-day performances. International Journal of Humanities and Social Sciences, 10(4), 146-152. https://doi.org/10.29032/ijhsss.v10.i4.2024.146-152

Ganguli, P., Rao, P., & Rao, V. (2010). Analysis and classification of ornaments in North Indian (Hindustani) classical music. Master's thesis, Music Technology Group, Universität Pompeu Fabra. http://www.mtg.upf.edu/static/media/Pratyush-Master-Thesis-2010.pdf

Kelkar, T., & Indurkhya, B. (2014). A motion-based approach to analysis, notation and creation of Hindustani music. Proceedings of xCoAx 2014. http://2014.xcoax.org/pdf/xcoax2014-Kelkar.pdf

Nuttall, T., Subramani, N., Serra, X., & Miron, M. (2025). Recognizing ornaments in vocal Indian art music with active annotation. arXiv preprint arXiv:2505.04419. https://arxiv.org/abs/2505.04419

Sarkar, S., Bhattacharya, S., & Das, S. (2021). A study on raga characterization in Indian classical music in the light of MB and BE distribution. Journal of Physics: Conference Series, 1896(1), 012007. https://doi.org/10.1088/1742-6596/1896/1/012007