

# e - Proceedings



## Proceeding for International Undergraduates Get Together 2024 (IUGeT 2024)

"Undergraduates' Digital Engagement Towards Global Ingenuity"



Co-organiser:

INSPIRED 2024. Office of Research, Industrial Linkages, Community & Alumni (PJIMA), UiTM Perak Branch

Bauchemic (Malaysia) Sdn Bhd

Universitas Sebelas Maret

Universitas Tridinanti (UNANTI)

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### The "Sound of Nature" Music Pavilion (ICON) UiTM Seri Iskandar

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### ABSTRACT

The Timber Retreat Pavilion ICON at UiTM Seri Iskandar seamlessly blends modern sustainability with traditional Malay timber construction techniques, particularly the art of tanggam joinery. Inspired by UiTM's diamond-shaped logo, the pavilion transforms this geometric form into a physical space that embodies the university's identity and commitment to a green campus. The design thoughtfully integrates cultural heritage with the natural environment, creating a multifunctional space that serves as a hub for relaxation, study, environmental education, and artistic inspiration. By promoting sustainability and environmental awareness, the pavilion reflects UITM Seri Iskandar's vision of a green campus, showcasing how traditional methods can be adapted to modern, eco-friendly architecture. Addressing the region's hot climate, the pavilion incorporates natural shading from surrounding trees, effective cross-ventilation, and the cooling effects of the nearby campus lake, ensuring a comfortable environment year-round. Primarily targeted at students and the local community, the pavilion offers a versatile space for various activities, fostering community engagement and supporting sustainable practices. This structure not only honours Malay traditions in timber construction but also enhances the overall quality of life at UiTM Seri Iskandar, embodying the university's values and its connection to both cultural heritage and nature.

KEYWORDS: Traditional malay, eco-friendly, relaxation, sound, nature

### **DESIGN DESCRIPTION**

The "Sound of Nature" Music Pavilion, a visionary ICON, seamlessly integrates the beauty of timber with the immersive qualities of music and nature. Designed as a multi-functional space, this pavilion offers an unparalleled sensory experience, where visitors can enjoy live acoustic performances, meditate, or simply bask in the natural soundscape enhanced by the pavilion's acoustic design. According to Yang et al. (2023), the study examines the impact of audio-visual combinations on the healing effects in urban parks, providing an empirical foundation for designing and planning parks with a focus on these healing elements. The findings offer valuable insights for developing healing systems not only in parks but also in broader urban areas. The use of locally sourced, sustainable timber emphasizes the pavilion's commitment to environmental stewardship while providing a warm, inviting atmosphere. Interactive elements like timber percussion instruments and wind chimes allow visitors to contribute to the pavilion's everchanging soundscape, making each visit a unique experience. The pavilion's open design encourages seamless movement between indoor and outdoor spaces, fostering a deep connection with the natural environment. Adaptable features, such as movable timber panels, allow the pavilion to accommodate various events, from intimate concerts to community gatherings, all while maintaining optimal acoustic performance. The pavilion is a celebration of the fusion between architecture, music, and nature, serving as both a cultural landmark and an



educational tool that demonstrates the importance of preserving natural soundscapes and sustainable design practices. Whether for music enthusiasts, nature lovers, or those seeking tranquillity, the "Sound of Nature" Music Pavilion offers a sanctuary where the natural and built environments coexist in perfect harmony, providing a timeless space for reflection, creativity, and community engagement.

### The Concept

The pavilion's design process begins with the geometric diamond shape, a central element in UiTM's logo. This diamond form is not merely a symbolic reference; it is the foundation for the pavilion's overall morphology. The diamond shape is deconstructed and reinterpreted into a three-dimensional form, creating a structure that maintains the clarity of the original geometry while adapting it to the functional and environmental requirements of the pavilion. Refer to Figure 1.



Figure 1: "Sound of Nature" Music Pavilion (ICON)

The pavilion is designed with a focus on integrating with its natural surroundings, particularly the surrounding trees and natural landscape. The structure is positioned to align with natural wind flows, maximizing natural ventilation and minimizing the need for artificial cooling. This approach ensures that the pavilion remains comfortable even in the hot climate, utilizing the shade provided by nearby trees and the cooling effects of the lake within the campus. The growing trend of incorporating "green" elements into urban buildings provides an innovative solution for reducing energy consumption while simultaneously enhancing cooling effects, which is especially important in hot, tropical climates where maintaining outdoor thermal comfort is often difficult, particularly during peak heat seasons (Taib & Abdullah, 2016).

### Contemporary, Eco-Friendly Architecture

The process of developing the pavilion's form from the diamond geometry is illustrated in Figure 2, which shows the transformation of a simple two-dimensional shape into a complex, functional space. This process involves analyzing the diamond's potential to create a central focal point while allowing for the organic flow of movement and air around the structure. The resulting design



is a harmonious blend of form, function, and environmental integration. In essence, the Timber Retreat Pavilion is not just a physical structure but a manifestation of UiTM's values—merging cultural heritage, sustainability, and modern design into a space that enhances the campus environment and provides a meaningful experience for its users.



Figure 2: Morphology design process

### NOVELTY AND UNIQUENESS

Its novelty lies in the way it reimagines a traditional pavilion, transforming it into a dynamic, interactive space where nature and music are intrinsically linked. The pavilion's design is unique in its use of undulating timber forms that not only enhance visual aesthetics but also serve a functional purpose by optimizing natural acoustics, allowing sound to resonate and amplify without



electronic intervention. What sets this pavilion apart is its integration of interactive elements that encourage visitors to engage with their surroundings actively. The inclusion of timber percussion instruments, wind chimes, and water features invites users to create their soundscapes, contributing to the pavilion's ever-evolving auditory environment. This interactive aspect transforms the pavilion from a passive space into a living, breathing entity that responds to and evolves with its users. Moreover, the pavilion's adaptability is a key factor in its uniqueness. The design includes movable timber panels that can be adjusted to alter the acoustic properties or provide shade and shelter, allowing the structure to suit a wide range of events and conditions. This flexibility, combined with the sustainable use of locally sourced timber, positions the pavilion as a forward-thinking example of eco-conscious design. Finally, the pavilion's ability to harmonize with its natural surroundings, enhancing the experience of both sound and environment, adds a layer of uniqueness. It is not just a pavilion; it is an immersive experience that elevates the connection between people, music, and nature, offering a novel space where architecture and the natural world coexist in a symbiotic relationship.

### **BENEFITS TO MANKIND**

The "Sound of Nature" Music Pavilion benefits students and the public by providing an enriching educational environment where they can learn about sustainable design, acoustics, and environmental conservation through hands-on experiences. For students, the pavilion serves as a living classroom, offering insights into eco-friendly architecture and the importance of harmonizing-built structures with nature. For the public, it is a serene space for relaxation, community gatherings, and cultural activities, enhancing overall well-being and fostering a deeper connection to nature. This inclusive space promotes lifelong learning, creativity, and social cohesion, making it a valuable resource for all who use it.

### **COMMERCIAL POTENTIAL**

The Timber Retreat Pavilion holds significant commercial potential as a model for sustainable, culturally resonant architecture. Its design, rooted in traditional Malay timber construction and contemporary eco-friendly practices, can be adapted for various settings, including educational institutions, public parks, and eco-tourism destinations. The pavilion's ability to enhance environmental awareness while providing multifunctional community spaces makes it appealing to developers and organizations focused on green building initiatives. Additionally, its emphasis on sustainability and cultural heritage can attract funding from government and private sectors interested in promoting eco-conscious and culturally significant projects, further expanding its commercial appeal.

### CONCLUSION

The Timber Retreat Pavilion at UiTM Seri Iskandar stands as a significant achievement in sustainable design, blending modern eco-friendly principles with traditional Malay craftsmanship. Its innovative use of natural cooling strategies and culturally inspired design not only enhances the university's green campus but also sets a benchmark for integrating heritage with contemporary architecture. This pavilion exemplifies how traditional techniques can be adapted to address modern environmental challenges, providing a versatile space that enriches community engagement and demonstrates the potential of sustainable, culturally resonant design.



### ACKNOWLEDGEMENT

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### REFERENCES

- Taib, N., & Abdullah, A. (2016). The cooling effects of plants on the built environment. In Renewable Energy and Sustainable Technologies for Building and Environmental Applications: Options for a Greener Future (pp. 151–166). Springer International Publishing. https://doi.org/10.1007/978-3-319-31840-0 9
- Yang, Z., Zhao, X., Zhu, L., Xia, Y., Ma, Y., Wu, J., Xiong, X., Yang, N., & Lu, M. (2023). Research on the Healing Potential of Urban Parks from the Perspective of Audio-Visual Integration: A Case Study of Five Urban Parks in Chengdu. Land, 12(7). https://doi.org/10.3390/land12071317

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Sekian, terima kasih.

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Saya yang menjalankan amanah,

Setuju.

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