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e - Proceedings



Proceeding for International Undergraduates Get Together 2024 (IUGeT 2024)
"Undergraduates' Digital Engagement Towards Global Ingenuity"

1st Edition



Organiser :

Department of Built Environment Studies and Technology, College of Built Environment, UiTM Perak Branch

Co-organiser :

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

Bauchemic (Malaysia) Sdn Bhd

Universitas Sebelas Maret

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Muhammad Shafiq Ilham Azman¹, Siti Norsyaurah Mohd Nizam², Siti Suhana Muhamad Alwi³ & Farid Al Hakeem Yuserrie^{4*}

^{1,2,3,4}Department of Built Environment Studies & Technology, College of Built Environment, Universiti Teknologi MARA (UiTM) Perak Branch, 32610 Seri Iskandar, Perak, Malaysia

*farid933@uitm.edu.my

ABSTRACT

For this design, this paper describes an integrative approach for the development of this project. This proposal also envisions a space design that is not merely a passive integration of concept, but an active participant in its cycle. By integrating public engagement with innovative yet classic architecture elements, we aim to create a structure that celebrates both the novelty of design and the beauty in functionality aspects, while exemplifying its sustainability value. This design is rooted in the concept of “Daun Sibar Dayang”, drawing inspiration from the diversity of traditional uniqueness of history and aesthetic appeal found in its natural form, that complement each other well. As the overall integration of the concept, all elements and forms reflect the design’s morphology. The space design fosters a sense of connection with nature as it is abundant with natural light and biophilic design elements, creating a serene atmosphere. By fusing traditional craftsmanship elements with cutting-edge technology, this project redefines the possibilities of wood architecture.

KEYWORDS: Sustainable, mobility, traditional, community, functionality

DESIGN DESCRIPTION

The design stands as a testament to the unparalleled versatility and sustainability of timber as a building material through its transformative architectural expression. It seamlessly unites the organic beauty of nature with the precision of current innovation as historical motives and elements are well incorporated into the overall site layout. At its core, the design is a dynamic and multi-functional space that prioritizes visitor's experience, allowing for various events and fostering community engagement. The interior is designed to optimize natural light and ventilation, creating a welcoming atmosphere for diverse gatherings. Furthermore, due to its modular design which allows for adaptability, it is ensured to evolve and cater to changing needs. By blending traditional craftsmanship with cutting-edge engineering, the design pushes the boundaries of timber construction, demonstrating its potential as a contemporary building material. Ultimately, distinctive features, such as the biomimetic form and modular design, elevate the design beyond mere shelter into a captivating architectural experience, making it more than just a structure. It is a symbol of sustainable design and a spark to community engagement. Timber elements in the construction and a natural, warm colour palette create a welcoming atmosphere, while comfortable seating invites relaxation. Wayfinding and accessibility have been carefully considered to enhance the overall user experience. A beautiful Malay royal muscat, adorned with 'Awan Larat' motifs, symbolizes power, divinity, and the ruler's connection to the heavens through these celestial designs. One of the Awan Larat motifs is the Daun Sibar Dayang which is meticulously crafted, reflecting the opulence associated with royalty. Integrating the motifs into the overall layout plan offers a unique and culturally rich architectural approach, resulting in a

visually striking structures envelope. The existence of this leaf motif depicts the humility and gentle character of the Malays, reflecting their modesty and lack of arrogance.

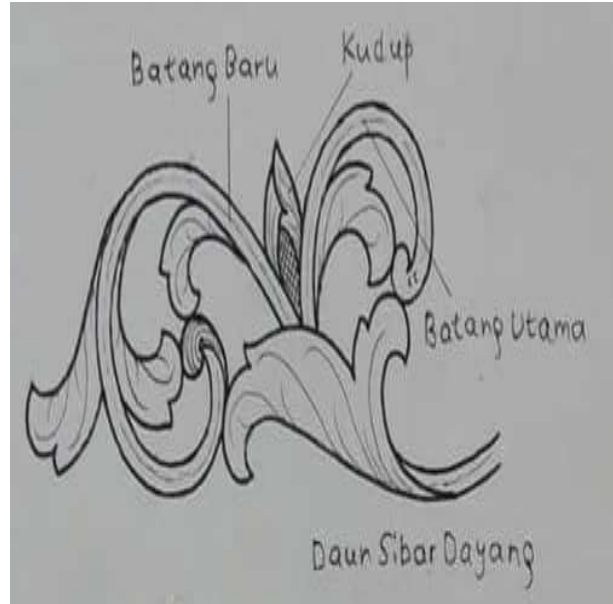


Figure 1: Daun Sibar Dayang



Another traditional element is anyaman, used as an enclosure to offer a unique approach to the structure's facade design. By incorporating woven elements into the timber framework, the dynamic and textured exterior achieves harmony.



This method not only provides excellent ventilation for the entire structure but also creates a visually striking and culturally rich facade. The Anyaman pattern, using raw colours, complements the timber material and harmonizes with the overall design. The geometric pattern has been adapted to suit the architecture, resulting in a harmonious blend of tradition and modernity.

NOVELTY AND UNIQUENESS

The Daun Sibar Dayang's concept highlights a unique idea inspired by Malay royal motifs, which naturally complements the overall site layout. The design significantly deviates from conventional timber structures through its innovative integration of biomimicry and engineering techniques, moving beyond traditional 'tanggap' methods. Its modularity, flexibility, and adaptability, combined with a focus on sustainability, offer a fresh perspective on timber architecture. By redefining the relationship between the design and site context, it introduces a new approach to space utilization.

BENEFITS TO MANKIND

This design represents a significant stride towards a more sustainable and human-centric future. It showcases the potential of a high-performance building material while adapting to the historical concepts to shape the structure. It also inspires a shift away from carbon-intensive construction techniques, which could bring a significant impact. As a versatile community hub, it fosters interaction between society while connecting with nature. Aside from that, focusing on user experiences, the design prioritizes human comfort and involvement which creates a space for social interaction, unwind, and other activities. Incorporating a welcoming atmosphere that fosters community engagement, the design blends seamlessly with the overall site context. Ultimately, by integrating nature therapy, the smell of freshly cut grass and trees makes the occupants feel relaxed.

COMMERCIAL POTENTIAL

The design installation presents a compelling commercial opportunity, aligned with contemporary consumer trends. By capitalizing on the burgeoning demand for immersive experiences and sustainable tourism, the installation can generate substantial revenue. Sustainability in its design which offers comfort to occupants, is essential to attract target demands. Its modular design offers unparalleled flexibility, allowing adaptation for various locations, topography and target audiences. A deep understanding of the target, paired with effective strategies, is crucial for commercial success.

CONCLUSION

The perspective of this design shows the significant advancement in sustainable architecture. By seamlessly integrating biomimetic of the concept, which is Daun Sibar Dayang and the construction, it gives a deep respect and compliments the environment and the context. The mobility and flexibility of the design also emphasize the intention to human-centric design. The space of the structures can be used for numerous activities, fostering the idea to create a hub of community engagement. The overall design relates to each idea and concept, including design intentions and space organization, ensuring human comfort while incorporating traditional elements in the ornamentation. This design marks a starting point which could serve as a model for larger-scale applications in the future based on further development of timber-based technologies and integration of renewable energy systems.

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Prof. Madya Dr. Nur Hisham Ibrahim
Rektor
Universiti Teknologi MARA
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