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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

Universitas Tridianti (UNANTI)

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Ecohaven Benches

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ABSTRACT

Public space design in university campuses involves creating comfortable, versatile, and inclusive seating arrangements that cater to the diverse needs of students, faculty, staff, and visitors. Effective seating design considers factors such as functionality, aesthetics, ergonomics, and social interaction. It aims to foster community engagement, promote physical activity, and enhance the overall campus experience. By analysing existing designs and incorporating evidence-based guidelines, universities can create inviting and functional seating areas that support learning, collaboration, and well-being within their public spaces.

KEYWORDS: Eco-friendly, multifunctional seating, university environment, comfortable seating, public space design

DESIGN DESCRIPTION

Our eco-friendly seating design combines durable materials including concrete, sustainably sourced timber, stainless steel, and solar panels to create a versatile outdoor seating solution. Concrete forms the robust base, while timber adds natural warmth and aesthetics, complemented by stainless steel for durability. Solar panels integrated into the canopy provide sustainable energy. The design offers multifunctional features such as combining seating and bike racks, and modular configurations for flexibility. By incorporating renewable energy sources and sustainable materials, our design minimises environmental impact while providing comfort and functionality. The benefits to the public include access to renewable energy for device charging and lighting, comfortable seating options, and a visually appealing space for relaxation or socialising. The multifunctional features cater to diverse needs, accommodating individuals or groups of varying sizes. Overall, our eco-friendly seating design promotes sustainability, enhances public spaces, and fosters community engagement and well-being.

NOVELTY AND UNIQUENESS

Our design redefines outdoor furniture with multifunctional seating and integrated bike racks, alongside solar panels for sustainable energy. Using timber for seating introduces warmth and natural aesthetics. This innovative approach combines functionality, sustainability, and versatility, offering an eco-friendly seating solution that maximises space efficiency and promotes active transportation. By seamlessly integrating renewable energy sources, modular seating configurations, and durable materials, our design sets a new standard for outdoor seating, providing a unique blend of comfort, convenience, and environmental consciousness in public spaces.

BENEFITS TO MANKIND

Our multifunctional outdoor seating design solves urban space constraints by integrating multifunctional seating and bike racks, enhancing active transportation. It enhances quality of life

by providing comfortable, inviting spaces for relaxation and social interaction. Sustainability is promoted through the use of solar panels and sustainably sourced timber, reducing carbon emissions and advancing renewable energy use. Advancing knowledge and education is achieved by showcasing innovative design principles. Socially and culturally, it fosters inclusive public spaces, promoting social equity and vibrancy. Globally and locally relevant, it addresses urban challenges while meeting diverse community needs.



Figure 1: Ecohaven Benches

COMMERCIAL POTENTIAL

Our design, which takes into account the size and demand of the market, responds to the increasing need for environmentally friendly surroundings in public areas by providing sustainable solutions to a diverse spectrum of consumers. Its unique approach to fusing solar technology with timber beauty gives it a competitive edge over traditional designs. Our business strategy is centered on scalability and has the potential to be widely used in a variety of contexts. Cost analysis shows that operating efficiency and energy savings result in positive profit margins. Environmental standards are followed thanks to regulatory compliance and certifications, and our intellectual property strategy protects our original design features.

CONCLUSION

In academic and public contexts, by emphasising the value of design and the eco-friendly features which are comfortable, multipurpose seating can promote a feeling of community. These findings demonstrate how important design is to raising social engagement and well-being. These spaces might be made even more user-friendly in the future by introducing new technology, changing the seating configurations, and including more environmentally friendly elements.

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REFERENCES

- La Maison (2023). "Guide: How to Protect Wooden Outdoor Furniture".
<https://www.lamaison.net.au/blog/how-to-protect-wooden-outdoor-furniture/>
- Mohd Effendi Muhammad Suandi, Mohammad Harith Amlus, Abdul Rahman Hemdi, Shayfull Zamree Abd Rahim, Mohd Fathullah Ghazali and Nur Liza Rahim. A Review on Sustainability Characteristics Development for Wooden Furniture Design. Sustainability, 2022.
<https://www.mdpi.com/2071-1050/14/14/8748>
- Sarah Warwick (2023). "Outdoor furniture rules to break – the guidelines you can ignore".
<https://www.homesandgardens.com/gardens/outdoor-furniture-rules-to-break>
- Smith, J. (2022). "Sustainable Outdoor Furniture: A Comprehensive Guide." EcoDesign Journal, 15(2), 45-62.2.

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SITI BASRIYAH SHAIK BAHARUDIN
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Setuju.

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