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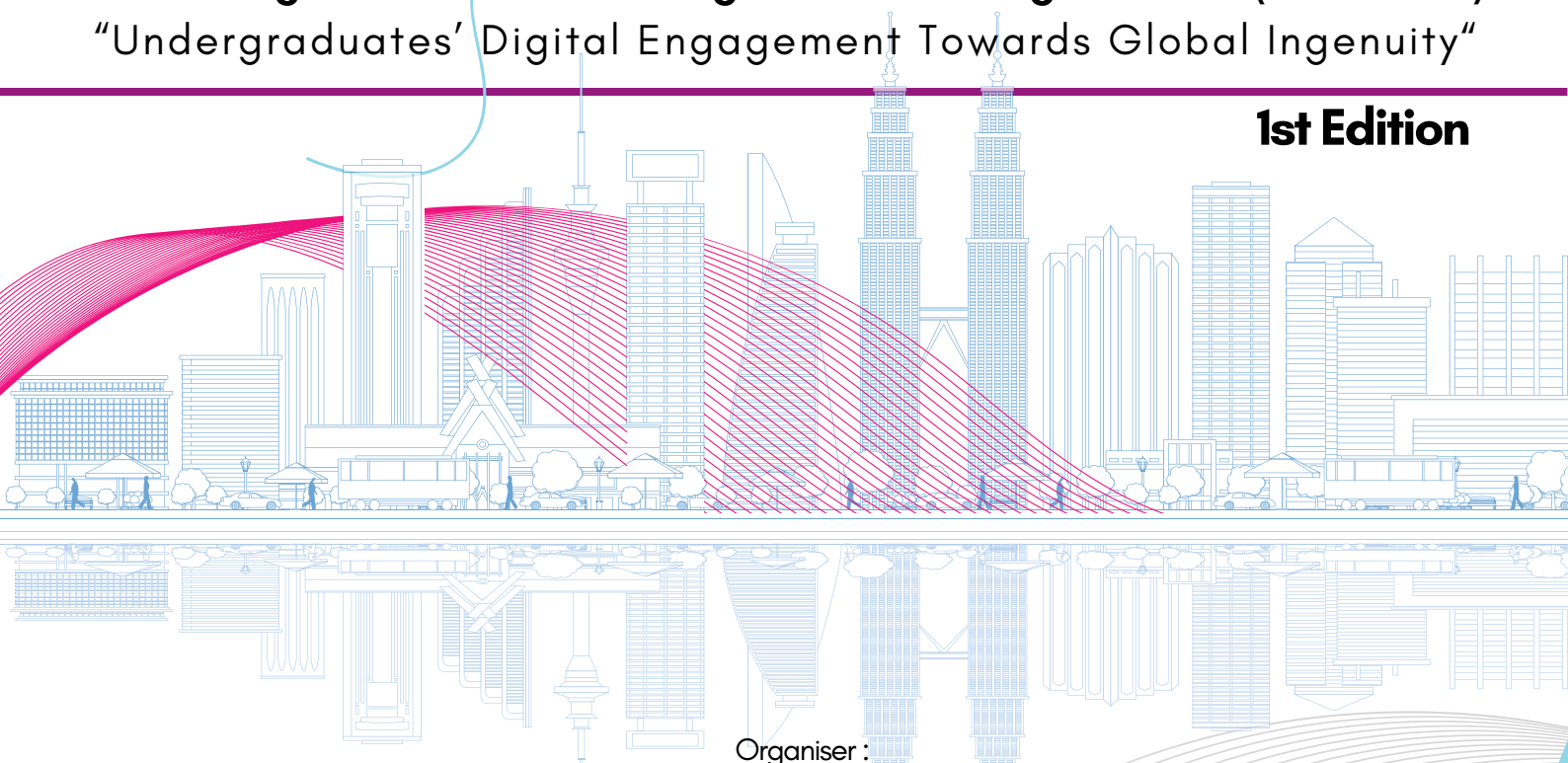
IUGeT

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 Tridinanti (UNANTI)

Publication date :

October 2024

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Perpustakaan Negara Malaysia Cataloguing in Publication Data

No e- ISBN:

e-Proceeding IUGeT 2024 1st Edition

e ISBN 978-967-2776-40-6

Unit Penerbitan UiTM Perak.

Cover Design: Muhammad Anas Othman
Typesetting : Arial

e-ISBN : XXXXX

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e-ISBN : XXXXX

8-Pointed Pavilion

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ABSTRACT
This pavilion project was built as an outcome of an undergraduate design studio at University Technology MARA (UiTM) Seri Iskandar. The pavilion draws inspiration from the 8-pointed star geometry, a unique element in Islamic architecture. This architectural choice holds profound cultural and symbolic significance in Islamic tradition. The 8-pointed star symbolises unity, harmony, and stability, reflecting the principles of balance and togetherness. Islamic art and geometric patterns heavily influence the towers' aesthetics. After conducting research and study, we decided to develop and construct the 8-Pointed Pavilion, which embodies the purity of Islam. In this project, we design the pavilion using geometric shapes and Islamic patterns, incorporating both the furniture's shape and the interior and exterior of the pavilion. These patterns not only showcase the artistry of the craftsmen, but also demonstrate their exceptional skills and comprehension of Islamic geometry. Sustainable design is the top priority when constructing a building or pavilion to create a comfortable and welcoming space for everyone. This includes creating a comfortable and pleasant interior climate through natural ventilation and natural light, as well as reducing energy consumption. We placed a mini garden at various corners and in the centre of the building to create a sense of harmony that aligns with the purity of the Islamic concept. Geometry and islamic pattern, modern technology, natural light and ventilation, purity of islamic concept, sustainable design

KEYWORDS: Geometry and islamic pattern, modern technology, natural light and ventilation, purity of Islamic concept, sustainable design

DESIGN DESCRIPTION

Islamic architecture stands as a testament to the profound connection between spirituality and artistic expression. At the entrance of UiTM, the 8-Pointed Pavilion occupies a spacious area that faces the road. Since the majority of students at UiTM are Muslims, we aim to introduce Islamic architecture to both students and the general public. It embodies this tradition by combining geometric precision with the purity of form to create a multifunctional resting place. For instance, it will serve as a multipurpose gathering space, an outdoor learning environment, a place for relaxation and recreation, a place for community building, an event venue, and a place for integration with nature. Central to the design ethos of the 8-Pointed Pavilion is the omnipresence of geometric patterns, seamlessly integrated into every facet of its architecture. Our design draws inspiration from the rich tradition of Islamic geometric patterns, which are renowned for their exquisite beauty and profound symbolism. Islamic art, long celebrated for its intricate patterns derived from mathematical principles, reflects the harmony and unity inherent in Islamic culture. In addition to the pavilion's unique roof design, we drew inspiration from the profound meaning of 8-pointed geometry in Islam. The triangle pattern of the rhythmic arabesque structure cascades

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along the supporting pole, symbolizing the infinite beauty and unity of creation. Sustainable design means making things that are beneficial for the environment and helpful for people. In our pavilion, we built a water cooler that doesn't waste a lot of water and uses energy efficiently. It helps save resources and keeps the environment clean. We also made sure our pavilion is accessible for everyone, including people who use wheelchairs. That is why we installed a ramp, which is like a gentle slope instead of stairs, so that people in wheelchairs can easily get inside. This helps everyone feel welcome and included in our space. Furthermore, the 8-Pointed Pavilion meticulously selects its materials based on their purity and durability. The glass roof in this pavilion provides many benefits. Glass roofs provide natural light and ventilation, creating an open, airy feeling in the interior space. They are also energy-efficient because they allow the heat from outside to pass through, keeping the space cool without the need for air conditioning. Glass roofs also provide a gorgeous aesthetic, adding a touch of elegance and brightness to the pavilion. So, a glass roof in the pavilion helps to create a pleasant interior environment, reduces energy consumption, and adds a touch of elegance. Other than that, we also used high technology, such as a solar-powered bench plug socket, to charge electrical items like mobile phones and laptops. The bench incorporates a unique plug socket that harnesses solar energy for power. It is a sustainable and eco-friendly solution, as it uses the sun's energy to generate electricity. This approach is also cost-effective, as there is no need for an external power source, and maintenance is minimal. Moreover, the design incorporates the socket into a comfortable bench, offering both an aesthetic and practical solution. The final feature in the 8-Pointed Pavilion, the mini garden, aims to evoke a sense of calm and serenity. As a central and focal point of the pavilion, it serves as a gathering space for visitors and a place to relax and destress, aligning with our concept of Purity in Islam. The plants and greenery create a calming atmosphere and help to block out any noise and distraction from the outside world. It also acts as an important element of Islamic symbolism. For example, plants and greenery can represent the peace and harmony found within Islam. It also represents the importance of preserving the environment and creating a balance between nature and architecture. The 8-Pointed Pavilion's design combines geometric Islamic elements with the concept of purity to create a transcendent architectural experience. Rooted in tradition yet forward-thinking in its approach, the pavilion serves as a timeless reminder of the enduring power of faith and the boundless beauty of the divine.

NOVELTY AND UNIQUENESS

Islamic architectural design is characterised by its use of geometry. It employs patterns such as geometric shapes and arabesques to add decorative elements to its design. Secondly, the use of symmetry creates a balanced and unified look. Thirdly, incorporate a geometric pattern on the roof, ensuring it has a high elevation. The high-roof design is a brilliant architectural feature that allows for proper ventilation and air circulation in the building. This is particularly beneficial in hot climates that are suitable for Malaysian weather, as it reduces the impact of temperature on the inhabitants. The cool air can easily move through the large space, keeping the environment cool and comfortable. Finally, the novelty and uniqueness of using a solar system to generate electricity and lighting in a building lies in the building's ability to generate adequate electricity and light using the sun's energy. This approach is sustainable and environmentally friendly as it reduces dependence on fossil fuels and other natural resources. It also provides a cost-effective solution, as it requires less maintenance and installation compared to traditional power options. Additionally, it allows buildings to generate electricity independently and without needing an external source.

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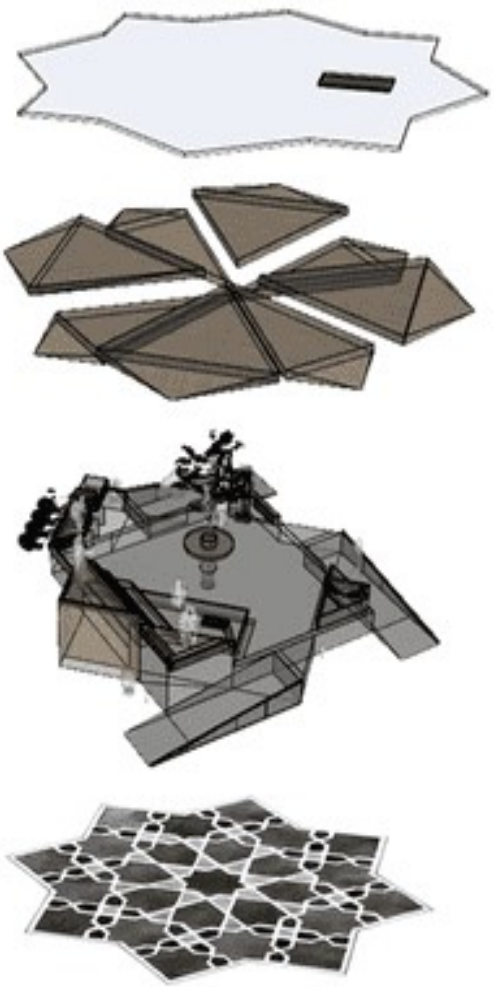

Transformation:

Interior:

3D view:

BENEFITS TO MANKIND

This pavilion provides complete facilities for students to study or even hang out with their friends. The construction of the seating area allows it to function as both a chair and a table simultaneously. The seating area also has built-in USB and charging ports for students to charge their devices. We also provide a clean water cooler for students to drink from. The wood that blends in with nature comes from an ethical and accessible source to provide a "one with nature" feeling and an aura of "purity".

COMMERCIAL POTENTIAL

Students are more likely to spend quality time with their friends outside of their class. This impacts their overall health, both mentally and physically. Engaging in outdoor activities, as opposed to staying indoors, can enhance their work quality and academic performance. The chosen material, such as cengal (Neobalanocarpus), integrates seamlessly with the local geographical conditions. It is easily accessible and creates a sense of calmness in the middle of the city. Engaging with the students can not only generate revenue but also foster goodwill and support for the pavilion, contributing to its long-term commercial success.

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CONCLUSION

This Islamic pavilion caters to the needs and comfort of students while promoting Islamic values and local bamboo and timber architecture. It enhances the quality and productivity of students on campus, while also allowing the natural elements to positively influence the pavilion. This pavilion will draw in outside visitors and actively elevate the reputation and standards of UiTM in the global community. Not only is it sustainable and beneficial for all students and staff, but it will also have a huge impact on UiTM in the future.

ACKNOWLEDGEMENT

We would like to extend our heartfelt appreciation to UiTM Seri Iskandar for providing us with the opportunity to pursue our academic endeavours. The resources, facilities, and stimulating environment offered by the university have been instrumental in shaping our educational journey and fostering our personal growth. We are deeply grateful to Dr Siti Norsazlina Binti Haron for her exceptional guidance, mentorship, and unwavering support throughout our studies. Her dedication to teaching and commitment to excellence have inspired us to strive for this competition. We also want to express our sincere gratitude to our group mates for their encouragement, effort, and endless support. Their cooperation has made this project truly memorable. To all those who have contributed to our academic and personal development, thank you for your invaluable support and encouragement. We are profoundly grateful for the impact you have had on our journey.

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Surat kami : 700-KPK (PRP.UP.1/20/1)
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"BERKHIDMAT UNTUK NEGARA"

Saya yang menjalankan amanah,

SITI BASRIYAH SHAIK BAHARUDIN
Timbalan Ketua Pustakawan

nar

Setuju.

27.1.2023

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