



EXTENDED ABSTRACT



InViCCAD 2025
1ST INTERNATIONAL VIRTUAL COMPETITION OF CREATIVE
ARTS & INNOVATIVE DESIGN IN TEACHING & LEARNING



Design Innovation Academic Show 2025



Organized by



Fakulti
Seni Lukis & Seni Reka
Cawangan Kedah



اوسها تقوى موليا

Collaboration with



#perubahanluarbiasa
#ADpilihanpertama



**EXTENDED
ABSTRACT**

**Design
Innovation
Academic
Show 2025**





DIAS 2025 (Design Innovation Academic Show) is all about "Transcending the Boundaries of Creativity: Innovation in Art & Design for 21st Century Education." This vibrant program shines a spotlight on how creativity and innovation are reshaping modern education.

It consists of three key components. First up is the Mindareka Design Show, an exhibition that showcases students' final year projects and creative designs, giving them a chance to connect with industry professionals and the wider community. Next, we have the Northern Innovation Academic Tour (NIAT), which takes participants on an academic adventure to select institutions and innovation centers in the northern region, aimed at promoting knowledge sharing and building strong academic and professional networks.

Finally, there's the 1st International Virtual Competition of Creative Arts & Innovative Design in Teaching & Learning (InViCCAID), a global competition that recognizes outstanding practices in teaching and learning by blending art, technology, and innovative design. But DIAS 2025 is more than just a talent showcase; it's a powerful platform for empowering both students and educators, while also strengthening collaborations between universities, creative industries, and global communities. With its inclusive and interdisciplinary approach, this initiative strives to spark relevant, competitive, and impactful ideas and innovations that truly benefit society and push the future of education forward.



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Design
Innovation
Academic
Show 2025



Prof. Dr. Roshima Haji Said
Acting Rector
UiTM Kedah Branch

Rector's Message

I am delighted to extend my heartfelt congratulations to the College of Creative Arts, UiTM Kedah Branch, for bringing MINDAREKA 2024 - Unleashing Your Visual Creativity to fruition. The triumphs of past MINDAREKA editions undoubtedly fueled the organization of this year's event, making MINDAREKA 2024 a reality.

MINDAREKA 2024 - Unleashing Your Visual Creativity stands as a testament to the dedication of students at the College of Creative Arts, UiTM Kedah Branch, providing them with a platform to showcase their final art projects. Beyond serving as a space for the exploration of fresh, innovative, and entrepreneurial concepts, this exhibition is poised to connect aspiring talents with potential clients and employers.

I extend my sincere gratitude to all participants whose enthusiasm and support have contributed to the success of MINDAREKA 2024 - Unleashing Your Visual Creativity. Their unwavering belief and commitment have truly brought this event to life, marking it as a resounding triumph!





Head of Faculty Message

It is an honour to introduce DIAS 2025 – Design Innovation Academic Show, held under the theme “Transcending the Boundaries of Creativity: Innovation in Art & Design for 21st-Century Education.” This significant event reflects the faculty’s ongoing commitment to fostering a culture of innovation, critical thinking, and creative exploration among our students and academic community. As we navigate the complexities of the 21st century, it becomes increasingly clear that education must go beyond traditional boundaries to embrace multidisciplinary approaches that are both relevant and future-forward.

The three core components of DIAS 2025, Mindareka Design Show, Northern Innovation Academic Tour (NIAT), and the 1st International Virtual Competition of Creative Arts & Innovative Design in Teaching & Learning (InViCCAID) which is serve as vital platforms to highlight the convergence of design, technology, and pedagogy. These initiatives not only empower our students to showcase their talents and ideas, but also create opportunities for engagement with industry leaders, academic peers, and global collaborators. The Mindareka Design Show celebrates student creativity and innovation through compelling final year projects. NIAT fosters knowledge sharing and institutional partnerships through academic visits and exchanges, while InViCCAID offers international recognition for excellence in integrating art and design into teaching and learning.

I would like to express my deepest appreciation to the organising committee, faculty members, students, and strategic partners who have worked tirelessly to bring this programme to life. Your dedication and collaborative spirit have made DIAS 2025 a reality and a reflection of our shared vision for transformative education. It is my hope that this platform will continue to inspire meaningful dialogue, cultivate groundbreaking ideas, and spark a new wave of innovation that enriches both education and society.



Mohamat Najib Mat Noor
Head of Faculty
Faculty of Arts & Design
UiTM Kedah Branch





**Industrial
Design
(Bachelor)**





NIKABIN | CABINET TV

¹ Nur Hamizah Shariyal, ²Asrol Hasan

Industrial Design Department,
Faculty of Art and Design,
Universiti Teknologi MARA (UiTM)

mizahshryl@gmail.com

ABSTRACT

The Nikabinet explores how the integration of sustainable materials and cultural heritage into contemporary furniture design through the development of the Nikabinet TV Cabinet. The study focuses on the use of Lidi Nipah, a flexible, lightweight, and eco-friendly material derived from the midrib of the nipah palm (*Nypa fruticans*). The cabinet's structure is constructed using thin plywood (3mm and 5mm), shaped through a banding technique involving water softening and gradual heat application with a custom mould. The outer surface features woven Lidi Nipah, enhancing both visual appeal and structural strength. Functional features of the cabinet include a sliding door, open shelving, and a display compartment. The cabinet stands on cylindrical metal rods, adding stability and a modern design language. A significant cultural element is the sulam Baba Nyonya embroidery featured on the sliding door, which incorporates traditional motifs as a tribute to local heritage. Experimental testing revealed that boiling Lidi Nipah in a mixture of water and lemon or salt improves its flexibility, allowing it to form organic and curved shapes without damage. The findings indicate that Lidi Nipah, when properly treated, is a viable material for sustainable and expressive furniture applications. The Nikabinet design demonstrates how natural materials, functional aesthetics, and cultural identity can be harmoniously combined in a product suited for modern living while promoting environmental and cultural awareness.

Keywords: Lidi Nipah, Sustainable Material, Baba Nyonya Pattern, Eco-Friendly Furniture, Handcrafted Design, Cultural Identity, Modern Functionality

The Nikabinet TV Cabinet blends natural material with cultural identity. Made from Lidi Nipah, a lightweight, flexible, and eco-friendly material, the design reflects nature's raw beauty and celebrates Baba Nyonya heritage through patterns featured on its sliding door. The design blends natural texture with handcrafted detail. These details showcase the finesse of local craftsmanship. Its curved body structure is formed using a specially designed molding, allowing the Lidi Nipah to follow smooth, elegant contours while maintaining strength and balance. This ensures consistency and highlights the material's natural flexibility.

Nikabinet features a sliding door, an open drawer, and a side display space perfect for flower arrangements or ornaments. With its warm tones and handcrafted texture, the cabinet brings together functionality, sustainability, and aesthetic appeal, making it ideal for modern homes with a touch of tradition.

MATERIAL, METHOD AND FINAL DESIGN 3D



Figure 1.1 The picture material

The materials used in the construction of the Nikabinet TV Cabinet are thoughtfully selected to balance aesthetics, sustainability, and structural integrity. The main body structure is formed using 3mm and 5mm plywood, which are flexible enough to be molded into curved shapes using a specially designed mold. This plywood acts as the foundation, providing support and form to the overall cabinet.



Over this plywood base, Lidi Nipah is woven to create a natural outer surface. The use of Lidi Nipah not only adds a handcrafted, eco-friendly texture but also reinforces the body, enhancing its durability and visual appeal.

The cabinet stands on cylindrical metal rods that function as legs, offering sturdy support while elevating the design to give it a modern and light appearance. These metal rods contrast well with the organic texture of the woven Lidi Nipah, adding a contemporary touch. Additionally, the sliding door of the cabinet incorporates sulam Baba Nyonya, a traditional embroidery technique that features colorful cultural motifs. This detail serves as a tribute to heritage craftsmanship and highlights the cultural identity embedded in the design. Together, these materials plywood, Lidi Nipah, metal rods, and traditional embroidery form a harmonious composition that merges functionality with cultural significance.



Figure 1.2 The picture of method banding

The method used to create the curved structure of the Nikabinet TV Cabinet using the banding technique. To begin the process, a strong and durable wooden mould is constructed. This mould serves as the shaping guide for the plywood, helping to ensure that the curved form is consistent and smooth. The plywood, in either 3mm, is first softened using a combination of cold and hot water. This step increases the material's flexibility, making it easier to bend without cracking. After softening, glue is applied evenly in one direction across the plywood surface, and the sheet is carefully laid onto the mould. A heat gun is then used to apply gradual heat on top of the plywood. This process helps the material to dry and conform to the mould more effectively, securing the curved shape.

The application of heat must be done slowly and evenly to prevent damage or warping. The result of this banding method is a smooth, elegant, curved structure, which forms the main body of the cabinet. This technique not only enhances the visual appeal of the cabinet but also demonstrates the flexibility and formability of thin plywood when treated and shaped correctly.



Figure 1.3 The picture of 3D final design

The 3D rendering of the final design of the Nikabinet TV Cabinet, which merges natural material aesthetics with cultural influence in a modern furniture form. The design is presented from four different perspectives: top view, front view, side view, and rear angled view, offering a complete visualization of its form, function, and detailing. From the top view, the cabinet's smooth curved body is clearly visible, highlighting the continuous flow of the bent plywood structure. This curvature is achieved using a moulding and banding process that allows thin plywood sheets to form elegant, rounded edges. The front view showcases the cabinet's main functional components: a sliding door, which is decorated with a Baba Nyonya-inspired sulam motif, and an open shelving unit for media storage. The circular embroidery design acts as a cultural focal point, emphasizing traditional craft within a contemporary layout.

On the side view, the cabinet reveals its woven Lidi Nipah paneling, which wraps



around the curved frame. The weaving adds texture and transparency to the form while reflecting sustainability and craftsmanship. The wave-like form at the base—inspired by natural, organic shapes—serves as a distinct design feature, giving the cabinet a dynamic, sculptural presence. The rear angled view emphasizes the continuity of the Lidi Nipah weaving and the stability provided by the metal rod leg structure. This lightweight frame lifts the cabinet, giving it visual lightness and enhancing airflow beneath the unit.

RESULTS AND DISCUSSION/FINDINGS

The Nikabinet TV Cabinet demonstrates how sustainable materials, and cultural elements can be effectively integrated into modern furniture design. The use of Lidi Nipah, a natural and flexible material, proves to be suitable for creating curved forms when combined with thin plywood and shaped using a banding method with a wooden mould. The softening process using water and gradual heat application allowed the plywood to bend without breaking, confirming the effectiveness of the chosen technique. The integration of woven Lidi Nipah on the cabinet body not only adds texture and visual lightness but also reinforces the structure, validating its dual function as both aesthetic and functional. The design maintains stability using metal rod legs, and the Baba Nyonya embroidery (sulam) on the sliding door enriches the cabinet with cultural value, showing that traditional motifs can be adapted into contemporary furniture without compromising modern usability.

Through testing and visualization, it was found that the combination of natural materials, modular function, and cultural detailing results in a furniture piece that is sustainable, functional, and culturally expressive. The final design meets the goal of blending craftsmanship, material innovation, and heritage into a single cohesive product suitable for modern users who appreciate both tradition and environmental awareness.

CONCLUSION & RECOMMENDATION

The final design of the Nikabinet TV Cabinet demonstrates a successful application of experimental findings on the flexibility of Lidi Nipah. Based on the flexibility experiments, boiling Lidi Nipah in a mixture of water with either lemon or salt



for 60 minutes significantly improved its pliability. This treatment allowed the material to be shaped into both organic and geometric forms—such as curves, spirals, and square shapes—without breaking or cracking. This result was directly applied in the design of the cabinet's body structure. The main frame was formed using thin plywood (3mm and 5mm) bent through a banding technique, while the Lidi Nipah was woven over the curved plywood to add texture and reinforce the form. The flexibility of the treated Lidi Nipah enabled it to follow the smooth, elegant contours of the cabinet, validating its suitability for decorative and surface applications in furniture design.

Additionally, the design integrates Baba Nyonya embroidery (sulam) on the sliding door, which adds a cultural identity to the furniture. While this element was not part of the material experiments, it complements the natural qualities of Lidi Nipah and aligns with the study's aim of promoting sustainable design enriched with traditional craftsmanship. In conclusion, the results of the flexibility experiment support the use of Lidi Nipah in creating curved and expressive furniture forms. The Nikabinet showcases how this natural material, when properly treated, can be adapted into functional, aesthetic, and culturally meaningful furniture that is both sustainable and modern.

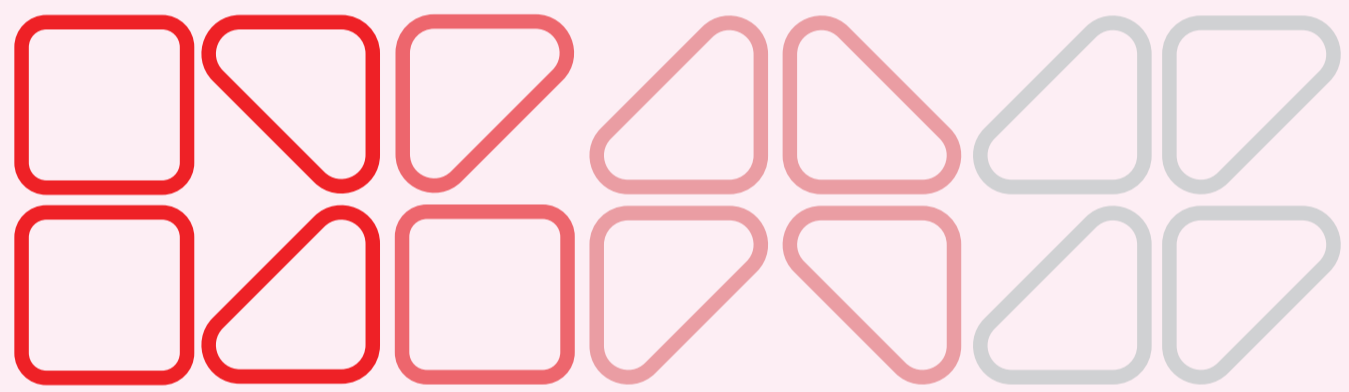


Figure 1.4 The picture of Environment (NIKABIN)



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