UNIVERSITI TEKNOLOGI MARA

EXTENDED ABSTRACT

DKA 2025

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

MONDARIKA

NIAT
NORTHERN INNOVATION ACADEMIC TOUR

Design Innovation Academic Show 2025

Organized by

Faculty of Art & Design
#perubahanluarbiasa
#ADpilihanpertama

UNIVERSITI TEKNOLOGI MARA
Fakulti Seni Lukis & Seni Reka
Cawangan Kedah

UiTM di hatiku

Collaboration with

PUSAT SAINS NEGARA WILAYAH UTARA

KEMENTERIAN SAINS, TEKNOLOGI DAN INOVASI
MINISTRY OF SCIENCE, TECHNOLOGY AND INNOVATION

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

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

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.

Industrial Design (Bachelor)

HUEBI | ART TOOLS

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ABSTRACT

The Exploration of Nature's Palette presents a sustainable design solution through the creation of biodegradable art tools made using natural pigments and bamboo-based casings. Huebi is a playful and cheerful name created by combining the word "Hue", which represents color, with "bi", a short form for biophilic. The name reflects the project's focus on natural, eco-friendly pigments while maintaining a fun and modern tone. It suggests a joyful connection between colour and nature, making it perfect for a sustainable art tool inspired by the Earth's palette. Addressing environmental and health concerns related to synthetic pigments and plastic art materials, Huebi introduces non-toxic, nature-derived alternatives. Colors extracted from turmeric, spinach, dragon fruit, and butterfly pea flower offer safe, eco-friendly choices. Bamboo was chosen for its renewable, durable, and compostable properties. Extensive experimentation, pigment testing, and user evaluations ensured quality, usability, and satisfaction. The final product promotes sustainability by encouraging responsible material use and environmentally conscious creativity. Huebi supports the broader movement towards green innovation in the arts, empowering users to reconnect with nature through artistic expression.

Keywords: Natural Pigments, Biodegradable, Sustainable Product, Eco-Friendly Creativity, Non-Toxic Colour Sources, Green Innovation, Nature-Inspired Design

INTRODUCTION

The Exploration of Nature's Palette introduces a sustainable alternative to conventional art supplies by developing biodegradable tools for educational and creative applications. Huebi responds to the environmental hazards and health risks posed by synthetic pigments and plastic components in traditional art tools. Crafted using bamboo for its strength, light weight, and eco-friendliness, Huebi offers a compostable, nature-inspired solution. Color is derived from natural ingredients such as turmeric, spinach, and dragon fruit, resulting in safe, non-toxic alternatives suitable for all age groups. Huebi's design emphasizes user-friendliness, natural aesthetics, and sensory engagement to deepen users' connection to the environment. As a sustainable and educational product, it aligns with global goals for responsible consumption, ecological awareness, and greener design practices.

MATERIALS AND METHODS

Figure 1.1 The picture of materials and methods

Figure 1.2 The picture of Huebi casing.

The Huebi project employed environmentally responsible materials and artisanal methods. Bamboo was chosen for its sustainability, strength, and composability. It was manually shaped, sanded, and finished to create an elegant, curved form that reflects organic aesthetics. Minimal natural adhesives and joinery ensured structural integrity without relying on synthetic components. Finishing was done using a blend of beeswax and olive oil, offering a protective, non-toxic surface treatment.

Natural pigments were extracted from turmeric, spinach, dragon fruit, butterfly pea flower, and other botanical sources. Methods included boiling plant materials, air frying, sun drying, and grinding into pigment powders. Boiling yielded pigment-rich liquids, while drying helped preserve and concentrate color. These eco-friendly processes ensured pigment quality and supported Huebi's sustainable vision.

RESULTS AND DISCUSSION/FINDINGS

The objective of this research was to explore the potential of developing Huebi, a biodegradable art tool that uses natural pigments and bamboo-based casing to promote sustainability in creative practices. This study gathered data from multiple sources to evaluate the use of eco-friendly materials in art tools and assess the awareness and behavior of users regarding sustainable design.

Empirical data was collected through user surveys and hands-on feedback, especially targeting art students, educators, and environmentally conscious individuals. The findings indicate a strong interest in non-toxic, biodegradable alternatives to conventional plastic and synthetic-based art supplies. Respondents responded positively to the use of natural pigments, particularly those derived from turmeric, spinach, dragon fruit, and others. Additionally, the bamboo casing, finished with beeswax and olive oil, was praised for its tactile quality and environmental appeal.

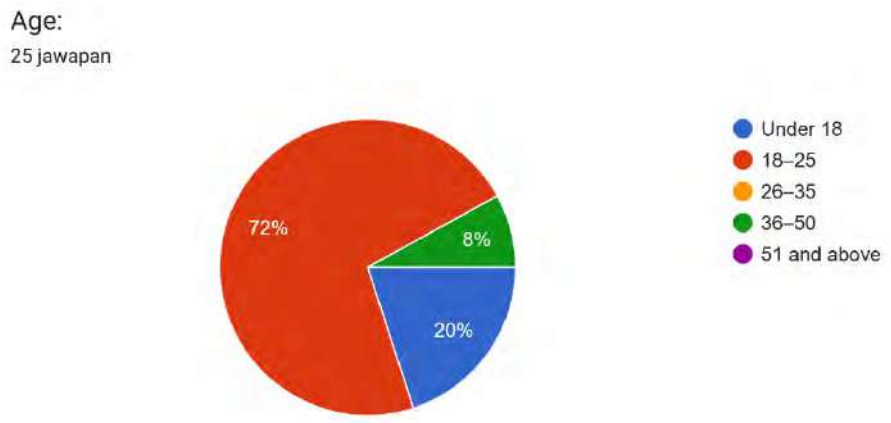

Figure 1.3 Identifying the age group of respondents most receptive to sustainable innovations in the arts.

A key result from the survey revealed that most respondents were between the ages of 18 to 25, indicating that young adults and students are the primary audience most receptive to sustainable innovations in the arts. Their feedback emphasized the importance of safety, material transparency, and nature-connected aesthetics in art-making tools.

The evaluation also confirmed that Huebi successfully met user expectations in terms of design appeal, environmental responsibility, usability, and functionality. These findings support the broader shift toward sustainable product development in the art and design industries and highlight the role of education in fostering eco-conscious behaviour through design.

The Exploration of Nature's Palette demonstrates how sustainable materials, and natural pigments can redefine traditional art tools. Huebi offers a safe, non-toxic, and compostable alternative that bridges creativity and environmental responsibility. By utilizing plant-based pigments and renewable bamboo casings, it reintroduces users to nature through art. Huebi proves that biodegradable-colored pencils can be both functional and educational. Ideal for schools and creative studios, they foster eco-conscious habits in artmaking. Future improvements may include scaling pigment durability, expand the color range, and enhancing packaging for broader market adoption. This project affirms that environmentally sensitive design can lead to impactful and meaningful change in the creative industry.

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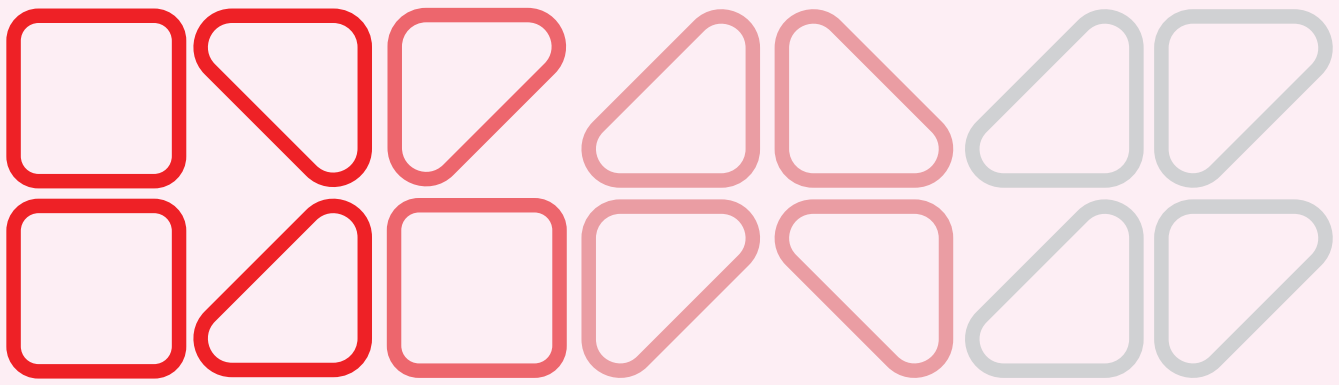

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