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 (Diploma)

SNAPPACK | FOOD DISPENSER AND PACKAGING

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ABSTRACT

The **SNAPPACK Food Dispenser and Packaging** is an innovative solution that reimagines the delivery, storage, and consumption of food in challenging environments. Inspired by the efficiency and convenience of single-serve packaging systems, SNAPPACK integrates key features such as compact design, waterproof protection, and the use of eco-friendly, recyclable materials. It is engineered to support individual meal portions, ensuring safety, hygiene, and accessibility even in emergency or on-the-go scenarios. This design concept responds to the increasing demand for portable and hygienic food solutions, particularly in contexts like disaster relief, outdoor activities, and mobile food distribution. The structure prioritizes ease of handling, secure sealing, and user-friendly access, allowing individuals of all ages including children and the elderly to use it with minimal effort. Additionally, the use of sustainable and recyclable materials reduces environmental impact, aligning with global movements toward low-waste, environmentally responsible packaging.

Keywords: Single-serve system, compact design, waterproof protection, and eco-friendly, recyclable

INTRODUCTION

The **SNAPPACK Food Dispenser and Packaging** is a thoughtfully designed solution that draws direct inspiration from the practicality, functionality, and hygienic benefits of single-serve packaging systems. In a world where mobility, safety, and sustainability are becoming increasingly important, SNAPPACK aims to address the growing need for a versatile, compact, and eco-conscious food delivery method

suitable for a variety of settings especially those with limited resources or space. Its compact and modular design allows for effortless storage and organization, whether in bulk for distribution or individually for user convenience. This feature makes SNAPPACK ideal for emergency food aid, mobile kitchens, disaster relief operations, and outdoor or travel scenarios. Each unit is optimized for **quick** transport, minimal space consumption, and ease of use, enhancing overall operational efficiency. The outer shell of the SNAPPACK is made with waterproof and contamination-resistant materials, ensuring that food remains fresh, protected, and safe even in harsh or unpredictable environments such as flood zones, campsites, or field hospitals. The structure also includes secure sealing mechanisms that prevent leakage and spillage, contributing to hygiene and user confidence during handling. Beyond its functional qualities, SNAPPACK strongly emphasizes **environmental** responsibility. Constructed with recyclable and biodegradable materials, its packaging system supports the reduction of single-use plastic waste and aligns with global movements toward sustainable product design. By minimizing its ecological footprint, SNAPPACK encourages more responsible consumption **patterns** while maintaining affordability and practicality.

Figure 1 SNAPPACK

MATERIALS AND METHOD

The **SNAPPACK Food Dispenser and Packaging** is engineered with careful consideration of material performance, user safety, hygiene, and environmental

impact. At its core, the container body is constructed using recyclable food-grade plastic, selected for its ability to maintain food quality and safety while being suitable for reuse or post-use recycling. This high-grade plastic is formed using advanced injection moulding techniques, which allow for precise shaping, structural integrity, and mass-production efficiency ensuring consistency across units and ease of manufacturing at scale. To maintain food freshness and reduce the risk of contamination, a waterproof and airtight seal is integrated into the design of the lid. This seal not only prevents spills and leakage during transport or handling but also extends the shelf life of perishable contents by protecting them from moisture, air, and external pollutants. The sealing system may incorporate snap-fit or twist-lock mechanisms, designed to be intuitive for users of all ages while maintaining a secure closure. Inside the container, modular compartments are incorporated to hold individual servings or various food components. These compartments are separated using biodegradable or compostable food-safe films, which not only aid in organization and portion control but also contribute to the reduction of plastic waste. These inner dividers are designed to break down naturally over time, supporting eco-conscious disposal methods after use. For external features such as handles, snap dispensers, or pouring spouts, materials like recyclable plastic are used to ensure structural durability without compromising on sustainability. In some variants, moisture-resistant treated paperboard may be used for outer sleeves or insulation, offering additional protection and branding opportunities while still aligning with the overall low-impact design.

RESEARCH AND FINDINGS

The journey of researching and developing the **SNAPPACK Food Dispenser and Packaging** resulted in valuable insights that shaped a product both functional and user-centred, addressing real needs in mobile, emergency, and everyday food-handling scenarios. Throughout the research phase, user interviews, field observations, and testing sessions revealed that an intuitive layout significantly improves the speed and hygiene of food distribution. This finding was particularly relevant in high-stress settings such as disaster relief zones or public outdoor events, where ease of access and cleanliness are critical. Material testing further demonstrated that using recyclable food-grade plastic with soft-seal closures offered a strong balance

between durability, food safety, and portability. Ergonomic evaluations showed that features like easy-grip handles and even weight distribution greatly enhanced user comfort, especially during prolonged use. The findings confirmed that keeping the design minimalist yet purposeful improved overall usability without compromising performance. Ultimately, the research and user feedback supported all core design objectives simplicity, hygiene, sustainability, and convenience leading to a solution that performs effectively in real-world food service contexts. The SNAPPACK project showcases how evidence-based design and material exploration can lead to meaningful innovation in food dispenser and packaging systems.

CONCLUSION & RECOMMENDATIONS

The SNAPPACK Food Dispenser and Packaging is a smart and practical solution for distributing food in a lightweight, portable, and eco-friendly way. Designed to be easy to carry and use, it features a compact layout, waterproof protection, and recyclable materials that make it ideal for use in emergencies, outdoor settings, or on-the-go situations. Users have responded positively to its convenience and hygienic design, especially in high-stress environments like disaster relief. Looking ahead, it would be valuable to explore more sustainable material option such as fully biodegradable components and to test the product with a wider range of users and use cases. Future improvements might include smart dispensing features, portion tracking, or even modular compartments for different types of meals. Small refinements like more ergonomic grip points or labeling features could also make it more user-friendly and adaptable. Overall, SNAPPACK shows how thoughtful design, and real-world feedback can come together to create a truly useful food packaging solution.

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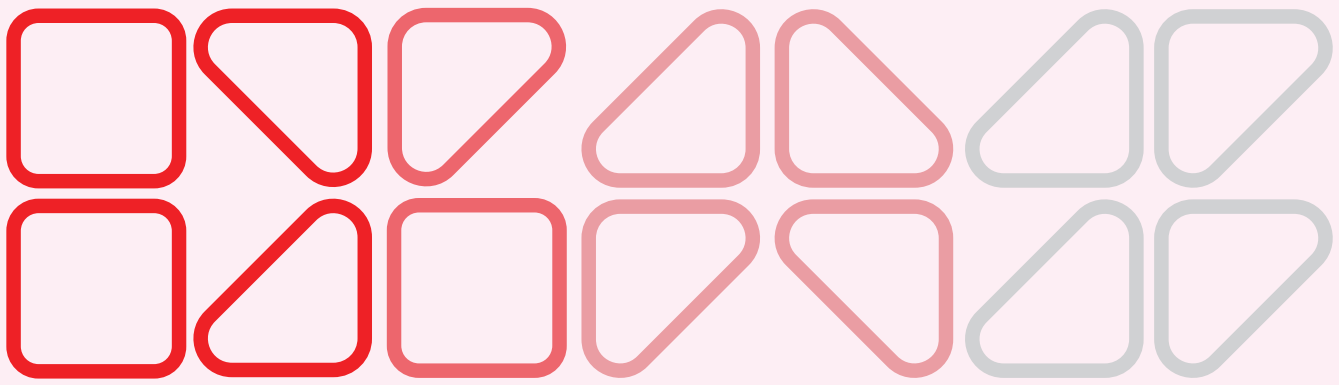

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