



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.



Publisher

Universiti Teknologi MARA Kedah Branch,
Sungai Petani Campus,
08400 Merbok,
Sungai Petani,
Kedah,
Malaysia.

Copyright 2025 Faculty of Arts and Design,
Universiti Teknologi MARA Kedah Branch.

Copyright © is held by the owners/authors. The extended abstract is published in all rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form of any means electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the publisher or author.

Perpustakaan Negara Malaysia
Cataloguing – in- Publication Data

Editor : Syahrini Shawalludin, Juaini Jamaludin, Normaziana Hassan, Fadila Mohd Yusof

Co-Editor : Shafilla Subri, Mohd Syazrul Hafizi Husin, Abu Hanifa Ab Hamid, Norarifah Ali, Zaidi Yusoff, Mohd Taufik Zulkefli, Mohd Hamidi Adha Mohd Amin, Ahmad Fazlan Ahmad Zamri, Abdullah Kula Ismail, , Suhaiza Hanim Suroya, Mohamad Hazmi Shoroin, Mohd Zamri Azizan, Mohamat Najib Mat Noor, Asrol Hasan, Azhari Md Hashim, Azmir Mamat Nawawi, Dinah Rakhim, Hasnul Azwan Azizan@ Mahdzir, Nazri Abu Bakar, Muhammad Aiman Afiq Mohd Noor, Nizar Nazrin, Nazirul Mubin Awang Besar, Qatrunnisa Shariff, Mohd Rozman Mohd Nasir, Wan Noor Faaizah Wan Omar

Design & Layout Editor: Syahrini Shawalludin, Nazirul Mubin Awang Besar, Mohd Rozman Mohd Nasir & Qatrunnisa Shariff

Language Editor : Normaziana Hassan & Juaini Jamaludin

DIAS 2025 : Extended Abstract

Perpustakaan Sultan Badlishah
e ISBN: 9 789 672 948 780

Printed By :
Universiti Teknologi MARA Kedah Branch,
Sungai Petani Campus,
08400 Merbok,
Sungai Petani,
Kedah,
Malaysia.





CONTENTS

Rector's Message
Head of College's Message

EXTENDED ABSTRACT

Diploma in Art & Design
(Graphic Design & Digital Media)

Page

1 - 174

Diploma in Art & Design
(Industrial Design)

175 - 575

Bachelor in Art & Design
(Industrial Design)

576 - 760

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
(Diploma)***





E'QUI ROTOR-RACK | SADDLE RACK WITH ROTATION FUNCTIONAL

Muhammad Faris Bin Mohamad Iswadi, Azmir Bin Mamat Nawi

Industrial Design Department,
Faculty of Art and Design,
Universiti Teknologi MARA (UiTM)
mf.faris2806@gmail.com

ABSTRACT

The E'qui Rotor-Rack is a smart and stylish saddle storage solution crafted to boost organization and efficiency in today's equestrian facilities. With the catchy tagline "Elegant Rotation, Effortless Organization," this product features a space-saving vertical rack that comes with a manual rotation mechanism, making it super easy to access multiple saddles all in one compact unit. Drawing inspiration from the graceful movement of carousels, the design incorporates a rotor system that's powered by a hand crank. This allows users to effortlessly rotate the rack and position their desired saddle right where they need it. It cuts down on the hassle of lifting or reaching for saddles on high or low shelves, which not only reduces physical strain but also enhances safety. The frame is built from sturdy hollow steel tubing, ensuring strength and durability, while the saddle holders are thoughtfully designed to maintain the shape and integrity of the saddles. Adding a touch of flair, the side panels showcase stylized horse silhouettes that reflect the equestrian theme, giving the whole structure a modern and polished vibe. The E'qui Rotor-Rack is perfect for riding schools, training centers, or personal stables where making the most of space and caring for equipment are top priorities. This project addresses real challenges faced in stable environments, like clutter, the hassle of retrieving saddles, and potential storage damage. Thanks to user research and ergonomic considerations, the design not only enhances functionality but also brings a stylish aesthetic to traditional saddle racks. In summary, the E'qui Rotor-Rack merges mechanical innovation with elegant design, setting a new standard for saddle organization. It streamlines workflow, lowers the risk of injury, and offers a practical yet chic solution for the everyday needs of riders and stable managers alike.

Keywords: Saddle storage, Rotation mechanism, Equestrian Design, Space Efficiency, Ergonomics

INTRODUCTION

The E'qui Rotor-Rack is a cleverly designed vertical storage solution for saddles, emphasizing user-friendliness, safety, and a human-centered approach. Crafted from sturdy hollow metal tubing, it provides robust support and impressive durability. The rack boasts a mechanical rotation system driven by a chain and sprocket, making it a breeze for users to turn the rack and easily access any saddle with just a little effort. Standing tall yet compact, this rack holds several saddles in a circular stack that rotates around a central axis. Both sides are adorned with stylish covers that not only protect but also enhance its visual charm. These panels incorporate design elements that resonate with the equestrian theme, making the product both eye-catching and harmonious with its surroundings. The color palette features neutral, earthy tones paired with sleek matte black metal finishes, giving it a modern industrial vibe that fits right in at professional stables or personal tack rooms. With safety and accessibility at its core, the E'qui Rotor-Rack minimizes the need for lifting overhead and awkward movements, making it easier and safer for users of all ages to manage saddles. This product embodies contemporary design principles by blending ease of use, efficiency, and aesthetics into one compact system.

MATERIAL AND METHODS

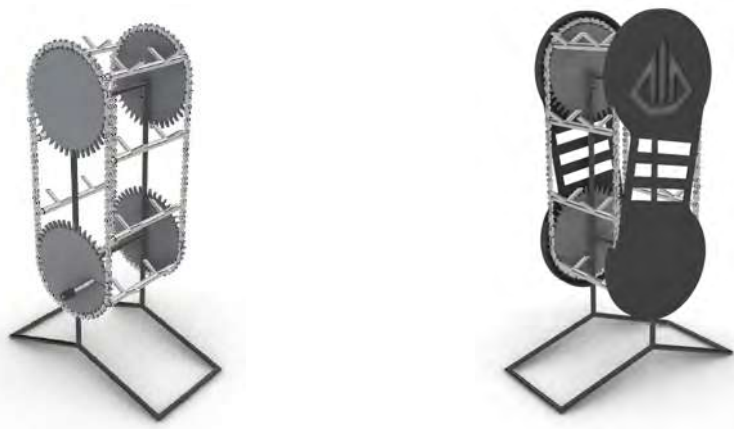


Figure 1 E'qui Rotor-Rack



The E'qui Rotor-Rack is built with a mix of metal and mechanical parts, ensuring it's strong, functional, and safe for users. The main structure is crafted from square hollow steel tubing, which is known for its durability, ability to bear heavy loads, and resistance to bending or warping, even under the weight of saddles. This choice of material also gives the design a sleek, modern industrial look. To facilitate the rotating feature, the rack uses a chain and sprocket system, much like what you'd find in bicycles. This design allows for smooth manual rotation of the saddle holder, making it super easy for users to adjust the rack and lift saddles to a comfortable height. A crank handle activates the mechanism, giving users complete control with minimal effort. Each saddle holder is ergonomically designed to fit the natural curve of the saddle, helping it keep its shape and preventing any deformation over time. The holders are securely welded to the rotating frame, ensuring safety and stability during use. To boost both safety and aesthetics, the rack features custom-designed side panels on both sides. These panels not only protect the internal mechanism from dust and damage but also showcase an equestrian-themed design, adding a striking and elegant touch to the product. Made from lightweight metal sheets, the panels come in matte or powder-coated finishes that complement the frame beautifully. Every design choice and material was selected with human-centered design principles in mind, focusing on improving accessibility, reducing user strain, and creating a safer, more efficient way to store saddles.

RESULT AND DISCUSSION/FINDINGS

The development and testing of the E'qui Rotor-Rack showcased some impressive upgrades in usability, safety, and space efficiency when compared to traditional saddle racks. Through careful observation and user interaction trials, we uncovered several important insights. To start, the rotating mechanism, which utilizes a chain and sprocket system, made it easy for users to grab saddles at a comfortable height. This clever design eliminated the hassle of lifting heavy saddles from awkward positions, significantly improving ergonomics and lowering the chances of back or shoulder strain—especially beneficial for younger riders or stable staff who might not have as much strength. The sturdy metal hollow frame offered fantastic stability and strength, easily supporting multiple saddles without any signs of bending or wobbling. Users expressed feeling secure and confident while using the rack. Plus, the metal side



covers not only safeguarded the inner workings but also added a touch of elegance to the overall look, making it a stylish addition to any modern stable. Feedback from users emphasized that the design was straightforward and user-friendly, aligning perfectly with the goal of human-centered design. The rotating feature required very little effort to operate, and the layout helped keep the stable tidy and organized. Users also loved the equestrian-themed side panel design, which gave the rack a distinctive character. In conclusion, the findings confirmed that the E'qui Rotor-Rack successfully achieves its design objectives by blending functionality, visual appeal, and user-focused innovation. It provides a practical and stylish solution for saddle storage, tackling the common issues faced in traditional stables.

CONCLUSION & RECOMMENDATION

To wrap things up, the E'qui Rotor-Rack really tackles the main challenges found in traditional saddle storage systems with its user-friendly, safe, and space-efficient design. By incorporating a chain and sprocket rotation system within a robust hollow metal frame, it offers both practicality and long-lasting durability. This product makes it easier for users of all ages to access their gear, minimizes physical strain, and adds a touch of style that fits right in with modern equestrian settings.

The decorative side panels not only shield the internal parts but also give the rack a stunning look. Users have shared that the rack is simple to use, helps keep stable areas organized, and effectively meets ergonomic and human-centered design standards.

For future improvements, here are a few suggestions:

- Introduce locking mechanisms to keep the rotation stable while loading and unloading.
- Look into using lighter materials for easier transport and setup.
- Provide options for customizable panel designs or colors to match different stable themes or branding.
- Think about offering motorized rotation as an optional upgrade for larger or professional stables.

All in all, the E'qui Rotor-Rack shows great promise for wider use in stables, riding

schools, and private tack rooms, presenting an innovative solution that beautifully combines functionality with flair.



REFERENCES

1. MacKechnie-Guire, R., MacKechnie-Guire, E., Fairfax, V., Fisher, D., Fisher, M., & Pfau, T. (2019). The effect of tree width on thoracolumbar and limb kinematics, saddle pressure distribution, and thoracolumbar dimensions in sports horses in trot and canter. *Animals*, 9(10), 842. <https://doi.org/10.3390/ani9100842> [arXiv](#)
2. MacKechnie-Guire, R., & Pfau, T. (2021). Differential rotational movement and symmetry values of the thoracolumbosacral region in high-level dressage horses when trotting. *PLOS ONE*, 16(5), e0251144. <https://doi.org/10.1371/journal.pone.0251144>
3. Byström, A., Rhodin, M., von Peinen, K., Weishaupt, M. A., & Roepstorff, L. (2010). Kinematics of saddle and rider in high-level dressage horses performing collected walk on a treadmill. *Equine Veterinary Journal*, 42(4), 340–345. <https://doi.org/10.1111/j.2042-3306.2010.00063.x>
4. Saha, A. K., Jahin, M. A., Rafiquzzaman, M., & Mridha, M. F. (2024). Ergonomic design of computer laboratory furniture: Mismatch analysis utilizing anthropometric data of university students. *arXiv*. <https://arxiv.org/abs/2403.05589>
5. Campos, P., Ehrenberg, N., & Campos, M. (2018). Designing interactions with furniture: Towards multi-sensorial interaction design processes for interactive furniture. *arXiv*. <https://arxiv.org/abs/1803.01145>



DMS



اَوْنِيُوْ تِيْكْنُوْلُوْجِي مَرَا
UNIVERSITI
TEKNOLOGI
MARA



9 789672 948780

