



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)***





FROM INNOVATION INSIGHT: FLEXILAP | PORTABLE DINING TRAY

Muhammad Denish Afwan Bin Redzuan, Fadila Binti Mohd Yusof

*Industrial Design Department,
Faculty of Art and Design,
Universiti Teknologi MARA (UiTM)
denishafwan27@gmail.com*

ABSTRACT

Flexilap is a portable dining tray specifically designed to enhance the mealtime experience at Madad Dining Hall, where space, comfort, and convenience are crucial. This innovative product allows users to comfortably place their meals on their lap while seated on a chair, making it ideal for high-traffic dining environments. Unlike traditional cafeteria trays, Flexilap features an ergonomic underside contour that fits various lap sizes, non-slip textures, and dedicated sections for plates and cups. Developed with user-centered research and sustainable principles, Flexilap provides a practical and hygienic dining solution that improves comfort and efficiency during busy mealtimes.

Keywords: Portable Tray, Ergonomics, Dining Hall Design, User Experience, Space Optimization

INTRODUCTION

Dining in communal spaces such as Madad Dining Hall presents challenges like overcrowding, limited table availability, and discomfort while eating. Often, users balance their meals on unstable surfaces, resulting in awkward posture, spills, or even skipping meals due to space constraints. These issues affect both the dining experience and user satisfaction. Flexilap was developed in response to these specific issues. It is designed to function as a personal dining surface that can rest comfortably on the user's lap while seated. By eliminating the dependency on shared tables and



enhancing ergonomic comfort, Flexilap empowers users to enjoy their meals efficiently and safely, even in peak hours.

MATERIALS AND METHODS

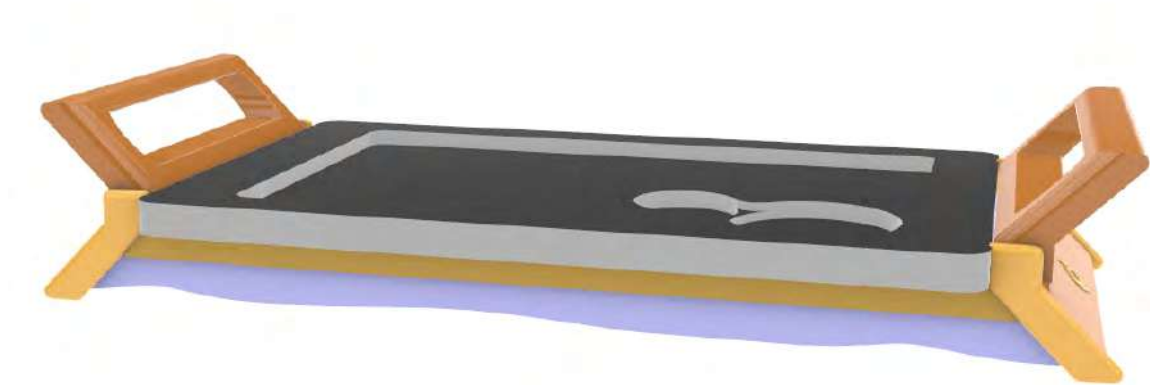


Figure 1.1 Final structure of Flexilap

Research for the Flexilap tray design was conducted primarily by on-site observations and online research, focusing on the behaviours and needs of Madad Dining Hall users and benchmarking existing tray designs used in high-traffic cafeterias. This research yielded valuable information on current usage patterns, ergonomic problems, and material durability requirements. The design process was based on the design thinking approach, beginning with empathising with users through informal interviews and observations of actual dining scenarios. The key problems were then defined, such as the lack of table space, discomfort of eating on laps, and instability of traditional trays. During the ideation phase, several concepts were sketched and evaluated according to form, stability, and ergonomics.

The concepts were then refined through prototyping and testing on actual users of varying body sizes and postures. Special attention was given to comfort, usability, and spill prevention for circumstances when users must eat without access to a table. The tray's contoured bottom was shaped to fit comfortably on the lap, providing stability



without restricting movement. Lightweight, impact-resistant food-grade plastic was chosen for ease of cleaning and repeated use over time. Textured, non-slip surfaces and compartmentalized spaces for plates, cups, and utensils were designed for increased functionality. The result is a portable and ergonomic tray that enables dignified and easier eating in crowded places like Madad Dining Hall.

RESULTS AND DISCUSSION

Based on the research and observations conducted at Madad Dining Hall, users prefer dining solutions that are comfortable, space-saving, and easy to carry, especially during peak hours when tables are fully occupied. Many existing trays in use were found to be unstable when placed on the lap, lacked dedicated compartments, and often led to spills or discomfort due to flat, rigid designs. As a response to these findings, the Flexilap tray was developed to provide a more structured and ergonomic solution. It features a contoured underside that comfortably fits various lap sizes, along with non-slip surfaces and clearly divided sections for plates, cups, and utensils. The design emphasizes portability, hygiene, and comfort, ensuring that users can dine conveniently even when sitting away from tables. User personas such as students, cafeteria staff, and elderly diners were considered throughout the design process to ensure the product is inclusive, functional, and adaptable to diverse user needs. Feedback from initial testing showed improved eating posture, greater stability, and a more pleasant dining experience, supporting the overall effectiveness of the Flexilap design in a real-world cafeteria setting.

TRANSCRIBE

QUESTIONS		FEEDBACK
1	Siapakah yang selalu menggunakan ruang makan ini? Adakah ia memenuhi keperluan semua golongan	Biasanya digunakan oleh pelajar, pengunjung, dan staf. Senang kata kemudahan yang disediakan memenuhi keperluan semua pengguna.
2	Adakah ruangan makan ini berfungsi dengan baik dan adakah terdapat sebarang perkara yang kurang memuaskan	Setakat ini boleh kata semua kemudahan berada dalam keadaan yang baik dan masih boleh digunakan. Tiada kerosakan yang boleh mengakibatkan masalah.
3	Di manakah kawasan yang kerap digunakan oleh pengguna untuk duduk dan berehat? Mengapa?	Selalunya pengguna lebih suka duduk di meja makan sebab jumlah meja yang disediakan agak terhad
4	Bilakah ruangan ini menjadi kurang selesa atau sukar digunakan?	Ruang makan ini selalu jadi kurang selesa kalau ramai sangat pengunjung yang datang ke sini serentak. Tapi sebagai pelajar kami dah terbiasa dengan keadaan macam ini
5	Bagaimanakah pengguna membersihkan tempat selepas makan?	Selalu ada yang bersihkan secara suka rela, kadang kami yang kena bersihkan tapi bergantung kepada kesedaran pengguna dekat sinilah. Setakat ini alhamdulillah tiada isu besar berlaku

QUESTIONS		FEEDBACK
6	Bagaimanakah ruang ini boleh ditambah baik semasa waktu sibuk atau acara khas?	Boleh dipertimbangkan untuk menambah khemah di luar dan menambah jumlah meja semasa jumlah pengunjung meningkat.
7	Siapakah yang akan menghadapi kesukaran menggunakan ruangan ini?	Pengguna kerusi roda mungkin yang kerap menghadapi kesukaran kerana tiada kemudahan khas yang disediakan untuk mereka.
8	Apa yang berfungsi dengan baik dalam ruang ini? Adakah terdapat perkara yang kurang memuaskan?	Setakat ini semua kemudahan berada dalam keadaan baik dan boleh digunakan sepenuhnya. Tiada kerosakan yang ketara.
9	Bagaimanakah pergerakan pengguna di ruangan ini? Adakah mudah untuk mengambil makanan, mencari tempat duduk dan membuang sampah?	Pergerakan agak lancar selalu kecuali bila ramai pengunjung yang datang terlalu ramai. Namun selalu tiada masalah yang besar berlaku.
10	Mengapa ada kawasan dalam ruang makan yang kurang digunakan?	Bahagian dalam kurang digunakan kerana kami biasanya datang ke sini untuk makan dan berbual. Jadi kami jarang bergerak ke kawasan lain dalam kawasan ini.

Figure 1.2 Survey results from Madad Dining Hall users on tray usability and comfort

CONCLUSION AND RECOMMENDATION

In conclusion, Flexilap effectively addresses the need for a more comfortable and practical dining solution in crowded settings like Madad Dining Hall. Its ergonomic shape, organised layout, and portable design improve the user's dining experience especially when tables are not available. For future development, it is recommended to explore stackable storage, foldable features, or custom color options to enhance usability and appeal. Real-time testing in other communal spaces can further validate its adaptability.



Figure 1.3 Flexilap in use at Madad Dining Hall

REFERENCES

Design Council UK. (2023). *Design for public services: Ergonomics and efficiency*.
<https://www.designcouncil.org.uk>

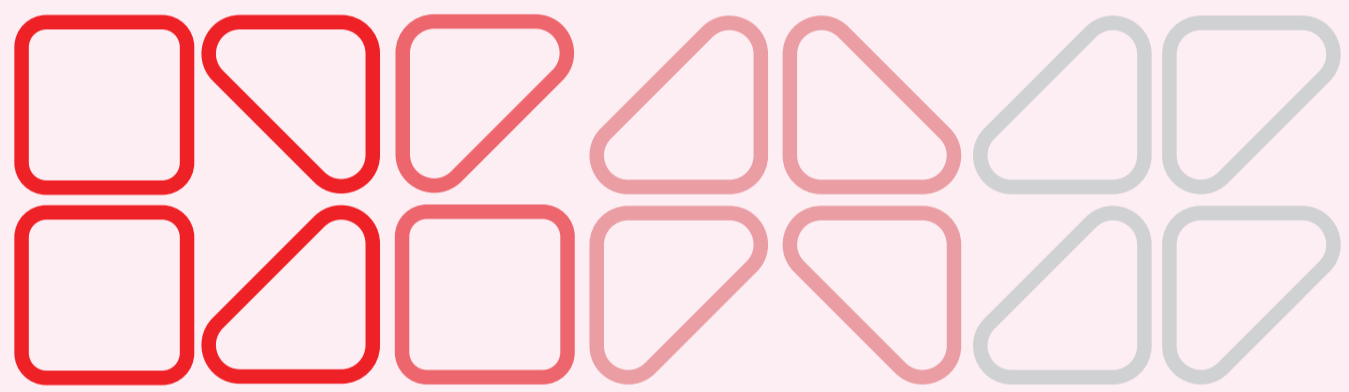
Dezeen. (2024). *User-centered product design in shared spaces*.
<https://www.dezeen.com>



Ergonomics Society. (2023). *Lap-based product comfort research*.
<https://www.ergonomics.org>

IDEO. (n.d.). *Design thinking process*. <https://designthinking.ideo.com>

Madad Official. (2024). *Madad dining hall facilities and crowd analysis*.
<https://www.madad.my>



DMS



اَوْنِيُوْ تِيْكَوْ لُوْ كِيْجِيْ مَارَا
UNIVERSITI
TEKNOLOGI
MARA



9 789672 948780

