



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)**





TRIPOD | PODCAR

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ABSTRACT

Community transportation is crucial for boosting mobility, accessibility, and sustainability in urban settings. In Penang, Malaysia, the public transport system grapples with a host of challenges, such as traffic jams, unreliable schedules, overcrowding, limited parking options, and a lack of smart technology integration. These issues often create inefficiencies and inconveniences for daily commuters. This research aims to delve into how emerging vehicle technologies can enhance community transportation services and promote sustainable urban development, aligning with Sustainable Development Goals SDG 9 (Industry, Innovation, and Infrastructure) and SDG 7 (Affordable and Clean Energy). To gather insights, we took a qualitative approach, conducting a structured online survey with 52 participants, including travelers, students, and public transit users in Penang. The survey focused on their transportation experiences, awareness of smart vehicle technologies, and preferences for future mobility solutions like autonomous systems and electric ridesharing pods. The results showed that users frequently encounter transport related challenges, such as overcrowded buses and ferries, limited last mile connectivity, and a lack of access to real-time travel information. Despite these hurdles, a respondents expressed a strong interest in and support for smart transport innovations, including features like GPS tracking, mobile booking apps, electric vehicles, and tech-integrated services. This indicates a rising demand for more efficient, eco- friendly, and accessible transportation options in urban areas. This study underscores the potential of smart vehicle technologies to revolutionize the public transport system in Penang.

Keywords: Community transportation, Smart vehicle technology, Urban

mobility, Sustainable development, public transport challenges

INTRODUCTION

The integration of cutting-edge vehicle technologies into community transport systems offers a promising way to tackle these challenges. By combining autonomous systems with electric vehicles, GPS tracking, and mobile booking platforms, we have the potential to revolutionize urban mobility. This approach not only makes travel safer and more eco-friendly but also enhances the overall user experience. These advancements align perfectly with the global trend towards smart, connected urban transport, which prioritizes flexibility, convenience, and sustainability as key drivers of change (Schlüter et al., 2021).

The transportation system in Penang, Malaysia, is grappling with persistent issues like traffic jams, unreliable schedules, overcrowded buses, and poor first- and last-mile connections. With these ongoing challenges, the urban population is in dire need of transport services that are both accessible and efficient. However, the rise of smart mobility technologies is hindered by limited public awareness and infrastructure readiness, creating a noticeable gap between innovation and real-world application.

METHODS



Community Transport in Penang survey

I am ERIEKA ERDYANA NABILA BINTI AZMI, a final year Bachelor of Industrial Design student. I am conducting a preliminary study on "Innovation in Community Transport: Leveraging Vehicle Technology to Improve Citizen Mobility," which focuses on exploring how technology can enhance transportation systems in Penang. This survey targets individuals who utilize or are interested in community transport solutions and will take more less than 20 minutes to complete. Your responses are confidential and will be used for academic purposes only.

Figure 1.1 The community transport server



For this research project, which we've called "Innovation in Community Transport: Leveraging Vehicle Technology to Improve Citizen Mobility," we conducted a series of questionnaires to gauge public opinion on current transport services and explore how new vehicle technologies could be applied. The questionnaire featured a variety of closed-ended questions focused on transport mobility, user satisfaction, and awareness of smart technologies like GPS, mobile booking systems, and electric vehicles. Respondents were asked to express their agreement or disagreement with various statements, and in some cases, choose from multiple options. This approach allowed a diverse group of participants including students, commuters, and everyday citizens using public transport in Penang to provide their feedback easily. By using this methodology, we were able to collect reliable and meaningful insights from a wide range of individuals.

RESULTS AND DISCUSSION/FINDINGS

The findings from this research reveal a strong interest among users, particularly passengers and students in Penang, for a pod car ridesharing system that features autonomous, smart, and eco-friendly options. A survey of 52 respondents pointed out shared experiences related to traffic congestion, pollution, a lack of smart technology, uncomfortable travel conditions, and limited accessibility. These insights help clarify the issues identified in this study through survey research.

Trustees showed a preference for systems that are flexible, incorporate digital technologies, and support green public transport. (Parekh et al., 2022), researcher also observed that the best environmental results for ridesharing happen when smart matching is used alongside eco-friendly vehicles.

The research uses relevant ideas from (Lygnerud & Nilsson, 2021) In their research on rideshare pilots in Sweden, the authors highlighted several key factors for success in rideshare services, even in cities like Penang. They pointed out that user trust, system flexibility, digital accessibility, and business models that align with desired outcomes are all crucial. Their findings suggest that without careful

planning and a focus on user-centered design, rideshare systems are likely to see low adoption rates and minimal impact.



Pie Chart 3.1: Age

The 52 respondents to the survey are predominantly young only 50% are aged 18–25. Next with 23.1% are those 26–35 years old and the 36–50 group scores 21.2%. Few respondents (5.8%) had age above 50 years, and interestingly, none aged under 18. This suggests that most of the feedback came from young adults, who are likely to be young students or early career professionals or simply digitally savvy individuals who are more inclined to take part in internet polls. An over representation of the 18–25-year group might alternatively indicate that younger groups are more engaged or concerned about transportation issues due to more frequent changes in life, work, and mobility preferences.

Figure 1.2 Asking respondents about transport community in Penang

The pie chart and accompanying text show that most respondents 50% are aged 18–25. Next with 23.1% are those 26–35 years old and the 36–50 group scores 21.2%. Few respondents (5.8%) had age above 50 years. . This suggests that most of the feedback came from young adults, who are likely to be young students or early career professionals or simply digitally savvy individuals who are more inclined to take part in internet polls. An over representation of the 18–25-year group might alternatively indicate that younger groups are more engaged or concerned about transportation issues due to more frequent changes in life, work, and mobility preferences.

CONCLUSION & RECOMMENDATION

This research concludes that a more intelligent and sustainable transportation system can be developed with the combination of user feedback and design innovation. For cities like Penang, the incorporation of modern vehicle technologies into public transport systems is both timely and essential to enhance citizen mobility and decrease dependence on conventional transport systems. The researcher puts forward the adaptation of a pod car ridesharing service based on the PASS design Proportion, Architecture, Surface, and Something New for Penang's urban transport system for increased intelligence and sustainability. The design concentrates on achieving a horizontal balance by proportioning the length and width, allowing the vehicle to efficiently traverse the city while keeping a 60:40 passenger space ratio.



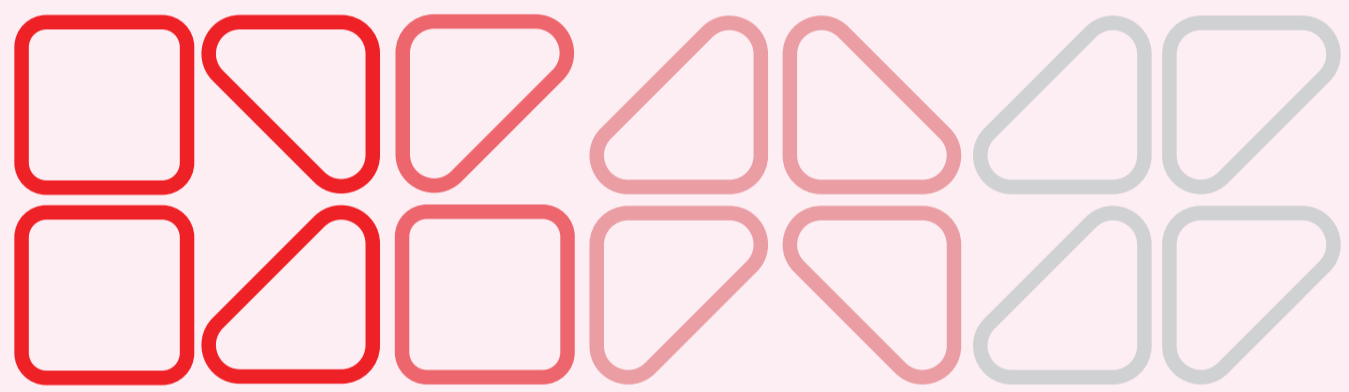
Figure 1.3 The picture of idea generates of podcar



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