

MELAKA
INTERNATIONAL
INTELLECTUAL EXPOSITION

MIIEX'24

12 JUNE '24

Dewan Taming Sari,
Universiti Teknologi MARA Caw. Melaka,
Kampus Alor Gajah, Melaka

*"Empowerment of Special
Needs through Invention
& Innovation"*

**EXTENDED
ABSTRACT**

MiiEX'2024

MELAKA INTERNATIONAL INTELLECTUAL EXPOSITION 2024

**“EMPOWERMENT OF SPECIAL NEEDS THROUGH INVENTION AND
INNOVATION”**

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UiTM Cawangan Melaka

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78000 Alor Gajah

Melaka Bandaraya Bersejarah

Website: <https://vmiex.uitm.edu.my/>

MiiEX'2024

MELAKA INTERNATIONAL INTELLECTUAL EXPOSITION 2024

**“EMPOWERMENT OF SPECIAL NEEDS THROUGH INVENTION AND
INNOVATION”**

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PUBLISHED BY:

UiTM Cawangan Melaka

KM26 Jalan Lendu,

78000 Alor Gajah

Melaka Bandaraya Bersejarah

Tel: +606-5582094 / 2190 / 2113

eISBN: 978-967-2846-81-9

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FOREWORD BY THE RECTOR OF UiTM CAWANGAN MELAKA



Professor Ts. Dr. Mohd Rasdi bin Zaidi

Rector, Universiti Teknologi MARA (UiTM)

Cawangan Melaka

Welcome to the Melaka International Intellectual Exposition 2024 (MIIEX '24). It is an honour for me, on behalf of UiTM Cawangan Melaka, to thank all of you for joining MIIEX '24. We are proud to inform you that this is the 13th consecutive year that UiTM Cawangan Melaka is organizing this exposition. Since 2009, UiTM Cawangan Melaka has successfully hosted this innovation exposition. Not only have we succeeded in organizing the exposition, but we have also successfully embarked on commercialized products.

2024 is a special year where MIIEX 2024 emphasizes the development of special needs. As we know, special needs indicate a limitation in a person's ability to engage in and benefit from various aspects, such as daily activities and education. Hence, with the theme "Empowering Special Needs Through Invention and Innovation," it is a platform for industries, professionals, academicians, students, and communities to share their innovative ideas and products to increase accessibility for those with special needs.

The successful implementation of MIIEX '24 is our joint success. This event was supported by the Melaka state government through YB Datuk Fairul Nizam bin Roslan, the EXCO of Science, Technology, Innovation, and Digital Communication. I also want to express my

gratitude to Universitas Negeri Padang, Indonesia, Universitas Muhammadiyah, Makassar, Indonesia, the International Association of Economic and Businesses (IAEB), Universiti Sains Islam Malaysia, Ibnu Umami Maktum Research Center (UMMI), USIM, and The Southeast Asia Minister of Education Organization Regional Centre for Special Educational Needs (SEAMEO SEN) as our co-collaborators for MIIEX 2024.

The collaboration from various parties in MIIEX '24 is a platform that will improve cooperation and interweaving among industries, professionals, academicians, students, and communities in shaping their potential in developing innovation products. This exposition also serves as a platform to cultivate and uphold the nation's innovation culture by presenting new ideas and research by young people, especially from academia and universities. Indirectly, MIIEX '24 will encourage all inventors towards empowering Science, Technology, Engineering, and Mathematics (STEM), especially in primary and secondary schools.

The new digital landscape also inspires more innovation and new ideas that contribute to various activities, such as business and industries. As a university that encourages "Research and Innovation," we aim to foster more innovative products that benefit scholars, industries, and communities, addressing issues to improve our present and future life.

This exposition would never happen without dedication, teamwork, and commitment. A round of applause should be given to the committee teams, who are the backbone of this exposition. Their hard work, effort, and time made this exposition possible.

Finally, I would like to conclude this brief remark by thanking all the participants and stakeholders for joining the exposition. We hope that this collaboration never ends here.

Thank you.

FOREWORD BY THE DEPUTY RECTOR (RESEARCH & INDUSTRIAL LINKAGES)



Associate Professor. Dr. Nur Hayati binti Abd Rahman

Deputy Rector (Research & Industrial Linkages), Universiti Teknologi MARA (UiTM) Cawangan Melaka

With much passion and privilege, let me warmly welcome all of you to the Melaka International Innovation Exhibition (MIIEX), UiTM Cawangan Melaka's flagship event. I firmly believe that events such as these demonstrate the gradual evolution of this platform in terms of its significance and its governing principles within the sphere of learning and the broader scholarly society.

The theme for this year, "Empowering Special Needs Through Invention and Innovation," strongly connects to our mission of using research and technology to make a positive impact on the world we live in. Besides enforcing the message of diversity, this theme also reaffirms our focus on creating products to improve the lives of people with disabilities (PWDs). Such innovations are vital as only through focused constructive changes can society become more sensitive to the needs of all members.

MIIEX allows researchers, students, and industry professionals to come together, share their innovative research, and develop viable research partnerships. It has been great to see the enthusiasm of the participants and the efforts they put into their projects, which can offer various social and economic benefits. This is why one can state that MIIEX is a great

opportunity for creating connections between the academic environment and industry, facilitating the implementation of innovative and promising projects.

Finally, I would like to express my sincere appreciation to all the members and supporters of the organizing committee, all the participants, sponsors, and everyone involved in preparing this event. I want to express my gratitude for your commitment and involvement, as the success of MIIEX and the development of an active culture of innovation in our university and beyond is partly owed to your support.

Thank you

FOREWORD BY THE PROJECT DIRECTOR



Dr Zulkefli bin Muhamad Hanapiyah

Senior Lecturer

Assalamualaikum and Warmest Greetings,

It gives me a great pleasure, on behalf of the organizing committee, to welcome all participants and speakers to the Melaka International Intellectual Exposition 2024 (MIIEX '24) with the theme "Empowering Special Needs Through Invention and Innovation." We are honoured and pleased to welcome all participants to this biennial event.

MIIEX '24 is a platform that gathers experts from local and international industries, academia, scientists, researchers, and the community to contribute to the advancement of scientific and technological knowledge. This knowledge helps develop disruptive innovation products that improve daily activities for businesses and the community, especially those with special needs.

MIIEX '24 provides an atmosphere for inventors of all levels to gain new exposure and collaborate. Indirectly, this promotes a collaborative and innovative culture that focuses on cutting-edge technologies and new standards in technology and creativity.

MIIEX '24 is anticipated to serve as an arena for participants to acquire and disseminate revolutionary information on ideas and innovation. It is intended that the competition will expose the contestants' minds to the latest technologies and designs, aligning with the government's goal of encouraging innovation in Malaysia.

Finally, I want to compliment my fellow committee members on their amazing efforts, which were vital to the event's success. In addition, I want to thank our co-organizers, event sponsors, and participants. Optimistically, we hope that all new knowledge discovered, invented, or innovated will lead us toward future sustainability.

Thank you.

**FOREWORD BY MELAKA STATE EXCO OF SCIENCE, TECHNOLOGY,
INNOVATION AND DIGITAL COMMUNICATIONS**



YB Datuk Fairul Nizam bin Roslan

Melaka State Exco of Science, Technology, Innovation and Digital Communications

Welcome to the Melaka International Intellectual Exposition 2024 (MIIEX '24). It is an honor for me, on behalf of UiTM Cawangan Melaka, to thank all of you for joining MIIEX '24. We are proud to inform you that this is the 13th consecutive year that UiTM Cawangan Melaka is organizing this exposition. Since 2009, UiTM Cawangan Melaka has successfully hosted this innovation exposition. Not only have we succeeded in organizing the exposition, but we have also successfully embarked on commercialized products.

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Thank you.

MIIEX'24 ORGANISING COMMITTEE

COMMITTEE	NAME
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	DR NORASHIKIN ADAM
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	AFZAN SAHILLA BINTI MOHD AMIR HAMZAH
	MUHAMMAD FURQAN BIN AZHAR
	KHAIRUL AZHAR BIN LOCHMAN

ABOUT MIIEX'24

MIIEX'24 is an innovation competition annually organised by UiTM Melaka with the intention to bring together ideas and inspiration that could fit in for commercialization needs.

This event creates a platform for researchers to establish networking, partnership and opportunities to collaborate with industries.

OBJECTIVES

1. Encourage and instil passion towards inventing and innovating among UiTM Cawangan Melaka staff, students and academicians of local and international higher education institutions;
2. Highlight distinguished talents of skilful inventors and exhibit intellectual products, inventions and innovations among local and private tertiary institutions, government and private agencies, including international participants;
3. Become an effective Business Matching platform for participating research products, matching industries and partnering government agencies;
4. Recognise, inspire and promote invention and innovation products to be patented and commercialized;
5. Increase passion towards inventing and innovating through research and boost interests of government and non-government agencies to obtain consultancy services from a line up experts of higher education institutions and UiTM Cawangan Melaka.

THEME

'EMPOWERMENT OF SPECIAL NEEDS THROUGH INVENTION AND INNOVATION'

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Eduwise Pen Recorder

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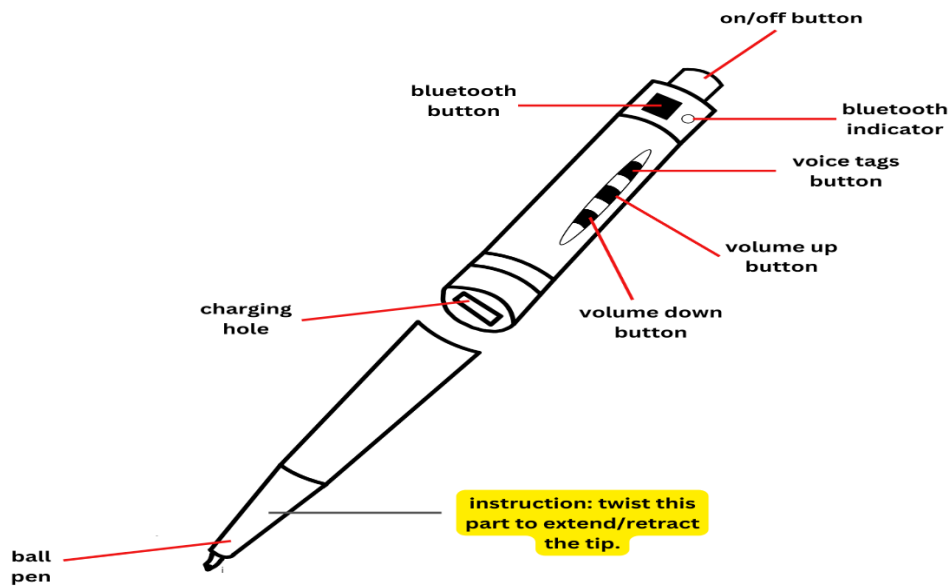
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Abstract

According to a survey conducted by Benilde-St. Margaret (BSM) in 2020, out of 107 students surveyed, 48.6% reported zoning out in class all the time, while 47.7% stated they zone out sometimes. This suggests that most students are prone to being unfocused during school learning sessions, whether due to distractions from friends or daydreaming. Addressing this issue is fundamental. According to the Mainstream Amplification Resource Room Study, students who received audible instruction with amplification all believed that amplified voices improved their ability to pay attention and comprehend directions. Introducing our innovation to alleviate students' burdens: the EduWise Pen Recorder. Aside from being used for writing, this pen also has additional features that allow for recording. This device allows users to record lectures during class when they struggle to focus. Its distinguishing feature from other products in the market is the voice tagging feature, enabling users to add personalized voice tags while recording to highlight important moments or sections, thus simplifying navigation through lengthy recordings. Furthermore, the Bluetooth capabilities enable easy collaboration by connecting the device to headsets for a better listening experience, as well as with Android devices of the same model. With the upgraded battery capacity, users can record for approximately 30 hours on a single charge, providing ample power for extended recording sessions without interruption. It also comes with 3 colours, which is black, white, and pink. By offering features not commonly found in other pen recorders, this product gains a competitive advantage in the market. Its ability to meet specific user needs and provide enhanced functionality sets it apart from existing alternatives.

Keywords: Pen recorder, Voice tagging, Audio recorder, Bluetooth



1. INTRODUCTION

In the ever-evolving realm of education, ensuring student engagement and attentiveness within the classroom environment remains a paramount concern for educators and institutions worldwide. Recent surveys conducted within educational settings have shed light on a concerning trend: a significant proportion of students' report experiencing difficulties maintaining focus during class sessions. This prevalent issue, characterized by students frequently becoming unfocused or zoning out, presents a formidable challenge to the efficacy of traditional teaching methodologies and the overall learning experience. This is why our innovation, the EduWise Pen Recorder, is needed by students in order to pass exams with flying colours despite facing obstacles in focusing. Students can now revise anywhere they prefer because our product is beneficial for convenient learning.

2. OBJECTIVE

Our latest pen recording device, EduWise Pen Recorder, is engineered to redefine convenience and efficiency in capturing audio content. With its discreet design and intuitive functionality, the device aims to seamlessly integrate into users' daily routines, allowing for effortless recording of meetings, lectures, interviews, and personal memos. Equipped with high-quality microphones and advanced noise-cancellation technology, the device ensures crisp and clear audio reproduction, capturing every nuance with exceptional clarity and fidelity. Furthermore, the

device prioritizes user convenience with features such as plug-and-play functionality and long-lasting battery life, enabling users to focus on capturing valuable content without the hassle of complicated setup or frequent recharging. Whether in professional settings or everyday scenarios, our EduWise Pen Recorder device is poised to be the go-to solution for individuals seeking a discreet, reliable, and versatile audio recording tool.

3. NOVELTY & INVENTIVENESS

The proposed features of EduWise Pen Recorder demonstrate a high level of originality and creativity, especially in the fields of Bluetooth connectivity and voice tagging. The Bluetooth features provide a smooth and easy-to-use experience for collaborative work and real-time monitoring of recordings. These features are not typically found in all devices, which makes them unique and innovative. The voice tagging feature is quite impressive, as it enables users to include personalised voice tags while recording to highlight significant moments or sections, simplifying the navigation of lengthy recordings. This feature is incredibly helpful for organising and categorising recordings, making it easier for users to find exactly what they're looking for. It greatly improves the user experience by providing a quick and efficient way to access specific content. Next, the increased battery capacity and enhanced reliability are also worth mentioning, although they are not as groundbreaking as some other features found in many devices that already provide extended battery life and improved reliability. Nevertheless, the particular emphasis on timekeeping and dependability in relation to this device brings added worth and sets it apart.

4. PRACTICALITY & USEFULNESS

The practicality of a pen recorder lies in its convenience, portability, versatility, and ability to provide backup and review capabilities. It seamlessly combines writing and recording into a single device, making it easy to switch between jotting down notes and capturing audio recordings. Its compact and lightweight design makes it ideal for on-the-go use, catering to students, professionals, journalists, and anyone who needs to take notes or record audio in various situations. Additionally, pen recorders offer flexibility in capturing information, adapting to different contexts, and recording needs. In terms of usefulness, pen recorders enable simultaneous

notetaking and recording, ensuring that every detail of lectures, meetings, or conversations is captured for later review. They enhance memory retention by engaging both visual and auditory senses, aiding in recall. Moreover, pen recorders improve transcription efficiency by providing an audio backup alongside handwritten notes, streamlining the process and reducing errors. Lastly, they facilitate documenting ideas and creativity, allowing users to capture spontaneous thoughts, brainstorming sessions, or creative inspiration in both audio and written formats, aiding in preservation and development.

5. CONCLUSION

In conclusion, the EduWise Pen Recorder emerges as a valuable tool in addressing the prevalent issue of student distraction and unfocused learning in classrooms. By providing students with the ability to record lectures and highlight key moments with personalized voice tags, this innovative device facilitates efficient revision and study sessions. Its convenience and portability offer students the flexibility to engage in learning activities anytime and anywhere, ultimately enhancing their academic performance and enabling them to excel in their examinations. As education continues to evolve, the EduWise Pen Recorder stands as a testament to the power of innovative solutions in overcoming challenges and empowering students to succeed with flying colours.

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