

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

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MiiEX'2024

MELAKA INTERNATIONAL INTELLECTUAL EXPOSITION 2024

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

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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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Fin-Access

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Abstract

Financial inclusion is crucial for persons with disabilities (PWDs). It empowers them socially, economically, politically, and emotionally. However, many PWDs continue to face challenges when accessing standard banking services. According to the National Health and Morbidity Survey (NHMS) 2019 reports, approximately 11.1% of Malaysians aged 18 years and above have disabilities, yet most banks in the country do not prioritize user-friendly digital services or websites. Consequently, managing their finances becomes a struggle for them. So, there is a new mobile app called Fin-Access designed to assist PWDs. It helps them be more inclusive in finances and feel better about their money. The gap that Fin-Access aims to bridge is via strengthening financial literacy and procedures for PWDs to engage in banking activities. It does this by teaching people about money and making it easier to do banking stuff. Its user-friendly interface also makes it easy for them to manage their finances. Fin-Access includes unique features such as screen reading for those with visual impairments and voice recognition for users with limited mobility. Fin-Access also offers personalized financial coaching. By leveraging AI, it analyses user financial data and spending patterns, provides tailored budgeting strategies, and recommends suitable financial products based on individual circumstances. Fin-Access helps people with disabilities handle their money in better ways. First, it connects to people's bank accounts and shows them their money in a way that's easy to understand. Then, it helps them set goals and reminds them to keep working on them with audio reminders and progress reports that they can hear. Lastly, Fin-Access promotes financial literacy by integrating educational resources within the app, including tutorials in various formats (text, audio, and video). In short, Fin-Access is a user-friendly app created especially for persons with disabilities. It helps them take charge of their money and feel more independent and secure in the future.

Keywords: Fin-Access, persons with disabilities (PWD), voice recognition, financial literacy

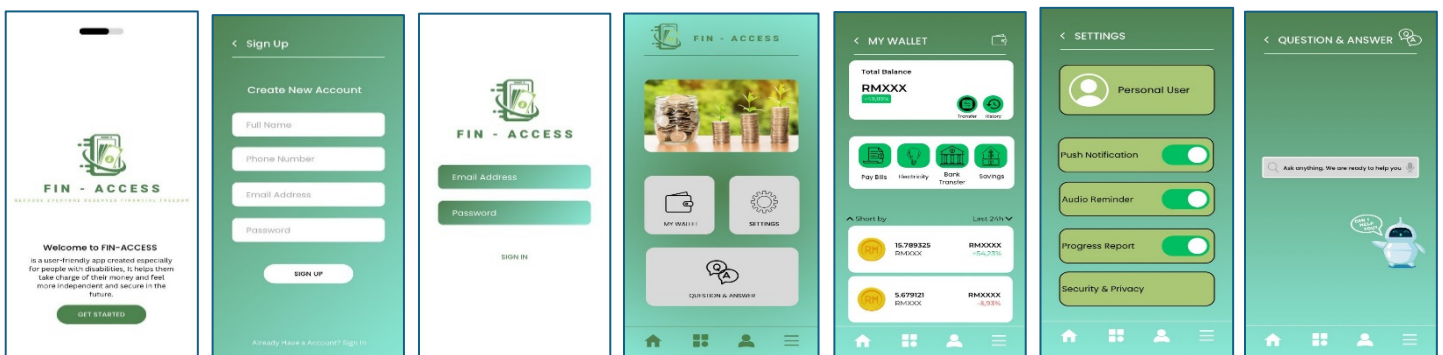
INTRODUCTION

Financial inclusion is crucial for persons with disabilities (PWDs). It empowers them socially, economically, politically, and emotionally. However, many PWDs continue to face challenges when accessing standard banking services. According to the National Health and Morbidity Survey (NHMS) 2019 reports, approximately 11.1% of Malaysians aged 18 years and above have disabilities, yet most banks industries in Malaysia do not provide sufficient digital accessibility to PWDs and fail to meet the standards of Web Content Accessibility. Consequently, managing their finances becomes a struggle for them. In fact, Many PWDs struggle with financial management, facing challenges such as inconsistent savings, growing debt, and inadequate emergency funds. This will affect their overall financial well-being, impacting their ability to achieve financial goals and maintain stability. Furthermore, in today's digital age where financing is being done at the click of a button, individuals must navigate complex financial systems with caution and seek personalized advice to thrive. Consequently, relying solely on traditional methods for effective financial management is inadequate due to their lack of a holistic view and potentially cumbersome nature. While automated financial management tools offer convenience, they may fall short in providing the personalized insights and guidance necessary for achieving specific goals.

OBJECTIVE

This project introduces Fin-Access, a mobile application designed to empower individuals with disabilities by promoting financial inclusion and fostering financial well-being and designed to bridge the gap between traditional budgeting and automated tools. This innovative mobile application bridges the gap between traditional budgeting methods and automated tools, aiming to enhance accessibility and independence in managing finances. The gap that Fin-Access aims to bridge is via strengthening financial literacy and procedures for PWDs to engage in banking activities. Fin-Access aims to simplify personal financial planning by combining innovative features that empower users to manage their finances effectively and achieve long-term financial well-being.

NOVELTY & INCENTIVES



Fin-Access prioritizes accessibility and caters to various categories for disabled individuals, such as screen reading for those with visual impairments and voice recognition for users with limited mobility. The app's interface is optimized for ease of use, with clear navigation and customizable settings. Additionally, recognizing the diverse needs of the disability community, Fin-Access offers personalized financial coaching. By leveraging AI, it analyzes user financial data and

spending patterns, recommending tailored budgeting strategies and suitable financial products based on individual circumstances.

4. PRACTICALITY & USEFULNESS

Fin-Access provides a range of practical benefits that empower individuals with disabilities to effectively manage their finances. Firstly, it simplifies account management by securely connecting users' bank accounts and presenting financial information in a clear, accessible format. Secondly, the app facilitates goal setting and tracking through features like audio reminders and voice-enabled progress reports, ensuring users stay motivated and accountable. Lastly, Fin-Access promotes financial literacy by integrating educational resources within the app, including tutorials in various formats (text, audio, and video) tailored to different learning preferences, empowering users to confidently handle their finances.

5. CONCLUSION

Fin-Access is a user-friendly, accessible platform created especially for people with disabilities, addressing a significant need in the financial technology industry. Fin-Access helps people with disabilities take control of their financial lives, become financially independent, and create a secure future by emphasizing personalized coaching and innovative features.

REFERENCES

- Heyer, A. (2022, January 26). *From Financial Inclusion to Inclusive Finance*. Cenfri. <https://cenfri.org/articles/from-financial-inclusion-to-inclusive-finance/>
- Malay Mail. (2022, September 8). *Ras Adiba calls for introduction of more inclusive financial system for persons with disabilities*. <https://www.malaymail.com/news/malaysia/2022/09/08/ras-adiba-calls-for-introduction-of-more-inclusive-financial-system-for-persons-with-disabilities/27251>