



UNIVERSITI
TEKNOLOGI
MARA

Universiti
Melaka

V-MIEX

28 JUNE
06 JULY
2022

VIRTUAL-MELAKA INTERNATIONAL INTELLECTUAL EXPOSITION

ROAD TO COMMERCIALISATION

V-MIEX BOOK



V - MIIEX BOOK

'ROAD TO COMMERCIALISATION'

EDITORS AND COMPILERS:

Dr. Nur Hayati Abd Rahman
Dr Syukri Abdullah
Wan Hasmat Wan Hasan
Aini Qamariah Mohd Yusof
Norazlan Anual
Dr. Khairunnisa Abd Samad
Nordianah Jusoh @ Hussain
Rozana Othman
Norlela Abas
Azira Rahim

COVER DESIGN:

Adi Hakim Talib

PUBLISHED BY:

Division of Research and Industrial Linkages
UiTM Cawangan Melaka
KM26 Jalan Lendu,
78000 Alor Gajah, Melaka
Tel: +606-5582094 / +0606-5582190 / +606-5582113
Email: miixuitm@gmail.com
Website: <https://www.miiex.my/>
ISBN: 978-967-2846-04-8

All right reserved. No parts of this publication may be produces, stored in retrieval system or transmitted in any form by any means, electronic, mechanical, photocopying, recording, or otherwise without permission of the copyright holder.

FOREWORD

ASSOC. PROF TS. DR MOHD RASDI ZAINI
Rector
Universiti Teknologi MARA (UiTM) Cawangan Melaka



Welcome to Virtual-Melaka International Intellectual Exposition 2022 (V-MIIEEX 2022). It is an honour for me on behalf of UiTM Melaka Branch to thank all of you for joining the programme and we are proud to inform you that this is the 12th year consecutively, UiTM Melaka Branch is organizing this exposition.

V-MIIEEX 2022 is a platform to improve the commercialization collaboration among industries and communities and at the same time, we also give the opportunity to academicians and students to share ideas and increase their potential innovation products with the industries and communities through their projects. This exposition also serves as a platform to cultivate and upload the nation's innovation culture by presenting new ideas and research by young people, especially from academia, universities, college, high schools, and primary school students.

The economy and development of the country faced a challenging phase in 2021 due to the Covid-19 pandemic. We faced changes in business, education, society, and lifestyle. However, the pandemic proved to be a blessing in disguise as it somehow gave people ideas which would be beneficial to improve their lifestyle and solve problems that might occur in the future. Besides, 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 the "Research, Innovation and Commercialization", this exhibition is organized to encourage more commercialization of products that are beneficial to scholars, industries, and communities to tackle such issues to improve our present and future life.

Since 2009, UiTM Melaka Branch has successfully become the organizer for this innovation exposition. We are not only successful in organizing the exposition, but I would proudly say that we have also successfully embarked on commercialized products. With the number of participants for this year's exhibition, we believe that more commercialized products will be produced in line with the theme for this year, "Road to Commercialisation".

This exposition would never happen without dedication, teamwork, and commitment. A round of applause should be given to the committee teams as 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.



DR. NUR HAYATI BINTI ABD RAHMAN
Deputy Rector Research & Industrial Linkages
Universiti Teknologi MARA (UiTM) Cawangan Melaka

It is a great pleasure to welcome all the participants and presenters to the Virtual Melaka International Intellectual Exposition (VMIIEX 22). I am delighted that through this periodic event, we managed to bring together scholars and professionals from various fields to engage through this virtual platform where ideas and breakthrough are discovered and leveraged for commercialization potential.

Since 2009 UiTM Cawangan Melaka has held twelve Invention and Innovation Design competitions and this year we are very honoured to have the second year of VMIIEX organized in digital platform. This has proven that despite the global challenges due to the recent pandemic, it is never an issue for UiTM Melaka to continuously organize this yearly prestigious event and to support the ministry's aspiration in leveraging creativity and innovation in the new norm.

VMIIEX 22 is organized with no sole objectives of accomplishing the University's KPI but instead we are determined to make this programme as the place to help heighten commercialization collaboration in research and innovation with the industry and community through joint exhibitions from various external organizations.

Our aspiration is to also provide exposure and opportunities to academic staff as well as students from public and private universities to engage in direct excellent scholarly activities with the industry and community through activities that can be measured and assessed. As for the Research and Industrial Linkages Office of UiTM Melaka, this exhibition is seen as the platform that can encourage active collaboration and knowledge transfer with industries; objectively to support various activities that will benefit all stakeholders from the various government agencies, local and international universities, industries and communities.

Through the theme of "Road to Commercialization" this year, V-MIIEX 22 is committed to have this event as a boulevard to inspire and cultivate creativity and innovation to the numerous levels of inventors through exposure on latest technologies, astonishing ideas and creative designs with great potential to be commercialized. For this year, we proudly introduce a special category which is the "Endemic Challenge" as the provision to the government of Malaysia's goal of moving towards the endemic.

To ensure that the competing products in this exhibition is not exclusively for the purpose of competition, V-MIIEX 22 is dedicated for the commercialization of highly potential innovation products, which is attained through its active collaboration with tailored needs industries. The commercialization effort was not for income generation purpose only but it aimed to spearhead the development of quality products in line with industrial needs and community benefit.

Therefore, it is a great honour for me on behalf of the Research and Industrial Linkages Office as well as the organizing committee to have all participants in this competition and I would like to express my highest gratitude especially to the Rector of UiTM Melaka and all strategic partners and sponsors for supporting the event.

To finish, I sincerely wish VMIIEX 22 a remarkable success. I believe that this will not be the only collaboration between UiTM Melaka and the respective partners and linkages, but a beginning of a long and fruitful cooperation in future.

Thank you very much.

road to commercialisation...

WAN HASMAT WAN HASAN
Project Director V-MIIEEX 2022
Universiti Teknologi MARA (UiTM) Cawangan Melaka



Assalamualaikum and Warmest Greetings.

It gives me an enormous pleasure, on behalf of the organizing committee to welcome all participants and presenters to the Virtual -Melaka International Intellectual Exposition 2022 (VMIIEX '22) with the theme "Road to Commercialisation". We are honoured and glad to welcome all participants to this biennial event.

This is the second time that we have organized this biennial event virtually. V-MIIEEX 22 is an innovation competition, in which, innovation products, ideas and systems related to various science and technological fields are exhibited as a solution for the presented problems.

V-MIIEEX22 expectantly will be a platform that gathers experts from academies, scientists, and researchers, locally and internationally, to contribute towards the growth of scientific and technological knowledge in each participant's specialisation and expertise.

The competition also serves as a platform to give fresh exposure to the various level of inventors, as well as to encourage the culture of innovation design focused on latest technologies and related to new norms technologies and inventions due to COVID-19.

V-MIIEEX 22 is also hoped to be an avenue for gathering and disseminating the latest knowledge on ideas and acquisition of innovation among the participants. It is hoped that the competition will be able to open the mind of the participants towards latest technologies and design. It is also in line with the government's aspiration to encourage innovation activities in Malaysia.

As a final note, I would like to congratulate my fellow committee members for their tremendous effort, which have been critical to the event's success. In addition, I would like to thank our co-organizer, event sponsors and supporters. Optimistically, we wish that all new knowledge that is discovered, invented, or innovated will drive towards our future sustainability.

Thank you.

ABOUT V-MIIEEX

The world after COVID-19 is unlikely to return to the world that was. Despite the challenging pace during the pandemic, the strong rebound is expecting in this exciting year 2022. Malaysia is welcoming the great prospects ahead with positive impact on the country's economy and development. Hence, the hope for greater opportunities motivates for more creative thinkers to come up with innovative ideas that can be put forward to be harnessed to overcome similar problems in the future. V-MIIEEx 2022 is one of these platforms which contribute relevant ideas that could help communities of all walks of life cope with this pandemic.

UiTM has identified research, innovation, and commercialization to be among the core components and strategic effort towards becoming a well-known and prominent university. Aside from realizing this goal, with these components and efforts, fostering the development of knowledge, generating financial stability of the university, and producing knowledgeable academicians are also potentially achievable.

By having invention and innovation competition yearly, UiTM Cawangan Melaka is confident that it could further enhance creative and innovative abilities among staff and students. In support of the government notion which upholds the importance of innovation, UiTM Cawangan Melaka has taken the initiative of organising the Virtual Melaka International Intellectual Exposition (V-MIIEEx).

In instigating and nurturing the continuous culture of inventing and innovating, this event is an ideal platform for lecturers, administrative staff, students, and the public to showcase and commercialize their products or prototypes as well as novel ideas. The first IID which was held nationally in UiTM Cawangan Melaka in 2009, has successfully gathered and displayed more than 37 inventions and innovations. Accordingly, to continue this strong passion towards inventing and innovating, the IID competition should be continued and celebrated.

With that, the Division of Research and Industrial Linkages will be organising its 12th IID competition, the Virtual - Melaka International Intellectual Exposition (V-MIIEEx 2022) with the theme, 'Road To Commercialisation'. V-MIIEEx 2022 hopes to welcome 200 competing products to be showcased and commercialized, at the same time, attract attention of related and matching industry.

Objectives

1. Encourage and instill 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 skillful 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.

E-MATH ONLINE GAME

Amirul Ikhwan Bin Nordin¹, Ku Muhammad Faiz Bin Ku Khalif², Muhammad Irfan Nabil Bin Rumizan³, Muhammad Nabil Irfan Bin Mohd Zin⁴, Puteri Nurdania Balqis Binti Nor Azli⁵, Siti Nur Aisyah Binti Mahathir⁶, Dr. Khairunnisa Abd Samad⁷.

^{1, 2, 3, 4, 5, 6} Faculty Science Computer Mathematics, UiTM Cawangan Melaka, Malaysia

⁷ Faculty Business and Management, UiTM Cawangan Melaka, Malaysia

amirulikhwan026@gmail.com, khairunsamad@uitm.edu.my

Abstract

Educational learning games that exist today are not much compared to the popular games like Mobile Legends, Fifa22, Valorant, and etc. Next, there are not many available for adults but more for growing children around age 5-12. Even if there are learning games for adults, the games are not fun to be played. So our company has decided to create an educational game leveling game called E-Math Online Game. E-Math Online Game or EMOG is a leveling game that is fun to be played with mathematics lessons as the main core form. EMOG can be played online and battle with other players. The objectives of the application that we are trying to create are to make an educational game that is fun to be played by various ages, from children to adults in addition to making our players have an interest in learning besides playing games.

Keywords: Online Game, Mathematics, Math Game

1. INTRODUCTION

Mathematics is very important in our life regardless of age whether old or young. It helps everyone to calculate something in their mind such as how much money to gain if they want to buy something. However, many people think that mathematics is a very difficult subject in their life due to many people failing in mathematics while in school. Statistics show that in 51 students, only 10% of them said mathematics is an easy subject to learn. Yet, mathematics is very important because, with mathematics, people can be architects, doctors, software engineers, etc. Because of that, our apps EMOG or E-Math Online Game introduce a new era to learning mathematics for people that have problems with mathematics, especially teens and adults.

2. OBJECTIVE

The main objective of this application is to increase learning games that are fun to be played and can be placed among the popular games in the community. For example, among the age range that play games like teenagers, adults, and pro-gamers. The next goal for the development of the EMOG application is to attract interest among the players in the subject of mathematics. This means that our EMOG is fun to play and has other benefits like getting more interested in learning and being better at subject mathematics.

3. NOVELTY & INVENTIVENESS

EMOG development can implement the players' interest in learning the subject of mathematics. Education can be applied other than education at school, university, tuition, or other official study places. The majority of the other game developers are making their games just for the players to get fun, but our game provides knowledge while giving fun to the players who are playing with it. In this case, the players who are playing our games are playing with the purpose to gain some knowledge about mathematics. We also develop EMOG that fits into the player's lifestyle. Young people have far more free time than adults. As a result, we naturally link games with children. Despite that, we tend to market the games more to adults. For example, players would receive an e-mail with a link invitation to play the game. Because the players were adults who were getting these e-mails at work, the games could not really demand a substantial time investment to complete, therefore each game level was designed to be under five minutes long. Players must use their time, focus, and problem-solving skills to overcome the math problems presented. These efforts should have a purpose, a return on their investment. When the game is finished, the players should feel that they have gained something from the experience.

4. PRACTICALITY & USEFULNESS

EMOG or E-Math Online Game was developed to facilitate people who have mathematics problems in their lives to get better skills in mathematics and also help them to think outside of the box to solve the problem no matter mathematics problems or real-life problems. This is because our game teaches the players to think about how to solve the questions by themselves and this will improve their thinking style in the real world. Our game has about 50 levels and players need to make their profile to play our game. There will be 3 difficulties which are easy, medium, and complex. The players have 5 lives to answer the questions and if they answer the question wrong they will lose a life. To gain another live, the players need to wait for 2 minutes for each live. To get the live rapidly, players can buy the live using real money and they can play more without hesitation.

5. CONCLUSION

To recap, our objective is to attract more people to learn maths as it will be useful in our daily life. If we have achieved the first objective, it will be easier to achieve our next objective which is to make people learn maths easier and more effectively because maths is not an easy subject to learn. Our game is unique because we included a variety of levels and difficulties which makes the game more fun and challenging. Each level will have its own leaderboard. EMOG is very useful because it involves a ranking system. So, the player will try as hard as they can to put their name on the top 3 or the leaderboard. By this, players will learn maths much faster.

REFERENCES

- Alia Najiha. (2013). *ENT300 Business Plan*. Retrieved on April 2022 from, <https://www.slideshare.net/AliaNajiha1/ent300-business-proposal>.
- Noor Muhammad. (2014). Video Game Business Plan Sample. Retrieved on April 20022 from, <https://www.ogscapital.com/article/video-game-business-plan/>.
- Desirae Odjick. (2022). How to Write a Perfect Business Plan in 9 Steps. Retrieved on April 2022 from, <https://www.shopify.my/blog/business-plan>.