UNIVERSITI TEKNOLOGI MARA
Cawangan Kedah
Kampus Sungai Petani

Faculty of Administrative Science and Policy Studies

i-SPiKE 2021

Leading An Artificial Innovation In Knowledge, Education And Design

i-SPiKE 2021
INTERNATIONAL EXHIBITION & SYMPOSIUM
E-PROCEEDINGS

https://ispike2021.uitm.edu.my/

e-ISBN 978-967-2948-20-9

Copyright © 2021 is held by the owner/author(s). These papers are published in their original version without editing of the content.

The views, opinions and technical recommendations expressed by the contributors are entirely their own and do not necessarily reflect the views of the Faculty or the University.

Copy Editors : Azni Syafena Andin Salamat, Syazliyati Ibrahim, Asrol Hasan, Nor Zaini Zainal Abidin, Fatihah Norazami Abdullah, Chaleeda Som Sak, Nor Asni Syahriza Abu Hassan & Muhamad Khairul Anuar Zulkepli

Layout Editor : Asrol Hasan

Cover Design : Syahrini Shawalludin

Published by : Universiti Teknologi MARA Cawangan Kedah,
Kampus Merbok,
08400 Merbok,
Kedah,
Malaysia.

TABLE OF CONTENTS:-

i-SPiKE 2021 International Exhibition & Symposium E-Proceedings

NO.	TITLE	PAGE
1.	'Viewfinder' Mobile Learning Application for Videography and Cinematography Based on the Rules of Perspective ***Amir Nor Azan Samar, Harim Izzati Hamdan, Iqbal Jaapar & Muhammad Firdaus Amairudin***	1
2.	Systematic Alternative Fuzzy Logic Evaluator (SAFLE) for Student Performance Evaluation ***Shirley Sinatra Gran, Tracy Adeline Ajol & Awang Nasrizal Awang Ali***	8
3.	360 Employees – I ***Dayang Hazenah Awang Abdul Hamid, Nur Dina Athia Mohd Ramley, Nur Hidayah Jusoh, Nurul Husna Abd Jalil & Mohammad Firdaus Mohammad Hatta***	12
4.	AbMTI: Adventure Based Mental Toughness Inventory for Post Covid-19 Pandemic Era ***Mohd Shariman Shafie, Professor Dato Dr. Md Amin Md Taff, Dr. M.Adli bin Mohd Sidi, Mohamed Azizul bin Mohamed Afandi, Dr. Omar Firdaus Mohd Said & Nik Jazwiri Johannis***	18
5.	AbMTM: Post Covid-19 Adventure-Based Mental Toughness Training Model ***Mohd Shariman Shafie, Professor Dato' Dr. Md Amin Md Taff. Assoc. Professor Dr. Zuraidah Zainol & Dr. Siti Musliha Mat Rasid***	23
6.	Pembentukan Modul Undi18@School untuk Pendidikan Kenegaraan dan Demokrasi kepada Belia 18-21 Tahun ***Wan Rohila Ganti Wan Abdul Ghapar, Che Hamdan Che Mohd. Razali, Muhamad Fazil Ahmad & Abdul Rahman Abdul Latip***	28
7.	A Planning of Templer Forest Park and Templer Forest Reserve through Management Plan ***Mohammad Zharif Hakimi Mohammad Mazani, Nurul Atikah Mohd Salleh, Muhammad Hafiy Safwan Sahak, Nurul Nabila Che Ahamed, Teeny Valerian,Mohamad Fathi Radhi Ishak, Nor Hanisah Mohd Hashim & Firdaus Chek Sulaiman***	33
8.	Administrative Model for Sekolah Agama Rakyat (SAR): Excellence Practices ***Mohd Nasir Ayub, Nazmi @ Nazni Noordin, Mohd Zool Hilmie Mohamed Sawal & Surita Hartini Mat Hassan***	38
9.	ADR-Now Application: Bridging Theoretical and Practical Approach in Alternative Dispute Resolution Process and Procedures ***Dr. Shahrizal Mohd Zin, Abdul Mu'iz Abdul Razak, Prof. Madya Dr. Nur Ezan Rahmat & Nik Hasbi Fathi***	43

10. Agricultural Career Training Program for Drop Out Students through Work Based Learning 47
Marinah Muhammad, Noor Janatun Naim Jemali, Nik Raihan Nik Yusoff & Rozidaini Mohd Ghazi

11. An Eco-Friendly Concrete Blends from Palm Oil Boiler Ash 52
Nurrul Amilin Zainal Abidin, Zeno Michael, Mohamed Khatif Tawaf Bin Mohamed Yusof, Azmi Roslan, Siti Shahidah Binti Sharipudin, Shahrul Nizam Bin Mohammad & Ilya Izyan Binti Shahrul Azhar

12. An Investigation of Clothing for Elderly: Emphasizing Safety, Protection and Functional Attributes 57
Shahrizad Fitri Mustapha, Shuhaila Nahrawi , Rizal Azni Dahaman & Norzaleha Zainun

13. Ardu-Electrochromic Film for Home Safety And Privacy Purpose 65
Anas Akasyah Abd Patas, Nur Athirah Mohd Taib & Syahida Suhaimi

14. Let's Talk about the Movies: The Movie Journal 71
Associate Profesor Dr Norwati Binti Hj Roslim, Associate Profesor Dr Hj, Muhammad Hakimi Tew Abdullah, Ku Nurul Atiqah Ku Ahamad, Nur Faathinah Mohammad Roshdan, Suhaila binti Sharil & Siti 'Aishatul-Humairah Muhammad Fisol

15. Asymmetric Impact of The Oil Price Changes on Stocks Market for Selected Asean Countries 78
Shahiszan binti Ismail, Prof. Madya Dr. Noor Zahirah Mohd Sidek, Fauziah Mohamad Yunus, Jamilah Laidin & Nor Azira Ismail

16. Automated System for Concrete Damage Classification Identification Using Various Classification Techniques in Machine Learning 81
Nur Haziqah binti Mat, Athifa Aisha binti Ahmad Zahida, Siti Nurhaliza binti Abdul Malik, Nur Athirah Syuhada binti Azmadi & Syahrul Fithry bin Senin

17. Automatic Price Scanning System 88
Fahmi Nazreen Zakuan, Anis Diyana Rosli & Nurlida Ismail

18. Al Hijaei V1 94
Yuslina Mohamed, Mesbahul Hoque, Sulaiman Ismail Nurhasma & Muhamad Saad

19. Infographic of Benevolence Practices: Public Sector's Myth or Reality 100
Dr Nor Zaini Zainal Abidin, Azni Syafena Andin Salamat, Syahrini. Shawalludin, Azlan Abdul Rahman & Dr Siti Norfazlina Yusoff

20. BIO-CHEM KIT: Understanding Biogeochemical Cycles 104
Nurul Hidayana Mohd Noor, Shawal Sahid Hamid@Hussain, Mahazril 'Aini Yaacob & Mohd Hafiz Hazwan Hashim

21. Biodegradable and Recycle Husk Mailer from *Cocos nucifera* 110
Anas Firdaus bin Zakaria, Nur Atirah binti Hamzah, Siti Farahin binti Abdull Patah, Wan Zuraida Wan Mohd Zain & Nur' Amira binti Hamid

22. Bunny's Pellet: Natural Mulberry Pellet 114
Nor Dini Rusli, Khairiyah Mat, Hasnita Che Harun, Mohd Mahmud & Syed Muhammad Al-Amsyar Syed Abd. Kadir

23. Cails Paper Wash 120
Aisyah Nur Izzah binti Azhar, Intan Nafissa binti Mohd Jaffri, Loris Anak Noh, Caroline Anak Kiroh & Silverina Anabelle Kibat

24. Capcut 124
Dr Sharifah Shafinaz Sh Abdullah, Nur Afini Azwa binti Roslan, Nur Alya Nabila binti Ashariman, Nur Mazmira binti Mohamad Zuki &Nur Nabila binti Omar

25. Regenerated Kenaf Core Cellulose Hydrogels and Films Prepared via Pre-Cooled Method 128
Adam Khairul Faiz, Muhammad Khairil Hakim Ismail, Hatika Kaco & Mohd Shaiful Sajab

26. Encapsulation of Winged Termites in Cellulose Nanofibre for the Fabrication of Cellulose Bioplastic 134
Syahidatul Nadhilah Shah Lail, Noorul Jannah Aizul Hussin, Hatika Kaco & Mohd Shaiful Sajab

27. Chinese Character Card Game: Learners' Attitudes and Motivation 140
Ting Hie-Ling

28. Coffee Capsule Vending Machine 146
Mohd Sufian Ramli, Siti Sufiah Abd Wahid, Muhammad Hasif Razak & Muhammad Hakimi Md Said

29. Corn-Based Bioplastic as Seedling Bag 151
Nur Nadia Nasir & Siti Amira Othman

30. Coupiers: Course Pre-Registration System 156
Zeti Darleena Eri, Mohd Hanapi Abdul Latif, Mohd Atif Ramlan, Ruhana Jaafar, Sharifah Nurulhikmah Syed Yasin, Hasiah Mohamed & Sarah Yusoff

31. Divorce Protection Takaful 162
Siti Thaqifah Ruzaidy, Siti Adibah Embong, Mohammad Firdaus Mohammad Hatta & Arlinah Abd. Rashid

32. Entrepreneurial Website Project "Www.Businessletter4you.Com" 168
Akmal Syaifudin bin Kaharudin, Siti Zuraina binti Gafar @ Abd Ghaffar & Juritah Misman

33. Early Flash Flood Detection and Avoidance System 174
Muhammad Aidil Aisar Mohd Yatim, Muhammad Khalis Zuhri Izahar, Rohaiza Baharudin & Mohd Hussaini Abbas

34. Ebook: Easy Research For All 180
Sylvia Nabila Azwa Ambad

35. e-Info_JK Formation Committee System for the School of Civil Engineering (Pka) Universiti Teknologi MARA 183
Azlinda Saadon, Musmuliadi Kamaruding, Syahrun Neizam Mohd Dzulkifli, Mazidah Mukri, Noraida Mohd Saim, Dzulaikha Khairuddin & Siti Hamidah Abdull Rahman

36. E-Module *ABRA-Maths* - Early Mathematics Learning viaMini Tennis 189
Rahela Abdul Rahim, Haslinda Ibrahim, Fauziah Baharom, Mohd. Rahizam Abdul Rahim & Syahrul Ridhwan Morazuki

37. Enhanced Microwave Heat Susceptor Crucible 194
Assoc. Prof. Dr. Muhammad Azwadi Sulaiman, Fathin Asila Mohd Pabli, Syifa' Muhamad Sharifuddin, Assoc. Prof. Dr. Julie Juliewatty Mohamed & Dr. Norfadhilah Ibrahim

38. Enhancement of Latent Fingerprint Using Dyed Eggshell Powder 198
Kavitha Rajagopal

39. Product Development - E-Personal Possessions Takaful (e-PPT) 200
Siti Hasnulbariah binti Ahmad Rusmili, Nor Ashikin binti Dal Nia, Dania Carmila binti Said, Mohammad Firdaus bin Mohammad Hatta & Norzanah binti Mat Nor

40. E-Pocket Note: An Interactive Video Learning for Effective Online Teaching and Learning Process 205
Norhayati Zamri, Nor Bahiyah Omar, Norul Akma Mansor, Liyana Ab Rahman & Farah Husna Mohd Fatzel

41. The Clauses SMM2 at Construction Site Board Game For (WBLFF) 210
Roseline anak Ikau, Zafikha Aida Bidin, Syamimi Liyana Amat Rais, Amira Shazlin Adnan & Mohd Khairul Fitri othman

42. e-Voting: Votehere4u 2.0 215
Adib Sarkawi, Aiza Johari, Azlina Bujang & Zainon Haji Bibi

43. IO2TX 220
Dr Sharifah Shafinaz Sh Abdullah, Nur Afini Azwa binti Roslan , Nur Alya Nabila binti Ashariman, Nur Mazmira binti Mohamad Zuki & Nur Nabila binti Omar

44. Waste Segregation through Recycle and Composting Activities among the Community in Urban and Suburban Areas 225
Ts. Dr. Norhafezah binti Kasmuri & SitiNurhafizah binti Abdull Razak

45. Ez-Crutches 2.0: An Innovation of Assistive Device for Disabled Person 231
Suzana binti Yusof, Sharifah Shafinaz binti Sharif Abdullah, Fatimah binti Sham & Norhafizatul Akma binti Shohor

46. Facile-Fabricated Foamed Geopolymer Sphere for Heavy Metal Removal from Wastewater 236
Tan Tee How, Mo Kim Hung, Lai Sai Hin & Ling Tung-Chai

47. Finance and Me (*FinME*) – A Digital Learning Tool 242
Carolin Ann Enchas, Shafinaz Lyana Abu Talib, Fatin Adilah Razali & Norizuandi Ibrahim

48. Fun with Mathematic and Origami: Water Lily Origami 246
Masnira Ramli, Wan Nurul Husna Wan Nordin, Amirah Sa'at & Nurul Fazila Lakasa

49. Fund for Food: A Campus Food Pantry Toolkit to Help Fight Hunger on Campus 252
Nurul Hafizah Mohd Yasin, Nurhaiza Nordin, Nurnaddia Nordin, Nik Noorhazila Nik Mud & Siti Zamanira Mat Zaib

50. Edible Cookie Cup: Cuppa Cookie 257
Raja Nur Hanisah Binti Raja Zainal Alam Shah, Nur Liyana A'tifah Binti Ahmad Jamalulail, Nur Farah Aqilah Binti Mohd Akram, Amera Nazirah Binti Mohd Yusoff & Noorshaadah Binti Omar

51. GTNLARM21 262
Ts. Dr. Sharifah Shafinaz binti Sh Abdullah, Assoc. Prof. Ts. Dr. Zulkifli bin Mohamed , Aisyah Fitriah binti Asmala , Nur Fatihah binti Hanif & Nur Hanisah binti Mahadi

52. Gulali Pandan 267
Amelia binti Zaidan, Ainul Hayati binti Abdull Aziz, Nurul Syamilah binti Ismail, Noristisarah Abd Shattar & Siti Noraisah Dolah

53. Hill Paddy Plough 272
Jasrio Liugan, Sainah binti Melulin, Zurhizainih binti Halledy & 'Umairah Abd Khalid

54. Historic Interior Scheme (HIS) Conservation Framework for Heritage Museum Building in Malaysia 275
Norashikin Abdul Karim, Siti Norlizaiha Harun, Salwa Ayob & Zulkarnain Hazim

55. I-Poket Perumahan: Panduan kepada Newbie 283
Mahazril 'Aini Yaacob, Nurul Hidayana Mohd Noor, Hafizah Hammad Ahmad Khan, Zuraini Yaacob & Farah Amirah Fuad

56. Development of HVAC Virtual Laboratory (HV-Lab Version 1.0) 287
Mohd Faez bin Zainol, Ts. Shikh Ismail Fairus bin Shikh Zakaria & Dr. Muhammad Zulkarnain

57. i-Care2u: Easy-To-Use Application Software to Enhance Knowledge and Awareness of Malaysians towards the Rights of Persons with Disabilities 293
Muhammad Fikri Othman, Nur Ezan Rahmat, Norazlina Abdul Aziz, Nora Abdul Hak & Diyana Kamarudin

58. Immersive Learner's Usability and Experience through VMMBG during Covid-19 Pandemic: An Evidence of a Higher Educational Institution 297
Shahreena Daud, Idris Osman, Zarinah Abu Yazid, Norraeffa Md Taib & Amirudin Mohd Nor

59. VCDT: The Virtual Classroom Debate Tutorial Approach 304
Azlyn Ahmad Zawawi, Junaida Ismail, Irwana Nooridayu Mohd Hakimi Noorayuni Rusli & Intan Syahriza Azizan

60. Indikator Teknik Pengajaran Bahasa Arab di UiTM Menerusi Teknologi 307
Nurul Asma Mazlan, Suhaila Zailani @ Ahmad, Zamri Arifin, Mohd Faizulamri Mohd Saad & Nur Aqilah Norwahi

61. Inquiry-Based Reciprocal Teaching Module 311
Ting Pick Dew, Suyansah Swanto & Vincent Pang

62. Instant Beef Stew 316
Nursyadah binti Nordin, Norhidayah bt Abdullah & Muna Shakirah bt Mohamad

63. Integrated Solar-IoT Monitoring and Predictive Maintenance Systems for Irrigation (S-IoTP) 320
Hasyiya Karimah Adli, Ku Azmie Ku Husin, Khairul Nizar Syazwan Wan Salihin Wong & Muhammad Akmal Remli

64. IOT Based Monitoring System for Oyster Mushroom Farming Pondok Seri Permai Pasir Putih Kelantan 325
Muhd Azhar Bin Zainol, Sh Mohd Firdaus Bin Sh Abdul Nasir, Nor Suhada Binti Abdullah, Koay Mei Hyie, Siti Nur Amalina Binti Mohd Halidi, Hazimi Bin Ismail & Lesairuamin Bin Leiahs

65. IoT Based Water Leakage Monitoring System 334
Muhammad Azfar Shazmi Mohd Adnan & Zulkifli Mohamed

66. i-Tabung 340
Dayang Aniisah Mardhiyyah binti Abg Borhanuddin, Mohamad Nornashriq Irfan bin Nordin, Muhammad Akram bin Nazri, Muhammad Azwar Naim

bin Amilan, Muhammad Fadhillah bin Mohd Zam Zam, Mohd Fazly bin Mohd Razali & Ima Ilyani binti Dato' Hj. Ibrahim

67. Kaedah Pengajaran CHM510: Dari Sudut Pandang Pelajar 343
Sheikh Ahmad Izaddin Sheikh Mohd Ghazali, Nur Nadia Dzulkifli, Nor Monica Ahmad, Jamil bin Mohamed Sapari, Ahmad Husaini Mohamed & Nurul Nadthira binti Che Awang

68. Ke Arah Kelestarian Kebun Komuniti dalam Usaha Menyantuni Golongan B40 348
Intan Syafinaz Mat Shafie, Yuslina Liza Mohd. Yusof , Nor Irvoni Mohd Ishar, Maryam Jameelah Mohd Hashim, Mohd Fairus Kholid, Muhammad Yasin Ramadhan Zahari & Sharidatul Akma Abu Seman

69. Uniquecare Takaful 353
Muhammad Sa'di Bin Mohd Saman, Nur Aimi Binti Abdul Azis, Mohammad Firdaus Bin Mohammad Hatta & Azlina Binti Hanif

70. #Kıtajagakıta: The Manıfestatıon of Modern Jewellery Desıgn 359
Mohd Faiz Jalaludin, Mohd Hakim Mohd Sharif, Adib Mohd Hasan & Muhammad Shafiq Muda

71. Kombu-Feed: A Nutritive & Prophylactic Alternative for Fish Production 363
Ruhil Hayati Hamdan, Tan Li Peng, Nora Faten Afifah Mohamed, Ain Auzureen Mat Zin & Ahmad Syazwan Samsuddin

72. Kriging Interpolated Rainfall Data in ArcGIS for a Sustainable Flood Modelling Prediction 368
Fahda Nurhani Ahmad Razan, Nur Fatin Nasuha Mhd Khatif & Ir. Nur Azwa Muhamad Bashar

73. Kuasai Rintas: Penulisan Ringkasan Bahasa Melayu Yang Lengkap 373
Gladys Sebi binti Entigar, Noor Haty binti Noor Azam, Milfadzhilah binti Mohd Jamil, Roziana binti Ahmed & Nur Elimtiaz bin Abidin

74. Landscape Architecture Design Studio-Based Using Process-Evaluation Model in Open Distance Learning 378
Masbiha Mat Isa, Alamah Misni & Faridatul Akma Ab Latif

75. LiBCO 382
Noryana binti Ahmad Khusaini, Nur Hasni binti Nasrudin, Mohd Shamsul bin Daud, Noraini binti Abd Rahman, Rosida binti Ahmad Junid & Siti Fairuz binti Ibrahim

76. Limit of Acceptable Change and Recreation Opportunity Spectrum as a Tool in Developing a Management Plan. A Study in Templer Forest Eco Park & Templer Forest Reserve 388

Syahidah Hanani Hamdan, Nur Sabrina Sabri, Muhammad Hazim Zakaria, Khairul Asri, Syanizatul Izreen Kamal, Nor Asma Safuraa Roslan, Ely Rouzee Jamaluddin & Nawfal Kamarul Bahrain

77. Tweet It! Esl Writing Activity Module Using Twitter 393
Nurshahirah Azman & Zaemah Abd Kadir

78. Malaysian Secondary Boarding School Menu Planning System 399
Suliadi F. Sufahani & Anuar M. Yusof

79. Malaysian Studies Pocket Read 405
Ani Juaini Bahrin, Farhana Yaakub, Firdausi Sufian (Dr), Nurfaizah Abbdullah & Saiful Zizi Jalil

80. Mathematical Thinking Enhancement Program (MaTh-EP) 410
Nurul Akmal Md Nasir, Parmjit Singh & Geethanjali Narayanan

81. Medicine Reminder With Low Battery Alert *"MEDMINDER"* 418
Syahirah Asyiqin Binti Alias, Luqman Hakim Bin Fazilah Shuhaimi, Khairin Farhana Binti Kharul Anuar,Muhammad Firdaus Bin Mangsor & Suhana Sulaıman

82. Meow-Meow Food Dispenser Using Internet of Things (IOT) Programme 424
Nor Diyana Md Sin, Saifaris Azizi Saiful Azam, Muhamad Danial Osman, Mohamad Zhafran Hussin, Norbaiti Sidik, Khairul Kamarudin Hasan

83. Mesin Penapis Turpentin 429
Turpentine Filter Machine (TFM)
Hairulnisak binti Merman, Muhammad Salehuddin bin Zakaria, Aiman Yusri bin Mohamad Yusoff, Aimi Atikah binti Roslan & Azian binti Tahir

84. Mind Your Right Booklet: Awareness on Cyber Defamation Law & Media 434
Suria Fadhillah Md Pauzi, Musramaini Mustapha, Azniza Ahmad Zaini, Suhanom Mohd Zaki & Mohd Aidil Riduan Awang Kader

85. Modelling the Effectiveness of Using Online Food Delivery Services Apps Among Customers in Klang Valley During Covid-19 Pandemic 440
Prof Madya. Dr Rozita Naina Mohamed, Mohd Saifullah Bin Rusli & Prof.Madya. Dr.Halimahton Borhan

86. The Innovation Process Modelling for Ethanol Gas Sensing Using Artificial Neural Network 447
Muhammad Afiq Wazini bin Jemani, Vicinisvarri Inderan, Syahrul Fithry bin Senin, Norain Binti Isa & Lee Hooi Ling

87. The Effectiveness of i-Lab v2 as a Teaching Tool for Online Distance Learning 453
Nur Zaidani Wati binti Mohd Darwis, Noor Raifana binti Ab Rahim, Narita binti Noh & Juwita binti Asfar

88. My Ecredit Banking Apps (MECBA) V3 459
Wan Razazila Wan Abdullah (Dr), Enny Nurdin Sutan Maruhun (Dr), Norzarina Nordin, Sunarti Halid & Ahmad Saiful Azlin Puteh Salin (Prof. Madya Dr)

89. The Dynamics of MILO (Multimedia Interactive Learning Online) in Role Playing: Enhancing the Learning Process in Covid-19 Pandemic 464
Woo Pak Yuan, Nina Farisha binti Isa & Ezwani Azmi

90. The Continuance of External Review InformationSystem Adoption In Malaysia 470
Mohd Norafizal Abd Aziz, Razulaimi Razali, Nik Rosli Abdullah & Shahrul Azam Abdullah

91. Understanding Islamic Finance Concepts through Innovative Game: Name The Riba Transaction! 479
Azilawati Banchit, Puteri Faida Alya Zainuddin & Lai Tze Wee

92. Natmag Cleaner (Natural Magnificent Cleaner) 484
Hani Hasriena binti Hasrin, Muhammad Firdaus bin Ahmad Nizam, Nur Amalin Batrisya binti Ujud, Deeny Robeatul Adawiyah binti Khairul Anuar & Norzalina binti Jenal

93. New Fundamental Theory in Solving the Royalty Payment Problem 489
Wan Noor Afifah binti Wan Ahmad & Suliadi Firdaus bin Sufahani

94. Notebookly (A Pageless Notebook) 492
Aimi Natasha binti Rujha, Amani binti Mohamad Soree Awankasim, Muhammad Faiz bin Abdul Hamid & Nur Dania Syahirah binti Mohd Asri

95. Nutritious Digital Menu System for Malaysian Religious Primary School Children: Improving Good Memories 495
Azila M. Sudin, Suliadi F. Sufahani & Mohd A.A. Abdullah

96. Online Games for Learning Lewis Structure 501
Wan Elina Faradilla Wan Khalid, Tuan Sarifah Aini Syed Ahmad, Nor Akmalazura Jani, Rohaiza Saat & Nurazira Mohd Nor

97. Optimal Charging Schedule of Electric Vehicles Using Evolutionary Programming to Minimise Costs 506
Hasmaini Mohamad, Norhasniza Md Razali, Ahmad Farid Abidin, Nur Ashida Salim & Zuhaila Mat Yasin

98. The Smart Attendance of Microsoft Team (SAMT 2021) in an Online Learning Classroom 511
Wan Normila Mohamad & Zahari bin Md Rodzi

99. Penelitian Terhadap Kepelbagaian Fungsi Bandar Kecil Terhadap Penduduk Setempat di Gemas, Negeri Sembilan 521
Natasya Farhana Nazry, Jabil Mapjabil & Farzanna Yashera Abdulla

100. Penentuan Kaedah Mengukur Kesanggupan Untuk Membayar (WTP) Dalam Pelancongan 525
Nabila Farysha Dering & Jabil Mapjabil

101. Penentuan Kecenderungan Tingkah Laku Pelancong yang Berkunjung ke Kota Kinabalu – Psikosentrik dan Alosentrik 531
Farzanna Yashera Abdulla , Jabil Mapjabil & Natasya Farhana Nazry

102. Penentuan Kuasa Beli Pengunjung terhadap Perkhidmatan Pelancongan Terpilih di Bandaraya Kota Kinabalu, Sabah 535
Nurul Izzah Ismail & Jabil Mapjabil

103. The Artificial Neuron Network for Photocatalytic Degradation of Acid Orange 7 Using Cerium Oxide (CeO_2) 539
Wan Nur'ain Awanis binti Wan Sa'ari, Vicinisvarri Inderan, Syahrul Fithry bin Senin & Nur Fadzeelah Abu Kassim

104. Perception of Digital Reading Material for Academic Purposes among UMK Undergraduates 544
Noor Syamimie Mohd Nawi, Lena Ramamurthy, Syakirah Shafien, Suhaida Omar & Nik Ahmad Farhan bin Nik Azim

105. Perception of Language Awareness through Framegram: A Classroom Example 548
Nik Ahmad Farhan bin Azim @ Nik Azim, Lena A/P Ramamurthy, Syakirah binti Shafien, Noor Syamimie binti Mohd Nawi & Shahidatul Maslina binti Mat So'od

106. Perkasa @ Aps : Solusi kepada Kerapuhan Keluargayang Mempunyai Anak Cerebral Palsy 552
Wan Rohila Ganti binti Wan Abdul Ghapar, Muhamad Fazil Ahmad, Norhashimah Yahya & Rahaya Mat Jamin

107. Poket Peka Undang-Undang Dilettante V2:Pemberhentian Kerja 556
Suria Fadhillah Md Pauzi, Muhammad Asyraf Azni, Suriyati Ujang, Azniza Ahmad Zaini & Ida Rosnita Ismail

108. Power Generation Using Thermoelectric Power Generator with Parabolic Solar Concentrator 562
Aneurin Nanggar anak Nyandang, Ir. Dr. Ts. Baljit Singh A/L Bhathal Singh & Dr. Muhammad Fairuz bin Remeli

109. Prediction of Nanostructure of SnO_2 Properties Using Artificial Neural Networks 565
Khadijah binti Mohd Suhami, Vicinisvarri Inderan, Syahrul Fithry bin Senin & Lee Hooi Ling

110. Product Development - e-Ta'awun PA Takaful+ 570
Mohd Faizan bin Mohd Afandi, Norazrisham bin Shamsuddin ,Muhamad Izmul Nizam bin Zubairi , Mohammad Firdaus bin Mohammad Hatta & Mohamad Nizam bin Jaafar

111. Promoting Malayan Emergency State by Using Gaming Platform as An Illustrative Medium 577
Mohammad Nor bin Anwar Hussin

112. ProTecME 583
Rosuzeita Fauzi, Syazwan Firdaus Abu Bakar, Roslinda Isa, Siti Nor Ismalina Isa, Diana Tasha Mohd Nazeri

113. Protein as the Building Blocks of Life 587
Rania Farzana binti Azmi, Azleen Nurkarmilya binti Azami , Nur Shafinaz binti Mohamad Salin & Wan Mazlina Md Saad, PhD

114. Pull Up Crisp Container 589
Mohamad Firdaus bin Shaari , Kamarul Asyraf bin Shamsudin & Nurul Fatihah binti Mohamad Azmi

115. RE Protect-i 592
Mohd Azeem bin Ahmad Zaini,Farid Akmal bin Fadzli ,Mohd Saiful Izzat bin Mat Zahari,Wahida binti Ahmad & Mohammad Firdaus Mohammad Hatta

116. ReProDB Web Application (Research Project Database) 598
Jennifah Nordin, Afida Arapa , Ibianaflorinciliana Niane Anthony Aning & Intan Syahriza Azizan

117. Rizbrunana: Advances in High-Fibre Biscuit UsingBrown Rice and Banana Peel 609
Nurul Hafizah Mohd Yasin, Derweanna Bah Simpong, Nur Farihin binti Abd Hadi Khan & Mazne Ibrahim

118. Ready-To-Bake (RTB) Cookie Dough 615
Muna Shakirah Bt Mohamad, Norhidayah Bt Abdullah & Nursyadah Bt Nordin

119. RTGreennmFUND: Sejauhmanakah Keberkesanannya dalam Pengurusan Dana Ruang Terbuka Hijau Bandar 618
Nabilaa Mohamed, Thenmolli Vadeveloo, Zarina Mohd Zain & Roni Ekha Putera

120. TCD (Table Connector Design) 622
Ramlan Mustapha, Maziah Mahmud, Surita Hartini Mat Hassan, Siti Norma Aisyah Malkan & Nurul Hidayah Che Hassan

121. Self-Practice Ringkasan (SPRing): An Innovative Mobile Apps for Self-Practice 629
Asmahani Mahdi, Zubaidah Bohari, Abdul Hadi Abdul Talip, Nurul Lizzan Kamarudin & Zainon Haji Bibi

122. Revitalising Heritage Shophouses of Kota Bharu Kelantan 633
Yasmin Mohd Faudzi, Najah Md Alwi, Nor Hafizah Anuar, Juliza Mohamad & Nik Nurul Hana Hanafi

123. Smart 3-Wheel Bike "Empower Disabled Entrepreneurs With Technology" 638
Nurnaddia Nordin, Nurhaiza Nordin & Nur Ilyana Amiira Nordin

124. Takaful Sinar Ihsan Plus 642
Nur Adibah binti Ab Aziry, Erlyn Marlina binti A.Rahman, Nurul Izzaty binti Mohamad Ridzuan & Mohammad Firdaus Mohammad Hatta

125. Smart Keychain 648
Mohd Hifadzly bin Husrin, Adeylson Ray Douni, Muhammad Azlan bin Moh Sali & Edrin Rosley

126. Secured Multi Door Access System as A Web Application 652
Nor Shamshillah Kamarzaman, Norhayati Abdul Jamil, Noraliza Azizan, Jaaz Suhaiza Jaafar & Muhamad Syafiq Ahmad Nazri

127. Standard of Care Framework for Occupier During Pandemic Covid-19 (SOCO): A Facilitation for Understanding Law Relating to Tourism Industry 657
Mohamad Sahizam Musa, Suria Fadhillah Md Pauzi, Shamsinar Abdul Rahman, Mohd Azim Zainal & Ida Rosnita Ismail

128. Development Of Sound System Level Tools "SoQMeT" 664
Muhammad Danial bin Abu Hanafiah, Muhammad Aleef bin Mohamad Yaziz, Muhammad Aiqal bin Mohd Sazali, Adhilla binti Ainun Musir, Nurulzatushima binti Abdul Karim & Daliah binti Hasan

129. Stackable Pinewood Pallet Storage Keeper (SPPiKe) 670
Nurrohana Ahmad, Hazlin Hasan, Sharifah Norhuda Syed Wahid, Mohd Aidil Riduan Awang Kader & Mastura Mohamad

130. Sustainable Hybrid G-W Filter 676
Nur Fatin Nasuha Mhd Khatif, Fahda Nurhani Ahmad Razan, Ir. Nur Azwa Muhamad Bashar & Nurakmal Hamzah

131. Takaphone Takaful 681
Muhammad Waizzulhakim bin Othamannor, Mohd Mazwan bin Mohd Jamil, Mohammad Firdaus bin Mohammad Hatta & Sharifah Faigah binti Syed Alwi

132. Stay@Rural Application 686
Muhammad Faezzul Farhan bin Yazid, Muhammad Hakim Zulqarnain bin Ajis, Mohamad Sazlyzam bin Ledei Dawin@Salim Dawin, Mohd Ashnawi bin Ab Gani & Dr. Spencer Hedley Mogindol

133. Sajadah Pillow 689
Nor Asyiqin Nadhirah binti Roslee Afendi, Sharifah Hafiza binti Abu Bakar, Nur Khaleqa Izzah binti Ikmal Hisam & Siti Hajar binti Md Shahar

134. Pepper Casenitizer 693
Nurfatihah Syahirah binti Zaidi Rahimy, Syahira Nisha Nabila binti Mohamad Shahril, Muhammad Afiq Syahmi bin Rosli, Nur Wani Syamimi binti Yaman & Alvin Gatu

135. My_Watch - Changing the Way We Use Watches 699
Nur Athilla binti Alimin, Nur Hadirah Faqihah binti Zainudin, Siti Nadiah Afiqah binti Suhairi, Joseph Joshua Rumpungan Jr & Adrianna binti Aziz

136. Myeco Application 704
Izz Fitri bin Hairul Sham, Nur Syahirah binti Dzulkarnain , Rosseryn Soubin Lonsiong & Siti Zuraini binti Ramley Alan

137. Multipurpose Pushcart 709
Farah Adlyna Yeoh , Noor Zizy Ameleena binti Jailani , Nur Amiratul Atiqah binti Nur Azli Yaacob & Sairah Saien

138. Multipurpose Handle Stabilizer – To Help You Handle Your Life 714
Nur Athilla binti Alimin, Nur Hadirah Faqihah binti Zainudin, Siti Nadiah Afiqah binti Suhairi, Joseph Joshua Rumpungan Jr & Adrianna Aziz

139. The Travel Amenity Pod 719
Wan Nuramalin binti Wan Hussin, Nur Alissya binti Nazri,Muhammad Takbir bin Arifuddin & Ahmad Fareez bin Yahya

140. Toothbrush 2-In-1 724
Alice Evana Anak Robert, Latijah Obaun, Staffy Stephen & Christy Bidder

141. Torch Bottle 727
Muhammad Shazwan Puzi, Farzana Suaidah binti Suzaini, Nurul Aina Balqis binti Mohd Khairul Anuar & Nur Murniza binti Mohd Zaidi

142. Tourism Application - Touch 731
Siti Hafizah binti Dzulkarnain, Amira Naqiyyah binti Mustaffa Ma'arof , Nursyahidah binti Hamzah, Nur Hidayah binti Mohammad Hazlan & Boyd Sun Fatt

143. Locallah 736
Muhammad Faliq Aizat M.Amran, Nazmeen Fatima binti Istekhar Ahmad, Nur Izzati Nabilah binti Alias, Adriana binti Mohamad Faizal & Mohd Arsy Ardy bin Mohd Hardy

144. Ez-Train Mobile App 741
Siti Aishah binti Sha'ari, Alirah Itor, Muhammad Faizzudin bin Mohd Shukor, Nur Hazeera binti Madehie & Nurafiqah binti Mohamad Musa

145. Eventgo 747
Cassandra Grace anak Hamarah, Nazira Farahin binti Nazarudin, Venessa Kumang Amen anak Victor Luna & Cindy Johnny

146. Duo-Bottle 752
Maybelyna Deborah Dick, Nurashikin Binti Hamzah, Jacqueline Henry & Nurafiqah Binti Mohamad Musa

147. 4 In 1 Safety Kit 755
Nur Maisarah Afiqah binti Mazlan, Aina Afriena binti Afandi, Aida Najihah binti A.Lukman, Muhammad Irfan bin Mazlan & Nur Murniza binti Mohd Zaidi

148. Augmented Reality Design: The Study of Property Development Marketing Tools 761
Norzaful Anuwar bin Ahmad Najamuddin

149. SMART Hygiene Kit 765
Dg Kamisah Ag Budin, Jasmine Vivienne Andrew, Faiqah Mawardi, Mohammad Firdaus bin Mohamad & Dayang Haryani Diana Ag Damit

BIODEGRADABLE AND RECYCLE HUSK MAILER FROM *Cocos nucifera*

Anas Firdaus bin Zakaria
Faculty of Plantation and Agrotechnology, Universiti Teknologi MARA, Jasin Campus, 77300 Merlimau, Melaka, Malaysia.
anasfirdauszakaria@gmail.com

Nur Atirah binti Hamzah
Faculty of Plantation and Agrotechnology, Universiti Teknologi MARA, Jasin Campus, 77300 Merlimau, Melaka, Malaysia.
nuratirahamzah@gmail.com

Siti Farahin binti Abdull Patah
Faculty of Plantation and Agrotechnology, Universiti Teknologi MARA, Jasin Campus, 77300 Merlimau, Melaka, Malaysia.
Farahfarahin248@gmail.com

Wan Zuraida Wan Mohd Zain
Faculty of Plantation and Agrotechnology, Universiti Teknologi MARA, Jasin Campus, 77300 Merlimau, Melaka, Malaysia.
wanzuraida@uitm.edu.my

Nur' Amira binti Hamid
Faculty of Plantation and Agrotechnology, Universiti Teknologi MARA, Jasin Campus, 77300 Merlimau, Melaka, Malaysia.
nuramira87@uitm.edu.my

ABSTRACT

Coconut, the fruit of the coconut palm (*Cocos nucifera*) is a tree of the palm family of *Arecaceae*. Coconuts probably originated somewhere in Indo-Malaya and are one of the most important crops of the tropics (Ahuja et al., 2014). Besides the edible kernels and the drink obtained from green nuts, the harvested coconut also yields the dried extracted kernel, or meat, from which coconut oil, major vegetable oil is expressed. The dry husk yields coir or husk, a fibre highly resistant to saltwater and used in the manufacture of ropes, mats, baskets, brushes, and brooms. Through this coconut, our group is going to produce sustainable and environmental-friendly types of mailers which are made of coconut husk or coir named "Husk Mailer". Husk Mailer is a very simple product to be produced. Mailer has been using since decades ago and there are few or zero sustainable mailers that have been produced. Mailers have two types which are padded and bubble wrap, the padded mailers can easily be recycled while for the bubble wrap mailers cannot be recycled as it is made of plastic. Our group creates the paper of the mailer from the recycled paper and mix them with the coconut husk. We choose them because we want to avoid wasting any of the waste from the coconut, that is when the idea of coconut husk mailer is generated. Through this biodegradable and recycle Husk Mailer, we are highly wanting to reduce plastic uses to sustain and keep our environment great again.

Keywords: *Cocos nucifera*, post harvest waste, husk mailer, biodegrable

USES OF HUSK MAILER

The eco-friendly husk mailers use in shipping products or items that promote safety and protection in sustaining and saving the world. Different sizes of husk mailers give the consumer preference in choosing the size to deliver their items safely.

NOVELTY OF HUSK MAILER

Husk mailer is designed to reduce the use of plastic by replacing it with the post-harvest product from the coconut crop. Coconut husk is used in this new post-harvest product to create the husk mailer with the recycled paper that the other ingredient to produce this new product. The idea of utilizing the coconut husk to supplant the bubble wrap in the mailers that functioning to protect the items or product in the mailers. There will be more plastic consumption for the wrapping and cover in delivering the products nowadays especially for online stores or e-commerce in shipping. The consumption of plastic in our daily life should be lessened to save our world in the future and to make the environment clean. To deliver the products or goods, people need mailers that are safe to use can protect the item in delivering the product. Husk mailer comprehends the enthralling of the consumer in the poly mailer used for shipping alternative. Coconut husk is originated as an element in the husk mailer because it is lightweight to reduce the severe impact in protecting the products or items. The other factor in designing the mailers is the lightweight packaging to reduce the shipping cost particularly in the shipping bulk for the consumer. Cost-effective is another principal in producing the mailers so that the consumers have more desire to choose biodegradable products than plastic items in shipping. Even though the mailers created in a lightweight but it still can protect and reduce pressure for the items in it because coco husk act as layer absorbs the impact. Generating the idea of producing a product from the post-harvest is beneficial because we can reuse the product from being wasted. High quality of husk mailers characteristic that comes from different size to fulfill the customers need in the shipping ocess. Combination of the coconut husk with the recycled paper to create the husk mailer as an eco-friendly product that helps in conserving the resource and come out the green living.

TARGETED CUSTOMER

The main targeted customer for the husk mailer product is the business owner that runs an online store business to deliver their product to the customer that needs good packaging that can secure their item. Nowadays, business online trends keep rising so the consumption 7 of plastic for packaging also increasing. To prevent this continue happen the eco-friendly husk mailer should initiate the people to reduce the use of plastic. The customer can purchase the mailers in a small quantity or in a bulk in the online store or physical store based on their need at that time. Next, the targeted customer also for all the people that want to use mailers for shipping purposes, and they can get them in the store. The eco-friendly husk mailers that identical in the uses to other mailers can attract new customers to purchase the product and save for the environment.

PROCEDURES FOR MAKING THE HUSK MAILER

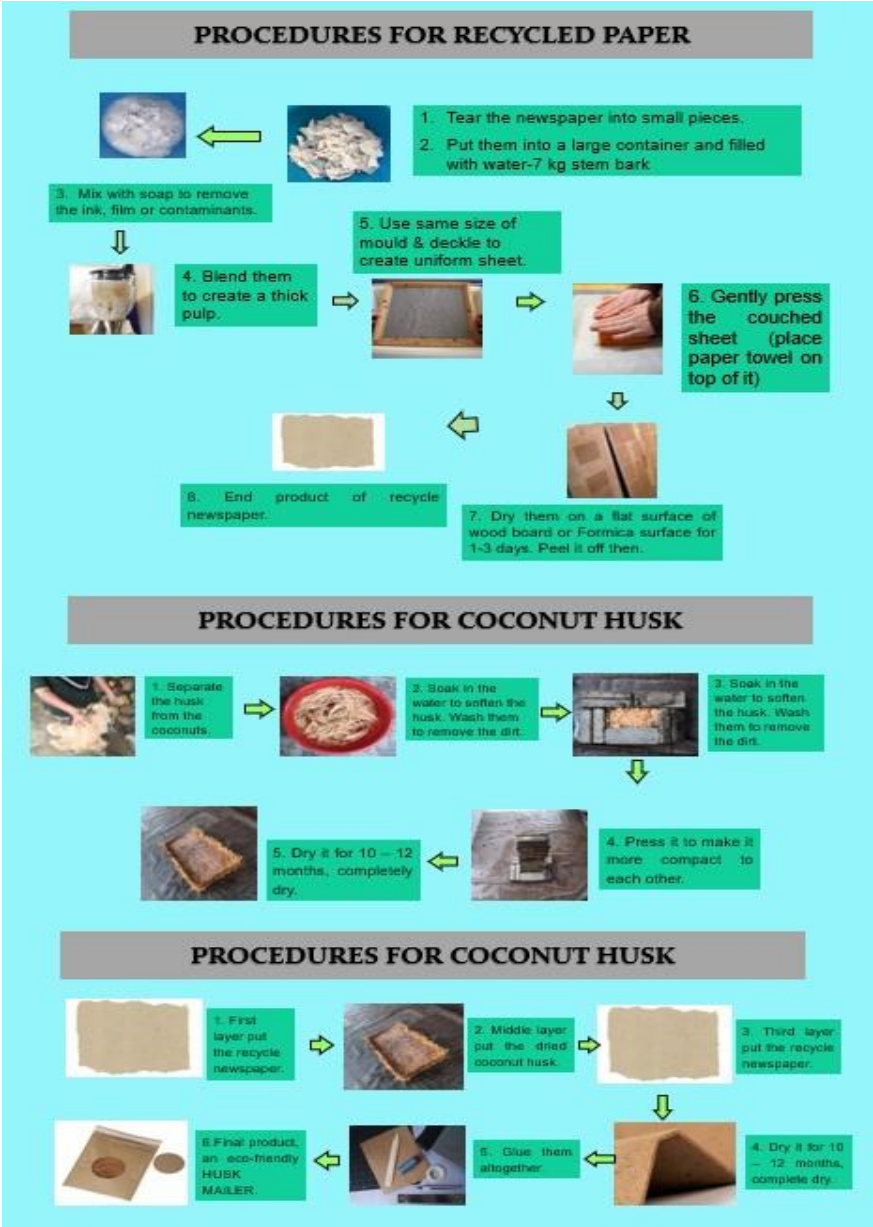

Figure 1. Procedure for making the husk mailer

COSTING

Below is the calculation for one (1) piece of mailer according to each size (S, M, L) – The overhead and tools cost are excluded from this table.

Table 1. Costing of the coconut husk mailer

MATERIAL	COST		
	S	M	L
Unused newspaper	RM 0.10	RM 0. 15	RM 0.20
Coconut husk	RM 0.15	RM 0.30	RM 0. 50
TOTAL	RM 0.25	RM 0.45	RM 0.70

ACKNOWLEDGEMENT

We would like to acknowledge Faculty of Plantation and Agrotechnology for all the support during the study

REFERENCES

Ahuja, S. C., Ahuja, U., & Ahuja, S. (2014). Coconut-History, Uses, and Folklore. *Asian Agri-History*, *18*(3).

Prakash, R., Thenmozhi, R., & Raman, S. N. (2019). Mechanical characterisation and flexural performance of eco-friendly concrete produced with fly ash as cement replacement and coconut shell coarse aggregate. *International Journal of Environment and Sustainable Development*, *18*(2), 131-148.

Konduru, S., Evans, M. R., & Stamps, R. H. (1999). Coconut husk and processing effects on chemical and physical properties of coconut coir dust. *HortScience*, *34*(1), 88-90.

UNIVERSITI TEKNOLOGI MARA
Cawangan Kedah
Kampus Sungai Petani

Faculty of Administrative Science and Policy Studies

i-SPiKE 2021

INTERNATIONAL EXHIBITION & SYMPOSIUM ON PRODUCTIVITY, INNOVATION, KNOWLEDGE & EDUCATION

Leading An Artificial Innovation In Knowledge, Education And Design

e ISBN 978-967-2948-20-9

9 7 8 9 6 7 2 9 4 8 2 0 9