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TEKNOLOGI
MARA

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MAY
2024



International Industrial Revolution 4.0 Exposition

"INNOVATING IDEAS, TRANSPIRING DREAMS"

ABSTRACT BOOK

Strategic Partners:



Perpustakaan
Sultan Badlishah

Organized By:

**COLLEGE OF COMPUTING, INFORMATICS AND MATHEMATICS,
UNIVERSITI TEKNOLOGI MARA, KEDAH BRANCH**

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IREx 2024

The successful inauguration of IR4.0 Exposition IREx 2019 has witnessed ground breaking initiatives, ideas, and innovations materialised into numerous practical devices today. Treading on the same triumph, the College of Computing, Informatics, and Mathematics, UiTM Kedah is thrilled to announce the continuation of said event, IREx 2024 with the theme: *Innovating Ideas, Transpiring Dreams*.

The IREx 2024 aspires to incorporate even more exciting new technologies including, but not limited to, Information & Communication Technology (ICT), Educational Technology & Innovation (ED), Operational Excellence (OE), Internet of Things (IoT), Process Improvement, Ideas & Design, Multimedia, and Electronics that will chart new milestones in human history. This will serve as an excellent platform for scientists and innovators alike to meet the like-minded individuals and showcase inspiring ideas and notable innovations.

PROGRAM SCHEDULE

International Industrial Revolution 4.0 Exposition (IREx 2024)
21ST May 2024 (Tuesday)
Dewan Perdana, UiTM Kedah Branch

TIME	EVENT
8.00 – 9.00 am	Registration & Booth Set Up
9.00 am – 12.00 pm	Exhibition & Judging Session
12.00 pm – 2.00 pm	Obedient Drone Session & Break
2.00 pm – 5.00 pm	Official Closing & Prize Giving Ceremony
5.00 pm	Program Ends

Official Closing Ceremony

International Industrial Revolution 4.0 Exposition (IREx 2024)

TIME	EVENT
2.00 pm	Arrival of Guests and Participants
2.30 pm	Arrival of VVIP
	National anthem - Negaraku And Wawasan Setia Warga
2.40 pm	UiTM
	Welcoming Speech
3.00 pm	Rector's Welcoming Speech
	Officiating Speech
3.10 pm	Gimmick & Montage presentation
3.30 pm	Prize Giving Ceremony
4.00 pm	Photography
5.00 pm	Program Ends

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IRX082	MULTIPURPOSE SOAP	5
IRX083	PUFFER FISH BOAT	6
IRX092	MY GAMES ACADEMIA	7
IRX095	'ROBOCRAB' PEMBERSIH SAMPAH	8
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CATEGORY A

INOVASI GEODETECTOR: SISTEM PINTAR PENGESAN BENCANA ALAM

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ABSTRAK - Projek geodetector menggunakan pengaturcaraan arduino ide dan mblock untuk mengesan tanah runtuh, kepala air, bunyi, dan objek hidup di kawasan perkhemahan. Sistem ini dilengkapi dengan beberapa penderia utama: inframerah untuk mengesan pergerakan tanah, pengcam suara untuk mengesan bunyi luar biasa, pengesan air untuk mengesan kepala air, pengesan fir untuk mengesan objek hidup, dan penderia getaran untuk simulasi tanah runtuh. Alat ini bertujuan untuk meningkatkan keselamatan murid dengan memberi amaran awal kepada ancaman alam sekitar, seterusnya membolehkan tindakan pantas diambil oleh pihak bertanggungjawab. Penderia keluaran termasuk lampu led dan pembaz yang berfungsi untuk memberi isyarat dan melaksanakan tindakan segera. Sistem ini memulakan operasi dengan menginisialisasi sistem, kemudian memantau kawasan melalui penderia kemasukan. Jika ancaman dikesan, penderia keluaran diaktifkan dan isyarat dihantar kepada pengawal keselamatan untuk tindakan segera, seperti menggerakkan helikopter keselamatan. Prototaip ini mudah dipasang dan digunakan, serta diharapkan dapat mengurangkan risiko kecederaan dan kematian dalam situasi kecemasan. Dengan geodetector, keselamatan murid di kawasan perkhemahan dapat ditingkatkan, memberikan ketenangan kepada semua pihak yang terlibat.

Kata Kunci: bencana alam, mikropengawal, sistem pintar



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