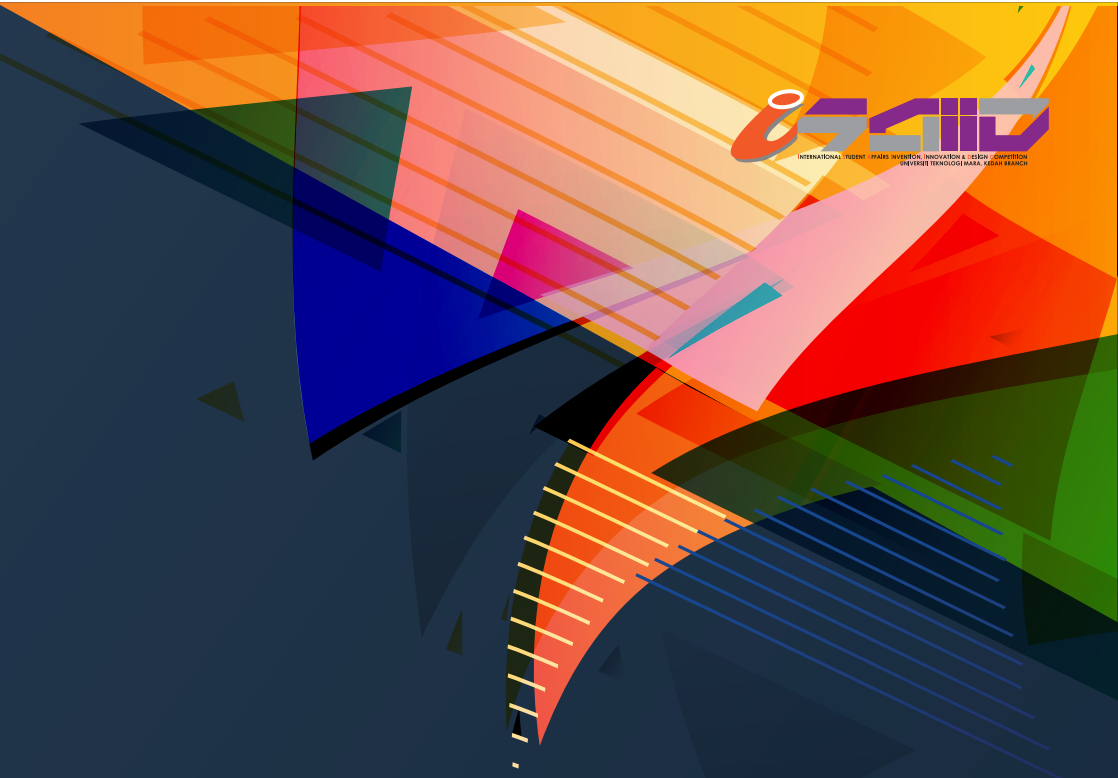

2019

ACADEMIC INTELLECTUAL
INTERNATIONAL INVENTION, INNOVATION & DESIGN BOOK

Published by : Student Affairs Department,
Universiti Teknologi MARA Kedah,
P.O. Box 187, 08400 Merbok, Kedah, Malaysia.

Patron : Dr. Wan Irham Ishak
Dr. Abd Latif Abdul Rahman

Project Manager : Yazwani Mohd Yazid

Design Director : Mohd Hamidi Adha Mohd Amin
Fadila Mohd Yusof

Editorial Director : Mohd Hamidi Adha Mohd Amin
Mas Aida Abd Rahim

Copyright © 2019 Student Affairs Department, Universiti Teknologi MARA Kedah.
No part of this publication may be reproduced, stored in retrieval system, or transmitted in any form or by means, electronic, mechanical, photocopying, recording, or otherwise, without the prior permission of the publisher.

ISBN : 978-967-0314-71-6

Printed by : Perpustakaan Sultan Badlishah,
Universiti Teknologi MARA Kedah,
P.O Box 187, 08400 Merbok, Kedah, Malaysia.

TABLE OF CONTENT

DESIGN CATEGORY

		Pages
1.	INTELLIGENT ESSENTIAL OIL EXTRACTION SYSTEM	2
2.	DEVELOPMENT OF AN ELECTRONIC EDUCATIONAL KIT FOR LEARNING CONTROL PRINCIPLE SUBJECT; BLOCK DIAGRAM	3
3.	E-TOURISM ATLAS: A WEB-MULTIMEDIA TOURISM MAPPING SYSTEM AND MOBILE APPS IN MALAYSIA	4
4.	MTXbrooch: FINE METAL AND TEXTILE ARTS FOR MODERN CONTEMPORARY BROOCH	5
5.	RULER MATH	6
6.	BOOK POINT	7
7.	EMOQUEST : BEST PRACTICE VISUAL EMOTIONAL TECHNIQUES SURVEY IN TEACHING AND LEARNING AS AN INNOVATIVE APPROACHES USING MOBILE APPLICATIONS	8
8.	MODEL KIT I-BO	9
9.	GUNA –GUNA	10

INNOVATION CATEGORY

10.	WALKING AROUND IMPROVEMENT KEYS (WALKS)	12
11.	A-DAM –ALAT BERMAIN, BERZIKIR DAN BERDOA	13
12.	GAMEBOX: ALTERNATIVE THERAPY TO IMPROVE AUTISM'S THINKING AND MENTAL ABILITY	14
13.	PENGHAYATAN DAN KEBERKESANAN PENGGUNAAN MULTIMEDIA DALAM KURSUS MAGNUM OPUS MELAYU DI UNIVERSITI MALAYSIA KELANTAN	15
14.	REHAL TOOLKIT	16
15.	BASIC ISLAMIC LEARNING (BIL) BOARD GAME	17
16.	EZH2O-Citrullus	18
17.	TEJA – ECO INDIKATOR	19
18.	ARLITAR: AUGMENTED REALITY FOR BASIC CIRCUIT LEARNING MODULE	20
19.	COOLING PAD TEMPERATURE MONITORING SYSTEM USING ARDUINO (CPTM)	21
20.	AUGMENTED REALITY BASED APPLICATION FOR CHEMISTRY EDUCATION (ARCHEM)	22
21.	DUAL-MODE DISTILLATION ESSENTIAL OIL EXTRACTION SYSTEM WITH STFPID	23
22.	HOBP (HYDROGEL OF BANANA PEEL) : UTILIZATION OF BANANA PEEL WASTE AS A BASIC MATERIAL FOR ECO-FRIENDLY HYDROGEL PLANTING MEDIA	24

INNOVATION
CATEGORY

AUGMENTED REALITY BASED APPLICATION FOR CHEMISTRY EDUCATION (ARCHEM)

Sia Wan Ling, Noor Azah Samsudin, Muhammad Syariff Aripin, & Shamsul Kamal Ahmad Khalid

Universiti Tun Hussein Onn Malaysia, 86400 Parit Raja, Batu Pahat, Johor

azah@uthm.edu.my

This project is about developing a learning application using augmented reality approach for Chemistry education at secondary school, also referred to as ARCHEM. The ARCHEM is built on Android based platform to facilitate users, especially students to interact with the learning content. The content of the ARCHEM includes essential topics in Chemistry subject such as periodic table and reactions of chemical elements. The interface of the periodic table is equipped with virtual buttons that allow students to view detail information of the Chemistry elements. Indeed, students can organize their self-learning activities at home or anywhere independently. The ARCHEM is expected to provide students a more interactive study experience. Essentially, the ARCHEM has demonstrated the benefit of utilizing mobile technology for educational activity. The ARCHEM will attract educators and students to consider a new way of learning instead of depending on textual based notes and offline classes only.

ISBN 978-967-0314-71-6