



UNIVERSITI
TEKNOLOGI
MARA

Cawangan Melaka

In partnership with



Tadulako University



i - J a M C S I I X
2023

EXTENDED ABSTRACT BOOK

Publication Date: 30 March 2024

ISBN: 978-967-15337-0-3

<https://jamcsiix.uitm.edu.my>



i - J a M C S I I X 2023

INTERNATIONAL JASIN MULTIMEDIA & COMPUTER SCIENCE INVENTION AND
INNOVATION EXHIBITION (I-JaMCSIIX) 2023

EXTENDED ABSTRACT

COPYRIGHT © 2023

ISBN: 978-967-15337-0-3

i-JaMCSIIX

Universiti Teknologi MARA Cawangan Melaka Kampus Jasin 77300, Merlimau, Melaka

Web: <https://jamcsiix.uitm.edu.my>



In partnership with
Tadulako University

ORGANIZING COMMITTEE

PATRON

PM DR ISMADI MD BADARUDIN

ADVISOR I

TS DR JAMALUDDIN HJ JASMIS

ADVISOR II

DATO' DR MOHD HAJAR HASROL JONO

PROGRAM DIRECTOR

DR. NUR SUHAILAYANI SUHAIMI

DEPUTY DIRECTOR

TS DR NURUL HIDAYAH BINTI MAT ZAIN

SECRETARY I

ANIS SHOBIRIN ABDULLAH SANI

SECRETARY II

FAIQAH HAFIDZAH HALIM

TREASURER I

SITI AISYAH ABD KADIR

TREASURER II

UMMU MARDHIAH JALIL

NURBAITY BINTI SABRI

DR. SITI FEIRUSZ AHMAD FESOL

PUBLICATION

DR. AHMAD FIRDAUS BIN AHMAD FADZIL

SITI NURAMALINA BINTI JOHARI

ROSNIZA ROSLAN

Ts DR. ALYA GEOGIANA BUJA

NORBAHIYAH AWANG

JURY

Ts. DR. NOR AFIRDAUS ZAINAL ABIDIN

DR. RAIHAH AMINUDDIN

NOOR AFNI DERAMAN

SITI FAIRUS BINTI FUZI

BUSHRA BINTI ABDUL HALIM

REGISTRATION

NORDIANAH BINTI JUSOH@HUSSAIN

AINON SYAZANA BINTI AB HAMID

SITI NURSYAHIRA BINTI ZAINUDIN

FADILAH EZLINA SHAHBUDIN

HAJAR IZZATI MOHD GHAZALLI

SYSTEM

FADHLINA IZZAH SAMAN

NOR AZIDA MOHAMED NOH

SHAHITUL BADARIAH SULAIMAN

IZNI SYAMSINA SAARI

INVITATION AND PROMOTION

NOR ADILA KEDIN

	ADI HAKIM BIN TALIB MOHD AMIRUL BIN ATAN
MULTIMEDIA	Ts. NURUL NAJWA ABDUL RAHID@ABDUL RASHID NOOR ASHITAH ABU OTHMAN ANWAR FARHAN ZOLKEPLAY
	ANITA BINTI MOHD YASIN NURUL EMYZA ZAHIDI FATIMAH HASHIM
AWARD	SITI RAMIZAH JAMA DR NURUL HUDA NIK ZULKIFLI MARIATHY BINTI KARIM
	KHAIRUL NURMAZIANNA ISMAIL NUR NABILAH ABU MANGSHOR ZUHRI ARAFAH ZULKIFLI HAZRATI ZAINI
CERTIFICATE	
	Ts. DR. SITI RAHAYU ABDUL AZIZ ALBIN LEMUEL KUSHAN SHAHADAN SAAD
INTERNATIONAL RELATIONS	
	SYAFNIDAR ABDUL HALIM AJK WAKIL UNTAD
LIAISON OFFICER	
	ANIS AMILAH SHARI MOHD RAHMAT MOHD NOORDIN DR YUZAIMI YUNUS DR SURYAEFIZA KARJANTO
SPONSORSHIP	
	RAIHANA MD SAIDI NUR SYUHADA BINTI MUHAMMAT PAZIL ANIS AFIQAH SHARIP SITI MAISARAH MD ZAIN HAZWA HANIM MOHAMED HAMZAH
SECRETARIAT & APPRECIATION BANQUET	

UNTAD'S COMMITTEE FOR I-JAMCSIIX 2023:

PROF. IR. MARSETYO, M.AG., PH.D.

PROF. I WAYAN SUDARSANA, S.SI., M.SI.

PROF. JUNAIDI, S.SI., M.SI., PH.D.

ELISA SESA, S.SI., M.SI., PH.D.

MUKRIM, M.ED., PH.D.

ZARKIANI HASYIM, S.PD., M.ED.

DR. HJ. ANI SUSANTI, M.SI.

DR. ISKANDAR, M.HUM.

DR. IR. ROIS., MP.

SYARIFUL ANAM, S.SI., M.SI., PH.D.

DR. NAHARUDDIN, S.PD, M.SI.

DR. DRG. ELLI YANE BANGKELE, M.KES.

HERMAN, SKM., M.MED.ED.

DR. IR. SAMLIOK NDOBE, M.SI.

DR. RAHMAT BAKRI, S.H., M.H.

DR. HAERUL ANAM, SE., M.SI.

DR. IR. BAKRI, S.T., PG. DIPL. ENG., M.PHIL.

DR. IR. MUHAMMAD YAZDI PUSADAN, S.KOM., M.ENG.

IR. SYAIFUL HENDRA, S.KOM., M.KOM.

RIZANA FAUZI S.T., M.T.

MOHAMMAD FAJRI, S.SI., M.SI.

NURUL FISKIA GAMAYANTI, S.SI., M.SI.

DR. NUR'ENI, S.SI., M.SI.

IMAN SETIAWAN, S.SI., M.SI.

FADJRIYANI, S.SI., M.SI.

LIST OF SPONSORS

External Company Sponsors



Klinik Dr Jamaluddin

Klinik Mawar Jasin

Nasi Ayam Ala Cina Zul

ADS Oasis Enterprise

Noorys Enterprise

Che Ramli bin Che Ismail

Beria Maju Enterprise

Rintiz rezeki

H&K food cafe

HS Gerak Wawasan

Individual Sponsors

En. Muhammad Hanif bin Abdul Aziz

Nor Suhaida binti Karjanto

Table of Contents

JaMCSIIX ID	Project Title	Page
JM005	Ramadhan Prep: A Mobile Application in Preparing for the Bigger Season of the Year	1
JM006	BTF Cake Recommender and Management System by using Rule Based	5
JM007	ALIMS - Assets Loan and Inventory Management with SMS Notification	9
JM009	CRC - Clothing Review Classification using Sentiment Analysis	13
JM012	DEPsy Model	16
JM013	The Use of Computer Diagnostic Apps to Assist Computer Troubleshooting	20
JM014	Recent Studies of Human Limbs Rehabilitation using Mechanomyography Signal: A Survey	25
JM022	Plastopoll: A Serious Game to Raise Awareness About Plastic Pollution	35
JM029	Twitter Sentiment Analysis of Malaysian Fast Food Restaurant Chains: A Novel Approach to Understand Customer Perception using Naïve Bayes	40
JM030	ARTventure: Learning Malay Traditional Dance Through Augmented Reality	44
JM031	ExpenseEase - Living Expenses Management Mobile Application	48
JM032	Drowsiness Detection and Alert System Using Face Recognition with Raspberry Pi	53
JM033	Web Application of Facial Emotion Recognition in Classroom Learning Environment with Raspberry Pi4	58
JM035	Development of mobile app: Funeral services system (FSS)	63
JM036	Development of Mobile App: Digital Mutawwif	68
JM037	Assessment Mark Management System: An Excel VBA Approach	72

JM038	Design and Fabrication of a Potato Peeling Machine	77
JM040	Donatenow: A Crowdsourcing-Based Mobile Application with Geolocation and Content-Based Filtering Algorithm	82
JM041	TextCrunch: An Interactive Text Mining Application	88
JM047	Innovative Video on Compound Interest	93
JM049	Forecasting Inflation Rate in Malaysia Using Artificial Neural Network (ANN) Approach	98
JM050	Factors Affecting the House Price Among Kuala Lumpur, Selangor and Johor	102
JM054	A Framework of Procurement Analytics for Fraud Coalition Prediction	106
JM055	Abstract Exploring Classical Chinese Poetry with AI Tool in PPT Design	111
JM056	Developing Emergency Application for LRT Passengers with Decision Tree Algorithm (RailAlert!)	115
JM057	LetsGoFit Unlocked: Revolutionizing Wellness with Gamified Mobile Health	119
JM059	Sheep Tracker via Radio Frequency Identification (RFID) System	123
JM060	Developing an Application for Handyman Services Platform using Geofencing and Content-Based Filtering (Handy2Help)	128
JM061	Modeling Cases of Stunting Toddler in Indonesia using the Conway Maxwell Poisson Regression Method	133
JM063	Clustering Regencies/Cities in Central Sulawesi Province Based on Poverty Level Using the Average Linkage Method with Principal Component Analysis (PCA)	138
JM064	An application for Vehicle Rental Service Advertising using Geofence with Content-Based Filtering (ReadyVehicle)	142
JM066	Horticulture Land: Guide to Being A Plantsman Through Green Game	146

JM067	IMFLOODVR: An Immersive Virtual Reality Serious Game for Flood Risk Mitigation Awareness	149
JM068	Tomoe: Topic Modelling Web Application	153
JM071	Forecasting the Number of Schistosomiasis Cases (Snail Fever) in Napu, Central Sulawesi, Using the Auto Regressive Integrated Moving Average (ARIMA) Method	158
JM074	Forecasting the Open Unemployment Rate in Central Sulawesi Province using the Auto Regressive Integrated Moving Average (ARIMA) Method	162
JM075	Pre-parent Test Based on Web Application in Assessing Readiness to Become a Parent	166
JM076	The Development of Edu-Fertiblox Digital Game using Roblox as ABM in the Topic of Fertigation Systems for the Subject of Design and Technology Level 1	170
JM077	SPARK: Simplified Practices, Analogies, and Resources for Knowing C++ Functions	177
JM078	PLC-Based Water Filling Machine Simulator for Teaching and Learning Activities	180
JM079	Hana's Map	185
JM081	Futech.Edu (Future Technology Education): Teaching and Learning Application Design in the Society 5.0 Era	189
JM082	Checkers Match Game	193
JM084	Gamification in English for Report Writing: Engaging Learning Through Webinars	198
JM085	Iffah's Busy Board (IBB)	203
JM086	3R Bag	207
JM087	'Chick VS Virus', A Game-Based Learning Approach in Teaching Students	210

The Use of Computer Diagnostic Apps to Assist Computer Troubleshooting

Mohd Saharudin bin Abuludin¹, Norazuwa binti Salehudin², Beny bin Yusmar³

^{1,2,3} Kolej Komuniti Temerloh, Malaysia

saharudin@kkmen.edu.my, norazuwa@kkmen.edu.my, beny@kkmen.edu.my

Abstract— Electric and electronic equipment have become significant tools in modern human life. One of these is the use of computers, which have proven to be capable of simplifying and solving problems faced by people in their daily activities. Electric and electronic equipment may encounter issues when in use or about to be used. The problems encountered may be easy and can be resolved quickly and independently by the user. Self-help troubleshooting methods have been widely applied to assist individuals in attempting to solve problems based on provided instructions, whether in print or digital format. This innovation digitizes the flowchart for identifying and repairing issues that arise during computer usage. This innovation has resulted in a user-friendly application called the Computer Diagnostic App to help computer users attempt to resolve problems they encounter while using their computers. The design of this application are based on a comprehensive flowchart for identifying computer issues, which can be widely accessed on the web and has become a global reference based on Google search engine findings. A research study are conducted among Information Technology Certificate students at Temerloh Community College to obtain feedback and assess the effectiveness of using this application to resolve issues that arise during computer usage.

Keywords— *computer, computer diagnostic, self-troubleshooting*

I. INTRODUCTION

A computer is an electronic device that receives input or data from the user (Jibril, 2021) and processes it based on programmed instructions in the form of a combination of software to generate useful and understandable output or information for the user. Additionally, a computer also stores the received input and the produced output for future use. In general, a computer performs four basic functions, namely, receiving data, processing data, generating output, and storing input and output data. Various fields apply the advantages of computer usage, such as engineering, architecture, agriculture, transportation, communication, healthcare, manufacturing, publishing, e-commerce, banking, inventory control, law, military, education, as well as development and research (Jibril, 2021). A computer consists of two main components, hardware and software. Hardware is physical, while software is intangible. Both complement each other to make the computer a highly useful machine for humans.

Computer hardware, such as the mouse, random access memory, central processing unit, hard drive, graphics card, and power supply, may fail at any time due to certain factors. Failures in these hardware components may stem from various factors such as aging, power surges, overheating, unfavorable environmental conditions, unauthorized operations, and so on. For the purpose of problem identification and repair, computer technicians require a combination of knowledge, intuition, and prior experience to identify and resolve computer problems (Rosenthal, 2018). Prior experience usually enables problems to be resolved more quickly. However, knowledge of diagnostic procedures for computer problems should be present in every computer technician to assist in a more systematic and efficient problem-solving process (Adesola, 213).

Computers are the most widely used machines by humans to facilitate daily tasks, whether for personal or professional purposes (Beauvisage, 2009). This situation creates a high demand for computer hardware maintenance and repair tasks. The empowerment of TVET education in Malaysia can produce skilled labor to be offer to the domestic industry (Razali Hassan, 2019).

In the context of Teaching and Learning at Temerloh Community College, the SSK10203 Computer System Architecture and Assembly module provides training to students on identifying and solving problems that arise when using a computer. In the initial content of the module, students also learn theories related to computer architecture. A significant amount of time is allocated in this module for students to carry out the practical installation of a computer until it is complete and functional. During the phase of identifying and repairing computer problems, students are provided with relevant flowcharts to assist them in carrying out this task. Students to increase their knowledge and experience for use in their future work will conduct the process of observing symptoms of damage, diagnosing and repairing, followed by testing. We have developed a flowchart-based mobile application to provide an alternative option to printed flowcharts on paper or displayed on a computer screen. This application can make the process of identifying and repairing computer problems more organized and systematic.

II. PROBLEM STATEMENT

Regular maintenance of computers, whether at home or in the office, is crucial to ensure they consistently perform at an optimal level and facilitate daily tasks (Turgunbaevna, 2023). Problems that arise can originate from either hardware or software issues and require the correct approach for resolution. Issues faced may recur in the future, making it highly important to document the problems and their solutions (Adesola, 213).

Currently, the concept of Do It Yourself (DIY) has become a common practice in society. People are increasingly comfortable trying to solve problems they encounter on their own as long as they can do it themselves. Many troubleshooting tutorials are available on the internet, with YouTube being a common platform. For computer-related issues, the lack of suitable tools can make it challenging for users to accurately analyze the problems that arise, followed by an effective solution for their computers.

III. OBJECTIVE

This study was conducted to obtain feedback from students regarding the Computer Diagnostics Application (CDA Apps) developed to assist in solving issues that arise during computer usage. Additionally, this study aims to collect feedback from students on the Teaching and Learning (PdP) sessions conducted for the SSK1023 Computer System Architecture and Assembly module. The specific objectives of the study are as follows:

- i. To obtain student feedback on the CDA Apps application.
- ii. To obtain student feedback on the PdP sessions for SSK10203.

IV. SIGNIFICANT

This study aims to gather feedback from students regarding their confidence in solving computer-related problems with the assistance of the CDA Apps application. Additionally, this research can provide insights to educators about students' understanding after completing this module, and this knowledge can be used when identifying and addressing issues that arise during computer usage.

V. METHOD

This action research is conducted by selecting respondents to answer a questionnaire that has been developed. First, an explanation will be provided to all respondents on how to install the CDA Apps application on their phones. They will also receive instructions on how to use the application once it's installed on their phones. A one-week period is given to all respondents to try using this application. Respondents are also requested to try all the functions available in the application.

After the allotted time period, an online questionnaire using Google Forms will be distributed to the respondents. A session for answering the questionnaire will be arranged to ensure that all selected respondents participate. Additionally, any issues related to the questionnaire can be immediately addressed to the researcher during this session. The data obtained from the questionnaire will be analyzed using SPSS 26 software.

VI. RESPONDENT

The respondents for this study consist of a total of 31 Information Technology Certificate students from Temerloh Community College who took the SSK10203 Computer System Architecture and Design module during their first semester of study at the college. They comprise 19 students from the SI 2022/2023 intake and 12 students from the SII 2022/2023 intake.

VII. INSTRUMENT

The questionnaire for this study was adapted from the 1Note STM Application Questionnaire of the Temerloh Community College Information Technology Certificate Program (Mohamad Moha, Othman, & Ismail, 2021). There are 4 sections in this questionnaire, which are information related to the purpose of the research and general information of the researcher in Section 1, Demographics of the respondents in Section 2, Feedback on SSK10203 Learning Outcomes in Section 3 and Feedback on CDA Apps in Section 4. For Sections 3 and 4, a Likert scale is used to record respondent feedback. Score 1 represents a response Strongly Disagree, response 2 represents Disagree, response 3 represents Moderately Agree, response 4 represents Agree, while response 5 represents Strongly Agree. This set of questionnaires was developed online using Google Form to facilitate access and record data. For this study, only the findings for Section 4, namely Question 9 to Question 13 will be discussed.

VIII. ANALYSIS

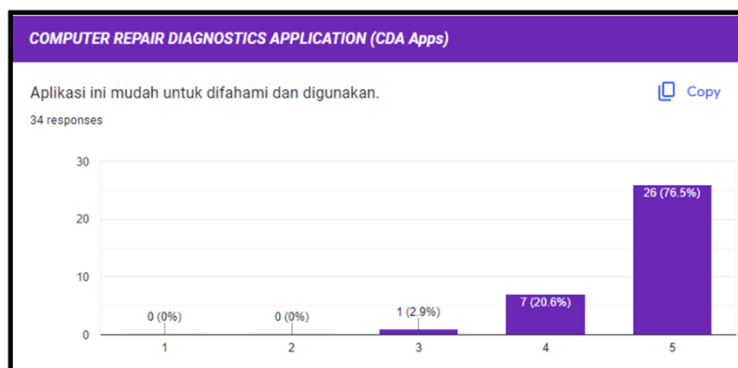


Figure i

76.5% of respondents strongly agree that this application is easy to understand and use ($M=4.82$, $SD=0.39$). For this purpose, all respondents were given a brief explanation of how to load this application into their smartphones on October 6, 2023. Then they were given a few days to try using this application. The questionnaire was distributed until October 13, 2023. The findings also show that 82.4% ($M=4.82$, $SD=0.39$) of respondents strongly agree that this application is used by students taking the SSK10203 Computer System Architecture and Assembly module. The percentage of respondents can be seen as in Figure ii below. An application that is easy to understand and use is important to attract interest in its use.

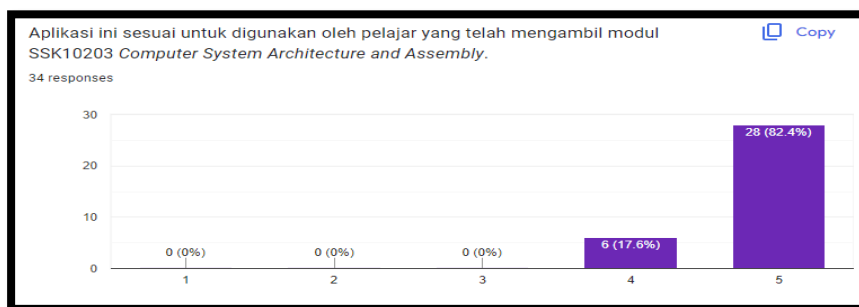


Figure ii

Next, the findings in Figure 3 show that 73.5% ($M=4.79$, $SD=0.42$) strongly agree that this application helps them identify problems that occur while using the computer. Previously, they only used flowcharts to solve problems that arose while using computers in addition to being guided by previous experiences. 73.5% ($M=4.75$, $SD=0.44$) of respondents also strongly agree that their confidence increases when identifying problems that arise with the help of this application as shown in Figure 4. There are 2.9% of respondents that strongly disagree that this application does not help them identify problems that arise.

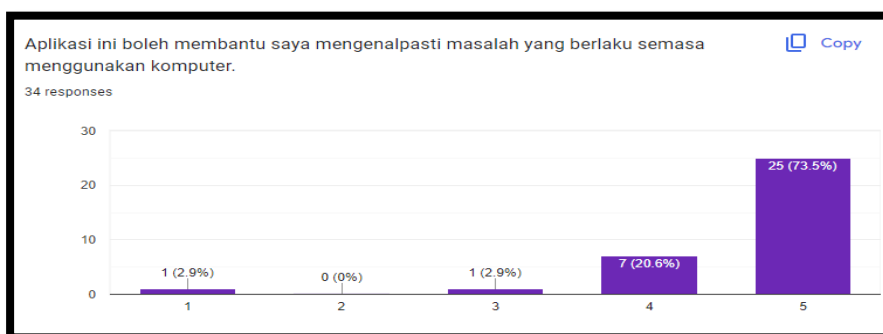


Figure iii

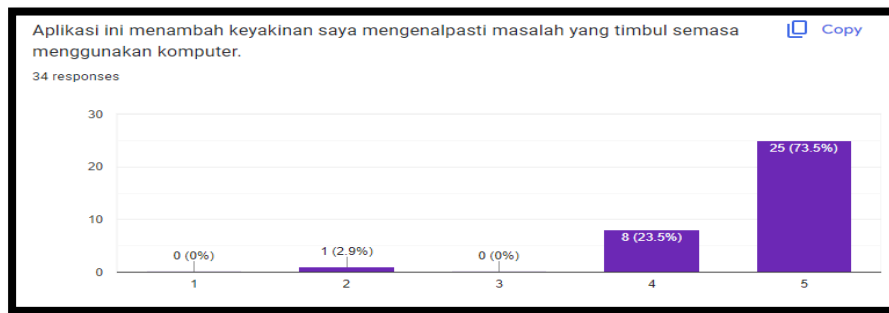


Figure iv

The questionnaire also wants to get the views of respondents as students who have taken the SSK 10203 Computer System Architecture and Assembly module as to whether this application is suitable for use by all levels of computer users. 79.4% (M=4.79, SD=0.42) of respondents Strongly Agree this application is suitable and can help users implement simple solutions that can be tried on their own first before getting expert help if the problem cannot be solved. The results are as shown in Figure 5 below. There is 1 respondent who strongly disagrees the application is used by all levels of computer users. 6 respondents representing 17.6% of the respondents also gave feedback Agree that this application is suitable for spreading to all levels of computer users.

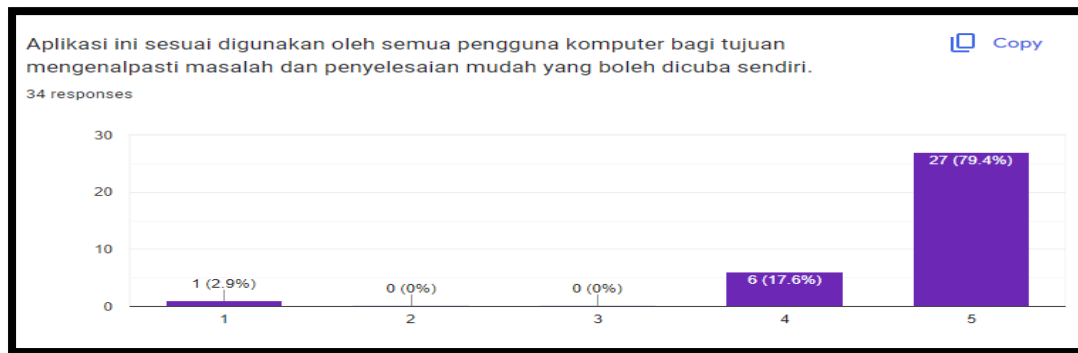


Figure v

IX. CONCLUSIONS

Problems will surely arise when people use computers for various purposes. The problem may be easy and sometimes requires expert help to solve it. Accessible, easy-to-understand and user-friendly applications can help computer users at all levels of experience try to solve problems that arise. A complete and organized guide can increase their confidence in solving computer-related problems.

ACKNOWLEDGMENT

We would like to express our appreciation to all the participants for their efforts in this innovation and research project. Furthermore, we would like to express our gratitude to everyone who contributed in any way to the completion of this research, both directly and indirectly.

REFERENCES

- [1] Adesola, A. (213). DIAGNOSIS AND TROUBLESHOOTING OF COMPUTER FAULTS BASED ON EXPERT SYSTEMS AND ARTIFICIAL INTELLIGENCE. *International Journal of Pure and Applied Mathematics*, 717-729.
- [2] Beauvisage, T. (2009). Computer Usage in Daily Life. *CHI 2009 ~ In the Living Room*, 575.
- [3] Jibril, A. (2021). Development And Evaluation Of A Desktop Computer Fault Diagnosis And Repairs Tutor For Abia State College Of Education (Technical) Arochukwu. *Journal of Multidisciplinary Engineering Science and Technology (JMEST)*, 14081.
- [4] Mohamad Moha, S., Othman, N., & Ismail, M. (2021). Aplikasi INoteSTM. *Empowering research in the Pandemic Phase: Opportunities and Challenges*, 576.
- [5] Razali Hassan, L. M. (2019). TVET in Malaysia. *Vocational Education and Training in ASEAN Member States: Current Status and Future Development*, 109.
- [6] Rosenthal, M. (2018). Guide to Computer Troubleshooting and Repair - PC Troubleshooting Manual. Retrieved from If It Jams: <https://www.ifitjams.com/manual.htm>.
- [7] Turgunbaevna, A. K. (2023). FROM DESKTOPS TO MOBILE DEVICES: HOW COMPUTER ARCHITECTURE. *INNOVATIVE DEVELOPMENTS AND RESEARCH IN EDUCATION*, 137.



i - J a M C S I I X

2023

PUBLISHED BY:

i-JaMCSIIX

Universiti Teknologi MARA Cawangan Melaka

Kampus Jasin

77300 Merlimau, Melaka

Tel: 062645000

Email: jamcsiix@uitm.edu.my

Web: <https://jamcsiix.uitm.edu.my/>

**All rights reserved. No part of this publication
may be reproduced, stored in a retrieval system
or transmitted in any form or by any means,
electronic, mechanical, photocopying, recording
or otherwise, without permission of the
copyright holder**