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The Application System to Know the Attendance List

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Abstract: SMP 1 Ambawara is one of the biggest junior high schools in this district. Among them there are many prospective students who register at junior high school. The students are enrolled in junior high school, the learning activities experience problems or problems. Some of them have problems in knowing attendance students every day. In today's modern era many advanced technologies are applied by the school. One of the application systems is to be able to know the attendance list of students. With the application system, the problems in presence can be identified quickly using the Delphi 7 application.

Keywords: *students, presence, application system, operator.*

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1. Introduction

1.1 Background

Student attendance activities in each school are generally carried out every day with the aim to find out whether students are sick, permission, negligent, or late. In each class this data will go into student's attendance data, schools can assess the level of discipline in each student. this also serves to get a timesheet data recap for students at the end of the semester. Students' pre-existing attendance data cannot meet the needs of users when filling student attendance because officers still use attendance lists manually.

The student attendance manually will encounter several obstacles including easily scattered, the difficulty in finding data and the slow time in data processing is considered for computerized system changes so the data can be more accurate and data storage can use visual basic application systems. The Delphi application system development has advantages. Starting from the description of the problem above, it is interesting to make a student attendance system in schools in the form of computerized software.

1.2 Problem Identification

Based on the research background above, identification of the problem in this study is: can the application system be an effective solution in knowing student attendance?

1.3 Research Question

Based on the research background above, the problems are, as follows:

1. Does the student attendance process does not have a system manages student attendance data
2. Is with making this system can be done effectively?
3. Recap of student absentee data and class data is done manually, why isn't the attendance report printed out?

1.4 Purpose and Objective ofResearch

1.4.1 Purpose

The purpose of making this student attendance application is to create a student attendance data management application system using Borland Delphi 7.

1.4.2 Objective

The objectives will be obtained from the attendance data student, that are:

1. Save time in processing attendance data.
2. Obtain more information accuracy data than manually.
3. Facilitate student data manipulation.
4. For the attendance data information is not included (sick, permission, negligent, or late), and the date when the student did not enter.

1.5 Research Limitation

Based on the research background above. The limitation of the problem in this project is only discussed making an application system to determine student attendance.

1.6 Methodology

There was some data collection method used in this journal, they were:

1.6.1 Observation

That is one of the collected data for studying the system by directly observing the research object, namely in SMPN 1 AMBARAWA.

1.6.2 Interview

That is a data collection technique by conducting interviews in the question and answer form directly with teachers and students in SMPN 1 AMBARAWA to obtain data or information.

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1.6.3 Study literature

Study literature is data collection by reading, studying, analyzing several books, e-books and websites related to research problems.

2. School Profile

2.1.1 The history of SMPN 1 Ambarawa

Based on the decision of the Education and Culture Ministry of the Indonesia number:030 / U / 1979 dated 17 February 1979 concerning the implementation of integral vocational high school about the first level became an SMP Techincal 11 Ambarawa, became SMPN 1 1 Ambarawa.

In 1979 until 1982 SMPN 1 Ambarawa still occupies the old location of Ambarawa 11 State Technical School, which is at Jalan Pemuda No.6 Ambarawa, while the Technical School itself was founded in 1956.

Then in 1982, some students had occupied the new location of SMP Negeri 1Ambarawa on Jalan Bendungan 42 Baran Ambarawa the development process and the transfer of the learning process carried out gradually starting in the year1988 up to now.

The building in SMPN 1 Ambarawa was originally made up of 1982 with only 2 classrooms so until 1988 there were 8 classes. SMPN 1 Ambarawa built various teaching and learning facilities in all residents of SMPN 1 Ambarawa. Because there are many students who are interested in going to SMPN 1Ambarawa, we are rebuilding new classrooms to become 12 classes.

Every new school year in SMP Negeri 1 Ambarawa always rejects several students who want to register because of the limitation classroom. From year to year, the amount of participants number is rejected. So in 2003, working with the school committee and students' parents, we built 2 new classrooms and 1 local student toilet. In 2004, we built 1 classroom, 1 local student toilet, music room and from the assistance of the provision of new classrooms, can build 1 classroom. In 2005 also built new classrooms from new classroom assistance and in 2006 built 1 new classroom from the Imbal Swadaya assistance. And in 2008 built 1 new classroom from 11 regional budget funds. In 2010 built a guidance and counseling room from the students' parents. Until this 2013/2014 school year, SMP Negeri 1Ambarawa has 19 classes.

2.1.2 Profile

School Name	: SMP Negeri 1 Ambarawa
School Statistics No.	: 201032210001
School Type: B	
School Address	: Jalan Bandungan 42 BarenAmbarawa Smpsatu_ambarawa@yahoo.com Ambarawa DistrictPringsewu Regency
School Status	: State
Accreditation	: A

2.1.3 The Location

The research object conducted regarding the student attendance list in SMP Negeri 1 Ambarawa. The research in SMP Negeri 1 Ambarawa.

3. Theoretical Basis

3.1 The definition of system

Systems can be classified as abstract systems and physical systems. Abstark system systems are thoughts that do not appear physically. Physical systems are physical systems such as computer systems, production systems, etc. The computer is a system consisting of sub-system devices hardware and software where each subsystem is integrated and interact with each other to achieve a goal.

According to Jogiyanto H.M, a system can be defined as a unit consisting of two or more components or subsystems that interact to

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achieve a goal. (Introduction of computers, 813,1995).

Gerald J adherents to the procedure approach define the system as a network of procedures interconnected, gathered together to carry out an activity or complete a certain goal. Al-bahra, (2005: 3)

Davis defines the system as interrelated parts that operate together which achieves several goals or purposes.

3.2 The Definition of Aplication

According to Shelly, Cashman, Vermant, (2009, p57), an application is a set of special instructions in a computer that is designed so that we complete certain tasks.

According to Hendrayudi, an application is a collection of program commands that are made to do certain jobs.

According to Hengky W.Pramana, an application is a software unit created to serve the needs of several activities such as a trading system, community service games, advertising, or all processes that are almost done by humans.

According to Harip Santoso, an application is a group of files (forms, classes, reports) that aim to carry out certain activities that are interrelated.

3.3 The Definition of Attendance

Rachman, (1993). Attendance is data collection where a person cannot attend due to illness, permission, negligence, or being late. Attendance can not be avoided or not ability. Attendance is still postponed and for no apparent reason.

Attendance is part of the reporting activities of an institution, or component of the institution itself which contains attendance data arranged so it is easy to find and use if at any time required by interested parties.

3.4 The Definition of Student

Students are a group of people who study both in groups or individually. Students with the aim to succeed in achieving their goals.

Students are an input component in the education system, which is processed in the education process so they become qualified human beings in accordance with national education goals.

3.5 The Definition of Class

According to Oemar Hamalik, "a class is a group of people who carry out joint learning activities that are taught by the teacher." While according to Suharsini Arikunto, the class is "a group of students who at the same time receive the same lesson".

According to nawawi, the class is as a small community that is part of the school community, which becomes a unified organization into a work unit that dynamically organizes a variety of creative learning activities to achieve a goal ".

In addition, nawawi also asserts that the definition of class is divided into two:

1. Class in the strict sense of the room is limited by fourwalls where a number of students gather to follow the teaching and learning process.
2. Class in a broad sense is a small society which isa part of the school community which as a unit is organized into dynamic work unitsholding various creative learning activities to reach the objectives.

4.The Implementation of Program

Figure 1. FormUser Implementation

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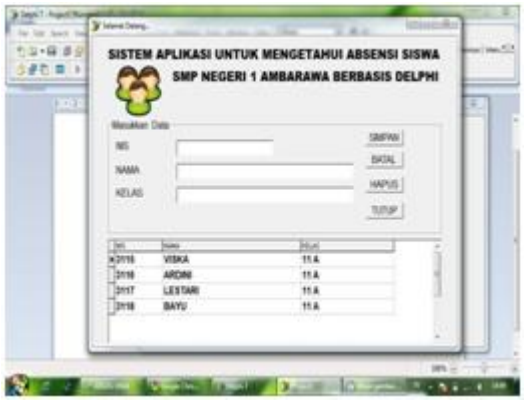

Figure 2. The implementation of student's attendance form

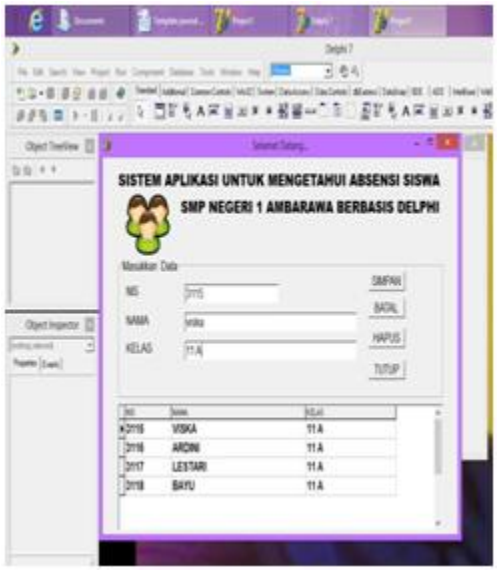

Figure 3. The Implementation of Student's attendance resultForm

5. CONCLUSION

Based on research problems presented in this study at the introduction, it is concluded that the application system to determine student absence practical and efficient in the use and data collection of data about the data student attendance based on Delphi 7.In connection, this study, it is recommended to conduct further research on other Application Systems to determine the attendance of SMPN 1 AMBARAWA students more accurately and efficiently.

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REFERENCES

1. Husni, 2004, Pemrograman Database dengan Borland Delphi 7, GrahaIlmu, Yogyakarta.
2. Harrison, D. A., Mykytyn, P. P., Jr., dan Riemenschneider, C. K. (1997). Executive decisions about adoption of information technology in small business: theory and empirical tests. Information System Research, 8(2),171-195.
3. Jogiyanto H. M. Pengenalan Komputer. Andi Offset, Yogyakarta. 1989.
4. Madcoms, 2002, Pemrograman Borland Delphi 7, Andi offset, Yogyakarta.
5. Wahana, komputer, 2003, Panduan Praktis Pemrograman Borland Delphi 7, Andi Offset, Yogyakarta. http://id.wikipedia.org/wiki/absensisiswa http://watipuspitasari.blogspot.com/search/label/tugas
6. Ambika, P., Ayshwarya, B., Nguyen, P. T., Hashim, W., Rinjani, F., Muslihudin, M., . . . Maseleno, A. (2019). The best of village head performance: Simple additive weighting method. *International Journal of Recent Technology and Engineering, 8*(2 Special Issue 3), 1568-1572. doi:10.35940/ijrte.B1286.0782S319
7. Andriyani, N., Likhitruangsilp, V., & Chovichien, V. (2006). *A framework of knowledge acquisition systems for governmental agencies in public construction projects.* Paper presented at the Real Structures: Bridges and Tall Buildings - Proceedings of the 10th East Asia-Pacific Conference on Structural Engineering and Construction, EASEC 2010.
8. Ayshwarya, B., Firdiansah, F. A., Alfian, F. Y., Nguyen, P. T., Hashim,

November-December 2019
ISSN: 0193-4120 Page No. 1146 - 1154

W., Shankar, K., . . . Maseleno, A. (2019). The best land selection using simple additive weighting. *International Journal of Recent Technology and Engineering, 8*(2 Special Issue 3), 1520-1525. doi:10.35940/ijrte.B1278.0782S319

9. Bahrami, N., Liu, S., Ponkratov, V. V., Nguyen, P. T., Maseleno, A., & Berti, S. (2019). Novel load management for renewable generation sources/battery system through cut energy expenditure and generate revenue. *International Journal of Ambient Energy*. doi:10.1080/01430750.2019.1636868
10. Fitriana, A., Nguyen, P. T., Rema Devi, S., Shankar, K., Abadi, S., Hashim, W., & Maseleno, A. (2019). Decision support system of employee performance evaluation. *International Journal of Engineering and Advanced Technology, 8*(6 Special Issue 2), 1007-1012. doi:10.35940/ijeat.F1307.0886S219
11. Handayani, T. N., Likhitruangsilp, V., & Yabuki, N. (2019). A building information modeling (BIM)-integrated system for evaluating the impact of change orders. *Engineering Journal, 23*(4), 67-90. doi:10.4186/ej.2019.23.4.67
12. Huda, M., Hashim, A., Teh, K. S. M., Shankar, K., Ayshwarya, B., Nguyen, P. T., . . . Maseleno, A. (2019). Learning quality innovation through integration of pedagogical skill and adaptive technology. *International Journal of Innovative Technology and Exploring Engineering, 8*(9 Special Issue 3), 1538-1541. doi:10.35940/ijitee.I3321.0789S319
13. Huynh, V. D. B., Van Nguyen, P., Nguyen, Q. H. T. T., & Nguyen, P. T. (2018). Application of Fuzzy Analytical Hierarchy Process based on Geometric Mean Method to prioritize social capital network indicators. *International Journal of Advanced Computer Science and Applications, 9*(12), 182-186. doi:10.14569/IJACSA.2018.091227
14. Ioannou, P. G., & Likhitruangsilp, V. (2005). *Simulation of multiple-drift tunnel construction with limited resources.* Paper presented at the Proceedings - Winter Simulation Conference.
15. Kokkaew, N., & Likhitruangsilp, V. (2018). *Comparing Life Cycle Cost of Public and PPP Transportation Infrastructure in Thailand: An Empirical Evidence.* Paper presented at the ICCREM 2018: Construction Enterprises and Project Management - Proceedings of the International Conference on Construction and Real Estate Management 2018.
16. Kumar, R., Ayshwarya, B., Muslihudin, M., Nguyen, P. T., Alfian, F. Y., Hashim, W., . . . Maseleno, A. (2019). Into the furniture woods: Analytical hierarchy process method. *International Journal of Recent Technology and Engineering, 8*(2 Special Issue 3), 1562-1567. doi:10.35940/ijrte.B1285.0782S319
17. Likhitruangsilp, V., Handayani, T. N., Ioannou, P. G., & Yabuki, N. (2018). *A BIM-enabled system for evaluating impacts of construction change orders.* Paper presented at the Construction Research Congress 2018: Construction Information Technology - Selected Papers from the Construction Research Congress 2018.
18. Likhitruangsilp, V., & Harinthajinda, P. (2008). *Assessment of contractors' risk response in tunneling projects.* Paper presented at the EASEC-11 - Eleventh East Asia-Pacific Conference on Structural Engineering and Construction.
19. Likhitruangsilp, V., & Ioannou, P. G. (2004). *Risk-sensitive decision support system for tunnel construction.* Paper presented at the Geotechnical Special Publication.

20. Likhitruangsilp, V., & Ioannou, P. G. (2005). *Economic assessment of site exploration programs using stochastic dynamic programming*. Paper presented at the Construction Research Congress 2005: Broadening Perspectives - Proceedings of the Congress.
21. Likhitruangsilp, V., & Ioannou, P. G. (2009). *Risk allocation in standard forms of general conditions for tunneling contracts*. Paper presented at the Building a Sustainable Future - Proceedings of the 2009 Construction Research Congress.
22. Likhitruangsilp, V., & Ioannou, P. G. (2012). *Analysis of risk-response measures for tunneling projects*. Paper presented at the Construction Research Congress 2012: Construction Challenges in a Flat World, Proceedings of the 2012 Construction Research Congress.
23. Likhitruangsilp, V., Ioannou, P. G., & Leeladejkul, S. (2014). *Mapping work process and information exchange of construction entities for BIM implementation: Case study of an academic institute*. Paper presented at the Computing in Civil and Building Engineering - Proceedings of the 2014 International Conference on Computing in Civil and Building Engineering.
24. Likhitruangsilp, V., Le, H. T. T., Yabuki, N., & Ioannou, P. G. (2019). *Integrating building information modeling and visual programming for building life-cycle cost analysis*. Paper presented at the ISEC 2019 - 10th International Structural Engineering and Construction Conference.
25. Likhitruangsilp, V., & Praphansiri, K. (2010). *Identifying risk factors in equipment procurement of power plant projects*. Paper presented at the COBRA 2010 - Construction, Building and Real Estate Research Conference of the Royal Institution of Chartered Surveyors.
26. Likhitruangsilp, V., & Prasitsom, A. (2008). *Construction joint venture contracting*. Paper presented at the COBRA 2008 - Construction and Building Research Conference of the Royal Institution of Chartered Surveyors.
27. Likhitruangsilp, V., Putthividhya, W., & Ioannou, P. G. (2012). *Conceptual framework of the Green Building Information Management System*. Paper presented at the Construction Research Congress 2012: Construction Challenges in a Flat World, Proceedings of the 2012 Construction Research Congress.
28. Likhitruangsilp, V., & Sarutirattanaworakun, R. (2006). *Dynamic resource allocation for tunnel construction by discrete-event simulation.* Paper presented at the Construction and Professional Practices - Proceedings of the 10th East Asia-Pacific Conference on Structural Engineering and Construction, EASEC 2010.
29. Long, L. D., Tran, D. H., & Nguyen, P. T. (2019). Hybrid multiple objective evolutionary algorithms for optimising multi-mode time, cost and risk trade-off problem. *International Journal of Computer Applications in Technology, 60*(3), 203-214. doi:10.1504/IJCAT.2019.100299
30. Luong, D. L., Tran, D. H., & Nguyen, P. T. (2018). Optimizing multi-mode time-cost-quality trade-off of construction project using opposition multiple objective difference evolution. *International Journal of Construction Management*. doi:10.1080/15623599.2018.1526630
31. Mukhlis, H., Ayshwarya, B., Nguyen, P. T., Hashim, W., Hardono, Maesaroh, S., . . . Maseleno, A. (2019). Boarding house selection using SAW method. *International Journal of Recent Technology and Engineering, 8*(2 Special Issue 3), 1500-1505. doi:10.35940/ijrte.B1275.0782S319
32. Muslihudin, M., Ayshwarya, B., Effendi, Yusfika, D., Pribadi, M. R.,

November-December 2019
ISSN: 0193-4120 Page No. 1146 - 1154

Susanto, F., . . . Vellyana, D. (2019). Application of weighted product method for determining home renovation assistance in Pringsewu district. *International Journal of Recent Technology and Engineering, 8*(2 Special issue 2), 385-391. doi:10.35940/ijrte.B1063.0782S219

33. Muslihudin, M., Trisnawati, Mukodimah, S., Hashim, W., Ayshwarya, B., Nguyen, P. T., . . . Maseleno, A. (2019). Performance of saw and wp method in determining the feasibility of motorcycle engineering workshop for competency test of vocational high school student. *International Journal of Recent Technology and Engineering, 8*(2 Special Issue 2), 348-353.
34. Nguyen, P. T., Huynh, V. D. B., & Nguyen, Q. L. H. T. T. (2019). Using fuzzy analytical network process approach to develop job search success model of engineering graduates. *International Journal of Recent Technology and Engineering, 8*(1), 366-369.
35. Nguyen, P. T., & Likhitruangsilp, V. (2017). Identification risk factors affecting concession period length for public-private partnership infrastructure projects. *International Journal of Civil Engineering and Technology, 8*(6), 342-348.
36. Nguyen, P. T., Likhitruangsilp, V., & Onishi, M. (2018). Prioritizing factors affecting traffic volume of public-private partnership infrastructure projects. *International Journal of Engineering and Technology(UAE), 7*(4), 2988-2991. doi:10.14419/ijet.v7i4.13357
37. Nguyen, P. T., Van Nguyen, P., To Nguyen, Q. L. H. T., & Huynh, V. D. B. (2016). Project success evaluation using TOPSIS algorithm. *Journal of Engineering and Applied Sciences, 11*(8), 1876-1879. doi:10.3923/jeasci.2016.1876.1879
38. Nguyen, P. T., Vo, K. D., Phan, P. T., Huynh, V. D. B., Nguyen, T. A., Cao, T. M., . . . Le, L. P. (2018). Construction project quality management using building information modeling 360 field. *International Journal of Advanced Computer Science and Applications, 9*(10), 228-233. doi:10.14569/IJACSA.2018.091028
39. Nguyen, P. T., Vu, N. B., Van Nguyen, L., Le, L. P., & Vo, K. D. (2019). *The Application of Fuzzy Analytic Hierarchy Process (F-AHP) in Engineering Project Management*. Paper presented at the 2018 IEEE 5th International Conference on Engineering Technologies and Applied Sciences, ICETAS 2018.
40. Nguyen, P. V., Nguyen, P. T., Nguyen, Q. L. H. T. T., & Huynh, V. D. B. (2019). Extended fuzzy analytical hierarchy process approach in determinants of employees' competencies in the fourth industrial revolution. *International Journal of Advanced Computer Science and Applications, 10*(4), 150-154.
41. Nguyen, T. A., Nguyen, P. T., & Peansupap, V. (2015). Explaining model for supervisor's behavior on safety action based on their perceptions. *ARPN Journal of Engineering and Applied Sciences, 10*(20), 9562-9572.
42. Pham, C. P., Nguyen, P. T., Vo, K. D., Phan, P. T., Huynh, V. D. B., & Nguyen, Q. L. H. T. T. (2019). Fuzzy logic with engineering application of housing construction licensing service quality. *International Journal of Recent Technology and Engineering, 8*(1), 361-365.
43. Phong, N. T., Likhitruangsilp, V., & Onishi, M. (2017). *Developing a stochastic traffic volume prediction model for public-private partnership projects*. Paper presented at the AIP Conference Proceedings.
44. Phong, N. T., & Quyen, N. L. H. T. T. (2017). *Application fuzzy multi-attribute*

decision analysis method to prioritize project success criteria. Paper presented at the AIP Conference Proceedings.

45. Phong, T. N., Phuc, V. N., & Quyen, T. T. H. L. N. (2017) Application of fuzzy analytic network process and TOPSIS method for material supplier selection. In*: Vol. 728. Key Engineering Materials* (pp. 411-415).
46. Prasitsom, A., & Likhitruangsilp, V. (2012). *Design of administrative structures for construction joint ventures.* Paper presented at the Joint Ventures in Construction 2: Contract, Governance, Performance and Risk.
47. Rusliyadi, M., Kumalasari, R. T., Nguyen, P. T., Hashim, W., & Maseleno, A. (2019). Potential jatropha curcas (Jatropha curcas L.) germplasm by exploration in gorontalo province Indonesia. *International Journal of Recent Technology and Engineering, 8*(2 Special Issue 3), 1617-1624. doi:10.35940/ijrte.B1295.0782S319
48. Suyatno, Nguyen, P. T., Dinesh Kumar, A., Pandi Selvam, R., & Shankar, K. (2019). Examination of information system design for student's scoring processing. *International Journal of Engineering and Advanced Technology, 8*(6 Special Issue 2), 1143-1147. doi:10.35940/ijeat.F1312.0886S219
49. Sy, D. T., Likhitruangsilp, V., Onishi, M., & Nguyen, P. (2017). Different perceptions of concern factors for strategic investment of the private sector in public-private partnership transportation projects. *ASEAN Engineering Journal, 7*(2), 66-86.
50. Sy, D. T., Likhitruangsilp, V., Onishi, M., & Nguyen, P. T. (2017). Impacts of risk factors on the performance of public-private partnership transportation projects in Vietnam. *ASEAN Engineering Journal, 7*(2), 30-52.
51. Van Nguyen, P., Nguyen, P. T., Huynh, V. D. B., & Nguyen, Q. L. H. T. T. (2017). Critical factors affecting the happiness: A Vietnamese perspective. *International Journal of Economic Research, 14*(4), 145-152.
52. Van Nguyen, P., Nguyen, P. T., Nguyen, Q. L. H. T. T., & Huynh, V. D. B. (2016). Calculating weights of social capital index using analytic hierarchy process. *International Journal of Economics and Financial Issues, 6*(3), 1189-1193.
53. Vo, K. D., Nguyen, P. T., Pham, C. P., Huynh, V. D. B., Nguyen, Q. L. H. T. T., Vu, N. B., & Le, L. P. (2019). Measuring individual job performance of project managers using fuzzy extended analytic method. *International Journal of Recent Technology and Engineering, 8*(2 Special Issue), 86-90. doi:10.35940/ijrte.a1379.078219
54. Wahyudi, A., Zulela, Marini, A., Choirudin, Ayshwarya, B., Nguyen, P. T., & Shankar, K. (2019). Government policy in realizing basic education metro. *International Journal of Innovative Technology and Exploring Engineering, 8*(9 Special Issue 3), 113-116.
55. Yunita, D., Ayshwarya, B., Ridhawati, E., Huda, M., Hashim, A., Teh, K. S. M., . . . Maseleno, A. (2019). Application of analytical hierarchy process method in laptop selection. *International Journal of Recent Technology and Engineering, 8*(2 Special Issue 3), 1603-1607. doi:10.35940/ijrte.B1291.0782S319