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Event Management System for Webinars and Survey

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Abstract: Webinars and surveys have been widely used. Popular applications such as ezTalks, Zoom, Demio, Google Meet, LiveStorm have been used in seminars and online meetings. For every webinar activity, the organizers often carry out survey activities to see feedback from participants, google forms applications, survey monkeys, typeforms, zoho surveys, and gizmo surveys are used to see responses from all participants. In addition, several organizers also gave appreciation in the form of certificates. However, the management of many webinars is often an obstacle to seeing the results of each activity and the participants who take part in the activity. Although the use of google forms has been very good and effective, the lack of features in the management of webinar activities is a problem in itself in making reports in a short time. Therefore, we need a service application that can assist in the management of webinar activities and has survey features from registration, attendance to certificates. Where later application users (organizations, committees) can fill out webinar activities and can propose surveys for each activity carried out. In software development, Agile Development Methods (ASD) are used, Event Management System for Webinars and Survey applications that the researchers built using CodeIgniter and React-Js. In the test, we plan the data analysis to be divided into three parts, namely Demographic Analysis Results, Reliability Test Results Analysis, Validity, and Data Processing Analysis. Analysis Data processing includes Importance-Performance Analysis (IPA). So far, webinar and survey management applications have completely fulfilled needs such as making a number of questions in the form of multimedia and sharing research data, but webinar management applications with survey services in an application have not been carried out. It is hoped that the development of research on webinar and survey management applications will produce more visualitative applications and be able to manage webinar activities and reporting related to surveys, reporting participants for each activity carried out. Based on the results of the Importance Performance Analysis, it is known that the average value of the level of expectation or importance for usability is 3.97, and the average value for the level of performance is 3.68. the average value of the level of expectation or importance for information quality is 4.07, and the average value for the level of performance is 3.70. the average value of the level of expectation or importance for service interaction is 3.94, and the average value for the level of performance is 3.71.

Index Terms: Events; Management Systems; Webinars; Survey.

1. Introduction

Training by utilizing online webinar media opens a paradigm for utilizing technology [1]. The advancement of digital virtual-based communication has become an alternative used during the Covid-19 pandemic [2]-[3]. Seminars conducted online usually require special tools, so there are a number of features that support the course of these activities. Most use ezTalks [4], Zoom [5], Demio [6], Google Meet [7], LiveStorm [8] for seminars and online meetings. Most researchers think that webinar tools are very active and useful in the present and future. Every seminar and training activity is carried

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out, it cannot be separated from surveys. The survey was conducted to see testimonials in the form of positive or negative feedback from participants so that the results of the activities are used to maintain excellence or improve the quality of activities. From the results of the google trends survey, it is stated that google forms has the highest number of enthusiasts at 48%, followed by the monkey survey at 20%, then typeform, zoho survey, and gizmo survey an average of 10% within a period of 5 years [9]. The link between the use of webinar applications and surveys is used to later be able to store participant data and then automatically be used to create award certificates [10][11][12].

However, the use of google forms is still ineffective due to database storage and filter problems for each participant when participating in several seminar activities [9][13]. The ability to collect data is the key to the success of many activities [14]. In our previous research, we have built an e-questionnaire application that can be used as an alternative while still prioritizing the appearance for end users by adopting the google form service but has the feature of being able to add questions [9], [15]. Although it has been very good and effective as a substitute for google forms, there are still lack of features in managing webinar activities. Therefore, we need a service application that can assist in the management of webinar activities and has a survey feature. Where later application users (organizations, committees) can fill out webinar activities and can propose surveys for each activity carried out. The novelty of the proposed concepts and ideas are as follows.

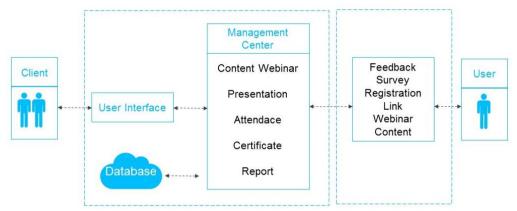


Fig 1. Novelty of proposed concepts and ideas

The proposed concepts and ideas are as shown in Figure 1 that the client in question is the organizer of the activity (lecturers, committees, etc.) Furthermore, clients can also create attendance and certificates for each webinar activity. The app also comes with customized reports on each activity. Meanwhile, the user in question is the user or participant of the activity, where information in the form of registration, links, webinars, to filling in attendance and certificates are given after the activity is completed. The specific objectives of the research are, among others, to; Want to prove the existing theories on the e-questionnaire architecture to be adapted to the current development of knowledge and technology, Develop a webinar and survey management application to make it easier for webinar organizers to be able to disseminate and manage activities starting from activity information, attendance, surveys, to giving certificates for participants, and Develop the results of previous research, namely developing webinar and survey management applications that are more flexible than existing applications and provide references for research in Indonesia so that later on the creation of an institutional vocational product in accordance with the topics and themes of campus strategic plan.

The use of webinar applications in seminar activities has been widely used [16], since the mid-2020 Covid-19 pandemic [17], so that they can interact virtually to improve learning [18]. The use of webinars is not just an online learning medium, but has features to make polls, share information, and surveys important after the activity is completed [19]. An easy and free application that is widely used to create, evaluate, and share surveys is Google Form [20], and it has a certificate generation feature for registered participants [21]. A number of studies that have been carried out are known that the management of survey data must be based on data with good quality, the collection method can be done manually or electronically. As well as data managed by computer, email, and web survey [22]. However, the management of webinars and surveys has not been widely studied. Some researchers disseminate surveys via mobile media [23], but innovation is still needed in European countries for the development of survey applications in the ICT sector and its rapid uptake by the public, urban planners and public authorities have access to new digital tools to facilitate it [24]. Incorporating the webinar feature and equipped with survey features to reporting, further research still needs to be done, so that each planned technology is in accordance with the needs of the community and the market [25]. Therefore, we need a service application that can assist in the management of webinar activities and can propose surveys for each activity carried out.

2. Research Method

Agile Development Methods (ASD) is used in software development where this method is widely used for software development because it can produce more descriptive system requirements data and is easily implemented into software [26][27][28]. Meanwhile, data collection after the implementation process will be carried out by making a checklist of planned and fulfilled features, as well as performance testing to obtain data on system implementation hardware requirements. Then the prototype was tested on users to get feedback in the form of questionnaires and also direct interviews. The results of the questionnaire will be inputted into tabulations and simple calculations are performed to obtain quantitative data on the success of the system. While the data from the interviews will be documented and categorized to distinguish evaluations for program improvement that can be carried out in this study, or will be used as input for future research. The description of application development using the Agile Development Methods is as follows:

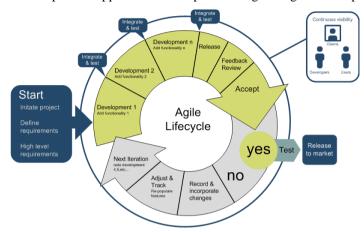


Fig 2. Experiments using Agile Development Methods

The Event Management System for Webinars and Survey application that the researcher built uses CodeIgniter and React-Js which serves to support the activities of researchers conducting surveys to respondents online. In the test, we plan the data analysis to be divided into three parts, namely Demographic Analysis Results, Reliability Test Results Analysis, Validity, and Data Processing Analysis. Demographic data analysis was performed using Ms. software. Excel 2016, demographic analysis includes respondent profile data. Analysis of the results of the reliability and validity test was used with the help of SPSS 24 software. Meanwhile, the analysis of data processing was carried out using the Ms. software. Excel 2016 and IBM SPSS. Analysis Data processing includes Importance-Performance Analysis (IPA).

3. Result and Discussion

3.1 Results

This stage is carried out by analyzing respondents' answers, especially to questions on the respondent's profile section and the Event Management System for Webinars and Survey website in the questionnaire to produce demographic information related to the characteristics of respondents on the quality of the E-Questionnaire website. The respondent data that the researchers managed to obtain within a period of one month (May 2021 to February 2022) were 60 respondents. The demographic information includes class or semester, major, gender, age, website visits, and duration of mobile phone use. respondents use a smartphone for 2-3 hours per day by 26%, smartphone use per day exceeds 10 hours by 23%, 6-10 hours per day by 23%, and the lowest is less than 1 hour per day by 10%. While the perceived quality of the website currently shows that as many as 23 (39%) respondents feel the quality of the current website is satisfied, while as many as 5 (8%) respondents feel the quality is not satisfied, 11 (18%) respondents feel dissatisfied, 16 (27%) of respondents said they were quite satisfied, and only 5 (8%) of respondents said that the quality of the existing website was very satisfied. As well as the willingness of respondents to promote the E-Questionnaire website who answered Yes by 39 respondents (65%), and were not willing to promote the website by 20 respondents (33%), and only 1 respondent who answered Don't know (2%). The reliability and validity tests in this study were based on the results of the questionnaires that had been distributed to 60 respondents. Testing the validity and reliability of the E-Questionnaire website trial was divided into two, because from the perspective of the respondent's assessment of their perceptions and expectations of each the E-Questionnaire website they use. Each is described in tables that will display a summary of the reliability and validity tests of the perceptions and expectations of the users of the Event Management System for Webinars and Surveys. This test is carried out by comparing the calculated r numbers and r tables. if r count is greater than r table then the item is said to be valid and vice versa if r count is smaller than r table then the item is said to be invalid. r count is searched using the SPSS program, while r table is searched by looking at table r with the minimum r provision is 0.2.

Table 1. Validity Results for Each WebQUAL Attribute

Dimension	Statement	r-count	Information
Usability	Easy application to learn and operate	0,833	Valid
	Interaction with the App is clear and understandable	0,839	Valid
	The app has clear navigation/instructions	0,830	Valid
	Easy to use app	0,844	Valid
	The application has an attractive appearance	0,829	Valid
	Application Design according to the type (webinar & survey website)	0,834	Valid
	With this application, you can increase competence with others	0,826	Valid
	This application provides a positive experience for me	0,821	Valid
Information quality	Application provides accurate information	0,819	Valid
	Application provides reliable information	0,840	Valid
	Application provides precise information	0,822	Valid
	Application provides relevant information	0,801	Valid
	The application provides easy-to-understand information	0,815	Valid
	The application provides detailed information	0,809	Valid
	Have a good reputation	0,837	Valid
	The application provides a sense of security when conducting search activities and filling out questionnaire data	0,842	Valid
Service	I feel my personal information is stored safely	0,827	Valid
Interaction Quality	Application gives room for user personalization	0,828	Valid
	After using the Application, it makes me feel part of the academic community or researchers	0,809	Valid
	The application makes it easy to communicate with the application manager	0,821	Valid

Source: Primary data processed (2022).

The results of the reliability test above, it is known that the Cronbach alpha number is 0.850. so the number (0.850) is greater than the minimum value of cronbach's alpha 0.6. therefore it can be concluded that the research instrument used to measure the variables can be said to be reliable or reliable. This is also the same for each WebQUAL attribute where the value above is at least cronbach's alpha 0.6, and is said to be reliable or reliable. Based on the results of the Importance Performance Analysis, it is known that the average value of the level of expectation or importance for usability is 3.97, and the average value for the level of performance is 3.68. the average value of the level of expectation or importance for information quality is 4.07, and the average value for the level of performance is 3.70. the average value of the level of expectation or importance for service interaction is 3.94, and the average value for the level of performance is 3.71. Based on the results of the average Importance Performance Analysis Event Management System for Webinars and Surveys, it can be seen that:

Table 2. The average value of the assessment of the level of importance and the level of performance on the service interaction attribute

No	Dimension	Interest	Performance
1	Usability	3.97	3.67
2	Information quality	4.07	3.71
3	Service Interaction Quality	3.94	3.69

Source: Primary data processed (2022).

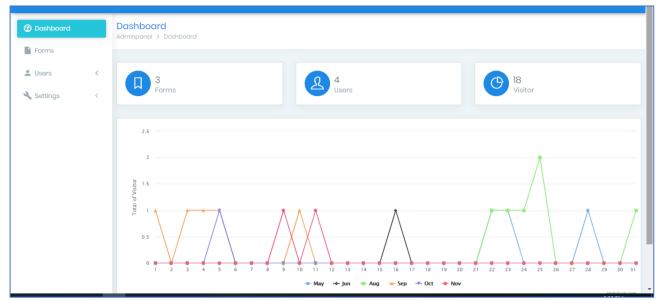


Fig 3. Event Management System for Webinars and Survey View

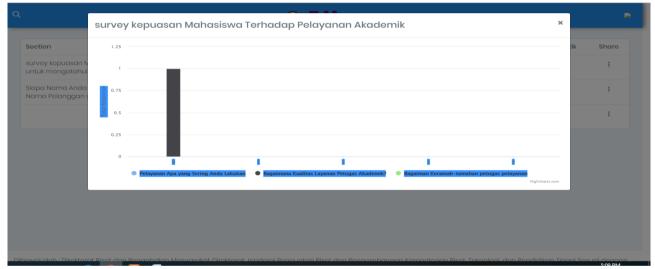


Fig 4. Display of Survey Results After the Webinar

3.2 Discussion

This research still needs to be continued in the second stage next year with a system documentation study and the existence of the technology concept has been validated, and scientific feasibility is demonstrated through analytical and laboratory studies. While the final data collection after the implementation process will be carried out by making a checklist of the planned and fulfilled features, as well as performance testing to obtain data on system implementation hardware requirements. Then the prototype was tested on users to get feedback in the form of questionnaires and also direct interviews. The results of the questionnaire will be inputted into tabulations and simple calculations are performed to obtain quantitative data on the success of the system. Meanwhile, interview data will be documented and categorized to distinguish evaluations for program improvement that can be carried out in this research, or will be used as input for the next year's research. Furthermore, experimental research in the laboratory and dummy data to ensure the technology is feasible to be developed with various system models tested by implementing it on the server and ready for simulation. Testing the system prototype on users in the environment and simulation of the prototype is carried out. In the testing process, the black-white box testing method is used where testing is done by looking into the module to examine existing program codes, and analyze whether there are errors or not as well as test-case design that uses a procedural design control structure to obtain test-cases.

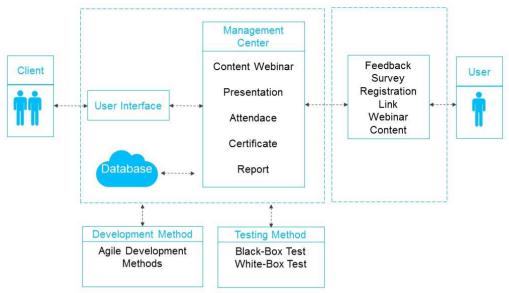


Fig 5. The next research system implementation experiment

Webinar and survey applications are at least equipped with webinar activity information features, assessment surveys, applications can be customized according to the user's wishes, can be shared to various online social media, can record every participant data, are validated, and have reports related to webinar participants, attendance, analysis of webinar planning, to giving awards to participants.

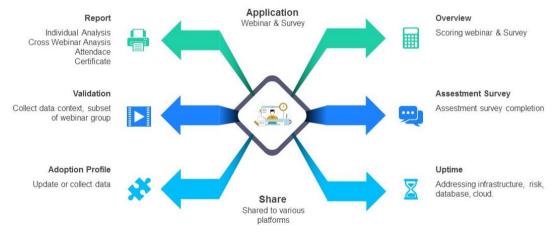


Fig 6. Webinar and Survey Innovation Planning (Source: Researcher).

4. Related Work

Several studies have revealed that an event application can have a good management impact [29]. The Preschool Event Management System for Aulad Geniuses (PEMS) developed by Yusoff *et al* (2021) is a computerized prototype system, which was developed to facilitate the handling of the preschool event management process bringing benefits to the organization [30]. Universiti Tun Hussein Onn Malaysia (UTHM) has also developed the UTHM Student Event Management System (USEM) which enables reduction of data entry work, easy retrieval of information, reduction of errors due to human intervention, user friendly interface for entering data, fast search for information requests and easily accessible anywhere. The test results show that, this system helps PSU and student clubs to manage co-curricular events efficiently [31]. However, this research is still on the need for school facilitation in data management of event activities automatically. If we look at the research conducted by Weerakoon (2021) making an Event Management System application for Conferences & Workshops to evaluate the final system requires a better evaluation technique. The automated system was tested using several test methods such as unit test, integration test, system test, and acceptance test [32]. The system built can run on any operating system/platform and includes appropriate Quality Assurance processes, user guides and demonstrations to increase system remuneration [32]. What was also done by Hadiwiyanti, Suryanto, & Wibowo (2021) resulted in a Campus Event Management Information System application which was shortened to "SEMARAK" which has the ability to publish campus events, schedule campus activities, and manage campus facilities

management [33]. Although it has almost the same function as the Webinar application that the author developed, all researchers do not add Survey facilities to every activity/event after it is held. So that this research becomes an innovation that the addition of a survey is a novelty in itself. Evaluation needs to be done to see the communication process that occurs between the event organizers and participants or visitors during and before the event so that the implementation of the event is seen from the effects of the participants and visitors after each activity.

5. Conclusion

So far, webinar and survey management applications have completely fulfilled needs such as making a number of questions in the form of multimedia and sharing research data, but webinar management applications with survey services in an application have not been carried out. It is hoped that the development of research on webinar and survey management applications will produce more visualitative applications and be able to manage webinar activities and reporting related to surveys, reporting participants for each activity carried out. Based on the results of the Importance Performance Analysis, it is known that the average value of the level of expectation or importance for usability is 3.97, and the average value for the level of performance is 3.68. the average value of the level of expectation or importance for information quality is 4.07, and the average value for the level of performance is 3.70. the average value of the level of expectation or importance for service interaction is 3.94, and the average value for the level of performance is 3.71.

References

- [1] Arifianto, C., Susilo, A., Tajuddien, R. and Romdonih, F., 2020. Peningkatan Kapabilitas Teknologi dalam Menghadapi Era Disrupsi pada Generasi Milenial melalui Webinar. *JURPIKAT (Jurnal Pengabdian Kepada Masyarakat)*, 1(2), pp.145-157. DOI: https://doi.org/10.37339/jurpikat.v1i2.280.
- [2] Evriyana, A., Nugroho, S. and Suparmo, L., 2021. Efektivitas Webinar dalam Membangun Pola Komunikasi di Tengah Pandemi. *MASSIVE: Jurnal Ilmu Komunikasi*, 1(1), pp.40-53. DOI: https://doi.org/10.35842/massive.v1i1.13.
- [3] Yulianto, E., Cahyani, P.D. and Silvianita, S., 2020. Perbandingan kehadiran sosial dalam pembelajaran daring menggunakan whatsapp groupdan webinar zoom berdasarkan sudut pandang pembelajar pada masa pandemic covid-19. *Jurnal Riset Teknologi dan Inovasi Pendidikan (JARTIKA)*, 3(2), pp.331-341.
- [4] Sidpra, J., Gaier, C., Reddy, N., Kumar, N., Mirsky, D. and Mankad, K., 2020. Sustaining education in the age of COVID-19: a survey of synchronous web-based platforms. *Quantitative Imaging in Medicine and Surgery*, 10(7), p.1422. DOI: https://doi.org/10.21037%2Fqims-20-714.
- [5] Wan Hassan, W.A.S., Ariffin, A., Ahmad, F., Hamzah, N., Rubani, S.N.K., Zakaria, N. and Hassan, W., 2020. Students'perceptions Of Using Zoom Meet Webinar During Covid-19 Pandemic In Technical And Vocational Education. *Journal of Critical Reviews*, 7, p.19.
- [6] Bennett, S., 2022. 24 Best Webinar Software Platforms of Jun 2022 (Reviewed).
- [7] Malhotra, S., Dutta, R., Daminee, A.K. and Mahna, S., 2020, September. Paradigm Shift in Engineering Education During COVID 19: From Chalkboards to Talk Boards. In 2020 12th International Conference on Computational Intelligence and Communication Networks (CICN) (pp. 287-293). IEEE. DOI: https://doi.org/10.1109/CICN49253.2020.9242617.
- [8] Kapadia, A., Nair, M. and Salvi, V., 2020. Selecting and making the most of online webinars in plastic surgery: a new initiative. *Indian Journal of Plastic Surgery*, 53(02), pp.293-297. DOI: https://doi.org/10.1055/s-0040-1715539.
- [9] Ismail, I. and AlBahri, F.P., 2019. Perancangan E-Kuisioner menggunakan CodeIgniter dan React-Js sebagai Tools Pendukung Penelitian. *J-SAKTI (Jurnal Sains Komputer dan Informatika)*, 3(2), pp.337-347. DOI: http://dx.doi.org/10.30645/j-sakti.v3i2.152.
- [10] Parinduri, I. and Hutagalung, S.N., 2021. Pembuatan Video Confrensi Menggunakan Media Zoom Meeting Dan Pembuatan Sertfikat Pelatihan Menggunakan Google Form. *Jurnal ABDIMAS Budi Darma*, *1*(2), pp.43-48. DOI: http://dx.doi.org/10.30865/pengabdian.v1i2.2961.

- [11] Sari, R.F. and Santoso, D.L., 2021. Efektivitas Strategi Webinar Dalam Edukasi Penyuluhan Tentang Kebijakan Insentif Perpajakan Di Masa Pandemi Covid-19 Terhadap Partisipasi Wajib Pajak. *Scientax*, 3(1), pp.70-87. DOI: https://doi.org/10.52869/st.v3i1.117.
- [12] Khairi, M.Y., 2021. Pelatihan melalui Webinar sebagai Upaya Peningkatan Kinerja dan Kualitas Guru di Masa Pandemi. *Edukatif: Jurnal Ilmu Pendidikan*, 3(4), pp.2212-2219. DOI: https://doi.org/10.31004/edukatif.v3i4.1132.
- [13] Rahardja, U., Lutfiani, N. and Alpansuri, M.S., 2018. Pemanfaatan Google Formulir Sebagai Sistem Pendaftaran Anggota Pada Website Aptisi. or. id. *Sisfotenika*, 8(2), pp.128-139. DOI: http://dx.doi.org/10.30700/jst.v8i2.401.
- [14] Anokwa, Y., Hartung, C., Brunette, W., Borriello, G. and Lerer, A., 2009. Open source data collection in the developing world. *Computer*, 42(10), pp.97-99. DOI: http://dx.doi.org/10.1109/MC.2009.328.
- [15] Ismail I, Al-Bahri FP. WebQual 4.0 dan Importance-Performance Analysis (IPA): Eksplorasi Kualitas Situs Web e-Kuisioner. *Jurnal JTIK (Jurnal Teknologi Informasi dan Komunikasi)*, 3, p.2. DOI: https://doi.org/10.35870/jtik.v3i2.87.
- [16] Angela, J.N., 2021. *Pelatihan membuat webinar yang mudah dan sukses* (Doctoral dissertation, Universitas Pelita Harapan).
- [17] Mulianti, M., Asisah, A. and Najamuddin, F., 2021. Webinar Pelatihan Media Pembelajaran di masa pandemi covid-19. *Journal Lepa-Lepa Open*, *1*(2), pp.307-311.
- [18] Lieser, P., Taf, S.D. and Murphy-Hagan, A., 2018. The Webinar Integration Tool: A Framework for Promoting Active Learning in Blended Environments. *Journal of Interactive Media in Education*, 2018(1).
- [19] Kolås, L., Nordseth, H. and Yri, J.S., 2015. Active Students in Webinars. *International Association for Development of the Information Society*.
- [20] Kubicki, J.M., Weeks, T. and Putnam-Davis, J., 2018. Free, Quick & Easy: Utilizing Google Apps to Assess & Communicate Learning.
- [21] Jamalpur, B., Chythanya, K.R. and Kumar, K.S., 2021. A comprehensive overview of online education–Impact on engineering students during COVID-19. *Materials Today: Proceedings*.
- [22] Nayak, M.S.D.P. and Narayan, K.A., 2019. Strengths and weaknesses of online surveys. *Technology*, 6(7), pp.0837-2405053138.
- [23] Kopper, S. and Sautmann, A., 2020. Best practices for conducting phone surveys. *Abdul Latif Jameel Poverty Action Lab (J-PAL)*.
- [24] Heyder, M., Höffken, S. and Heydkamp, C., 2021. eParticipation in Neighbourhood Development: A Survey of Digital Applications and Tools. *International Journal of Urban Planning and Smart Cities (IJUPSC)*, 2(2), pp.1-18.
- [25] Bahruni, B. and Fathurrahmad, F., 2019. Data Mining Analysis: Research Topics Trend on Web of Science, SINTA, and Student Final Assignment at AMIK Indonesia. *International Journal of Latest Engineering and Management Research (IJLEMR)*, 4(5), pp.99-107.
- [26] Salam, A. and Albahri, F.P., 2022. Sistem Rekomendasi Tugas Akhir Mahasiswa pada AMIK Indonesia untuk Mendukung Merdeka Belajar-Kampus Merdeka Menggunakan Metode Collaborative Filtering (CF). *Jurnal JTIK* (*Jurnal Teknologi Informasi dan Komunikasi*), 6(2), pp.281-288. DOI: https://doi.org/10.35870/jtik.v6i2.420.
- [27] Abrahamsson, P., Oza, N. and Siponen, M.T., 2010. Agile software development methods: A comparative review. *Agile software development*, pp.31-59. DOI: https://doi.org/10.1007/978-3-642-12575-1 3.
- [28] Strode, D.E., 2006. Agile methods: a comparative analysis. In *Proceedings of the 19th annual conference of the national advisory committee on computing qualifications, NACCQ* (Vol. 6, pp. 257-264).

- [29] Hemanth, D.J., 2021. E-Society–A Financial and Event Management System. *Advances in Parallel Computing Technologies and Applications*, 40, p.424.
- [30] Yusoff, N.S.M., Bakar, N.A.A.A. and Daud, N.M.N., 2021, August. The development of a preschool event management system using usability heuristic theory. In *IOP Conference Series: Materials Science and Engineering* (Vol. 1176, No. 1, p. 012038). IOP Publishing. DOI: https://doi.org/10.1088/1757-899X/1176/1/012038.
- [31] Azmi, P.A.A.S.U. and Ibrahim, N., 2021. UTHM Students' Event Management System. *Applied Information Technology And Computer Science*, 2(2), pp.697-716.
- [32] Weerakoon, H.S.G.A., 2021. Event Management System for Conference & Workshop (Doctoral dissertation).
- [33] Hadiwiyanti, R., Suryanto, T.L.M. and Wibowo, N.C., 2021. Implementation of Event Management System Based on Campus Event Man-agement Information System As "Sistem Informasi Manajemen Acara Kampus" (SEMARAK). *Nusantara Science and Technology Proceedings*, pp.80-85.