



Step Into a New Dimension of the Android App Development World for Beginners

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ABSTRACT

Technological developments in the field of mobile applications have opened up many opportunities in various sectors. However, beginners often face obstacles due to a lack of basic knowledge about Android app development, so it is important for them to get a comprehensive and easy-to-understand education. In this context, the author and team organised an event titled "Step Into A New Dimension Of The Android App Development World For Beginners" with the aim of introducing the basics of Android app development to beginners with a structured approach. The programme was implemented through Webinars and Workshops, which included exposure to basic concepts to hands-on practice in creating simple applications. The evaluation results showed a positive response from 62 participants who came from various backgrounds, with 68% expressing satisfaction and 32% very satisfied with the implementation of this activity. In addition, the Pre-Test and Post-Test results showed an increase in participants' understanding of Android application development. This activity succeeded in providing a strong foundation for beginners to enter the world of Android application development.

Perkembangan teknologi dalam bidang aplikasi mobile telah membuka banyak peluang di berbagai sektor. Namun, sering kali pemula menghadapi kendala karena kurangnya pengetahuan dasar tentang pengembangan aplikasi Android. Untuk itu, penting bagi mereka mendapatkan pendidikan yang komprehensif dan mudah dipahami. Dalam konteks ini, penulis dan tim menyelenggarakan acara bertajuk "Step Into A New Dimension Of The Android App Development World For Beginners" dengan tujuan untuk memperkenalkan dasar-dasar pengembangan aplikasi Android kepada pemula dengan pendekatan yang terstruktur. Program ini dilaksanakan melalui Webinar dan Workshop, yang mencakup pemaparan konsep dasar hingga praktik langsung dalam pembuatan aplikasi sederhana. Hasil evaluasi menunjukkan respon positif dari 62 peserta yang berasal dari berbagai latar belakang, dengan 68% menyatakan puas dan 32% sangat puas terhadap penyelenggaraan kegiatan ini. Selain itu, hasil Pre-Test dan Post-Test menunjukkan adanya peningkatan pemahaman peserta



mengenai pengembangan aplikasi Android. Kegiatan ini berhasil memberikan landasan yang kuat bagi pemula untuk memasuki dunia pengembangan aplikasi Android.

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A. INTRODUCTION

The need to obtain information in various forms is increasingly important, thus more and more people want to provide and obtain information. Along with the rapid development of information technology, Android has emerged as the most widely used operating system among the various options available for mobile devices. In the last five years, the growth of mobile applications has also experienced a significant surge. In the Apple Store, the number of apps continues to increase every year. In 2018, there was a significant increase in non-gaming apps, while 2015 saw a significant increase in gaming apps. (Yusril et al., 2021).

Along with rapid development, the evolution of Android never stops and continues to bring the latest features and newer and more sophisticated systems. (Cahyasari Kartika Murni et al., 2024). With its open source characteristics, Android makes it easy for developers to create Android applications. The process of developing Android-based applications includes several important steps, including: determining the HIPO diagram and system work method, database design, installation of various software needed, designing user interfaces, creating application system projects and finally connecting the application system with Android devices. (Yohanis Solle & Uminingsih, 2021).

Android application development is now very efficient with Google introducing an Integrated Development Environment (IDE) called Android Studio which is equipped with advanced features that support the development, debugging, and packaging of Android applications. (Kuswoyo, 2022). Android Studio is based on IntelliJ IDEA from JetBrains and uses the Java language. In addition to offering a powerful code editor and IntelliJ development tools, Android Studio also provides various additional features that can increase productivity in the process of building Android applications. (Tjandra et al., 2022). With the presence of android studio makes it easy for android application developers for beginners to create simple android applications.

Therefore, the author and team organised this Webinar and Workshop activity as a form of community service program in the field of android application development. The ability in the field of Design Thinking is very important today because before making an application we need to consider the appearance of the application that will be produced. In addition, the field of android application development is needed as an implementation of the planned design.

According to Prehanto et al. (2021), Webinar is an information and communication medium for training conducted online. The concept of seminars that were previously conducted face-to-face has now shifted to online. Webinars are an innovative solution in the



teaching process that takes place online which allows presenters and participants to interact through images and text during the session. Meanwhile according to Mochamad Muslih and Serina Oktavia Marbun (2020), Workshop is an activity that involves people with expertise in a particular field to discuss certain issues and provide training to participants involving presenters in providing theory and hands-on practice in a field.

Through these webinars and workshops, participants are not only introduced to basic concepts, but also engage in in-depth practical sessions. This allowed them to directly apply the new knowledge they had acquired. As such, it is hoped that this journal will reflect the participants' hard work, dedication, and achievements in mastering the fundamentals of android app development.

B. METHODS

To realise the activities described earlier, the author and the team arranged the steps to be taken. The implementation of this activity is divided into two stages, namely Community Education in the form of Webinars and Training in the form of Workshops. In order to organise the Webinar and Workshop, the author and team went through certain stages.

1. Phase 1 (Socialisation of Activities)

At this stage, the author and team disseminated information through social media by sharing flyers and registration links at the URL <https://forms.gle/kh7hzq2pL8noDbt27> related to Webinar and Workshop activities. The poster was uploaded on platforms such as Instagram, LinkedIn, and distributed through broadcast messages in WhatsApp groups.

2. Phase 2 (Activity Material Creation)

At this stage, the author and the team compiled materials for the planned Webinar and Workshop activities. The material is prepared in PPT format and will be presented by the speakers during the event.

3. Phase 3 (Pre-Test Filling by Participants)

Before the activity begins, participants are asked to fill out a pre-test via the link <https://forms.gle/iYgqB8rgnWJih65f8>, which contains material related to Webinars and Workshops. This pre-test was made with the aim of measuring participants' initial understanding of the material to be delivered. The pre-test results will later be compared with the post-test which is carried out after the activity is completed.

4. Phase 4 (Community Education Through Webinars)

In this Webinar, the author and team presented basic material so that participants could understand well about Design Thinking and Basic Mobile Application Development material. The output of this stage is the introduction of material on the concept of Design Thinking, the stages of mobile application development, and the principles of user interface design. The Webinar material starts with Understanding Design Thinking, Stages of Empathy to Implementation, Understanding User Needs, Basic Flow of Mobile Application Development, and Introduction to Supporting Tools and Technologies such as Android Studio and Design Framework.

5. Phase 5 (Training Through Workshop)

This workshop was an implementation of the first material in the form of creating a simple Android application called 'Sultan App.' The participants were previously briefly explained the mechanism of developing this application. 'Sultan App' contains profiles of the richest people in the world taken from reliable data sources. The participants developed the application using Android Studio, learnt how to create an interface using XML, and the basic logic of the application using the Kotlin



programming language. Before the workshop started, participants were encouraged to install Android Studio and prepare their devices so that they could follow the steps presented during the activity.

6. Phase 6 (Feedback and Post-Test Completion by Participants)

At the end of the activity, participants were asked to provide feedback to assess their level of satisfaction with the delivery of the material by the speakers. In addition, participants were also asked to fill out a Post-Test through the link <https://forms.gle/3bgNBgeJkN5KoJvY9>. The results of this Post-Test will be compared with the Pre-Test to evaluate the improvement of participants' understanding of the material presented.

C. RESULTS AND DISCUSSION

This Webinar and Workshop activity was carried out by students of the Informatics Engineering study programme, Faculty of Engineering, Universitas Muhammadiyah Jakarta. The result is that this activity is carried out online through the Zoom Meeting Conference with the url link <https://s.umj.ac.id/FTUMJ-02> on Saturday, 11 January 2025 at 08:00 - 11:00 WIB. Participants who attended this activity amounted to 62 people from various agencies, the majority of which were attended by students of the Informatics Engineering study programme at Muhammadiyah Jakarta University. This activity is carried out online through the Zoom Meeting Conference and there are interactive sessions such as QnA during its implementation. The following is the arrangement of the Webinar and Workshop events:

Table 1. Schedule of Events.

Time	Activity	PIC
07.00 – 07.45	Prepare Committee	All Committees
08.00 – 08.05	Opening	Freddy Mernanda
08.05 – 08.10	Tilawah	Nadif Yusuf
08.10 – 08.15	Singing Indonesia Raya dan Mars Muhammadiyah	Fadhil Habibie
08.15 – 08.20	Remarks by the Chief Executive	Fauzan Azima
08.20 – 08.22	Reading CV of Webinar 1 Presenters	Fadhil Habibie
08.22 – 09.05	Webinar Material 1	Nazar Gimnastiar
09.05 – 09.07	Reading CV of Webinar 2 Presenters	Fadhil Habibie
09.07 – 09.50	Webinar Material 2	Nadif Yusuf
09.50 – 09.52	Reading CV of Workshop Presenter	Fadhil Habibie
09.52 – 10.50	Workshop Material	Fauzan Azima
10.50 – 11.00	QnA Session	Fadhil Habibie
11.00 – 11.05	Photo Session	Freddy Mernanda
11.05 – 11.10	Closing	Freddy Mernanda

Then the dedication stage is carried out as described above.

1.1 Stage 1 (Socialisation of Activities)

At this stage, the author and team conducted socialisation to the general public through social media as well as to attract interested participants by distributing flyers that had been made as in the following figure 1.



Figure 1. Activity Flyer.

1.2 Stage 2 (Making Activity Materials)

At this stage, the speaker compiles the material to be presented in PPT format. The material is arranged in such a way as to be easily understood by the participants. In this material, there are several points such as Design Thinking, the basis for developing android applications and their implementation. Webinar 1 material starts with Definition of Design Thinking, Purpose of Design Thinking, Advantages and Challenges of Design Thinking. And the Webinar 2 material contains the Kotlin programming language, OpenJDK and Gradle installation, and Android Studio. Then the Workshop material is an implementation of the previous material by creating a simple android application.

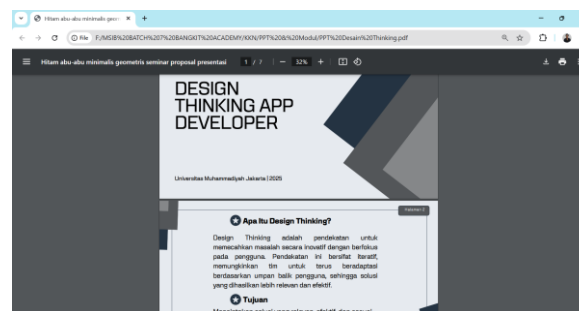


Figure 2. Webinar Activity Material 1.



Figure 3. Webinar Activity Material 2.

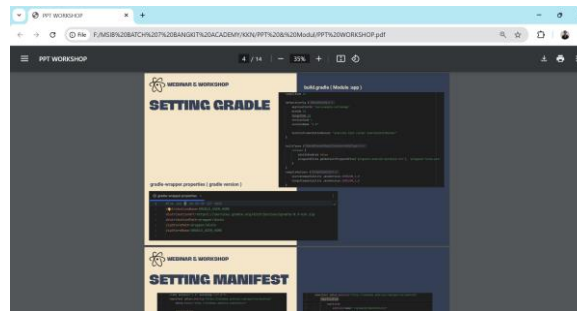


Figure 4. Workshop Activity Material.

1.3 Stage 3 (Pre-Test Completion by Participants)

At this stage, participants were asked to take a Pre-Test given by the author and team. This Pre-Test consists of questions about Design Thinking and Basic Android Application Development. The purpose of filling out this Pre-Test is to see the extent of the participants' understanding before the author and the team held this activity. The result was that this Pre-Test was filled by 60 participants with sufficient understanding.

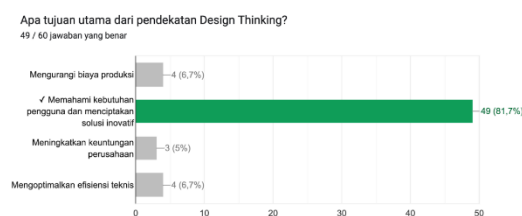


Figure 5. Participants Pre-Test on Design Thinking.

In the picture above, it can be seen that the pre-test was filled in by 60 participants with the percentage of correct answers to question number 1 being 81.7%.

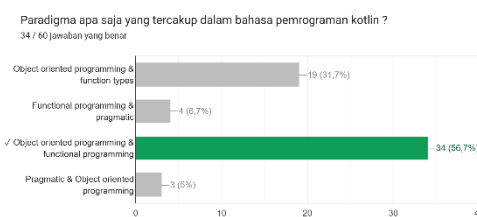


Figure 6. Participants Pre-Test on The Basis of Android Application Development.

In the figure above, it can be seen that the pre-test results regarding the Basics of Android Application Development are 56.7% correct answers filled in by 34 participants.

1.4 Stage 4 (Community Education Through Webinars)

At this stage, the Webinar presenters, presented by Nazar Gimnastiar and Nadif Yusuf, explained the material that had been made previously in stage 3 above to the participants, namely the general public. The material presented includes Design Thinking and Basic Android Application Development. The Webinar material starts with Design Thinking and Android Mobile Applications. At this stage, there are also interactive sessions for participants such as questions given by the speaker and also participants through the chat zoom meeting

conference. The result is that participants have an in-depth understanding of design thinking and android mobile applications.

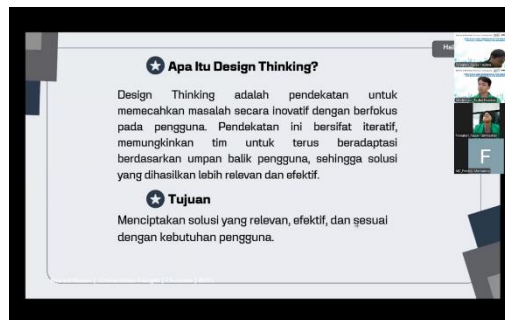


Figure 7. Presentation of Design Thinking Webinar Material.

In the picture above, the speaker explains about Design Thinking. This introduction aims so that participants can understand in advance how to approach solving problems innovatively.



Figure 8. Presentation of Basic Webinar Material for Android Application Development.

In the picture above, the speaker explains about Mobile Application Development. This introduction aims so that participants can understand in advance about the aspects that exist in android applications.

1.5 Stage 5 (Training Through Workshop)

At this stage, the Workshop speaker, Fauzan Azima, provides direct implementation of the Webinar material that was previously presented. In the implementation of this Workshop, the speaker uses IDE tools in the form of Android Studio which has a Windows operating system installed. The participants had previously been encouraged to be able to install these tools before the activity began. The speaker explained the introduction to making android applications, then the structure of the android project and the stages of making an android application. As a result, the speaker explained step by step in making a simple android application, in this workshop the theme 'Sultan App' was taken which contained profiles of the richest people in the world today, explained starting from the layout, code structure, and how to deploy it.

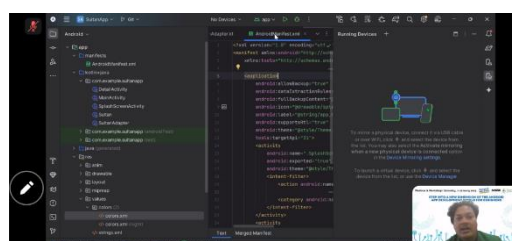


Figure 9. Workshop Material Presentation.

In the picture above, the speaker explains the steps that need to be taken in the process of making a simple android application.



Figure 10. Workshop Material Presentation.

In the picture above, the results of a simple android application that is run on a mobile phone. The application contains several lists of the 10 richest people and details of each of these figures.

1.6 Stage 6 (Completing Feedback and Post-Test by Participants)

At this stage, participants are asked to fill in attendance, feedback and Post-Test in the same form distributed via Google Form. For feedback, in measuring participants' answers, a Likert scale was used. Likert scale is a scale consisting of several answer options that define participants' agreement with existing statements or statements with customised answer options. In this questionnaire, 4 score assessments were used with the following conditions: (4) Strongly Agree, (3) Agree, (2) Disagree, (1) Disagree. The questionnaire questions asked are as follows:

1. Is the Webinar and Workshop material provided easy to understand?
2. Can the Webinar and Workshop materials provided improve understanding?
3. Is the Webinar resource person able to explain the material well?
4. Is the quality of online services during Webinars & Workshops (sound and images) of good quality?
5. What do you think about the quality of online administration services (registration info, zoom link, group info) provided?
6. On a scale of 1-5, how would you rate this webinar & workshop?

The post-test given is a question similar to the pre-test, the results of which can be used as a comparison of the participants' understanding before and after participating in this Webinar and Workshop activity. The following are the results of the feedback and post-test filled out by the participants.

In each Webinar and Workshop session, the participants were very enthusiastic about the presentation delivered by the speakers. This can be seen from the feedback questionnaire form that was given at the end of the event session to the participants. In the feedback questionnaire form, it can be seen that the answers to the statements given to the participants on average expressed satisfaction with the material presentation.

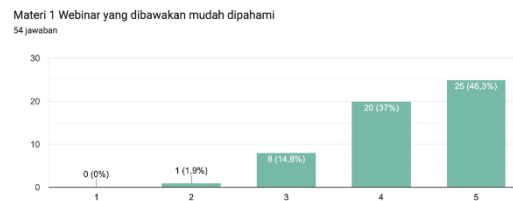


Figure 11. Participants Level of Understanding of The Material Presented.

In Figure 11. above, it can be seen that the feedback given by the participants agreed with a percentage of 37% and 46% strongly agreed. In the next question, the feedback results also show positive numbers as in the figure below:

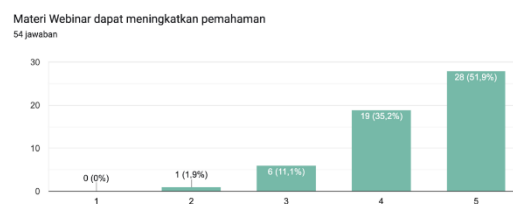


Figure 12. Participants Level of Understanding of Webinar Material.

In Figure 12. above, it can be seen that 35.2% of participants agreed that the Webinar Material can increase understanding 51.9% of participants strongly agreed with this statement.

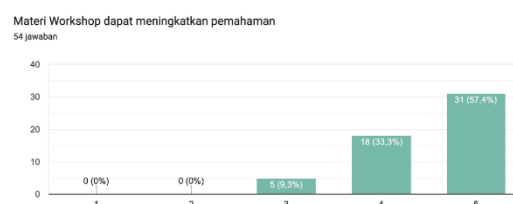


Figure 13. Participants Level of Understanding of The Workshop Materials.

In Figure 13 above, it can be seen that 33.3% of participants agreed that the workshop materials could improve their understanding. 57.4% of participants strongly agreed with the statement.

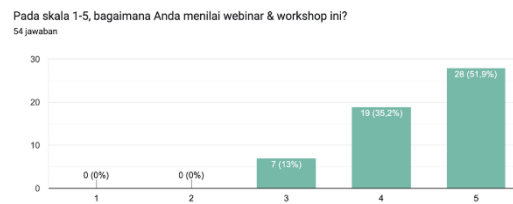


Figure 14. Participants Satisfaction Level With The Implementation of Activities.

In Figure 14 above, it can be seen that 35.2% of participants agreed with this activity and 51.9% of participants strongly agreed that they were satisfied with this activity. Based on the questions that were conveyed to the participants and then the participants filled out the quiz, it can be seen that the participants gained an understanding of new material in accordance with the theme of the activity. The response of participants who expressed satisfaction with the material presented indicates that the delivery of material by the speaker is quite good and easy to understand so that they can learn and understand new knowledge. In other words, this activity went well and could be understood by the general public.

In addition to the feedback questionnaire, the participants were also asked to fill out a post-test which was given when the activity was over with the aim of knowing the increase in participants' understanding after participating in this activity. The following are some of the results of filling out the post-test from the participants:

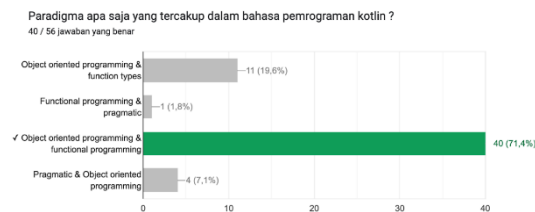


Figure 15. Participants Post-Test on Kotlin Programming Language.

In Figure 15. above, it can be seen that the post-test results of participants' correct answers to question number 1 were 71.4%, which were filled in by 40 participants.

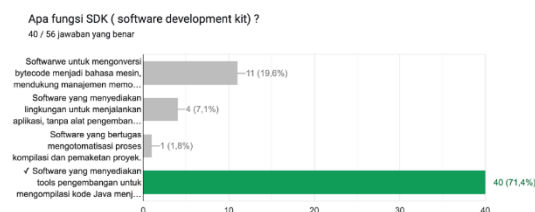


Figure 16. Participants Post-Test Regarding the JDK Function.

In Figure 16. above, it can be seen that the post-test results of participants' correct answers to question number 2 were 71.4%, which were filled in by 40 participants.

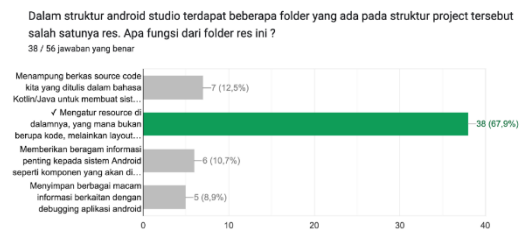


Figure 17. Participants Post-Test on Project Structure.

In Figure 17. above, it can be seen that the post-test results of participants' correct answers to question number 3 were 67.9%, which were filled in by 38 participants.

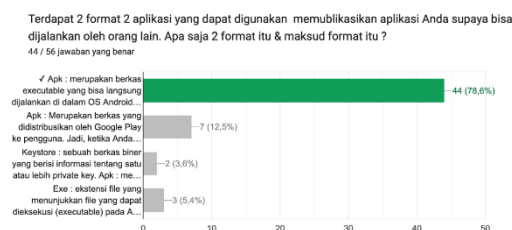


Figure 18. Participants Post-Test on Application Format

In Figure 18. above, it can be seen that the post-test results of participants' correct answers to question number 4 were 78.6%, which were filled in by 44 participants.

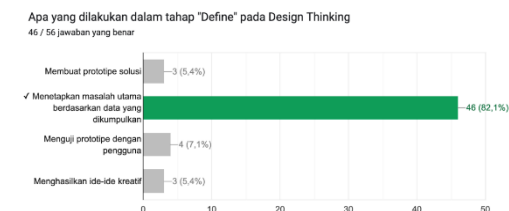


Figure 19. Participants Post-Test on Define.

In Figure 19. above, it can be seen that the post-test results of participants' correct answers to question number 5 were 82.1% filled in by 46 participants.

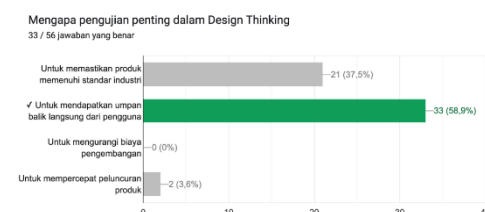
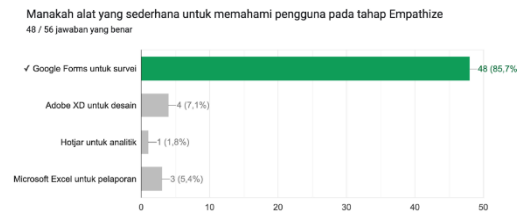


Figure 20. Participants Post-Test Regarding Testing.

In Figure 20. above, it can be seen that the post-test results of the participants' correct answers to question number 6 were 58.9% filled in by 33 participants.



Gambar 21. Participants Post-Test on Empathize

In Figure 21. above, it can be seen that the post-test results of participants' correct answers to question number 7 were 85.7%, which were filled in by 48 participants.

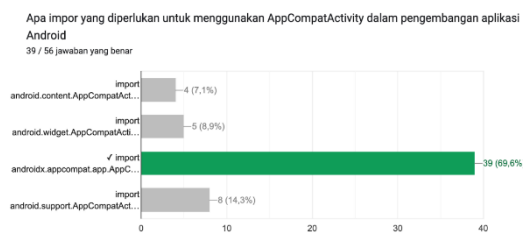


Figure 22. Participants Post-Test on AppCompatActivity.

In Figure 22. above, it can be seen that the post-test results of the correct answers of participants on question number 8 are 69.6% filled in by 39 participants.

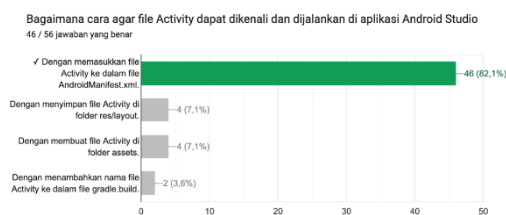


Figure 23. Post-Test on Activity Files.

In Figure 23. above, it can be seen that the post-test results of the participants' correct answers to question number 9 were 82.1%, which were filled in by 46 participants.

After all activities have been carried out, participants who have participated in the Webinar and Workshop activities will get a certificate that has been approved by the Head of the UMJ Informatics Engineering Study Program.

D. CONCLUSION

Based on the results of the Webinar and Workshop 'Step Into A New Dimension Of The Android App Development World For Beginners' on 11 January 2025 via Zoom conference from 08.00 - 11.00 WIB, it can be concluded that the activity took place smoothly and



successfully. The activity was attended by 62 participants from various agencies who were enthusiastic about learning the basics of android application development. The feedback given by the participants showed a level of satisfaction regarding the material presented and the results of the post-test which showed an increase in participants' understanding and abilities. It is hoped that the next webinar and workshop activities or similar events can continue to be pursued to improve participants' expertise in creating android applications.

E.ACKNOWLEDGEMENTS

The author and team would like to thank the Informatics Engineering Study Program, Faculty of Engineering, Universitas Muhammadiyah Jakarta for providing support and facilitating the holding of a Webinar and Workshop with the theme 'Step Into A New Dimension Of The Android App Development World For Beginners'. We also thank our fellow committee members and organisers who have worked together in planning and implementing this activity well. And of course, thank you to the participants who have participated and contributed in providing valuable input in this activity.

F.AUTHOR CONTRIBUTIONS

In the webinar and workshop entitled 'Step Into a New Dimension of the Android App Development World for Beginners,' each team member has a clear contribution and responsibility to ensure smooth implementation until the preparation of scientific articles. Fauzan Azima as the chief executive is responsible for the overall running of the activity and oversees the duties of team members, as well as acting as a workshop presenter which is part of the implementation of the webinar. Freddy Mernanda was in charge of creating promotional content, including flayers and content for the @kkninf_2 Instagram account, as well as acting as Master of Ceremony during the event. Muhammad Fadhil Habibie contributed to the preparation of the journal and created pre-test, post-test, and feedback forms to measure participants' learning outcomes and acted as moderator during the webinar and workshop sessions. Nazar Gimnastiar was the presenter of the first webinar with design thinking material, and also contributed to the making of KKN reports and learning modules. Nadif Yusuf Qardhawi became the second presenter by presenting the basics of Android application development and assisting in the preparation of KKN reports, journals, and learning modules. Rully Mujiastuti acts as a supervisor who provides direction, supervision, and support so that the implementation of webinars and workshops runs smoothly until the checking of scientific articles. All authors work together to ensure the success of this activity and the quality of the resulting article publications.

G. REFERENCES

- Cahyasari Kartika Murni, Muhammad Syauqi Husin, & Muhammad Rizal Herdiansyah. (2024). PERKEMBANGAN OS ANDROID DAN SISTEM KEAMANAN TANTANGAN DAN SOLUSI. *Jurnal SPIRIT*, 16, 161-169. <https://jurnal.stmik-yadika.ac.id/index.php/spirit/article/view/337/304>
- Kuswoyo, D. (2022). PELATIHAN MEMBUAT APLIKASI ANDROID PEMULA UNTUK PARA PESERTA PENCARI KERJA. <https://prosiding.polimedia.ac.id/index.php/senpedia/article/view/11>
- Mochamad Muslih, & Serina Oktavia Marbun. (2020). WORKSHOP MEKANISME OPEN JOURNAL SYSTEM (OJS) DAN HAK CIPTA BAGI DOSEN TRI BHAKTI BUSINESS



- SCHOOL. In *Jurnal Pengabdian Masyarakat TRI PAMAS* (Vol. 2, Issue 2).
<https://ejurnal.stietribhakti.ac.id/index.php/TRIPAMAS/article/download/130/89>
- Prehanto, A., Guntara, R. G., & Aprily, N. M. (2021). *Pemanfaatan Webinar Sebagai Alternatif Digitalisasi Informasi dalam Seminar Kurikulum*.
<https://ejournal.upi.edu/index.php/IJDB/index>
- Tjandra, S., Dewi, G. L., Santoso, S. P., & Prajetno, J. (2022). *Pengembangan Aplikasi Pengaturan Keuangan Pribadi Berbasis Android* (Vol. 25, Issue 2).
<http://univ45sby.ac.id/ejournal/index.php/industri/index>
- Yohanis Solle, J., & Uminingsih, U. (2021). Langkah Mudah Pembuatan Sistem Informasi Berbasis Android Bagi Pemula. *Jurnal Teknologi*, 14(2), 170–180.
<https://doi.org/10.34151/jurtek.v14i2.3743>
- Yusril, A. N., Larasati, I., & Al Zukri, P. (2021). *Systematic Literature Review Analisis Metode Agile dalam Pengembangan Aplikasi Mobile*. <http://sistemasi.ftik.unisi.ac.id>