

## **AN ANDROID-BASED LEARNING MULTIMEDIA FOR STUDYING ISLAMIC ECONOMIC PHILOSOPHY IN INDONESIA**

Rosyid Ridlo Al Hakim\*<sup>1</sup>, Faridah Satya Lestari<sup>2</sup>, Esa Rinjani C. Putri<sup>3</sup>, Safin Santarwi<sup>4</sup>, Agung Pangestu<sup>1</sup>

<sup>1</sup> **Electrical Eng. Graduate Program, Jakarta Global University, Indonesia**

<sup>2</sup> **Economic Development Department, Universitas Jenderal Soedirman, Indonesia**

<sup>3</sup> **Office Administration Department, Universitas Jenderal Soedirman, Indonesia**

<sup>4</sup> **Staff of Agung Baitussalam Mosque, Purwokerto, Central Java, Indonesia**

\*[rosyidridlo10@gmail.com](mailto:rosyidridlo10@gmail.com) Correspondence Author

### **ABSTRACT**

*Islamic economic philosophy studies a series of historical events explicitly centred on economics based on the thoughts of predecessors of Islam. This subject is studied at the level of Islamic religious colleges. Unfortunately, in the era of e-learning and multimedia apps that can be used in higher education, the subject has not been in the digital learning version. So, this study aims to build an Android-based multimedia app for the Islamic economic philosophy subject. The method is used in developing learning media intended for Android devices. A multimedia app is developed through a waterfall-type SDLC (system development life cycle). This Android-based multimedia application is intended for Android version 6.0 or higher. The application contains 16 lecture materials based on the syllabus for one semester of the Islamic economic philosophy subject.*

**Keywords:** *Digital Education, Education 4.0, e-Learning, Learning Media, Learning Technology*

■

### **A. INTRODUCTION**

The history of Islamic economic philosophy studies a series of historical events with a particular focus on economics based on the thoughts of the predecessors of Islam. Philosophers, Muslim scholars, and Islamic economists began to write their papers throughout the 14 century during the time of the Prophet Muhammad with the perspective of sharia and muamalah studies (Mudhiyah, 2015). Several Muslim figures who influenced the development of Islamic economic philosophy such as Al-Ghazali (Fahlefi, 2018; Harahap, 2019; Rosia, 2018; Sirajuddin, 2016), Ibn' Khaldun (Choirul Huda, 2013), Al-Maqrizi (Suar, Meirison, Elfia, & Hayati, 2020), Muhammad Baqir al-Sadr (Furqani, 2019). Meanwhile, the era where the development of Islamic economic philosophy began to increase was during the Umayyad and Abbasid Daulas (Muhammad Nurul Huda, 2021).

Along with the times, today's economic sector has been attached to the basis of sharia. As a form of response from Muslims in the economic field. In this regard, Islamic economic actors must understand the philosophy of Islamic economics from the past to be applied today (Furqani, 2019; Istiqomah, 2019). The history of the development of Islamic economics is included in the history of Islam. However, the development of Islamic economics that has existed since 600 AD is less familiar in society, so Islamic

economic philosophy does not receive special attention, even though, as Muslims, part of Islamic economics cannot be separated in daily life (Becker, Rubin, & Woessmann, 2021; Winarno, 2017).

Related study about mobile android technology that is used for e-learning, such as for algorithm and data structure class (Rosyid R Al Hakim et al., 2021), Islamic law history class (Purnawan, Muchsin, Al Hakim, Pangestu, & Jaenul, 2021), management information system class (Rosyid Ridlo Al Hakim, Dewi, et al., 2021), as well as in the science and technology field also for biology class (Riani, Al Hakim, & Sukmarani, 2021), primatology (zoology) (Rosyid Ridlo Al Hakim & Annisa, 2021), ethology (animal behaviour) (Rosyid Ridlo Al Hakim, Annisa, Nasution, Rizaldi, & Rukayah, 2021), mathematics class (Rosyid Ridlo Al Hakim & Setyowisnu, 2021; Rosyid Ridlo Al Hakim, Setyowisnu, & Pangestu, 2020). Besides, most media used in education is reported in Fiqh class (Sabri & Gusmaneli, 2015) and stream-based teaching materials (Heliawati, Pebriani, & Ardianto, 2022).

The rapid development of information technology today requires a transition between conventional and technology-based learning (Sulistyaningrum & Al Hakim, 2020) and to achieve the goal of an independent campus (*Kampus Merdeka* in Indonesian) (Siregar, Sahirah, & Harahap, 2020), which is one of them is through mobile-based digital learning (Rosyid Ridlo Al Hakim & Annisa, 2021; Rosyid Ridlo Al Hakim & Setyowisnu, 2021; Rosyid Ridlo Al Hakim et al., 2020). While in the era of technology 4.0 integrated education and technology, one of the funding multimedia learning technology such as the Android operating system. This technology can provide a better educational process. Besides, urgent related scientific sources for learning Islamic economic philosophy are not easily accessible; this study aims to develop an Android multimedia app for learning this subject.

## **B. METHODOLOGY**

The method is used in developing learning media intended for Android devices. A multimedia app is developed through a waterfall-type SDLC (system development life cycle) (Rosa & Shalahuddin, 2016). There are four phases for building an android-based multimedia app based on a waterfall type: system requirement analysis, system design, system implementation, and system testing.

### **System Requirement Analysis**

This Android-based multimedia application requires some specifications intended for Android version 6.0 or higher. The application contains 16 lecture materials based on the syllabus for one semester of the Islamic economic philosophy subject. The system is designed for students and maintained by the lecturer. The lecture materials in the multimedia learning application were obtained based on deep knowledge techniques by

searching for relevant literature and inputs from the Faculty of Economics and Business at the Jakarta Global University and Universitas Jenderal Soedirman.

### **System Design**

The system was designed using unified modelling language (UML), including an activity and use case diagram. The activity diagram was designed to explain the system's activity when running. The use case diagram was designed to explain the role of each user: student and lecturer.

### **System Implementation**

Based on the system design in the form of a unified modelling language (UML) in the previous phase, it is then applied in developing application programs (called coding) with the Java programming language through Android Studio software. So that a product is obtained in the form of a multimedia learning application in the form of an Android application (\*.apk). The system is also considered for easy use, user-friendly, and user experience.

### **System Testing**

The system to be run and used usually must go through the stages of testing and maintaining the system. The type of testing and maintenance of the system is carried out by black box testing (Beizer, 1995; Ostrand, 2002). This type can ensure that all features in the application can run normally or not (Bhasin, Khanna, & Sudha, 2014).

## **C. RESULT AND DISCUSSION**

This Android-based Multimedia application for learning Islamic Economic Philosophy (IEP) is for a minimum version of Android 6.0 or higher. The application contains 16 chapters, with it being developed as simply as possible so that users do not have difficulty operating it. This application can contain text, images, animations, sounds, and videos to support learning. The application can efficiently replace printed textbooks. The app also does not take up much memory on mobile devices. It is hoped that this learning media application can support the independent learning program because freedom of learning with any media is intended to achieve the goal of an independent campus (Siregar et al., 2020). The display of the IEP learning multimedia application can be seen in Figure 1.

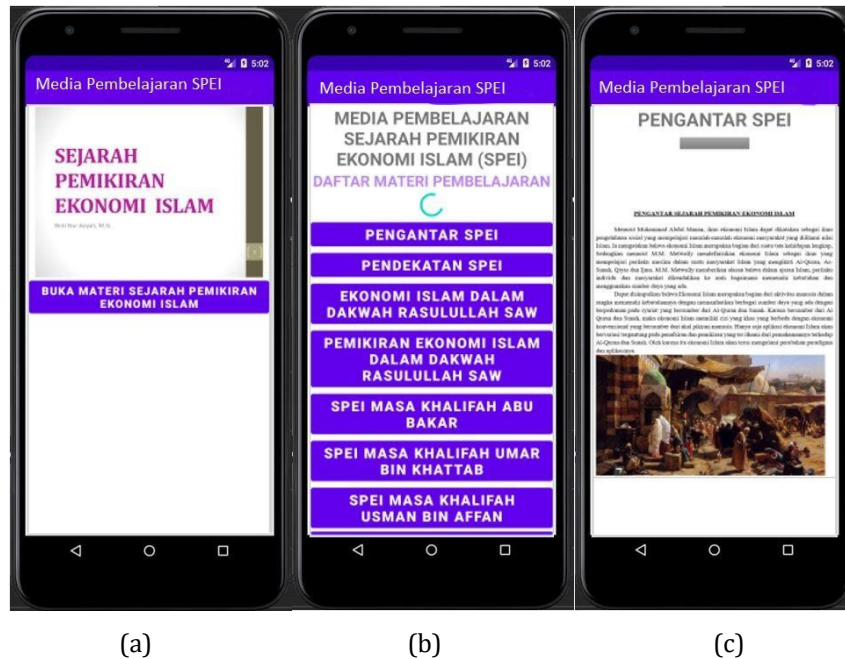


Figure 1. User interface for the multimedia app (in Indonesian), (a) main menu, (b) list of chapters, (c) example for chapter selected.

The multimedia application in the next mention of the application program is "*Sejarah Pemikiran Ekonomi Islam (SPEI)*" in Indonesian (IEP for English abbr.), as shown in Figure 1. The chapters in this application program are adjusted to the relevance of related university courses, one of which is IEP. The application is then tested by black-box testing to ensure that all features can run properly and no errors are found. The application's black-box testing produces the results as expected for all the features tested. The results of this test ensure the application can be used for learning tools (Rosyid Ridlo Al Hakim & Annisa, 2021; Rosyid Ridlo Al Hakim, Annisa, et al., 2021; Rosyid Ridlo Al Hakim, Dewi, et al., 2021; Rosyid Ridlo Al Hakim & Setyowisnu, 2021; Rosyid Ridlo Al Hakim et al., 2020; Purnawan et al., 2021).

The multimedia app can be use to e-learning as well as learning multimedia, beside the most e-learning platform, such as learning management system (LMS) (Daulay, Firmansyah, & Zakaria, 2017; Wicaksono, Kusumo, Putar, Chandra, & Rachmasari, 2021). However, other multimedia apps also can be used to support e-learning based on mobile-app (Rosyid Ridlo Al Hakim, Dewi, et al., 2021; Purnawan et al., 2021). In addition, this e-learning also includes the role of education technology and e-learning in the pandemic era (Ramadhani, 2021; Sulistyaningrum & Al Hakim, 2020; Zulhendri, Yunita, & Hayeni, 2021). E-learning would increase teacher learning (Nuruni, Sishadiyati, & Zumrotul, 2019; Trinova, 2015).

#### D. CONCLUSION

This Android-based multimedia application of Learning Islamic Economic Philosophy can be run for Android version 6.0 and above. This application can replace printed textbooks. Future research is expected to be researched on the effectiveness of using this learning media application for students.

## **E. ACKNOWLEDGMENTS**

The author would like to thank the Eudaimonia Institute Foundation and the JGU Research Management Center for providing financial support for this research. The author also thanked Mr. Safin Santarwi, S.Pd.I., who provided input suggestions in the study.

## **F. REFERENCE**

- Al Hakim, Rosyid R, Kisworini, Rianti Y., Hamid, Aditia P., Pangestu, Agung, Jaenul, Ariep, & Arief, Yanuar Z. (2021). Design and development of android-based learning media for learning algorithm and data structure. *Prosiding Seminar Nasional Pendidikan 3*, 3, 321–329. Retrieved from <https://prosiding.unma.ac.id/index.php/semnasfkip/article/view/613%0A>
- Al Hakim, Rosyid Ridlo, & Annisa, Islami. (2021). Perancangan dan Pengembangan Aplikasi Multimedia Pembelajaran Primatologi Berbasis Android. *Prosiding Seminar Nasional Sains*, 2(1), 36–44. Retrieved from <http://proceeding.unindra.ac.id/index.php/sinasis/article/view/5313>
- Al Hakim, Rosyid Ridlo, Annisa, Islami, Nasution, Erie Kolya, Rizaldi, Rizaldi, & Rukayah, Siti. (2021). Rancang Bangun Media Pembelajaran Etologi Berbasis Android. *Prosiding Biologi Achieving the Sustainable Development Goals with Biodiversity in Confronting Climate Change*, 65–71. <https://doi.org/10.24252/psb.v7i1.23069>
- Al Hakim, Rosyid Ridlo, Dewi, Eka Puspita, Sari, Elsa Norma, Pangestu, Agung, Jaenul, Ariep, & Faizah, Safira. (2021). Rancang Bangun Media Pembelajaran Sistem Informasi Manajemen Berbasis Android. *Prosiding SeNTIK 2021*, 45–50. <https://doi.org/10.32409/jikstik.5.1.2829>
- Al Hakim, Rosyid Ridlo, & Setyowisnu, Glagah Eskacakra. (2021). Rancang Bangun Media Pembelajaran Matematika Berbasis Android pada Materi Kalkulus Diferensial. *Prosiding Pendidikan Matematika Dan Matematika*, 3, 1–6. <https://doi.org/10.21831/pspmm.v3i0.133>
- Al Hakim, Rosyid Ridlo, Setyowisnu, Glagah Eskacakra, & Pangestu, Agung. (2020). Rancang Bangun Media Pembelajaran Matematika Berbasis Android pada Materi Persamaan Diferensial. *Kontinu: Jurnal Penelitian Didaktik Matematika*, 4(2), 82–91. <https://doi.org/dx.doi.org/10.30659/kontinu.4.2.82-91>
- Becker, Sascha O., Rubin, Jared, & Woessmann, Ludger. (2021). Religion in economic history: a survey. *The Handbook of Historical Economics*, 585–639. <https://doi.org/10.1016/B978-0-12-815874-6.00029-0>
- Beizer, Boris. (1995). Black-box testing: techniques for functional testing of software and systems. In *Compliance and Disclosure Interpretations*. Retrieved from <https://www.sec.gov/divisions/corpfin/guidance/sasinterp.htm>

## ***Proceedings of the 3<sup>rd</sup> UIN Imam Bonjol International Conference on Islamic Education***

“Embracing Islamic Education Based Local Wisdom of Malay World on Society 5.0”

Padang, 14 - 15 October 2022

ISSN XXX-XXX-XXXX-XX-X

---

- Bhasin, Harsh, Khanna, Esha, & Sudha, Sudha. (2014). Black Box Testing based on Requirement Analysis and Design Specifications. *International Journal of Computer Applications*, 87(18), 36–40. <https://doi.org/10.5120/15311-4024>
- Daulay, Leni Agustina, Firmansyah, Firmansyah, & Zakaria, Rahmanita. (2017). The Development of E-Learning Media Based Moodle to Increase Science Development and Islamic Studies in STAIN Gajah Putih. *Al-Ta Lim Journal*, 24(2), 103–109. <https://doi.org/10.15548/JT.V24I2.275>
- Fahlefi, Rizal. (2018). PEMIKIRAN EKONOMI AL-GHAZALI. *JURIS (Jurnal Ilmiah Syariah)*, 11(1), 22–32. <https://doi.org/10.31958/JURIS.V11I1.1050>
- Furqani, Hafas. (2019). What is Islamic economics? The view of Muhammad Baqir al-Sadr. *Jurnal Ekonomi Dan Keuangan Islam*, 5(2), 63–71. <https://doi.org/10.20885/JEKI.VOL5.ISS2.ART3>
- Harahap, Soritua Ahmad. (2019). Pemikiran Imam Al-Ghaszali Tentang Fungsi Uang. *Laa Maisyir : Jurnal Ekonomi Islam*, 6(1), 1–15. <https://doi.org/10.24252/LAMAIYIR.V6I1.9401>
- Heliawati, Leny, Pebriani, Fenny, & Ardianto, Didit. (2022). The Effect of Stream-Based Teaching Materials Using Android on Students' Problem-Solving Skills and Religious Attitudes. *Al-Ta Lim Journal*, 29(1), 24–34. <https://doi.org/10.15548/JT.V29I1.692>
- Huda, Choirul. (2013). PEMIKIRAN EKONOMI BAPAK EKONOMI ISLAM; IBNU KHALDUN. *Economica: Jurnal Ekonomi Islam*, 4(1), 103–124. <https://doi.org/10.21580/ECONOMICA.2013.4.1.774>
- Huda, Muhammad Nurul. (2021). Sejarah Pemikiran Ekonomi Islam Pada Masa Daulah Bani Umayyah dan Bani Abbasiyah. *JOURNAL OF SOCIAL SCIENCES & HUMANITIES “ESTORIA” UNIVERSITAS INDRAPRATA PGRI*, 1(2), 135–148.
- Istiqomah, Lailatul. (2019). TELAAH SEJARAH PEMIKIRAN EKONOMI ISLAM. *Al-Iqtishod : Jurnal Ekonomi Syariah*, 1(1), 1–19. Retrieved from <https://ejournal.iaiskjmalang.ac.id/index.php/iqtis/article/view/17>
- Mudhiyah, Kharidatul. (2015). ANALISIS SEJARAH PEMIKIRAN EKONOMI ISLAM MASA KLASIK. *IQTISHADIA*, 8(2). <https://doi.org/10.21043/IQTISHADIA.V8I2.956>
- Nuruni, I. K. W., Sishadiyati, & Zumrotul, F. (2019). E-Learning Implementation as a Support Teaching Learning Processes for Lecturers and Students in Universitas Pembangunan Nasional "Veteran" Jawa Timur. *Nusantara Science and Technology Proceedings, 2019*(International Seminar of Research Month Science and Technology for People Empowerment), 393–400. <https://doi.org/10.11594/nstp.2019.0252>
- Ostrand, Thomas J. (2002). Black-Box Testing. In *Encyclopedia of Software Engineering*. <https://doi.org/10.1002/0471028959.SOF022>
- Purnawan, Hendra, Muchsin, Achmad, Al Hakim, Rosyid Ridlo, Pangestu, Agung, & Jaenul, Ariep. (2021). Rancang Bangun Media Pembelajaran Sejarah Hukum Islam Berbasis Android. *PANRITA Journal of Science, Technology, and Arts*, 1(1), 61–69. Retrieved from <https://journal.dedikasi.org/pjsta/article/view/11>
- Ramadhani, Khalilah. (2021). The Effect of Online Lecture on College Students' Learning Achievement During the Covid-19 Pandemic. *Al-Ta Lim Journal*, 28(2), 145–154. <https://doi.org/10.15548/JT.V28I2.713>
- Riani, Sri, Al Hakim, Rosyid Ridlo, & Sukmarani, Dhuta. (2021). Pemanfaatan teknologi pembelajaran berbasis multimedia untuk pembelajaran biologi: mini-review. *Prosiding Seminar Nasional Pendidikan Biologi - Seminar Nasional VI Prodi*

## ***Proceedings of the 3<sup>rd</sup> UIN Imam Bonjol International Conference on Islamic Education***

“Embracing Islamic Education Based Local Wisdom of Malay World on Society 5.0”

Padang, 14 - 15 October 2022

ISSN XXX-XXX-XXXX-XX-X

---

- Pendidikan Biologi Fakultas Keguruan Dan Ilmu Pendidikan Universitas Muhammadiyah Malang*, 172–176. Retrieved from <http://research-report.umm.ac.id/index.php/psnpb/article/view/4747>
- Rosa, A., & Shalahuddin, M. (2016). *Rekayasa Perangkat Lunak: Terstruktur dan Berorientasi Objek*. Bandung: Informatika.
- Rosia, Rina. (2018). Pemikiran Imam Al-Ghazali Tentang Uang. *Jurnal Ilmiah Ekonomi Islam*, 4(01), 14–27. <https://doi.org/10.29040/JIEI.V4I01.161>
- Sabri, Ahmad, & Gusmaneli, Gusmaneli. (2015). The Using of Media in Learning Fiqh to the Islamic Education Department of Education and Teacher Faculty of IAIN Imam Bonjol Padang. *Al-Ta Lim Journal*, 22(2), 180–193. <https://doi.org/10.15548/JT.V22I2.145>
- Sirajuddin, Sirajuddin. (2016). KONSEP PEMIKIRAN EKONOMI AL-GHAZALI. *Laa Maisyir : Jurnal Ekonomi Islam*, 3(1). <https://doi.org/10.24252/LAMAIYIR.V3I1.4993>
- Siregar, Nurhayani, Sahirah, Rafidatun, & Harahap, Arsikal Amsal. (2020). Konsep Kampus Merdeka Belajar di Era Revolusi Industri 4.0. *Fitrah: Journal of Islamic Education*, 1(1), 141–157. Retrieved from <http://jurnal.staisumatera-medan.ac.id/index.php/fitrah/article/view/13/9>
- Suar, Abi, Meirison, Meirison, Elfia, Elfia, & Hayati, Ilda. (2020). AL MAQRIZI'S VIEW ON ISLAMIC ECONOMY AND ITS RELEVANCE TO COVID-19 PANDEMIC IN INDONESIA. *Nurani: Jurnal Kajian Syari'ah Dan Masyarakat*, 20(1), 83–96. <https://doi.org/10.19109/NURANI.V20I1.6025>
- Sulistyaningrum, Dian, & Al Hakim, Rosyid Ridlo. (2020). Pendampingan Pembelajaran Siswa Melalui Teknologi Informasi Selama Pandemi Covid-19: Studi Kasus KKN Tematik Covid-19. *ANDASIH Jurnal Pengabdian Kepada Masyarakat*, 1(2), 1–7.
- Trinova, Zulvia. (2015). Improving Lecturers' Performance through Effective Learning at Department of Islamic Education at Faculty of Islamic Education and Teacher Training IAIN IB Padang. *Al-Ta Lim Journal*, 22(3), 203–219. <https://doi.org/10.15548/JT.V22I3.129>
- Wicaksono, Soetam Rizky, Kusumo, Pandyawan, Putar, Kresno, Chandra, Melvin Natalino, & Rachmasari, Fitria Melati. (2021). Risk Assessment pada Aplikasi Media Edukasi Berbasis Online Edmodo Menggunakan Framework OCTAVE Allegro. *Insearch : Information System Research Journal*, 1(02), 46–50. <https://doi.org/10.15548/ISRJ.V1I02.2447>
- Winarno, Winarno. (2017). Sejarah Pemikiran Ekonomi Islam di Masa Rasulullah Saw. *ASY SYAR'IIYAH: JURNAL ILMU SYARI'AH DAN PERBANKAN ISLAM*, 2(1), 27–46. <https://doi.org/10.32923/ASY.V2I1.588>
- Zulhendri, Zulhendri, Yunita, Rika Gusri, & Hayeni, Fitri. (2021). Efektivitas Penggunaan Teknologi Informasi dalam Pembelajaran Daring pada Masa Covid-19. *JOSTECH: Journal of Science and Technology*, 1(1), 57–70. <https://doi.org/10.15548/JOSTECH.V1I1.2429>