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Implementation of the MDLC Method in the Pronounce Arabic (Makhorijul Huruf) Application Using Macromedia in PAUD Awwalussalaam

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A B S T R A C T

Education is one of the foundations in life that starts early. Early childhood education is a program that requires parents to introduce their children to various things, especially introducing Al-Qur'an recitation. This is shown as a coaching effort for children from birth to the age of six. In the learning process it often happens that a teacher has difficulty conveying material to students, especially introducing the Al-Qur'an. This is due to the relatively short time in the learning process. Therefore, the purpose of this study is to create a learning application using macromedia flash to introduce recitation of the Qur'an which can help teachers and parents of students in the learning process of children outside of learning hours. The method used in developing this application uses the multimedia development life cycle method with the Luther model which has six stages, namely, (1) Concept, (2) Design, (3) Material Collection, (4) Manufacture, (5) Testing, (6) Distribution. Starting from this problem, the method used can be one of the interactive learning materials designed to be as attractive as possible to arouse children's enthusiasm in learning the Pronounce Arabic (Makhorijul Huruf) of the Qur'an so as to improve the quality of learning and minimize the estimated time used in the learning process. The result of this research is an application to recognize the *Makhorijul Huruf* of the Qur'an which can assist teachers in conveying learning with new and interesting methods.

1. INTRODUCTION

1.1. Background

Background The development of information technology today is growing rapidly. Information technology has a major influence on various aspects of life, especially in the field of education. In recent years, mobile has appeared device, various features have been embedded, such as image processing, video, processing documents and so on (Harahap, 2021). Among them, letter identification, Pronounce Arabic (Makhorijul Huruf), and Tajwid. Before reading the Qur'an students should be able to distinguish the sound of the ijaiyah letters or those that are known with *Makhorijul Huruf*. However, during this pandemic, teachers reading the Al-Quran have to think closely related to Al-Quran learning media itself (Saputra, 2018). According to Ahmad Suryadi, technology is a means, tool or method used in conveying messages and solving a problem through knowledge for a problem to achieve a certain goal and become a separate scientific discipline Technology in education can change conventional learning methods into non-conventional ones. Technology is also often assumed in perceptions that lead to electronic problems or technical equipment, but basically educational technology has a very broad meaning, especially to change learning methods to be more efficient (Nurdyansyah and Qorirotul, 2017). Education is the most important thing for every country to be able to develop rapidly. Country that great will put education as his first priority, because with education, poverty in the people of the country will be replaced by prosperity. However, In its development, education in Indonesia always has to face several problems at every stage (Budiman, 2019). Reading can be defined as perceiving a written text in order to understand its content.1 The text is a piece of naturally occurring of spoken and written record identified for purposes or definable communicative function (Khairuddin, 2014). A learning method that is able to change the situation to be more interesting and efficient is the biggest hope that teachers have, especially in PAUD Awwalussalaam. The limited time that teachers have in teaching *Makhorijul Huruf* of the Qur'an to children is the biggest challenge they face.

According to Yetti Rahally in the journal she wrote, it says that the learning process in an institution will be directed if it has clear guidelines to direct the process of implementing appropriate learning. The first problem is that students find it difficult to absorb the material delivered by educators is due to learning media as well still limited to books that present solid material and appearance uninteresting, as well as the many questions and assignments given by educators so that it makes students bored to learn it (Hotimah, 2021). Interesting learning can increase the comprehension of early childhood in dealing with the learning process. The problem that occurs in PAUD Awwalussalaam is not only that the delivery time in learning is limited, but the method is less interesting to make this happen. Implementation of interesting learning requires a medium in the form of an application that attracts the attention of children in using it. This application that introduces the *Makhorijul Huruf* of the Qur'an aims to minimize the estimated learning time given by the teacher so that it can be studied at home. The attractiveness of children in the learning process is one of the reasons for making this application so that children can have an interest in learning. Al-Qur'an is the main guideline in Islam. Al-Quran consists of 30 Juz, 114 Surahs, and 6236 Verses. In reading the Al-Quran there are factors that affect the level of ability to read it (Junaedi, 2019). The use of the Multimedia Development Life Cycle Method is one of the ideas that will be applied to

overcome the problems that occur to make applications attractive and efficient. Arif Rinaldi (Dikananda *et al.,* 2021) wrote in his journal that the Multimedia Development Life Cycle Method consists of six stages, namely concept, design, material collecting, assembly, testing, and distribution. According to Luther Sutopo's Theory which was written in the book "Authoring Interactive Multimedia" this method at each stage does not have to be done sequentially but can be done in parallel with the planning stage which must be started first.The Qur'an is the main guide in Islam. Al-Quran consists of 30 Juz, 114 Surahs, and 6236 Verses. In reading the Al-Qur'an, there are factors that affect the level of ability to improve (Lidianti, 2022). The development of learning media is a field that should be mastered by any professional teacher. Teacher awareness of the importance of media development learning must be improved in the learning process (Handayani, 2018). Starting from this problem, the method used can be one of the interactive learning materials designed to be as attractive as possible to arouse children's enthusiasm in learning the *Makhorijul Huruf* of the Qur'an so as to improve the quality of learning and minimize the estimated time used in the learning process. The results of this study are an application for the introduction of makhorijul Al-Qur'an letters that can assist teachers in conveying learning with new and interesting methods.

1.2. Problem Statement

The new educational paradigm indicates that the purpose of learning is not only to change student behavior, but to shape the character and mental attitude of professionals who are oriented towards a global mindset. How to learn can be planned by the teacher through innovative learning (Safitri, 2013). The Muslim community considers that the Qur'an is a great holy book, in which contains very important values that can be used as examples or guidelines for human life and the environment. All Muslims believe that if you want to get a peaceful, noble, happy, and prosperous life, then it is mandatory. Practice the values contained in the Qur'an. However, don't just practice it . the values, in reading must also be fluent (fluent) and correct in accordance with the rules or the rules. The rules that must be considered are, the science of recitation, makhārij al-ḥurūf (place out letters), and gharib (foreign readings in the Qur'an). The most important rule read the Qur'an with tartil (Amrullah, 2022). The lack of time in teaching the introduction of Al-Qur'an *Makhorijul Huruf* to children at PAUD Awwalussalaam made some parents protest and even quarrels occurred because the children who studied while being taught by their teachers could not yet pronounce *Makhorijul Huruf* properly and correctly. Berbagai penelitian yang telah dilakukan terhadap penggunaan media pembelajaran dalam proses belajar mengajar sampai pada kesimpulan bahwa proses dan hasil belajar siswa menunjukkan perbedaan yang berarti antara pembelajaran tanpa media dengan pembelajaran menggunakan media (Nurhasanah, 2021). However, this happened not because of the teacher's carelessness, but the short time of meeting once every two weeks made this happen. It is unfortunate if this problem is not addressed immediately, it will make the children who study focus too much on general knowledge compared to learning the *Makhorijul Huruf* of the Qur'an. Based on the background described above, the following problems are obtained:

a. How to make an application for recognizing the *Makhorijul Huruf* of the Qur'an using the Multimedia Development Life Cycle Method which can increase the comprehension of children in PAUD Awwalussalaam for learning?

b. How is the implementation of the Multimedia Development Life Cycle Method in the process of testing the application for recognizing the *Makhorijul Huruf* of the Qur'an in PAUD Awwalussalaam?

c. How to implement the Al-Qur'an letter How to implement the Al-Qur'an *Makhorijul Huruf* recognition application in PAUD Awwalussalaam?

1.3. Research and Study Purposes

Research conducted at PAUD Awwalussalaam has the intention of providing solutions to problems that occur in order to have a positive impact on children as well as their parents and teachers as facilitators. The expected goals in research at PAUD Awwalussalaam are as follows:

a. This study aims to explain the design in making an application for recognizing the *Makhorijul Huruf* of the Qur'an using the Multimedia Development Life Cycle Method which can increase the comprehension of children in PAUD Awwalussalaam in the learning process.

b. Applying the Multimedia Development Life Cycle Method in the process of testing the application for recognizing the *Makhorijul Huruf* of the Qur'an in PAUD Awwalussalaam.

c. Make an application to recognize the *Makhorijul Huruf* of the Qur'an that utilizes interactive media to make it easier for young children to learn it.

1.4. Scope of Problem

Based on the research background and problem formulation, it can be identified that this research has a limitation, namely:

a. The design of the application consists of the introduction of *Makhorijul Huruf* consisting of Fathah and tanwin, as well as learning while singing and learning while playing approaches.

b. All application developments for the recognition of Al-Qur'an *Makhorijul Huruf* in PAUD Awwalussalaam use the Multimedia Development Life Cycle Method.

c. This application only discusses the introduction of makhorijul Al-Qur'an letters in PAUD Awwalussalaam.

2. METHODS

The method used for developing applications for recognizing the *Makhorijul Huruf* of the Qur'an uses the Multimedia Development Life Cycle (MDLC) method, which is a multimedia product development cycle that begins with product analysis, product development, and the launch stage. Despite having the same development roots as the Software Development Life Cycle (SDLC), MDLC has unique characteristics related to the development and use of multimedia elements. **Figure 1** is the main steps of MDLC research and development that differentiate it from another research:
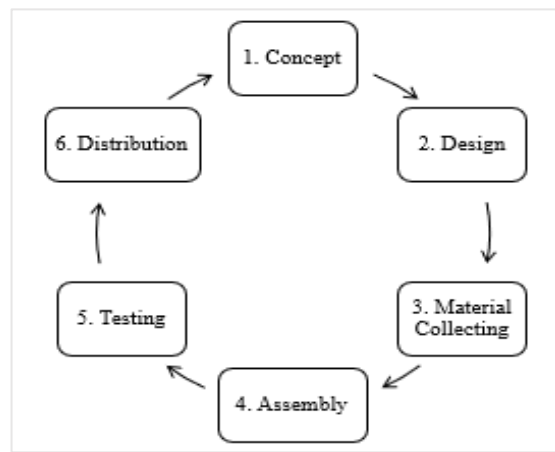
Figure 1. Stages of the multimedia development life cycle method.

2.1. Concept

At this stage, the purpose is determined and who uses this application . At this stage, the application system requirements are also determined, such as the concept to be made. The purpose of this application is to introduce the *Makhorijul Huruf* of the Qur'an to early childhood which will be made as attractive as possible so that children are interested in the application for the introduction of the letters of the Qur'an which is made by adding a menu of singing and also playing. The description of the concept of the Al-Qur'an letter makhorijul recognition application that was developed can be seen in the following **Table 1**:

Table 1. Research concept details.

No	Concept Category	Concept Description
1.	Date	16 March 2023
2.	Developer Name	Yayu Anggraeni dan Selamat Riyadi
3.	Application Version	1
4.	Application Name	MAJI or Mari mengaJi
5.	Description	Application for the introduction of makhorijul Al-Qur'an letters which provides learning about *hijaiyah* letters
6.	Objective	Make it easy for children to recognize *Makhorijul Huruf* properly and correctly
7.	Benefit	Users can study anywhere and anytime
8.	Target User	PAUD Awwalussalaam students, Admin and Teachers
9.	Audio	Vocals and Back sound Music in Mp3 or Mp4 format
10.	Graphics and Animation	2-Dimensional animation of characters, *hijaiyah* letters, Fathah, tanwin, quizzes, backgrounds and menu buttons

2.2. Design

According to Susilo *et al.* (2021) design in multimedia is a stage where the specifications made contain several aspects including application architecture, style, appearance, and material or material requirements for the application being made. In this research a design was carried out to make it easier for users to use the application to be made. The design of the makhorijul letter recognition application is made in the form of a navigation structure that describes the relationship between menus in a hierarchical form. The navigation structure in this application can be seen in the following **Figure 2**:
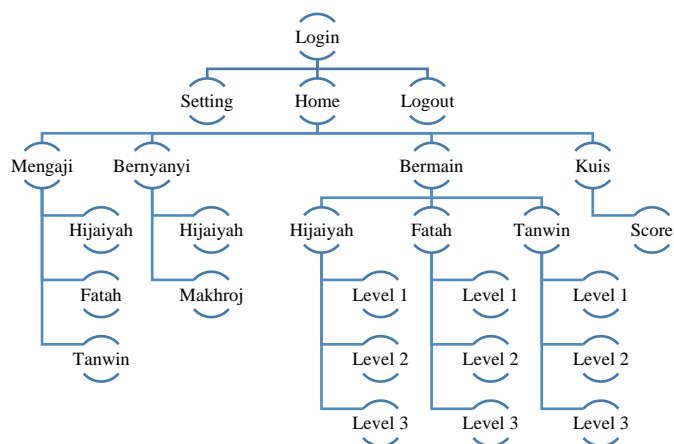
Figure 2. Application navigation structure.

2.3. Material Collecting

At this development stage, collecting materials according to needs. Material planning that will be made and collected is 2D objects along with audio and other supporting materials such as Muslim animation. So that the application made will attract the attention of children and not be boring.

2.4. Assembly

The assembly stage is carried out in the manufacture of multimedia objects or materials in the application being developed. At this stage it can also be said as the assembly stage where objects and multimedia materials are made into an application.

2.5. Testing

This stage aims to ensure that the application that is created and developed is free from errors. This test is in the form of questions that are asked to parents and teachers to calculate what percentage of the feasibility of this application when used by children.
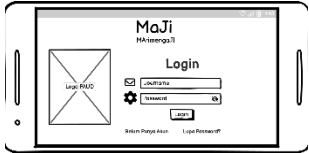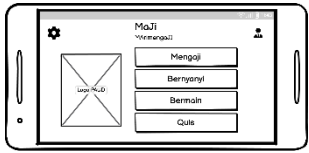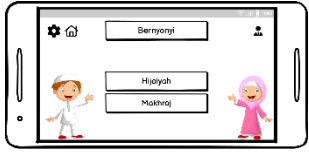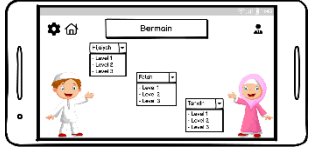
2.6. Distribution

Distribution is carried out to spread and deliver products to users from applications that have been completed and have gone through the testing phase. This distribution is spread through the WhatsApp group and also other social media

3. RESULTS AND DISCUSSION

In the results of the discussion that is designed, there is a storyboard and user interface as a reference in making applications. The following is the storyboard flow in the Al-Qur'an makhorijul letter recognition application on **Table 2**.

Table 2. Application storyboards.

Scene	User Interface	Storyboard
1.	MaJi — MArimengaJI — Loading ...	This scene displays the loading view when entering the first page of the application. In addition, on this page there will be a tone of voice reminding that the user has entered the application's home page with the words "Back Again at MAJI, let's recite the Koran".
2.	MaJi — MArimengaJI — Login	This scene shows the login view: Column Username: To enter the user username when entering the main page. Column Password: To enter the user password when going to the main page. Submit: Enter the next page. Logo: Indicates that this application is only owned by PAUD Awwalussalam. Sound: Please enter your username and password, then press submit!
3.	MaJi — Mengaji / Bernyanyi / Bermain / Quis	This scan displays the main menu, there are several button menu options including: Koran: Students pressing the Koran button will go to the Koran learning page. Singing: Students pressing the sing button will go to the singing learning page. Playing: Students pressing the play button will go to the Play page. Quiz: Students pressing the quiz button will go to the quiz page Sound: It's time to recite the Koran, choose the menu according to what you want!
4.	Hijaiyah	This scene will display a learning menu of *Hijaiyah* letters starting from the letters Alif to the letters Yes. Sound: Menu *hijaiyah*! Choose the *hijaiyah* you want!
5.	Hijaiyah — Alif	Scan the display of the *Hijaiyah* letters, students can hear the sound of the Alif letter and its meaning according to the student's choice from the previous bottom. Arrows: students can shift either right or left to the next letter. Sound: Alif!, Makhroj Alif is read from the bottom of the throat by reading A not O which is read in bold.
6.	Bernyanyi — Hijaiyah / Makhroj	Singing Scene Displays two learning menus: *Hijaiyah*: Learning *hijaiyah* letters students can see the letters chanted through sound. Makhroj: Learning Makhroj Letters is chanted and displayed through the sound of the Makhroj letters. Sound: Menu sing!, Choose the part you want!
7.	Bermain	The Scene displays the Play page. *Hijaiyah*: there are Levels 1 to 3 in playing *Hijaiyah* Letters Fathah: there are Levels 1 to 3 in playing Fathah Letters Tanwin: there are Levels 1 to 3 in playing Tanwin Letters Sound: Play menu!, please choose the menu you want!
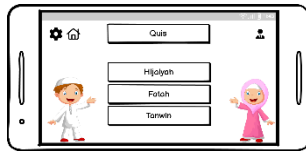
| 8. | | Scan the quiz page menu display:
Hijaiyah: Students choose bottom *hijaiyah*, they will do the *Hijaiyah* quiz on the next page
Fathah: Students choose bottom Fathah then they will do the Fathah quiz on the next page
Tanwin: Students choose bottom Tanwin then they will do a tanwin quiz on the next page.
Sound: Quiz Menu! Choose the part you want! |

Apart from discussing the user interface and story board, here is a display that explains the applications made such as the login menu, main menu, *hijaiyah* menu, *hijaiyah* content, singing menu, playing menu, and quiz menu. The following is an explanation of the menu that functions as the main menu in the Al-Qur'an makhorijul letter recognition application.

3.1. Display Menu Login

Menu for login when the user will go to the main page, the user must login first. In this login menu there is a logo from HIMPAUDI and also the title of the application itself, namely MaJi, which stands for Mari Koran. On the login page the user must fill in the username and password, if the user does not have a username and password, then the user must first create an account by clicking "Don't have an account", but if the case is that the user forgets the password, then the user must delete the password. first via email so you can create a new password. The display of the Login menu is shown on **Figure 3**.
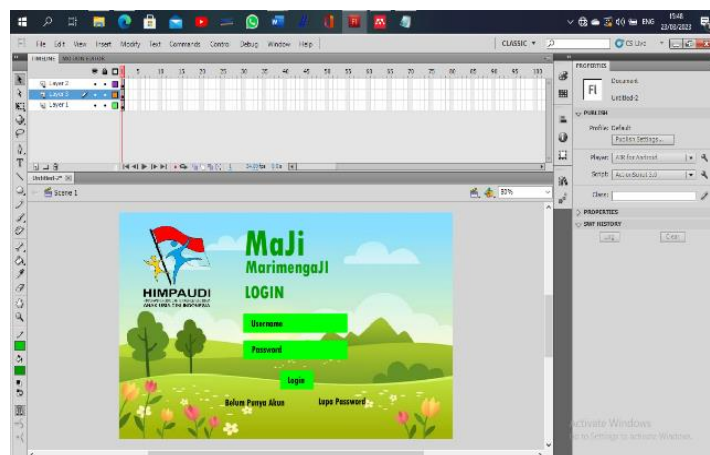

Figure 3. Display of the login menu.

3.2. Display Main Menu

This main menu serves to display the options that users want to use when doing learning. In the main menu there are 4 options, namely the Koran button, sing, play and quiz. Which illustrates the main view of the application on **Figure 4**.
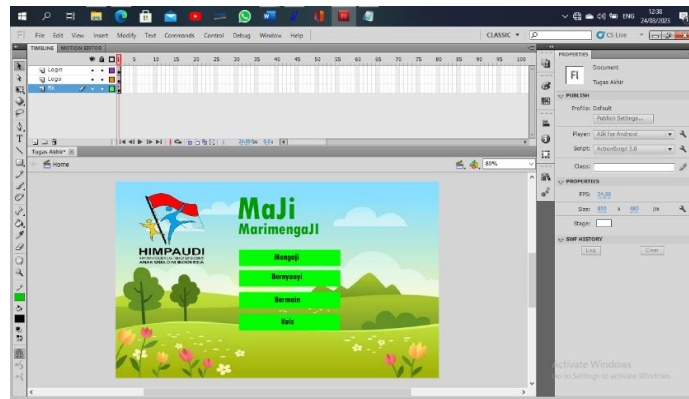
Figure 4. Main menu display.

3.3. *Hijaiyah* Menu Display

It has been explained above, that the user is free to choose whatever menu he wants. Here is an example of choosing the *hijaiyah* menu, which is when there are *hijaiyah* letters in it, as shown in **Figure 5**.
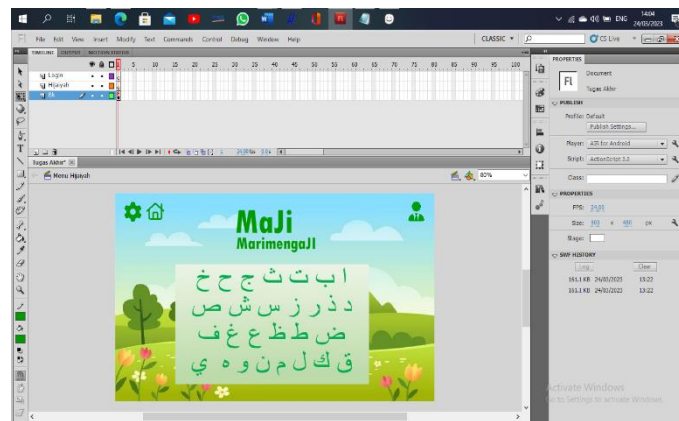

Figure 5. Display of the *hijaiyah* menu.

3.4. View of *Hijaiyah* Content

If the user clicks on one of the letters of the *hijaiyah*, one of the letters that clicked will appear. For example, if the user presses the letter Alif, the letter would show such as Alif with an explanation in what the sound of the letter Alif looks like and it will appear as shown in the **Figure 6**.
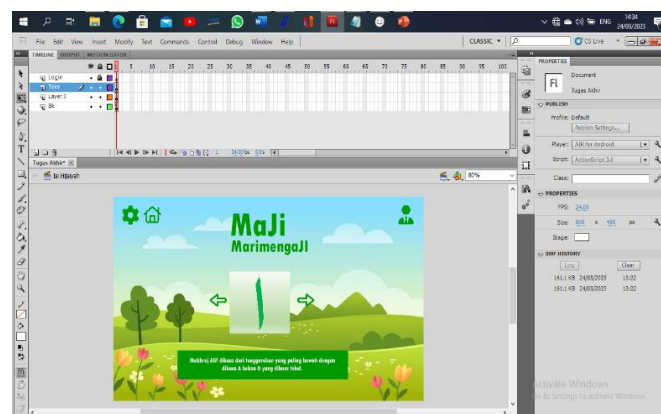

Figure 6. Display of *hijaiyah* contents.

3.5. Display of Sing Menu

On the sing menu displays two options when the user opens it. Some sing with the *hijaiyah* only and some sing or can be said to be nadhom *Makhorijul Huruf*. This display of the sing menu can be seen on **Figure 7**.
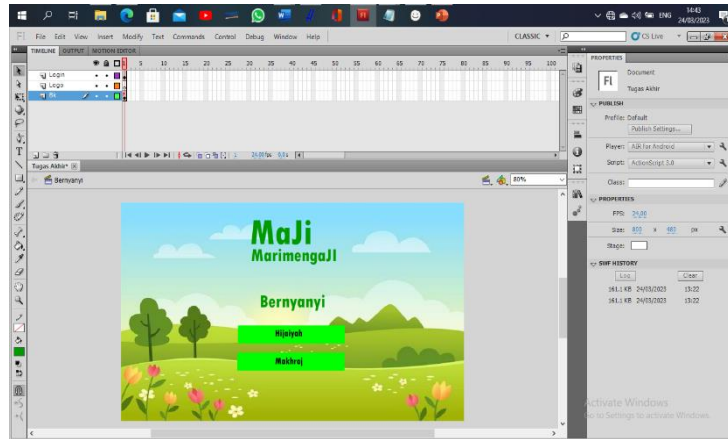

Figure 7. Singing menu display.

3.6. Play Menu Display

The play menu is a menu that shows simple games to entertain the user after understanding the existing material. In this menu there are three options according to the recitation menu above. In each menu there are levels that users can choose from level 1 which is still light to level 3 which is quite heavy. In this play menu the user can also have points collected as practice to fill in the questions on the quiz menu. On the display of the play menu there is also an example when we display or click on the level contained in the play menu this can be seen at **Figure 8**.
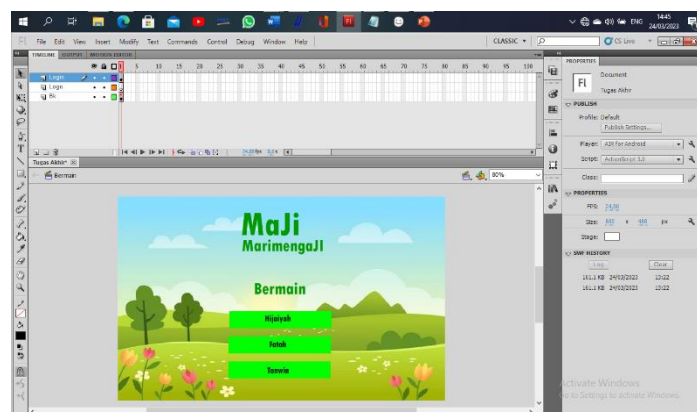

Figure 8. Display of the play menu.

3.7. Display Menu Quiz

The image below shows an example of a quiz menu display that contains questions that will be worked on by students.
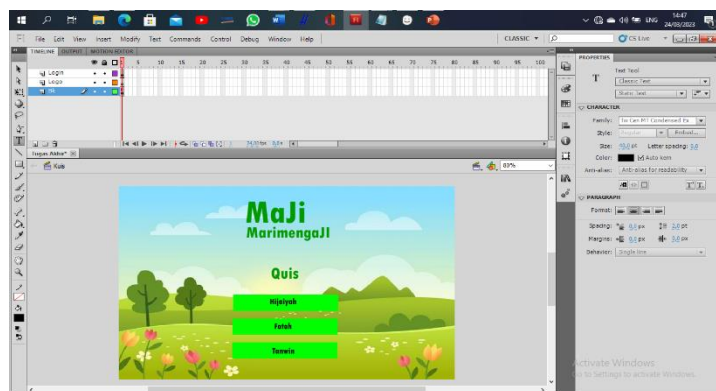
Figure 9. Quiz menu display.

4. CONCLUSION

Based on the results of the analysis of the research that has been done, it can be concluded that the application made is useful for increasing children's comprehension apart from pictures, there is also audio visuals that make children able to remember what they saw and heard. In addition, the problem of limited time in learning to introduce the Qur'an, it is hoped that PAUD teachers at SPS Awwalussalam will be helped because students can learn not only at school, but can study at home by utilizing the gateway accompanied by their respective parents.

AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

REFERENCES

Amrullah, S. A., Pratama, T. D., Wijayanti, L. M., Muqorrobin, S., and Salma, K. N. (2022). Fonologi Bahasa Arab anak usia 2 sd 8 tahun dalam membaca Al-Qur'an metode Ummi PPAS Hidayatullah Ponorogo. *Absorbent Mind: Journal of Psychology and Child Development, 2*(1), 1-11.

Budiman, M. A. and Widyaningrum, A. (2019). Pengembangan media pembelajaran interaktif macromedia flash 8 pada pembelajaran tematik tema pengalamanku. *International Journal of Elementary Education*, *3*(2), 178-185.

Dikananda, A. R., Nurdiawan, O., and Husein, S. (2021). "Augmented reality dalam mendeteksi produk rotan menggunakan metode multimedia development life cycle (MDLC)," *Means (Media Informasi Analisa Dan Sistem), 6*(2), 135-141.

Harahap, O. D. B. (2021). Pengembangan Media pembelajaran berbasis macromedia flash 8 dalam upaya meningkatkan efektifitas belajar ilmu pengetahuan sosial. *Journal of Education, Humaniora and Social Sciences (JEHSS), 3*(3), 955-961.

Handayani, H., Putra, F. G., and Yetri, Y. (2018). Pengembangan Media Pembelajaran Berbasis Macromedia Flash. *Jurnal Tatsqif*, 16(2), 186-203.

Hotimah, H., Ermiana, I., and Rosyidah, A. N. K. (2021). Pengembangan Multimedia Interaktif Berbasis Macromedia Flash Untuk Meningkatkan Kemampuan Komunikasi Matematis. *Progres Pendidikan*, *2*(1), 7-12.

Junaedi, E. (2019). Perancangan metode pembelajaran makhorijul huruf Qur'an dengan smartphone android. *Jurnal Ilmiah Komputasi*, *18*(2), 119-124.

Khairuddin, Z., Shukry, A. S. M., and Sani, N. A. (2014). Reading trends and perceptions towards islamic english websites as teaching materials. *English Language Teaching*, *7*(8) 124-133.

Lidianti, D., Putra, P., Oktadini, N. R., Meiriza, A., and Sevtiyuni, P. E. (2022). Pemanfaatan teknologi augmented reality dalam pembelajaran huruf *hijaiyah* dan makhorijul huruf. *TeIKa*, *12*(2), 67-76.

Nurdyansyah and Qorirotul, A. (2017). "Peran teknologi pendidikan pada mata pelajaran matematika kelas III di Mi Ma'arif Pademonegoro Sukodono," *Jurnal Pendidikan Guru Madrasah Ibtidaiyah*, *1*(1), 125-140.

Nurhasanah, E. (2021). Pengembangan Multimedia Pembelajaran Sejarah Perkembangan Islam Berbasis Macromedia Flash untuk Meningkatkan Hasil Belajar Mahasiswa. A*inara Journal (Jurnal Penelitian Dan PKM Bidang Ilmu Pendidikan), 2*(3), 148-153.

Safitri, M., Hartono, Y., and Somakim, S. (2013). Pengembangan media pembelajaran matematika pokok bahasan segitiga menggunakan macromedia flash untuk siswa kelas VII SMP. *Jurnal Pendidikan, 14*(2), 62-72.

Saputra, V. H., and Permata, P. (2018). Media Pembelajaran interaktif menggunakan macromedia dlash pada materi bangun ruang. *WACANA AKADEMIKA: Majalah Ilmiah Kependidikan*, 2(2), 116-125.

Susilo, A., Hardyanto, W., Martuti, N. K. T., and Purwinarko, A. (2021). Mobile learning development using augmented reality as a biology learning media. In *Journal of Physics: Conference Series, 1918*(4), 042013. IOP Publishing.

Wardani, K. W., and Setyadi, D. (2020). Pengembangan media pembelajaran matematika berbasis macromedia flash materi luas dan keliling untuk meningkatkan motivasi belajar siswa. *Scholaria: Jurnal Pendidikan Dan Kebudayaan*, 10(1), 73-84.