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Integration of ICT in Islamic Education in Junior High Schools

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Abstract

This study was motivated by the teaching and learning process of Islamic Religious Education and Ethics in one of the junior high school classes in Indonesia, which still uses the lecture method and only uses textbooks as teaching media. As a result, students do not understand and are not actively involved in the learning process. Teachers have not fully optimized the available learning media, including interactive multimedia, and there are limitations in teachers' ability to develop learning media, so that learning becomes interesting and students can understand the material. This study aims to develop valid and practical interactive multimedia products for Islamic Religious Education and Ethics lessons. This research is a research and development (R&D) study using the development model proposed by Borg & Gall. The development procedure in this study consists of five stages, namely: i) planning, ii) initial product development, iii) product validation, iv) product testing, and v) final product. Product validity testing was conducted by three validators, namely one subject matter expert and two media experts. Product testing was conducted on 20 high school students with the aim of determining the practicality of the developed product. The data collection tool was a questionnaire. The results of the product validity test by subject matter experts obtained an average score of 4.71 in the valid category, while the media aspect obtained an average score of 4.69 in the valid category. The results of the practicality test analysis obtained an average score of 4.66, placing the interactive multimedia product in the "good or practical" category. Based on the validity and practicality test results, it can be concluded that the interactive multimedia produced is feasible for use in Islamic Religious Education and Ethics lessons at the junior high school level in Indonesia.

INTRODUCTION

Entering an era of rapid technological development has had a major impact in various fields. Technology is used for a variety of purposes, one of which is in the field of education (Ambarwati et al., 2022; Husaini, 2019; Julita & Dheni Purnasari, 2022; Prasetya, 2015; Sakban et al., 2019). Education cannot be separated from technological developments that are utilized in developing learning media for children (Fadli & Hakiki, 2020; Julita & Purnasari, 2022; Nurfadhillah et al., 2021).

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Learning media can be used by teachers when teaching in class or when children study independently. Learning is a process that humans must undergo throughout their lives, which will not stop as long as humans still live in the world and can be carried out anywhere and anytime without any space or time limitations (Habibah, 2024; Malfi et al., 2023).

Learning is important for humans themselves, as it allows them to learn about values, language, and cultural development (Hirose, 2022; Karwati, 2016; Lamb, 2004; Lopez Burrola et al., 2025). In the teaching process, it is possible to determine the learning methods and media that are appropriate for the learning objectives in order to achieve success in learning, in addition to the factors of the teacher and the lesson content itself. Media designed with consideration for aspects related to students, including their interests, talents, and abilities, as well as their learning styles (Anderson et al., 2025; Azizah et al., 2023; Kurniawan, 2017; Lock, 2015; Zakharova & Jarke, 2022).

Learning refers to activities carried out by a person that are conscious or intentional (Griffin, 2017; Herawati, 2018; Ikeda et al., 2024). This activity refers to a person's activity in performing mental aspects that enable changes to occur within themselves. Thus, it can also be understood that a learning activity is considered good if the intensity of a person's physical and mental activity is high. Conversely, even if a person is said to be learning, if their physical and mental activity is low, it means that the learning activity does not really understand that they are doing a learning activity.

Learning media today has been widely developed for use as a supplement to support the teaching and learning process for students in schools and can also be used by students for independent learning at home, because learning does not always take place at school. The use of learning media is expected to be targeted and in line with the competency targets required by the curriculum used (Arwanda et al., 2020; Maenah et al., 2024; Rozie, 2018). The media used is not just one, but more than one medium or multimedia (text, graphics, images, audio, visuals) that can be presented simultaneously.

Therefore, when designing learning tools for the classroom, teachers must consider the relationship between the media used and the material to be taught so that the learning objectives formulated at the beginning of the lesson can be achieved optimally. In this case, additional media can be used or created independently based on criteria in line with the learning process and predetermined learning targets. One type of learning media that can be used and created is interactive multimedia (Imania & Bariah, 2020).

The development of technology such as interactive multimedia is very useful as a learning medium so that students can obtain important information while directly experiencing the learning process (Gama et al., 2016; Oktafiani et al., 2020). The learning experienced by students can develop a concrete understanding of thinking and teach students to think critically. According to Budiman, (2016); Ge, (2021); Manurung, (2020), interactive learning media technology has a significant impact on the field of learning media because it can integrate text, graphics, animation, audio, and video. Interactive multimedia has developed the teaching and learning process in a more dynamic direction. According to Anggraeni et al., (2021); Hasnawiyah & Maslena, (2024); Rahman et al., (2024), the use of interactive multimedia adds value to the success of learning, especially interactive media.

The advantage of interactive media in multimedia is its ability to engage students in making choices to move between materials in meaningful ways, allowing

them to participate in learning. Interactive multimedia is multimedia equipped with control tools that can be operated by users, allowing them to choose what they want for the next process (Damanik, 2020; Gunawan et al., 2015; Paseleng & Arfiyani, 2015). Interactive multimedia is learning that includes video, audio, and images, and can also use animation. Learning using interactive multimedia can improve the quality of learning because the material and presentation are very attractive to participants, and it is also very relevant for shortening teaching time because the material presented is conveyed more quickly than in conventional learning, and students will also find it easier to understand using interactive multimedia learning.

According to Maftuhkah & Hariyadi, (2023), the optimal function of the neo-cortex in acquiring information (normally and creatively) received from stimuli is in an environment that is happy, calm, and relaxed, allowing the brain to be active and used for thinking. Thus, Islamic Religious Education and Morality lessons must be delivered by teachers using enjoyable learning media so that they can motivate students to learn, which in turn will achieve the learning objectives. In Islamic Religious Education, there is no knowledge that is separate from the ethics of Islamic teachings. There are at least three values that can be pillars of character education in Islam, namely morals, manners, and exemplary behavior. *Akhlak* refers to duties and responsibilities other than sharia and Islamic teachings in general. Meanwhile, *adab* refers to attitudes associated with good behavior. Exemplary behavior refers to the level of character displayed by a good Muslim, namely one who follows the example of the Prophet Muhammad SAW.

The current learning process for Islamic Religious Education and Ethics has a packed schedule in class and a large amount of material that is difficult for students to understand. Many students do not fully understand or comprehend the material presented by teachers during the learning process. In addition, the only media used are printed materials or textbooks, and there is no variety in other media, making it difficult for students to understand and comprehend the material presented by teachers.

Based on observations and interviews with Islamic Education and Ethics teachers in junior high schools, the learning resources used to support the Islamic Education and Ethics teaching process are textbooks on Islamic Education and Ethics. In addition, subject teachers also admit that they lack the ability to create and develop learning media.

Based on the results of the observation, the researcher found several problems in the learning process, namely that students experienced difficulties with some parts of the material that were difficult for teachers to explain and depended on print media in the form of Islamic Religion and Ethics textbooks. Students needed examples in the form of images or videos to clarify and understand the material taught by the teacher. The limited teaching materials and learning media in the school made the learning process less than optimal. One of the materials observed was Chapter X on "The Power of Unity in Hajj and Umrah" under the sub-topic of Hajj and Umrah. In this material, the teacher's explanation relied solely on teaching materials in the form of textbooks and pictures of Hajj and Umrah.

Based on the above description, there is a lot of material in the subject of Hajj and Umrah that students need to understand better, such as the requirements for Hajj, the pillars of Hajj, the obligations of Hajj, the Sunnah of Hajj, and material about Umrah, which is explained differently from Hajj. However, during the learning process, teachers deliver this material orally or only use the lecture method. Teachers, as one of the factors that determine the success of education, are required to be more

capable of selecting and developing learning media that are appropriate to the needs of students so that the learning process becomes effective and enjoyable. One of the media that can be used to stimulate students to achieve good learning is interactive multimedia.

METHODS

This type of research is development research, better known as Research and Development (R&D) (Agusti et al., 2018; Asril et al., 2023; Bimantoro et al., 2024; Lestari et al., 2021; Sandra et al., 2024; Syafril et al., 2021; Zafirah et al., 2018). According to Sugiyono, (2018), the research and development method can be defined as a scientific way of researching, designing, producing, and testing the validity of products that have been produced or generated, which can be abbreviated as 4P, namely research, design, production, and testing. This development model uses the model proposed by Borg and Gall. Borg and Gall argue that in research and development, there are several cyclical steps, namely: research and information gathering, planning, initial product development, initial field testing, product validation, main field testing, operational product revision, operational field testing, final product revision, dissemination, and implementation (Hakim, 2020; Imania & Bariah, 2020; Nawali et al., 2024; Rahmi et al., 2019).

Borg and Gall also suggest limiting research to a small scale, including in this study, where researchers simplified the steps according to their needs into five research steps, namely: planning, initial product development, product validation (validation and revision), limited testing, and final product.

The assessment format uses a five-point Likert scale response format, where the response alternatives are very good/very apparent, good/apparent, fair/fairly apparent, poor/poorly apparent, and very poor/very unclear (Riduan et al., 2025). The Likert scale scores are determined a priori. For a positive scale, the possible scores are 5 for very apparent/very appropriate/very good/very suitable, 4 for apparent/appropriate/good/suitable, 3 for fairly apparent/fairly appropriate/fairly good/fairly suitable, 2 for unclear/unappropriate/unfair/unsuitable, and a score of 1 for very unclear/very inaccurate/very poor/very inappropriate. For scales that are negative, the possible scores are reversed. The validity used in this study is logical validity.

In establishing logical validity in this study, the creation of instruments must follow the correct and careful steps, by breaking down variables into several indicators, then formulating questions, so that logically the instrument validity desired in this study will be achieved. The second type of validity is empirical validity. Empirical validity is validity obtained based on experience through testing. To determine whether the data obtained when the product is tested is valid or not, the scores from the questionnaires previously filled out by students will be calculated (Fadjeri & Nurchayati, 2022).

The data obtained after testing is divided into two types, namely qualitative and quantitative data. Qualitative data is obtained from the criticism and suggestions submitted by media experts, subject matter experts, and students, which are then compiled into a single unit to improve the product that has been developed. Meanwhile, quantitative data is obtained from questionnaires filled out by subject matter experts, media experts, and students. This data will then be presented in quantitative descriptive data analysis or data presentation through tables.

RESULT AND DISCUSSION

This study developed Flash-based interactive media that can be used on Android devices using Adobe Flash Professional CS6. This study successfully developed Flash-based interactive learning media that can be operated on Android devices. By utilizing Adobe Flash Professional CS6 software, the resulting media not only presents visually appealing material, but is also equipped with various interactive features to increase user engagement, while addressing the challenges of learning in the digital age that emphasizes mobility. Below is a preview of the front page to the evaluation results of the interactive media.

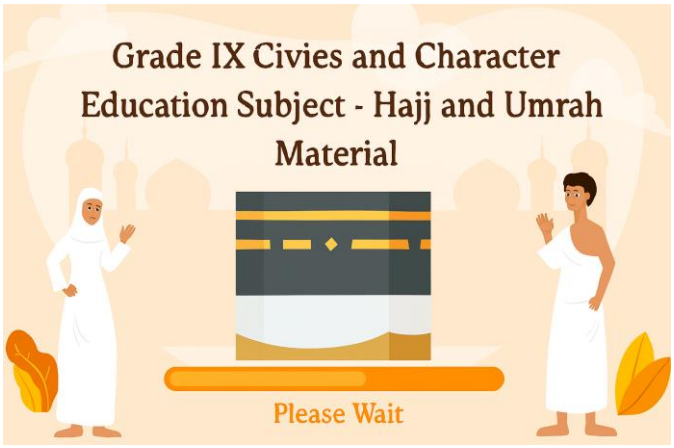

Fig 1. Loading page display

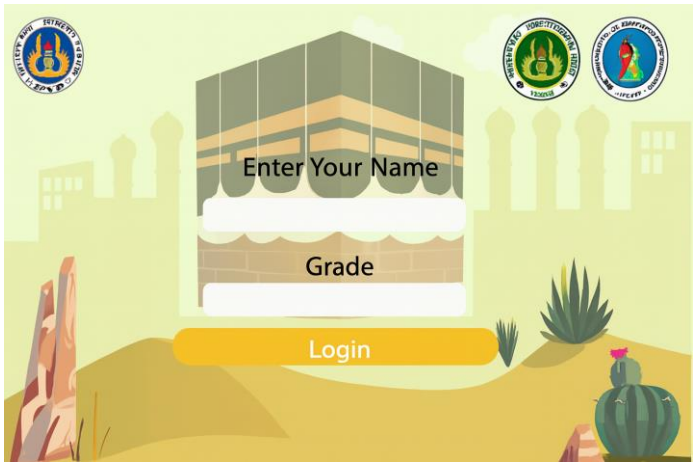

Fig 2. Participant display to start media

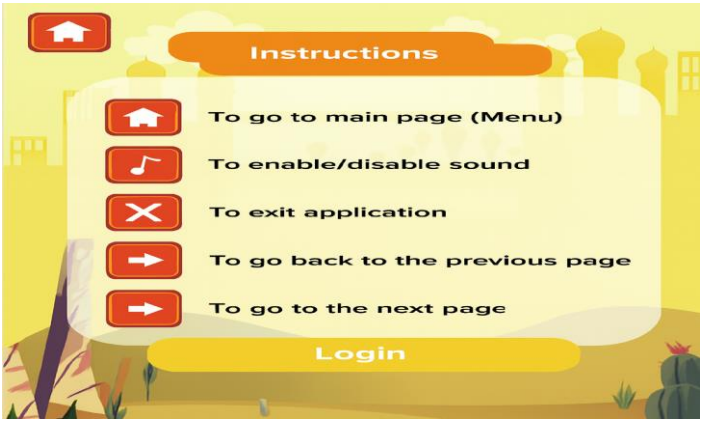

Fig 3. Media usage instructions display

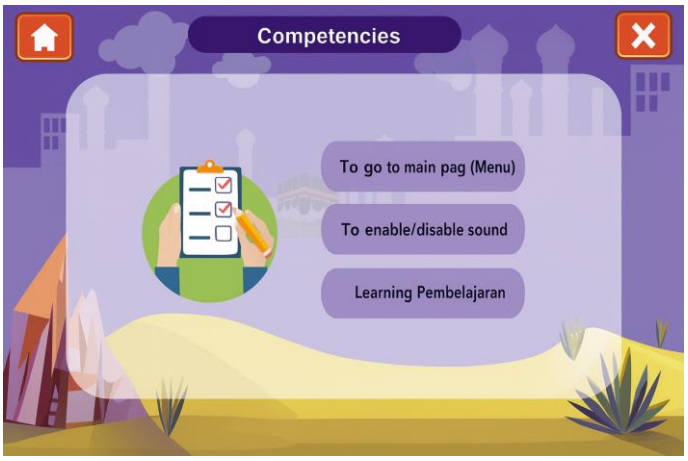

Fig 4. Media usage competency display

Fig 5. Interactive media start menu display

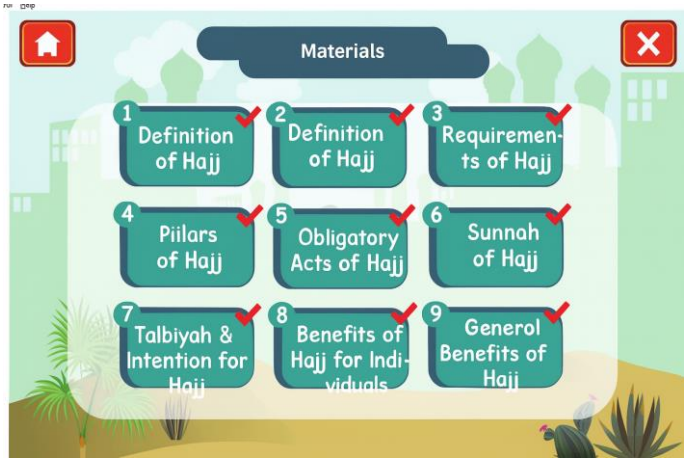

Fig 6. Interactive media material menu display

Fig 7. Display of material linked to video

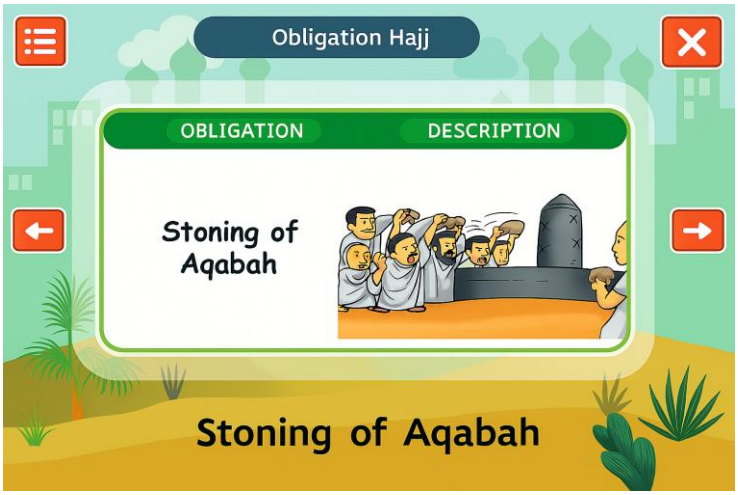

Fig 8. Interactive media material display

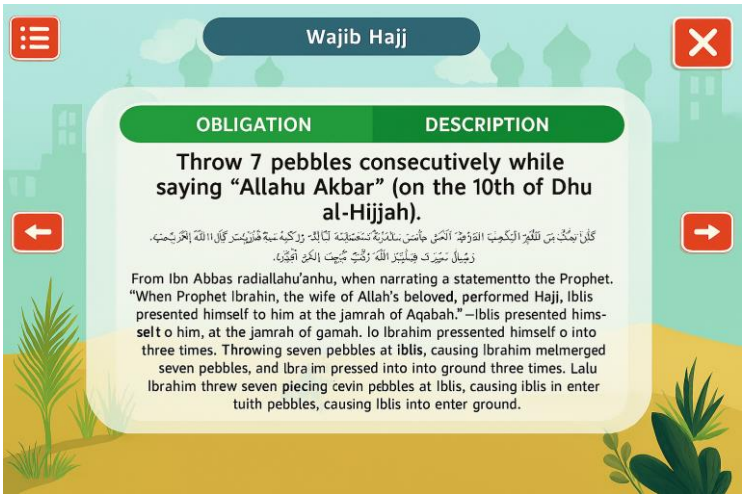

Fig 9. Interactive media material description display

Fig 10. Interactive media evaluation page display

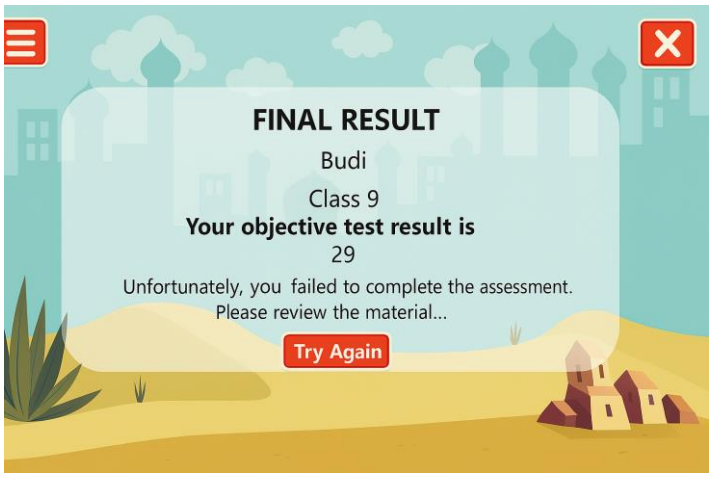

Fig 11. Interactive media evaluation results page display

To ensure the quality of the material presented, this interactive learning media has undergone an assessment process by subject matter experts. The results of the assessment can be seen in the following table.

Table 1. Results of expert material assessment

Aspect	Criteria variable	Indicator	Assessment
1	2	3	5
Materials	Content and objectives	1	5
		2	5
		3	5
		4	5
	Presentation of materials	5	5
		6	5
		7	5
		8	4
	Tests	9	4
		10	5
		11	4
		12	5
	Efficiency	13	5
		14	4
	Quantity	14	66
	Average		4.71

From the data above, it can be seen that the assessment results from the material validator are 4.71 with a category of "Very Good". Overall, the material aspect is in the excellent category. The content and purpose variable scored 5, the material presentation variable scored an average of 5, the test variable scored 4.5, and the efficiency variable scored 4 and 5. Thus, the overall average score according to the material validator for all material aspects is 4.71 out of a maximum score of 5, which is in the excellent category.

Table 2. Media expert assessment results

Aspect	Criteria variable	Indicator	Assessment	
			V1	V2
1	2	3	4	5
Media	Display	1	5	5
		2	5	5
		3	5	4
		4	5	4
		5	5	4
		6	5	4
		7	5	5
		8	5	5
		9	5	4
	Ease of Use	10	5	5
		11	3	4
	Test	12	5	5
		13	5	5
Total		13	63	59
Average			4, 84	4, 53

Thus, the overall average score from validator II was 4.53 out of a maximum score of 5, which is considered valid. Based on the assessment and input from both media experts, it can be concluded that the interactive learning media was developed based on the input provided by the validators. After revisions were made, the interactive learning media product was deemed good or valid, making it suitable for use in learning processes both in and outside of school.

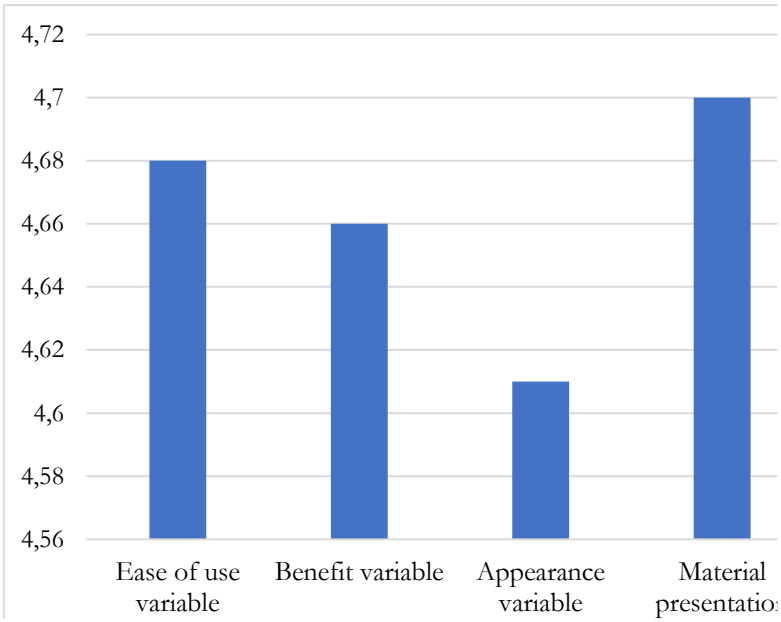

Fig 12. Practicality level of test results

Overall, the practicality level of the results of trial II on 20 students obtained an average of 4.66 with the criterion of "practical." The ease of use variable obtained an average of 4.68, the benefit variable obtained a score of 4.66, the appearance variable obtained a score of 4.61, and the material presentation variable obtained a score of 4.70. Based on the data on the practicality of learning media in Islamic Education and Ethics subjects, it can be seen that the overall response of junior high school students to the media used was positive with a "practical" rating. The interactive multimedia development research is valid in terms of validity, as the media can be used for learning. Meanwhile, in trial I and trial II of media practicality, the developed media can be used for the learning process of students in accordance with the problems that arise.

CONCLUSION

Based on the data analysis described in the previous chapter, it was found that the results of the validity test of the interactive learning media product that had been developed in terms of material obtained a material validator score of 4.71 with a valid category and the media aspect obtained an average of 4.69 from each validator with a valid category. Then, the results of the practicality test obtained an average score of 4.66 with a practical category in the practicality aspect with criteria variables including ease of use, benefits, appearance, and presentation of material.

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DECLARATIONS

Author Contribution

M Yakub Iskandar, Yosi Aryanti: Writing-Preparation of original manuscript, Conceptualization, Visualization, **Nofri Hendri, Efendi**: Methodology, Data accuracy, **Zainal Asril, Muhammad Irfan:** Investigation, Improve Content, **Toyosi Alatise:** Improve Language.

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Conflict of Interest

The authors declare that this research was conducted without any conflict of interest in the research.

Ethical Clearance

The place or location studied has agreed to conduct research and is willing if the

results of this study are published.

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