The Design of Multimedia Storytelling

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Article Info	Abstract
	In teaching English, the use of media is essential to underpin and facilitate the process. With the recent waves of Technology, some teachers also make an exercise of a digital platform to develop new Media. It is easier to attract students to follow the lesson and also increase their pursuit of learning. This research directed to how the design of digital storytelling to teach narrative for students. The researcher used Educational Research and Development cycle from Borg and Gall (2007) which adjusted into five steps, namely (1) research and information gathering, (2) planning, (3) preliminary product developing, (4) preliminary field testing, and (5) primary product revision. The result of the research shows that digital storytelling can be utilised as a medium to teach narrative. The purpose of the medium must be communicative and attractive for the students. Equally, for the students, they are interested in using digital storytelling medium to learn about narrative. Hence, digital storytelling is designed to occupy those needs and is expected to be useful to teach narrative.

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INTRODUCTION

Teaching media has commonly used by teachers in the classroom. It helps the students understand the lesson as well as engage students' motivation. Certain media can also provide learning stimuli for them. Media are used in classrooms because they can facilitate students' learning and make it more attractive. (Rowntree, 1974; Tucker, 1983) say that there are six functions of media in teaching. Many various kinds of media that can be used to support the lesson. Some teachers like to use conventional media like board games and pictures for teaching. However, with the recent waves of technology, some of the teachers also make use of a digital platform to develop new media. A growing body of literature on the impacts of technology in learning and education suggest a dramatic shift taking place among the younger generation (Barrett, 2006; Dreon, Kerper, & Landis, 2011; Meadows, 2003).

Referring to other works related to this issue, Moeller & Reitzes (2011) say that students of the 21st century change their way of learning. Student-centred learning implies significantly changed roles for students and teachers. In student-centred learning environments, students are more engaged, responsible learners. They work to develop and explore their unique academic and career interests and produce authentic, professional quality work to demonstrate their learning. To support students in their new roles, teachers act as coaches, advisors, and facilitators of student learning. Instead of lecturing the whole class, teachers provide opportunities for students to take charge of their learning. Students of the 21st century are also tech-savvy. They are very familiar with technology and fluent in using them. This new generation of students is often called digital natives. Growing up with unprecedented access to technology has changed the way young people, "digital natives", communicate, interact, process information, and learn (Kahn & Agnew, 2017; Reese, 2015).

Based on those gaps, the researchers provided a medium as an aid to deliver the narrative lesson in a technology-based media in the form of digital storytelling. Digital storytelling is the art of combining narrative with digital media such as images, sound, and video to create a short story (Barrett, 2006 Robin, 2019; Robin & McNeil, 2019). The combination of robust, yet affordable, technology hardware and software mesh perfectly with the needs of many of today's classrooms, where the focus is on providing students with the skills they will need to "thrive in increasingly varied media environments" (Robin as cited in Sadik, 2008). Researchers had found that integrating visual images with written text both enhances and accelerates student comprehension, and digital storytelling is an especially useful technology tool for collecting, creating, analysing and combining visual images with written text (Chun, Smith, & Kern, 2016; Lupshenyuk, Hocutt, & Owston, 2011).

Several scholars have long stressed the importance of visual experience in teaching and learning languages (Gregori-Signes, 2008; Robin, 2006; Rodríguez Illera & Londoño, 2009). As well as the need to further examine the learning effects of its use in the education context (Barrett, 2005; Yuksel, Robin, McNeil, 2010). Digital storytelling, for one, gives students not only the chance to work with all four language skills from the outset but also blends the art of storytelling with a range of digital formats, including images, captured voice, video, and music. (Robin, 2006). This helps teachers to teach any subject, so that excitement and attention can be created. Virtual storytelling is used in this particular study to focus on language patterns as a foreign language of daily life in English. Although tales typically consist mostly of events, we have added a set of dialogs to highlight the diverse communicative interactions that use some language pieces.

The digital storytelling technique can effectively assist the learning process in EFL classrooms. It can assist EFL learners to develop multimodal communicative competence by promoting a learner-centered environment. In this way "learners have numerous opportunities to interact and use language in authentic and personally meaningful ways" (Rance-Roney, 2008, p. 30). Students narrate the scripts of their stories and record themselves. This material is next mixed with different types of multimedia, including computer-based graphics, computer-generated text, images, video clips, and music so that it can be played on a computer. Accordingly, students become the "storytellers" who present the stories they have created to audiences (Kajder, 2006).

The researcher intends to create digital storytelling (with a complimentary lesson plan and worksheet) that suits junior high school students, particularly the 8th grade. The reason why digital storytelling has chosen as the medium is that it is more economical to use in the classroom, especially for teaching narrative. Other media such as video and movie consume more time to be used. Digital storytelling could help students understand the story better and bring a real atmosphere into the classroom. The material is designed based on the curriculum of 2013 (Pendidikan & Indonesia, 2013).

METHODS

This study made use of the qualitative method. The researcher adapted the educational research and development cycle (Gall, Gall, & Borg, 2007) and also an instructional design model by Kemp (İşman, 2011). To do the proper R&D, the researcher must follow several steps which called the R&D cycle. The research took place at one of the public schools in Pontianak. There are three different research participants. The first participants were several students from the ninth-grader as the respondents of the questionnaire, an English teacher as the participant for an interview, and two lecturers as the participants for the evaluation process.

The data gathered by the interview and questionnaire were analyzed using qualitative and quantitative data analysis. The data obtained in the research and information gathering step were interpreted using qualitative data analysis, and the data obtained in preliminary field testing were analyzed using quantitative data analysis. The result obtained by the library study were interpreted and put into a robust framework for the research — the framework used as the underlying theory and basis for developing the design.

The questionnaire is used to obtain the data from the students related to their needs and interest. Since the participants were 30 students, the questionnaire was considered as the most effective data collector. The questions were in the form of 7 close-ended questions and 3 open-ended questions. From the questionnaires, results are classified based on their answer and turned into a percentage. However, the researchers could express the information in a more precise way. It is useful to convert numbers to percentages in order to be able to talk about the proportion responding in a certain way and able to make comparisons.

FINDINGS AND DISCUSSION

The researcher collected the literature review, distributed questionnaires to the students, and interviewed with one of the English teachers. After collecting the literature review, the researcher first distributed the questionnaires to the students. The respondents of the questionnaires were 30 students. The results of the questionnaires have presented in Table 1 and 2.

Table 1. Summary of Learners' Questionnaires

No	Statement	Percentage	
		Yes	**No**
1	I learned about a narrative text in this	100%	-
2	I have access to technology/ digital	100%	-
3	In learning narrative, my teacher mostly uses digital media.	100%	-
4	I am interested in learning narrative using digital media.	87%	13%
5	Do you think digital media will help you to learn narrative?	100%	-
6	Are you familiar with digital storytelling media?	93%	7%
7	Have you ever learned using digital storytelling media?	100%	-

All of the students had learned narrative in the even semester. All of them also have easy access to technology or digital media. In teaching narrative, their teacher mostly uses digital media to teach narrative in the classroom. However, not all of the students are interested in learning the narrative using digital storytelling media. 87% of the students said that they are interested in learning using digital media, and 13% say that they are not interested.

Nonetheless, all of them agree that digital storytelling could help them in learning the narrative. 93% of the students stated that they are familiar with the use of digital storytelling in the learning process, and 7% of the students are not familiar with the media. All of the students had ever used digital storytelling in the classroom. Besides the close-ended questions, there are also three open-ended questions. These questions are aimed to ask the students' opinions about the elements in digital storytelling, preferred activities in learning narrative, and also the knowledge that they want to

improve after learning the narrative. The results of the questionnaires have presented in figure 1. The first figure shows the elements needed in digital storytelling.

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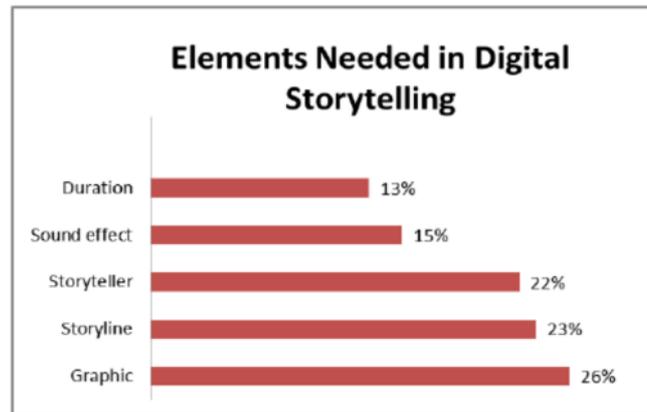

Figure 1. Crucial Elements Needed in Digital Storytelling

The researcher picked the three highest percentages of the categories. The highest percentage of the figure above is graphic (26%), followed by a storyline (23%), and the last is a storyteller (22%). Students consider those three elements as vital elements that have existed in digital storytelling. The rest of the categories are less important, namely sound effect (15%) and duration (13%). The next figure shows the activities they prefer to have in learning the narrative.
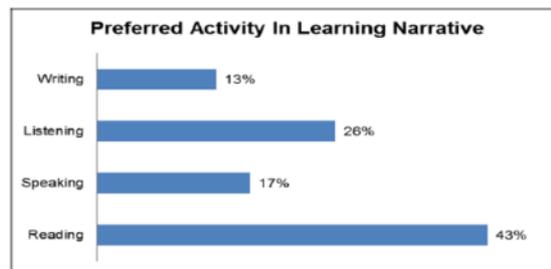

Figure 2. Prefered Activites in Learning Narrative

Most students like to have read as the main activity (43%). The second activity is listening (26%), followed by speaking (17%) and writing (13%). In developing the exercises, the researcher would take the two highest categories: reading and listening. The next figure shows about expected knowledge to be gained by the students.
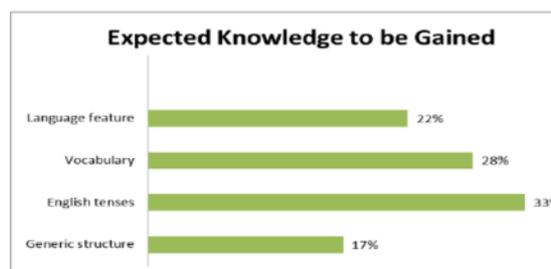

Figure 3. Expected Knowledge to be gained from Learning Narrative

The last question in this questionnaire is about the knowledge expected to be gained by the students. The result shows that 33% of them expect to gain more knowledge about English tenses used in narrative stories. The next categories are vocabulary (28%), language feature (22%), and the generic structure of the narrative (17%).

After distributing the questionnaires, the researcher interviewed one of the English teachers. The interview conducted by employing a semi-structured interview. The researcher had already prepared seven interview questions in advance. The last three questions had formed during the interview. The interview revealed narrative is one of the topics taught by the teacher, and this year the topic was given on the even semester. They had given the material based on the basic competencies stated in the school curriculum, but the activities in employing the material had developed by the teacher. Usually, the teacher uses conventional methods such as role-play or puzzles, but in some classes, she integrated digital media in the teaching process. The students quickly attracted by motion pictures, such as video and movie, and it increases their attention in the learning process. In one of her teaching, she used digital storytelling as a tool for her teaching. The students' reaction when she used the medium was good. Most of them were excited and paid attention to the storyline. However, based on the teacher's experience, it is better to use digital storytelling media as warming up tool in the classroom. Even though the teacher did not agree to use digital storytelling as the main media in the class, she will still be using it in her future teaching process.

From the interview results, the researcher discovered some findings. The narrative is one of the topics taught by the teacher, and this year the topic was given on the even semester. They were given the material based on the basic competences, but the activities in employing the material were developed by the teacher. Usually, the teacher uses conventional methods such as role-play or puzzles, but in some classes, she integrated digital media in the teaching process. The students were easily attracted by motion pictures, such as video and movie, and it increases their attention in the learning process. In one of her teaching, she used digital storytelling as a tool for her teaching. The students' reaction when she used the medium was good. Most of them were excited and paid attention to the storyline. However, based on the teacher's experience, it is better to use digital storytelling media as warming up tool in the classroom. Even though the teacher did not agree to use digital storytelling as a main media in the class, she will still be using it in her future teaching process.

Preliminary Product Developing

The researcher began to develop the medium as it is the main focus of this research. In this step, the researcher also made a complimentary lesson plan and worksheet for the students. They were compiled in Teacher's Guideline booklet made to complete the digital storytelling. The worksheet was designed based on the basic competences, and the result of learners' needs, which focuses on reading and listening activities.

After deciding goals, general purposes, and the topic of the medium, the researcher started to design the medium. In this research, the researcher made digital storytelling, which is the art of combining narrative with digital media such as images, sound, and video to create a short story. There are 7 elements that make a good digital storytelling. They are 1) point of view, 2) a dramatic question, 3) emotional content, 4) the gift of your voice, 5) the power of the soundtrack, 6) economy and 7) pacing (Robin, 2008). To provide an aid for delivering the material, the researcher made digital storytelling. Script and pictures were assembled and combined in an online platform named Powtoon. The medium was uploaded into Youtube complete with the subtitle and Teacher's Guide to using digital storytelling.

The researcher designed a lesson plan and worksheet as complementary material to digital storytelling. The researcher also put the result from the research and information gathering to design the activities in the class. Based on the result of the questionnaires, the students prefer to have reading and listening activities. Thus, the activity used in the lesson plan consisted of reading and listening activities.

Evaluation Feedback

The pre-made product and complimentary lesson plan and worksheet had validated by three respondents; 2 experts and 1 English teacher. The researchers distributed questionnaires to the respondents. The questionnaire consists of 7 close-ended questions and three open-ended questions. Evaluation of the designed product and complimentary lesson plan helped the researcher to develop a better product. From the evaluation, the researchers knew which part of the medium was excellent

and which part that needed to be improved. It could also know whether the medium has met the learners' needs. The product evaluation gave data and information, whether it has been relevant and suitable to teach narrative for students. The respondents in the evaluation process had chosen from their language expertise and experience in teaching.

Table 2. Summary of Medium Evaluation Questionnaires (Close-ended)

No	Statement	Degree of agreement				
		1	2	3	4	5
1	The designed media has already met The learners' need.	0	0	50%	50%	0
2	The designed media aligned with school Curriculum	0	0	0	100%	0
3	The designed media has been communicative.	0	50%	0	50%	0
4	The length of the media is suitable for a classroom activity.	0	0	33,3%	66,6%	0
5	The designed media is fascinating.	0	0	0	100%	0
6	The elements of narrative covered in the media.	0	0	0	100%	0
7	The content of the media is suitable to teach narrative.	0	0	33,4%	66,6%	0

From the result of the evaluation, it can be seen that overall the medium design is already good and appropriate for teaching narrative. Although respondents said that the medium has been communicative, 1 respondent said that it tends to be a monologue performance. The length and content are also suitable for classroom activity. All of the respondents also agreed that digital storytelling is interesting and can be used by teachers to teach narrative. The respondents were asked about the strengths and also weaknesses of the medium. The respondents stated their opinion and suggestion related to the designed media. Table 3 below shows the strengths and weaknesses of the designed media according to the respondents' evaluation.

Table 3. Summary of the Strengths and Weaknesses of the Media

Strengths	Weaknesses
• The duration is appropriate for brainstorming session. • The material is interesting for brainstorming session. • The audio is clear the transition between one slides to another is good, the pictures are very clear. • Designed media is interesting. • The story has promoted local culture in learning English.	• For whilst teaching, it is less communicative and tend to monologue performance. • Check the sentences before entering the story. All sentences are missing a full stop. • No exercises / activities to help learners identify the generic structure of the text. • No voice heard in the opening.

Main Product Revision
The overall review from the respondents related to the appearance of the media was pleasing and enjoyable to watch, especially for brainstorming activity. However, there were some changes that needed to be done to make the media appearance's better. In the beginning of the written narration, the sentences were lack of proper punctuation. The researcher did not put a period marks in most of the sentences, so it had to be retyped to fix the mistakes.

In general, the respondents agreed that the media was already suitable for teaching. However, one respondent said that the recording on the sound or spoken narration of the story needed to be improved. It could not be heard clearly by the respondent and in some sentences, the voice volume was not consistent yet. Some sentences were spoken louder than the other. Usually, it was the article, such as "the" and "an". To overcome the problem, a new narration record was made to replace the earlier recording. The new recording was only done for some parts that were still lack of volume consistency.

Most respondents stated that the materials are already suitable for learners. However, one respondent said that the researcher should add one more material on the generic structure so that the students could also learn about it. A question then added to the complementary material, which is "Please write the generic structure of the story using your own sentence". The question is aimed to make the student understand more about the generic structure of a narrative text and also make them practice using correct tenses to rewrite the story.

The Media Appearance

Modeling is the process of making object models in a 3D / 2D form on a computer. Models can be in the form of characters (living things), such as humans, animals or plants; or in the form of inanimate objects, such as houses, cars, equipment, etc. The model must be made in detail and in accordance with the size and scale of the design/model sketch that has been predetermined so that the object model will look ideal and proportional to be seen.
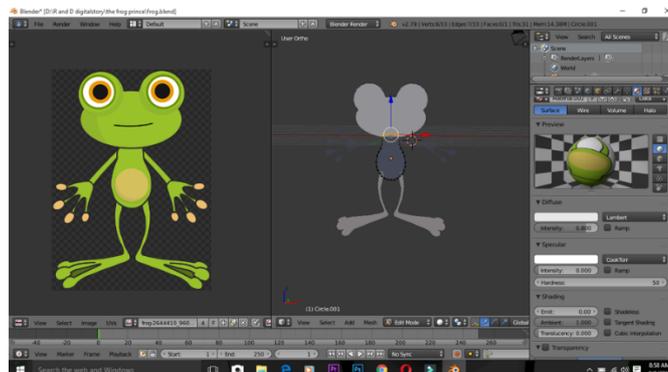

Figure 4. Modelling

Texturing is the process of making and giving color and material (texture) to an object that has been modeled before so that it will appear a real impression. Giving material or texture to 3D / 2D objects will define the appearance and type of material from 3D / 2D objects. Material or texture can be in the form of photos or images created with 3D software applications, such as 3ds Max, Maya, etc., or with the help of digital imaging software, such as Photoshop, PhotoPaint, or Gimp.

Figure 5. Texturing

Animation is the process of making an animation for a model. Animation can be in the form of movements, be it object/model movements or camera movements to create walkthrough animations, flythrough animations.

Figure 6. Rendering

Rendering is the final process of the whole process of modeling or computer animation. In rendering, all data that has been entered in the process of modeling, animation, texturing, lighting with specific parameters will be translated in an output form (final display on the model and animation). The output of the animation that we make can be in the form of photos or videos.
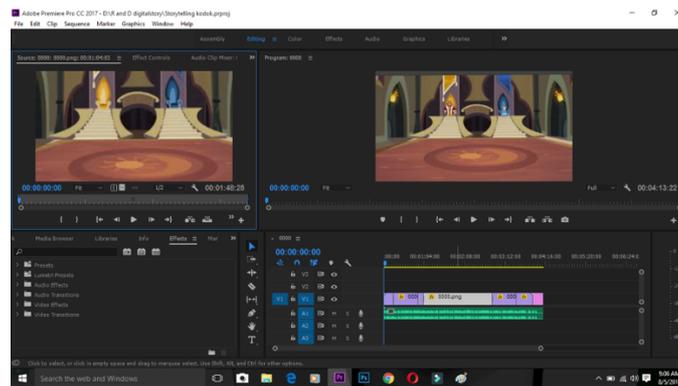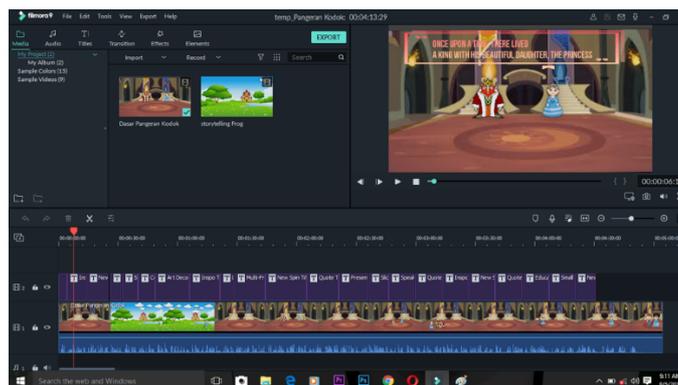

Figure 7. The process of rendering

Figure 8. The process of providing animated text

Discussion

The findings show that students have positive views on the use of interactive storytelling. Most of them liked video narration. They concluded that multimedia storytelling was a handy tool for education from a semi-structured interview. Several students also said that when they recorded their voices as part of a digital storytelling project, they might improve their pronunciation. Kuforiji &

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Williams (2011) uncovered that multimedia stories were an enjoyable activity in the schoolroom. It is essential when planning suitable lessons and activities that the students would like to learn English.

Besides, students enjoy interactive storytelling because the English language is easy to use. Afrilyasanti & Basthomi (2011) said that interactive storytelling in classrooms could easily be carried out. Most participants liked the easy steps by using Corel VideoStudio to create their digital storytellings and then presented the story. As reported in Lee (2014), digital storytelling is an attractive language teaching practice, easy to use for speaking. It can be a positive way of encouraging students to use the language in and out of the classroom.

Ariffin (2010) addressed the value of multimedia storytelling, including sharing experiences. Therefore, visual history is a useful technology for learning English in particular. Teachers will encourage students to build their multimedia worlds and share their stories with peers in their classes. Active thinking was also encouraged in interactive storytelling classes. Throughout the use of the app, they were autonomous of English.

Nonetheless, teachers will find some potential issues in integrating storytelling files in a framework in order to develop interactive storytelling, which may take quite a while. Students require vivid visual storytelling images and illustrations. Lessons with images and sounds, which enable all students, especially students with learning difficulties, to better understand concepts before reading a lesson text (Piotrowski & Reason, 2000). Integrating visuals and illustrations in the visual storytelling phase can, therefore, inspire students to learn more. The advanced technology needs more photographs and better graphics. The video should be rendered faster by using a decent notebook/computer with a powerful processor.

Overall the product is already excellent and appropriate for teaching narrative. The designed medium has also aligned with the students' needs. The elements of the narrative had completely covered (generic structure, language feature, and English tenses). Although respondents said that the medium has been communicative, one respondent said that it tends to be a monologue performance. The length and content are also suitable for classroom activity. All of the respondents also agreed that digital storytelling is exciting and can be used by teachers to teach narrative.

This research conducted in order to design digital storytelling as a medium to teach narrative for junior high school students. Once digital storytelling was designed, like the framework, the researcher combined two significant theories, which were the cycle of educational research and development and instructional design model. The instructional design model put under the cycle of instructional design and development. To create an exciting and proper digital storytelling, which started about seven elements of digital storytelling, and also the implementation of narrative in learning (Göbel, Rodrigues, et al., 2009; Sweeney-Burt, 2014).

Among study results, one crucial finding asserts that students are interested in using digital storytelling to learn narrative because it is more exciting and could help them to understand the topic better. In line with this, Kim (2014) & Menezes (2012) argued that digital storytelling is useful to build students' background knowledge and attract them to the learning process.

The researchers created a complimentary lesson plan and exercises and put in a teacher's guide booklet. Fifth, the evaluation was done once the digital storytelling medium and teacher's guide. From the evaluation process, the researcher found out that the media and exercises are already appropriate for teaching narrative. Nonetheless, some respondents suggested to fix the recording and added more exercise in the teacher's guide. One respondent also suggested adding a subtitle to digital storytelling so that it can be used to check the answer when doing the exercise.

The researchers presented the media on a digital platform through Youtube. The Teacher's Guide was presented both in written form and digital form so that any teacher could download it easily. The researchers also provide subtitle which can be used to check the answers of the exercise.

CONCLUSION
Digital storytelling is a powerful tool for creating e-Learning environments based on constructivist principles of educational activity and learning. It possesses the potential to engage learners in integrated approaches to learning with digital media. Notwithstanding, a framework is required that caters for learners at different levels. In this research showed the product for creating e-Learning systems through digital storytelling. The product grounded on twelve storytelling aspects and five levels, and each aspect advances in complexity as the learner's level advance from level one to five. The product will be further developed to employ all of the storytelling aspects in diverse educational settings. It will be used to create

a new eLearning system that can be utilized at different levels of education. Future research will centre on how digital storytelling can enhance the students' engagement and provide better educational outcomes for all learners. Proving and validating the proposed e-Learning Digital Storytelling framework will be undertaken in future research projects.

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