

Safeguarding Malaysian Folktale Through Adventure Game

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ABSTRACT

Folktale is part of people's culture and heritage that represents the identity of a society. Malaysia is prosperous with folktale, which is traditionally diffused verbally from generation to generation. Inopportunately, this heritage is slowly being forgotten by the younger generations especially by teenagers. The study aims to safeguard local folktale through an adventure game made for teenagers. In the context of the study, *Bawang Putih Bawang Merah* was selected. The study seeks to discover the adventure game's elements from the game guideline and from the user (teenagers). Once found, it is a question of how both the elements can be employed to design and develop the folktale adventure game branded as *Orkid Emas* in the study. Based on the definitive version of the game, it is a question of obtaining the teenagers' feedback about the game's design and development and safeguarding aspects. The methods employed in the study are the formal and semi-structured interview, document analysis, flowboarding and prototyping. The results of the study show that both the elements of the adventure game from the guidelines and users were ascertained. The *Orkid Emas* adventure game was successfully designed and developed using the combination of the elements. At large, positive feedback was obtained from select representing teenagers regarding the *Orkid Emas*' design and development, and folktale safeguarding aspects.

Keywords: *Folktale adventure game, folktale safeguarding, teenager's perspective, intangible cultural heritage, Malaysia.*

INTRODUCTION

Every nation in this world has its cultural heritage. This heritage is indispensable because it carries the lineage of past generations to the present. Previously, the term cultural heritage closely reflected the monuments and assortments of physical objects, but through times, such notions have broadened and changed. They include not only tangible heritage but also the equally important intangible heritage of the ancestors (Kirshenblatt-Gimblett, 2004; UNESCO, 2016). The intangible heritage represents the diverse aspects of traditions and living expressions of the past such as knowledge, the created products, talents and creativity, and the various social and natural contexts that ensure its sustainability (Board of UNESCO Executive, 2001; UNESCO, 1989, 2003). One of the products of intangible inheritances is folklore, and its art symbolises the cultural and social identity of a community (Kurin, 2007; UNESCO, 1989).

The customary practice of folklore reflects a tradition of society, such as music, popular credence, and storytelling, – all of which has existed in the form of verbal expression known as folktale (Chee Ying, 2005; Mohd Hussein, Mohd Nor, & Abdul Manap, 2001). A folktale, alongside myth and legend, forms three basic terms of prose narrative folklore (Bascom, 1965; Menon, 2012; Swales, 1990). Folktale exists in the shape of a story that carries meaningful messages and embeds a cultural identity. The tale is fabricated and altered by crowds of people across a timeline of different generations. It also brings a

distinctive style which applies to present and future individuals and occurrences (Lwin, 2015; Porter, 2004). From the earliest of time, stories have a special place in educating and imparting wisdom. Malaysia too, like every other country in this world, owns a storytelling treasure in the form of a folktale.

It is wise to safeguard the intangible heritage from gradual erosion considering the importance of folktales in extending an ethnic's culture and heritage across generations. Safeguarding is actions designed at warranting the sustainability of the intangible cultural heritage, including the identification, documentation, research, preservation, protection, promotion, enhancement, transmission, mainly through formal and non-formal education, as well as the revival of the various aspects of such heritage (UNESCO, 2016). Folktales, myths, and legends need to be safeguarded in this digital age to avoid extinction due to the rapid development of globalisation and commercial entertainments (Ihueze, 2015; Dorji, 2009). Concerning that, the necessity of folktale safeguarding goes beyond the sustenance of culture and heritage. If the folktales used prudently, they could scaffold and nurture many aspects of the younger generation. Among many, it teaches morals, helps in attitude transformation, instils self-fortitude, encourages good judgment, and depicts the distinctiveness of cultures. Along these virtues, folktale also imparts the worth of kindness, which leads to the stimulation of a country with modern cultural standards (Babalola & Onanuga, 2012; Kirmani & Frieman, 1997).

Conservation effort is one of the steps that must be taken to safeguard folktales. According to UNESCO's 1989 Recommendation on the Safeguarding of Traditional Culture and Folklore (UNESCO, 1989), six steps are required to safeguard the universal legacy of civilization, which are identification, conservation, preservation, dissemination, protection, and international collaboration to ensure the survival of folklore. Thus, from the steps given, conservation is one of the critical steps in the safeguarding of the folktale. Conservation inclines toward documenting, archiving, and storing the folktales in forms that may be accessed by researchers and tradition-bearers. Therefore, this study aspires to develop a digital adventure game based on the Malaysian folktale *Bawang Putih Bawang Merah* for teenagers and it is believed that through the development of a digital adventure game regarding the opted Malaysian folktale, the safeguarding of such intangible heritage can be achieved via conservation.

LITERATURE REVIEW

This section reviews the literature on folktale, digitization of folktale and adventure game.

Folktale

Folktale can be defined as a story, myth or legend of unknown author or writer and passed down from one generation to another commonly through retelling narratives; hence modified or changed overtime (Nhung, 2016). Folktales often tell stories of life lessons consists of values and beliefs, tradition and culture (Nhung, 2016; Smith, 2015; Palmer, 2005) which often used to guide listeners or readers particularly children through foundations of literature (Smith, 2015). In addition, folktales also provide the sense of place and cultural identity therefore, important in providing landscape for the evolution of civilization (Palmer, 2005).

With the advancement of technology, folktales now have been literally circulated as written literature; either in the form of printed materials such as books, magazines or periodicals or can simply be found on the Internet (mainly as children literature).

Nevertheless, based on observations; children nowadays do not really appreciate folktales due to the changes in lifestyle and physical environmental landscapes as they could not relate or make sense of the traditional cultural values as instate within the stories. These folktales which were stories of hundreds of years for sure portray totally different lifestyles, tradition and culture; yet the rich values and lessons of life remain relevant in providing examples and guidance to the younger generations.

Due to that, there are several efforts or creative approaches taken to preserve these folktales from being slowly forgotten by the young and modern generation. Among these efforts included the use of computer technology for digitalization process which has been adopted globally, for example, see: Adeyanju et al. (2015), Jarv (2013), Pavlov et al. (2011) and many more. This venture has witnessed the diversity of the folktales representations formats that is said to be able to attract young technically savvy generation. The following section will further discuss the topic on folktale digitization.

Digitization of Folktale

Around the world has foreseen the use of technology in digitizing and visualizing the folktale hence provide a different mechanism of folktales representation formats which also provide means for preservation of the cultural heritage. The digitization of folktales is one of the ways to ensure that one of the intangible cultural heritage of the world does not perish in time. The digitization is also valid and applicable in the Malaysian context because local folktales are disappearing and neglected by a spectrum of generations in this country. Endeavors to digitize local folktales in various forms are present especially among the local higher institutions of academic but are countable still. For example; see Multimedia courseware on Malaysian folktales (Mukti, Zaman, Sembok, Siew Pei, & Muda, 2000), Malay Digital Folklore (MDF) (Zainal Abidin & Abd. Razak, 2003), CITRA (Courseware development to project positive values and Images of TRAditional Malay oral narratives) (Abd Mukti & Pei Hwa, 2004), MyEduTale (Mat Zin & Mohd Nasir, 2007, 2008) and *V-Penglipur Lara* (Masmuzidin & Wan, 2012).

These folktales digitization projects utilize the use of multimedia elements such as 2D animation and interactive contents to serve the various purposes and objectives of the development. In addition, it can be seen that all of these application were developed with the objectives to educate the target groups hence, the work on folktales preservation and safeguarding is still lacking within the Malaysian context. Furthermore, there is no such study conducted thus far that aims to safeguard a local folktale for teenagers via an adventure game. The previous studies had not focused on teenagers in safeguarding the Malaysian folktale via adventure game. The folktale of *Bawang Puteh Bawang Merah* was also never used as the content of adventure game to nurture an awareness of such intangible cultural heritage among the teens. The following section expounds the existing guidelines of adventure game and its implication in the context of the present study.

Adventure Game

An adventure game is an interactive narrative about a central character, and it is packed with the storyline, exploration, and puzzles to engage the player playing the game (Adams, 2009; Feil, & Scattergood, 2005; Donnie, 2015). This genre is chosen to support the folktale *Bawang Puteh Bawang Merah* as content because its storyline component is apt with the nature of folktale, a story. Its exploration and puzzles components are also suitable to be

implemented with the folktale since folktale is known to be adventurous and full of challenges to be solved. The subsequent subsection presents the guidelines of adventure game and its implication for the development of a folktale adventure game in the study.

Individually, there are six elements of adventure game: feature, interaction, camera, setting and emotional tone, narrative, and mapping. The following Table 1 exhibits the comparison of six of adventure game guidelines based on the six elements stated.

Table 1: The existing guidelines development of adventure game

	Fundamental of Game Design, Second Edition (Adams, 2009).	Beginning Game Level (Feil, & Scattergood, 2005).	Basic game design (Moore, 2016).	Aesthetics and Design for Game-Based Learning (Dickey, 2015).	Game design essentials (Mitchell, 2012).	Dialogue and Puzzle Design within the Adventure Genre (Donnie, 2015).
Game Feature	The player explores the area that has a puzzle to solve that giving the information or instruction. single player	The player must explore to get the thing that player needed and the must go solve the challenge/task	Single player The player must explore the game world to collect the item in the game.	Adventure games are typically designed to be single-player games in which the player is cast in the leading role of the protagonist in the story.	Adventure games are also known as <i>interactive fiction</i> because instead of using a mouse or other control device to navigate, players type in commands.	These included text based adventures, graphical adventures, visual novels, environmental simulators and point and click adventures.
Interaction	Avatar interact with model	Player interact with game		The player used text commands to interact with the environment, manipulate objects and interact with characters	players can really study the environments, so the worlds are often more elaborate, richly illustrated, and quite often filled with things to explore, click, and open	The point and click system was an Interface that allowed players to directly interact with the visual graphic displayed on screen with the use of the mouse cursor and the verb table that was featured on the lower section of the screen
Narrative of Adventure Games	Narrative needed because some of the players cannot understand and also read the script conversation		Story is included to give the direction to solve the problem / resolve the plot well-written text/ script	Central to the adventure game genre is the story	Provided instructions on how to interact with the computer using commands of one or two words.	Dialogue is used as communication to help humans understand the intentions of others.

Camera of Adventure games	<p><u>Context-sensitive model</u> Depict the avatar from whatever camera angle most appropriate for current location in the game world</p> <p><u>First person Perspective</u> Give the player best scene of being in the world but don't let the player see the avatar.</p> <p><u>Third person Perspective</u> The player can see avatar. Player keeps avatar constantly views It used in action adventure.</p>	<p>Adventure has the same similarity to first-person shooter games camera that using the first-person perspective.</p>	<p>The similarity with role player genre and using the first-person shooter as the first-person perspective.</p>	<p><u>First person perspective</u> Typical with pre-rendered scenes, look much like theoretical performance. In the real time, player can has choice of movement with the scenes.</p> <p><u>Third person perspective</u> Able view the character being played. Can see the character.</p>
Setting/ Emotional Tone	<p>The environment contributes more to the entertainment value of an adventure game than settings in any other genre</p>	<p>Relies heavily on the core story and the roadblocks you set up to prevent the player from getting through the story all at once</p>	<p>The gameplay is the main game is important to make the adventure game interesting. The no violence in adventure games.</p>	<p>Consist of a series of related rooms or spaces that the Player must explore. The game space may be as seemingly simple as a series of pre-rendered Environment in which the player moves the character through the setting.</p> <p>Unique aspects of the game was that it had several different endings that consist choices that player need choose.</p>
Mapping	<p>Auto-mapping destroys the challenge imposed by the maze. But it is a good idea to give the player the map.</p>	<p>Follow the sequence of movement if the player fails the task, the player needs to proceed to do again until done.</p>	<p>Random movement to solve the item/ problem</p>	<p>Players sketched out a map on paper to track their travels as they dialogued with the computer.</p>

Based on the guidelines, the following elements were opted for the development of *Orkid Emas* adventure game. Table 2 provides the operational definition for each element as adopted in the game.

Table 2: The chosen elements of adventure game from guidelines

Element Opted	Operational Definition	Justification
Feature	Player needs to explore the game, solve the puzzle and collect the item.	<i>Orkid Emas</i> provides the item to be collected that give the score which leads to the end of the game
Interaction	The adventure game needs a player to interact with the game using the mouse to click the item, is necessary for the game.	Interaction is needed in this game for the player to collect the item and solve the puzzle to proceed further.
Setting and Emotional Tone	The game provides an environment with emotion values for the player to explore and resides in.	In this game, the setting and emotion values force the player to decide on choosing different endings provided in the game.
Narrative of Adventure Game	The dialogue and story based on the script are written for the game.	The dialogue and story help the player to understand the flow of <i>Orkid Emas</i> hence aiding the player to make a decision and proceed in the game.
Camera of Adventure	The third person perspective camera view	The third person perspective camera lets the players see the avatar representing them in <i>Orkid Emas</i> . Being able to see the avatar connects them to the game and makes the game more immersive

METHODS

The methodology for this research study encompasses four methods in four different yet related stages as illustrated in Figure 1.

Stage 1: Determine Existing Adventure Game Elements

In this stage, document analysis method was employed (Kuckartz, 2014). The first step was to thoroughly read and interpret the six game-guidelines seeking for the elements of an adventure game. Next, a codebook combining all the different elements identified as categories was built. Since some of the same elements from the six guidelines were labelled differently, definitions were created as subcategories to avoid repetition and redundancy in the categories created. The subcategories also helped with the coding process. Subsequently, the guidelines were segmented based on the elements ascertained. Next, the segments were coded using the codebook developed to determine the elements of adventure games in the guidelines. Once coded, the elements were analysed to obtain the elements that support the development of an adventure game.

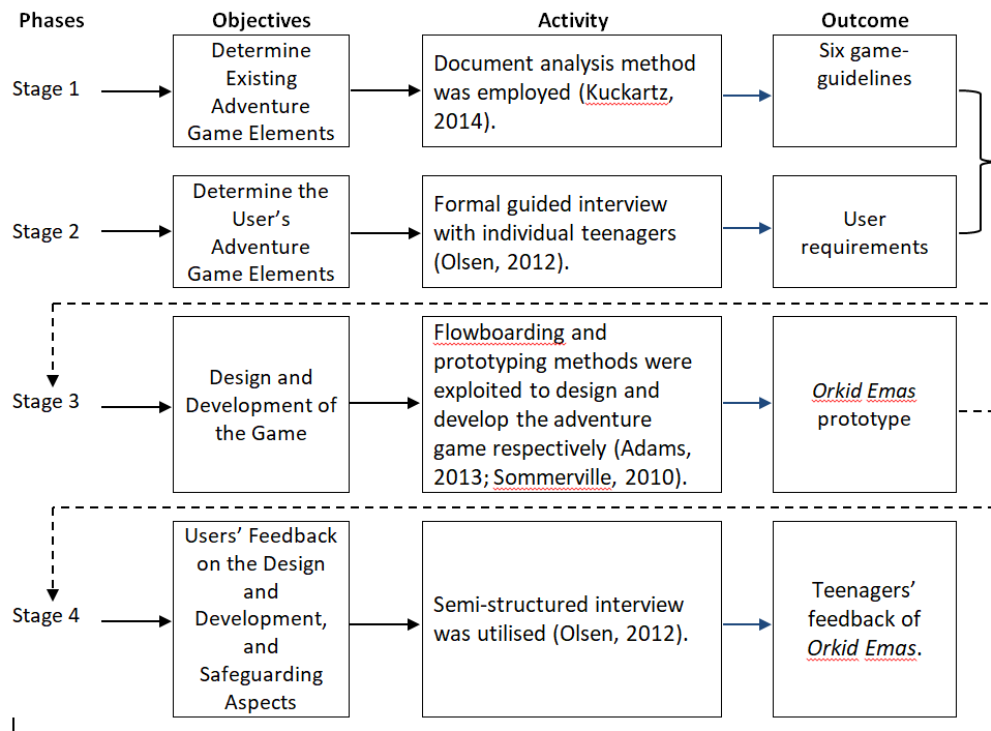


Figure 1: Simplified research methodology

Stage 2: Determine the User's Adventure Game Elements (User Requirement)

In the second stage, formal guided interview with individual teenagers was conducted (Olsen, 2012). A group of five teenagers participated in the interview. A consent form to participate in the research study and an interview protocol were prepared. A pilot test was then conducted on a teenager to gauge the acceptability of the interview protocol among teenager (Janghorban, Roudsari, & Taghipour, 2014). A simple prototype was prepared and ample time was given before each interview session for the teenagers to play and explore *Orkid Emas* to assist the process of procuring the elements from the teenagers' perspective. Each interview session was transcribed and analysed using the same document analysis method in Stage 1 (Kuckartz, 2014). The same five phases were executed.

First, each of the transcriptions was read and interpreted thoroughly as units of analysis. Then the elements discovered in Stage 1 were used as categories in a codebook for this stage. However, another residual category was added in case of the emergence of inductive elements from the interview transcriptions. If there were elements that emerged from the transcription, they would be analysed later to form new categories which represent new adventure game elements from the users' perspective. The interviewees' answers which surrounded the emerged elements were used as units of context to help in forming the new categories (if any). The transcription was then segmented based on the study's interpretation of the elements (existing and emergence) to create the units of coding. Afterwards, the coding process began using the codebook. The segments that matched the elements from Stage 1 were coded to the existing categories and the emergence ones the residual category. Since Stage 2 was to determine the user's perspective adventure game elements, the segments coded to the residual category were analysed to form the user requirement. Stage 2 ended with the reporting of the user requirements. The elements from the teenagers and the guidelines were integrated and used in Stage 3.

Stage 3: Design and Development of the Game

For this stage, flowboarding and prototyping methods were exploited to design and develop the adventure game respectively (Adams, 2013; Sommerville, 2010). Based on the combined elements obtained from the guidelines and user requirements (output of Stage 1 and 2), a flowboard was designed to guide the development of the game prototype (Appendix C). Once the design of the game prototype was completed; the prototype development commenced in four stages.

The first stage embarked with the establishment of the prototype's objective which was to demonstrate the implementation of the elements obtained from the guidelines and the teenagers in *Orkid Emas*. In the second stage, the inputs of the prototype development were determined based on the flowboard designed. Then the prototype of *Orkid Emas* was developed. The last stage was to obtain the teenagers' feedback of *Orkid Emas* from the design and development, and safeguarding aspects and it was linked to Stage 4 of the methodology.

Stage 4: Users' Feedback on the Design and Development, and Safeguarding Aspects

For this stage, the semi-structured interview was utilised (Olsen, 2012). Once the *Orkid Emas* design and development were finalised, the same five teenagers were interviewed again to obtain their feedback about the design and development, and the safeguarding aspect of the *Orkid Emas*. The same consent form was used to obtain the agreement of participation from them. The interview protocol was prepared with the questions to achieve and answer the last research objective and question respectively. Before the interview session, each of the teenagers was again given time to play and explore the completed *Orkid Emas*. The interview session with each of the teenagers was meant to obtain two aspects of the game. First, it was to secure their overall feedback of *Orkid Emas*' design and development which was based on the integration of the guidelines' and users' elements as derived in stage 2.

Second, it was to attain their opinion whether the game as a medium, manages to capture the essence of folktale safeguarding in the context of *Bawang Putih Bawang Merah* folktale and other local folktales. Each interview session was again transcribed verbatim and analysed via the document analysis method as in Stage 1 (Kuckartz, 2014). The macro implementation of the five phases of the method was like the earlier two phases, but the micro implementation for each phase was slightly different. The method was employed in the environment of Atlas.ti 8 to warrant trustworthiness of the analysis conducted.

The five verbatim transcriptions were read and interpreted thoroughly as units of analysis. Based on the questions established in the interview protocol, categories were created to form codebook as the analysis tool. The following Table 3 exhibits the categories and subcategories fashioned.

Table 3: The categories and subcategories for design and development, and safeguarding of *Orkid Emas*.

	Category	Subcategory
1	Text size	Positive Negative
2	Graphic/illustration	Positive Negative
3	Interface colour	Positive Negative

4	<i>Orkid Emas</i> as title	Positive Negative
5	The gameplay	Easy Medium Hard
6	Interaction with <i>Orkid Emas</i>	Easy Medium Hard
7	Screen layout	Positive Negative
8	Narrative	Positive Negative
9	Script	Positive Negative
10	Fun factor	Positive Negative
11	Miscellaneous	-
12	The game promotes local folktale among teenagers	Positive Negative
13	The game safeguard the local folktale	Positive Negative
14	Other methods to safeguard the local folktale	Positive Negative
15	Miscellaneous	-

From Table 3 above, an extra residual category labelled as Miscellaneous was added to contain any additional new feedback from the teenagers in case of new codes emergence. The new codes (if any) would be analyzed as new facets of the teenagers' feedback on both aspects. The context units were the teenagers' answers encompassing the feedback categories sought. Once the codebook was established, the transcriptions were segmented based on the interpretation to create the units of coding. Next, the categories created in Table 3 were coded to the right segments. The new emergent segments were coded to the residual category. With the completion of the coding process, the results were analyzed to get the teenagers' feedback of *Orkid Emas* from both aspects. Stage 4 concluded with the reporting of the teenagers' feedback of *Orkid Emas*.

ANALYSIS AND DISCUSSION

This section presents and discusses the findings of the research study. Firstly, the elements of adventure games identified based on the game guidelines supporting the folktale adventure game. In addition, user requirements for the development of folktale adventure game were gathered from the interview with the teenagers. The obtained information was then utilized for the development of *Orkid Emas* adventure game that was derived based on *Bawang putih Bawang Merah* folktale. Finally, the result of acceptance of *orkid emas* among teenagers from the aspects of adventure game and its purpose in safeguarding the Malaysian folktale will be presented.

Adventure Game Elements (Theoretical)

Based on the document analysis conducted on the six existing game guidelines, it is found that there are six generic elements of an adventure game: feature, interaction, setting and emotional tone, narrative, camera, and mapping. However, in applying the elements in combination with the user-obtained elements in the development of *Orkid Emas*, only five

are opted whereby the omitted element is mapping. Although a map in the adventure game would offer tremendous help for the players to navigate the game, it is not really needed due to the relatively linear and guided design of *Orkid Emas*. The game is a blend of story and puzzles. The primary purpose of the game is to highlight the tale of modernised *Bawang Putih Bawang Merah* in the environment of the adventure game. Besides the branches of gameplay resulted from different choices made by the player which lead to multiple endings, the players do not need the map to traverse through the world of *Orkid Emas*.

Adventure Game Elements (User)

Based on the document analysis performed on all five interview transcriptions and the outcomes of the analysis executed in Atlas.ti 8, five additional elements were obtained from the teenagers. The first element is **interface design**. Based on the feedback from the teenagers, the design of the interface should look woodsier and more traditional to reflect the cultural theme of the game. Also, the design should reflect the central symbolic artefact of the game which is the golden orchid in the context of the study. The second element is **character design**. The characters of the game are to be designed according to the respective culture the folktale represents which is the Malay in the context of *Bawang Putih Bawang Merah*. The third element is **audio user experience**. The sound's strength in the game is to be controllable and of high and consistent quality. The fourth element is the **font**. The colour of the font must contrast the colour of the background in the game as well as the type of font used should be exciting yet not too decorative. The size of the font also must not be too small. The fifth and last element is **visual organization**. The objects used as hints in the game designs must be spaced evenly, aligned well, and located at the upper area of the game's interface for easy reference.

Folktale Adventure Game (Orkid Emas)

Using both the elements of adventure game obtained from the guidelines and the teenagers as the users, the folktale adventure game branded as *Orkid Emas* was designed and developed. Examples of the interfaces of the definitive versions of *Orkid Emas* are exhibited in Figure 2 which is quite comparative to the prototype version of the game (Figure 3).

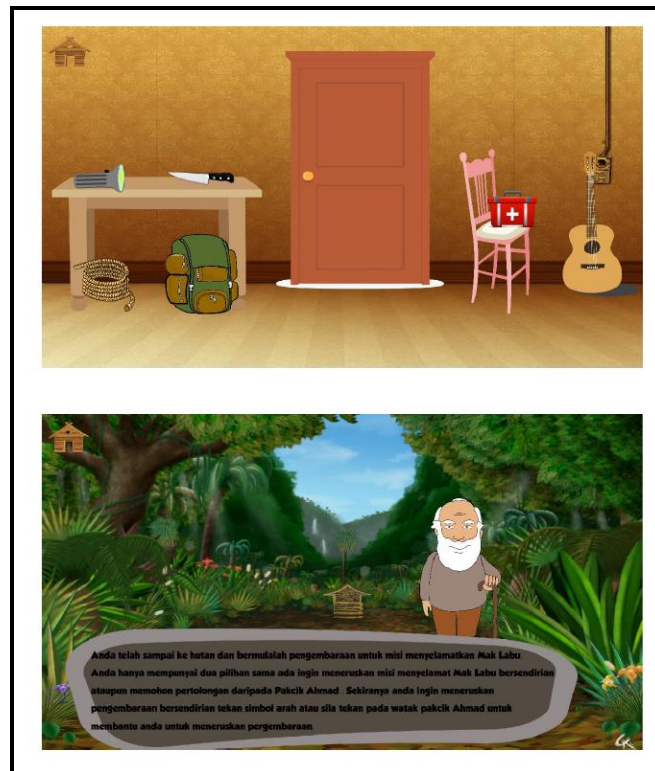


Figure 2: Examples of definitive version of *Orkid Emas*

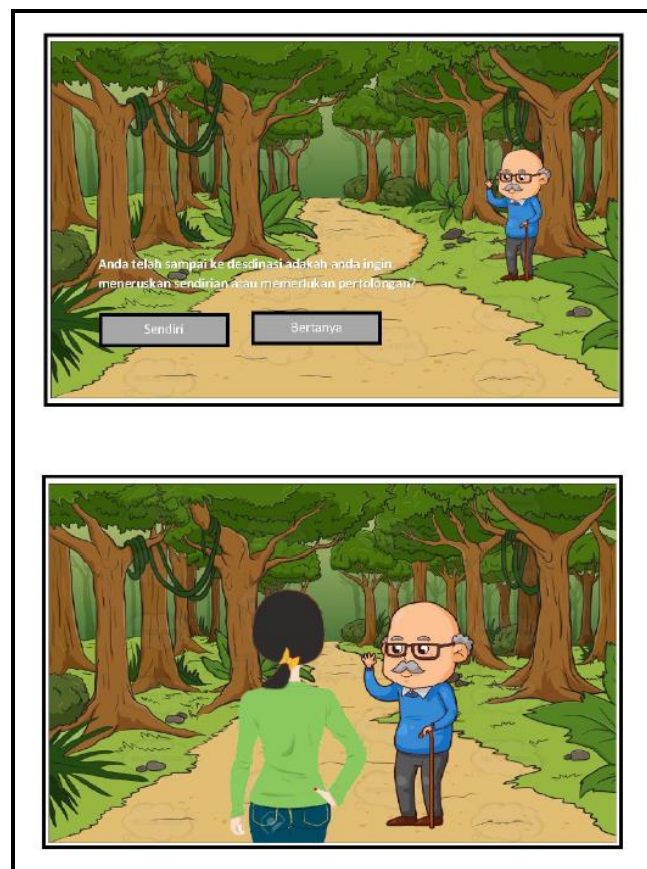


Figure 3: Examples of prototype version of *Orkid Emas*

From the samples of the *Orkid Emas*' interfaces for both the definitive and prototype versions, the distinctions are apparent since the prototype was developed without any input from the teenagers whereas the definitive version has been redeveloped based on the teenagers' feedbacks in combination with the elements from the guidelines. Concisely, *Orkid Emas* that was redeveloped according to the teenagers' feedbacks and perspective reflect their opinion as the scope of the user of the study.

Users' Feedback on the Design and Development, and the Safeguarding Aspects

The first aspect is the design and development of *Orkid Emas*. There were eleven subcategories representing the central aspect: text size, graphic, interface's colour, *Orkid Emas* as title, difficulty level, interaction, screen layout, voice over, script, fun factor, and miscellaneous. The feedbacks for the text size are mostly positive as most of them found the texts used are clear and simple, with colours used matched the tone of the game, and the size chosen renders the text easily readable. However, on the negative side, one teenager stated that the texts used in the game are ugly given its small size and vagueness and suggested the font to be made classically decorative to mirror the cultural properties of a folktale. Such a suggestion also rings true in the context of the study.

As for the graphics, all the teenagers suggest that the graphics' design mainly the characters are attractive because they are decent and reflect the Malaysian culture as contradicted to the previous versions that looked too skinny and designed like the Japanese anime. The interface's colour's feedback is analogous to the text size's as in most of the feedback received are positive except for the second teenager who suggested it to be more colourful in his opinion. The rest of the feedback indicated that the use of green colour as the prominent colour in the game is appealing and fit the jungle context and the title of the game itself. The title of the game, *Orkid Emas* is apt based on positive feedbacks obtained. All five teenagers wholly agreed that since the cure to the poisoned mother of *Bawang Merah*, the protagonist of the folktale was the golden orchid, the title *Orkid Emas* is appropriate.

The difficulty level of the game ranged from easy to hard. Three of the teenagers stated the game is easy because the game provides clues for the players to solve the puzzles to progress. All that is needed is for the players to focus on the clues given. One of them thought it is of medium difficulty and it also relates to the puzzles. The puzzles in the game to encourage the players to think of the solution, but he/she found they are of medium difficulty. One teenager was conflicted as he/she stated that the game's difficulty is both medium and hard. The feedback was similarly related to the puzzles. According to him/her, the clues are in the dialogue hence the players must pay attention to obtain the clues to the puzzles, and it is of medium difficulty. Nonetheless, once the clues are received, the puzzles must be solved, and to him/her, it is hard.

All five teenagers responded positively concerning the interaction offered in the game. It is easy to interact with the game, and all of them agreed that it owes to the design and placement of the buttons on the interface. Unlike some games, according to them, *Orkid Emas*' buttons are clear and easy to locate for them to interact with the game. Such feedbacks can be related to the screen layout of the game, which also received all around positive feedbacks from the teenagers. They acknowledged that the layout of the game is beautifully organised that leads to the ease of play.

As for the voice over and script of the game, the teenagers' responses were integrated considering both subcategories are highly connected. They understood the voice over as the dialogue and the script as the subtitles in the game. Their feedback was entirely positive. The voice over is clearly heard, and the scripts are useful whenever the player decides the dialogue is unnecessary and opts to read the subtitles instead.

The last subcategory is the fun factor. The fun factor too received positive feedback. Based on the teenagers' responses, several reasons make the game fun to them. The first is the story. Compared to the prototype, the definitive version has a longer story and ending, and the teenagers responded well to them. It is fitting because the adventure game among others is known to be story-driven. The second is the gameplay. From the vantage of their viewpoint, the game is challenging (the study supposed the challenge is linked to the puzzles), and it is fun to them. This opinion is also true to one of the adventure game's virtues which are puzzle-driven. The third is the availability of such a game in this country. According to them, what makes the game fun is the content which is the local folktale. Thus far, such game with folktale content is not available in Malaysia and the development of the game aids in safeguarding the age-old folktales from extinction. One of them even suggested a sequel to *Orkid Emas*.

The second aspect is the safeguarding of the local folktale from the teenager point of view. There were four categories representing the safeguarding aspect: promotion of the local folktale, safeguarding of local folktale and other methods to safeguard local folktale. Overall, the teenagers respond positively towards this aspect. On the promotion of the local folktale, the teenagers applaud the game for being uniquely different from others. The effort is on time as teenagers' foci have shifted from television to game application. Additionally, the storyline of *Orkid Emas* resembling the *Bawang Putih Bawang Merah* served to promote the folktale. Grounded on the feedbacks, all of them believed that the game could safeguard the folktales from extinction due to modernization. Since there was no attempt to safeguard the local folktales in such a way previously (to their acknowledgement), it helps the teenagers to relive the folktales from past generations. On top of that, they also responded that retaining the similarity in the folktale's storyline can assist in the safeguarding effort too. As for the other method towards safeguarding the folktale, the teenagers suggested the utilization of mobile platform for the game. This would be more inviting for them to play the game, hence exposing them to the folktale. Other suggestions include supports from schools as well as the media in facilitating the safeguarding of local folktale.

CONCLUSION

As emphasised earlier, a folktale is a story told and passed down for generations (oral and literary), and it carries the wisdom of the many generations like no other media. Noticing the declination of interest in folktale especially among the local's teenagers has motivated the research study. In today's world, technology is king. It begs the question of where folktale belongs in this modern society where only bits and bytes are able to firmly hold their grasp. The fact that Malaysian folktales are disappearing and perhaps already forgotten, among teenagers especially, is worrisome. Therefore, it is imperative to safeguard our precious folktales for teenagers and considering the current period in which we are living, what better way than to utilise the power of technology to do so.

The journey to discover whether the game, *Orkid Emas* managed to safeguard the local folktale chosen (*Bawang Putih Bawang Merah*) for teenagers were daunting, the outcome of the research show otherwise. The study succeeded to attain agreement for feedbacks from the teenagers, and the process and outcomes were surprising in a good way. They displayed a keen interest in the folktale elected and responded well to the game. Somehow, they understood the magnitude of safeguarding folktale as one of Malaysia's intangible treasures and agreed that *Orkid Emas* is one of the methods to do so. Concerning the design and development of the game, their responses combine both cultural and technical. All of them commented that the design and development should reflect the culture of the folktale represented as content. These experiences provide a valuable lesson not to underestimate the aptitude of nowadays teenagers in providing insights on thought-provoking matters.

Overall, the process of discovery whether the Malaysian folktale can be safeguarded via adventure game through the eyes of teenagers was very enlightening. The researchers are contented to acknowledge that from the findings of the study, the folktale adventure game does contribute to safeguarding local folktale from being forgotten by the teenage generation.

BIODATA

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REFERENCES

- Abd Mukti, N., & Pei Hwa, S. (2004). Malaysian perspective: Designing interactive multimedia learning environment for moral values education. *Educational Technology & Society*, 7(4), 143-152.
- Adams, E. (2009). *Fundamentals of game design* (2nd ed.). Thousand Oaks, CA: New Riders Publishing.
- Adams, E. (2013). *Fundamentals of game design* (3rd ed.). Berkeley, CA: Pearson Education.
- Adeyanju I. A., Babalola C. T., Salaudeen K. B., & Oyediran B. D. (2015). 3D-computer animation for a Yoruba native folktale. *International Journal of Computer Graphics & Animation (IJCGA)*, 5(3), 19-27. doi: 10.5121/ijcga.2015.5302
- Babalola, E. T., & Onanuga, P. A. (2012). Atrophization of minority languages: Indigenous folktales to the rescue. *International Journal of Linguistics*, 4(1), 158-173. doi: 10.5296/ijl.v4i1.1416
- Bascom, W. (1965). The forms of folklore: Prose narratives. *The Journal of American Folklore*, 78(307), 3-20. doi: 10.2307/538099
- Board of UNESCO Executive. (2001). Report on the preliminary study on the advisability of regulating internationally: Through a new standard setting instrument, the protection of traditional culture and folklore. UNESCO. Retrieved from whc.unesco.org/document/9473
- Chee Ying, K. (2005). Protection of expressions of folklore/traditional cultural expressions: To what extent is copyright law the solution?. *Journal of Malaysian and Comparative Law*, 32(1).
- Dickey, M. (2015). *Aesthetics and design for game-based learning: Digital games and learning*. UK: Taylor & Francis.
- Donnie, M. (2015). *Dialogue and puzzle design within the adventure genre*.
- Dorji, T. C. (2009). Preserving our folktales, myths and legends in the digital era. *Journal of Bhutan Studies*, 20, 93-108. doi: 10.1080/15505340903393260 47
- Feil, J., & Scattergood, M. (2005). *Beginning game level design (Game development series)*. Boston, MA: Thomson Course Technology.
- Ihueze, O. A. (2015). Folklore in literature: A tool for culture preservation and entertainment. *International Journal of Humanities and Social Science Invention*, 4(4), 57-61.
- Janghorban, R., Roudsari, R. L., & Taghipour, A. (2014). Pilot study in qualitative research: The roles and values. *Journal of Hayat*, 19(4), 1-5. Retrieved from <http://hayat.tums.ac.ir/article-1-666-en.html>
- Kirmanj, M., & Frieman, B. (1997). Diversity in classrooms: Teaching kindness through folktales. *International Journal of Early Childhood*, 29(2), 39-43.
- Kirshenblatt-Gimblett, B. (2004). Intangible heritage as metacultural production. *Museum International*, 56(1-2), 52-65. doi: 10.1111/muse.12070
- Kuckartz, U. (2014). *Qualitative text analysis: A guide to methods, practice and using software*. Thousand Oaks, CA: Sage.
- Kurin, R. (2007). Safeguarding intangible cultural heritage: Key factors in implementing the 2003 Convention. *International Journal of Intangible Heritage*, 2, 9-20.
- Lwin, S. M. (2015). Using folktales for language teaching. *The English Teacher*, 44(2), 74.
- Masmuzidin, M. Z., & Wan, T. (2012). v-Penglipur Lara: The development of a pedagogical agent in Malaysian folktales land. *Proceedings of the 11th International Conference on Interaction Design and Children, Bremen, Germany*.

- Mat Zin, N. A., & Mohd Nasir, N. Y. (2007). Edutainment animated folktales software to motivate socio-cultural awareness. *Proceedings of the 7th Conference on 7th WSEAS International Conference on Applied Computer Science, Venice, Italy*.
- Mat Zin, N. A., & Mohd Nasir, N. Y. (2008). *Evaluation of an edutainment animated folktales software to motivate socio-cultural awareness among children*. Paper presented at the Convergence and Hybrid Information Technology, 2008. ICCIT '08. Third International Conference on, Busan, South Korea.
- Menon, J. Y. (2012). *Malaysian folk tales: A study of archetypal patterns in selected tales*. Saarbrücken, Germany: LAP Lambert Academic Publishing.
- Mitchell, B. (2012). *Game design essentials*. Indiana: John Wiley & Sons.
- Mohd Hussein, S., Mohd Nor, M. Z., & Abdul Manap, N. (2001). Bringing life to folklore: Problem of definition. *Malaysian Journal of Law and Society*, 15, 163-168.
- Moore, M. (2016). *Basics of game design*. Boca Raton, FL: CRC Press – Taylor & Francis.
- Mukti, M. A., Zaman, H. B., Sembok, T. M. T., Siew Pei, H., & Muda, Z. (2000). *A pedagogical approach to multimedia courseware development to motivate reading habit*. Paper presented at the TENCON 2000., Renaissance-New World Hotel, Kuala Lumpur.
- Olsen, W. (2012). *Data collection: Key debates and methods in social research*. Thousand Oaks, CA: Sage Publications.
- Palmer, B. (2005). *Seeking story: Finding the modern day folktale in the daily news* (Graduate Theses and Dissertations, University of South Florida, Tampa, Florida). Retrieved from <https://scholarcommons.usf.edu/etd/805/>
- Nhung, P. T. H. (2016). Folktales as a valuable rich cultural and linguistic resource to teach a foreign language to young learners. *International Journal of Education, Culture and Society*, 1(1), 23-28. doi: 10.11648/J.Ijecs.20160101.15
- Porter, B. (2004). *Digitales: The art of telling digital stories*. Sedalia, CO: bjpconsulting.
- Pavlov, R., Bogdanova, G., Paneva-Marinova, D., Todorov, T., & Rangochev, K. (2011). Digital archive and multimedia library for Bulgarian traditional culture and folklore. *International Journal - Information Theories and Applications*, 18(3), 276-288.
- Järv, R. (2013) Estonian folklore archives *oral tradition*, 28(2), 291-298.
- Smith, C. E. (2015). Folklore and children's literature: A content analysis of the de Grummond children's literature collection. *SLIS Connecting*, 4(2), Article 7. doi: 10.18785/Slis.0402.07
- Sommerville, I. (2010). *Software engineering* (9th ed.). Boston, MA: Addison Wesley.
- Swales, J. (1990). *Genre analysis: English in academic and research settings*. NY: Cambridge University Press.
- UNESCO. (1989). Recommendation on the safeguarding of traditional culture and folklore. Retrieved from http://portal.unesco.org/en/ev.php-URL_ID=13141&URL_DO=DO_TOPIC&URL_SECTION=201.html
- UNESCO. (2003). Convention for the safeguarding of the intangible cultural heritage. Retrieved from <http://unesdoc.unesco.org/images/0013/001325/132540e.pdf>
- UNESCO. (2016). 2003 Convention for the safeguarding of the intangible cultural heritage. Retrieved from <http://unesdoc.unesco.org/images/0013/001325/132540e.pdf>
- Zainal Abidin, M. I., & Abd. Razak, A. (2003). Malay digital folklore: Using multimedia to educate children through storytelling. *Information Technology in Childhood Education Annual*, 1, 29-44.