Digital Storytelling: An Easy-to-create Usable Information Conveyor

ABSTRACT: This paper presents a pilot study on the creation and implementation of digital storytelling. This is in response to the evolving technologies in which the digital devices is now indispensable. It progressively transforms modern societies into a virtual space. The main content of this paper is a pilot study in creating digital storytelling. In addition, it also discusses about the potentials of digital s torytelling in education, personal information sharing, and marketing.

1. Introduction

In current age, the trend is clear. Object, information, and transaction can be represented in digital form (Agnew & Kellerman, 1996; Block, 2008; Chapman & Chapman, 2002). In addition, the technology has also supported for the experience to be digitalized (Appan, Sundaram, & Birchfield, 2004). This paper describes a pilot study which explores the potentials of digital storytelling in communicating personal experience among students of Higher Learning Institutions (HLI).

2. Digital Storytelling

Story telling is famous in various cultures. It is a famous medium of communication. Mothers always tell stories to children about their past lifestyles, success stories, and steps in facing hurdles in their life. Meanwhile, children pay attention to the stories, which is narrative-based, utilizing hearing abilities with interest. It is a memorable time for a family. The storytelling is not just an activity, but it conveys lessons to learn. Children learn from the storyline to guide them in facing the coming days, take the good elements in the storyline as guidance, and avoid repeating the mistakes their mothers have gone through to prevent themselves. This is supported by Livo and Rietz (1986) who argue that a story is a restructured everyday experience through which people come to make sense of know, remember, and understand the surroundings. Through stories one explains interpret, and assess situations, experiences, and ideologies, leading in turn to the creation of new meanings and knowledge.

Not only it conveys messages, but storytelling can make the messages clearer to the listener (Schafer, Valle, & Prinz, 2004). In fact, the storytelling activity creates and establishes relationships among the listeners and between the narrator and the listeners. In a family in the above paragraph, the relationships between mothers and children will be much closed; containing the elements of caring, loving, appreciating (Johnson, 2009), and leading to positive behaviors such as hardworking, co-operating, respecting, and motivating (DeMeo, 2010).

It was very interesting to listen to storytelling. But it is more interesting to have the storytelling supported with pictures. A story is much easier to get into correct representation with helps of pictures. In the past, people utilized printed pictures, kept in photo albums to represent the related pictures. Later, the pictures were made available in digital form. With the pictures, a narrator (for a storytelling) can reduce the amount of words to express (Janove, 2009). The benefits of pictures are wealth.

Then, not only the pictures digitalized, but also the narrations (Tyner, 2009). The narrators record their voice, and distribute the records to the listeners to play during free time or when necessary. Gradually, the storytelling becomes more sophisticated, growing together with the past formats in analog face-to-face environment. Currently, the storytelling can be found in fully digital which is not only including audio and pictures, but more precisely they are developed including navigation abilities (Widjajanto, lund, and Schelhowe, 2008). Users can interact with them, which are developed with special behaviors feeding back to user responses (Cooper, Reinmann, & Cronin, 2007).

The Digital Storytelling Association (2002) defines digital storytelling as "…the modern expression of the arts of storytelling…digital stories derive their power through weaving images, music, narrative and voice together, thereby giving deep dimension and vivid color to characters, situations, and insights…".

In reflection, digital storytelling refers to the practice of incorporating digital text, imagery, video, and audio into the aesthetic presentation of a computer-mediated, multimedia story. Like a digital movie or video, a digital story is typically composed of still and moving images, text, sounds, music, and voice narration to depict an important event, person, position, or condition. These multimedia components should be integrated properly so that they complement each other to deliver a story successfully. In addition, Meadow (2003) describes a digital storytelling as a short, personal multimedia tales told from the heart. He adds that it is not just a tool but is a revolution (2003a).

This paper aims to discover the potentials of digital storytelling in communicating personal experience among students of HLI. It starts with this section that elaborates the chronology of the storytelling from analog to digital and current practice. The experiences of creating digital storytelling are described next. It is followed with some potentials of digital storytelling in communicating personal experiences. Finally the future researches to take place in solving some limitations are addressed.

3. Creating Digital Storytelling

Based on the elaborations in the previous section and the aim, a pilot study was carried out. Digital storytelling was developed to convey the personal experiences. This section outlines the design and development works of digital stories, and are divided into pre-production and production segments which include steps of actions as illustrated in Figure 1.
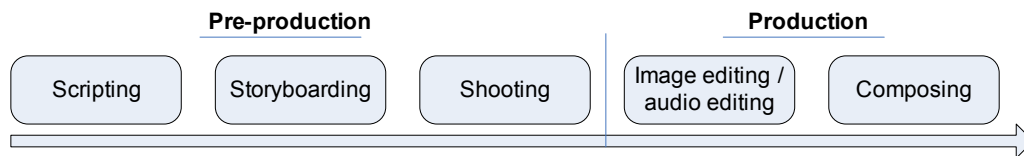
Pre-production   **Production**

Scripting   Storyboarding   Shooting   Image editing / audio editing   Composing

Figure 1. Design and development segments of digital stories

4. Pre-production

The pre-production segment refers to activities without necessity of computers. It consists of three activities; scripting, storyboarding, and shooting. They scripting activity is essentially important to make the story successful in conveying what it should.

4.1 Scripting

Before the pre-production segment, topics of interests were discussed. This study involves students of HLI to create the digital stories. In the pre-production, they started off with writing short stories (for play within 6 to 8 minutes) about their experiences living in multicultural environment. The short stories are referred to as working script to mean that the scripts can always be edited to make the storyline more engaging (Rey-Lopez, Diaz-Redondo, Fernandez-Vilas, & Pazos-Arias, 2007). Students crafted their scripts by providing answers to several inspiring questions such as: Is the topic educational, informative, or significant? What is the stories' purpose (such as advocacy or instruction)? Does the story have a central point of view (argument)? What characters, events (what, how, where, when), settings, and plots are involved with the story? Does the story raise other issues? Are other issues related to the story? The stories were also ensured to be user-focused.

When the scripts were created, each script was assessed by an instructor and peers. Same questions were used as the basis for assessing. Immediate responses were addressed and immediate actions were taken to edit the scripts. The process goes to all scripts. Later, the scripts were used as the basis to craft the storyboard.

4.2 Storyboarding

Designers use storyboard to visualize how a movie, animation, or digital stories will look (Hart, 2007). In this project, the storyboard acts as the blueprint of the digital stories production. A storyboard is a sketch of how to organize a story and a list of its contents. It helps to define the parameters of a story within available resources and time; organize and focus a story; and figure out what medium to use for each part of the story (Stevens, 2007). These reflect that digital story creators should

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[1]User-focused refers to the focus of material which is on the user, by understanding the users' characteristics and behavior.
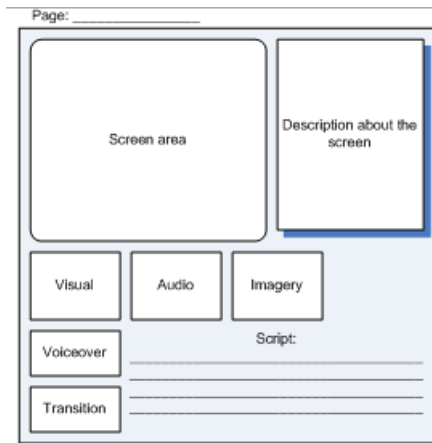
Figure 2. Storyboard template

Figure 3. Actual storyboard

keep the design focused within certain parameters such as time duration, image transitions, special effects, and planning out of types of music, imagery, audio, and video to be used. More importantly, the storyboard acts as the place to tentatively state media to be used and how they might best work together to depict important, engaging, and informative story.

In this study, the students were allowed to craft the storyboard in any way either on paper or computer. When designing the storyboard, they were advised to consider several elements for the digital stories including imagery (e.g. photo and pictures), video, text, voiceover, audio (e.g. music and sound), slide transitions, and image effects. General template for the storyboard was provided to the students (Figure 2) which was used as guide to design the workable storyboard. An example of a storyboard crafted is provided in Figure 3.

When the storyboards were ready, they were utilized as guide for shooting. In this study, students were encouraged to utilize photographs in the digital stories.

4.3 Shooting

Major source of pictures in this study is photographs. To have the photographs, the students used their own creativity (as suggested by Hendricks (2005)) and equipment to snap pictures, as outlined in the storyboard. The artifacts of shooting activity are inputs for production segment.

4.4 Production

There were two activities necessary for this segment; image editing and composing. The most important material in digital storytelling is the imagery (Appan, Sundaram, & Birchfield, 2004). Accordingly, a step for editing images is necessary.

4.5 Image Editing

Having got the photographs available, the next step was to edit the photographs; which requires computer hardware and software in the production segment. It is necessary to edit the photographs to ensure the photos are pleasing. Tools for image editing and page composing such as Photoshop and Illustrator were utilized. The process was also guided by the storyboard. Minimal editing is required at this stage, in which the outputs are pictures that have been edited and ready for composition.

4.6 Composing

When the imageries were ready, the students started to assemble the elements as outlined in the storyboard. Multimedia-enabled, internet-ready computers equipped with speakers and microphones were utilized. Based on the storyboard, all audio were created; either taken from the Internet or self-recorded. Narration and voiceover need original recording, so they were recorded at this step also. All audio files were created and edited in SoundForge.

Besides imagery and audio, slide transitions were created. Some of the transition involved text. Texts also appear in the scenes, to make the dialog explicit. This is important to cater for the different kinds of information literacy preferences as
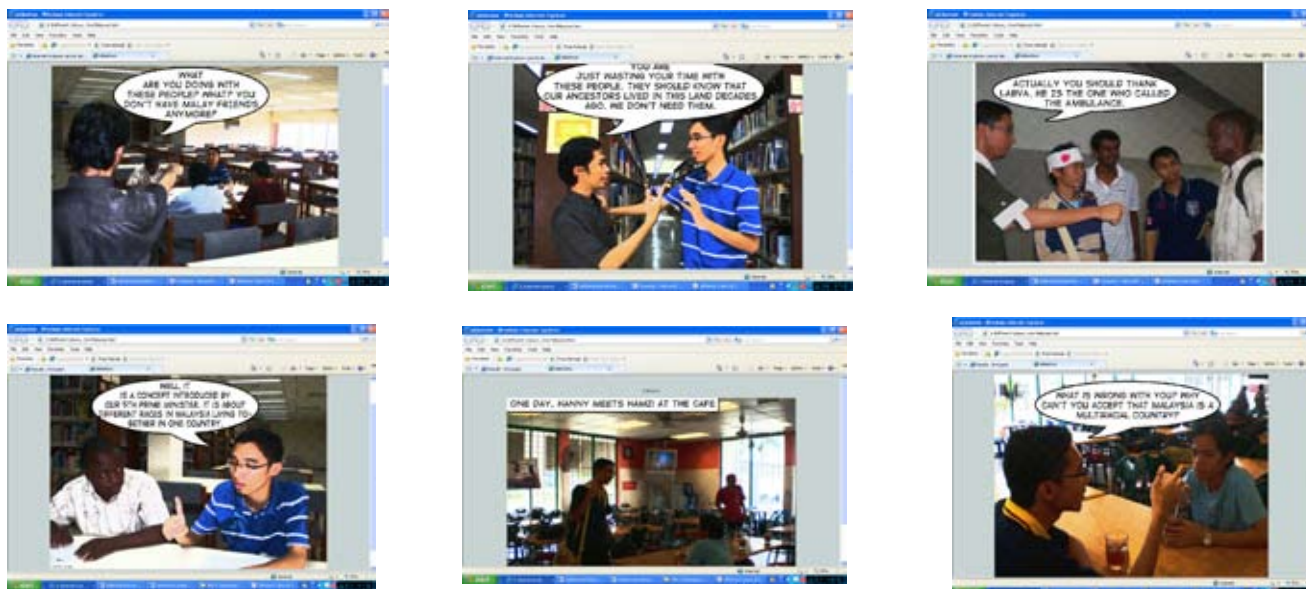
These scenes contain narration and voiceover. The narrations telling about the context,
while the voiceover is meant for the dialogues.

Figure 4. 1 Malaysia digital story

suggested by Gardner (1993). So the texts were provided on every imagery that is necessary, to complement the narration and voiceover. Figure 4 illustrates three scenes of a digital story.

5. Potentials Of Use

There were a number of digital stories created at the end of the development period. The theme as stated in the Introduction section (communicating personal experience) was based-on in all digital stories. There are several potentials that the concept of digital storytelling can be utilized. This paper describes about three potentials; in teaching and learning, sharing of personal information, and marketing.

5.1 Digital Storytelling in Teaching and Learning

Electronic learning is expanding, and taking place in most educational premises from schools to HLI and training centers. Learning Objects (LO) are available in many formats such as text-only, audio-only, courseware, video, animation, virtual reality, and reality learning media (Ariffin & Norshuhada, 2009). Digital storytelling can be another famous format of LO in near future. Currently, many authors have proposed digital storytelling in education, such as can be seen in works by Gils (2005); Alborzi et al. (2000); and Widjajanto, lund, and Schelhowe, (2008). In fact, the digital storytelling has been researched to be available on mobile platform (Frohlich et al., 2009).

On the other hand, Garzotto found that involving children in making digital storytelling for use in school is very promising. It is very user-centered, and in addition it reduces cost, and can be utilized not only by sophisticated schools but also schools with their technological setting, budget, and competence is limited (2008). This argument supports the project carried out by Alborzi et al. (2000).

The digital storytelling can also be utilized in educating the slow learner. The slow learners are a group people with special problem. They should be treated specially. This is in line with one of virtues of digital media that "such individuals should be regarded as unique set of problems (and strengths) and as such no one education model or indeed one set of material s can cover all". Based on the above argument, Leishman (2004) carried out a study to find online territories for the slow learner. She concluded that elements in digital storytelling can be utilized to win the slow learners situation.

On the other hand, Churchill, Ping, Oakley, and Churchill (2008) developed digital storytelling as a classroom strategy for digital literacy learning. They deploy the digital storytelling in natural setting to enhance students' ability to absorb contents

in documents on screen. Their arguments are in line with works by Kaplan et al. (2004) at International Children's Digital Library. It was found that the digital storytelling can help in absorbing the content and fosters social relationships with helps of various media elements. Moreover, the storyline creates relationships between the contents and the readers.

The above paragraphs describe that digital storytelling can be utilized in various ways in supports for teaching and learning.

5.2 Digital Storytelling in Sharing of Personal Information

Besides utilizing digital storytelling for supports of teaching and learning, it is also usable for sharing personal information. Resume is a channel to describe about personal information. Previously, resume were written on paper. In this age, resume are accepted in digital form (Figure 5). In resume, the content tells about the person. It is basically a storytelling. Relating the resume with the definition of storytelling by Livo and Rietz (1986) will come out with a strong justification to create a resume in a form of digital storytelling. In fact, digital storytelling resume may convince the reader more, because it can be embedded with video playing motion pictures. For multimedia-related positions, the digital storytelling resume may be embedded with real portfolios. Pixar (2010) has listed the ability as storytellers in their requirement for employment.

Figure 5. Digital resume

Personal information is not only shared for business purposes, but also and more often for social purposes. Social networking tools in Web 2.0 such as Facebook, Twitter, and Blog are examples of applications that support social networking. With these technologies, people are able to reconnect with old friends. U-Tube is another channel that is available for personal information sharing. With these technologies, digital storytelling is seen as very potential to be utilized. In the Introduction section, one of the roles of storytelling is drawn elaboratively as an agent that is able to capture feelings. Combining the social networking web sites (as the infrastructure) with the digital storytelling (as the content) will definitely create another space for research.

5.3 Digital Storytelling in Marketing

Marketing is another prospective sector to utilize digital storytelling. In current practice, digital marketing is popular. Furthermore, the infrastructure is more than available to support the needs for distribution. Top Rank Online Marketing (2009) found that Blog is most preferred to market products. They collected data from readers to discover their preferences for top digital marketing tactics in 2009. In that study, 532 readers responded and they found that readers prefer to have products marketed through (from most preferred to least preferred: (1) Blogging (34%), (2) Microblogging (Twitter) (29%), (3) Search engine optimization (28%), (4) Social network participation (Facebook, LinkedIn) (26%), (5) Email marketing (17%), (6) Social media monitoring & outreach (17%), (7) Pay per click (14%), (8), Blogger relations (12%), (9) Video marketing (10%), and (10) Social media advertising (7%).

The finding above shows that readers are aware of the social networking technologies. These infrastructures can support for digital storytelling. Imagine that a decision has to be made on buying a refrigerator and a few options are available; (1) flyer with text and images only, (2) informational web site – where you have to read and search for strong point of the item, and (3) a digital storytelling about the item, with sound, voiceover, and pictures that address about the strengths of the item over other items.

6. Discussion

Storytelling is the core element of communication. All forms of expression tell a story, even an illustration or a web page. Writers, artists and business people are storytellers - both in their creations and in their encounters with clients, colleagues, or

employers. The essential storytelling elements, critical analysis, investigative listening, and presentation techniques to train students in creating powerfully dynamic personal work as well as communicate effectively in the workplace are among loops need to be researched in future. The process of creating digital storytelling is similar to developing other digital multimedia applications. However, the impact of digital storytelling is tremendous.

Implementation of digital storytelling in education for disabled learners such as visually-impaired, hearing-impaired, slow learner (Thatcher, 1990), and dyslexic (Evett & Brown, 2005) would be great topics. Coursewares have been designed for the visually-impaired (Nurulnadwan, Nur-Hazwani, Erratul-Shela, & Ariffin, 2010) and hearing-impaired (Faizah & Ariffin, 2010), and show some positive signals.

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