Developing A 2-Dimensional (2D) Animation Techniques For CD-I Recognizing Islamic Figure

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Abstract: This paper discusses about the process of 2-dimensional animation techniques for CD-Interactive (CD-I) recognizing Islamic figure in e-learning bases. The contents in this application is based on actual historical information that been have summarized in addition to their quiz to attract the target audience. The objective is to gain children’s interest to know and learn the history of Islamic figure. In general, when we use on CD-I application which gives more positive impact on e-learning especially for children was aged 10-17 years old. This element may provide a significant contribution to the process of the formation of the younger generation personality than of its contribution in the field of education. In this application, we also have combined the ADDIE Model with element of multimedia. For conclusion, hopefully with this application is to make the target audience become more interested, more motivation to explore, learn something about the figure and makes it a reference in exploring their life.

Key words: Islamic figure - 2-Dimensional - CD-I - and Animation techniques

INTRODUCTION

The figure is personality that can be referenced, example, follow-up and can be considered to be attractive and next, identify the contribution that appear in the civilization of Islamic world. So, the younger generation will be able to emulate the way of life and the life of the Islamic scholars of the past.

“He granteth wisdom to whom He pleaseth; and he to whom wisdom is granted receiveth indeed a benefit overflowing; but none will grasp the Message but men of understanding.” (Al-Baqara, 2:269)

“….Are those equal, those who know and those who do not know? It is those who are endued with understanding that receive admonition” (Az-Zumar, 39:9)

“….Those truly fear Allah, among His Servants, who have knowledge: for Allah is Exalted in Might, Oft-Forgiving.” (Fatir, 35: 28)

There are some of the verses of the Al-Quran that have high regarding of view for those scholarly figures. Evaluate and compare the difference contribution to civilization Islamic figures with another figure religion.

Background Study: Since early 1960's, the emergence of computer animation as part of digital technology keeps evolving and vivid with higher quality. Animation sometimes called cell animation, illustration with interactive, hand-drawn animation, cartoon animation or 2D animation [1].

2D animation bring renewal to the illustration world, it because the illustration can indirectly become more interactive with user beside the process for producing a 2D animation can divided into two: the traditional process and digital process [2].
Traditional Techniques: Traditional, hand-drawn, cell or classical animation requires draft or rough drawings first as a part of framework in animation production. It must be done with appropriate skill and discipline to develop the illusion of motion. This early procedure in animation is a vital process before computer animation technology was existing.

Magic Lantern: Magic lantern is a simple slide projector invented in 1650, as medium where images are photographed on painted on glass. It commonly used for educational and entertainment purposes. The name “magic lantern” is due to its ability in creating illusion of motion and other tricks with still images [3, 4].

Thaumatrope: The Greek words, “thauma” means “magic” or “wonder” and “tropos” which means “turn” brought up the idea of thaumatrope. The invention of this device in 1820s is an early evolving in animation as the persistence of vision from it helps in creation of illusion. A thaumatrope has only 2 pieces of image on either side of one card, then the card will have turned or spun quickly and the two images seem to be blend into one [4].

Phenakistoscope: The “phenakistoscope” are “to deceive, to cheat”, as it exploits the vision through optical illusion of movement, because it deceives the eye by creating an optical illusion of movement. In 1841, Joseph Plateau invented “phenakistoscope” by attaching a spinning disk vertically to a handle. A sequences image at the disk allows illusion of movement produced when the disk turned and projected animation into any mirror.

Zoetrope: It has similar appearances with phenakistoscope invented in 1834 by the British mathematician William George Horner and serving a same purpose with other animation devices, it creates the illusion of motion.

Flipbook: It is the simple idea in creating illusion of movement. Animated sequences are created when series of combined images are flipped over. It is also known as “thumb book” since a thumb is used to flit over the pages of the book to create animation from the images. It is one, most simple, flexible and plain animation devices. It is also called because to make the images move you have to hold it in one hand while you flip over the pages with the thumb of the other hand.

Praxinoscope: Although “Praxinoscope’ is very similar to Zoetrope, the most significant differences between both devices is that Zoetrope had slits to look through praxinoscope replaced them with mirrors, producing clearer and less distorted images. The term “praxinoscope” comes from the greek term praxis, meaning “action” and scopein, which means “to look at”.

The term “tradigital” is used to describe the technology of praxinoscope that remined the same over the past 70 years as it assisted cell animation digitally.

Digital Techniques: Animation being created on a frame-by frame and basis one of the earliest attempts to study the nature of animation. Animation also appear in the form of moving text, objects, drawings and computer-generated images to become more interactive [5]. The unifying factor being that the animation is created digitally on a computer, These are the designs formed in the computer by using 2D Animation, 2D vector graphicsand 2D bitmap graphics. There are many application areas as 2D animation, analog computer animation and flash animation. The objects moving horizontally and vertically in 2D animations have been developed with Cartesian coordinate system. The steps for creating an animation, it has to go through phases like.

Pre - Production
Production
Post - Production

Computer animation encompasses a variety of techniques, image manipulation, interpolated morphing, onion skinning and interpolated rotoscoping

Conceptual Framework for Designing and Developing 2d Animation Cd-i Recognizing Islamic Figure.

Fig. 1: ADDIE Model
ADDIE model is the most common models used in the instructional design field a guide to producing an effective design, helps instructional designers, any content’s developer or even teachers to create an efficient, effective teaching design by applying the processes of the ADDIE model on any instructional product and can be used in any environment as online or face-to-face application. These phases sometimes overlap and can be interrelated however; they provide a dynamic, flexible guideline for developing effective and efficient instruction. [6, 7]

Instructional design for this model is the systematic approach to the five phases that is Analysis, Design, Development, Implementation and Evaluation (Fig. 1) of learning materials and activities. The results of the formative evaluation through ADDIE Model may lead instructional designer back to any previous phase of instructional design process, making the ADDIE model interactive.

**Analysis Phase:** The analysis phase comprises of a set of instructional goals and objectives prepared based on a selected set of competencies, identifying the learning environment, learner’s existing knowledge, skills and the attracted element. The target audience of this application is being analyzed and young from 10 years old to around 17 years old are chosen for this research because in this phase many teens are undergoing the process of transition and the formation of self among children and adults as well and find identity [8, 9, 10].

**Design and Development Phase:** In the design and development phase, learning objectives process and plan instruction for the modules are prepared, media in which learning material would be presented is selected, draft framework, design interface to complete the process, elements of art and the theories of Human-Computer Interaction (HCI) and instructional methods are chosen for different learning units or modules. Next, the outcome of design phase is converted into instructional materials and procedures in the development phase they interrelated (Develop interface design, flowchart). Here, the software Adobe flash professional CS6, Adobe photoshop CS6, Adobe illustrator CS6 and Adobe Soundbooth CS6 to development 2d Animation CD-I recognizing Islamic figure selected for ability to generate interactive applications.

**Implementation Phase:** This phase we will bring our idea and plan into transforming action. In order to go through this phase, there have three major steps, that is: 1) Training the instructors, 2) preparing the learners and 3) organizing the learning environment (Fig. 2 -7).

**Evaluation Phase:** The final phase is to evaluation phase. It makes sure that we achieve our goals based on the objective using the instructional design materials to meet the learner and user needs.

**RESULT**

Fig. 2: introduction interface

Fig. 3: The Islamic figure become with metaphor icon

Fig. 4: About the Islamic figure biodata
Income CD-I recognizing Islamic figure is expected to provide a significant contribution to the process of the formation of the younger generation personality than of its contribution in the field of education. As such, the new introduced environment will benefit both educators and students in terms of insight into informal, tacit learning processes. This is because in addition to introducing young people to the world of Islamic leaders, they also will be tested in the presence of a game in which indirectly may attract children to the world of history. Future works include developing the prototype and testing on the usability of the prototype to enhance its capability to motivate users to keep on using 2D courseware and as interactive learning process.

REFERENCES