PEOPLE: International Journal of Social Sciences
ISSN 2454-5899

UCAN et al, 2020

Volume 6 Issue 2, pp. 362-370

Date of Publication: 11th August 2020

DOI- https://doi.org/10.20319/pijss.2020.62.362370

This paper can be cited as: UCAN, B., TOY, E., KAHRAMAN, M. E., & GULACTI, I. E., (2020). Representation of Turkish Mythology in Virtual Reality Environment. PEOPLE: International Journal of Social Sciences, 6(2), 362-370.

REPRESENTATION OF TURKISH MYTHOLOGY IN VIRTUAL REALITY ENVIRONMENT

Bahadir UCAN
Department of Communication Design, Yildiz Technical University, Istanbul, Turkey
bucan@yildiz.edu.tr

Ertan TOY
Department of Art, Yildiz Technical University, Istanbul, Turkey
ertantoy@yildiz.edu.tr

Mehmet Emin KAHRAMAN
Department of Art, Yildiz Technical University, Istanbul, Turkey
mek@yildiz.edu.tr

Ismail Erim GULACTI
Department of Art, Yildiz Technical University, Istanbul, Turkey
egulacti@yildiz.edu.tr

Abstract

In this research, it is aimed to represent the elements in oral and written traditions such as mythology, epic and story on the virtual reality environment. Mythology has always been used for generating visual design elements. As an example, Miyazaki's cartoons are great examples of Japan mythology-based character designs. There are also many cartoon and film products of Greek mythology. In contrast, despite rich visual contents of Turkish mythology, Turkish mythological elements aren't used sufficiently for visual design or analyzed scientifically in detail. By this research, the world's first Turkish mythology museum in a virtual environment is

established. For this purpose, a literature review is conducted on gathering related information on Turkish mythology and elements of Turkish mythology are transferred into visual design units. Models and designs are created on Blender 2.80 and Autodesk 3dsmax 2019. Unity Hub is used for extended reality interaction. Within the scope of the research, augmented reality future is added to character designs created by using mythological characters. With augmented reality, models gained a feature that enables interactive participation of audience over phone/tablet. *This research has been supported by Yildiz Technical University Scientific Research Projects Coordination Department. Project Number: SBA-2019-3749 Augmented Reality Applications Using Three Dimensional Models.*

Keywords

Character Design, Augmented Reality, Design, Virtual Reality, Turkish Mythology

1. Introduction

Mythology has an important value in reflecting the cultural heritage of societies as a concept that includes all elements of oral and written tradition. It is known that mythology may differ from society to society as well as similar mythological elements are observed in different geographies. The fact that “Tepegoz” in Turkish mythology is referred to as "Cyclop" in Greek mythology or that the unicorn image is frequently included in world mythology as examples of this situation.

Moreover, mythology is meaningful in terms of art and design which is an important consideration. In this sense, many animations are generated through the elements of mythology. As an example, Miyazaki has directed many animations inspired by Japanese myths. Greek mythology is also frequently used in European cartoon cinema. In comparison, it is seen that Turkish mythology has not been utilized adequately in the fields of art and design. Due to this problem, with this research, it is aimed to establish a Turkish mythology museum, which can be visited for the first time in an extended reality environment. By this way, cultural values of Anatolian and Turkish are represented by new technological methods and spectators have the opportunity to reach Turkish mythology museum in anytime and anywhere.

As the method of project computer-aided modelling, animation and virtual reality software is planning to be used. The literature review is based on making a character and environmental designs based on descriptions of characters in stories of Turkish mythology.

Turkish mythology museum is prepared in an experience that can be experienced from anywhere in the world, in an environment where each character has its universe, apart from a classical museum concept limited within a certain area (surrounded by walls, etc.).

2. Methodology

Various changes have been occurred in the societies due to the integration of the technologies in daily-life recently. The requirements of the "information-age" encourage and inspire the researchers and educators to modify new systems (Alioon, 2020).

In this sense, this research is based on new technological systems as virtual reality. In literature, there are many different applications on computational areas such as computer graphic systems, computer-aided design, and object identification, object tracking and model-based video coding make use of the object shape, which is one of the most important features of objects. In general, the process of defining and representing object shapes is often referred to as "modelling". There are many different methods for defining object shapes, and each has its unique advantages and deficiencies. Although there are different modelling methods and applications, the most common method is modelling using polygon structure. Defined as a polygon-based mesh structure, 3D models (3-D) are widely used and provide a simple shape representation in terms of processing. Polygon models, which provide easy use especially for interactive three-dimensional graphic applications, are widely accepted thanks to the ability to adjust modelling accuracy at different rates and to easily identify different shapes (Uluçay & Ertürk, 2004).

Character design forms the main elements of visual design. The effective use of the visual language of a visual element (story, story, animation, comic book, etc.) is directly related to the originality of character designs. In three-dimensional applications, the fact that the character design is in a plain style is also important in terms of overcoming some problems that may arise in polygon modelling (Uçan, 2018: 126). Simplifying detailed models with unnecessary numbers and densities of points and polygons constitutes an important topic in terms of computer graphics (Uluçay & Ertürk, 2004; Heckbert & Garland, 1997).

Free software resources are used for character designs to be created within the research. Autodesk 3dsmax 2019 which is open to education level at the point of three-dimensional modelling and Blender 2.80 are used for modelling and design. Unity Hub is used for software

development to establish virtual reality interaction. At the point of determining the characters to be designed and their environmental spaces (universes), written descriptions in academic sources (articles, books, etc.) and oral stories are used. Each character is modelled in a unique universe and Turkish mythology museum is generated beyond a physical building area.

3. Augmented Reality Based Applications and Turkish Mythology Museum

Applications are made at the prototype level regarding the project proposal. As an example, a virtual reality museum has been created and selected limited edition models have been prepared. Some of the character designs and the prototype images of the museum model are listed in this section.

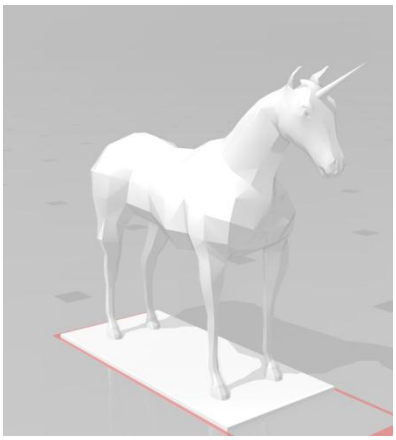

Figure 1: *Melek Melisa İLKAZ, "Unicorn", 3D Model*

Unicorn is a type of mythological horse that is often mentioned in both Turkish mythology and various world mythologies. It was also named "one horn" by referring to one horn on his head. Today, the unicorn figure is used as the main character in many cartoons and appears in almost all products especially for children.

Unicorns are mythological creatures which permeate popular culture, especially children's literature (e.g., The Princess and the Unicorn), television (e.g., My Little Pony) and games (e.g., Rainbow Unicorn). A search for 'unicorn children's' in the Amazon.com book section returned 5223 items (15 May 2016). The number one item is titled: 'Sparkly the Unicorn: Cute Bedtime Story for Kids with a Lesson about Caring and Love' (Jackler & Ramamurthi, 2017).

Figure 2: *Dilşat AKSOY, "Tanri Ulgen/ God of Sky", 3D Models*

Tanri Ulgen/ God of Sky is seen as the greatest of the gods in the pre-Islamic belief systems of Turks. The term "Gokturks" is accepted to come from the belief of the God of Sky (Gok in Turkish).

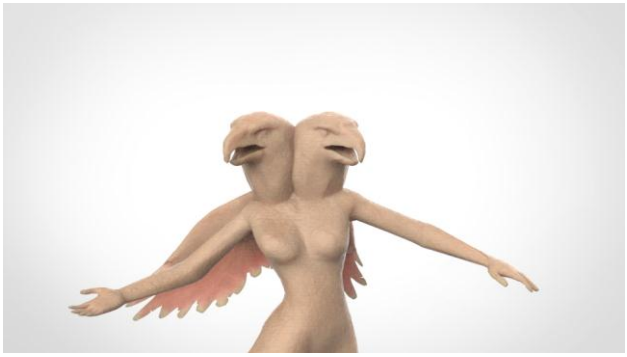

Figure 3: *Fatih KILAVUZ, "Semruk Burkut", 3D Model*

In Turkish, "Burkut" means eagle. "Semruk Burkut" has copper nails and covers the sun with the right-wing and the moon with the left-wing. It is also known as the "Burkut celestial bird". Double-headed eagles are depicted on the top of the ski poles or the top of the beech tree. The double-headed eagles are the symbol of Tanri Ulgen that can create flashes of lightning over the sky. The bird named "Semruk" in the Bashkir legend is a two-headed eagle. The double-headed eagle is also a symbol of the Seljuk Turks (Kandemir, 2019).

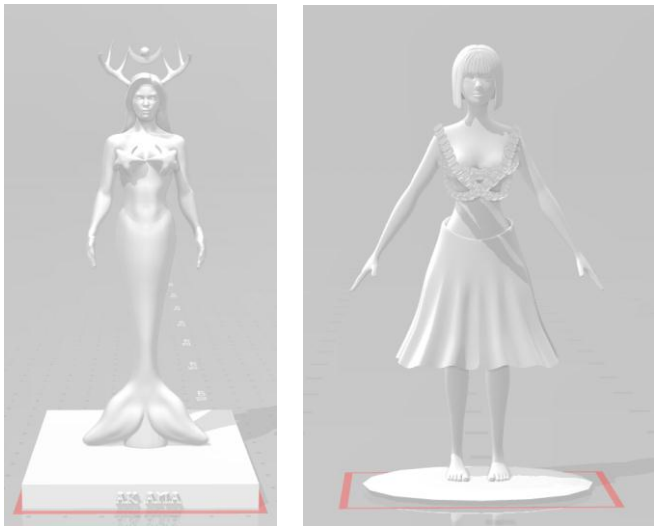

Figure 4: *Gizem DOĞAN, "Ak Ana (left)" and Zeynep ÖZTÜRK, "Azmic (right)", 3D Models*

It is the mother goddess Ak Ana, who came out of endless waters, ordered to create Ulgen and returned to the waters again. According to the belief of the Altay Turks, a woman from the light is in the shape of a dream. Tanri Ulgen takes inspiration from the first creation from Ak Ana and creates three fish to support the world. According to Turkish mythology, Ak Ana is described as horned. In ancient times, figurines of the mother goddess were also symbolized with horns. (Türkasya, 2019)

Azmic is the lost genie or road genie of the Balkars. She also knows as "Azitki" or "Azikti". She haunts those who travel alone. In the disguise of people's favourite person, she chases people and drops them down the mountain, cliff or river.

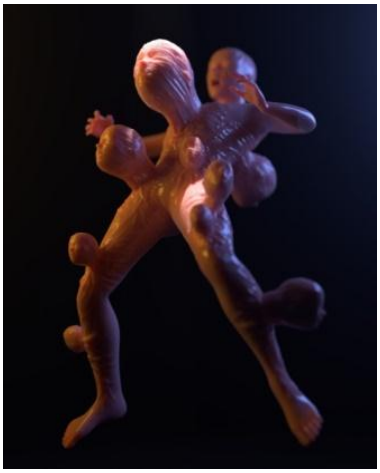

Figure 5: *Mehmet BULĞAK, "Alkarisi", 3D Model*

Yakut Turks offered sacrifices to the evil spirits for protection. Only shamans could see these underground creatures called "Alkarisi", "Albasti" or "Albiz". It was believed that when a

human baby was alone and vulnerable Alkarisi kidnapped its soul. In this sense, if there was a baby-born event in a tent, Turks were trying to hide its clothes against Alkarisi. This traditional behaviour is still alive in some places of Turkish-Anatolian villages.

Figure 6: *Melike KOCA, "Kamos (Karakura)" 3D Model*

Kamos is a malicious creature that is said to be seen in Harpout regions. It is also called as "Karakura" or "Kapos". It is an evil spirit that causes nightmares (Kandemir, 2019).

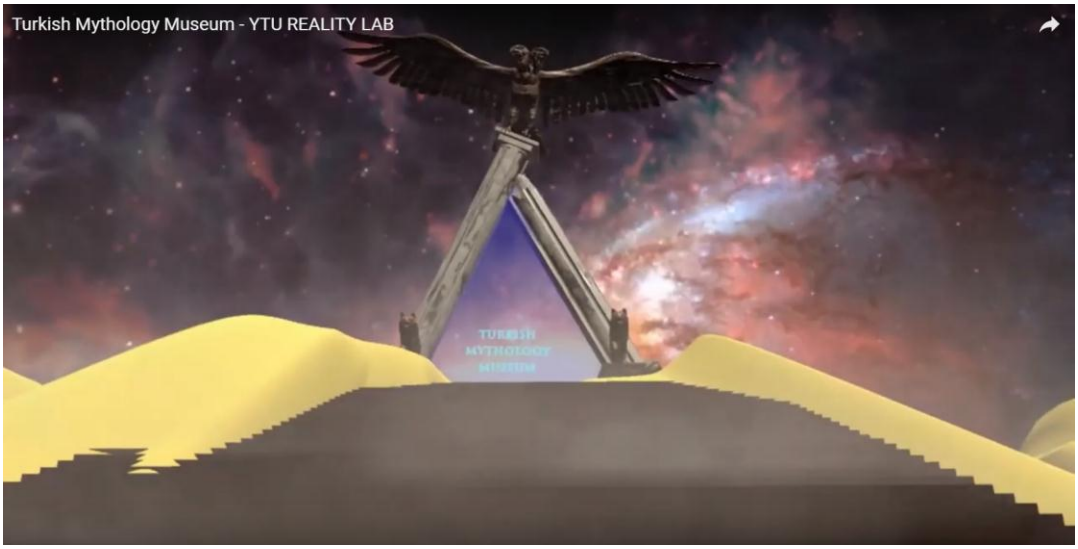

Figure 7: *Turkish Mythology Museum in Virtual Reality Environment*

Figure 8: *Turkish Mythology Museum in Virtual Reality Environment*

Figure 9: *Tanri Ulgen's Appearance in the Virtual Reality Environment*

4. Conclusion

Mythology has an important value in reflecting the cultural heritage of societies as a concept that includes all elements of oral and written tradition. It is known that mythology can differ from society to society as well as similar mythological elements are seen or owned in other geographies. Since mythology has always been inspiring for designers and artists, specifically Turkish mythology isn't used for this purpose adequately. In this sense, this research is the

world's first Turkish mythology museum in the virtual reality environment. With the rapid development of science and technology, the society has put forward more requirements to prepare students and researchers for a field that involves rapidly changing conditions and expectations (Ruiyang, W. & Yuan, Z., 2020). Mythological elements in oral and written studies should be adapted to new technologies as virtual reality. Usage of the great and rich content of Turkish mythology elements are supposed to create new areas in the field of art and design.

REFERENCES

Alioon, Y. (2020). The Effect of the Collaborative Technology - Enhanced Activities on Students' Motivation. PEOPLE: International Journal of Social Sciences, 6(1), 209 - 221. https://doi.org/10.20319/pijss.2020.61.209221

Heckbert, P. S., & Garland, M. (1997). *Survey of Polygonal Surface Simplification Algorithms*. USA: Carnegie-Mellon University Pittsburgh PA, School of Computer Science.

Jackler, R. K., & Ramamurthi, D. (2017). Unicorns Cartoons: Marketing Sweet and Creamy E-Juice to Youth. Tobacco Control, 26(4), 471-475. https://doi.org/10.1136/tobaccocontrol-2016-053206

Kandemir, F. (2019). Türk Mitolojisinde Efsanevi Yaratıklar. Retrieved 6 July, 2020, from https://masivaturk.com/turk-mitolojisinde-efsanevi-yaratiklar

Ruiyang, W. & Yuan, Z., (2020). On the Use of Modern Applications in English Class. PEOPLE: International Journal of Social Sciences, 6(1),43-54. https://doi.org/10.20319/pijss.2020.614354

Türkasya, (2019). Ak Ana Türk Mitolojisi Karakteri. Retrieved 6 July, 2020, from http://www.biligbitig.com/2014/06/ak-ana-turk-mitolojisi-karakteri.html

Uçan, B. (2018). Poligon Modelleme ile Öykü Oluşturma. Aurum Mühendislik Sistemleri ve Mimarlık Dergisi, 2(1), 125-134.

Uluçay, Ö. & Ertürk, S. (2004). Çözünürlüğü Ayarlanabilir 3-Boyutlu Nesne Modellemesi, Retrieved 6 July, 2020, from http:// kulis.kocaeli.edu.tr/pub/siu04_reso_adj_3d.pdf