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THE CURRENT TRENDS OF AUGMENTED REALITY IN EARLY CHILDHOOD EDUCATION

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ABSTRACT

Augmented Reality has been widely used in various level of education such as higher-level education, secondary education (lower/upper secondary level), primary education, and in informal learning. However, the implementation in early childhood education is still limited. By using library research methodology, the objective of this paper is to investigate the existing work of augmented reality in early childhood education between 2009-2018. Based on the results, it shows that the publication of augmented reality in early childhood education increased slowly within these past ten years. It has been found that the main advantage of augmented reality is to enhance motivation. Early literacy has been found to be the most used topic with sampling less than 30 children. Finally, 'Marker-based' augmented reality has been widely used with mobile devices and in term of data collection methods, 'Test' has been used the most in this field of research.

KEYWORDS

Augmented Reality, Child Computer Interaction, Early Childhood Education, Preschool

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INFORMATION HIDING USING AUDIO STEGANOGRAPHY – A SURVEY

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ABSTRACT

Today's large demand of internet applications requires data to be transmitted in a secure manner. Data transmission in public communication system is not secure because of interception and improper manipulation by eavesdropper. So the attractive solution for this problem is Steganography, which is the art and science of writing hidden messages in such a way that no one, apart from the sender and intend recipient, suspects the existence of the message, a form of security through obscurity. Audio steganography is the scheme of hiding the existence of secret information by concealing it into another medium such as audio file. In this paper we mainly discuss different types of audio steganographic methods, advantages and disadvantages.

KEYWORD

Steganography, Cryptography, Audio Steganography, LSB.

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SELECTION SORTING ALGORITHM VISUALIZATION USING FLASH

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ABSTRACT

This paper is intended to develop an algorithm visualization, particularly selection sorting for an Algorithm and Programming course. Algorithm visualization technology graphically illustrates how algorithms work. This visualization can be used to explain how all data move to the proper position in order to be sorted in a display computer for education. This research consists of 6 steps which are concept, design, obtaining content material, assembly, testing, and distribution. During the testing step, the application is run and checked to confirm that it performs exactly what the author has intended and the students can learn selection sorting algorithm by studying the visualization. Subjects of the research were students at Department of Informatics Universitas Persada Indonesia YAI for implementation of the learning. The data were analysed using the analytic descriptive method and interpreted in a narrative way based on the research findings. The algorithm visualization indicates that students increase their motivation and ability to program variety of sorting in programming language they learn.

KEYWORDS

Multimedia, Algorithm, Sorting, Flash movie, ActionScript

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AN ALTERNATIVE GREEN SCREEN KEYING METHOD FOR FILM VISUAL EFFECTS

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ABSTRACT

This study focuses on a green screen keying method developed especially for film visual effects. There are a series of ways of using existing tools for creating mattes from green or blue screen plates. However, it is still a time-consuming process, and the results vary especially when it comes to retaining tiny details, such as hair and fur. This paper introduces an alternative concept and method for retaining edge details of characters on a green screen plate, also, a number of connected mathematical equations are explored. At the end of this study, a simplified process of applying this method in real productions is also tested.

KEYWORDS

Digital Compositing, Green Screen Keying, Visual Effects

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GAMIFICATION ELEMENTS AND THEIR IMPACTS ON TEACHINGAND LEARNING – A REVIEW

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ABSTRACT

This paper discusses the results of a literature review to identify the elements of gamification in learning that have been applied in previous studies and their impacts on student learning, with only taking into account the related studies within the last three years (2016 to 2018). This is done to determine the most effective and suitable elements of gamification to be applied in our study and at the same time to identify research gaps that need to be fulfilled in future researches. The results of this review show that gamification has positive impact on student learning particularly in their engagement and achievement. Furthermore points, leaderboard and digital badge are the most applied gamification elements in the studies. The findings will be used as a guide for us in designing a gamified collaborative learning activities in the 3-dimensional virtual world that will becarried out later.

KEYWORDS

Gamification, Game-based Learning, Virtual World

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AN EVALUATION OF THE USE OF AUDIO GUIDANCE IN AUGMENTED REALITY SYSTEMS IMPLEMENTED AT SITES OF CULTURAL HERITAGE

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ABSTRACT

Recently, museums and historic sites have begun reaching out beyond their traditional audience groups, using more innovative digital display technology to find and attract a new audience. Virtual, mixed, and Augmented Reality (AR) technologies are becoming more ubiquitous in our society and "virtual history" exhibits are starting to be available to the public. There are numerous studies focusing on AR, however a scant amount of research is being done at historical sites. An initial experiment used repeated measures (ANOVA) to compare and rank three different types of AR devices used at a site of cultural heritage. A further experiment was then undertaken to observe participants using two different AR devices with and without sound to determine if which device used or the presence of sound impact the usability of the device, or the user's satisfaction/preference of specific devices. Several surveys, including demographic and
usability surveys, were provided in order to collect a range of user data. A two-way repeated measures (ANOVA) were used to analyze the quantitative data gathered. No significant effects were observed based on the quantitative data provided by the surveys, indicating that all devices were equally usable and satisfactory, and that sound did not have a significant impact in this instance. However, the qualitative data indicated that users may prefer using AR technology on a smartphone device and preferred to use this device paired with sound.

KEYWORDS

Augmented Reality, Audio Guide, Cultural Heritage, Human Computer Interaction (HCI), Usability

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REVIEW OF BLACK HOLE AND GREY HOLE ATTACK

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ABSTRACT

Black hole and Grey hole attack is most happening attacks in Mesh networks. Mesh networks means nonstatic networks with making loops of networks with the help of active hotspots. In Wireless networks all the communication between the nodes is happening wirelessly and the nodes are so much resource constraint that it is difficult to employ any security solutions of other ad hoc networks. So they are attacked by malicious nodes. In black hole attack the attacker windup all the information and dropped it. In black hole attack, the series of RREQ (route request) and RREP (route reply) follows the smallest way of networking communication. The fault node always transmit RREP message as it receives RREQ, while managing the receivers sequence number. By the help of fault node packets are dropped. Sometimes fault node is authorised and otherwise it is unauthorised. Black hole attack is type of routing attack and can bring harm to whole network. Grey hole attack is the kind of denial of service attack. In this attack, the router which is mesh behave just not well and a subset of packets are forward and handle by receiver but leave by others. The presences of these attackers are hard to detect in wireless networks because over the wireless link the packets are lost due to bad channel quality. This paper deals with the study of analysis of delay occurs by these attack in Wireless Mesh networks and its types and also discuss about previous study by which we get idea about attack occurs in networks and also study various techniques to detect and prevent network from black hole and grey hole attack. Then we discuss about their result by using simulator OPNET.

KEYWORDS

Black hole attack, Grey hole attack, MRP, OLSR, RREQ, RREP, RERR, OPNET.

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ANALYTIC OF CHINA CYBERATTACK

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ABSTRACT

China cyberattack has become aggressive, disruptive, stealthy, and sophisticated. Apparently, China's advantage is more on the cognitive domain than technical domain since information systems security is art and science—in some case, it is more art than science. Knowledge is the best weapon for cyber warfare since one of the Sun Tze's Art of War principles is "know your enemy". Therefore, an analytic of China cyberattack must scrutinize the national interest, goals and philosophies, culture, worldview, and behavioral phenomena of China.

KEYWORDS

China, Cyberattack, Cyberattack, Analytic, Strategic Advantage, Information Warfare

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THE IMPACT OF VR GRAPHICAL USER INTERFACE ON OCULUS TOUCH CONTROLLER AND OCULUS RIFT

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ABSTRACT

It is undeniably true that Virtual Reality (VR) has continuously been developed since 1800s and still have been produced till today. However, very few studies have attempted to study on the design of Virtual Reality Graphical User Interface (VR-GUI) that effectively empowers users to interact and immerse in a simulated world, via hardware and software with ease. Therefore, the aims of this research are to compare four different types of VR GUI Controller designs including (2D, 2D animation, 3D, and 3D animation) and to determine UI response time of the Oculus Touch Controller and compare the results with UI response time of Oculus Rift to determine what VR GUI is appropriate for which ages. 168 participants were purposely selected, aged from 12 to 17, 18 to 33, and 34 to 45. The experiment results showed that VR GUI had a significant impact on UI response time resulted from different types of VR GUI controllers. Last but not least, analysis of VR GUI controller user data had suggested that VR GUI developers should design appropriate VR GUI controllers that match all age groups in order for them to experience a fully immersive, perceptually real environment as quickly and efficiently as possible.

KEYWORDS

VR GUI, Oculus Touch Controller, Oculus Rift, Virtual Reality, Generation, Interactive.

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MARIE: VALIDATION OF THE ARTIFICIAL INTELLIGENCE MODEL FOR COVID-19 DETECTION

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ABSTRACT

Lung X-ray images, if processed using statistical and computational methods, can distinguish pneumonia from COVID-19. The present work shows that it is possible to extract lung X-ray characteristics to improve the methods of examining and diagnosing patients with suspected COVID-19, distinguishing them from malaria, tuberculosis, and Streptococcus pneumonia. More precisely, an intelligent computational model was developed to process lung X-ray images and classify whether the image is of a patient with COVID-19. In partnership with the municipality of Itapeva, Minas Gerais, we carried out patient analysis and, at the same time, we evolved the algorithms to meet the needs of health professionals and also expand support in tracking COVID-19 in the municipality. In this project we will describe cases and even signs and symptoms that were similar to the clinical performed by the doctor. The average recognition accuracy of COVID-19
was 0.97,4 ± 0.043.

KEYWORDS

Probabilistic Models, Machine Learning and Computer Vision and case studies

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