



"The effectiveness of interactive materials technology in television image and digital cinema"

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Abstract

The interactive TV is an interaction of the viewer with the television system it divided into two types, The first is interact with the TV screen through a remote control to choose the channels and volume and newly control the screen size , location , closing and opening the screen automatically by hand movement in the air Using units longitudinal sensitivity to the viewer, and the second type is the interaction with the television-generated content and it is divided into two parts the first one is the possibility to vote or to get more information provided, which related to weather, news or advertised products as well as the possibility of buying across the screen and finally the possibility of changing the angle of the camera in sports games, and the second part is the interaction with the displayed content and the possibility of changed dramatic context through express an opinion in content displayed .

Similarly, the interactive cinema is the interaction of the viewer with film systems by affecting and affected with cinema screen and it divided into two types of the interaction the first one is the interaction with the cinematic display and which began with the emergence of cinema three-dimensional that take the viewer into the scenes, and then evolved into a multi-Dimensions that add a new dimensions to the viewer to make it more interactive with what displays across the screen, As well as interaction stretched to various electronic games through some special devices that control what displays on the screen in front of the player, the second type is the interaction with the film-generated content, like vote in one of the electronic methods to choose the Dramatic context and extended to the possibility of speaking with actress across a viewers telephone to shared his opinions on the content of the drama provided, as well as institutions appeared that are interested in interactive cinema system to make an important role in the scientific and educational side beside entertainment .

Keywords

interactive television , Internet TV , interactive cinema, interactive film , , virtual reality, The iCinema Centre.



Research problem

There are many problems associated with the research topic, namely:

1. The basic problem is the multiple aspects of interactive television systems and interactive cinema systems that need further clarification, as well as the extent of the overlap between television and cinema in interactive technology systems.
2. there are many different terms for interactive digital motion picture technology for television and film, causing confusion among many of the concepts such as interactive television , smart TV, Internet TV , interactive cinema, interactive film , interactive games and interactive movie.
3. The complexity of this interactive technology with virtual reality technology that used in the digital motion picture.
4. The lack of presence of Arabic references dealing with interactive television and interactive cinema to clarify the extent of the actual practical and scientific benefit of these systems than other the entertainment side.

Research goal

The research aims at many points including:

1. clarify the concepts and terminology, systems and devices for interactive television and interactive cinema.
2. Identify the state of the digital modern technology methods and devices used in interactive systems for digital image in cinema and television system.
3. Shed light on the scientific importance of interactive image in different uses, beside the entertainment.
4. Illustrate the link between the technology that used in interactive cinema and virtual reality technology.

Research Methodology

the research Followed by the descriptive analytical method based on the definition and description and analysis of the various interactive TV systems and its devices used, and the latest technology in this field, as well as the description and analysis of digital cinema interactive and various devices used and to what extent was the integration of the two images television and film in this technology.

Research results

After the search is complete we find several conclusions, namely:

1. Interactive System for motion picture film and television merged dramatically after the digital cinema and the entry of various modern digital cameras and software, which produced the appearance of a high interactive digital picture quality and became only the difference in the presentation.
2. Interactive cinema or television did not become a recreational and a means to attract viewers only, but has evolved to serve the various scientific aspects and become a means to get information and connect different ideas and theories.
3. The use of virtual reality technology with the technology of interactive digital motion picture system enriched and gave it more credibility to achieve the desired goal.



4. The application of digital systems in cinema projection became inevitable due to keep pace with technological evolution of digital interactive image to benefit from the advantages at all levels.

Introduction

The technological development has made many scientific revolutions in various fields and produced many of the means and methods of modern devices that have become part of our daily lives and for the field of motion picture and the emergence of technological digital revolution in this field has become the change quickly producing a digital image with different characteristics on both sides of technical and digital technology did not stop at this point but have evolved to make the viewer part of the digital system and so the appearance of the various interactive systems that did the role of the viewer moving from the recipient only to the participant through the introduction of new devices called digital interactive television and interactive cinema systems .

Interactive TV:

The simplest definition of Interactive Television is as any TV provide with the return path feature and the information does not flow from the broadcaster to the viewer only, but sent from the viewer to the broadcaster, and this system also provides the ability for each viewer to select his favorite content and there are many traditional devices that can create this interactive service ,the digital systems will change the pattern of television viewing by cables or advanced satellites, thinking in the interactive TV initially was for three reasons :

1. commercial interaction with the TV screen to the possibility of buying through these electronic screen is called the T-commerce.
2. Interact with the content by the possibility of suspension or record or provide the programs offered or to obtain more information in the subject submitted called Interactive Goodies.
3. Stream Analysis.

Interactive cinema:

The advance of digital multimedia technology that used in the film industry led to the emergence of digital cinema and helped the development of interactive cinema technique greatly, interactive Cinema is based on the interaction between the cinematic image displayed on the display and the viewers, that began with the discovery of the 3D cinema which added a new sense to the viewer that make him inside the details of what is on the film screen, which was transformed from two dimensions to a third dimension, a depth that helped boost cognitive illusion of spectators, after that we saw 4D cinema its refer to, the marketing of entertainment cinema system, and this technology is a perfect combination of image cinematic three-dimensional addition to the effects produced by some special devices that are installed inside the exhibition hall, that affect human senses to work with a simulation of what is



happened in the displayed image, such as the effect of wind, rain, snow, lightning, lightning, smoke, fire and fog simulated .

In 5D,7D,9D,11D,15D cinema The exhibition hall also be provided with sensors produce odors like places displayed on the screen such as sea, gardens, smoke, or dust and so on, in addition to the movements of the seats equipped with the movements dynamic engines, which operate in all directions depending on the traffic on the cinema screen to work vibrations movement of the viewer and it makes him feel like within the movie.

The technology of Interactive cinema evolved until the method of interaction that were used in the last call movie, directed by Henry Bromell, which was introduced in 2010, before the entrance to the exhibition hall the spectators takes all ticket by a certain number to calling by their phones to make a registration through a software program designed by powerflash, and during the presentation this program selecting one of the viewers in the exhibition hall to reach his phone call to find himself talking with one of the heroes of the film to shared his opinion among the doing in the dramatic events of the film and the hero does the viewer says .

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