

4.3 GUI with Human Expansion

Through effects of new technology, movie provides audience with spectacular scene experience that has never been felt before. New technology becomes new media, and "media simulates operation image as if demonstrating human expansion" as McLuhan said. New technology mainly implemented through computer graphic, is nothing less than trickery, but visualized as concrete form to help audience recognize imaginary technology as real. Audiences feel more satisfied when identifying themselves with leading character in movies.

HMD (Head Mounted Display) was developed by Ivan Edward Sutherland in 1968. About forty years later, it is shown as advanced form through Iron Man series. This movie shows information gathering stage by mixing real and virtual data, and through real time interaction. Man character wears self-developed suit and augmented reality is implemented through the display attached on mask. Considering feature of augmented reality that value environment composition focusing on improving sense of presence, iron man's mask appeared in the movie is appropriate for implementing augmented reality.



Figure 10. "Iron Man 1 (2008)"

The screen iron man looks at, is the world of augmented reality that real and virtual space co-exist. In this screen, objects in far distance can be seen by enlarging beyond visual ability human has, and topography structure can be seen through. Also, through ubiquitous environment, real time information can be transmitted to and from, and targeting at only intended object to eliminate enemy with hostages becomes possible. Even in combined form of virtual and real space, computer graphics are utilized to provide information. GUI shown through mask is controlled by voice input, traces pupils and displays proper visual feedbacks.

4.3 GUI with decorative function

Situation room space in wartime appeared frequently in the movie is always full of high-tech equipment, and shows many input-output devices. As war situation room developed at the time of the Second World War, was utilized in the movie, this space shows the trait of hyper mediation with cutting edge technology. For audiences to understand the space with this style, detailed elements comprising of space should be shown more realistically or in that degree at the minimum. For instance, necessary components comprising of monitor screen placed in space should not be too different from existing notion, and should include non-mediation elements in the level that assumption of information is possible.

In this space set to ever busy situation, numerous monitors are installed, and even though one does not know what it is exactly, text related to situation, images, and icons are displayed constantly. Audiences assume and interpret the contents displayed in monitor through the split moment of observation according to entire movie flow. Even though it is not clear what information screen carries, sometimes, audiences can guess the meaning through images, icons, and the familiar layouts. Information on monitor screen was switched very quickly, or disappears by switching screen and panning, as if it tries to draw audiences' distributed concentration. Core part of graphic components consisting of screen, is naturally the image.

Particularly, image-utilizing cliché helps audience determine trait of unfamiliar space, and provides realistic sense. These images mainly include portraits, maps, three-dimensional pictures, charts, and others. Small components are difficult to figure out of what they are, and if audiences are not paying attention, they mostly pass by.

With decorative functions of interface in the movies maximized, there is improper use of interfaces. Screen below is one scene from movie "Mission Impossible 3: Ghost Protocol". In this movie, Tom Cruise receives spy mission through portable video player disguised as disposable camera. Video image shown from the device includes graphical elements such as icons, windows, scrollbar, and others for interaction. These components create illusion as if audiences can control information by touching and clicking on camera video. However, this provides only one-sided information, and there is no indication

of interaction between interface of the video and character in the movie. In a sense that no method was suggested to control icons that can be recognized as folder navigation, copy, multi-window, minimizing and maximizing icons showing in this movie, it may be seen as utilized for decorative effect. To prevent from playing the video again after information was provided, it was even set up to explode automatically five seconds after completion of playing.



Figure 11. “Mission Impossible 3: Ghost Protocol (2011)”

Portable device in the movie is the output device providing information, and the monitor output video in detail from HCI point of view. Though iris data is received for identification, there is still no direct interaction with information. Even though information details delivered by portable device do not need interaction, components recognized as GUI were inserted, and realistic spectacles are realized from motions of graphic components. Each GUI component changes into graphic composing the screen, and provides sequential information by moving, enlarging, and creating for audiences to have new technical experience. As extra becomes possible as only a component in screen, regardless of movie story flow, GUI is in charge of decorative function on screen. Like spectacle is provided through computer graphic, GUI is the computer graphic image utilized simply for visual effect.

5. Conclusion

In this research, types and roles of GUI appearing in the movies are reviewed through many case

examples. In order to do so, this research reviews examples, utilized by film companies, which aimed at successful performance by providing spectacle experience as well as discussing the feasibility of GUI emergence. With the digital emergence, technology required interface bridging human and computer, and the visualized form of interface became GUI. Thus, reviewing GUI can be one method to discover new technology.

GUI's role in the movies can be divided into four types. First, it is a role to provide spectacle experience to audiences as digital technology was presented in the movie for the first time. This strategy is still valid, and it is proven that it helps successful performance if becoming effectively specific. Second, GUI is integrated into movie as one component, and composed of Mise-en-Scene. In addition to providing spectacles, GUI started to play a role of device inducing concentration into movie. It helps audiences concentrate on a movie, which makes appearing character or the space plausible.

Third, GUI expands characters' abilities. As characters are fictional, whether corresponding ability is real or not is an important issue, and if practicality is assured, all imaginable things become real. Therefore, GUI is one of appearing components, in order to make characters' abilities appearing in the movie, realistic and concrete. As a matter of fact, characters are surrounded by cutting edge technologies, and use such technology to detect enemies' information, and the major function is to attack enemies. So it creates illusion as if character's ability is enhanced based on character's controlling of technology, armed with excellent GUI.

Fourth, GUI functions as a decoration. It is assumed that GUI aims at interaction between humans and computers. However, with GUI utilized as movie device, it lost its original function and occasionally is used simply as decoration elements. Of course, there may be intention to reflect the latest movie trend by using cutting edge graphical effects. Still, lack of understanding may be a cause or it can be due to decorative function that is not important. In a sense that interactions appearing even in reality, are shown as if it is implemented in the future, it can be determined that GUI is simply used to draw more attention from audiences.

Even though this research has split GUI's role into four types, this analysis may not be enough.

Especially, as intention of movie making cannot match up to emotional aspects audiences accept, there could be a problem of subjective interpretation. With all these reasons, this study will contribute that a variety of viewpoint analysis will come out in terms of digital technology utilized in movies in coming years.

Lastly, there are concerns that flashy visuals appearing in Hollywood blockbuster level movie series can over shadow contents of the movie. As many critics pointed out, with the emergence of first illusionism, it coincides with the phenomenon that decorative elements only for visual amusements, not a real narrative, take up main stream. Numerous images shown within movie running time are in the same context with images consumed quickly in modern society. These images are continuously produced, so audiences' sense becomes dull, poor plot is forgotten, and audiences want shorter and stronger shocks. Of particular concern is that if this is window-dressing style production of series of new technologies to meet audiences' requirements, which is fresh and exciting each time. There are many researches to be conducted, including whether unnecessary visual images are overflowing in the movie, spectacles in movie overshadow narrative, and paralysis, intoxicate the reasons, and how to use GUI properly should be discussed, and others.

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