

3.4 Arts, entertainment and leisure

T207 - Digital art: electronic music, interactive visual art, desktop publishing by Ronald Chu

Thanks to developing technology and human needs/greed, digital art has been invented. Digital art is art that is created on a computer in digital form. It can be completely generated by a computer, such as fractals, or taken from another source, such as a scanned photograph, or an image drawn using vector graphics software by using a mouse or graphics tablet. The availability and popularity of photograph manipulation software has vastly spread quickly. Using electronic versions of brushes, filters, and enlargers, these "Neographers" produce images through photographic tools. In addition, digital artists may manipulate scanned drawings, paintings, or lithographs, as well as using any of the above-mentioned techniques in combination.

These artists also use many other kinds of sources of information and programs to create their computer programmed work. Digital art is beginning to dominate the media. The mainstream media uses a lot of digital art in advertisements, and computers are used extensively in film to produce special effects. Desktop publishing has had a huge impact on the publishing world, although that is more related to graphic design. Nonetheless, digital art is yet beginning to gain the acceptance and regard reserved for "serious" artforms such as sculpture, painting and drawing, perhaps due to the erroneous impression of many that "the computer does it for you" and the suggestion that the image created could be infinitely repeatable.

Computers are also commonly used to make music, especially electronic music, since they represent a powerful way to arrange and create sound samples. It is possible that general acceptance of the value of digital art will improve progress in much the same way as the increased acceptance of electronically produced music over the last thirty years.

Digital photography, as opposed to film photography, uses electronic devices to record the image as binary data. This represents the storage and editing of the images on personal computers (PCs), and also the ability to show and delete unsuccessful images immediately on the camera itself.

Digital cameras now outsell film cameras (normal cameras where you develop the film and replace it with a new one) and include features not found in film cameras such as the ability to shoot video and record audio. Some other devices, such as mobile phones, now include digital photography features. These digital cameras are much more efficient and easier to use, thanks to advanced technology.

Digital photography and digital printing is now an acceptable medium of creation and presentation by major museums and galleries, and the work of digital artists is gaining recognition and fame through robotic installation, net art and software art. However, the work of digital painters and printmakers is beginning to find acceptance as the output capabilities advance and quality increases. Many museums around the world are now beginning to collect digital art such as the San Jose Museum of Art and the Victoria and Albert Museum print departments also have a reasonable, but small collection of digital art.

According to wikipedia.org, "Desktop publishing (also known as DTP) combines a personal computer and page layout software to create publication documents on a computer for either large scale publishing or small scale local economical multifunction peripheral output and distribution." The term "desktop publishing" is commonly used to describe page layout skills. However, the skills and software are not limited to only paper and books. The same skills and software are often used to create graphics for point of sale displays, promotional items, trade show exhibits, retail package designs, and outdoor signs. This is also thanks to advanced technology and human greed.

T208 - Film: digital actor simulations, characters and animation by Aditya

Animation is the rapid display of a sequence of images of 2-D artwork or model positions in order to create an illusion of movement.

Emergence:

The invention or creation of animation cannot be attributed to any single person. The technology emerged in the early 1900s. These drew on inventions from the 1800s such as the Phenakistoscope and the Zoetrope. The real breakthrough was the creation of the character Felix the Cat in 1919, by Otto Messmer.

Stakeholders:

Animation films can develop into expensive projects. The movie "Prince of Egypt" cost Walt Disney \$60 million. Thus, making an animation film can be a huge risk. It is difficult to gauge whether your ticket sales will be enough to compensate for production costs. This is so expensive owing to the need for superior talent which has to be bought with a LOT of money and superior computer software to put together the sketches prepared by the artists. The high price could lead to the eventuality that less people have jobs. So, the stakeholders are the actors who lend their voice and production companies basically. So, on a higher scale, production companies stand to lose or gain monumental sums of money. The same can be said for actors who lend their voices.

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The monumental expenses can be solved either by a lower demand for animated films which is very difficult to do. I assume this can be done by raising ticket prices. Another, more feasible way is to hire artists at a lower price and by software which is cheaper, one whose production is more efficient.

This technology affects the entertainment industry, the economy (because movies raise tremendous sums of money for the economy) and the profession of acting.

This problem is less prevalent in the east because the east is ahead when it comes to cheaper software and also has found that quality of animation doesn't matter as much when making a product for their audience.

or

Film: digital actor simulations, characters and animation by Chaan

Traditional television means that the viewer may only decide which program he/she wants to watch. With the new developments of digital and interactive television and multimedia products, the viewer will be more and more able to interact with programs and this will lead to individual programs for each viewer. An example of this is the Apple TV where Apple uses the slogan that "now there will always be something interesting on TV" and this just means that using Apple TV a person can stream his/her library content including all the movies and TV shows on his TV in the living room!

In the games market, constant innovation is required in order to prevent sales of games from falling off. Convincing simulated humans in games have been identified by the industry as a way of giving a fresh appearance to existing games which will give the consumers more incentive to buy games and thus improve the economy! (indirectly of course)

There is increasing use of animation in film production including production of video assets for multi-media titles. Providing a capability for simulating people will extend the range of uses of 3-D graphics animation. I remember playing the game Max Payne 2 and I was so addicted to it that I started skipping lunch and dinner and I finally finished the entire game after 5 days and I realized why I was so addicted to it. The digital actor in the game had been simulated so well that I could connect it to him on a personal level and at times I felt like it was me in the game!

Characters are used in Disney movies all the time. For example, more than thousands of characters have been created in kids movies. To name a few, there's Mickey Mouse, Minnie Mouse, Donald Duck, Uncle Scrooge, Pink Panther, Winnie the Pooh, Chip and Dale and the list can keep going on. All these characters are animated but kids still love them like they would love a real person. Actually, most kids love these animated characters more than the real people. This is perhaps because the animated characters are all about the laughs and happiness and no tears and sadness and that's what everyone wants to see. Nobody wants to see the reality of life.

We see animation being used everywhere today. Animation is considered "cute" and it appeals to kids. One of the main consumers for companies today are the kids. Kids pee in their clothes so they have to buy a lot of new clothes and that's why companies use animated characters in order to appeal to these kids. Animation is a very cool trick because you can create animations on the computer, without worrying about setting up appointments with real life actors and all the other things real life actors and directors have to go through! Ask Steve Jobs, who owns 9% of Disney, and he'll agree that the art of animation is one of the coolest arts ever invented!

T 209 - Live arts: digital effects, choreography, lighting, marketing by Su Chen

All the things listed above are related with IT in a way or another. One might think that choreography is not really related but if you connect the dots, you'll see a link. This isn't related to the topic but as I am writing this, I realized that almost everything is related to IT in today's world. The internet you use, when you talk to your friends on MSN, when you go to the doctor and they make your receipt and when you buy things at a convenience store! Almost everything is related to IT. Imagine an intense power failure for a day – what would your life be like?

Digital effects are used in movies and pictures. I personally use a lot of photo software to get the desired photograph. Sometimes the picture's too bright or too dark so I use the sliders to get the perfect lighting going on and there's all these other cool options like fading, sepia, antique which can make your picture stand out from the other pictures. Digital effects can really make someone look at your picture because of the way they stand out from the others.

Digital effects are mainly used in movies. Let me rephrase it, since a movie is quite long more digital effects are used in a movie than in a 2MB photo. I haven't personally had any experience with this but some of my friends have and they use many movie making software to get the right timing in their movies. For instance this friend of mine was making a movie about winter sports at SMIS and he used a software to combine all the different clips from different sports and then got an awesome song and put it with the clips. Along with all this, he used the fade in-fade out effects to make the transition of the different clips smooth.

Choreography, in simple terms, is the act of dancing. How is this IT related? It took me quite a while to think

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about that but then I remembered a friend of mine who was watching this choreographer give lessons, on her computer! Since it was on her computer, she could forward-rewind the video according to what she wanted to see. She could also reduce the speed of the steps the choreographer was showing and observe them carefully! And of course the choreographer herself can hire a moviemaker guy to add the slow-fast effects to her movie.

Lighting is related to digital effects and I already discussed the lighting in my photos. I use the brightness, exposure and contrast sliders to adjust the lighting in my pictures so people's faces can be seen clearly! And today's camcorders have this function called "Night Mode" which helps people record movies at night in the dark and that helps people see in the dark. Then you can use your computer to add even more light to the movie.

When directors finally have their movie ready, they hire advertisers who can let the people know about the movie and they do this by placing the ads for the movies all over the internet. That's a form of marketing – letting people know about your products and this is usually done using internet today and the ads placed by Google!

T 210 - New media: DVD, CD, VR, stereolithography by Ronald Chu

It is the twentieth century now and new technology is booming, making lives much more convenient for everyone. The area that has the most technological advancement is probably the media. The media includes television, entertainment, computers, games, etc. New media refers to traditional forms of media that have been transformed by advancements in digital technology and digital computing.

The difference between "new media" and "old media" is very trivial since because new media does not so much represent an entirely new creation, but the reorganization of a current, and most likely popular source of information in a newly digital format. The term new media gained currency in the early-mid 1990's as part of the marketing pitch for the CD-ROM Revolution and the corporate idea that the book was on its way out. One of the key features of the corporately described new media was that corporations, not individual creators, would control copyright. There are many types of new media, but one of the main ones are "DVD," "CD," "VR," and "stereo lithography."

DVD stands for "Digital Versatile Disc" or "Digital Video Disc." According to a definition by wikipedia.org, it is "an optical disc storage media format that can be used for data storage, including movies with high video and sound quality. DVDs are similar to CD's, which will be discussed later on in this essay. However, they are encoded in a different format and at a much higher density. DVD-ROM discs are read-only discs. In other words, once you save a file onto this disc, you can not erase it and record another file above it. However, you can do this with DVD-RW discs. A DVD-video disc is a DVD with properly formatted and structured video content. A DVD-audio disc is a DVD with properly formatted and structured audio content. All other kinds of DVD discs are referred to as DVD-DATA discs.

CD stands for "Compact Disc." It is used widely as an optical disc used to store digital data, originally developed for storing digital audio. The CD was first let out into the market in 1982, and is currently the standard physical medium for commercial audio recordings as of 2007. Normal CDs have a diameter of 120 mm (with a hole in the middle for putting your finger in to make holding/inserting the CD easier) and can save up to approximately 80 minutes of audio. There are also 80 mm discs, sometimes used for CD singles, which hold approximately 20 minutes of audio. The system is a bit similar to the DVD system. CD-ROM (aka "Compact Disc read-only memory") is a Compact Disc that contains data accessible by a computer. A CD-R is like a DVD-ROM disc. It is much cheaper than a CD-RW disc, but once you save data onto it, you cannot replace that data with new data. However, this is possible with the CD-RW disc, much similar to the DVD-RW disc.

VR, which stands for virtual reality, is an interesting technology which, according to wikipedia, allows a user to interact with a computer-simulated environment, be it a real or imagined one. Most of these virtual reality experiences are displayed on computer screens or special stereoscopic players, but some simulations can be experienced through speakers or headphones. VR is a very useful "tool" that can be used for things such as military training. For example, a US Navy soldier may go through a VR experience using a VR parachute trainer for his military training.

In order to engage the other sense of taste, the brain must be manipulated directly. This would move virtual reality into the realm of simulated reality, The Matrix. Although no form of this has been seriously developed at this point, Sony has taken the first step. On April 7, 2005, Sony went public with the information that they had filed for and received a patent for the idea of the non-invasive beaming of different frequencies and patterns of ultrasonic waves directly into the brain to recreate all five senses. There has been research to show that this is possible. Sony has not conducted any tests as of yet and says that it is still only an idea.

Finally, there is stereo lithography. Stereo lithography is one of the more commonly used rapid manufacturing and rapid prototyping technologies. It is considered to provide high accuracy and good surface finish. The devices used to perform stereo lithography are called SLAs or Stereo lithography Apparatuses.

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T211 - Broadcast media: digital radio and television, electronic news, magazines and books by HeeJun Son

The term broadcast media means a wide variety of different communication methods such as radio, television, newspapers, Internet, magazines and any other materials supplied by the media and press. The audience may be adults or children depending on programs or magazines. The broadcasting media supplies lots of the latest and valuable information, for example daily news, interviews, advertisements, speeches, etc. The primary broadcast media in these days are: digital radio and television, electronic news, magazines and books.

Digital Audio Broadcasting (DAB) is a new transmission system bringing the benefits of digital to the world of radio. Analogue radio transmission system that we have been using is being replaced with DAB because DAB has more advantage and benefits to both listeners and broadcasting corporations. First of all, for DAB transmissions, there is no the hiss and fade (multipath interference) that can spoil analogue radio transmissions.

This is particularly good news for listeners who can now hear the latest news and sport without all the usual problems associated with Medium Wave reception. Second of all, DAB signals are also far less likely to be affected by adverse weather conditions or local sources of interference unlike FM radio system. Third, DAB technology allows broadcasters to transmit far more radio stations within the same comparable amount of radio spectrum compared to FM. The flexible nature of our national DAB radio multiplex means that broadcasters can create secondary services. As well as music and speech - DAB transmissions also contain data information. A DAB set utilises a screen, on which various kinds of information can be displayed.

You must have listened or watched ABC, CNN, CBS, MSNBC, PBS, or FOX news once in your life. All of them publish the newest news articles on their websites as well as broadcasting through televisions. The published news articles on the Internet is called electronic news. It is very convenient to use this broadcast medium to get news since people can always easily find out and catch up what is happening in the world whenever they want.

Not only publishing news articles on their websites, but they also broadcast. Nowadays the trend of television is changing to Digital TV from analog TV. Digital television (DTV) is a telecommunication system for broadcasting and receiving moving pictures and sound by means of digital signals, in contrast to analog signals used by analog (traditional) TV. DTV uses digital modulation data, which is digitally compressed and requires decoding by a specially designed television set. Digital television has several advantages over traditional analog TV. The most significant advantage of DTV is that digital channels take up less bandwidth space, meaning digital broadcasters can provide more digital channels in the same space with the better quality.

Digital television also enables special services such as electronic program guides and multicasting, which is watching more than one program on the same channel. Digital television has a better image, audio quality, and reception than analog. But there has seen some problems with DTV because digital television picture technology is still in its early stages. Digital television images have some picture defects that are not present on analog television due to present-day limitations of bandwidth and the compression algorithms. When a compressed digital image is compared with the original program source, some digital image sequences may have distortion or degradation such as quantization noise, incorrect color, blockiness when high-speed motion is depicted, or a blurred, shimmering haze.