

Manipulation of Images with Computer Graphics in Digital India

Ajay Singh

Asstt. Professor, Northern India Institute of Fashion Technology, Mohali

Abstract

Computer Graphics has become an important field in imparting information to the society and the media like magazines, advertisements, newspapers and books because photos make the text or the story stand out. The graphics also played a main role in bringing theory to life through combined 2D and 3D animations and graphics. Digital media skills can be applied to all industries and are necessary for many different job roles. The need for digital graphic design or multimedia and video production continues to grow in many fields including communications, advertising, education and entertainment. In this the target audience can also understand how to produce pictures or images using a computer which include modeling, creation, manipulation, storage of geometric objects, rendering, converting a scene to an image, the process of transformations, shading, illumination, animation of the image etc. The target groups involved students in undergraduate and graduate level, educators and young professionals and designers. The purpose of this study is to

find the majority opinion of what types of editing is above the tolerable limit of a small sample of people, as well as the public. So a survey should be conducted which will determine society's awareness of modifications in published photography as well as what are tolerable levels of modifications.

Keywords: graphics, design, animation, digital media, images

1. Introduction

Early man used images to communicate even before he learnt to talk, write, or count. Now, with the advances in computer hardware and software, graphics has come a full circle and, more and more people are teaching and learning, communicating and sharing their ideas through the medium of graphics. By graphics, we mean any sketch, image, special artwork or other material that pictorially depict an object. Traditionally, graphics has referred to engineering drawings of buildings, bridges, machine parts etc. and scientific drawings such as x-y curves, network and process

flowcharts. In recent decades, graphics has ventured into industrial design, advertising and other artistic endeavors. During the last few years, even newspapers and periodicals aimed at the common man have begun to utilize graphics to present quantitative news such as selection results and production statistics. Computer graphics can do all this and more. In fact, the power and easy availability of computer graphics have increased the use of pictures to replace and augment words to describe, educate, or inform a wide variety of audiences, on a wide variety of subject.

2. Presentation Graphics

Application software is known as presentation graphics software that shows information in the form of slide show. The major functions of presentation graphics are:-

- Text can be inserted and formatted
- Inserting and manipulating of Graphic images

The questions that strike many graphic designers, students, and engineers rushing to import their illustrations and processing of images into presentations are:

- What resolution should be used?
- Which file format is best?
- How do I keep the file size down?

2.1 Image Resolution

Resolution is the term used to describe the number of dots, or pixels, used to display an image. Higher resolutions mean that more pixels are used to create the image, resulting in a crisper, cleaner image. Resolution is measured in pixels per inch (ppi). The more pixels per inch, the greater the resolution.

The display, or resolution on a monitor, is composed of thousands of pixels or dots. This display is indicated by a number combination, such as 800 x 600. This indicates that there are 800 dots horizontally across the monitor, by 600 lines of dots vertically, equaling 480,000 dots that make up the image you see on the screen.

2.2 File formats and Image size

File format are the means of organizing and storing digital images. An image file format may store data in uncompressed, compressed, or vector formats. All computer art is digital, but there are two very different ways of creating digital images on a computer screen, known as raster and vector graphics. Simple computer graphic programs like Microsoft Paint and PaintShop Pro, Adobe photoshop are based on raster graphics, while more sophisticated programs such as CorelDRAW, AutoCAD, and Adobe

Illustrator use vector graphics. So what exactly is the difference?

- Vector
- Bitmap

You may wonder which one of these is a better format when exporting to some software like PowerPoint. The truth is that there are different situations that call for different methods, but here are some things to look out for. For instance, vectors are objects that are defined by anchor points and paths, while bitmapped graphics are digital images composed of pixels.

The advantage of using vector graphics is that they are size independent, meaning that they could be resized with no loss in quality. Bitmapped graphics, on the other hand, provide a richer depth of colour but are size dependent. The most common image file formats, the most important for cameras, printing, scanning, and internet use, are JPG, TIF, PNG, and GIF.

Even though PowerPoint could import all common file formats such as GIF, JPEG. There are two particular file formats that will work exceptionally well.

TIFF and PNG. Using TIFF (Tagged-Image File Format) or PNG (Portable

Network Graphic), we could easily remove the unwanted background quickly and easily in PowerPoint, a feature not available to the other mentioned file formats.

TIFF or PNG: TIFF has been around longer than PNG, which was originally designed to replace GIF on the Web. PowerPoint works well with both these files when creating transparent backgrounds but generally PNG creates smaller file sizes with no loss of quality.

GIF	Use GIF for Simple Web graphics and limited colors	Used for small graphics like banners, charts and buttons	Not recommended for large range of colors
PNG	Use PNG when you need small file and maintains original quality	Used for small file like logos and small images.	Not compatible with all software and applications
JPEG	Use JPEG when you need small file and quality of image drops	Used for all type of images	Compatible with all software and programs
TIFF	Use TIFF to preserve the quality of image	Works best with photo manipulation program like Photoshop	Not compatible with web friendly format

3. Graphic Image Processing

In every publication there are most likely photos accompanying articles and advertisements. Pictures help support an article, promote a product and tell a story. These programs are also continuously improving, making editing much easier. Artists and photographers enjoy using various Graphic Design software's because of all the opportunities they have to make their pictures even better. Society turns to the news and media to gain information and photos should not provide them with false information. This study asks: How much photo editing is too much when published as fact in a publication, and is society aware of this editing?

There have been some reactions in the media about editing going too far. Most of society knows that photos in magazines have likely been retouched, but the public is not aware about the extent of editing that is done. Currently there are no laws regarding what an editor can publish when it comes to edited photography. It is up to the editor's discretion whether or not to add a tagline informing the viewer that the photo has been tampered with. Almost all photos are published with a certain amount of editing. The purpose of editing a photo is usually to create a better-looking picture.

For example, the sky in a picture may look dull so an editor makes it bluer. Or there is trash in the background of a photo so the

editor removes it. In other cases, such as a fashion magazine, the editor may want a model's figure to be thinner or their nose to be smaller, so they edit that as well. The tools make these edits extremely easy. Society may believe editing a part of a photo, such as the color, may not matter but changing the person's figure or rearranging the photo entirely is most likely not tolerable in the public's eye without some kind of caption or note informing the viewer that the picture has been altered.

Therefore a limit should be implemented so as to keep published photos realistic as well as a regulation requiring a footnote or tagline of some kind to be added when a photo has been edited past the acceptable limit.

Conclusion

The purpose of this study is to find the majority opinion of what types of editing is above the tolerable limit of a small sample of people, as well as the public. So a survey should be conducted which will determine society's awareness of modifications in published photography as well as what are tolerable levels of modifications.

Most of the public is aware of Photoshop in the media. However it was interesting to see that people assumed images in a newspaper are not edited and that people generally noticed that image editing is

more often in magazines and advertisements, opposed to newspapers. This could be because newspaper articles are not necessarily selling something or promoting something: they are telling a story and referencing actual facts. Magazines and advertisements are more superficial and are trying to sell something so photos are more likely to be edited in them to make them look better.

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