

Image Repair

Unit 3

Introduction

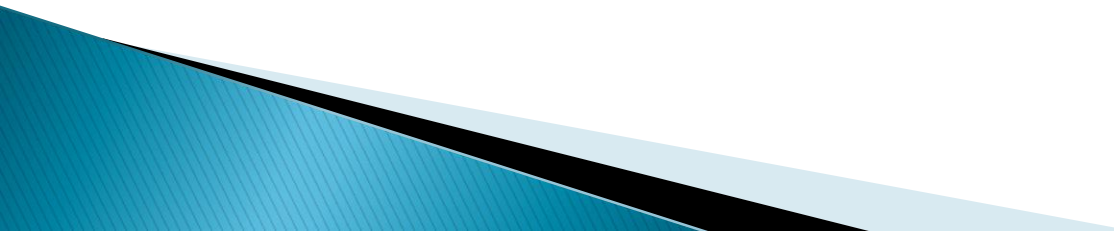
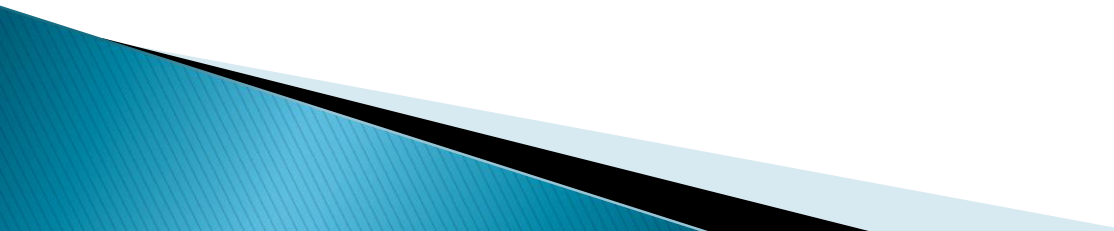
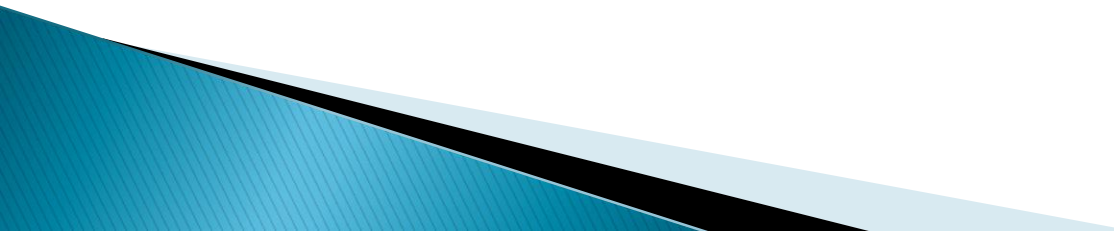
- ▶ Many times the pictures we take are not perfect
 - ▶ In most cases a few small adjustments can take a so-so picture and make it great
 - ▶ In this unit we will examine the different image properties that we can change in order to take flawed pictures and make them better
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Image Editing Software

- ▶ There are many different Image Editing packages out there
 - ▶ Photoshop by Adobe is the primary package out that professionals use. But Photoshop is a \$1,000 package
 - ▶ Adobe has released a home version called Adobe Photoshop Elements for \$70 The Senior High lab does have Elements in it.
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Paint.Net

- ▶ There are also a number of freeware or open source programs available
 - ▶ The Gimp is an open source package with similar features to Photoshop
 - ▶ Other packages are: Picasa, LightBox, Photo! Editor.
 - ▶ The one we will be using is Paint.Net
 - ▶ This package is a free, you will find a link to it on the Digital Pictures Website
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Introduction to Paint.Net

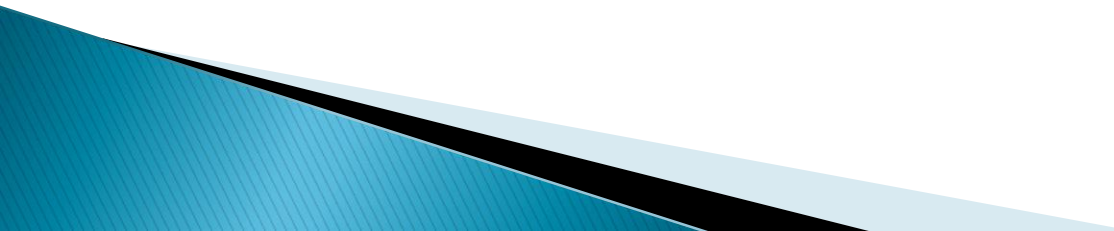
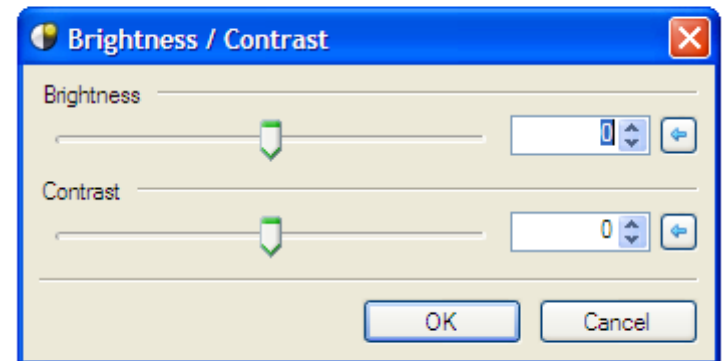
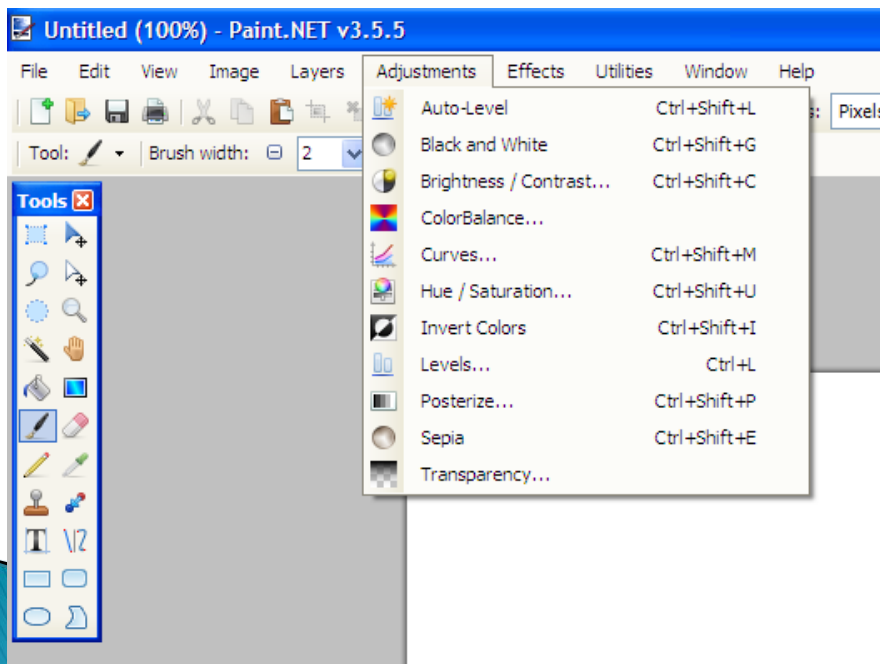
- ▶ The best way to learn to use a program is to jump in and press the buttons and read some of the documentation
 - ▶ For the remainder of today's class you will work your way through Paint.Net getting used to its features and where things are
 - ▶ Open Paint.Net and click on help and read the section titled Main Window
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Image Properties

- ▶ Consists of the following:
 - Brightness
 - Sharpness
 - Contrast
 - Colour Balance
 - Transparency/Opacity
 - Saturation

Brightness

- ▶ Controls the brightness of your image
- ▶ Camera attempts to set the right parameters but may get them wrong
- ▶ In Paint.Net it is under Adjustments



Brightness



Sharpness

- ▶ Some pictures that are taken by digital pictures can appear soft, meaning that the picture lacks detail.
- ▶ Here is a picture of a tree in winter



Sharpness

- ▶ This is a zoomed in portion of the tree
- ▶ Notice that the branches appear fuzzy?



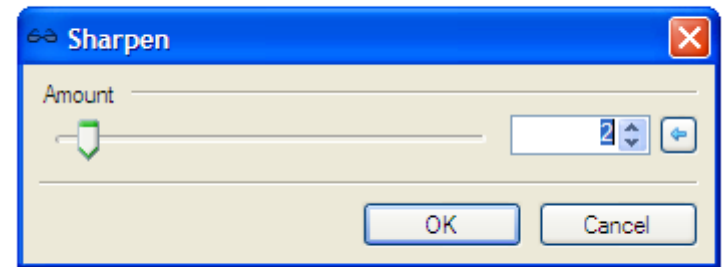
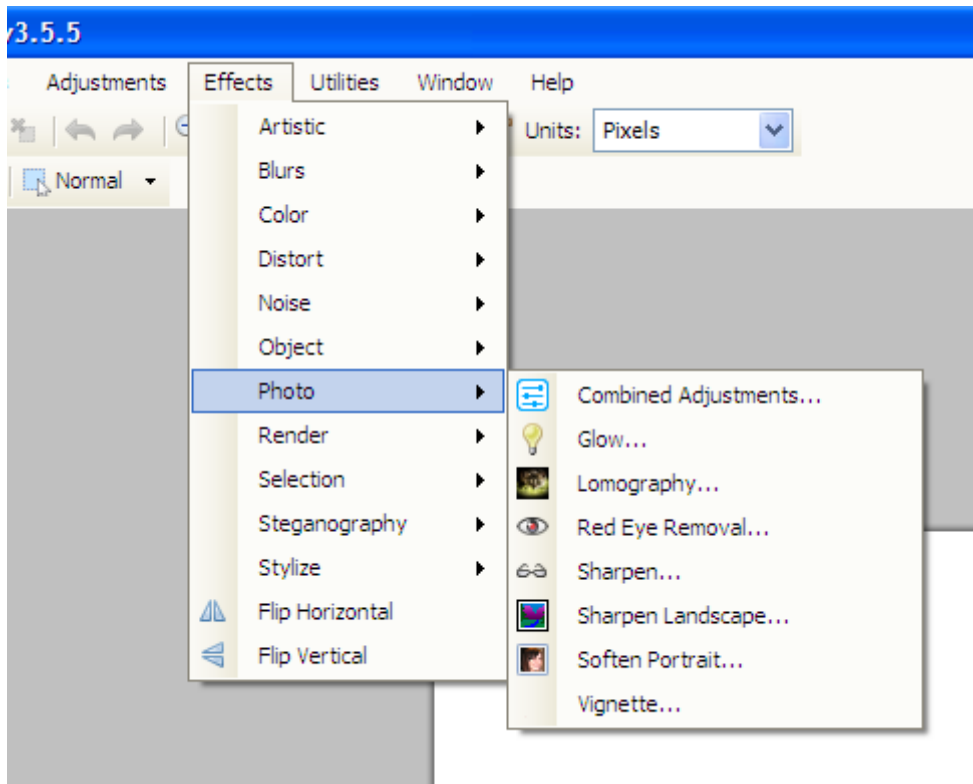
Sharpness

- ▶ After applying sharpening the images edges are more crisp.
- ▶ **IMPORTANT** Pictures that are out of focus usually can not be improved!

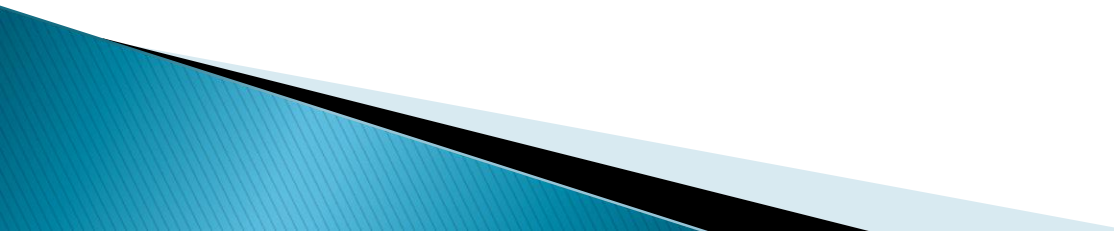


Sharpness

- ▶ In Paint.Net sharpening a picture is an effect

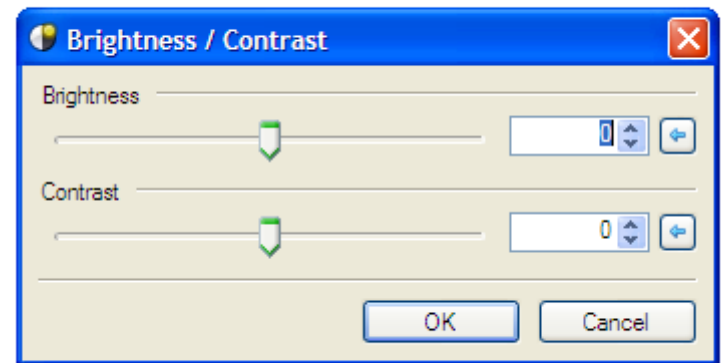
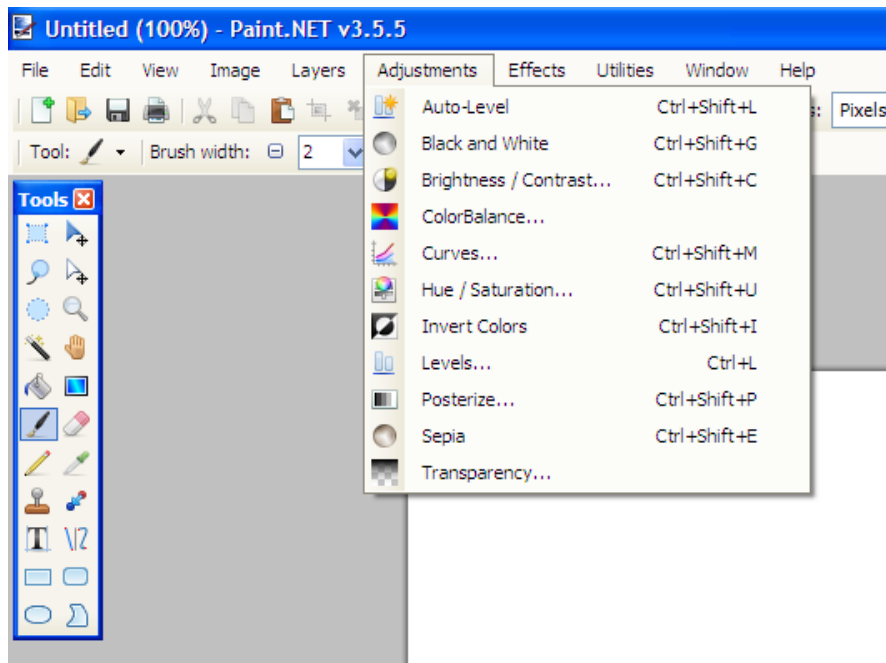


Contrast

- ▶ Contrast is the difference between the bright and the dark areas of a picture
 - ▶ Often pictures with low contrast look very flat and adjusting the contrast can bring out detail that is lost
 - ▶ High contrast can be used to highlight difference in a picture, but too much contrast can look unnatural
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Contrast

- ▶ In Paint.Net contrast is found under the Adjustments menu with brightness



Assignment

- ▶ In the courses folder you will find a folder called Sample Images. This folder will contain images for you to try the technique you are learning.
- ▶ Open 05_01.jpg
 - Using the brightness and contrast sliders make this picture better
- ▶ Open 05_03.jpg
 - Adjust the brightness, contrast and sharpness to make this a better photo

Colour Balance

- ▶ This allows you to change what is called the *white balance* of your picture
- ▶ Depending on the lighting conditions pictures will have different colouring
- ▶ Pictures taken under “tungsten” light, regular incandescent bulbs, usually have a bluish colouring
- ▶ Pictures taken under fluorescent light tend to be slightly brownish or greenish
- ▶ These are called colour casts
- ▶ Most cameras will attempt to automatically set the white balance and correct for these colour casts

Colour Balance

- ▶ At times your camera may not have done as good a job as you would like and so we can edit the colour balance

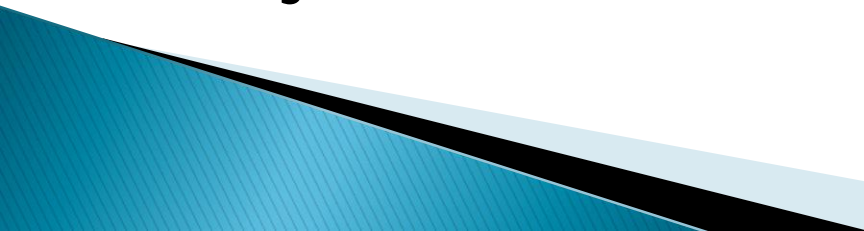
- The picture on the left was taken under fluorescent light and has a brown-green cast
- The picture on the right has been colour adjusted



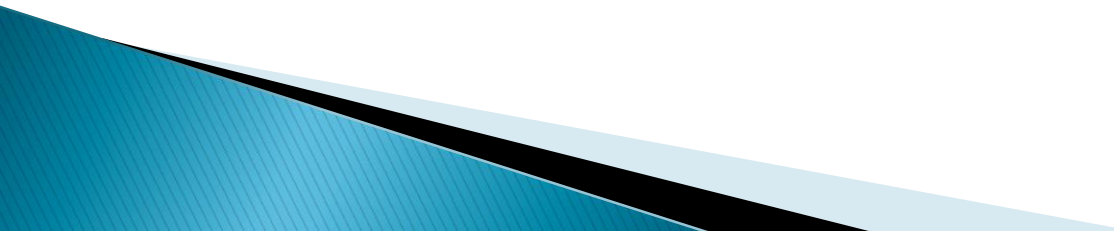
Colour Balance

- ▶ In Paint.Net you adjust the colour balance under Adjustments → Colour Balance

Transparency/Opacity

- ▶ Transparency and Opacity are at opposite ends of a spectrum
 - ▶ If a picture is 90% transparent, then it is 10% opaque
 - ▶ This feature allows you to have a picture that can be used to overlay another picture and have it show through
 - ▶ This will be worked with more in our next unit
 - ▶ In Paint.Net you will find this setting under Adjustments → Transparency
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Saturation

- ▶ Saturation is the intensity of the colours in a picture
 - ▶ Depending on your need you may want to increase the saturation (make the colours richer) or decrease the saturation
 - ▶ A completely desaturated picture is black and white
 - ▶ In Paint.Net saturation is located under Adjustments → Hue/Saturation
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Saturation



Assignment

- ▶ Grab your camera and find three subjects. Don't be concerned about what the subject is.
- ▶ Put your camera into fully automatic mode and take a picture of each subject. Try to take your pictures in a variety of lighting conditions. For example, take one inside under tungsten bulbs, one outside in bright sun and one outside in the evening when it is getting dark.
- ▶ *Download your three pictures to your computer and ask the following questions:*
- ▶ Examine your pictures carefully. Are any of them too bright (overexposed) or too dark (underexposed)? Are any slightly off colour? How about a little bit fuzzy?
- ▶ One at a time, open each of your three pictures into Paint.Net. For each picture, adjust the image properties: brightness, sharpness, colour balance, contrast, saturation, opacity/transparency.

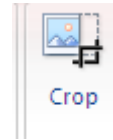
Cropping

- ▶ Sometimes pictures can be improved if they are cropped.
- ▶ To crop a picture means to cut out an area of the picture that contains the main area of interest



Cropping

- ▶ Different programs handle cropping differently
- ▶ Some programs contain a cropping tool. Using this tool you select the area you want to keep and what is not selected is deleted
- ▶ Paint.Net uses a slightly different method
 - You select what you want to keep using a selection tool
 - Then select: Image → Crop to selection or click on the crop to selection icon



Cropping

- ▶ Because cropping zooms the part of the image that remains it is important to make sure your original picture has high enough resolution to handle this
- ▶ Resolution is the number of pixels in the image as we discussed in Unit 1 “Your Camera”

Straighten

- ▶ Many times as we take pictures we miss keeping horizons straight
- ▶ With editing software we can quickly correct this



Straighten

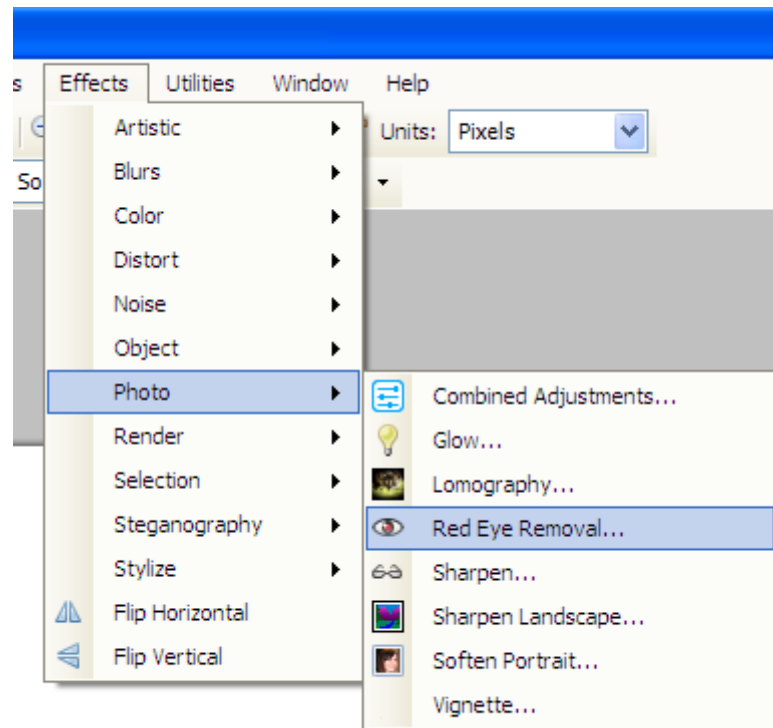
- ▶ In Paint.Net you will find straightening under Layers → Rotate/Zoom
- ▶ After straightening a picture you may need to crop it in order to clean up the edges

Red Eye

- ▶ Red Eye is what happens when we take a picture of someone and the light of the flash bounces off of the retina and makes the eyes appear as if they are glowing red
- ▶ There are a couple of ways of removing red eye
 - Manually –paint the red part black
 - With the software package you are working with you click on the eyes with the red eye removal tool

Red Eye

- ▶ In Paint.Net red eye removal is an effect
- ▶ You find it under: Effects → Photo → Red Eye Removal



Resizing

- ▶ There are times when you want to adjust the size of the file that you are working with
- ▶ There may be a number of reasons that you do this:
 - You may want to email the picture to someone
 - You may want to use the image on the web and need it to load more quickly
- ▶ In Paint.Net you find this under Image → Resize

Photo Manipulation

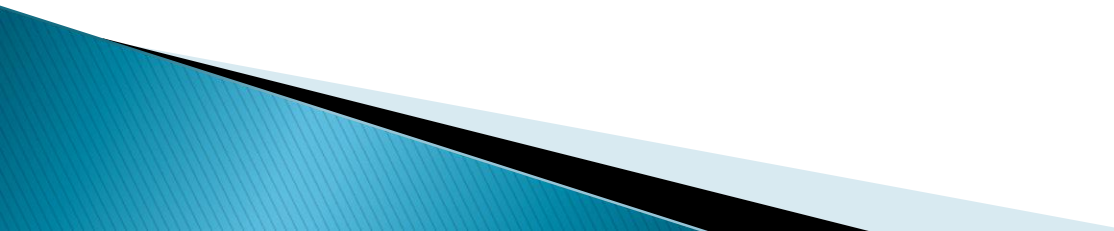
- ▶ Many images you find in magazines have been altered in some way, blemishes removed, distracting items removed, or to make the model more attractive
 - ▶ There is also an ethical issue involved in photo manipulation when is appropriate to adjust a picture? When does the manipulation begin to change the message of the image?
 - ▶ One of the first controversies in this area was during the 1984 Olympics
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Photo Manipulation

- ▶ Mary Decker collided with another runner and fell
- ▶ The picture used showed an object projecting from her chin
- ▶ Some media printed the image with the object removed



Photo Manipulation Assignment

- ▶ Research the famous picture of Decker's fall at the 1984 Olympics. The objective of the assignment is to give you an opportunity to research this early, famous case of photo manipulation.
- ▶ What was the offending object? Do you as think that it was acceptable to retouch the picture? Did it change the meaning of the picture? Give your reasons why (or why not).
- ▶ If you absolutely can't find any information about Mary Decker and the 1984 Olympics, feel free to substitute another case where digital manipulation (or "image doctoring", "hoaxes" or "photo retouching") caused controversy. Other famous examples include the National Geographic cover photo of the Egyptian Pyramids and the famous OJ Simpson portrait on the cover of Time magazine.
- ▶ Submit in a word document title: NAME U3A1