

## Warm up Questions:

- **Question:** What are the chunks of data that are sent over the internet called?
- **Question:** What protocol is in charge of dividing the data that goes over the internet into chunks?
- **Question:** Give an example of a valid IP address.

Slide 1 of 54

Computer Science 1033 – Week 7

## WEB SITE DESIGN & SETUP



"INSTEAD OF TRYING TO FIGURE HOW THEY COULD HAVE MADE THEIR MENU LOOK BETTER, HOW ABOUT ORDERING OFF IT."

<https://www.youtube.com/watch?v=i2G1UjRpRiY>

Tip 1: 0:15 Tip 2: 2:45 Tip 3: 4:15 Tip 4: 5:30 Tip 5: 7:20  
 "What separates design from art is that design is meant to be... functional." — Cameron Moll

## Overview of Today's Topics

- Announcements
- Overview of Assignment 2
- Good and bad websites
- Websites and Webpage organization
- index.html → importance of
- HTML
- Break
- BlueGriffon review

Slide 3 of 54

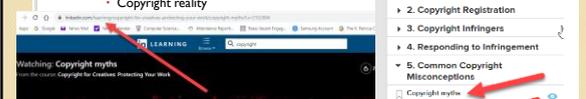
## Textbook Readings for this Week

- Websites
  - Websites
  - Website Development
  - Design Principles

Slide 4 of 54

## REQUIRED Homework

- You **MUST** watch these 4 videos about Copyright Rules and Creative Commons on your **OWN** time:
  - Creative Common Vimeo:
    - <https://creativecommons.org/about/videos/creative-commons-kiwi/>
  - Go to [linkedin.com/learning](https://www.linkedin.com/learning) and log in with your Western credentials
  - In [linkedin.com/learning](https://www.linkedin.com/learning) search for this course: **Copyright for Creatives: Protecting Your Work**. Then watch the following videos:
    - Defining copyright
    - What can you copyright
    - Copyright myths
    - Copyright reality



## Announcements

- Exam Schedule → our exam is scheduled for 2PM on Thursday, April 23<sup>rd</sup>
- Poster Assignment are marked
- You can ask for a remark but I remark the whole assignment and your mark could go lower.
- Assignment 2 is due Friday, March 13<sup>th</sup>
  - I will do a demo for assignment 2 next week.
  - PLEASE try to hand it in on Wed or Thur to make your life easier!

Slide 6 of 54

## Assignment 2

- Two nice examples from previous years to get you thinking!
- <http://cs1033.gaul.csd.uwo.ca/~lreid2/other/student25/major/references.html>
- <http://cs1033.gaul.csd.uwo.ca/~lreid2/other/student15/>

Slide 7 of 54

## Announcements

- Web Assignment
  - IT will take you longer than you think, give yourself LOTS of time to finish it and to hand it in (Hand it in on before Wednesday, the labs will be VERY busy on Thursday and Friday).
  - Hints:
    - Remember your titles
    - Think about layout, consistency, ease of use!
    - Follow the specs
    - Use a table for a clean layout (put the banner in the top row and content in the bottom row)
    - Common Mistakes → <http://www.csd.uwo.ca/~lreid2/cs1033/assignment3/SamplesOfCommonMistakes/>

Slide 8 of 54

## Announcements

- Web Assignment Hints
  - THINGS THAT CAN GO HORRIBLY WRONG ☹
    - <http://cs1033.gaul.csd.uwo.ca/~lreid2/other/student1/>
    - <http://cs1033.gaul.csd.uwo.ca/~lreid2/other/student2/>
    - <http://cs1033.gaul.csd.uwo.ca/~lreid2/other/student3/assign3/howtohelp.html> (need to scroll for buttons, bullets, banner)
    - <http://cs1033.gaul.csd.uwo.ca/~lreid2/other/student9/major/> (consistency)
    - <http://cs1033.gaul.csd.uwo.ca/~lreid2/other/student19/>
    - <http://cs1033.gaul.csd.uwo.ca/~lreid2/other/student20/> (edges)
    - <http://cs1033.gaul.csd.uwo.ca/~lreid2/other/student14/> (scrolling and banner on next page)
    - <http://cs1033.gaul.csd.uwo.ca/~lreid2/other/student22/>
    - <http://cs1033.gaul.csd.uwo.ca/~lreid2/other/student18/Contact%20Us.html> (file names and button movement)
  - THINGS THAT CAN GO RIGHT ☺
    - <http://cs1033.gaul.csd.uwo.ca/~lreid2/other/student8/assign3/registration.html>
    - <http://cs1033.gaul.csd.uwo.ca/~lreid2/other/student22/assign3/>
    - <http://cs1033.gaul.csd.uwo.ca/~lreid2/other/student15/index.html>

Slide 9 of 54

- Paragraphs → Centering → DON'T
- Hyphens on lists
- Emails links
- Back to top, anchors
- Think about link colours
- Link lengths
  - [http://www.csd.uwo.ca/images/CSD\\_long\\_photo\\_16.jpg](http://www.csd.uwo.ca/images/CSD_long_photo_16.jpg) vs.
  - [Middlesex](#)
- Common Mistake: renaming files/folder... this will TOTALLY SCREW up your website if you do not do it correctly!

Slide 10 of 54

## Things to remember, especially for Web Assignment and Major Assignment

- Keep the menu in the same place on every page. (either the top or the left, it is up to you)
- Should not have to scroll horizontally
- Should not have to scroll vertically to see navigation buttons
- Keep the colours consistent on every page
- Keep the layout fairly consistent on every page
- Should always have a way to get home
- Long pages should have a "Back to Top" button

Slide 11 of 54

## Hints for Web Assignment

- **Remember:**
  - Titles
  - Headers
  - File names, spaces, lowercase
  - Images
    - Alt, Title
    - Size within page
    - On each page
  - Banner
  - No Scrolling horizontal/vertically to see buttons
  - Consistency
  - Buttons → look, ease of use
  - Back to top
  - References page layout
  - Text colours, contrast
  - Broken links
    - Check from a different computer!
  - Underlining
  - Colours
    - Link Colours
  - Paragraphs
  - Padding
  - Followed the instructions (make the anchor links, etc..)

Slide 12 of 54

## How to do Web Assignment

- Colours → look at: <http://kuler.adobe.com/>
- <https://www.design-seeds.com/>
- Marks for:
  - Nice Banner
  - Good Colour Scheme
  - Alt/title tag on banner/images
  - No scrolling horizontally EVER at 1000 pixels
  - Consistency in the layout of the pages and the buttons/NICE LAYOUT ON EVERY PAGE
  - NO Underlining

Slide 13 of 54

- Roll over buttons get 1 or 2 marks more
- PROPERTY TITLES! Website – Web Page
  - Antonio's Restaurant – Home
  - Antonio's Restaurant – References
- Must use table to lay things out
- Headings on pages
- Use an image for each page/good size
- Layout paragraphs well (don't squish on edge)
- Bold/highlight headings

## What do you think of these sites?

- <http://www.brescia.uwo.ca>
- <http://www.margarethe-vanderpas.com/>
- <http://www.mariasemple.com/>
- <https://wrightwoodfurniture.com/>
- [www.distancetomars.com](http://www.distancetomars.com)
- <https://etch.co/> (hmmm???)
- <https://www.newyorker.com>

Slide 16 of 54

## How about these sites?

- <https://history.aip.org/climate/index.htm>
- <http://www.lingscars.com>
- <http://www.jamilin.com/>
- <http://www.gatesnfences.com/>

Slide 17 of 54

## Good Website Design Tips

- <http://www.youtube.com/watch?v=JQwTqt8gkjM>
- Have something valuable to offer → provide something **useful** or interesting
- Don't distract with blinking, animated GIFs, autoloading sound, too much scrolling
- No popups!
- Don't use images on the background unless you know what your doing
- Put a lot of thought into the organization of your page
- Minimize clicking (no more than 3 clicks to get to a page)

Slide 18 of 54

## More Tips

- Have a way to get to the home page on every page
- Include a menu on every page (in the same location on every page)
- Compress your images
- Don't let multimedia files bog down your website
- No line of text should be more than 600 pixels wide
- Don't make your page too wide (around 900 to 1000 pixels), user should NEVER have to do horizontal scrolling. Vertical scrolling should be kept to a minimum

Slide 19 of 54

## More Tips

- Use contrasting colors or simple backgrounds to make text easy to read
- Make text large enough to read
- Use ALL CAPITAL LETTERS sparingly,
- Never use more than one exclamation point
- Spell Check
- Never underline words that are not links
- Put contact info or a link to it on every page

Slide 20 of 54

## More Tips

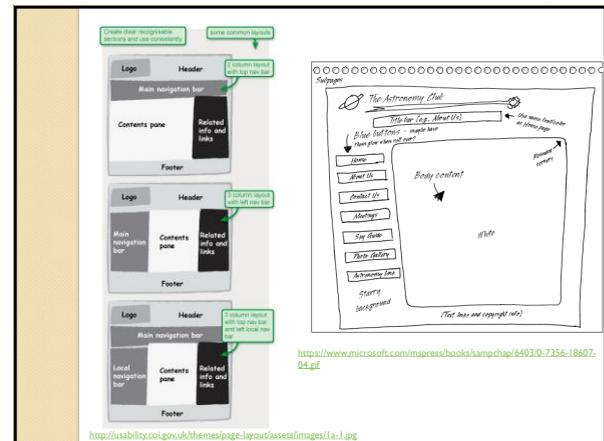
- Test your links
- Remove dead links
- Avoid confusing navigation and having menus in different spots on different pages
- Avoid ugly design: no color continuity
- Don't have text that hard to read
- Include a "Last Modified" date
  - Keep up to date, update your "What's New" section frequently
- Don't steal content (I stole this content is from: <http://websitehelpers.com/design>)

Slide 21 of 54

## More Tips

- Think about how the user will navigate through your website and remember the 3-click rule.
- Have a consistency throughout your pages
  - Colours
  - Menu placement
  - Layout
  - Fonts
  - Buttons
- Think about the layout, have white space, clean alignment and balance on your pages

Slide 22 of 54



## Webpages and Websites

- A **website** is a collection of *related webpages stored in a folder*. The folder may or may not contain sub folders.
- The website folder should contain a sub folder called **images** which holds the image files (.jpg, .gif, etc) that will be displayed on the page.

Slide 24 of 54

## Decide on what webpages you will need.

- Each **webpage** is normally an html file, a file that has the extension **.html** or **.htm**
  - **.html .htm**
    - Very basic page, just has clickable links, images, sometimes forms
    - The .html file is just a file with html codes that is displayed in a browser to make it look pretty for the client (Chrome, IE, Safari, Firefox)
    - CS1033 just covers .html & .htm pages
  - Other extensions for webpages include:
    - **.php** → extra stuff that is brought in also from the server for use of data in a database on the server complex form manipulation
- Store each .html file in the folder (the Website)
- The home page for the website, the "starting page" should have the file name **index.html**

Slide 25 of 54

## Webpages and Websites

- **Question:** On panther.uwo.ca, what is the main folder for your:

<http://publish.uwo.ca/~lreid2>

- **Question:** Does that folder contain a file called *index.html*?

[http://wts.uwo.ca/services/web/activate\\_my\\_personal\\_web\\_space.html](http://wts.uwo.ca/services/web/activate_my_personal_web_space.html)

**CHECK IT OUT USING SECURE FTP (WINSCP, FUGU, FILEZILLA)**

Slide 26 of 54

## Folder Structure for a Simple Site

- Decide on the pages you will need
- Create a top level folder. Use lowercase letters
- Give the home page the name index.html
  - Must be all lowercase!
  - Index.html is invalid
- Give the other pages appropriate lowercase names (no spaces in the file names) with the .html extension
- Create a subfolder called images (lowercase) and put all your images in that folder

Slide 27 of 54

## Example of a simple website

- Assume we are making a website about Polar Bears. The folder structure (folder is called H:\polarbears) might look like this:

Local Files	Size	Type
Site - polarbears (H:\polarbea...		Folder
images		Folder
babypolarbear.jpg	61KB	JPEG Image
mamatwobabies.jpg	22KB	JPEG Image
polarbearparty.gif	164KB	GIF Image
diet.html	0KB	HTML Document
factsandstats.html	0KB	HTML Document
habitat.html	0KB	HTML Document
index.html	0KB	HTML Document
slideshow.html	0KB	HTML Document

Slide 28 of 54

## Links for the simple structure

- Assume the domain name for this site is: [ArcticAnimals.org](http://www.ArcticAnimals.org)
- Thus the website would be:
  - <http://www.ArcticAnimals.org>
- To get to the polar bear website, you could type:
  - <http://www.ArcticAnimals.org/polarbears> **OR**
  - <http://www.ArcticAnimals.org/polarbears/index.html>
- To get to the habitat page you would type:
  - <http://www.ArcticAnimals.org/polarbears/habitat.html>

Slide 29 of 54

## Something to try

- Go to your panther page and type each of the following:
  - <http://publish.uwo.ca/~lreid2>
  - <http://publish.uwo.ca/~lreid2/index.html>
  - <http://publish.uwo.ca/~lreid2/posterassign>

**Question:** Why don't we see a webpage when we type the last choice?
- Now go to UWO Computer Science page and type each of the following:
  - <http://www.csd.uwo.ca>
  - <http://www.csd.uwo.ca/index.html>

Slide 30 of 54

## More complicated site

- Sometimes websites have many submenus and have lots of webpages.
- In this case we need a more complicated folder structure
  - **BUT** it is NOT really that much more complicated, just one main folder with subfolders that contain "sub websites"
  - Each sub website is a sub folder that contains its own index.html and images subfolder

Slide 31 of 54

## Example of a more complicated site:

- Westerns Computer Science Site might be set up like this →

Local Files	Size	Type
Site - UNO Computer Science...		Folder
whaknow.html	OKB HTML Do...	OKB HTML Do...
index.html	OKB HTML Do...	OKB HTML Do...
undergraduate	Folder	Folder
images	Folder	Folder
prospectivestudents	Folder	Folder
whywestern.html	OKB HTML Do...	OKB HTML Do...
thejobmarket.html	OKB HTML Do...	OKB HTML Do...
ourstudents.html	OKB HTML Do...	OKB HTML Do...
ourresearch.html	OKB HTML Do...	OKB HTML Do...
ourfaculty.html	OKB HTML Do...	OKB HTML Do...
index.html	OKB HTML Do...	OKB HTML Do...
faqs.html	OKB HTML Do...	OKB HTML Do...
images	Folder	Folder
2009calendar.html	OKB HTML Do...	OKB HTML Do...
2009calendar.html	OKB HTML Do...	OKB HTML Do...
admissioninfo.html	OKB HTML Do...	OKB HTML Do...
checklists.html	OKB HTML Do...	OKB HTML Do...
courses.html	OKB HTML Do...	OKB HTML Do...
currentstudentinfo.html	OKB HTML Do...	OKB HTML Do...
faq.html	OKB HTML Do...	OKB HTML Do...
index.html	OKB HTML Do...	OKB HTML Do...
internship.html	OKB HTML Do...	OKB HTML Do...
priordegreesinfo.html	OKB HTML Do...	OKB HTML Do...
programs.html	OKB HTML Do...	OKB HTML Do...
research	Folder	Folder
people	Folder	Folder
images	Folder	Folder
graduate	Folder	Folder
facilities	Folder	Folder
alumni	Folder	Folder
aboutsds	Folder	Folder

Local Files	Size	Type
Site - UNO Computer Science...		Folder
whaknow.html	OKB HTML Do...	OKB HTML Do...
index.html	OKB HTML Do...	OKB HTML Do...
undergraduate	Folder	Folder
images	Folder	Folder
prospectivestudents	Folder	Folder
whywestern.html	OKB HTML Do...	OKB HTML Do...
thejobmarket.html	OKB HTML Do...	OKB HTML Do...
ourstudents.html	OKB HTML Do...	OKB HTML Do...
ourresearch.html	OKB HTML Do...	OKB HTML Do...
ourfaculty.html	OKB HTML Do...	OKB HTML Do...
index.html	OKB HTML Do...	OKB HTML Do...
faqs.html	OKB HTML Do...	OKB HTML Do...
images	Folder	Folder
2009calendar.html	OKB HTML Do...	OKB HTML Do...
2009calendar.html	OKB HTML Do...	OKB HTML Do...
admissioninfo.html	OKB HTML Do...	OKB HTML Do...
checklists.html	OKB HTML Do...	OKB HTML Do...
courses.html	OKB HTML Do...	OKB HTML Do...
currentstudentinfo.html	OKB HTML Do...	OKB HTML Do...
faq.html	OKB HTML Do...	OKB HTML Do...
index.html	OKB HTML Do...	OKB HTML Do...
internship.html	OKB HTML Do...	OKB HTML Do...
priordegreesinfo.html	OKB HTML Do...	OKB HTML Do...
programs.html	OKB HTML Do...	OKB HTML Do...
research	Folder	Folder
people	Folder	Folder
images	Folder	Folder
graduate	Folder	Folder
facilities	Folder	Folder
alumni	Folder	Folder
aboutsds	Folder	Folder

## Web Server

- You will likely build your site on your own machine. When the website is completed you will need to move it to a **Web Server**
- Web Server** → the computer that runs software which holds the webpages and serves up (delivers) webpage to the client. This computer must be connected to the Internet. The software delivering the webpages is also called a web server
- Question:** What is the software we use to move the webpages we have built on to the web server?
- Question:** What is the name of the web server machine at Western?

Slide 34 of 54

## Web Browser

- Once you have moved your website onto the web server you **MUST** test your website by opening it in a **Web Browser**
- Web Browser** → software/program that displays formatted webpages to the client.
- Question:** What is the input we give a web browser?
- Question:** What is the output from the web browser program?
- Question:** Can you name 3 web browser programs?
- Question:** Does anyone know how you look at the html that was used to create the page currently displayed in the browser?

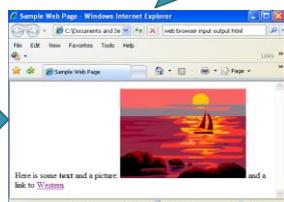
Slide 35 of 54

## HTML and Web Browsers

```
<html>
<title>Sample webpage</title>
<body>
Here is some <b>text</b> and a picture: 
and a link to <a href="http://www.uwo.ca">Western</a>
</body>
</html>
```

Stored on the  
webservice (the  
SERVER)Viewed on the  
CLIENTInput to  
Web Browser

Internet Explorer

Output from  
Web Browser

## What is HTML?

- History:
  - In the late 1980s, Tim Berners Lee proposed a way of sharing research papers using the Internet and hypertext (immediate links to other documents)
  - In 1990 Berners Lee set the specifications for the HTML language and wrote a browser to read HTML files and output linkable papers
  - He proposed **html tags**
    - Example of some tags → `<html>`, `</html>`, `<b>`, `</b>`, `<ol>`, `</ol>`
    - Tag always start with "`<`" and end with "`>`"
    - Most tags come in pairs: opening tag and a closing tag, for example: `<title>This is the title of the webpage</title>`
  - Used to have to make html files (webpages) with simple text editors like Notepad

Slide 37 of 54

## History...

- Tim Berners Lee:
  - Created the first web browser
  - Created URL layout
  - Came up with the World Wide Web and the concept of hyperlinks among pages
  - Created HTML tags (they have changed a bit over time but he came up with the initial ones)
  - [Watch starting at 2 minutes](#)



Slide 38 of 54

## Break

- Slideshow of Poster Assignments

Slide 39 of 54

## History of HTML

- **Question:** Can you guess some of the tags you think we would need to create a useful and readable webpage?

Slide 40 of 54

## Types of HTML tags

- Section tags
  - `<html>`, `<body>`, `<head>`, ...
- Formatting tags
  - `<b>`, `<ul>`, `<i>`, `<p>`, `<h2>`, `</b>`, `</h2>`, ...
- Link tags
  - `<a href="http://www.msn.com">`, `</a>`, ...
- Placeholder tags (standalone or unpaired tags)
  - ``, `<hr>`

Slide 41 of 54

## Let's make a webpage the **Old Fashioned Way!**

- Open *Notepad*
- Save your file as *myfirstpage.html*
- Type in some tags
- Save the file again
- Close the file
- Double click on it, it should now open in *IE*
- In IE, from the menu select *View>Source*
- Edit the tags some more and save the file
- Go back to IE and hit the refresh button

Slide 42 of 54

It is way to hard to remember all the tags, so...

- **WYSIWYG** programs to the rescue!
  - Eg. Adobe Dreamweaver or BlueGriffon
- They creates the tags for us so that we don't have to remember the syntax for each tag!
- **Question:** Can you still see the tags in BlueGriffon? If so, how?



Slide 43 of 54

## BlueGriffon Tips

- Webpages will NOT format as precisely as something like a MS Word document to be printed because everyone's resolution is different and screen size is different.
- Design a template/layout and then save it and make copies for each page in your site and add the content to the copies
- Don't forget to make an images folder! Put your images in the folder BEFORE you start adding them to your page. ALWAYS ADD THE IMAGE TO THE IMAGES FOLDER BEFORE YOU PUT IT IN YOUR PAGE!
- Try previewing your page in more than one browser
- It is easier to create the top level folder and subfolders first and then point BlueGriffon to that folder
- Always use lower case names with no spaces for all folder and all file names

Slide 44 of 54

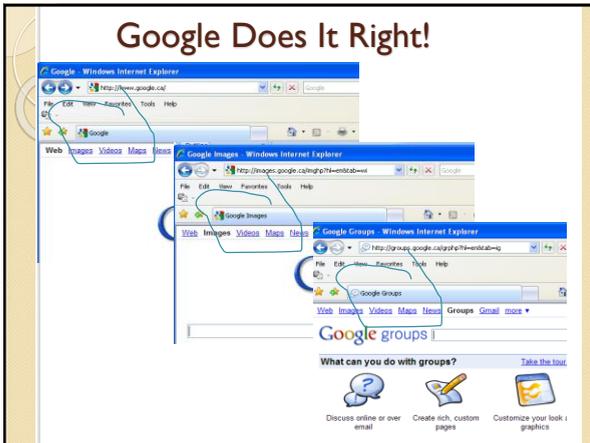
## Page Title

- Shows up now at the top of the tab
- Page title is very important when you print a page
- Search engines look at page title
- Title is displayed in the list returned by Google
- Always set the page title on all your pages
- Start with the site name, then hyphen and the page description
- Examples:

The Department of Computer Science – Undergraduate Information  
 Laura K. Reid Online Resource – Work Experience

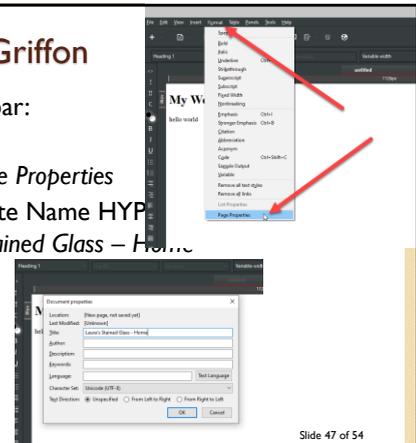
Slide 45 of 54

## Google Does It Right!



## In BlueGriffon

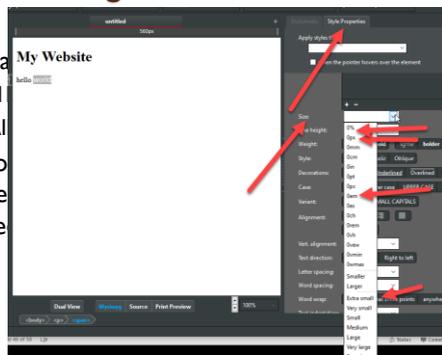
- In menu bar: **Format > Page Properties**
- Type in Site Name **HYPHEN**
- *Laura's Stained Glass – Home*



Slide 47 of 54

## Formatting Text

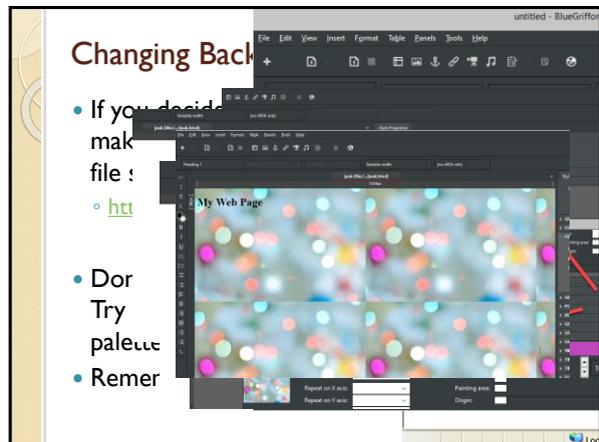
- Headings
- H1
- All
- Show size needed



Slide 48 of 54

## Changing Background

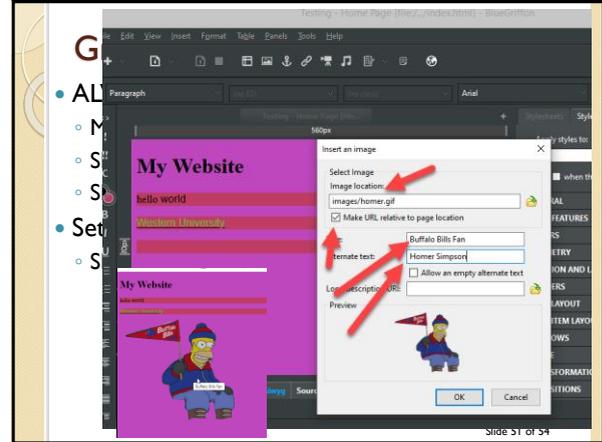
- If you decide to make a file!
- [http://www...](#)
- Don't forget to try pale...
- Remember



## Graphics

- Use common universal formats such as jpg, gif and png files that will work in any browser
- Resize and compress the image as much as possible in Photoshop (or other graphics package) BEFORE putting it in with BlueGriffon.
- Any resizing you do within BlueGriffon will not affect the download speed

Slide 50 of 54



Slide 51 of 54

5 Basic Ones

## TYPES OF LINKS

## Links – Type 1

- **TYPE 1: Links to other pages within your site:**

• For Example

• Link from in

• Link from c

<http://cs1033.gaul.c>

Department of Comp

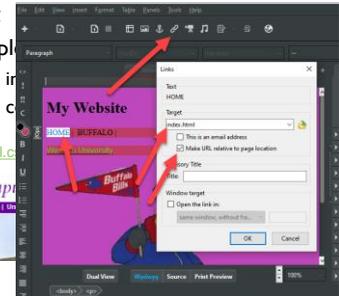
Home | About | CSD | People | Graduate | Un

Contact Information

Location

Employment

Opportunities



Slide 53 of 54

## Links – Type 2

- **TYPE 2:**

• For e

• Link

• Sho

• Mal

<http://cs1033.gaul.c>

[/~freid2/example3/student1/refer](http://cs1033.gaul.c/~freid2/example3/student1/refer)

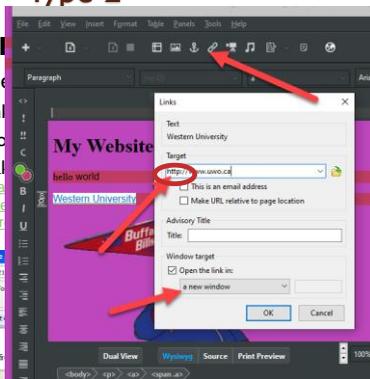
[/Homer J. Simpson Resume](http://www.j.simpson.resume)

File Edit View Favorites To

http://www.kontronics.ca

Education:

• Bachelor of Science B



f 54

## Links – Type 3

- **TYPE 3: Link to an email address**

• For e

• Link

• Clic

• Ou

[Email me to find out more!](mailto:freid2@example3@cs1033.gaul.c)

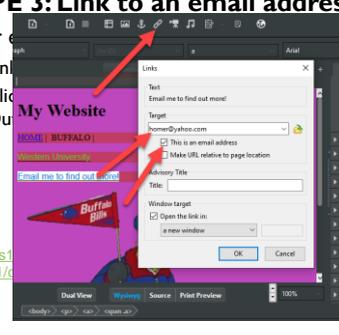
[freid2@example3@cs1033.gaul.c](mailto:freid2@example3@cs1033.gaul.c)

[freid2@example3@cs1033.gaul.c](mailto:freid2@example3@cs1033.gaul.c)

[freid2@example3@cs1033.gaul.c](mailto:freid2@example3@cs1033.gaul.c)

[freid2@example3@cs1033.gaul.c](mailto:freid2@example3@cs1033.gaul.c)

[freid2@example3@cs1033.gaul.c](mailto:freid2@example3@cs1033.gaul.c)



Slide 55 of 54

## Links – Type 4

- **TYPE 4**
- On a page with a link to another page, you can click on the link and select **Open in a new window** (or **Open in a new tab**)

Slide 56 of 54

Slide 57 of 54

## Links – Type 5

- Named anchors can link to any spot within the current page OR you can link to the middle of another page, for example:
  - [http://en.wikipedia.org/wiki/jpg#Sample\\_photographs](http://en.wikipedia.org/wiki/jpg#Sample_photographs)
- Use named anchors to make Back to Top buttons or jump from a list to another area of the page

Slide 58 of 54

Named Anchors used on this page

Slide 59 of 54

## Next week

- Searching
- **FINAL REVIEW QUESTION:** If you are creating a webpage for the Contact Info about your Scuba Diving Business, which would be the best title for the page:
  - Contact Info
  - Untitled
  - Laura's Scubalicious Diving Co
  - Laura's Scubalicious Diving Co – Contact Us

Slide 60 of 54