

## CS1115/CS5002

### Web Development 1

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### Administrivia: Module delivery

Credit weighting:	5 credit module
Lectures:	2 x 1 hr per week ( <i>on average</i> )
Labs:	1 x 2 hr per week
Private study:	At least 2 hrs per week
Course web site:	<a href="http://www.cs.ucc.ie/~dgb/courses/wd1.html">www.cs.ucc.ie/~dgb/courses/wd1.html</a> Contains copies of some of the slides N.B. Slides, not notes!

### Administrivia: The lecturer

Derek Bridge:	Room G-61, Western Gateway Building d stop bridge amphora cs plip ucc plop ie <a href="http://www.cs.ucc.ie/dbridge.html">www.cs.ucc.ie/dbridge.html</a>
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### Administrivia: Assessment

Examination:	1.5 hr written exam (75% of the marks)
Continuous assessment:	Web site project (25% of the marks)
How to fail:	Skip lectures & labs; avoid private study; cram the night before the exam; expect the exam to be a memory test
How to pass:	Attend lectures & labs; take notes; organize your notes; tackle the lab activities properly; expect a problem-solving exam

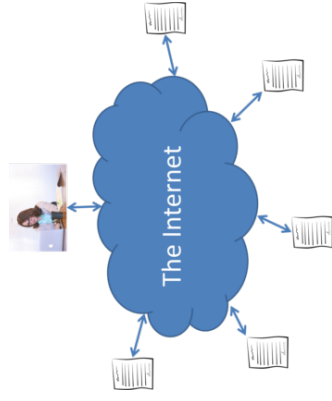
## Plagiarism

1. Plagiarism is presenting someone else's work as your own. It is a violation of UCC Policy and there are strict and severe penalties.
2. You must read and comply with the UCC Policy on Plagiarism [www.ucc.ie/en/exams/procedures-regulations/](http://www.ucc.ie/en/exams/procedures-regulations/)
3. The Policy applies to all work submitted, including software.
4. You can expect that your work will be checked for evidence of plagiarism or collusion.
5. In some circumstances it may be acceptable to reuse a small amount of work by others, but only if you provide explicit acknowledgement and justification.
6. If in doubt ask your module lecturer prior to submission. Better safe than sorry!

## Servers and clients

- Web client computers
  - run web client software (e.g. browsers)
  - the software make **requests** for **web resources** (e.g. HTML files, CSS files, image files, videos, programs, ...)
- Web server computers
  - **host** web resources (e.g. HTML files, CSS files, image files, videos, programs, ...)
  - run web server software that **responds** to requests

## What the web was for — originally



WWW = hypertext + the Internet

## Web requests and responses



## Protocols

- If two computers are to exchange messages, we need to specify and agree the **rules** of communication
- In computer networking, such a set of rules is called a **communications protocol**
- HTTP - HyperText Transfer Protocol
  - The protocol used for *web* requests and responses
  - The protocol is defined by the *Internet Engineering Task Force* (IETF)

## HTTP responses

HTTP Response	
HTTP/1.1 200 OK	Status Line
Date: Fri, 06 Sep 2019 11:12:55 GMT Connection: Close Server: Apache Accept-Ranges: bytes Content-Type: text/html Content-Length: 170 Last-Modified: Tue, 19 Feb 2019 11:15:49 GMT	HTTP Headers
<!DOCTYPE html> <html lang="en"> <head> <title>Fab web page</title> </head> <body> ....	Message Body

## HTTP requests

Request Line	
GET /index.html	HTTP/1.1
Date: Fri, 06 Sep 2019 11:12:55 GMT	
Connection: Close	
Host: www.myfavouriteamazingsite.com	
From: joemurphy@somewebsitesomewhere.com	
Accept: text/html, text/plain	
User-Agent: Chrome/75.0.3770.142	
HTTP Headers	
Message Body	

## HTTP response status codes

- 1XX: Informational:  
e.g. 100 Continue
- 2XX: Success:  
e.g. 200 OK, 206 Partial Content
- 3XX: Redirection:  
e.g. 301 Moved Permanently
- 4XX: Client error:  
e.g. 400 Bad Request, 403 Forbidden, 404 Not Found
- 5XX: Server error:  
e.g. 500 Internal Server Error, 503 Service Unavailable

## Web standards

- Web resources must also comply with rules - otherwise browsers won't know what to do with them
- The *World Wide Web Consortium* (W3C) is responsible for specifying, e.g.,
  - **HTML**, the HyperText Markup Language
  - **CSS**, Cascading StyleSheets
- Other organizations specify other types of resource (images, video, audio, server-side programming languages, client-side programming languages, ...)