

Aim Higher 2011

Computing



Ground Rules

- Mobile phones ✕
- Food and Drink ✕
- Questions ✓
- Participate ✓
- Engage ✓
- Ask questions ✓



Activities

- Web Technologies
- Business Case Studies
- Networking
- Animation
- Programming

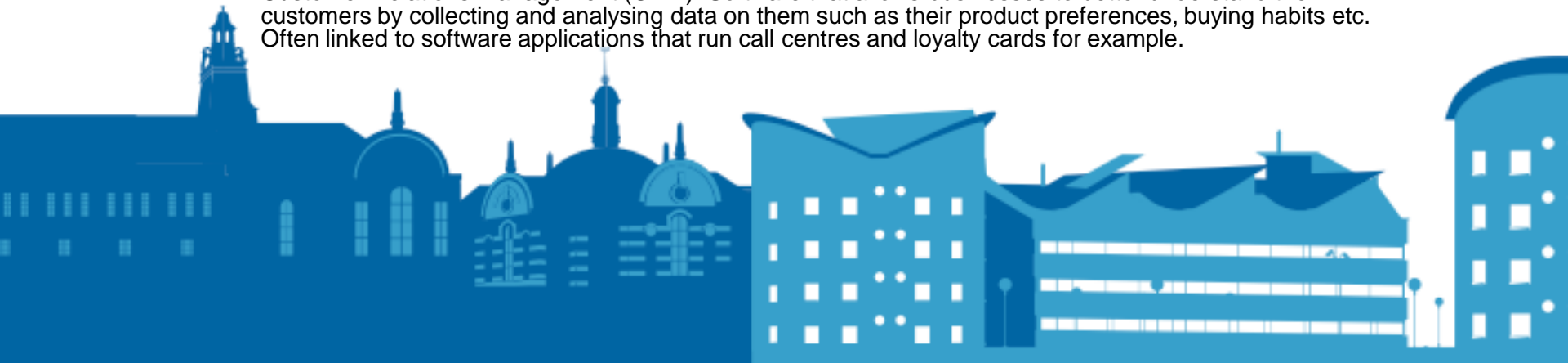


Computing

- Developing Applications (Web, Client)
- Creating Databases
- Networking
- Communications
- Software Engineering

ICT

- Standard Office Applications
 - Word processing E.g. Microsoft Word: Write letters, reports etc
 - Spreadsheets E.g. Microsoft Excel; Analyse financial information; calculations; create forecasting models etc
 - Database software E.g. Oracle, Microsoft SQL Server, Access; Managing data in many forms, from basic lists (e.g. customer contacts through to complex material (e.g. catalogue)
 - Presentation software E.g. Microsoft PowerPoint; make presentations, either directly using a computer screen or data projector. Publish in digital format via email or over the Internet
 - Desktop publishing E.g. Adobe Indesign, Quark Express, Microsoft Publisher; produce newsletters, magazines and other complex documents.
 - Graphics software E.g. Adobe Photoshop and Illustrator; Macromedia Freehand and Fireworks; create and edit images such as logos, drawings or pictures for use in DTP, web sites or other publications
- Specialist Applications - Examples (there are many!)
 - Accounting package E.g. Sage, Oracle; Manage an organisation's accounts including revenues/sales, purchases, bank accounts etc. A wide range of systems is available ranging from basic packages suitable for small businesses through to sophisticated ones aimed at multinational companies.
 - Computer Aided Design Computer Aided Design (CAD) is the use of computers to assist the design process. Specialised CAD programs exist for many types of design: architectural, engineering, electronics, roadways
 - Customer Relations Management (CRM) Software that allows businesses to better understand their customers by collecting and analysing data on them such as their product preferences, buying habits etc. Often linked to software applications that run call centres and loyalty cards for example.



Question

- What is the difference between ICT and Computing?



Answer

- IT or ICT as it is now called is more business related skills usually office programs like spreadsheets (excel). Computing is the Science of computers and more to do with how the computer hardware works and how these programs (windows and office) are made.



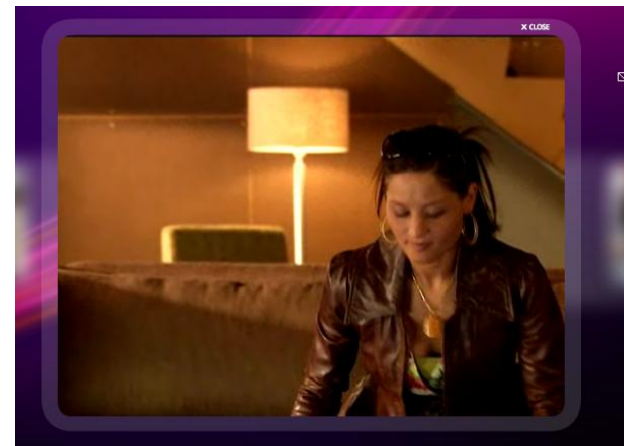
What is happening around you



a YAHOO! company

A small text label indicating that the following Yahoo! services are part of the Yahoo! ecosystem.





Computer Science Inside...



Getting onto the right page



The
Royal Society
of **Edinburgh**

EPSRC

Engineering and Physical Sciences
Research Council

Do you use Google?

- What questions do you have about it?
- How many pages does it search?
- How does it access all those pages?
- How does it give us an answer so quickly?
- How does it give us such accurate responses?
 - The pages are useful, eh?



Giving accurate responses?

- Let's try to be Google ourselves...
- You have a sheet containing 7 'pages'
- The search word is factor
- Identify the top three pages, in order, that should be returned for this search
 - the best match, the next best match, and the next



How did you made your decision?

- What measures did you use?
- For example
 - Number of visitors could be a measure
- What other measures are there?



Scoring pages according to the measures

- For each measure
 - we must give each page a score
- Visitors measure is particularly easy
 - score can just be the count of visitors



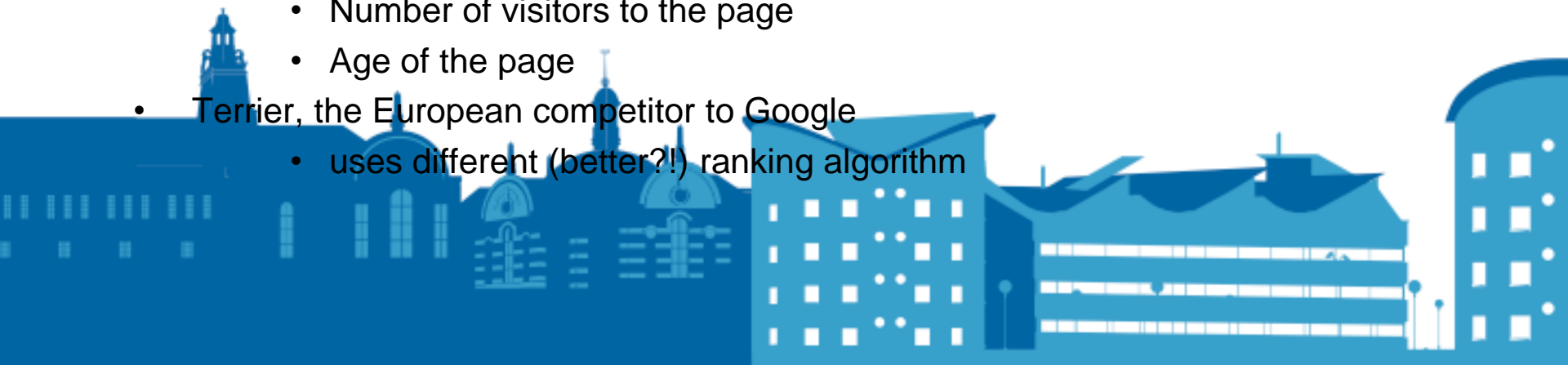
Ranking the pages now...

- We have a series of measures of the ‘value’ of each page
- Using pairs of measures, we’ll again rank the top three
 - using JUST the pair of measures
- For example,
 - Visitors and Title



Different answers each time?

- You see, the particular measures used for ranking are important
- Google, Yahoo, etc all use different sets of measures
 - or ranking algorithms
- For example:
 - Count of how often a search word appears
 - Stemming of search words and/or document words
 - Whether search words are in the title / formatted / web link
 - Meta data attached to the page
 - Number of links to the page, or from the page
 - Number of visitors to the page
 - Age of the page
- Terrier, the European competitor to Google
 - uses different (better?!) ranking algorithm



Googling 'factor'

- The Ice Factor
 - UK's premier mountain activity centre
- The G Factor: the Science of Mental Ability
 - an academic journal article
- The Interactive Structure Factor Tutorial
 - on-line tutorial for some university maths
- then five more maths pages
- The X Factor
 - and Shayne's exploits
- The 5 factor personality test



Google Results...

Factor - Google Search - Microsoft Internet Explorer

Address <http://www.google.com/search?sourceid=navclient&ie=UTF-8&rlz=CGLD;GGLD;2004-32;GGLD;en&aq=factor>

Google factor

Web Images Groups News Froogle Maps more »

Web Results 1 - 10 of about 466,000,000 for factor [definition]. (0.18 seconds)

Bill O'Reilly | The O'Reilly Factor - FOXNews.com
The O'Reilly Factor with Bill O'Reilly on FOXNews.com. Bill O'Reilly hosts The O'Reilly Factor, the most-watched program on cable news.
www.foxnews.com/oreilly/ - 33k - 1 Jul 2006 - [Cached](#) - [Similar pages](#)

Bill's Official Home On The Web
PM. Now listen to the The Radio Factor LIVE! every day (Noon to 2 pm ET) ... Check out the O'Reilly Factor Archive for more on past programs! ...
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FACTOR
The Foundation to Assist Canadian Talent on Records
www.factor.ca/ - 20k - [Cached](#) - [Similar pages](#)

See results for: [factor.math](#)

Factoring - Factors and multiples - First Glance
2000-2005 Math.com. All rights reserved. Please read our Privacy Policy. In the problem $3 \times 4 = 12$, 3 and 4 are factors and 12 is the product. ...
www.math.com/school/subject1/lessons/S1U3L1GL.html

Math Forum: Ask Dr. Math FAQ: Learning to Factor
Identify and factor out common factors of all the coefficients. 2. ... And see the Middle School Factoring section of the Dr. Math archives. ...
mathforum.org/dr.math/faq/faq_learn.factor.html

Math.com Calculators and Tools
Free math lessons and math homework help from basic math to algebra, geometry and beyond. ... Enter an expression and click the Factor button. ...
www.hostsvr.com/webmba/app1/MSP/quickmath02/pageGenerate?site=mathcom&s1=algebra&s2=factor&s3=basic

NBC.com>Fear Factor
The Fearless Females of Fear Factor, exclusive video! Ever wonder who "tests" the gross stunts? REWIND Welcome to the finale of Reality Stars Fear Factor! ...
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NBC.com>Fear Factor
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Specialist SME Factoring
Instant debt and sales ledger management for SMEs.
www.sme-factoring.co.uk

Factoring
Instant Factoring Quotes
Compare And Save Online.
www.Top-UK.co.uk

Yahoo Results...

factor - Yahoo! Search Results - Microsoft Internet Explorer

Address: http://uk.search.yahoo.com/search?ei=UTF-8&fr=s&v=wave&g=factor

Search: factor

Search: the Web in UK in Ireland

Results 1 - 10 of about 147,000,000 for factor. Search took 0.12 seconds. (About this page...)

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www.decision-finance.co.uk Compare factoring quotes with our panel of some of the UK's leading providers.
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Instant debt factoring and sales ledger management for SMEs.
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- Factoring "Another Way" with NatWest**
Instant quotes online. Help and business support all the way.
www.natwest.com
- Debt Factoring**
Factoring is a easy way to improve your cashflow, by unlocking 95%...
www.business-cashflow.co.uk
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www.amazon.co.uk
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- Listen to Factor at Yahoo! Music**
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uk.music.yahoo.com

[See your message here...](#)

- F.A.C.T.O.R.**
Also known as the Foundation to Assist Canadian Talent on Records; promoting the Canadian recording and music industry.
Category: [Canada > Music > Organisations](#)
www.factor.ca - 7k - [Cached](#) - [More pages from this site](#) - [Save](#)
- The X Factor - Home**
... THE X FACTOR is a trademark of FremantleMedia Limited and Simco Limited. Based on the television programme "The X Factor" devised and owned by Simco Limited, and co-produced by ...
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Vfor/Vendetta. "The Unofficial B-Factor Page" News Updates Main Bio Bios Pictures Schedule Links Yahoo!
www.angelfire.com/music/bfactorfanpage - 20k - [Cached](#) - [More pages from this site](#) - [Save](#)
- X Factor - Wikipedia, the free encyclopedia**
X-Factor is the name of several, semi-related Marvel Comics superhero teams, all of them spin-offs of the popular X-Men franchise. ... WWE tag team/stable led by X Pac The X Factor (album), a 1995 album by Iron Maiden The X Factor, an ITV reality show in the UK searching for ...
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The **G Factor**, the Science of Mental Ability The **G Factor**, the Science of Mental Ability The **g factor** is the highest-order common **factor** that can be extracted in a hierarchical **factor** analysis from a large battery of diverse tests of various ...
psycprints.ecs.soton.ac.uk/archive/00000658 - [More pages from this site](#) - [Save](#)
- Factor - Shop Until You Drop**
Factor - Shop Until You Drop ...

In summary

- ICT vs. programming vs. Computer Science
 - Technology is everywhere
 - Learn how it works, and how to create it – not just use it
- Information Retrieval – Ranking
 - a complex operation!
 - many different methods
 - each Search Engine uses a different method
 - the search for better methods still very much alive
 - Google “Terrier search engine”