

State of the art

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I am writing this article from WWW2006 – the 15th International World Wide Web Conference, being held this year in Edinburgh. Among the bagpipes and broadcast trucks, the city is filled with almost two thousand academics and practitioners from around the world – here to exchange ideas and to hear from the leading lights in the field. In between sessions, every available space is filled with delegates rattling away on precariously perched laptops – busy Blogging, editing Wikis and preparing for their next BOF session.

Since the first conference in 1994, the ubiquity of the web has seen the event successfully transition from a specialist technical get-together into a large scale international event. The technology has matured, representation from the commercial sector has increased, and the barbers have picked up considerable business along the way.

The conference was opened by Tim Berners-Lee, and delegates were welcomed by Jack McConnell who used his speech to remind us of the large part Scotland has played in shaping the modern world. The high profile of the presenters is testament to the importance of the Web in society – this calibre was maintained by an excellent keynote from David Brown, chairman of Motorola.

Even this early in the proceedings the speakers had highlighted what was to turn out to be one of the three key topics of the conference – seamless mobility - and its likely influence from macroeconomic, microeconomic and socioeconomic perspectives. Particular reference was made to the ‘device formerly known as a mobile phone’, reference to the extension of content and services from our desks to our pockets. This is being facilitated by the convergence of the underlying networks – soon, the network supporting our mobile phone will be based on the same technology as the Internet – IP. This change is raising challenges of its own – particularly in relation to shoe-horning applications into a small form-factor while maintaining usability. Several sessions at the conference were devoted to this subject alone.

Mike Harris, co-founder of First Direct, Egg and various other successful e-businesses, introduced his new venture – ‘garlik’. The rationale of this new business is to allow the individual to maintain control of how much of your personal data is available and how it is used in the digital world. This was the subject of several specialist sessions, and is clearly an area to keep an eye on.

Jeff Barr from Amazon used the conference to explain that Amazon do a lot more than sell books. He introduced a selection of the commercial web services they offer, most of which have nothing to do with online retailing. The service which sparked the most interest is called ‘mturk’ – standing for Mechanical Turk. In 1769, Wolfgang von Kempelen built an almost unbeatable chess-playing robot. It was not long, however, until the secret was out – a human chess master was concealed inside the box who was moving the chess pieces using a series of intricate levers.

The 'mturk' service allows developers to use the power of the human mind from within a piece of software. When the software needs to carry out a task which humans can perform easily but computers cannot, the request is automatically scheduled to a pool of suitably qualified individuals who perform the work. The result of their endeavours is sent back to the calling program, the individual is recompensed and the consumer of the web service is billed. This is backed-up with an eBay-style rating and review system to monitor and maintain the quality of the results returned.

Already, this service is being put to use for all manner of purposes from image recognition to transcription. It is now possible to make a web service request to review a restaurant – although this can take some time to execute.

The semantic web, a subject covered in a previous column, is another area seeing much activity. To recap, this technology aims to bring meaning to the web in a way which facilitates interpretation of information by machines, processes and applications as well as by human readers. Born out of academia, of particular note this year is the emergence of the first round of live commercial applications. An example of where the technology is being put to good use is in EDI-type messaging (Electronic Document Interchange) between organizations using differing technologies and protocols. A gateway, using semantic web-based technology, is able to understand the messages flowing from one system and hence transform it into the format required by another. This in itself is nothing new, but the use of the semantic web allows the integration between systems to be completed within hours – a process which previously took weeks.

It turned out that the name of this event - WWW2006 – was something of a misnomer. Or, more accurately, the term 'World Wide Web' has expanded to include all manner of technologies, applications and innovations which are only loosely related to the Web as we know it. The convergence of the underlying technologies which is bringing together previously disparate devices and services is in turn bringing together the associated communities and events. On this basis, WWW2007, in Banff, will undoubtedly be bigger still.