

Tim O'Reilly, who framed the concept Web 2.0, sees a new development for the Internet "The Web is no longer a collection of static pages of HTML that describes something in the world. Increasingly, the Web is the world: everything and everyone in the digital world casts an "information shadow," an aura of data which, when captured and processed intelligently, offers extraordinary opportunities and mind-bending implications."

On the other hand "as more of the unstructured information that we create (or that is created about us) is retained, our digital universe expands and our own digital shadow lengthens", reports Mark Lewis from IDC, a US-based ICT market intelligence service provider.

The amount of digital information is growing faster and faster. According to an [IDC study](#) "by 2011 the so-called 'digital universe' will be 10 times the size it was in 2006". According to the same study, "70% of the digital universe is created by individuals".

The "digital shadow" includes bits and bites from our postings on social networks like Facebook, Twitter and mailing lists, credit-card transactions, Internet surfing histories stored by Internet Service Providers, and even surveillance footage captured at airports, traffic crossings and hotels (see footage of the ["hit squad" in Dubai](#)). The digital shadow "Is a by product of living more and more in a digital age," said [Alex Manfrediz, an analyst at IDC](#)

. "There's no way to really escape this" in modern society.

In the video below IDC Chief Research Officer John Gantz discusses the impact of the ever-increasing amounts of digital information generated worldwide.

{youtube}b-RtDQZ1aBo{/youtube}

Social media have introduced new ways for feeding content to the Internet. Facebook alone, accounting now for over 400 million members, [records over 2 billion uploads every month](#) . [Flickr has close to 100 million geotagged photos](#)

. There is no doubt, we are witnessing a process, wherein our life world has acquired an added 'digital dimension'.

A mosaic of the world

Photos are just one way to digitize the world around us. Offline and online realities become one. More and more GPS enabled cameras and mobile phones add coordinates to photos. Flickr demonstrates that this is not an occasional phenomenon. Panoramio, a Google owned service, offers users the opportunities to [upload geo-tagged images and to immediately locate these on the world map](#) , thus adding a spatial dimension to the image and clustering the upload with other images taken in the same location by other users.

[Google Street](#)

View is fed by images taken by cars driving along roads and by-passers can be “captured” at any time and be part of the upload.

[Geotagged photos](#) can play a crucial role in environmental awareness and activism as the Bulanjo report shows: [In the Philippines a partnership between organizations used this method to present the devastating effects of mining](#)

Geo-referenced audio-visual and photographic documentation was carried out in the Bulanjao range, whose vegetation consists of a very unique type of forest growing on ultramafic /heavy-metal rich soils. The area is home to at least four plant species that are classified as vulnerable and two of them have already been included in the [IUCN Red List](#) .

On a different angle, a website called [PleaseRobMe](#) claims to reveal the location of empty homes based on what people post online using Twitter and Facebook in an effort to make people aware of the dangers of sharing precise location information on the internet.

The digitizing of information is not only about location, but also about us humans and our faces. Face recognition software is increasingly included in social software. Google Picasa has it and Facebook lets users tag their friends and family members. In the case of Facebook, it happens without the endorsement by non-members. Millions of photos can sooner or later be associated to people and connected to information about them. In the near future one may find an automatically generated photo album about him or herself if personal images are not properly secured.

These are dimensions, which [highlight also the incredible threat to privacy](#) .

Information shadow: an opportunity?

Contrary to many analysts who warn about the growing entropy in data management, in his [manifesto](#), Tim O'Reilly sees first of all a great opportunity in getting more information digitized, because it can be used for many more purposes.

One such example is the collecting of energy consumption data on a large scale.

AMEE, the climate change start-up, offers an “[open platform for measuring the energy consumption of everything](#)”. Thanks to the Internet of things, appliances or households connected to the Internet could contribute to precise and real time monitoring of energy consumption and thus offer opportunities for saving power. There are plans to connect gas meters to the Internet to enable users to know exactly how much they consume and when and how they could improve efficiency and make savings.

The smart phone plays a crucial role as it allows users to feed information (e.g. geo-tagged images) to online systems from anywhere. At the same time people can query the digital cloud using e.g. [Goggle Goggles](#) : one can take a photo of a museum, which is uploaded to a gigantic database; the system scans the image, recognizes the features, locates it on a world map, identifies the building and delivers information about its history and current exhibitions.

Net activists are already tapping data from the information universe for campaigning purposes. An activist, [Astrubal](#) , investigated the flights of the Tunisian president thanks to the gathering airplane spotter. He found out [that not all flights were declared as official trips and denounced the fact posting a video about it](#)

Tapping into a more structured information universe, news aggregators harvest news items according to customizable parameters. [NewsforDev](#) is such a resource to be kept in mind by those working in the development sector.

Willing and unwilling we all create our own information shadow and in doing this we contribute

to feeding the digital universe: our messages gain visibility but at the same time expose us to being profiled. Search engines like Bing and [Google](#) now include Twitter updates in their search results.

Where do you think the information shadow will lead to? Do you share Reilly's statement that it "offers extraordinary opportunities and mind-bending implications". What could be or are the implications for web 2.0 in development?

Authors: Christian Kreutz and Giacomo Rambaldi