DIGITAL WASTE AS AN EXPLOSIVELY GROWING GLOBAL ISSUE

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We are very aware of waste in our lives today, from the culture of recycling to the email signatures that urge us not to print them off. But as more and more aspects of life become reliant on digital technology, have we stopped to consider the new potential avenues of waste that are being generated? It's not just about the energy and resources used by our devices — the services we run over the cloud can generate "digital waste" of their own.

Each day we generate more and more data — your digital footprint, which requires huge amounts of server space and energy. A part of that digital footprint may be described as digital waste. Digital waste has grown exponentially over the last decade as storage of data — such as e-mails, pictures, audio and video files, etc. — has shifted to the online sphere. [3] The advent of web services that allow users to upload files has made it possible to leave behind (most likely in landfills) tapes and discs and instead throw all of our recorded information into one big digital cloud of computers. [4]

It's true that IT industry has made significant efficiency gains over the years, far beyond those achieved by most other sectors. The environmental design approach here should involve a different strategy: make it easier for users to preview videos so they can avoid downloading content they don't want; seek to avoid digital waste that stems from sending resource-intensive video when the user is only

interested in the audio, and experiment with “nudge” approaches that provide lower resolution audio/video as the default.

Most of the solutions offer buying more efficient servers and enhancing the infrastructure. However, software developers also face the challenge of creating software that runs ‘greenly’ — i.e., sleekly and ultra-efficiently. A related issue is that of proprietary formats for documents, such as those for Mircrosoft Word or PDFs, as examples. If you have been working with computers for years, you probably have lots of documents on media that you can no longer open any more since your current software is not backward compatible. Some computer professionals consider proprietary formats as “digital waste”. There are many concerns about the documents maintained by public bodies in proprietary formats and worries that unless we move to open standards all that data will be locked up forever and potentially inaccessible in the future if formats continue to evolve. [2]

At the personal level, we also need to be aware. Today, we are all simply so excited about being part of the virtual revolution in the digital age that few have stopped to think about the questions of e-waste and digital waste. Current approaches focus mostly on improving the hardware and compression techniques that mean images, videos and other files use less bandwidth as they are transmitted across networks, rather than focusing on making individual system components more efficient, seeks to understand the impact of any particular digital service – one delivered via a website or through the internet – and re-designing the software involved to make better, more efficient use of the technology that supports it. [1] With the explosive growth of digital services and the infrastructure needed to support them it’s essential to take their environmental impact seriously and strive to reduce it wherever possible. This means designing the software foundations of the digital services we use with the environment in mind.

People rarely, if ever, spare a thought about their digital footprints. However, it is interesting to ponder, whether when we close down our online accounts, we could request that our files be removed, so as to free up server space for others? Could we specify that our digital waste be automatically removed after a certain period of non-use? That will probably never be possible, but we do need to think more carefully about the ramifications of this ever-growing computing cloud and the question of its long-term sustainability. Just how much server space will humanity need in 2050?

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