HACKER ETHIC, OPENNESS AND SUSTAINABILITY

by *Jorge Luis Zapico*

Hands-on

Sustainability is a normative concept building on ideas such as justice, equity and responsibility, and based on human culture and society. Computers and the internet and the technologies that are central to our current societal paradigm of informationalism are not value-free neither. They embed normative values and a culture that can be understood both from the historical origins of the technology and the current community around it. However, the work combining computer technology and sustainability has been oriented towards practical applications for solving practical problems, and it has overlooked the more normative and ethical perspectives. Research in ICT for Sustainability, Green IT or Sustainable HCI has focused either on understanding the negative, direct impact of hardware, such as the energy consumption of the internet and the generation of e-waste, or on the applications for using the technologies with a sustainability purpose, such as increasing the efficiency of systems and increasing dematerialisation or triggering behavioural change. Computers and the internet are treated either as a system to be understood, or as tools that can be used for some purpose.

The set of values that has been central to the development of the personal computer as we know it is the hacker ethic. Being a hacker means being someone who 'programs enthusiastically', who believes that computing and information sharing are a positive good, and that it is their ethical duty to facilitate access. This is not to be confused with the use of the term in the media and popular culture, where it is mostly connected to cybercriminals—computer experts who steal credit card numbers and break into security systems. The hacker ethic originated at MIT and developed in academia during the second half of the nineteenth century (see Levy's historical account in "Hackers, Heroes of the Computer Revolution" and Raymond's "Brief History of Hackerdom"), and it contains a set of values and norms that were embodied in their work:

- 1. Hands on imperative: access to computers should be unlimited and total.
- 2. All information should be free.
- 3. Mistrust authority, promote decentralisation.
- 4. Hackers should be judged by their hacking, not by 'bogus' criteria such as degrees, age or race.
- 5. You can create art and beauty on a computer.
- 6. Computers can change your life (and the world) for the better.

The hacker ethic is present in many of the information technologies we use today, especially the internet, which has the hacker ethic values at its core, and the technologies and services around it. Open source software such as Linux, Firefox or Android is used by millions of users and has been demonstrated to be a successful model based on intrinsic motivation. The openness of information, for instance in the use of creative commons licences and open data, is also becoming widely accepted. For example, the online photo service Flickr now hosts more than 200 million creative commons licensed pictures. In recent years, *there has been a renascence of the term hack, using hack and hacker in the sense of sharing information, tweaking, hands-on change*, being used not only for computer-related activities, but also for things such as personal development, furniture or gardening. These communities may not hack in the traditional sense, but they share the principles of openness and creativity of the hacker ethic. The hacker ethic as

defined by the Jargon File, its master document, not only includes but also welcomes any kind of non-computer activity as part of the hacker community, "An expert or enthusiast of any kind".

In his book "The Hacker Ethic", Pekka Himanen argues that the hacker values represent a different work ethic that challenges the dominant protestant work ethic. Himanen discusses the current dominance of the protestant ethic, as defined by Weber in his book "The Protestant Ethic and the Spirit of Capitalism", tracing its origin to the monastery. In this ethic, work is seen as a duty that must be done for its own sake; the purpose of the work is not to get something done, but "to humble the worker's soul by making him do whatever he is told". Some of the defining characteristics are the emergence of the clock and fixed hours for control, money as the main motive, being busy as a status symbol and playfulness being removed from work. This protestant ethic is now secular and central to the capitalist system. The book defines the hacker work ethic in opposition to the protestant ethic, pointing out its origins in academia. The defining characteristics are having plenty of time (skhole) and being able to organise your own time; the main motivation is not money but passion. Working not for the sake of work but for creating something valuable together. For good, for kudos, for fun. This work ethic does not oppose work—Himanen presents the pre-protestant work ethic that was leisure-centric—but abandons the duality of work and leisure, again focusing the motivation on passion. Openness of information is presented by Himanen as a key concept for the hacker ethic, again connecting academia as a role model. Other important concepts are freedom of speech, privacy, passion and creativity.

While many sustainability problems are practical, such as reducing carbon dioxide emissions or pollution, sustainability in itself is a normative concept based on values. Sustainability is about justice, intergenerational and intragenerational, and about how we want society to be for us humans. Sustainability is not only about technological fixes, it needs a broader change in how we do things, how and why we work, how we deal with knowledge and how we innovate. The hacker ethic provides an alternative work ethic which challenges the status quo and can make an important contribution to sustainability. *Openness and a hands-on approach are the two main concepts that can be argued to be the most relevant for sustainability.*

Openness of information lies at the core of the hacker ethic. Open source, open knowledge, open data and creative commons have shown that there are alternatives ways of dealing with information based on creating and improving the commons, based on collaboration in a community. They have challenged the status quo of existing business models and also pragmatically proven a more efficient way of working. Sustainability and problems such as climate change are the 'wickedest' problem we have to deal with. It will require society to collaborate, to create new knowledge together and new ways of doing things; we do not have the time to fight each other over trademarks. We need open data about the state of the planet, we need transparency about emissions and the impact of products and industries, we need feedback and we need accountability. We need to export open licences to other areas key to a sustainable society, like people from Architecture for Humanity are doing with architecture, like institutions such as MIT and Harvard are doing with education, like people such as Vandana Shiva are advocating for seeds and traditional knowledge.

Together with openness, the 'hands-on imperative' is central to the hacker ethic. This points both to the need to bring computers to the people, and to the focus on doing and working hands-on with the systems as a way of learning and demonstrating ideas. The question of access comes from a time when computer resources, even at institutions like MIT, were scarce, highly regulated and bureaucratic, but it is still relevant to many places and social groups where access to technology and connectivity is still lacking. These hacker values of bringing computers to the masses can be seen in projects working to close the digital divide, such as the One Laptop Per Child project. The imperative of working hands-on is still one of the central ideas of the hacker ethic; hackers focus on results over ideas. Do you have a good idea? Get your fingers moving and code it. Do you want to defend open source? Shut up and show them the code. Get excited and make things. This philosophy is highly visible in hacker communities such as the maker culture, events such as hackathons and code fests, but even in the way internet entrepreneurs and companies work. In the hacker ethic there is also a belief that 'computers can change your life (and the world) for the better'. This belief is reinforced by the fast transformation achieved by computer technology in the last decades, making computers available to the masses, the

internet growing exponentially reaching billions of users and becoming a central part of how society communicates and mobile phones becoming the most widespread technological device in history. All these transformations are based on a practical approach, a belief that 'the best way to predict the future is to invent it'. This focus on doing things is very relevant to sustainability. We need to change how society works, we need to improve technology and we need to move from talking to doing.

Computers, the internet and new technologies can play an important role in moving towards sustainability. I argue that their role goes beyond technical applications and is not limited to applications like increased efficiency or better communication. The new way of doing things embodied in the hacker ethic presents a challenge to the status quo. The values of passion and creativity, openness and sharing, the creation of commons, the community-oriented thinking and the hand-on approach should be important values for a sustainable society. We need to keep promoting these values, to keep showing how they can create a better society. We need to open up knowledge, to prototype and iterate towards sustainability. And we need to do it fast.

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