Simplification of Internet Services in the Knowledge Society

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	ABSTRACT
<p>2022 Research Leap/Inovatus Services Ltd. All rights reserved.</p> <p>DOI: 10.18775/jibrm.1849-8558.2015.72.3004 URL: https://doi.org/10.18775/10.18775/jibrm.1849-8558.2015.72.3004</p>	<p>For several years, observable are processes of simplifying IT systems and collectivization of network services. An example is the simplification of Linux operating system, which in first versions from clumsy, based on the command line and virtually devoid of the graphical elements evolved towards an open and user friendly operating system. The same applies to the posting of data on the Internet - work in cloud computing, building web pages. In addition, it is difficult not to agree with the fact that information is now one of the key consumer goods, and dynamic scientific and technological development in the twenty-first century civilization fosters referred to as a knowledge society. These considerations seem to indicate an increase simplification of communication systems and collective web services with the idea of the knowledge society. Undoubtedly, this issue deserves deeper consideration, and this article is a contribution to reflect on the issue of dissemination and simplify the network in the perspective of the knowledge society.</p>
<p>Keywords: <i>Simplification, Internet Services, Knowledge Society.</i></p>	

1. Introduction

Jürgen Habermas noted that each generation stands on the shoulders of the previous generation, and with the passage of time accumulates resource of scientific and technical measures (1983b, p. 423). What's more: "the direction of technological progress today is largely determined by social interests yet to emerge naturally from the need to reproduce social life and as such are not subject to reflection or self-understanding confronted with the declared political groups. Therefore, the new technical skills suddenly penetrate the existing forms of practical life" (Habermas, 1983a, pp. 367-368). Cited above the thought of Habermas clearly shows the importance of technological development and its cumulative nature. It should also be noted that subsequent inventions and new technical solutions are used to facilitate human functioning in the new reality, and their development is dominated by the needs of the people, or more precisely, their interests. This thought is a smooth transition to the theme of simplification of computer systems and network services in the society of information/knowledge.

2. The Importance of Information. The Difference Between the Information Society and the Knowledge Society

History of the socio-economic thought includes a wide variety of theories of social change. Among them is an interesting proposal of modernization theory, which shows the transition from a traditional to a modern society. The clearly illustrates the cycle of modernization comprising the following steps of evolution of human communities:

- traditional society (pre-industrial);
- semi-industrialized society;
- industrial society (modern);
- post-industrial society (postmodern);
- Information Society (postmodern) (cf. Krzysztofek, Szczepański 2002, p. 36).

The information society is not only the result of profound social structure, but also the rapid technological development. In contemporary society, neither important in the economy Frederick W. Taylor's determination (intensification of work on the effective use of time and minimize costs; the engagement

time worker of his wage), nor the transition from Fordism (multisession mass production of standard components based on the technology of the production line) to post-Fordism (transition towards flexible specialization providing product differentiation) turns out to be insufficient for the needs of a modern economy and the world. In Western society there has been a clear shift away from industrial production, which seems to be a harbinger of the end of industrialism (cf. Dobrowolski, 2006, p. 11). Currently, you can not talk about simple logical connection - information leads to knowledge, and knowledge to cognition - because it combines information from a network of heterogeneous knowledge relationships that no longer serve cognition (as was the case in the classical idea of science), but try to meet the expectations of market (Ibidem, p. 10). Today, information has become one of the key consumer goods, and dynamic scientific and technological development in the twenty-first century civilization fosters referred to as a knowledge society. The importance of information even more stress appearing assertion that everything that exists in the world can be reduced to information (cf. Jacyna-Onyszkiewicz, 2002, 2013). In such a vision information becomes the highest value and the ability of its discovery, selection, interpretation, evaluation, application or processing (Jaskuła, 2009, p. 183). Currently, these activities have become almost a requirement because, as noted by Grzegorz Kołodko, saturated data broadcasting time, acres of paper as well as the vastness of the Internet is often filled by the content of insignificant value (Kołodko, 2009, p. 12).

However, a distinction should be made aware of the information society of the knowledge society, which takes the German sociologist Ulrich Beck. Information society puts on a pedestal goal of building the information infrastructure. In this type of society, it is important to continuously update the ownership information resource, because it is not based on it is possible to navigate the slippery surface of the modern world. The most important is access to information, and who possesses it has the power. In turn, the knowledge society is an alternative to that outlined above vision. While universal access to information and the development of information technology will accelerate the development of the information society, with so much knowledge can be used in the opposite direction - to maintain the status quo (cf. Dobrowolski, 2006, pp. 23-25).

3. The Process of Simplification of it Systems and Network Collectives - Selected Empirical Examples

The development of the information economy, about which among others wrote Manuel Castells, runs along the plane of the commercial, financial, organizational, business and labor (Stalder, 2012, p. 76). Castells also speaks about capitalism information, which consists of: global reach, network structure and the nature of the information (Ibidem, p. 76). At this point I would like to explain this network structure, to be more precisely, further reflection will refer to the process of simplification, and thus simplify IT systems and network

services. The analysis below includes some examples of empirical evolution of solutions to the IT industry with at first was "clumsy" and "dedicated exclusively for professionals" towards "user- friendly graphics solutions."

(1) The first case concerns the evolution of the Linux operating system, which underwent a complete transformation of the system of the text-based command line (terminal) to the rich in complex visual effects functional system. Similar transition took place also in the production of Microsoft Windows, but there work in text mode (MS-DOS) lasted a relatively short time, Windows 95/98/2000/ME constituted a hidden subsystem, and in the distribution of Windows XP its dimension was rudimentary to the entire system. What's more, the evolution of Linux is so interesting that in the public consciousness still appears stereotypical belief that Linux is not for everyone and you have to be a computer scientist to be able to deal with it.

The origins of the system associated with the project Unix (then called Unics) which was established in 1969, when AT&T Bell Labs by a team composed of Dennis Ritchie, Ken Thompson, Rudd Canaday and several other developers¹. K. Thomson and D. Ritchie for the first time presented a project for Unix Systems Symposium on Operating Principles in Purdue University in November 1973². However, the real system Linux was created in 1991 with the work of the Finnish science Linus Torvalds who developed the system kernel³. In time Linux has become a full-scale operating system based on the text interface. Without knowing the syntax was not possible to operate the system. In addition, you have to know the principle of operation of the software, because in case of failure of software programs do not „tell” what's the problem. In the initial phase of development of the whole world of the IT system was designed for enthusiasts rather than unrelated to this industry of ordinary people.

```
[root@shrishti fat]# pwd
/lib/modules/2.6.33.7-desktop-2mnb/kernel/fs/fat
[root@shrishti fat]# ls
fat.ko.gz  msdos.ko.gz  vfat.ko.gz
[root@shrishti fat]# gunzip fat.ko.gz vfat.ko.gz
[root@shrishti fat]# ls
fat.ko  msdos.ko.gz  vfat.ko
[root@shrishti fat]# insmod vfat.ko
insmod: error inserting 'vfat.ko': -1 Unknown symbol in module
[root@shrishti fat]# dmesg | tail -3
vfat: Unknown symbol fat_add_entries
vfat: Unknown symbol fat_sync_inode
vfat: Unknown symbol fat_detach
[root@shrishti fat]# insmod fat.ko
[root@shrishti fat]# insmod vfat.ko
[root@shrishti fat]# lsmod | head -5
Module              Size  Used by
vfat                 8513   0
fat                 47218   1 vfat
iptable_filter       2271   0
ip_tables            9891   1 iptable_filter
[root@shrishti fat]# rmmod vfat fat
[root@shrishti fat]# gzip vfat.ko fat.ko
[root@shrishti fat]# modprobe vfat
[root@shrishti fat]#
```

Figure 1: The command line (terminal) on Linux. The first distributions have only a text interface. Retrieved 04.01.2014 from <http://www.linuxforu.com/wp->

content/uploads/2010/12/figure_5_linux_module_operations.png.

Really big change was the introduction of Graphical User Interface (GUI), which allows Linux has become more accessible to novice users. The first work began to Unix in 1984 at the Massachusetts Institute of Technology (MIT) - a project of X-Window. Then, in 1996, work started on KDE (Figure 2), while in 1997 the Gnome and Xfce.

Figure 2: First KDE GUI v1.0 (1998). Retrieved 04.01.2014 from http://sumolari.com/wp-content/uploads/2009/08/KDE_1.0.jpg.

Subsequent editions of Linux distributions are increasingly filled with graphic elements and mechanisms to facilitate the user to operate the system. You can even say that the operating system started to operate in the background while the user only plane on which he can work. Transparency of the system allowed the user to redirect energy to work using their own tools (programs). This is undoubtedly good progress. Modern operating systems to the maximum extent focused on the user (generally for the novice user), because it does not require the knowledge of IT. The system is designed so that after installing a package of essential utilities, so that you can immediately use its features to the fullest. In addition, the deployment of applications and features are intuitive, and most of the processes running in the background (without the user's knowledge). It looks aesthetically pleasing and functional. However, more advanced users would expect the possibility of interference with the "subcutaneous" the system⁴.

(2) Also downloading and uploading data on the Internet has been simplified. It is based on Cloud Computing technology, which is a "model allows versatile, convenient, on-demand network access to a shared pool of configurable computing resources (...), which can quickly provide and share with minimal effort in terms of management or with minimal interaction service provider" ¹ The entire burden of providing

IT services is here transferred to the server, which allows continuous access to data by client computers⁵. The entire burden of providing IT services is here transferred to the server, which allows continuous access to data by client computers⁶. The architecture of Cloud Computing presents the picture below (Figure 3).

Figure 3: The architecture of Cloud Computing. Retrieved 04.01.2014 from http://www.manjrasoft.com/images/aneka_cloud_computing_schema.png.

(3) Combined with the above issue is to build websites. Initially required a knowledge of HTML (HyperText Markup Language) (Figure 4) and knowledge about the web browser and operating system users to adjust the code page to display hardware capabilities by users.

```
01 <!--html code starts here -->
02 <html>
03 <head>
04   <title>Video Library </title>
05 </head>
06
07 <body bgcolor="#DEDEDE">
08
09 <div align="center">
10 <h2>Media Streaming : Video Library Project</h2>
11 <h3>If you are viewing videos from this collection
12   for the first time, please download
13   <a href="http://localhost/videofiles/StreamingMediaPlayer.msi">
14     Streaming Media Player</a>
15 <br />
16 <a href="msn://TCP:localhost:5119/videofiles/hrm.mpg">
17   Introduction Human Resource Management</a>
18 </h3></div>
19 </body> </html>
20 <!--html code ends here -->
```

Figure 4: HTML code fragment. Retrieved 04.01.2014 from http://wiki.greenstone.org/lib/exe/fetch.php?cache=&media=en:html_code.jpg.

Currently, in order to build a website and put it on the Internet does not need to be a computer scientist. This can be done for each user using simple tools such as Wordpress even. Literally

just a few clicks arises site design, and you can also use ready-made templates. The whole encoding process is invisible to the user.

4. Conclusion

Nowadays, the importance of technology is so pervasive that you can say by M. Castells about the phenomenon of technomeritocracy. It is characterized by several distinguishing features. Firstly, technical discovery related to the programming of computers in a networked environment is considered to be the highest value. Secondly, it just expertise used to improve the technical work. This means nothing less than the devaluation of knowledge per se and its instrumentalization. Rating technical discovery depends on community members, professionals in the field of network and the Internet. Project coordinators are appointed by the authorities, which also have control over the resources (basically hardware). Members of the community can not use the network only for the personal benefit (excluding the development of their own, which is treated in terms of the common good). However, the most important feature of technomeritocracy in terms of Castells is open to the transmission of the software and any improvements identified through networking. Without this openness of the community would be completely only individual projects, taking care of special interests and intensifying competition (cf. Castells, 2003, pp. 50-51).

Putting together the two above outlined areas - the importance of information and the simplification - it can be concluded that in the modern society, the emphasis has not been placed on extensive knowledge, or the ability of critical and logical thinking. This, what is currently important is the ability to use information and the ability to make use of modern technology. At the same time the information is reduced to a kind of "already digested slurry" (unfortunately not by the user), which instead of user generate simplified services of the IT industry.

To paraphrase McLuhan aphorism that the medium is the message Castells proposes a new look - the network is the message. In this vision of the network is understood specifically as a higher way of organizing social action, regardless of its purpose (Stalder, 2012, p. 38).

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