



## **Information for Social Change**

*"an activist organisation that examines issues of censorship, freedom and ethics amongst library and information workers..."*

### **Cuba: Computers, Automation, and the Internet**

#### **Dana Lubow**

This article is dedicated to the students at the University of Computer Sciences, Cuba

Cuba's critics, the detractors, the anti-Cuban right continue to have an extremely difficult time acknowledging the Cuban reality today in the realm of computers and information technology. The denials continue to be regurgitated, refusing to admit to the very existence of computers and automation and their use and availability to Cubans in the health profession, in education, and to the general populace in Cuba. This follows the same pattern of ignoring Cuba's other achievements in health care, education, and the many other areas including hurricane protection, all which have been attained despite 45 years of blockade/embargo. Instead, the same tired, over-utilized, unproven arguments are trotted out about how the average person doesn't have access to computers and the Internet, that's it's tightly regulated - too expensive for most Cubans to use the few that do exist – and only foreigner visitors can afford them, etc. etc. etc.

An online forum titled, Cuba and the Information Society, (<http://embacu.cubaminrex.cu/foroscubaminrex/>), sponsored by the Cuban Ministry of Information Technology and Communications held November 11, 2005, sought to correct many of the misconceptions circulating around the world about the reality of computers and Internet access in Cuba. The discussion fully demonstrated today's reality of information technology in Cuba and the use and wide availability of computers and automation for health professionals, in education, and the population at large. Minister Ignacio González Planas, participated, answering questions and providing information. The forum was designed to address a concept that is excluded in many parts of the world from the majority of the inhabitants of the planet, marginalizing them from technological advances. Most can't even read. It was noted that there are more Internet connections and, consequently, users in Manhattan alone than on the entire African continent. One hundred years after the invention of the telephone, more than 50% of the world's population still doesn't have access to a telephone. The "digital divide" is seen as a reflection of the unjust international economic order in the world. This is not the case in Cuba. Despite its economic struggles, the utilization of information and communication technologies function to attain a society based on knowledge and the full rights of its entire people on equal terms.

There were over 200 participants from all over the world, including Cambodia, England, Greece, Guinea Conakry, Haiti, Jamaica, Kenya, Mexico, Russia, Switzerland, and the United States, among others in addition to Cubans. Participants included several professors from a variety of disciplines from various universities in Cuba and other countries, many Cuban students in computer science, as well as professionals from various fields.

Any discussion about any aspect of life in Cuba, including computers and information technology, cannot avoid the reality of the U.S. blockade/embargo (the word's use depends on who is on the giving or the receiving end) and the topic came up over 75 times during the two-hour online discussion. Over and over again the blockade was indicated as the overlying reason why the lack of computers and access to them exists in Cuba. This criminal policy permeates all economic spheres of the country including industry and computer science education. It impedes the acquisition of computer applications and software from U.S. companies who are the most important in this arena. The blockade creates difficulties in the development of information and communication technologies and considerably increases the cost of any investment, requiring Cuba to look for alternatives in more distant markets. It has prevented Cuba from connecting to the Internet by means of a fiber optic oceanic cable that passes close by the island, forcing them to utilize satellite connections that are not only more expensive but have less bandwidth, making the connections slower. A map that shows the oceanic fiber optic cables surrounding Cuba can be found here:

<http://www.bnjm.cu/librinsula/2005/noviembre/99/dossier/dossier183.htm>

It has impeded the development of a satisfactory computer infrastructure throughout the island. Purchasing licenses for proprietary software is difficult. Computer donations from within the United States are prohibited by U.S. law and have even recently been confiscated by the U.S. Department of Commerce at the U.S.- Mexico borders this last August, when the Pastors for Peace attempted to take them out of the country, destined for Cuba. It wasn't until 1996 that Cuba was even able to connect to the Internet due to the blockade.

Despite this reality, computers and access to the Internet are part of Cuban life. . They are prioritized for use in places where utilization is on a collective and massive scale, such as in elementary and secondary schools, which have a ratio of 20 students per computer, universities, health and cultural centers and many other social institutions. Even children in preschools have computer access to educational software. There are 600 Computer and Electronic Youth Clubs (<http://www.jovenclub.cu/>) in existence throughout the country. These are places where everybody of all ages can not only access computers and the Internet, but can also take short courses in order to learn how to use them. Over one million people have already availed themselves of these classes. There is a health network of more than 35,000 users which doctors who are working abroad can access. A third-year computer engineering student put it quite aptly when he said, "An Information Society in Cuba is defined as the process of ordered and massive utilization of the new computer science and communication technologies to satisfy the need of society for information and knowledge." It puts knowledge and the use of these technologies at the

disposal of society and the advancement of the country. Additionally, efforts are made to ensure that scarce computer access is equally distributed. For Cubans, computers serve a social function.

Several participants wondered why there is a lack of widespread access to the Internet and computers, which are widely available in cyber cafes in developed countries and growing in availability in many third world countries. The reasons point once again towards the blockade, which is also the Cuban word of choice, since they are the ones at the damaging receiving end. Computers are difficult to obtain, as mentioned earlier, as well as the U.S. government prohibiting countries from selling goods or ships from even docking at Cuban ports and any equipment that is available costs at least 30% more.

In addition, the type of speedy and simultaneous connections that many worldwide cyber cafes depend upon, simply don't exist in Cuba. Many of the telephone lines are old and connect under the Straits of Florida. Despite not having ideal connections, a technological infrastructure does exist in all the municipalities allowing access to the Internet both with telephone access as well as dedicated lines and a fiber optic infrastructure connects all the computer clubs.

There are 14 provinces and 169 municipalities in the country connected by fiber optic connections. The Computer Youth Clubs are found in each of the municipalities and population settlements providing free access via Pentium 4 computers connected to the Internet. It's estimated that 31 percent of the Cuban population has access to computers (2.5 million students, more than 200,000 people studying at the computer clubs and 800,000 workers.) This is an equivalent of more than 3.5 million people who personally use the computer, almost 1/3 of the entire population. Of these it is estimated that 27% have access to the Internet. Additionally, some post offices also offer Internet access.

Internet use is accomplished in a creative, rational, and ordered way according to the island's limited financial, material, and technological resources. These limitations require the policy to be working towards both an intensive as well as social use of these technological resources in an attempt to extend their benefit to the largest possible part of the populace and institutions. Cuba has recognized that this is an indispensable tool for development.

More and more computer networks are part of institutions of higher education, both in classrooms as well as for individual studies. This use of computers in education and the employment of audiovisual media are used extensively for all the children from preschoolers to young adults in both the country and cities. The few schools off the electric grid, even those with only one student, have computers running off solar energy.

There were many other issues around computers and information science that were also raised and answered. Among them was the growing use of open-source software with González Planas indicating that is the direction the country is going toward. The digital divide in rich and poor countries around the world, which was the topic at the second phase of the United Nations World Summit on the Information Society held in Tunis

November 16-19, 2005, was also discussed as well as the recent topic of who will govern the Internet itself.

There were many student participants studying computer science and information technologies at an institution dedicated to information technology, the University of Computer Sciences. This university arose out of the development of the Battle of Ideas, which in itself came about due to the case of Elian Gonzalez. This university stands out in its acknowledgement of the large scale needed as well as the application of innovative methods. The current class has 8,000 students and next year there will be 10,000, all studying to become experts in the multitude of areas offered computer scientists and engineers.

Another student emphasized an education where a strong focus is placed on preparation and instruction of the entire populace, "in general the formation and training of human resources." In addition to studying in their field, all students receive a strong education in the humanities helping to develop well-rounded people with humanist qualities. All of this is recognized as possible, thanks to the political will of the government and the effort of the people.

It was also noted that several universities throughout the country develop software. Currently there are 26 specialized computer science polytechnic institutes located in every province with more than 40,000 students who will participate in the efforts of the newly developed Cuban software industry. Additionally, graduates work teaching classes in a variety of operating systems including Linux, programming, web design, and more at the 600 computer clubs.

The use of the Internet allows Cubans to broadcast their insights and knowledge about their country. Websites of the press, radio and many diverse organizations are well-visited as well as those about culture and science. There are 136 sites for the media that include the press, radio, and television (<http://www.cip.cu/>), and more than 500 about culture.

It was emphasized, contrary to many people's belief, that there is free access to the Internet except for web pages of terrorist, subversive, and xenophobic organizations that assault their sovereignty and security, as well as pornography.

Computer crime was another topic briefly mentioned. The Minister indicated that the parliament is looking to modify the penal code to protect users from this form of crime that includes hackers, spam, and pornography of all kinds.

Cellular telephone service was another topic briefly mentioned. They are trying to utilize it for isolated populations in non-urban areas. González Planas indicated that today more than 100,000 individuals have this service and they are hoping to provide it to more than 300,000 by the end of 2006. Again, the greatest impediment to providing greater service is the blockade.

The blockade also affects telephone service from the United States, excessively charging those who want to call Cuba. Recent technology affecting telephone calls is called Voice over Internet Protocol, (VOIP). Telephone calling cards use this technology and its use has considerably reduced the cost for international calls. However, telephone calls from the United States to Cuba are still much more expensive than to most other countries. A four-hour call to Caracas, Venezuela from Los Angeles, California can be made for only \$5.00. Five dollar telephone cards to call Cuba can be found on the Internet beginning at \$.43 per minute and quickly go up to well beyond \$1.20 per minute. Phone cards to Cuba and their vendors in the greater Los Angeles area, as international as it is, are difficult to come by compared to the ease of buying inexpensive phone cards to call almost anywhere else in the world.

The case of the Cuban Five was raised along with the idea of using the Internet to educate for their freedom. A group in Russia intends to do just that. A site already exists in the United States, an example of using the Internet as an educational tool about the case, (<http://www.freethefive.org/>).

Another bellicose activity of the United States government was explored in discussions about the illegal transmissions of both Radio and TV Marti. Currently, an airplane costing approximately an annual amount of \$59 million broadcasts 2200 hours of signals weekly. This is in violation of Cuban airspace. It was also noted that this practice of the U.S. government transmitting signals began within a few years after the Cuban Revolution in January 1959.

The idea of international solidarity came up among several university students. Solidarity is seen as the idea of sharing what they have, not sharing the leftovers, the scraps. The country has accepted the responsibility to share their technological achievements with other poor countries, much as they generously do with their doctors around the world. "We are a poor, blockaded country, but we fervently wish to have a better world."

Participants left with a better understanding of how Cuba governs itself, using a social and political model with the essential premise of universal and free access to basic social services, prioritizing universal health care and education. Computer technologies are seen as part of that basic social service

The conclusions drawn from this online forum were more than the knowledge of how well-developed Cuba is in the broad realm of computer sciences, despite the blockade, but also a sense of the respect and value that Cuba places on all human and social resources and the recognition of its social responsibility and willingness to spend its scarce economic resources on its people. How egalitarian that is! What stands out even more, is that this has been done despite an economic blockade which has lasted for more than 45 years, at a cost to Cuba of more than \$82 billion dollars since 1959. What kind of social services, what quantity of computers and quality connections could that have bought?

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For a large annotated list of Cuban solidarity links primarily in English as well as a large collection of Cuban websites please visit: <http://cubasolidarity.com/resources/links.htm>  
Additions and corrections welcome:  
[dana\\_lubow@yahoo.com](mailto:dana_lubow@yahoo.com)