

PISA: THE CRADLE OF ITALIAN COMPUTER SCIENCE

by:
CLAUDIO BARCHESI

ITALIAN COMPUTER SCIENCE WAS BORN IN PISA DURING THE FIFTIES, FROM A PROJECT AND THE MAKING OF THE FIRST MADE IN ITALY PROCESSOR, THE CEP, PISAN ELECTRONIC CALCULATOR.

You can hardly say that it was a small handheld device. The CEP was as big as a current data centre: cabinets and cabinets of valves, interconnected ferrites and resistors, a huge and complex electronic machinery. A group of young physics and engineers of the Physics Institute of the University of Pisa realized it, and the university itself wanted to carry out that ambitious idea, also supported by Enrico Fermi: “a mean of research from which every science and field of research could take advantage”. The required money were allocated by Pisa, Lucca and Livorno Provinces but also Adriano Olivetti participated to the venture, with the newborn Electronic Research Laboratory in Barbaricina (Pisa). This synergy between research and industry led to the development of the calculators' line Elea, the first in the world to be entirely transistorized, that, after Adriano Olivetti's death, was transferred to the American GeneralElectric, with the short-sighted decision to close the electronic sector of the company. But if the



pisan venture did not have the well-deserved industrial success, great was its value in the scientific field. “The choice of building the pisan calculator at home, without buying it, presented very high technical-organizational risks, but proved to be forward-looking” explains Domenico Laforenza, Director of the Institute of Informatics and Telematics (Iit) at the CNR (National Research Council). “The acquired skills while planning the device gave Italian computer science an extraordinary impulse. In 1955, for the making of the calculator, it was instituted, at the University of Pisa, the Study Centre for Electronic Calculators (Csce) from which were born the Institute for the Elaboration of the Information (Iei) at the CNR, the National University Centre of Electronic Calculus (Cnuce) and, in 1969, the first degree course in Information Sciences in Italy, wanted by Alessandro Faedo, famous mathematician and president of the National Research Council from 1972 to 1976”.

Faedo stated in a 1997 interview: “As for CEP, the main result was not the making of the calculator itself, but the creation of a group of researchers, studying problems of this new science.” From Cnuce, it was born the Institute of Computational Linguistics (Iic), while from the Iei and Cnuce germinated the Institute of Information science and Technologies (Isti) and the Institute of Informatics and Telematics (Iit) at the CNR.

The CNR, in 1987, registered the first domain of the Italian web (cnr.it) and was among the first in Europe to adopt the IP Protocol. On the basis of this record, Iana (Internet Assigned Numbers Authority) assigned the management of the Italian domain names systems to the Cnuce of CNR, role inherited first by the Institute for telematic applications (Iat-CNR) and later by the Institute of Computer Science (Iit-CNR) that is, today, with Registro.it, the Italian authority for the concession of domain names.

REGISTRO.IT <HTTP://REGISTRO.IT/>: A FEW DATA

A web still quite male, northern, where enterprises double in number the natural persons. This is the picture that emerges from the data of Registro.it presented, at the Internet Festival of Pisa, by Maurizio Martinelli – manager of Internet services of the Institute of Informatics and Telematics at the CNR of Pisa (Iit-Cnr). Mostly, entrepreneurs, craftsmen, tradesmen from centralnorthern Italy are requesting new.it domains. 80% of them are males, relatively young, between 34 and 41 years. Even if the technological gap of the country mirrors quite accurately the economic one between the regions, the data present some surprises. The north of Italy, with 860 thousand registered names, holds totally the 54% of the “.it” against the 384 thousand of the Centre (24,20 %) and the 343 thousand of the South (21,64%). Among the Northern regions, Trentino Alto-Adige and Lombardy have the highest total ratio between Internet websites with .it and residents, whereas those that register less domains are Sicily, Basilicata and Calabria. “The analysis at macro-area level”, comments Maurizio Martinelli, “shows that the highest penetration rate, in proportion with the resident population, is registered at the Centre of Italy (385,30 domain names every 10.000 residents), followed by North and South (371,77 and 201,83 respectively)”.

The general data say that 57,7% of .it domain names was registered by companies; the natural persons are the 29,6 %, professionals and non-profit bodies, respectively with 5,76% and 4,48%. Among the natural persons, the first to register .it domains are Romans, with a penetration ratio of 166,9 every 10.000 persons, followed by the Milanese with 168,24 and by the Riminesi with 155,16. For companies the first is Milan with 46,35 .it every 100 enterprises; Bolzano is second with 27,62, Florence third with 26,1. At the bottom of the barrel in this ranking are the small Fermo, with 3,02, and Enna, with 4,72. For professionals, the Milanese excel with 40,74 .it websites every 10.000 residents; second the Bolognese with 29,21 and third the Florentine with 28,94. Last place for the professionals from Agrigento with 7,21 and Ogliastra with 3,88. For non-profit bodies are the Romans that win, with a rate of 67,17 every 100, followed by the Milanese at 58,54 and by the Florentine at 42,77; Oristano with 12,82 and Vercelli with 13,91 close the list. As for public administrations, the most active region in terms of Internet is the Valle d’Aosta, with a penetration rate of 13,56 every 10.000 residents, whereas the Puglia with 4,29 is the last one.

THE ITALIAN DOMAIN: FIFTH IN EUROPE AND NINTH IN THE WORLD

IN THE RANKING OF NUMBER OF REGISTERED DOMAINS BY EUROPEAN COUNTRIES, ITALY IS AT THE FIFTH PLACE, PRECEDED BY GERMANY (.DE), UNITED KINGDOM (.UK), NETHERLANDS (.NL) AND BY THE SUFFIX OF THE UNION (.EU).

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In the global ranking, the .it domain is ninth, preceded by the Chinese.cn, second place, by the Russian .ru, by the Argentinean .ar and by the Brazilian .br, respectively sixth, seventh and eighth.

In five years, the Italian domains doubled, passing from one million in 2005 to 2 million in 2010. And if the millionth “.it” was requested by a private citizen, Luca Vullo from Caltanissetta, student at the Dams of Bologna (lucavullo.it), the second millionth was registered by an enterprise from Acqualagna (PU) under the name “light-stone.it”. The last year’s trend confirms that the market of Internet names knows no crisis and that to be present in the web indicates a strong cultural and national identity”, comments the director of the Iit-CNR, Domenico Laforenza, “Today the companies are considering unavoidable the presence on the web”. The registration of .it domains is open to all European of age citizens. The Registro .it performs all the duties of allotment and maintenance of national names and for this task is the referent of the Icannc: Internet Corporation for Assigned Names and Numbers, the IP addresses authority at international level. Registro.it is managed by the Institute of Informatics and Telematics of CNR (Iit-Cnr), but works in tight connection with government bodies of reference: first of all, the

Ministry of Economic Development, as vigilant department on the activity of registration of name domains, and then the Authority for the protection of personal data. The structure works directly with about 1.200 Italian and foreign operators, holders of an active contract, called Registrar. The regulations for registering an .it are indicated in the “Statute of allotment and management of domain names” which text is subject to recurrent reviews on the initiative of the Registro itself and of its consultative body. Every variation is arranged between the parties in order to favour free competition between the operators of the sector. After the removal of the limit to the number of registrable domains (in 2000 for companies, in the summer of 2004 for natural persons) and the introduction of the synchronous system (28th September 2009), the request of .it domains has progressively settled at more than 36.000 new registration requests per month”, states Maurizio Martinelli, manager for the Systems and Development of Registro.it Unit. “The synchronous system – a new registration procedure, allowing the activation of the domain in a few hours, without useless waiting and paper and fax exchanges – has surely been a major step that seems to have extended the interest for the Italian domain event to foreign operators”.