

Some issues to be taken into account for a dependable 2031

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Technological Determinism

Technological Determinism:

if something can be done it will be done !

This is particularly true in ICT field. Many complications - that do not contribute to dependability - are introduced simply for technological determinism

- **do we need growing complexity operating systems ?**
- **do we need many gadgets and “intelligent” applications ?**

It would be nice to recall Dijkstra's words:

“I mean, if 10 years from now, when you are doing something quick and dirty, you suddenly visualize that I am looking over your shoulders and say to yourself, “Dijkstra would not have liked this”, well that would be enough immortality for me.” [“Introducing a course on calculi” (EWD 1213), August 1995]

Information collapse

Too much information = no information

How many of the millions pages that are on the web contain valuable information ?

Statistically when one makes a search on the web only the documents that appear in the first 2-3 pages of the search engine are used.

- **who mediates for presenting the documents in a given order ?**
- **who “certifies” the value of the information ?**
- **how is the user protected from maliciousness in mediation ?**
- **how do we protect our society from cultural decay ?**

Information collapse

One relevant problem that interests Italian society (but not only) is the fact that young students at elementary and junior high school use Internet for their researches more than books, and that the teachers, who are not computer experts, have no idea on the validity of the retrieved and used documents.

There is a need for “certifying” the validity of what is on the web, while maintaining the freedom of publishing on it.

Certification OK by made by whom ? Independent bodies ? How can we trust on “correct” independence ?

In any case providing credits of who is publishing what should be mandatory.

**“Information and information mediation” is Power and
“Correct, plural and certified information” is Democracy.**

Complex global systems

Already today but for sure in the next future computer-based systems are evolving from simply technological to socio-technological to political-socio-technological computer-based systems involving not only humans, but also organizations and governments with all facets related to legislative processes, judicial activities etc.

Exploitation of such systems will require a strong effort towards mixing up multidisciplinary fields, so that engineering, sociology, human organizations, psychology, politics all concur to “ambient trustworthiness” for a dependable 2031.

Today computer crime finds strong allies in different countries legislation and uncertain liability assessment.

Privacy

All together the previous issues threaten our privacy rights.

When a human person will be an computer-based embedded system, he/she still should have the right to manage different environments, some completely private, others partially private, others public, all supported by the same platforms (be they PDAs, smart phones, intelligent tissues, wearable computers, nanochips, etc.), and ambient trustworthiness can only be the answer for defending individual rights and privacy.

I think that we all can agree that

**Technology is only part of the solution for
building a dependable and trustworthy 2031**