Summary
The Y2K and HTML crises have lead to a more mature engineering practice of knowledge tools, Information Portals and to the professions of information architects and information builders. We give a short state-of-the-art report on these issues and some pointers to the future.

Introduction
As we know, a terrifying outcome of the so-called “Y2K-crisis” was the insight of the importance and dependence of Information and Communication Technologies (ICT) in the modern society. As we also know, the Y2K-crisis was somewhat later followed by the “HTML-crisis” in the web-world. Both crises were lessons on how immature technologies and bad system designs almost created a world recession on its own.

The result of the crisis can now be seen a decade later. The transition from software-centric design to functional design with added user values has taken its toll among related companies, some of them just disappeared during the turbulent years. On the other hand we have now a whole spectrum of ICT companies in areas which were not even thought of in the 1990’s.

Today
The most striking changes from 1999 up to now is
• The decomposing of the traditional PC into function based so called knowledge tools.
• The establishment of an electronic knowledge sphere.

A knowledge sphere is roughly speaking an electronic information bank that can be accessed and worked on by some of the knowledge tools. The ideas behind the knowledge sphere comes from areas such as (in 1999 terminology) electronic publishing, knowledge management, CSCW, computer based learning, agent technologies and work practice.

The knowledge spheres, with associated tools are key components for today’s
• creative support systems for knowledge workers
• support for interactive design and e-products and e-services
• support for living in smart homes and at smart work places

Information portals and Information system builders
Due to the new standards for describing content and metainformation (based on XML-technologies of the 1990’s) as well as advances in agent technologies (learning) we have now a whole new business around Information Portals. The most successful rely on presentations of high quality information services.
Nowadays nobody would start a project or an e-business without the help of support teams guiding and building information system. The ideas traces back to city planners, architects, construction and maintenance of buildings. A huge problem has been spent on how to take care of information waste in an environmentally friendly way.

In the area of functional designs of knowledge tools there have been many success stories and, as we know, new companies have emerged.

An obstacle has been national and international legislation around information and concerning security and integrity of individuals. Due to the severely of the earlier mentioned crisis most of these questions had been addressed quickly and in most cases with a satisfactory result.

What will happen in the near future?
It is now 2010 and we are still in the first phase of the second wave of the information society. The searching tools in most information systems are now being built using good engineering practice. This also means that we can reuse most of the infrastructure when we modernize the knowledge sphere and add on new services or delete old ones. This was not the case 1999!

References
The most relevant reference is proceedings from ICCC/IFIP conference 1999 on Electronic Publishing.