

From stupid technology (ST) to stupid intelligence (SI)

Don G. Bouwhuis PhD

Emeritus professor Eindhoven University of Technology, Eindhoven,
The Netherlands

E: d.g.bouwhuis@tue.nl

D.G. Bouwhuis. From stupid technology (ST) to stupid intelligence. Gerontechnology 2010; 9(4):484-486; doi:10.4017/gt.2010.09.04.017.00 Starting from the term stupid technology as coined by James Fozard in 1999, the stupidity of some Internet intelligence is shown.

At the CHI 1999 conference in Pittsburgh Jim Fozard headed the Senior CHI Development Consortium. In a series of papers there^{1,2}, the term 'stupid technology' was coined, being the ugly face of what was then called smart technology, that obviously was not so smart in the context of seniors. The term 'stupid technology' appealed greatly to Jim Fozard and today we want to develop this concept further in the direction of a more detailed specification and a more rigorous definitional framework.

TELECARE

This intention can best be illustrated by a practical case of a health state monitoring system that we installed at the home of an older gentleman. He had diabetes, was a little overweight, and took an appropriate diet. At any time the diabetes nurse could look up the health state variables, sleep quality and the situation in the home on her computer screen by means of a secured IP connection.

Not long after we had installed this system the nurse was getting most unusual readings. It seemed that the bed was located on the roof of the house, the cell phone was letting the dog out and the TV-set was doing the laundry. Worse even, it appeared that the diet had been particularly successful as the gentleman now had a negative weight of -23 kg, and was no longer diabetic, but had become two months pregnant overnight.

The nurse was quite concerned about these sudden changes, especially as she knew that the TV-set had no suitable settings for different types of garments. So she asked us to have a look at the premises and our boys were quickly dispatched to the scene.

Pretty soon they found out that the gentleman's neighbor had installed a high-power wireless router that interfered heavily with all signals we were trying to collect. This type of technology cannot be called stupid; on the contrary, it consists only of intelligent components. However, if the result of its functioning is very counterproductive we may call it 'stupid intelligence'. And that is our new concept: Stupid Intelligence, SI.

SOCIO-ECONOMIC EMBEDDING

The introduction of gerontechnological systems, and likewise that of many domestic systems runs into problems that have not been encountered before in the adoption of new technological products. Trains required railways and stations but rail transport remained a relatively independent industrial sector that continued operating under widely varying circumstances. The same is true for automobiles that need roads and filling stations, but also for the fixed-line telephone, the mobile phone, radio and TV that all are relatively independently operating business areas, each connected with their own industrial partners for delivery and maintenance. Gerontechnology spans considerably more socio-economic sectors than any of those mentioned

before. It is not only borne from care, but is operating in a domestic setting, making use of traditional and new communication devices and systems, but totally dependent on equipment with low, or non-existent interoperability, stemming from medical industry, consumer industry and component industry and integrated by non-standardized software. All of this has to be run by a care organization that lacks the capital outlay for investment and is usually too small to employ adequate technical staff for operating the system in an efficient and reliable way.

EXTRANEOUS FACTORS

Meanwhile the capability of the single products *per se* has increased to a high level, at about the same rate as their prices came down and sizes shrunk. This means that quite intelligent sensors can be easily built in, for instance in furniture and beds, or doors and walls, at a surprisingly low cost and largely invisible. None of these devices does impact the activities of daily life in any way, yet, after installation and a long weekend it is not uncommon to discover that half of the sensors have been pried from their hidden locations by helpful grandchildren, nephews or curious relatives, and are dangling from the seats of the chairs, or scattered around the floor. Some of the sensors may still be transmitting what they are supposed to do from a different location than where they were installed and so produce totally invalid information concerning the unsuspecting tenant. What is surprising too, is that such tenacious effort must have been spent in dismantling the furniture to be able to look at the mysterious device that has been mounted so carefully and accurately to be both unobtrusive and effective. This was never the case with radios or TV sets, and neither were CD players, featuring potentially harmful little lasers opened and taken to tiny bits for technological enlightenment of the anticipating listeners. Gerontechnology components do not fit in a single and familiar sector of technology or services, they fit in almost everything. And consequently, hardly any branch of industry or services is able to successfully integrate

them; not so much because of lack of proficiency, but rather because of the intelligence of components that cannot communicate with other intelligence.

What is lacking is mainly interoperability between components, but even when that is solved there is the problem of embedding the technology in a socio-economic structure that combines care, business, technology, and services in a seamlessly integrated way.

LACK OF A REFERENCE MODEL

Whereas in telecommunication there are reference models according to which a range of technical service levels can be implemented that operate unreservedly with other certified components, there is no such thing in telecare or gerontechnology. In a number of countries efforts are underway to standardize technical telecare concepts, but progress seems slow, and largely devoted to a definitional framework.

So, currently there is little reason to underestimate Stupid Intelligence, that is realized by the conjunction of intelligent devices without a binding architecture that exploits the 'smart parts' for an adaptive, timely and accurate monitoring and control system. In our experiments in the course of the ITEA-2 project IPTV³, it could be shown that it was possible to configure only few sensors and software in such a way that a continuous, reliable health status of diabetes patients could be obtained. This enabled to take timely action in case of threatening exacerbations, preventing hospitalization, and led to improved contact with care personnel. But it is still the fight against Stupid Intelligence that makes these promising experiences a thing of the future.

We know it is difficult to battle with intelligence, but it is much harder to battle with stupid intelligence. We must all be grateful to Jim Fozard⁴ who has been leading us throughout this battle, - that has seemed desperate sometimes -, but who never failed in pointing out victory to us.

Acknowledgement

This contribution was presented in a slightly different form at the presidential symposium of the Gerontechnology world conference (ISG2010) in Vancouver.

References

1. Ellis JB, Kogan S, Rowan J. Senior CHI: The CHI 99 Development Consortium, SIGCHI Bulletin 1999;31:37-42
 2. Meyer E, Bouwhuis DG, Czaja SJ, Rogers WA, Hufschmidt MS, Fozard JL. Senior CHI: how can we make technology “elder-friendly?” CHI ‘99 extended abstracts on Human factors in computing systems 1999; pp 81-82
 3. IPTV portal to Wellness, partly nationally funded by Point One of the Dutch Ministry of Economic Affairs and partly by the European ITEA-2 project AmIE.
 4. Franchimon F, James L, Fozard: First Grandmaster of Gerontechnology. Gerontechnology 2010;9(4):489; doi:10.4017/gt.2010.09.04.011.00
-