

Perspective of development in information technologies: An insight into future possibilities of IT application

When television series *Star Trek* appeared in 1966, everyone was amazed by self opening doors, laser scalpels and other then science-fiction gadgets. And now? Everyone can fix their eyes with laser surgery and you walk through photocell doors in every mall you visit. From this example, you can see one area which pushes the development forward: science-fiction and people's fantasy. I wonder when will we have wire connected to our brains like in *Matrix* (or more precisely Japanese animated film *Ghost in the Shell*) or when will we control our computers by hand gestures like in *Minority Report*.

Another area which pushes the development further is unfortunately army. The first computer ENIAC (Electronic Numerical Integrator And Computer) was made to calculate artillery firing tables for the U.S. Army's Ballistic Research Laboratory during World War II. Hand in hand with military training go computer games. You should also note that one of the first 3D computer games was made to train American troopers.

There are basically three topics which might be improved: sound & graphics, interaction with humans and computational power.

Actually, sound can't be much better. 5.1 (and even 7.1) speakers are now available, and they aren't expensive. But most people still use just headphones or lousy laptop speakers. But graphics can be largely improved. If you compare *Wolfenstein* or *Doom* with current games and current games with first *Toy Story*, you will see what I mean. It's just fifteen years. And I'm really looking forward to see films like *Wall-E* rendered in real time.

I already mentioned *Minority Report* as example of possible future user interface. But you don't have to use your limbs to control your computer. Some laboratories are now experimenting with face expressions or voice controls and they try to understand your emotions. So maybe one day, when you will swear at your computer, it might just turn itself off and be offended. And you'll have to say "Sorry" to turn it on again.

Computational power is what counts. You can't display beautiful 3D scenes or analyse movements of your hands in space without enough horsepower. You should know, that the computer on which you are viewing this essay is way more powerful then those which controlled the first Moon landing. Large laboratories now uses large computer clusters to simulate movement of matter in space. And just yesterday I saw presentation of company called nVidia which presented computer with similar power, but sized as standard PC. Yes, it was very expensive, but just imagine what you can do if you connect those machines to large cluster!

So, what awaits us in the next fifteen years? I don't know. But I hope computer games will be funnier and much more exciting then now. Will I even know I'm playing computer game? We will see...