



## Stanford eCorner

### Disruptive Technologies

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Video URL: <http://ecorner.stanford.edu/videos/1277/Disruptive-Technologies>

Doerr gives his list of what he feels are important new disruptive technologies. His first choice is wireless and his second is services for enterprises.



#### Transcript

Somebody asked, what are the important new disruptive technologies of the future? And so I'd like to step through the ones, the initiatives that my partners and I, Kleiner Perkins, are pursuing. The first is in the area of a wireless communications of all kinds. The second is in services for enterprises, institutions, whether your hospitals are for profit businesses, web services, security services and importantly, search services. Let me suggest the following point of view. If in the early days of computing in software, all the important development work was writing to the iron or writing to the microprocessor, developing the microcode for the chip, then operating systems were introduced and we wrote designed to and wrote operating systems. And then databases were introduced and we wrote the databases. I think for Web 2.0 for the next generation of Web services, the most interesting services are all going to be built on search of one kind of a platform or another. So enterprise search, access to information, visual access, geographic access, semantic access. I'm going to talk more about consumer content in services. It's in red because I like talking about, hope you enjoy hearing about Google, who are involved in several other ventures in that field.

Open source is a very important initiative and well positioned for contribution and advantage. Next generation chips and memory, I think that's where we'll see nanotechnology applied first. Innovations and energy are something that my partners and I've been very curious about for quite some time. Anybody see Tom Friedman's column on Sunday about his wanting to be, I think it was an eco-entrepreneur or eco-globalist? He said the best thing we could do for peace in the Middle East would be to innovate so much that the price of oil went to \$18 of barrel. That that would force social change, creation of opportunity, more than any agreement we might reach about the Gaza Strip. And I'm optimistic. I think we'll get to an agreement between the Palestinians and the Israelis before we get to \$18 of barrel, but I also believe that innovations from entrepreneurs can get us there. In fact, we're involved in four such ventures today. Personalized medicine is a very exciting field. Our partnership has two or three initiatives underway here; one of them in combination with the Stanford.

And so we've sequenced the human genome, right? But that just gave us like the parts list for the Boeing 747. No one really knows how to wire it together, how to program the subsystems. We really can't do proteomics because the genes express proteins. We don't know what all the pathways are that are modulated or regulated by various proteins and receptors. So there's a lot more to know. But with just today's knowledge of genomics and it's remarkable. It was a networking effort among many universities in using processing power. With that much knowledge, you can, in a case that strikes very close to my home., for a woman who has a very frequent, I was going to say popular, but common. Unfortunately, common type of breast cancer or occurrence, take a sample of that tumor, do genomic analysis on it and then determine with very high

confidence that 90% of those women do not need to have chemotherapy because of the type of the tumor. And quite the opposite is the case today.

About 80% of women undergo chemotherapy when only 10% of them need it. Breast cancer is an indignity that no woman should have to endure chemotherapy. Whether you're man or a woman, put you out of a commission for over a year is costly. Today's approaches to cancer, by and large, are cut, burn and poison with poison being the chemotherapy. So this is a remarkable contribution, the idea of having the right drug for the right patient at the right time in the right diseased state.