

The Accelerators

Startup mentors discuss strategies and challenges of creating a new business.

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10:57 am ET
Sep 29, 2014

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Vivek Wadhwa: Silly Apps Aren't the Future of Tech

ARTICLE

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VIVEK WADHWA: The [contenders](#) in the 2014 TechCrunch Disrupt included a startup that seeks to change the way in which diseases are diagnosed, a medical-grade health scanner, a platform to connect innovators with scientists and a suite of business-intelligence tools for conservation and drought planning.

Sadly, the winner was a simple app for the elite: Alfred Club. This allows you to hire someone to do everyday chores such as laundry and grocery shopping. It's hardly a disruptive technology, and will appeal only to well-to-do nerds.

This competition result would be unimportant if the event had been a local hackathon run by boys to judge apps for boys. But TechCrunch Disrupt is considered to be the Oscars of the tech industry. Entrepreneurs and investors all over the world take inspiration from it. The judges are a who's who of the Valley and represent leading firms such as Sequoia Capital, SV Angel, Greylock Partners and Khosla Ventures. Marissa Mayer, the CEO of Yahoo, was on the selection committee. These people seem to be drinking their own Kool-Aid and are apparently out of touch with the opportunities of advancing technologies.

The billion-dollar opportunities aren't in silly apps anymore. They are in areas that Apple and Google have recognized: health care, robotics, artificial intelligence and sensors. Apple recently announced a platform called [HealthKit](#) for collecting data from health and fitness apps, and it released a health app on iOS8 to display them. Google has long been developing self-driving cars and technologies to understand and mimic the functions of the human brain. To supplement its own efforts, Google acquired several companies building industrial and commercial robots. And it [acquired, for \\$3.2 billion](#), Nest Labs, the leading developer of in-home thermostats. It intends to make this a platform for home sensor data.

In computing, processing power doubles every 18 months as prices fall and devices become smaller. Such exponential advances are also occurring in the fields of medicine, robotics, artificial intelligence, synthetic biology and 3-D printing. Futurist Ray Kurzweil notes that as any technology becomes an information technology, it starts advancing exponentially. That is what is happening in these fields. They are also converging and making it possible to solve large-scale problems — and to disrupt industries.

MEMS sensors, which are built with miniaturized mechanical and microfabricated electromechanical elements, allow the development of health devices such as the Apple Watch. These will have a variety of sensors to measure things such as heart rate, temperature, movement, pressure and light. They will thus be able to monitor blood pressure, blood glucose, blood oxygen, respiration and even sleeping habits. Sensors are

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startups.

also being developed to analyze our bowel and bladder habits and food intake. All of these will feed data into platforms such as HealthKit, and turn the smartphone into a medical device akin to the Star Trek tricorder.

We learned how to sequence the genome about a decade ago, and doing so cost billions of dollars. Today, a full human genome sequence costs as little as \$1,000. At the rate at which prices are falling, a genome sequence will cost less within five years than a blood test does today. This makes it affordable to compare one person's DNA with another's, learn what diseases those with similar genetics have had in common, and discover how effective different medications or other interventions were in treating them.

Robots can now perform surgery, milk cows, engage in military combat, stock shelves and fly fighter jets. The robots of today are specialized electromechanical devices that are controlled by software and remote controls. As computers become more powerful, so do the abilities of these devices. High-school children are using robot-development kits and open-source software to create sophisticated robots. Industrial robots that can do manufacturing and automate other routine processes cost as little as \$22,000, and their prices are falling even as they advance toward human capabilities. We can be building robots like the ones we see in science fiction movies, and have them do the work of the Alfred Club app.

Artificial intelligence has progressed so far that a computer was able to defeat the most capable and knowledgeable humans on the TV show *Jeopardy*. The technology that enabled this, IBM's Watson, is now available to developers everywhere. Artificial intelligence systems are being trained to perform medical diagnosis, drive autonomous cars and operate call centers. Imagine a Samantha-like companion as in the movie *Her*, with a robotic body made-to-order via 3-D printing. This is what Silicon Valley — and developers everywhere — are capable of creating.

























Advancing technologies make it possible to solve the problems of hunger, poverty, energy and education. Entrepreneurs all over the world are seeing these possibilities and are developing world-changing technologies. But advances would happen faster if Silicon Valley's moguls woke up to the new reality and started focusing on big problems as well. We could be investing the billions of dollars spent on building mindless apps to make the world a better place.

About The Accelerators

Inspirations for actual entrepreneurs, The Accelerators forum is a lively discussion among startup mentors—entrepreneurs, angel investors and venture capitalists. To reach us: @wsjstartup or theaccelerators@wsj.com.

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2:34 pm October 4, 2014

R K wrote:

The author is naive. I am curious if he would spend his own money on these big-world-life-changing ideas. No VC or angel cares for the longer leadtime exits required outside of software. So unless this is a philanthropic activity, don't expect current financial motivations to change. Second, the author further underestimates what it takes to get products out there. It has to be a perfect storm. MEMS sensors have been out in industry for more than 50 years, but with their introduction by first in the Nintendo Wi, and then by Apple and Google in short order, you'd think they were discovered just yesterday... and blood glucose sensing, yeah. Haha, G/L with that!

1:09 pm September 30, 2014

Martin Calvo wrote:

While robotics seems an awesome area to develop, it's still missing one fundamental part, which is sensing the environment. If people manage to translate the world as can be seen, felt and heard (and at low prices), then robotics will be able to do much more stuff than it is doing now (it's true that there are robots doing awesome stuff right now, but they usually do in controlled environment, if technology manages to reduce costs of sensors and automatization gets more innovation, then it wouldn't be odd to see robots as we see in the movie I, robot).

11:54 am September 30, 2014

Leo Nunes wrote:

The next hot thing should be biotech, startups that wan to tackle the great problems of our biology and uplift all of humanity solving problems and improving the quality of life that is a hot issue that people will be willing to put thir money into!

10:06 am September 30, 2014

Devesh Batra wrote:

Wearables are great, but then why limit AI to a few devices? The idea is to make every thing around intelligent: the walls, the floor, the clothes, even the toilet seat.

5:16 am September 30, 2014

Ty wrote:

3d Printers are great, I use them to create sandstone figurines that I sell and fairs and other events. However, I think that better, faster, cheaper industrial robots, as well as robots like Jibo are where it's at.

Why?

Because robots that quickly modeled models from 3d printed molds would help garage manufacturers produce much faster than 3d printers can.

Robots a bit more advanced than Jibo could help watch tables and answer questions when I get crowded.

Yeah, I'm talking about simple craft fairs, but when tech starts getting accessible enough that ordinary people and small businesses can start using it regularly that's when things really start picking up.



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