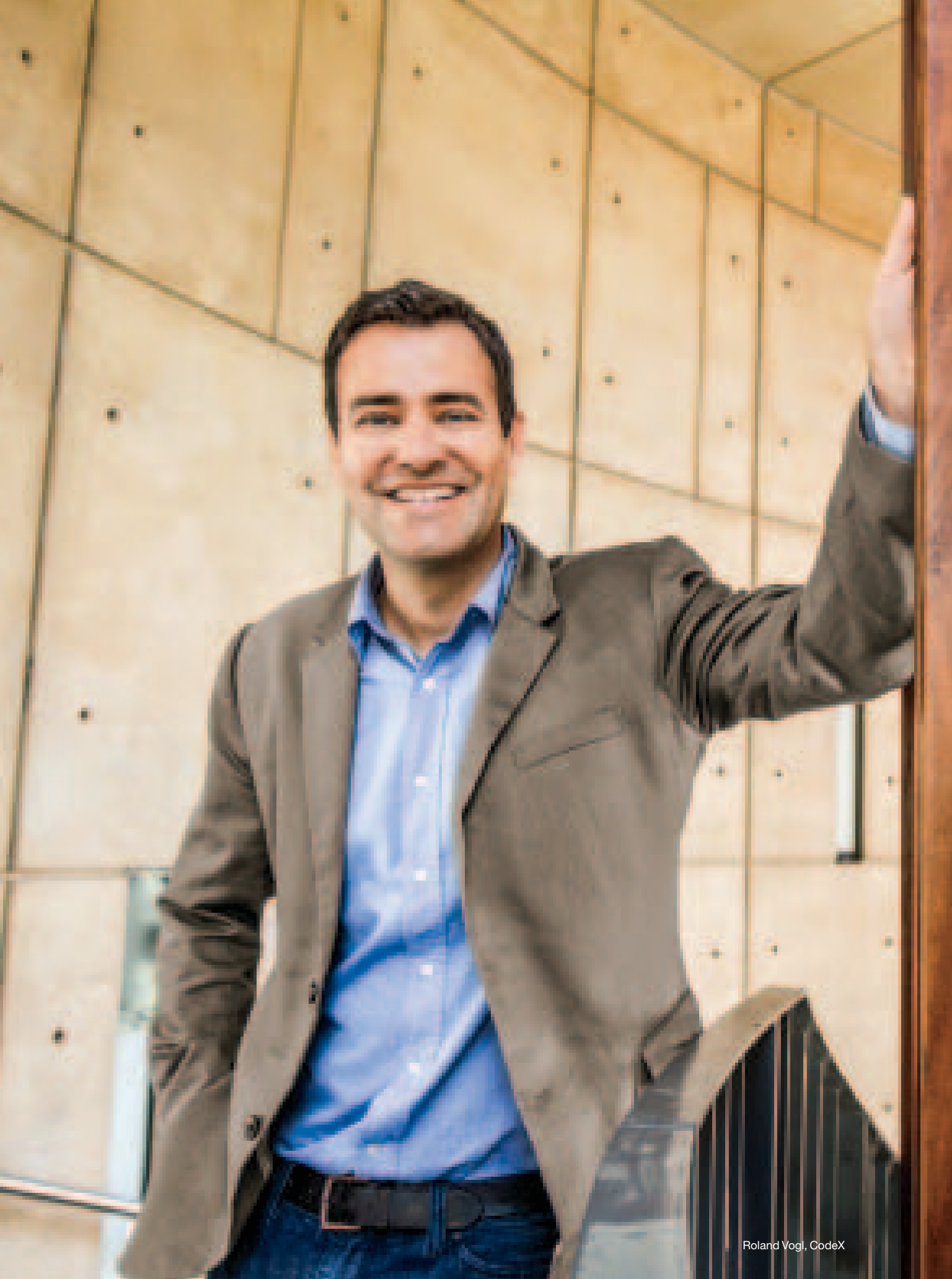

Roland Vogl, CodeX

SILICON STARTUPS

Stanford Law School has a new role — as an incubator for innovative legal technology.

BY TAM HARBERT

PHOTOGRAPH BY ERIC MILLETTE

Stanford University is a legendary breeding ground for startups — Silicon Valley giants Google Inc., Yahoo! Inc., and Cisco Systems Inc. all came out of the Palo Alto, Calif., institution's computer science and engineering departments.

Now, Stanford Law School is getting in on the action. In the last four years, the school has become a hotbed of entrepreneurship in the field of legal technology. Since 2009, at least five startups have spun out of the school. The first was Lex Machina, a company that maps electronically available patent litigation events and outcomes to build a litigation database.

Since then, startups have been happening with increasing frequency, observes Clint Korver, a partner at Ulu Ventures, which has invested in three. "I think Lex Machina broke the ice, showing the commercial potential of collaboration between the law, business, and engineering schools."

Most of these companies are still in very early stages, but together they are the first fruits of a concerted effort at Stanford Law to increase entrepreneurship and nurture new businesses that apply the latest technologies — including machine learning, data analysis, visualization, and advanced search techniques — to make the practice of law more efficient. Stanford's Center for Legal Informatics, aka CodeX, seems to be the vortex of this activity. A joint project of the law school and computer science department, CodeX focuses "on computational law, an innovative approach to legal informatics based on the explicit representation of laws and regulations in computable form," according to its website. Its work "includes theoretical research on representations of legal information, the creation of technology for processing and utilizing information expressed within these representations, and the development of legal structures for ratifying and exploiting such technology," the website states.

"Our motto is legal empowerment with legal technology," says Roland Vogl, executive director of the center as well as Stanford's program in law, science, and technology. The center wants to help not only the legal profession but also serve the broader public interest, helping citizens get better access to legal services, he says.

Vogl ticks off the companies that have spun out of Stanford Law in recent years: Lex Machina, Ravel Law, Occam, LawGives, and SIPX. CodeX has drawn legal technology entrepreneurs from outside the school, as well. "These are folks who are working on their own legal tech platforms," he says. "They wanted to benefit from the brain network we have here."

Some Stanford law alumni are launching companies not directly tied to the school. Blake Masters, who graduated last year and was admitted to the California bar in March, just debuted Judicata. In a December 2012 blog post, Masters said the company would use "highly specialized case-law parsing and algorithmically assisted human review to turn unstruc-

Ravel Law

WWW.RAVELLAW.COM

Founded: 2012

Funding: NEA, North Bridge Venture Partners, Ulu Ventures, and angel investor Ron Dolin.

Business: Co-founders Daniel Lewis and Nicholas Reed graduated from Stanford Law in June 2012. According to Lewis, the idea for the company arose from general dissatisfaction with current legal search technology, which simply moved the industrial age system online.

Ravel is developing an alternative that relies on data visualization. "We wanted to re-imagine this process — help speed it up, put it into more context, and build systems that would better deal with the ever-increasing flow of information," he says. "We want to put this all in a much more intuitive package that doesn't require a semester's worth of legal research classes to understand."

The company started with a publicly available set of data from www.bulk.resources.org, which includes about 800,000 cases of Supreme Court and circuit court law, as a base on which to build its own database. —T.H.

Nik Reed and Daniel Lewis

PHOTOGRAPH: ERIC MILLETTE

tured specialized court opinions into structured data."

The startup has raised $2 million from Peter Thiel, also a Stanford Law alumnus (and co-founder of PayPal), and several other angel investors. Four of the seven people involved in the company are Stanford grads. But Masters doesn't consider it a Stanford spinout. "It didn't start as a class project or anything," he says. He declined to provide further information about the company, but spoke at the April CodeX FutureLaw 2013 conference on a panel addressing financing (see page 54).

Not all these startups will succeed. In fact, stats are pretty dismal. The National Venture Capital Association says that 25 to 30 percent of venture-backed startups fail. A 2012 study by Harvard Business School lecturer Shikhar Ghosh pegged the failure rate even higher, at close to 75 percent.

Stanford Law has already had at least one failure. Occam, launched in 2010, was developing a technology to simplify

search of patent cases. But by April 2011, the founders got into a dispute, the company fell apart, and the money was returned to investors, according to co-founder David Hagar.

The blossoming of legal technology entrepreneurship at Stanford is the result of several factors that have converged over the last four years, says Vogl. First is the "crisis in the legal profession," a development with several dimensions. There is the poor economy. "Big Law is under pressure," he explains. "They can't hire as many people as they used to and they can't pay them huge salaries anymore." There is the breakdown of traditional practices and conventions, such as the billable hour. The legal system is finally entering the digital age (courts have made data available online only within the last decade) while technologies like data analytics have progressed enough to process the reams of data generated by the law. Meanwhile, young attorneys struggling in a tough job market are becoming more inventive, taking a fresh approach to practicing law.

At the same time, notes Vogl, there is a crisis in terms of adequate access to justice in this country. Ironically, while there are increasing numbers of unemployed or underemployed attorneys, a significant percentage of the U.S. population doesn't have access to a lawyer.

Law students have become more interested in technology, says Pieter Gunst, COO and co-founder of LawGives, and a former lawyer at DLA Piper. Eighteen months ago, Gunst announced an informal group for law students to teach themselves how to program — 60+ students responded. "Five years ago this would've been hard, but with the tools available today to build web applications, it's become so much easier," he says.

An additional factor could be Stanford's change from semesters to quarters in 2009, which encouraged interdisciplinary cross-pollination. It has helped law students access other campus resources, such as classes at the Stanford Design School, says Daniel Lewis, CEO and co-founder of Ravel Law. In fact, that's exactly what he did while he was a student there. "It allowed students to get outside of the pure academic law world and into more interdisciplinary stuff," he says. And there's simply the microcosm that is Silicon Valley. "Within a five-minute walk of its offices, CodeX can access some of the most talented legal, engineering, and business minds in the world," says Korver.

Tony Lai (left)and Pieter Gunst

Gunst and Tony Lai, co-founders of LawGives, agree. They felt the super-charged atmosphere as soon as they arrived, and started developing the idea for their company while studying for their LLM degrees at the Center for Legal Informatics. "Lex Machina had already spun out, and it was really inspiring," says Lai, who serves as CEO of LawGives. "It's the whole startup culture here — students are always thinking about how they can apply what they are learning in a tangible way to create some value." Even after they graduated and started the company, Lai and Gunst have stayed involved at Stanford. They are entrepreneurs in residence at StartX, an incubator program that Stanford University created in 2010. They provide entrepreneurs at StartX with legal consultation, which in turn helps inform how they design the LawGives platform. The two also help teach a class called "Legal Technology and Informatics."

The story of how Ravel Law evolved also illustrates how the entrepreneurial DNA of Stanford is taking root in its law school. Lewis and Nicholas Reed developed the idea for Ravel during their final year (both graduated in 2012). Frustrated with the clunkiness of research services from Thomson Reuters and LexisNexis, among others, Ravel developed a new way to do legal search, by using new data visualization technologies, they say.

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The company started with a publicly available set of data from www.bulk.resources.org, which includes about 800,000 cases of Supreme Court and circuit court law, as a base on which to build Ravel's database. The founders worked on a business plan in a venture capital class offered by the law school. They entered the plan in a campus competition, coming in second, behind

Law Gives

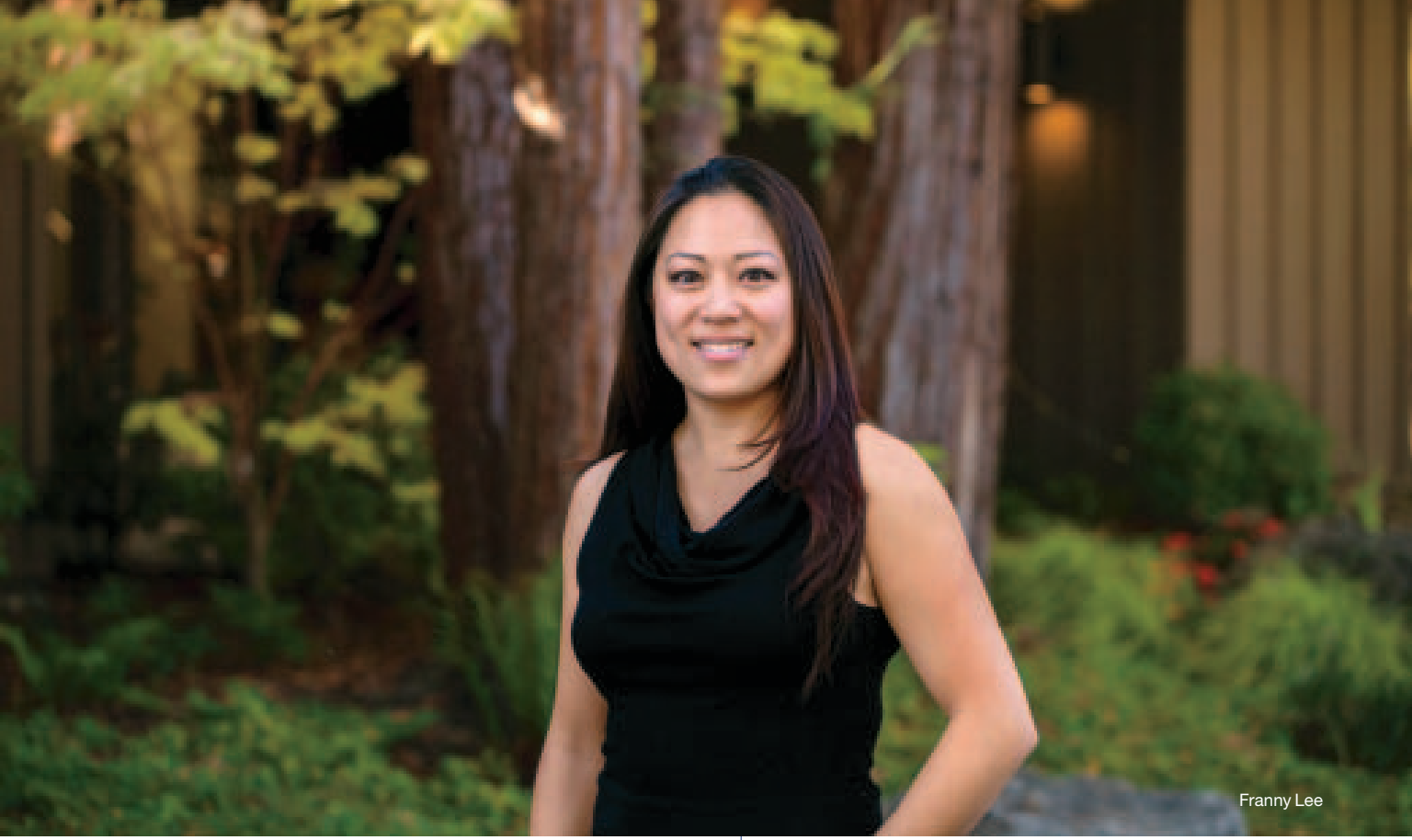
HTTPS://LAWGIVES.COM

Founded: 2011

Funding: Friends, family, angel investors.

Business: Co-founders Tony Lai and Pieter Gunst met while they were attending Stanford's LLM program. "The thing we initially keyed on was that 80% of low-income U.S. citizens need legal help but can't get it," says Lai. They have developed a platform that matches those in need of legal help with attorneys willing to provide it. The service is free to users; attorneys pay a fee to be included. The platform uses machine learning to interpret the questions clients enter into the system and match them with appropriate lawyers. —T.H.

PHOTOGRAPH: MICHAEL CHICHI



Franny Lee

"a team of medical students that were curing kidney stones," says Lewis. Next, a class at Stanford Design School on how to launch a startup. (See http://at.law.com/LTN136C1.) "That was how we came into contact with the investors who eventually backed our company," said Lewis, who praises the enterpreneurious richness of resources at the university.

"We were able to take advantage of a number of different resources that helped us get off the ground," he says. "The density of the community in terms of people you can get advice from, people that you run into who are interested in supporting entrepreneurship, I think is unique."

And as legal technology becomes a hot market, there are undoubtedly other Stanford Law projects waiting in the wings, with principals chomping at the bit to monetize their ideas. Among them is Securities Litigation Analytics, which has developed a database of securities litigation. The plan, according to SLA's director, Jason Hegland, is to provide analytics so attorneys can mine the data for information to help inform legal strategy in casea. It's a similar model to Lex Machina, except for securities litigation rather than patent litigation, he says. But because of the smaller number of securities cases (about 3,000), the idea has a more limited market.

Despite the small market and some technical struggles with building the database, Hegland hopes the project will either be spun out into its own company or acquired by an existing legal technology or perhaps insurance business.

"Startup culture is in the air here," says Lemley, a Stanford professor. "Silicon Valley is the most hospitable place in the world in which to start a company."

Tam Harbert is a freelance reporter based in Washington, D.C. Email: tam@tamharbert.com.

SIPX | STANFORD INTELLECTUAL PROPERTY EXCHANGE

WWW.SIPX.COM

Founded: 2012

Funding: XSeed Capital, with participation from Mohr Davidow Ventures, Ulu Ventures, Konica-Minolta, Stanford University, and angel investors.

Business: SIPX was originally a research project called the Stanford Intellectual Property Exchange, explains Roland Vogl, executive director of CodeX and a co-founder of SIPX. There are three other co-founders:

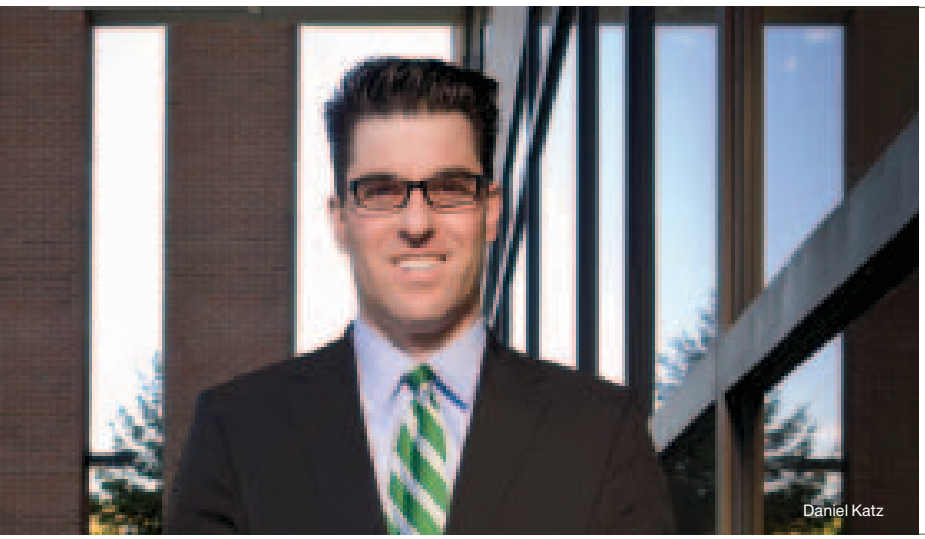
» Franny Lee holds an LLM in law, science, and technology from Stanford and serves as vice president of university relations and product development at SIPX.

» Michael Genesereth is an associate professor in Stanford's computer science department, and research director of CodeX.

» Bob Weinschenk is CEO of SIPX.

Essentially, SIPX is a database of copyright licenses. The company is targeting the higher education market first, but has a goal of expanding into other markets eventually. Universities have a difficult time tracking and managing rights to use copyrighted material in courses, Vogl explains. SIPX tracks the copyright permissions of a particular student or instructor under the university's holdings, and helps figure out the price for the content based on those licenses, avoiding added expense and potential liability, he says. "We're basically trying to be the iTunes for educational content," says Vogl. —T.H.

PHOTOGRAPH: JUAN PABLO COSTANZO

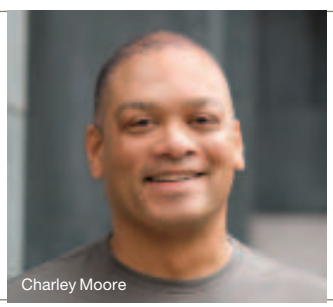

Daniel Katz

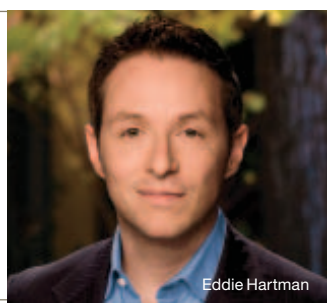
CODEX CONFERENCE

Redefining the practice of law by inventing new technology, one startup at a time.

BY MARK MICHELS

The agenda of the first FutureLaw conference at The Stanford Center for Legal Informatics wasn't your typical continuing legal education fare. Tim Hwang, name partner at three-year-old legal startup Robot Robot and Hwang served as the program curator of the program, a division of Stanford University's law school. (Hwang is serious about the "Robots" in his firm's name, calling "Apollo Cluster" and "Daria XR-1029" senior partners.) The April 26 conference drew about 250 law students, lawyers, entrepreneurs, investors, consultants, and technologists to the Palo Alto campus.


Charley Moore


Eddie Hartman

Hwang declared that his goal was to assemble a group to discuss legal service ideas and developments that they "might not usually have a chance to nerd about with others." Simply put, Hwang wanted the conference to answer this question: "What awesome things are people working on [in legal services] that should be shared more widely?"

Among the highlights from the 26 speakers:

» Daniel Martin Katz, assistant professor at Michigan State University's School of Law, and co-founder of its Reinvent Law Laboratory, said that surveys consistently document that 70 percent of the people who need legal services can't get them. (See also, page 11, "Assassins Aim to Reinvent Law.")

» Eddie Hartman, co-founder of LegalZoom, an online service designed to help people create their own legal documents, looks at these surveys (and other data) and concluded that the biggest competition lawyers face is not from other lawyers or law firms but from "non-consumption" in the consumer market.

» RocketLawyer founder Charley Moore, who provided the opening keynote, attempts to serve this consumer market. Moore challenged lawyers to think like entrepreneurs, and embrace technology to create efficiencies to serve the consumer market. Jamie Wodetzki, founder of Exari Systerms, which sells document assembly and contract management software, said simply that "technology is the key enabler of change" for the legal market.

MONEY. A quintessential Silicon Valley program component was a panel entitled "Financing the Legal Revolution." One speaker opined that the companies that will really transform the legal market will be supported by venture capital.

Blake Masters of Judicata said that startups can face a daunting challenge explaining the legal market to potential investors. Masters illustrated the challenge by showing a popular web video of a cat in a shark costume chasing a duck while riding a Roomba vacuum cleaner. Masters declined to say whether the duck represented the start-up or the VC. (One of the many YouTube versions of the video has charted more than 2 million hits as of mid-May: (http://at.law.com/LTN136cat).

Robert Siegel, a general partner at XSeed Capital said that "a lot of innovative technology is being developed to automate what was done manually" in the legal arena.

One such technology that caught Siegel's eye was Lex Machina's machine learning algorithm which — in part — explained xSeed's investment in the start-up. (On May 1, Lex Machina closed a $4.8 million

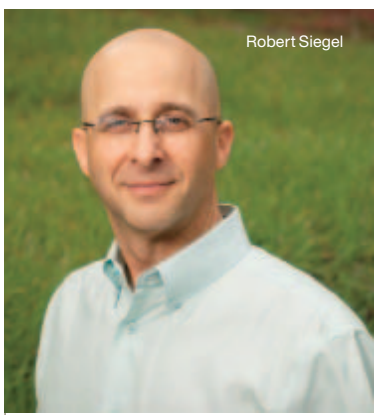

Robert Siegel

PHOTO BY SCOTT STEWART (TOP)

email: lawtech@alm.com

Series A Funding round that was lead by Boston's Cue Ball Capital.)

Indeed, recognizing that data analytics will play such an important role in legal services, Katz argued that law schools should have classes like "Quantitative Methods for Lawyers" and statistics. Not surprisingly, Katz teaches those topics at Michigan State University's law school.

Another panel addressed the proposition that user interface and user experience design need to be a "fundamental element" of legal tools if they are going to have mass market acceptance. Margaret Hagan, an accomplished graphic artist attending Stanford Law School, captivated the audience with her drawings which colorfully communicate legal principles graphically.

Hagan stated that her true passion is using human-centered design to make law more accessible, useful and engaging.

Two companies that also showcased their designs for the group were Judicata, with its analytics-based (instead of key word-based) case law search engine, and Ravel Law, which uses visual analytics to display legal research.

Attorney **Mark Michels** is a director in the Deloitte Discovery practice of Deloitte Financial Advisory Services. Email: mmichels@deloitte.com. **More**: *LTN*'s Editor-in-Chief Monica Bay interviews Mark Michels: http://at.law.com/LTN136MM.


Mark Lemley

Lex Machina

WWW. LEXMACHINA.COM

Founded: 2009¶

Funding: Stanford University, TEEC Angel Fund, Ulu Ventures, XSeed Capital, and angel investors. On May 1, it closed a $4.8 million Series A funding lead by Cue Ball Capital. Existing investors XSeed Capital, Costanoa Venture Capital, and Yahoo! co-founder Jerry Yang also participated, the press release stated. "Lex Machina will use the funds to add new product features and expand its sales team to serve rapidly growing corporate and law firm demand for intellectual property litigation data and analytics."

Business: Lex Machina grew from a joint Stanford University Law School and Computer Science Department project called the IP Litigation Clearinghouse. Co-founders Mark Lemley, Joshua Walker, and George Gregory mapped every electronically available patent litigation event and outcome to build a database of litigation. The company sells access to the database to law firms, attorneys, and corporate counsel, and provides free access to the government, students, and researchers. —Tam Harbert