

Spotlight on Alumni Start-Ups

Qventus

Menlo Security, Inc.

Crazy Aaron's Thinking Putty

ArdentBlue Technologies

Life as an Entrepreneur

Many computer science students dream of the day that they can develop an idea for a start-up—perhaps becoming the next Bill Gates or Steve Jobs—and being able to call themselves “the Boss.” Some of our alumni have been working hard to make that dream come true. Though their businesses are not all tech start-ups, many use the tools they learned in CS for problem solving, business analysis, and marketing. The road for these alumni has come with a roller coaster of peaks and valleys, on-the-job training, financial responsibilities, and management life lessons.

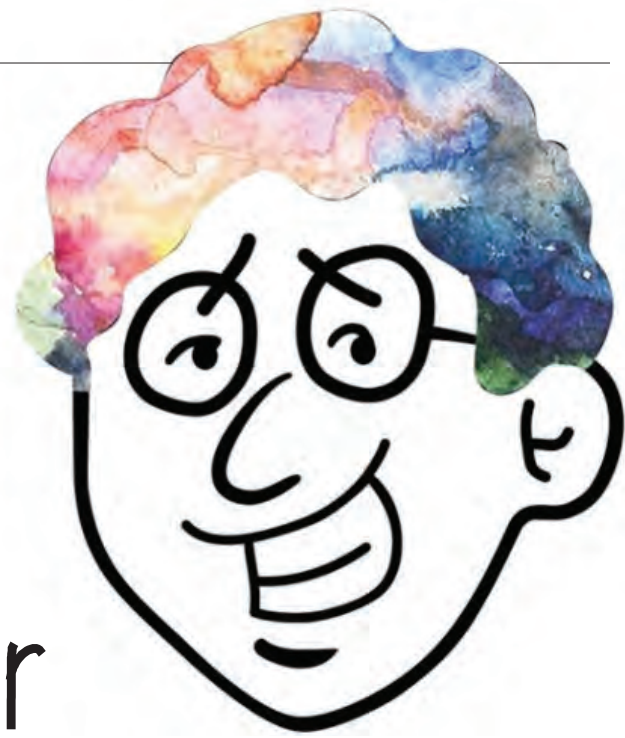
Developing the business concept, determining the market niche, and building the business model from the ground up is one of the challenges nearly every new company must face. Often, the synergy and ideas come from friends or colleagues who decide to pool their skills. The company **Qventus** began as a collaboration among Ian Christopher '10, a fellow graduate student from Stanford, and a friend of his friend. Gautam Altekar '04 said his five cofounders of **Menlo Security Inc.**, came together via an introduction from his Berkeley professor. “We were all interested in innovating in the computer security space and wanted to combine our skill

sets (tech and business) to disrupt the space.” Aaron Muderick '98 kept it simple with “**Crazy Aaron's Thinking Putty**”; his only cofounder is his wife. Whether the partnerships develop from former jobs, academic environments, or networking, each company needs a balance of skills to fill the gaps in corporate functions.

Convincing new talent to join your company is a struggle for nearly everyone. “Many talented young people want to work for a ‘big name,’” says Muderick. “I think there is a misperception that great ideas come from big companies. They don't. They almost always come from little companies who are acquired by the big names once it is a sure thing.” Edward Liveikis '01, who started the software consulting business **ArdentBlue Technologies**, uses

personal references and word of mouth to find people who will fit well with their team dynamics because it's such an important part of productivity. Wherever the new hires come from, they need to believe in the product and the goals of the company for a good fit. Michael Seid '10 of Naytev cautions employers to “hire carefully and fire fast.” Incompatible employees can be disastrous to a small company.

Financing is a challenge for every business. Though many have used venture capitalists (seed, series A and series C), some of these organizations have chosen to bootstrap or grow slowly enough to self-capitalize. After



Aaron Muderick '98 built his business, Crazy Aaron's Thinking Putty, from the ground up.

20 years in business, Muderick says, “Capital comes with strings, and they are not always in your long-term best interests.” He and his wife have been able to grow their company step by step over time without requiring any large capital infusion. Successful capitalization is one of the biggest reasons for business successes and failures.

As far as marketing their products, many of the alumni state that word of mouth from satisfied customers is the most effective advertising. Altekar from Menlo Securities says “There's nothing more effective than word-of-mouth recommendations from existing customers. For example, CISOs in the financial industry all talk to one another about what products they like and don't. If you can do a great job with just one, that CISO will talk to other CISOs about your project. That will lead to further opportunities.” Menlo Securities has also used industry events, hosted dinners for key decision makers, placed informative

articles in top media venues frequented by key decision makers, and used blogging.

There will always be challenges which become learning opportunities. Some of these include getting enough capital to get through the early times; getting clients to take the business seriously; leaving the security of a cushy job for the unknown; failing to get agreements in writing; having little experience running a business that includes hiring/firing, payroll, and taxes; taking on projects beyond the scope of the business; knowing when to say “NO”; not having clearly defined goals; putting too little emphasis on business development while developing the product; not focusing enough on user experience; not realizing that products won't be perfect on the first attempt; and growing too quickly to scale infrastructure to match the demand. (Continued on page 26)

“Growth is a blessing and a curse. There were times that too much growth was going to break this business and break me personally. We moved and expanded constantly. I moved from my parents' basement to my apartment to the basement of my first home to a small office, a bigger office, a factory, a bigger factory, and now to our forever home at a new facility in Norristown, Pennsylvania. The million little details of operating a physical plant on top of managing a business can be overwhelming.”

—Aaron Muderick '98



Ian Christopher '10 discusses start-up strategies with undergraduate University students on the annual Silicon Valley Trek.

“After having built many such platforms at Yahoo, I thought this would be a piece of cake. I soon realized that technology is the easy part. It's the business that's hard. How do you figure out the exact pain point, the exact product or service, the perfect pricing, the first sale and then scale? With the extremely high failure rate of start-ups, is it possible to have a framework for success? It's been a long learning curve for me but an extremely exciting journey while I learn more about myself and the need for constant innovation in a super-fast-changing world and find answers to these questions.”

—Sapna Chandiramani '98



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What do you remember fondly about URCS?

The lounge was a great place to eat lunch or take a break, with the inspiration of bottles from previous PhD students on the wall. I also remember the research group I was in with great fondness: George Ferguson, Mary Swift, Donna Byron, Lucian Galescu, Myrosia Dzikovska, etc. We were a large group (especially for such a small department), and I think we could not have made the dialog systems contributions we did if we had been just working independently.

What do you do in your spare time?

My husband and I both work in New York City, but we live in suburban New Jersey with our two cats, Rock and Roll. In my spare time I am a volunteer EMT in my town (it's great!—the opposite of research—you pick a patient up, transport them, and drop them off and then it's completely done! No "future work"!) and a bird watcher.

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Tell us about your very exciting life outside of work. How many languages do you speak?

I more or less actively speak English, French, Latvian, ASL, and basic Thai. And no longer speak a few more. These days I'm trying to improve my Thai (and Maltese), but English is far and away the language I speak most. I have both Latvian and US passports but don't have much of an "originally from," having moved around a lot. If pressed, I just say I'm Latvian, as the lion's share of my life has been in Europe.

When not hacking on open source projects or working (though the two intersect fairly often), I free and scuba dive wherever and whenever I can. I prefer free diving, but I am certified as a technical scuba diver as well. Diving adventures have taken me from fighter plane wrecks at 50 meters to free diving with whales.

I currently live on the island of Malta with my wonderful partner and our dog, though I spend time in Thailand as well. When

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How the company reacts to each of these challenges will determine its later success.

Skills learned while studying at Rochester have served these alumni well. Ian Christopher says "CS fundamentals are a tool I constantly leverage. More importantly though, I learned how I learn, which is essential given the number and variety of issues that will pop up at a start-up. Be it a new web framework or a new systems paradigm in our infrastructure, I know I can pick it up quickly and largely independently." Steve Gattuso '16 mentions the variety of cluster coursework that complemented his computer science classes as well as the opportunity to study abroad, which taught him how to build a life in a new country. Whether it was a particular course that built a skill set, an emphasis on logical problem solving, or building a network of future partners, the University of Rochester experience has informed their entrepreneurial efforts.

Knowing what you know now, what advice would you give to current CS students at Rochester?

Graduate school can seem all consuming—work is life, life is work. But the life of the mind can be balanced. I encourage you to make a list of what matters to you and then proactively seek opportunities in those areas and say "no" to everything else. I also encourage you to budget and track your time and make sure that the "life" buckets aren't squeezed out by the "research" and "service" buckets.

URCS is a small and collegial program. It's important to build your professional network through internships, conferences, and volunteering, but it's also important to enjoy the community of URCS.

in Malta, I speak mostly English—Maltese is a tricky language, although I love the sound of it. When in Thailand, I try to speak Thai, but that's a work in progress. Thais are incredibly helpful when it comes to learning the language.

One language that's been of tremendous utility to me has been sign language. (When underwater it's integral, though surprisingly it doesn't have a large following in the diving community.) There's a significant deaf community in Rochester—and a very friendly one, too! I highly recommend learning a bit and attending a deaf theater performance.

As always, I recommend spending time in whichever sea is closest to you. Because you don't know what you're missing till you've come up close to a five-meter-wide manta ray or bumped heads with a whale or learned to surf or just spent time in a rowboat with a companion of choice. Lastly, no matter where you are, find somebody to spend the time with you.

Our entrepreneurs advise anyone interested in starting a business to understand the labor of love this takes to survive. Muderick offers the following advice: "If you are the kind of person that likes to be really busy, then this is the job for you. Every day you will work a checklist of must-do tasks. At the end of every day, that list will be longer than it was in the morning. The next day you need to effectively choose which tasks you will complete. In 10 years you might just start to see light at the end of the tunnel. If that sounds like a fun challenge, you are cut out to be an entrepreneur. If all that pressure combined with working nights and weekends sounds like a panic attack, I would suggest against it." Other alumni advise to read up on the topic and benefit from others' mistakes, try an internship at a start-up to see the risk and rewards of a small business, and understand that you'll be getting very little sleep—much like your college years. But if it is your dream, there is no better time to try this than when you are young!

CONGRAULATIONS TO THE CLASS OF 2018!



Alejandro Abreu
Benjamin Ackerman
Kennedy Agusi
Sidhant Ahluwalia
Thomas Anderson
Samantha Bahr
Daniel Barnett
Bradley Beyers
Rohun Bhagat
Jeremiah Bill
Nina Bose
Steven Broida
Juan Pablo Castaño
Moreno
Yukun Chen
Noah Christiano
Joshua Churchin
Stephen Cohen
Nathan Conroy
Colin Corliss
Cesar De Hoyos
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Kyle Edgette
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Yiming Yang
Xinyue Yuan
Zhizhou Zhang
Wen Zhou