Entrepreneurship

Dr. **Amy J. Ko**, Ph.D., University of Washington

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Hi, I'm Amy

I'm a Professor in the University of Washington Information School.

I study HCI, CS Education, and Software Engineering, especially developer tools, learning technologies, and theories of learning and teaching CS.

In 2012 I co-founded *AnswerDash*, raised millions in venture capital, was CTO, then returned to UW in 2015.

Fun facts about me:

- I have a 19 year old daughter in college at UC San Diego
- My favorite thing to do is travel the world and have food adventures with my wife.
- I'm transgender, which is exhausting and wonderful!

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How we'll spend the next 30 min

- **Amy** will speak for 10 minutes about entrepreneurship
- **Amy** will speak for 10 minutes about her own experience founding and funding a company full-time
- **Radhika** will speak for 10 minutes about patents, licensing, part-time contributions, and inspirational founders
- We'll **both** answer questions for 25 minutes

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Entrepreneurship in CS

Any activity that involves:

- Taking a financial risk...
- ...to start an organization that...
- ...leverages computing innovations

The key difference is **starting** an organization, or joining a **new** organization, rather than joining an established one.

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Entrepreneurship is more than startups

Starting a **consulting business** based on your expertise and getting paid hourly for your time

Giving away an innovation and asking for **personal donations** to cover bandwidth, maintenance

Starting a **not-for-profit** supported by philanthropic money

Starting a **for-profit business**, supported by a revenue stream

Raising small amounts from **angel investors** to buy a small amount of time to reach profitability

Raising larger amounts of **venture capital** to buy a larger amount of time to reach profitability.

Why do entrepreneurship?

It can help your **ideas** have impact on the world

You can learn about **business**, including products, marketing, sales

There's joy in tackling a challenging project in a **team** of smart, motivated people

If you start a business, it gives you control over the **culture** and **values** of your organization

There's a (small) possibility of making **more money**

You'll **learn more** at a startup than in a narrow role at an established business, because you'll take on more roles.

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Why avoid entrepreneurship?

It can require a **personal financial sacrifice**, such as self-funding, or living without health insurance.

It can be very **stressful**, because business moves fast and requires a lot of decisions with limited info.

The world of business is still full of **sexist**, **racist**, **classist** gatekeeping, making it very challenging to break through.

It can require a lot of **time**, which requires not just personal sacrifice, but the sacrifice of partners, friends, family, and children.

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Timing is everything

Is it the right time in your **life** to take on the adventure, risk, and stress to learn, strive, and intensely collaborate?

Is it the right time for your **innovation** in a marketplace, where there's some opportunity for success?

Timing is **hard to judge**, and it can be hard to get advice. Even deciding to start something requires a lot of learning from experts.

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Technology is minor

In most business, what's innovative about a CS isn't as important as whether that innovation is:

- Significantly more valuable to customers than their current solutions
- Hard to copy (e.g., because it's secret, or requires expertise to replicate
- Not so innovative that customers see it as risky.

These are in tension with values in academia, where openness and novelty are more important than what happens to be popular in the market.

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Business is major

The harder problems in any organization are:

- How to get customers' attention?
- How to convince them to buy/subscribe/adopt?
- How to be more valuable than competitors?
- How to spend less than you make

These are not CS problems, they are sales, marketing, and finance problems.

Amy's story

More details here:

Amy J. Ko (2017). A Three-Year Participant Observation of Software Startup Software Evolution. ACM/IEEE ICSE, 3-12. *https://doi.org/10.1109/ICSE-SEIP.2017.29*

Parmit K. Chilana, Amy J. Ko, Jacob O. Wobbrock (2015). From User-Centered Design to Adoption-Centered Design: A Case Study of a Research System Becoming a Product. ACM CHI. *https://doi.org/10.1145/2702123.2702412*

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I had just started as an Assistant Professor

I was very lucky, and just started advising a wonderful doctoral student **Parmit Chilana**.

We were brainstorming about software help and how hard it is to find online unless you're a very savvy searcher.

She was really interested in solving this problem, and I was too.

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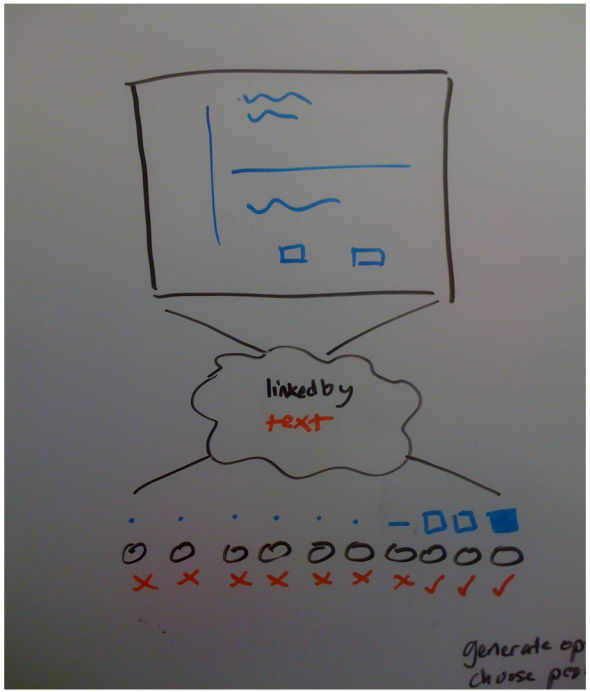
Selection Search

We were building upon ideas in my dissertation about pointing to user interface elements to ask questions about them.

We wondered about the possibility of retrieving software based on a user interface selection instead of a text query.

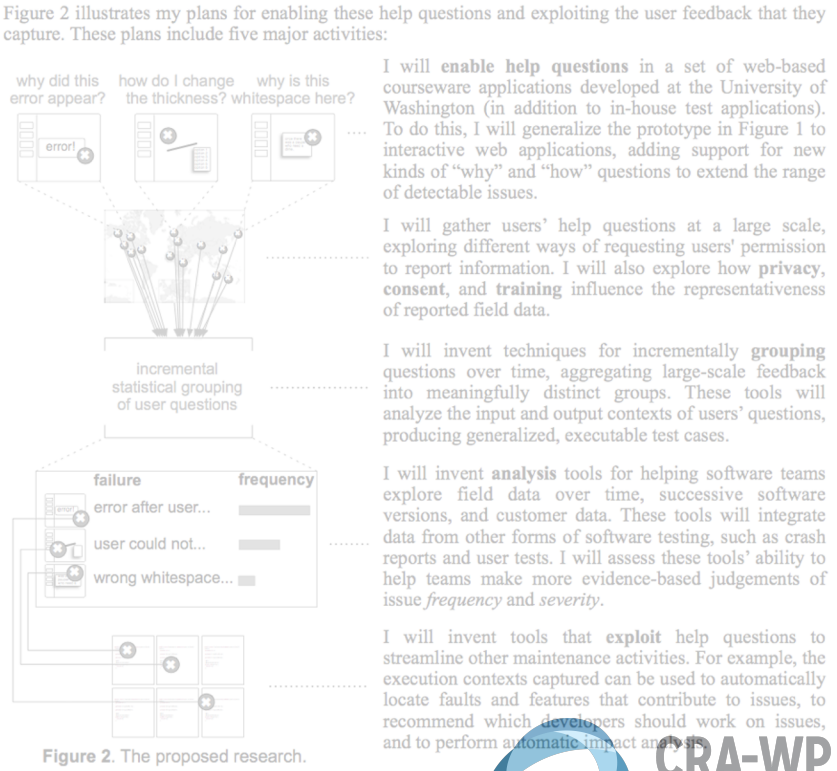


Research funding

I decided to raise some funding on this idea, and based my NSF CAREER grant on it.

CAREER grants come with 5 years of funding and support 1 Ph.D. student, so it was a perfect fit for the project.

I had 3 great faculty mentors who helped me critique and refine my ideas over 20-30 drafts.



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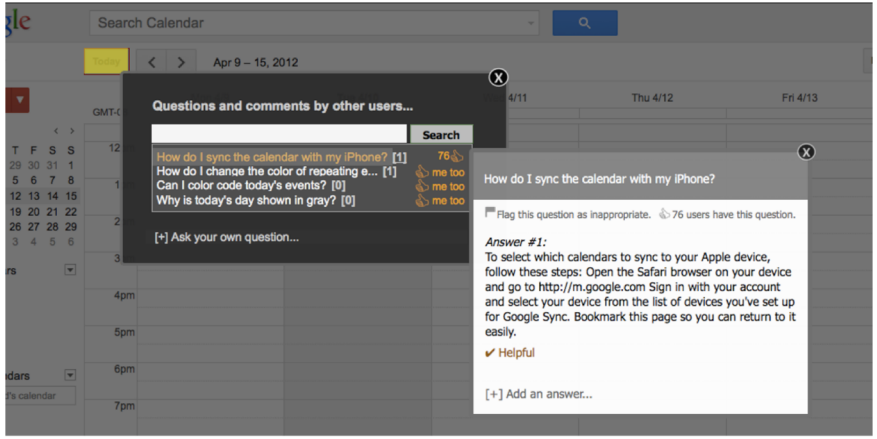
Prototype complete

Parmit and I, along with her co-advisor and my long time grad school friend Jacob Wobbrock, iteratively prototyped and tested.

We ultimately found a retrieval technique that was highly effective and required only a selection and no text input.



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Permit interns at Facebook

Parmit landed a research internship at Facebook and wanted to demo her research.

They asked if they were under an “NDA”.

She said, “What’s an NDA?”

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We ask for help

We consulted with our university's technology transfer unit, currently called CoMotion.

They introduced to Ken Myer, a startup consultant who helps new founders start companies.

He saw real potential, and encouraged us to consider co-founding a startup to sell it as a service.

We deliberated

Parmit: “Do I want to stop my Ph.D. to start a business? Do I trust my advisors to do this without me?”

Jake: “Do I want to use my sabbatical on this? Will my family support me?”

Amy: “Do I really have the time to moonlight for a year before tenure? Will my wife and child be supportive?”

Co-founding

Parmit: “I’m going to focus on my academic career, you go on without me.”

Jake: “Great! I’ll be CEO.”

Amy: “Great! I’ll be CTO”

We hired **Ken** as a consultant, started building, started securing customers.

Fundraising

We raised $500K from a university-related investment fund

We raised $2.5 million from a venture capitalist firm backed by mutual funds

We hired 2 engineers, 1 sales

We landed 10 paying customers in 3 months

We promised to return to UW in 2 years after validating product.

2 years of long days

I worked 50 hours/week at the startup, but also 20 hours/week to manage my grants, advise my Ph.D. students.

Simultaneously, my daughter struggled with a new bipolar diagnosis and suicidal ideation.

My wife and ex-wife were my anchors, helping me emotionally, supporting our lives.

Departure

When I left, we had 16 employees.

We hired a new CEO and CTO to help grow the business.

I stayed on to help with research & development, patents, and strategic decisions.

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Acquisition

The company is grew for a few more years, making money, and having impact, selling to hundreds of companies.

I've made **$4,000+** in royalties so far, which is a bit more than the $1,000 I put in initially :)

I made nothing on the acquisition because of the debt the company had to take on to survive.

UW spinout AnswerDash, a contextual Q&A service for customer support, acquired by CloudEngage

BY TAYLOR SOPER on June 23, 2020 at 8:00 am

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Left to right: AnswerDash CEO Don Davidge, and co-founders Amy Ko and Jake Wobbrock. (AnswerDash Photos)

Nearly eight years after launching out of the University of Washington, AnswerDash has been acquired.

The Seattle startup, which uses artificial intelligence to help companies answer customer support questions online, will join forces with CloudEngage, a Spokane, Wash.-based software firm that builds web personalization tools for clients such as T-Mobile, Dr. Martens, TrueCar, and others.

AnswerDash, originally known as Qazzow, spun out of the UW and the research of co-founders Jake Wobbrock, Amy Ko and Parmit Chilana. They came up with technology that embeds answers to customer questions within a website's functionality, rather than forcing people to comb through an FAQ or use a written-based solution like email or live chat.

The idea is to reduce the amount of time customers search for answers online, ultimately helping businesses improve the consumer experience while retaining revenue and saving on support-related costs. Customers include MOO, Sennheiser

Would I do it again? I get to satisfy much my entrepreneurial itch as a professor, so perhaps with the right project, people, and timing… maybe!

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Hi, I'm Radhika

I'm a Professor at Harvard.

I study Robotics and Biology, with a focus on Collective Intelligence

I also work on diversity & activism.

I've participated in several forms of entrepreneurship, but at a much less intense level than Amy.

Fun facts about me:

- My favorite things to do are paint, dance, eat ….. and sleep.
- My favorite vacation is on a Caribbean beach
- I have a 21yr old daughter and 18yr old son.
- My husband was a CS serial startup founder. He left that to do activism full time in 2013, and in 2016 was elected to public office.
- Our joint family culture is Indian + Caribbean.

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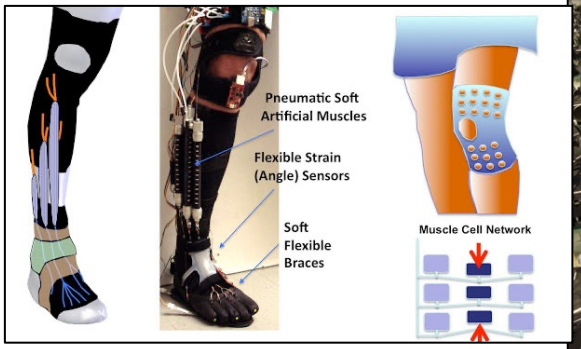
Lightweight Entrepreneurship

Patents, Licensing and Part-time Startup

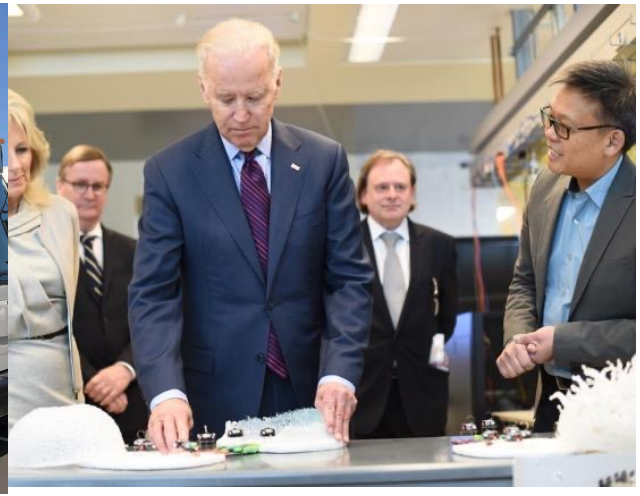


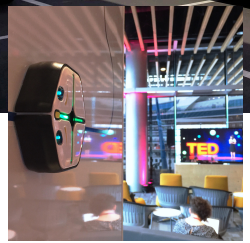
K TEAM

iRobot

Lightweight Entrepreneurship

Why do it? ……Unexpected fun things can happen





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Inspirational Founders

Robin Chase (Zipcar). Andrea Thomaz (Diligent Robots), Ayanna Howard (Zyrobotics)

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Thank You

Questions?

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