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CTRL+CLICK CAST #97

The Mobile Web for Global Change with Rowena Luk

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Preview: It's about remembering that technology is an enabler. One way we describe it's about remembering that technology is an enabler. One way we described of it is technology is an amplifier of human intention and you need that human piece underneath. You need that raw content or raw meaning of the message that you're trying to get across in order for it to be valuable and not just chatter. of it is technology is an amplifier of human intention and you need that human piece underneath. You need that raw content or raw meaning of the message that you're trying to get across in order for it to be valuable and not just chatter.

[Music]

Lea Alcantara: From [Bright Umbrella](#), this is CTRL+CLICK CAST! We inspect the web for you! Today we have Rowena Luk on the show to discuss how the mobile web can affect positive global change. I'm your host, Lea Alcantara, and I'm joined by my fab co-host:

Emily Lewis: Emily Lewis!

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Emily Lewis: Before we get to today's episode, I want to remind our listeners we have a [donate link](#) on our site, so if you love CTRL+CLICK and have a little spending money, consider donating to help us keep the show going. A dollar, five dollars, whatever you can spare will help us continue to deliver great content, high-quality audio and transcripts for each and every episode.

Now to today's topic ... and we are so excited to have Rowena Luk on the show today not only because Rowena uses her expertise to create real impact in the world with technology, but because Lea has known her since they were teens!

Lea Alcantara: Whohoo!

Emily Lewis: [Laughs]

Lea Alcantara: [Laughs]

Emily Lewis: Rowena directs service delivery at [Dimagi](#) where she oversees implementation services, designing and deploying health and supply chain information systems in over 50 countries. Prior to Dimagi, she worked at Intel Research on solutions for low resource connectivity and founded an NGO with a mission to deploy telemedicine systems for West Africa. Welcome to the show, Rowena!

Rowena Luk: Thanks Emily, it's great to be here.

Lea Alcantara: So Rowena, can you tell our listeners a bit more about yourself?



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Rowena Luk: Sure. Currently, I'm based in Cape Town in Southern Africa. I've been here for about two years. I'm originally from Canada in Alberta, where I grew up with Lea. And then have been moving around in a couple of different places across Canada, United States and Africa over the course of my career.

Emily Lewis: And were you and Lea like fellow teen geeks? [Laughs]

Lea Alcantara: [Laughs] Uh-oh.

Rowena Luk: [Laughs]

Emily Lewis: Or were you always into technology and web stuff?

Lea Alcantara: Loaded question. [Laughs]

Rowena Luk: [Laughs]

Emily Lewis: [Laughs]

Rowena Luk: Great question. Great question. [Laughs]

Emily Lewis: [Laughs]

Lea Alcantara: [Laughs]

Rowena Luk: I would say we were the smartest kids in high school, yes, definitely. [Laughs]

Emily Lewis: [Laughs]



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Lea Alcantara: [Laughs]

Rowena Luk: The geeks.

Emily Lewis: Were you into the web and technology at that point in time?

Rowena Luk: You know, it's a great question. I think at the time, I always knew I wanted to work on building things and to be in the technology sector. I had no idea what Lea was going to do with herself... [Laughs]

Emily Lewis: [Laughs]

Lea Alcantara: Thanks. [Laughs]

Rowena Luk: Again, and that's from high school, it was an obvious choice for me to go into engineering for my undergrad, which I enjoyed.

Emily Lewis: And how did you end up living in another part of the world and sort of kind of taking this sort of global approach to the work that you do? Was that always intentional?

Rowena Luk: It's a great question. Actually, even when we were high school, and Lea remembers this a lot, I think we were all quite involved with a variety of social causes, whether it's [Amnesty International](#) or the [30 Hour Famine](#) and things like that, and so that has long been a passion of mine. I think what was unclear to me early on in my life was to pare the desire to create an impact in my life with the work that I enjoyed doing.

Emily Lewis: [Agrees]



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Rowena Luk: So I knew from a skills perspective and from an interest perspective that I wanted to be working in technology and I always figured that the social good stuff, which is be volunteering on the side or like on the weekends as many people do, it was really when I went to grad school where I really had the exposure to a much broader sense of what I could do with technology. So I did my graduate studies in Berkeley, California, which was a great area that brought together a lot of different disciplines, and I think for the first time, it was when I was really asked to think outside of the box in terms of what can I do with technology, what do I want to do with the skills that I had acquired in my undergrad.

Lea Alcantara: So before we talk about those particular skills or the technology, let's talk about the social causes. What social causes mean the most to you?

Rowena Luk: So interestingly enough, you'd think I would say health since I work in a health organization, but I would actually say for me it's about empowerment. So myself, I feel like I'm quite fortunate having grown up in a middle class family in Canada, having the education and the opportunities that I wanted, and what I find most uplifting is the opportunity to give others the chance to rise to their potential.

Emily Lewis: [Agrees]

Rowena Luk: And so the kinds of organizations that I love to work with and the kinds of causes that I love to support are ones where individuals or communities get the resources that they need to set their own destiny or to rise up.

Emily Lewis: [Agrees]

Rowena Luk: So for example, whether it's empowerment or education or healthcare or technology, these I see as different tools or enablers that would allow people, regardless of how poor they are or



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what regions of the world they come from or what disadvantages they might have been born with, to rise about that. And it's that general ability to be able to reach out to some of these underserved communities and give them some of the things, the opportunities that we take for granted, which is the most motivating to me.

Emily Lewis: Yeah. I love that. I feel like in a lot of ways, I feel that way particularly about education.

Lea Alcantara: [Agrees]

Emily Lewis: And I think that's probably where Lea and I probably found the most common ground outside of work, although we've been able to make supporting education a part of our work, which makes it much more satisfying, but it's that same idea that education empowers people. It gives people opportunity to do more, to learn more, to see the world differently and view themselves and their communities differently, so I totally got that.

Rowena Luk: And then the other thing as well that I think is quite interesting to unpack is that when you look at the arc of developments, different experiments, I would say that the aid sector has run where they tried to invest wholeheartedly in education, on governance, on healthcare, on microfinance. It's never just one thing and that helps to move a country or society forward.

Emily Lewis: [Agrees]

Lea Alcantara: [Agrees]

Rowena Luk: And that's tricky on the one hand.

Lea Alcantara: Right.



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Rowena Luk: And that with any intervention, you've got to be thinking about all the different aspects of what you're doing and how it affects the community. But one other hand, I think it can be quite motivating for those of us with many different interests because we know that the way that we pushed communities and societies forward is not going to be one thing, it's going to be many things, and so whatever it is that our skills we can bring to the table on whatever sector we believe we can have the most impact, I think there's a space for all those different pieces to come together to have the overall impact that we're trying to have.

Lea Alcantara: So I'm curious to dive deeper in regards to that. You mentioned how tricky it is when you're trying to help these particular underserved communities. How do you think technology has changed the way NGOs operate and deploy these particular missions positively and negatively?

Rowena Luk: I think in the era that we live in today, technology is so ubiquitous. Wherever you, even if you're a field worker or even if you're a teacher or whatever else, you're always getting asked for information for connection, for communication and coordination, and technology is so big and sensitive a fabric of a lot of the development and work that we do that everybody needs to be somewhat proficient in that so that they can provide visibility into what they're doing to a funder so that they can work effectively together as teams.

In terms of positive impacts that technology has had, one of the aspects that I find motivating and core even to the work that we do is the way that it connects people across vast distances or huge disparities and whatnot with the ability to capture people's stories and to be able to share them on the internet to be able to talk to each other more fluidly. There's an opportunity there for more transparency and more accountability between funders and between beneficiaries and between someone in Texas who's donating money to someone in Mali who's supposed to be the recipient of that.



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The other aspect of it as well is with regards to the communication piece, the engagement with the public, now we're at an era where people can be so much on the frontlines that they're having WhatsApp conversations with beneficiaries or is directly sending \$20 to that man in that village in that hut in Kenya or something like that, and that I think is important in terms of evolving our social consciousness as a society.

Emily Lewis: [Agrees]

Rowena Luk: So definitely from a positive change perspective, those are two trends that have been important. From a negative side, I would say that there's a fair amount of emphasis and focus on technology for technology's sake.

Emily Lewis: [Agrees]

Lea Alcantara: [Agrees]

Emily Lewis: Yeah.

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Rowena Luk: Yeah, that's a tricky piece to deal with. So we end up running into a lot of projects that, for whatever reasons, like innovation is a sideline and so they'll throw in, "Here's a tool that doesn't really make sense and no one is going to use it, but we'll build it anyways and see what happens." [Laughs]

Emily Lewis: [Laughs]



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Rowena Luk: Or like, “Everybody has a Twitter account, so we should get a Twitter account, too, but we’re not going to put any good content on it and it’s just going to be noise in the ether and things like that.” [Laughs]

Emily Lewis: [Laughs]

Rowena Luk: And I think really it’s about remembering that technology is an enabler. One way we describe of it is technology is an amplifier of human intention and you need that human piece underneath. You need that raw content or raw meaning of the message that you’re trying to get across in order for it to be valuable and not just chatter.

Emily Lewis: And Rowena, could you take a moment for our listeners who may not understand or know what an NGO is? What is it and what are their purposes?

Rowena Luk: I’m sorry about that. So an NGO is a non-governmental organization. It’s a blanket term that covers all the charities that we might know of; World Vision, Oxfam, et cetera, et cetera. And it also covers some middle ground organizations that might not full have charitable status, but are very worthwhile community organizations or church clubs and things like that.

Emily Lewis: So it’s just a term. Is it like a status, like a nonprofit status that an organization can have or it’s just a term?

Rowena Luk: I’m not sure how it matches to the system in America. It is a term that includes a variety of different organizations including charities and nonprofits, and I think that’s extensive.

Emily Lewis: [Agrees]

Rowena Luk: So all charities and nonprofits are what I’m referring to when I refer to NGOs.



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Emily Lewis: And when you mentioned the technology being this opportunity to sort of connect people and you were describing, like you said, like someone in Texas trying to donate to someone in Africa. Does that mean that the technology is not just for the workers who are part of NGO, but also the communities themselves that are being affected, that they also are having access to this technology themselves or is it through the NGO that they had the access to technology?

Rowena Luk: Absolutely, so it comes in a variety of different factors and so there's one aspect of it, which is how charity as nonprofits use it internally for their operations. The part of it that's my organization, Dimagi, is deeply involved in is about working with the communities and empowering the communities with this technology and then there are lots of other different organizations in that space as well. For us, for example, the work that we do involves building mobile applications that community-based volunteers can use to track who in their community is pregnant, who has HIV, to provide counseling, to help them keep track of their medication, what dosage and what period as well as provide key linkages to the formal health system.

Emily Lewis: [Agrees]

Rowena Luk: There are also other organizations that are doing really, really fascinating work so that are direct to beneficiary. So [Kiva](#), for example, you can send a mobile money payment directly to the beneficiary and continue to have a dialogue with them after that payment has happened.

Emily Lewis: Without the organization being like the intermediary?

Rowena Luk: The organization does some coordination, but it is in order to just like connect the individuals. But yes, as an individual, you can connect directly with someone in Kenya or in Tanzania and exchange with them over these messaging platforms, which is pretty cool.

Emily Lewis: [Agrees]



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Rowena Luk: And then the other one I'll mention is based out of Boston, there's an organization called [GiveDirectly](#), which has this hypothesis around, "If we can just find the poorest communities and just send them a certain amount of money directly and skip over this whole aid industry, maybe that will be just as effective as working with some of these charities or whatnot."

Emily Lewis: [Agrees]

Rowena Luk: It's run by a bunch of economists and they've had some really good results and they used mobile technology in order to connect the donors directly to the beneficiaries and the communities.

Emily Lewis: [Agrees]

Lea Alcantara: So that's so fascinating. You've mentioned a couple of examples where mobile technology is really impactful, but can you talk about it a little bit more generally. Why is mobile technology and mobile apps, in particular, so important for this type of global change?

Rowena Luk: So what's really interesting about mobile technology and how it evolved is that it appeared and was popularized in the West because of convenience, because of luxury, et cetera. In Sub-Saharan Africa, the same attributes that it was built originally with the built-in power supply, the mobility of it, the lack of a connection to a landline, all those pieces are essential in the most rural and the most underserved parts of the world. So most of the communities that we work with are villagers in a remote part of Niger, Burkina Faso, where they do not have power, they don't have electricity, they don't have running water, but even with all that situation as it is, somehow the cell towers are there. [Laughs]

Emily Lewis: [Laughs]



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Lea Alcantara: Cool. [Laughs]

Rowena Luk: It's remarkable how that happens, but I guess it speaks to the importance of human connection or something. Like for whatever reason, the connectivity is there and the fact that you have these devices with their built-in battery, built-in connectivity means that they can use them anywhere and then come back to a central area once in a while to charge it up or to get some credit and whatnot, and so the reason for me that mobile technology is so essential is that for much of the world, it is the frontline of the 21st century. It's the only thing that can reach and work in these villages after radio and you can imagine the ways in which mobile phones have changed our lives. Imagine what it could do for a health worker who has only been able to have access to paper up until now.

Emily Lewis: And I would imagine or I'm guessing that that reality of having the information that a field worker, for example, may be gathering, having it already in a digital format versus paper and then being able to more quickly get that data to wherever it needs to go. Does that mean change can happen faster now?

Rowena Luk: Absolutely, absolutely. So anything from a person with HIV showing up at a clinic and that clinic being able to find their previous record instead of redoing all the diagnoses and getting the medication wrong, which happens a fair amount, to being able to communicate and get results of lab diagnostics so much faster. For example, there's one project we worked on in Zambia for the diagnosis of whether a child has HIV and traditionally with like the paper basis, it would take two months to take the blood sample and send it to the other side of the country to get the results and then have that come all the way back.

Emily Lewis: Wow.



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Rowena Luk: And then after we introduced this system to communicate the same results over SMS, there is still some processing that needs to happen, but we were able to move that down to two weeks, and it might not seem so big of a difference, two weeks to two months.

Lea Alcantara: Wow, two weeks.

Rowena Luk: But it makes a huge difference if you're wondering, "Should this child start taking this incredibly expensive, but also lifesaving medication like now or six weeks from now?" It can make a huge difference in the quality of their lives.

Emily Lewis: I'm curious, have you seen in the time that you've been working in this field that sort of combined technology with health and/or social programs? Do you see that when a single program like, let's just say the one word, a community is being monitored for AIDS and trying to get them the right medicine? So if something is successful there, let's say using and sending diagnostic information over SMS, does that mean that the organizations that are all sort of working together within these communities then take that idea and apply it to some new place? Is there this sort of evolution of success within where the technology touches that allows new programs to pop up or to evolve? So is it kind of like a chain reaction that way or does it stay siloed within an organization that's found success?

Rowena Luk: I would say yes and no, a little bit of both. [Laughs] So what has happened and what is fascinating to see unfold is that today it is a given that these tools are necessary to make these community health and primary health programs work, and so you'd definitely see a program that started of giving certain health workers phones to manage malaria is being expanded to HIV, to maternal care, to newborn care, et cetera, et cetera, and you do see that momentum and that uptick across multiple programs and multiple geographies across the continent I think in most of the countries in Sub-Saharan Africa. They're using phones for, one, in often multiple dimensions of healthcare delivery.



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What is not happening is more of these actors working together instead of. So I think one common thing that happen is you have a healthcare worker in Malawi who gets a phone and some software for family planning and then three months later, gets another phone for commodity management.

Emily Lewis: Oh.

Lea Alcantara: [Agrees]

Rowena Luk: And a year later, get another phone for whatever, their newborn care. [Laughs] And they're obviously not incentive to highlight the fact that they're getting multiple phones, but it does create a lot of duplication and it makes certain things about sustainability of these programs not as evident as they would be if these programs worked together to leverage the same hardware to build upon their successes to expand upon existing programs.

Emily Lewis: [Agrees]

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Lea Alcantara: So I find that interesting because in the web, we have all these micro projects going on all at the same time and what developers tend to do is just open up their API or open source their software, therefore, if there is another programmer that wants to utilize what already worked, they can just work on that and continue forward. Does that also happen in your particular sector as well because it sounds like it's...

Rowena Luk: It does.

Lea Alcantara: Okay.



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Rowena Luk: It does. Actually, both the United Nations as well as USAID and US government are strong proponents of the open source approach. So everything we built is open source and a lot of the other tools that we recommend are also open source. What creates the additional need for that kind of approach in the development space is that by and large it's about all these countries trying to invest resources to strengthen an underserved country, but at the end of the day, it's up to that country itself to push its way forward, like it needs to have ownership. It needs to be able to adapt and maintain the tools that have been introduced. Otherwise, we haven't done anything if they aren't able to do that.

Emily Lewis: [Agrees]

Rowena Luk: And so open source is also a big part of the sustainability plan whereby a lot of these programs come in, do their interventions and then leave and hoped to build the capacity within the countries to empower that country so that they carry forward these programs.

Emily Lewis: And you've mentioned phones a number of times. I'm curious, are phones like the predominant device or do you see use of things like iPads, touch screen devices?

Rowena Luk: Actually, this is from the recent GSMA, which is the GSM Association's report on mobile technology in Africa. There are more mobile phones than there are toilets in Africa. [Laughs]

Emily Lewis: Wow! [Laughs]

Lea Alcantara: Whoa! [Laughs]

Emily Lewis: Wow.

Lea Alcantara: Wow!



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Rowena Luk: So there's an uptick on the phone side, and the other fascinating thing to see from that report is the rise and predominance of smartphones.

Lea Alcantara: [Agrees]

Rowena Luk: We're actually at a tipping point now where there are as many smartphones as there are feature phones and the smartphones are rising the feature phones are dropping. So that's a revolution in and of itself that's going to happen. So that's the kind of layout in terms of the phone space and then in more of the central hospital areas and administrations and whatnot, they tend to use computers and laptops. The Apple products do not have a good support network or supply chain system setup in Sub-Saharan Africa.

Emily Lewis: [Agrees]

Rowena Luk: I think the market is intentionally a bit more high-end than most of the market there, so really it's Android that's leading the market in Sub-Saharan Africa.

Emily Lewis: Right.

Rowena Luk: I don't think I've ever run into an iPhone in the field apart from in the hands of an air worker. [Laughs]

Lea Alcantara: Oh, wow.

Emily Lewis: [Laughs] And you've mentioned a couple of times mobile apps. Can you talk a little bit about how you lead your team as they develop these sorts of services, like what your process looks like? Is it something that there's a need and then the team gets together to kind of brainstorm how to



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solve it or is the solution already present and you just have to build the technology to support the solution that field work has uncovered?

Rowena Luk: So I think as a lot of us in the technology industry have seen and has demonstrated, there's always that gap between the needs and the solution, and that's where the importance of design comes in. What's relevant about the areas that we work in in a lot of these countries is that there's no shortage, but needs, like they're all around you.

Emily Lewis: Right.

Rowena Luk: And some of the project experiences I've had, they talk a lot about manufacturing need or discovering the next big thing and/or like creating new markets and it's definitely true in these environments. But we don't need to do that, the needs are there.

Emily Lewis: Right.

Rowena Luk: In terms of how we work in these countries to create technology that is effective, so my team is actually not composed of any software developers. It's a mix of a variety of different development folks, people with the health background or education background or various policy backgrounds and whatnot, and what we do when we work with a country or an organization is we work with them side by side to help them to make sure they've fully identified and documented their needs to present a variety of solutions and then to test and to iterate what products.

Emily Lewis: [Agrees]

Rowena Luk: So our platform, you can think of it as a tool for building mobile applications, so it's highly customizable and similar to Salesforce or SAP.



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Emily Lewis: [Agrees]

Rowena Luk: And so a big part of our development approach is making sure that we can iterate it in the field with the health workers themselves so that we know when we deploy something, that it has been validated through actual usage in the clinics and in the communities. This is particularly acute given that a lot of times there's a pretty significant gap between the decision makers and the end users.

Emily Lewis: [Agrees]

Lea Alcantara: [Agrees]

Rowena Luk: It's not uncommon for us to, you know. We work with a government, I won't name it, that invested a fair amount of money in building out a printer integration, so they could print out all these medical reports and then when we field tested it in the clinics, every single clinic said, "We don't have power. With the printers, it's great that you have this software, but we're never going to use it." It's great for us to get that feedback.

Emily Lewis: I love what you're describing. It seems a bit different than how we may think of our own user testing when we're developing like websites and stuff because, I don't know, it seems to lack that, "Oh, I don't know the infield part of it that you're describing, like the really practical put it to the test thing. I mean, user experience testing or user testing on the web, it's someone sitting behind the computer and potentially going through the paces of a website or an app, and I like what you're describing. It's so much more hands on. It sounded so much more practical and I'm curious with the people on team or with your company, do developers physically go on site or they work directly like communicating remotely with a person who's using it on site who's the health worker?"

Rowena Luk: Our team will always go on site.



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Emily Lewis: Oh, that's cool.

Rowena Luk: Sometimes they work with a partner and they say, "Well, you know, you've done this in Egypt because you do it in India. We've tested the app, like we should just be able to roll it out. And we know because we've rolled out the same app to 20 different or we've taken one app and tried to replicate it across 20 different countries and we know that in every country, there are some adaptation, some evolution that's required for it to be meaningful because policies and practices and indicators and protocols change so much from one country to the next."

So definitely having that face-to-face interaction with end users is a key part of our design methodology. The other interesting thing that strikes me from your comment about user testing is that I definitely remember or there are definitely lots of aspects of this work that involve making sure the usability and the flow and the interaction that happens with our tools is important or is well done and is smooth. I think one area that maybe is not as well discussed, but is critical in our space is being able to design for the most critical needs. Do you know what I mean?

Like in any given environment like, yes, it is true that patient tracking is an issue. Yes, it is true that accounting is an issue. Yes, it is true that managing your medication. These are all different needs and we need to be able to look at that basket of like 50 different problems that we can solve and make sure that we're solving the right problem because if it is the right problem, then oftentimes, the health workers will be motivated, will make time for it in their workflow, and then we'll come back to it and keep on using it, and that aspect of addressing a real need is more important than the usability tweaks.

Emily Lewis: [Agrees]

Rowena Luk: Because it means that if there is usability failure, it will come back, like we'll hear about it [laughs] as opposed to a lot of the apps that just kind of fade off and die on their own.



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Emily Lewis: So how do you identify what that top need is?

Rowena Luk: There's a variety of different needs and they come from different sources, and so one of the things that's interesting about this work is walking that line between government priorities between a health worker's needs, working in their community and just knowing what's urgent and the problems that like show up at their front door every day and the funder who often needs to get data about the actual interventions that are happening, and so for us those are three axes that usually come into play for any given project that we do, and that also makes it a bit more complex in just designing a consumer-focused app, for example. In the approach that we take, we try to make sure that we are always meeting at least one high priority need from each of those users because they do all need to come together for the system to work.

Emily Lewis: [Agrees]

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Lea Alcantara: Right. Do you know what strikes me? Because Emily and I just finished a series called [Demystifying the Web For Clients](#), and one of the common threads that we tried to impress upon our listeners in each episode was there needs to be a point for why we're even making this website. So don't just throw in some fancy JavaScript library because you want to fiddle with it and it's cool, even discuss their website in acronyms and terms that doesn't make sense to the actual end user or the client. Basically, what you're telling me right here is find the real reason you're doing this work and then make the solution for that as opposed to finding a cool solution and trying to fit it into the problem.

Rowena Luk: Absolutely, absolutely.



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Emily Lewis: You mentioned when you were describing the different axes that you have to address, the funder who is often hoping to see some measurement of their investment, I guess. So I'm curious, how were you able to measure whether the tech solutions you're putting into these communities are working? Is there a set amount of time that you give something in the field, six months or a year or is it much shorter than that for more rapid iteration?

Rowena Luk: It's a great question. We actually just completed a survey of ten other impact organizations to try to understand across the industry how come we most effectively measure impact. It's a hard question and I think we were surprised to learn that we were doing pretty well since it is such a fuzzy and nebulous thing to measure. [Laughs]

Emily Lewis: [Laughs]

Lea Alcantara: [Laughs]

Rowena Luk: There are a few different ways of looking at it. I think one key piece of it is the research. In the same way that we have evidence-based medicine, there are certain interventions where you have the opportunity to run a randomized control trial and have the researchers come in and do a study and see the actual impacts on health outcomes, and that's the gold standard like we've participated in and been part of studies. For example, on our tool, being able to increase the effectiveness of family planning and counseling by 45% or increase the number of antenatal visits by a certain number. I think for some of the other metrics that we keep track of is also the actual usage of the tool over time.

Emily Lewis: [Agrees]

Lea Alcantara: [Agrees]



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Rowena Luk: So what's interesting, like in a traditional development project, a common thing is for a charity to come in, give some food, do some training and then leave.

Emily Lewis: [Agrees]

Rowena Luk: And so the metric that historically has been used is, was the training done?

Emily Lewis: [Agrees]

Lea Alcantara: [Agrees]

Rowena Luk: And then you get the very broken... [Laughs]

Emily Lewis: [Laughs]

Rowena Luk: You can imagine what happens, an army of trainings with all this money poured into training and no measurement of like learning or behavior change or everything else.

Lea Alcantara: [Agrees]

Rowena Luk: One of the things that we believe is already better just with the introduction of this mobile tool is we know if the tool was useful, then they should keep on using it after we leave. [Laughs] It should be part of the program as you continue onwards and so we can see that usage over time. What's actually quite interesting about our desire to measure our impacts through the utility that it brings to the people that we built it for, there's a lot of in common with the Software as a Service business model that's very common in the West.

Lea Alcantara: Sure.



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Rowena Luk: I think Dimagi is one of the few in the development sector that are really pushing on this approach, but just as it is with any Software as a Service company, we believe that our impact will be maximized even if we deploy it to a small number, but they keep on using it for the next 100 or 200 years, and that's usually powerful and that's something that we can design for and we can measure.

Lea Alcantara: So I actually want to take a step back. You mentioned a few minutes ago about how bridging the gap between needs and technology and that design is where it falls in. Can you explain a little bit more about that, like what does design mean to you?

Rowena Luk: For me, design is about bringing together our powers of creativity and our knowledge and understanding of what is, what is possible with technology to the needs that present themselves. To me design is about it's similar to the innovation leap that happens when you're faced with a plethora of challenges and you think of a new way to address them that even some of your clients or your end users would never be able to address themselves. It think what's interesting about this space that we work in, there's a lot of this. These systems have been broken for so long. The patient records have always piled up in that drawer in the back room or the drugs have always failed to get to this particular clinic or that outpost.

Emily Lewis: [Agrees]

Rowena Luk: That people get very accustomed to it and they can't imagine another way that it could work, and I think design is about a coming in and saying, "Here are all the different ways, all the different possibilities that do exist. Which one is right for this circumstance for this particular user? Which is the one that's going to do the best job of addressing the needs given the whole holistic context of the problem that we're facing in the environment in which it situates itself?"



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Emily Lewis: In the situations where your apps, the tools are being used in environments where while they may have connectivity, maybe it's not obviously like a high-speed internet situation or good power situation, so does that put design constraints on your team as you are building an app in the sense of you know you don't want it to be image heavy, you know you want it to be fast, like if there are things that you have learned from as you're building an interface that have constrained you? I guess constrained what you may think of as like, "Oh, that's pretty," but it allowed you to have more power because it serves the need better?

Rowena Luk: So it's interesting in that, yes, there are so many constraints. For example, screen size, particularly when you're talking about or working with a 50-year-old health worker whose vision might not be very strong, battery life is an often forgotten one. But if a phone running an app can last for three days instead of two days, then that can be a significant difference in terms of getting the charge and whatnot.

What's interesting as well though is there are a lot of challenges that you can naturally think of working in this rural environment. I think training and uptake is also one because you have fewer touch points with the rest of the community of app users. There are also constraints that you would think exist, but don't. So for example, one model that we take is loading a lot of things up on the phone when there is a health training, and so since it's all stored locally on the phone, then we can make some things work even if the connectivity is very poor.

Lea Alcantara: Right.

Rowena Luk: So we can have rich interactive multimedia experience on the phone. There's a question of big data analysis or being able to smart machine learning to predict defaulters to medication, the person who's going to stop taking their TB meds and become at risk for a much more serious illnesses.



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Emily Lewis: [Agrees]

Rowena Luk: And there are aspects of that that we can get done on the server using the latest technology and then feed that back into the mobile phones and so it's been great to see the mix that we can achieve between very, very basic, simple user friendly interfaces sometimes to very complex and advanced data analytics on the phone.

Emily Lewis: Yeah, I wouldn't expect that. I find that really interesting.

Rowena Luk: What's interesting to remember about a lot of these communities is that even with cellphones themselves, they've leapfrogged ahead of what the West was able to achieve.

Emily Lewis: [Agrees]

Lea Alcantara: [Agrees]

Rowena Luk: Like these folks never had landlines to the same extent that we did.

Lea Alcantara: Right.

Rowena Luk: And now everyone has a mobile phone. Sometimes because the connectivity is so poor, they have three mobile phones all active, all on different networks. [Laughs]

Emily Lewis: [Laughs]

Lea Alcantara: [Laughs]



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Rowena Luk: And so in that sense, they'd been able to jump ahead, and similarly, for better or for worse, there's a fair amount of work that you need to do to work in health with technology, particularly if you're doing anything medical.

Emily Lewis: [Agrees]

Lea Alcantara: [Agrees]

Rowena Luk: And the barriers to that kind of innovation in Africa are much lower, and the smarts are there. There's this whole generation of young people that are teaching themselves how to code and how to build things on the internet and looking to make their own startups and whatnot. In this aspect as well, I can see there's an opportunity for more leapfrogging.

Lea Alcantara: Well, that's very cool. So speaking of that, like the young people trying to teach themselves how to affect their community better, how can those in our web industry help create a positive impact using our skills and technology?

Rowena Luk: You know I was thinking about this one for a bit since I wanted to have good answer for it.

Emily Lewis: [Laughs]

Rowena Luk: I actually suspect that one of the highest impact things that web developers or web professionals can do is to support their local community or organizations.

Emily Lewis: Yeah.

Lea Alcantara: [Agrees]



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Rowena Luk: And there are so many. There's like the UNICEFs of the world.

Lea Alcantara: Right.

Rowena Luk: Or whatever, the [Bill & Melinda] Gates Foundation, and they have all sorts of web developers doing their things for them. But on the other side of the spectrum, we have this taxi driver I met in Malawi or this person in Ethiopia who wanted to start an ecotourism business, and for these small community organizations, a strong web presence can make all the difference.

Emily Lewis: [Agrees]

Rowena Luk: It can put them on a map. It can connect to funders, to partners. It can make them legitimate in a way that they would never be able to achieve on their own. The other thing is that, as Lea knows, having tried to set up an NGO of my own, it's really hard to bootstrap an NGO. [Laughs]

Lea Alcantara: [Laughs]

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Rowena Luk: Getting it off the ground is so hard. Anything you can do accelerate that legitimacy can make a big difference for these small guys that are very closely attached to their communities and understand their communities and who don't have the same ridiculous overhead that a lot of big named organizations have.

So I would actually encourage web professionals to look at their local volunteer organizations or local community programs, their schools, whatever cause it is that speaks most to you and to find people that are trying to get something up and running in your communities and work with them to create that



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online presence. It really is a big enabler for any initiative to have that voice, to have that identity on the internet.

Emily Lewis: Yeah. I love that, and I couldn't agree more. Whether you're a web worker or any kind of worker, if you are going to get involved in something that you care about, doing it in your local community can be a really not only a powerful personal experience, but in my opinion, in my own experience, it affects more change than when I've done something on a more national level.

Rowena Luk: Yeah.

Emily Lewis: Because you see it, you see in your community, you see how your community changes.

Rowena Luk: Absolutely.

Emily Lewis: Are there anymore organizations that in your life, not just in your current career right now, Rowena, but that really helped inspire you and give you, whether it was the idea or the motivation or the inspiration to take your career on this direction, that you would recommend someone check out or look into?

Rowena Luk: So some organizations that I found compelling and moving, I'll mention two examples, although they're definitely not the only examples. One is there's a community-based organization in West Africa called [Tostan International](#). It just started off working in at a literacy program, but has since become one of the world leaders in terms of ending gender-based violence and female genital cutting and whatnot and they have a fantastic grassroots approach to mobilizing communities and to teaching people that they can solve their own problems, that they can advocate for change, that they can clean up their own villages and teach their own kids and whatnot, and I've seen them do some great work in West Africa and working with them was hugely motivating for me.



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The other organization that comes to mind is one called [Terre des Hommes](#). I believe it's based out of a couple of different countries, but I know they have a big presence in Switzerland and France and also very active in Sub-Saharan Africa and their work is focused on child protection, whether it's making sure that they get appropriate healthcare or attention from social workers or freedom from violence and inequality and whatnot. They're also one of the most innovative organizations I know. So one of our deployments with them has this protocol for the diagnosis of the five greatest killers of children under 5 that we've deployed to some 400 clinics in Burkina Faso, and that's been a game changer in terms of the quality and consistency of the healthcare that can be provided.

Emily Lewis: Wow.

Rowena Luk: Because in Burkina Faso, a lot of the clinics are staffed only by a nurse who's heavily overburdened and doesn't have the same consistency that you would hope for a session with essential set of protocols. So it's been great to see them sort of revolutionizing the way that healthcare is delivered in Burkina Faso.

Emily Lewis: So sort of thinking even bigger and maybe even beyond health, where do you think technology, mobile technology, in the future moving forward will have its greatest impact in social causes or community?

Rowena Luk: One area that we constantly struggle with, and this is again in any sector, is that gap or that tension that I keep on coming back to between what the funder wants and what the community wants, you know?

Emily Lewis: [Agrees]

Lea Alcantara: [Agrees]



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Rowena Luk: The funders are often very educated and very powerful people and so the nature of that are so, so far removed from the basic needs of a lot of these workers and/or asking them to do things that are completely mismatched with what a community wants.

Emily Lewis: [Agrees]

Rowena Luk: I think the greatest opportunity that exists with mobile technology is that now that we've suddenly opened the doors to all these individuals, communities, frontline workers, volunteers, et cetera, to be able to close that gap, that accountability. Like ultimately, the funders' stated purpose is serve the community, but that community has not had a voice. It hasn't been able to say, "Yes, I like that school you built. That well over there was useless because there's no water, and various different things like that."

Emily Lewis: Right.

Lea Alcantara: [Agrees]

Rowena Luk: I think if we could close that gap. If we could give the communities the opportunity to actually say, "This charity is doing a great job. That charity is not. This community health work or program is working. That one is not," and have that visible at the highest levels of the decisions that are being made in DC and whatnot, then I think that could really fundamentally change the way that this whole industry works for the better and make us more accountable to the things that we claim to be serving.

Emily Lewis: Yeah. And have better impact, better results, you know

Rowena Luk: Right.



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Emily Lewis: The things that actually matter, that money is going where it needs to go, instead of money just going.

Rowena Luk: Exactly.

Lea Alcantara: That's great.

Rowena Luk: Exactly.

Lea Alcantara: So then what final advice do you have for those who want to use their design and engineering skills for good.

Rowena Luk: My final advice is doing anything is better than doing nothing. [Laughs]

Emily Lewis: [Agrees]

Rowena Luk: First one, I believe that apathy is one of the greatest barriers to our work in this era. Two is to remember and acknowledge that whatever skill you bring to the table will be hugely useful and beneficial somewhere in the picture of the good work that we want to do. Reflecting back on where I was even in university when I was trying to find my way, I never thought that my engineering background could be useful in a development context. Like I wasn't a social worker, I wasn't a teacher, et cetera, cetera, but the business of running these countries, the business of making a healthcare system work or a financial system work is the same all over the world. [Laughs]

Emily Lewis: [Agrees]

Rowena Luk: Like those structures exist all over the world, and so if you're somebody that brings a unique skill set and you're like, "Well, you know, I'm an accountant or I'm a lawyer, what can I do?"



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there's so much good that can be done if you just take a little bit of effort to go and look and ask and find. I would definitely encourage everybody to take pride in the work that they do and in the work that they love and to see how they can use that to enact social change.

Lea Alcantara: Well, this was an amazing discussion. I think I've learned a lot since the beginning of the show and I'm hoping that our listeners did too.

Emily Lewis: Yeah. I feel like this is a little different than what we've talked about before, but I think this is the kind of stuff that, you know, the web is not going to be the web in ten years. [Laughs]

Rowena Luk: [Laughs]

Emily Lewis: Like we don't really know what anything is going to be technology-wise in ten years because of how things innovate and change, but what will stay the same are communities that need help or need support, and so it's a topic that I think is important all the time, but particularly today in the climate we have right now that we're kind of absorbed by some things in the news and it's easy to forget about the bigger picture in what's going on in the world, and we can take our skills whatever they may be and do something about that to kind of get out of from under this blinders, political focus, that everything in, at least, America seems to be focused on these days. [Laughs] So I really liked this conversation to sort of help us look beyond what we do every day and what we see every day and thinking about how we, as designers, creative thinkers, engineers, can make our work more meaningful for ourselves and for our communities.

Lea Alcantara: Well, that's all the time we have for today, but before we finish up, we've got our Rapid Fire Ten Questions so our listeners can get to know you a bit better. Are you ready, Rowena?

Rowena Luk: I'm so ready. [Laughs]



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Lea Alcantara: [Laughs]

Emily Lewis: [Laughs]

Lea Alcantara: First question, introvert or extrovert?

Rowena Luk: Introvert.

Emily Lewis: The power is going to be out for the next week, what food from the fridge do you eat first?

Rowena Luk: Ice cream. [Laughs]

Emily Lewis: [Laughs]

Lea Alcantara: What's your favorite website for fun?

Rowena Luk: [XKCD](#).

Lea Alcantara: Oh, I love it.

Rowena Luk: [Laughs]

Emily Lewis: What's the last thing you read?

Rowena Luk: [The Immortal Life of Henrietta Lacks](#).

Emily Lewis: Oh, I just watched that movie.



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Rowena Luk: I haven't seen. Is it good?

Emily Lewis: It's okay. I think the story is very good.

Rowena Luk: [Agrees]

Emily Lewis: Yeah.

Rowena Luk: [Laughs]

Lea Alcantara: So what's the best piece of professional advice you've ever received?

Rowena Luk: Don't doubt yourself.

Emily Lewis: And what's the worst piece of professional advice you've received?

Rowena Luk: You're only here once.

Emily Lewis: [Laughs]

Rowena Luk: I guess it's a good advice, but I think the worse comment was, "You're only here to fill the gender quota."

Emily Lewis: Oh.

Lea Alcantara: Oh.

Rowena Luk: [Laughs]



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Lea Alcantara: Booo. Booo.

Rowena Luk: [Laughs]

Lea Alcantara: What's your favorite color?

Rowena Luk: Orange.

Emily Lewis: If you could take us to one restaurant in your town, where would we go?

Rowena Luk: There's a great ramen place inside of a bar in the heart of Cape Town.

Lea Alcantara: What's your favorite board game?

Rowena Luk: [Dominion](#) is a recent discovery. It's fantastic.

Emily Lewis: Oh, I've never heard of that. All right, last question, Hulu or Netflix?

Rowena Luk: Netflix.

Emily Lewis: [Laughs]

Lea Alcantara: Nice, you guys get Netflix in South Africa?

Rowena Luk: We do. We don't get Hulu though. [Laughs]

Lea Alcantara: Okay, fair, fair.



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Rowena Luk: So it's a bit of a loaded question. [Laughs]

Emily Lewis: Yeah.

Lea Alcantara: [Laughs]

Emily Lewis: [Laughs]

Lea Alcantara: So that's all the time we have for today. Thanks for joining the show!

Rowena Luk: Thanks for having me, I had a great time!

Emily Lewis: In case our listeners want to follow up with you, where can they find you online?

Rowena Luk: So the best way to reach me is by my email which is rluk@dimagi.com and the best way to find out more about our organization and the work that we do is at the website, dimagi.com.

Emily Lewis: Awesome. Thanks again for joining us today, Rowena. I think this was a great conversation.

[Music starts]

Rowena Luk: Thank you.

Lea Alcantara: CTRL+CLICK is produced by Bright Umbrella, a web services agency obsessed with happy clients. Today's podcast would not be possible without the support of this episode's sponsor! Many thanks to Foster Made!



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Emily Lewis: We'd also like to thank our partners: [Arcustech](#).

Lea Alcantara: And thanks to our listeners for tuning in! If you want to know more about CTRL+CLICK, make sure you follow us on Twitter [@ctrlclickcast](#) or visit our website, [ctrlclickcast.com](#). And if you liked this episode, please give us a review on [Stitcher](#) or [Apple Podcast](#) or both! Links are in our show notes and on our site.

Emily Lewis: Don't forget to tune in to our next episode when Kristin Valentine joins the show to discuss ethics in technology. Be sure to check out [ctrlclickcast.com/schedule](#) for more upcoming topics.

Lea Alcantara: This is Lea Alcantara ...

Emily Lewis: And Emily Lewis ...

Lea Alcantara: Signing off for CTRL+CLICK CAST. See you next time!

Emily Lewis: Cheers!

[Music stops]

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