iLabs: Community, Connection and a Culture of Innovation

a conversation with InSTEDD's CTO Eduardo Jezierski

For the last few years, CTO Eduardo Jezerski and his colleagues at InSTEDD have been working on a model for an innovation lab—an "iLab"—to build local tech capacity in developing countries to support projects with social impact. The first, in Phnom Penh, is now 100% Cambodian-run, producing tech solutions that not only address local needs—primarily focused on public health—but are so useful, they are being adopted elsewhere as well. Could Southeast Asia be the next Silicon Valley? A second iLab was launched a few months ago in Argentina, so perhaps it will be South America.

Recently, ***TrackerNews*** talked to Ed about iLabs, hackerspaces, BarCamps and creating the right circumstances for "virtuous circles" of good.

** Disclosure: **TrackerNews** was incubated at InSTEDD —J.A. Ginsburg, editor, June 2011*

***TrackerNews*: Let's begin at the beginning with a some background. How did iLab get started?**

Eduardo Jezierski: The iLab as a concept came from a "melding of minds" across technology and social work. My background is in technology, while our CEO, Dr. Dennis Israelski, has dedicated his career to working on global public health issues, mostly in Africa and China. Although these two domains—technology design and public health—would seem to be quite different, we discovered they share quite a bit in common.

For both, it is important to constantly adapt to changing situations and to embrace iteration. It is a very different proposition from, say, building a car, where you've got a standardized set of processes to create a commodity product. Traditional post-industrial organizational styles and practices simply don't apply. Our shared goal is to push the design frontiers in tech to improve health, safety and development in low-income settings—and to make sure the improvements are real and measurable and driven locally.

We began by defining the characteristics of projects that have had long-term impact:

- Open spaces , neutral "commons"
- Agile planning and strong field work
- Collaborative culture
- Local ownership
- Sustainability through concrete business plans
- A culture of designing for the end user, (which might be a patient)

We saw that the most innovative outcomes tended to draw from a combination of these elements. Clearly, our next step was to create a place that would provide all of these "fertile soil" characteristics for socio-technical work: an innovation lab or "iLab."

Ironically, I am not a big fan of the word "innovation." It has become so cliche and evokes so many wrong concepts about how things happen (e.g., the genius character, the epiphany moment, the romantic tale of invention). If you are really interested in innovation as a concept, I strongly recommend reading Scott Berkun's book, *The Myths of Innovation*.

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***TrackerNews*: How did you start? Was it just a room with a few computers? How has it developed over the last couple of years? How does this compare with Silicon Valley's early "garage" culture?**

EJ: We set up the iLab in early 2008, with support from Google.org and The Rockefeller Foundation. We started in a large house, with a mix of bedrooms, open space workrooms, classrooms, etc. A lot of people would crash in the bedrooms during BarCamps and other events. We had a constant cycle of foreigners—both from the region and beyond—who helped InSTEDD set up in Southeast Asia, or just wanted to connect with the accelerating local tech community.

We have iterated the physical set-up and now the iLab occupies part of a floor in an office building with beautiful open spaces. One thing, however, has remained constant: *The internet connection is awesome*—and a large part of the cost of the iLab's infrastructure!

The iLab is 100% staffed by Cambodians, with a steady stream of visiting engineers, interns, volunteers and InSTEDD staff. The library is an eclectic combination of books that range from Muhammad Yunus' *Creating a World without Poverty*, to technical manuals such as *The Experts Guide to Asterisk* and *Sketching User Experiences*, to the classic tell of the birth of Silicon Valley, *What the Dormouse Said*.

Something I hope distinguishes the iLab from Silicon Valley, though, is that it helps foster a broader focus, one that includes social impact as an explicit initial goal of a business and part of the bottom line.

I would also like to see a more fluid collaborative approach across organizations, and an emphasis on the importance of being able to try "start ups" with low initial investment. There is evidence this is happening.

Cambodia—and other developing countries—have a great opportunity to leapfrog past the traditional ways of doing business and building companies.

Tech mentor and developer Chris Brown (a "white Cambodian" of sorts) makes this a very important part of his BarCamp talks. He, himself, works across four organizations—including InSTEDD—where the tech teams share experience, knowledge, training sessions, and even hold "dev" competitions amongst themselves. (*Editor's note:* two of Brown's projects: Upstart and Cambodian Atlas.)

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***TrackerNews*: Tell me about the BarCamps you've held in Cambodia. What surprised you? (btw, please explain what a BarCamp is!)**

EJ: BarCamps are a kind of "unconference," self-organized by a community. They are collaborative gatherings where people share what they know, have debates, build things, teach each other new skills and have fun. Although there is no pre-determined agenda, they do require some preparation and sponsorship to make the experience good for the attendees!

InSTEDD was a sponsor of Cambodia's first BarCamp in 2008. We have also sponsored, either directly or indirectly, all the BarCamps in Phnom Penh since, as well as the first Lao and Myanmar BarCamps. But I really want to stress the c*ommunity nature* of these events. The credit belongs to each and every one of the organizers,

and the "instigators" whose efforts put the idea on the table. These are generally annual events, though it depends on how often people want to step up to the plate and put one together.

BarCamps are culturally harmonic with InSTEDD's mission and approach. The social networks and trust that develop can become an important national asset in times of crisis. For example, right after the late March, 2011 Myanmar earthquake, it was BarCampers from the region who quickly set-up social networking tools to gather first-hand information.

It is worth noting that for the last two years, the largest BarCamps in history have been held in Myanmar. Big doesn't necessarily mean better. But you need to offer more than t-shirt gifts to get over 3,000 people to show up. It is unprecedented.

If there had been a BarCamp Yangon before Cyclone Nargis, or Port-au-Prince BarCamp before the earthquake, I believe the local sharing and flow of information would have been better. There would have been better technology support for building collaborative networks within the country and with foreign responders.

Among the things that have delighted me at these BarCamps:

- High level of the talks
- Diversity of the talks: tech, business, crafts, from cooking to lock-picking!
- Overall gender balance around 50%
- Number of talks in Khmer, Burmese or the local language
- International participation from across Southeast Asia
- The local tech community sees this event as a community asset, a "commons"
- The stability of the social groups formed at these BarCamps. They are venues to discover people who share interests and values.
- How much everyone looks forward to the next one through the year

***TrackerNews*: Describe some of the projects that are being worked on at iLab / that have come out of iLab. Any software / apps that have attracted attention beyond Southeast Asia?**

EJ: There are so many cool projects happening at any point in time. It's hard to choose!

At InSTEDD, our work is to support NGOs, governments and community groups with technology that furthers their goals. We are continuously adapting to all sorts of requirements. It is critically important that tools we develop can, for the most part, be used without a great deal of training by almost anyone.

For example, GeoChat is a simple collaboration tool for group-messaging: People can hold group "chats," collect data, or send alerts via SMS or email. Work at the iLab helped shape the design of the tool that would deliver solid communication capability within the limits of locally available tech. Then we found out Geochat is being used in New York for community public health projects. Sometimes, when you focus on the simplest phones, and the most basic audiences, you get surprised about

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the uptake from the "tech-savvier" end of the spectrum.

I have come to believe if you design for constrained environments, you force yourself to make things easier and simpler, and everyone benefits.

An example of a tool built bottom-up by the iLab that based on needs experienced in the field by our "client" organizations is a resource mapping tool. It allows people to track work, stocks and resources geographically and share information via SMS, smart phones and the web.

It is simple, but powerful. The team started writing the first lines of code in 2009, and today it is used by NGOs to track all sorts of things from child immunizations to wells poisoned by arsenic. Within a few months, it will be available for Android tablets.

Tech innovation isn't always about bits and bytes. For example, the team has developed the Reporting Wheel, a system using physical "coding wheels" that makes it possible for semi-literate health workers to reliably report quantitative data from the field. This came directly out of work at the iLab. Now these wheels are being used for disease reporting in Thailand and Cambodia.

Hardware or software, analog or digital, the iLab was designed to create an environment where people with skills can "connect the dots," then rapidly validate (or invalidate—just as important!) ideas in the field.

From the beginning, we have supported interoperability and standard data exchanges with our tools. This allows projects to built on top of what's already been done, developed locally and for local needs. Developers can take advantage of assets that are too costly for tiny humanitarian efforts and grassroots projects to build on their own.

For example, the team developed a simple mobile-poll app using a Google form. You can send out an SMS survey and results drop into Google spreadsheets.

As more and more people build apps on the APIs we have provided, we are starting to think about repackaging them so these apps are available to anyone in the world that just connects their mobile platform.

Imagine...

- malaria elimination apps
- village health worker tuberculosis referral apps
- community early warning apps

...all designed bottom-up in specific communities and being useful worldwide.

The iLabs are the first place humanitarian organizations go for technical advice. By working together, we can see what are common versus unique needs and simplify how local communities build applications designed for whatever the task may be.

TrackerNews: **Have you had any "graduates" who have gone on to start tech-related businesses? Is there Do you see iLab playing a central role in sparking a tech sector in Southeast Asia? Has a jobs network developed? Are there any relationships with universities, either local or foreign?**

EJ: This is starting to happen. Part of our capacity development includes business management. By design, we never wanted the iLab itself to be the hub of activity, but rather to serve as a catalyst between social impact work and the tech sector. The iLab is actually part of an ecosystem made up of a handful of local organizations, all working together to help the Cambodian tech sector develop. For the iLab to do its job, it cannot place itself at the center!

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Tech jobs networks have started to emerge around the iLab community. Members of the iLab, along with people from other local organizations, created a new group called "Share Vision." Everyone shares what they've learned on the job with university students in an informal curriculum delivered through free talks. This has helped close the gap between the official curricula and ever-changing marketplace needs. And just in the past few months, a new group had emerged: Khmer Young Entrepreneurs (KYE). These are the business leaders of the future.

We didn't "design" this exact outcome as part of the iLab work plan, but it is exactly what we *hoped* would develop if we created the right sort of culture.

We have been lucky to have donors and supporters that "get it." They understand that these secondary "virtuous circles"—so critical for overall success—cannot be mandated. You have to leave it to the brightest and most passionate people at the iLab itself to steer the course.

A lot of organizations in the region see the potential of technology for their social projects, and InSTEDD as a natural "go-to" organization. We work with whole network of like-minded companies, such as Change Fusion and Open Dream in Thailand.

Google.org is sponsoring the next stage of the iLab's development as it matures into a social enterprise able to support itself from triple bottom-line products and services: education, social impact, revenue.

The iLab staff is now thinking about a business strategy and planning for the long term. There is no guarantee of success. At the same time, there is no lack of demand for technology design and implementation skills. The iLab is well-positioned to design smartly targeted products.

Success, I think, is more a matter of "how" and "when," but not "if."

***TrackerNews*: Tell me a little more about the Hackerspace Phnom Penh. How will this differ from the iLab, beyond being developed independently? How many people do you think will be involved? Is this part of an existing hackerspace movement in Southeast Asia, or do is the prototype?**

EJ: Hackerspace Phnom Penh (HPP) is a related but different project. It is about providing a shared space to work on shared projects, with a focus on hardware. The plan in the long run is also to have additional teaching rooms, rental offices and provide space for Khmer small-capital startups. (Disclosure: I am one of the "'investors" in HPP).

HPP is used already being used for small community projects and for tech talks. It's an experiment. The hope is we can find a balanced business model that makes it self-sustaining.

There is another angle one can only understand by spending time in Southeast Asia: It may actually be better for a something such as HPP to be developed independently. In countries that receive a lot of NGO foreign aid, international organizations or groups with social missions are often perceived as a prime example of non-local ownership, non-efficient execution and non-business thinking. It is vital to attract people who want to develop the local economy, so having an independent identity is as asset.

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The point is to keep iterating and finding new ways to share knowledge, support entrepreneurs and help develop the local social enterprise ecosystem. There have been other hackerspaces and similar such efforts in Southeast Asia before. Each provided lessons for its successors. The international community of hackerspaces is very good at sharing what's been learned, so over time patterns emerge. Then you just have to try them out in the local context.

At the core of the iLab we have a triple bottom line:

- social impact
- capacity building
- economic sustainability

There are several ways to approach reaching these objectives: For example:

- Business: Are you setting up a company, a facility, an incubator or accelerator? Maybe it's a mix that shifts over time.

- Capacity-building / Knowledge-sharing: Is this delivered as classes, workshops, BarCamps? Or is this on-the-job?

- Social Impact: Is it part of main mission or a serendipitous side-effect?

In the iLab, social impact is a core element. But in HPP, it is casual: commercial or entertainment projects are just as valid.

I think over the next few years, we will see lots of permutations and combinations of these approaches being tried as an integral part of technology projects for health, safety and development—with a mix of private and public sector support.

The iLabs can operate as standalone organizations, or a subsidiary or division of another organization acting as an implementing "host." It is even possible to have combinations. Each iLab is unique and will develop in its own way.

We are trying all sorts of programs, for example, fellowship stipends for iLab graduates to work on specific tech projects focused on country and community priorities. We are also trying out competitive contests—with awards and small cash prizes-—both as potential first-step for incubator projects, and a great way to discover bright talent.

***TrackerNews*: Let's talk about replicability and scalability: Could you write a "recipe" for an iLab? How much does one cost? How is the Cambodia iLab funded? Does InSTEDD plan on opening more iLabs? Where?**

I don't think writing a recipe would be smart because an iLab is about context and, ultimately, local ownership. However, I think you can start with stating its triple bottom line:

- Social impact
- Capacity building
- Economic sustainability

Then build from there, applying what's been learned from other local and international projects.

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Some of these lessons almost go without saying:

- Get the smartest people you can find who are passionate about social impact and the potential of technology.
- Create a nurturing environment for leadership and execution

This can either mean providing resources or, depending on the situation, getting out of the way.

It is critical to engage with others working in local tech and social enterprise. Be part of and nurture the local ecosystem. Support the work of those who have the right intent, be agile in your business execution, and promote the exchange of ideas across sectors/cultures/disciplines.

And did I mention *have the best internet connection possible*?

How much that's going to cost will depend on the initial goal set and the risks you are willing to face. Although I am a fan of low start-up capital endeavors—creating something agile is always desirable in my mind—there are some things you don't want to compromise on: It is about the the quality of the people, a level of independence, the culture that's created and the bottom line. Cheap, fast, and right might not always come together. The fundamentals require patience.

We look for people with great crossover skills. Whether projects are developed through independent NGOs or government ministries, or supported by local or international funders, or a local technology organization, an iLab has to offer strong skills in design, technology, program management and often require field staff.

We have plans to open other iLabs over the next few years, each developing from its unique context. An iLab is a community resource. This isn't about growing a plant in a pot, but about contributing to the growth of a garden.

With support from Google.org, we just opened an iLab in Argentina to work with the communities of Latin America. Already, I am seeing how the iLab model is working with challenges quite different than those in Southeast Asia.

For example, the general technical experience is higher overall, but NGOs and governments need help understanding the potential of technology. Health, safety and development projects that either use or would like to use technology are best served by local people who understand local needs and can apply their design skills to help bridge that gap.

InSTEDD also collaborates with organizations who have mission-specific labs, like Jembi's labs for Rwanda health systems, and OASIS nodes. Jembi is a local organization that hosts key OpenMRS developers working on health systems in southern Africa. We are also currently looking at opening/supporting other iLabs in partnership with like-minded organizations. The lab model itself may become more distributed and virtual over time as well.

***TrackerNews*: What lessons / moments really stand out for you from the experience? What are the "take home" messages you want people to hear?**

EJ:One the key moments for me was the day one of the developers told me about "Hello World of the Month."

Re "Hello World of the Month": "… 'We want to feel comfortable with learning new things. We need to feel comfortable *not knowing* so we can look for the answer.' Now *that's* the right attitude. We could all learn from that."

It's brilliant. The iLab developers were getting tripped up, worried about their speed whenever they started to work in a new programming language. They realized they kept reverting to "old ways" that were more comfortable. So they created "Hello World of the Month," an exercise to take something they knew absolutely nothing about and figure out how do something useful with it. There is always a mix of curiosity, frustration, even trepidation when trying to do something in a new programming language. "We want to feel comfortable with learning new things. We need to feel comfortable not knowing so we can look for the answer." Now that's the right attitude. We could all learn from that.

Another bright moment was when our product manager—Channe Suy negotiated a long-term contract with the largest mobile operator in Cambodia (Mobitel) to provide centralized infrastructure for mHealth projects. It was great to see her leadership, and how naturally high-tech, national scale, and social impact came together in her pitch.

Thanks to her work, Cambodia has its larger wireless operator supporting national social priorities (along with earlier implementers, such as Smart Mobile). This is real accomplishment: It hasn't been done in many countries and it is extremely rare for a non-foreigner to take the lead.

My take home message: To realize the potential of technology for health, safety and development, we need to push both how we do design and improve local ownership. The iLabs are a great model to close the gaps, contributing to local business ecosystems in a way that generates impact for a long time.

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• Google Talk: *Agile Technology with Lives at Stake: InSTEDD in Haiti & Beyond* (video)

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