

THE ULTIMATE  
HI-DEF DIGICAM

THE WORLD'S  
MOST INSANE CITY

HACKING THE  
FIRST COMPUTER

# WIRED

WIPEOUT | MAR 2012

THE PLANE CRASH

One pill to  
erase your worst  
memories.

Want to try it?

THE DIVORCE

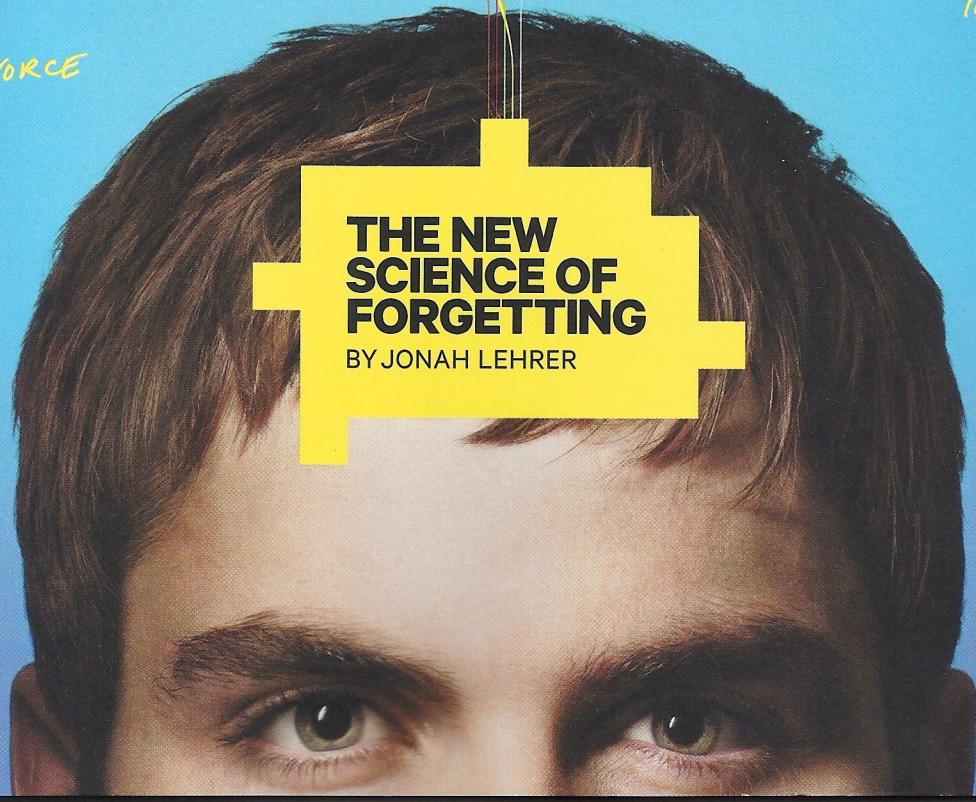
GETTING  
MUGGED

THAT ONE NIGHT  
IN COLLEGE

ALMOST DROWNING

THE NEW  
SCIENCE OF  
FORGETTING

BY JONAH LEHRER



```
    // for i = 3 + 2, i < length of the file, i++, data
    for( i = ms->peakOffset + RANGE_OFFSET; i <
        // if the current byte of data exceeds the per
        // the current byte of data falls between the
        // data[2] compared to data[3] and data[7]
        if( abs( *pcmData ) > ms->peakThreshold &
            ms_range( *pcmData, *( pcmDataOffset
        // then add the peak to the peak list
        llist_append( ms->peakList, i, ms->pcmData
    }
}
}

void ms_peaks_find_in_stream(FILE *stream){
    printf("starting ms_peaks_find_in_stream\n");
    //short buffer[7] = {0}; /* initialized to zeroe
    short data[2];
    int i;
```

# THE 48-HOUR

/BY STEVEN LECKART /Photographs by Graeme Mitchell

```
}

i = 5; // counter for index into stream (for find

printf("getting first char\n");

for( i = 0; !feof(stream); i++, fread(data, size
    if( abs( data[0] ) > 500 ) {
        if( abs( data[ 1 ] ) < abs( data[ 0 ] ) ) {
            //llist_append( i, data[0] );
```



# STARTUP

Welcome to the hackathon, where bleary engineers run on zero sleep, free pizza, and series-A dreams. The goal: to build a company in two days. **May the best code win.**

# Dirk de Kok is grinding. Hunched over a MacBook in a fluorescent-lit basement, he and 31 other software engineers pound away at source code for the 12th straight hour.

Writer Steven Leckart's dispatches from the BeMyApp hackathon.

## FRIDAY

7:00 PM  
Arrive at BeMyApp in San Francisco.

7:10 PM  
Receive a paper cup to collect poker chips (votes from engineers and designers).

7:15 PM  
Zac (my lead designer) hands me all three of his poker chips.

8:25 PM  
I present my 30-second pitch with a single PowerPoint slide I made the day before.

Thick metal bars—actual bars—obscure the few tiny windows. Outside it's 82 degrees, a glorious day in San Francisco's startup-glutted SoMa district. Whenever a set of bare legs strolls by, it's like a kick to the groin. "It's too damn sunny today," de Kok sighs.

Good news: The kitchen is stocked with Red Bull, Pop-chips, Corona, and Chewy Granola Bars, all gratis. Bad news: 34 hours to go.

We're participating in BeMyApp. It's a hackathon—a contest to pitch, program, and present a functioning Android mobile application in 48 hours. Last night we worked past midnight. I say *we* because I'm leading one of the teams. On Friday I was handed a microphone and given 60 seconds to outline my idea for an app, then 30 minutes to mingle and out-schmooze a dozen other wannabe CEOs. We were vying to be one of six "idea generators." While engineers and designers are admitted automatically, people with ideas for apps (regardless of experience or qualifications) need to win over the crowd. Only the engineers and designers get to vote. We, in turn, jockeyed to recruit them, channeling the hyperbole of used-car salesmen.

"Our app will be bigger than *Angry Birds!*" one guy said, beaming.

"I have \$200 million in VC funding!" another joked.

"Pick me and you'll be in *WIRED* magazine!" I pleaded.

Like an *American Idol* for programmers, these marathon coding competitions have exploded in popularity. Fueled by the development of easier-to-use software-writing tools and a new willingness among companies to allow third parties to slice and dice their data, more than 200 hackathons were held last year in the US (and just as many more were held throughout the rest of the world). The result has been a wave of innovation and new businesses. Consider the action around Apple's iOS alone:

Correspondent STEVEN LECKART (@stevenleckart) wrote about blood tests in issue 18.12.

Since its 2007 debut, 500,000 applications have generated \$3 billion for developers. (Android's 400,000 apps have earned around \$100 million.)

And even as the opportunity to create an app and make money has exploded, the time and budget needed to code that software has fallen closer and closer to zero. Programmers can add core features to apps simply by cutting and pasting a few lines of code. Known as the glue layer, this trick enables them to focus on creating new functionality.

In other words, it's an ideal time to go into the app business—even if, like me, you can't exactly write code. Hackathons, with their come-one-come-all ethos, have emerged as the new forum for networking, learning, and beta-testing new apps and ventures.

Attendance varies, from 20 developers in a hotel banquet room to 500 competitors in a 133,000-square-foot warehouse at a tech conference. And as the arenas grow, so do the stakes. Fortune 500 companies are looking to hackathons to boost awareness of their products. Big players like AT&T, Microsoft, Nokia, and even Unilever (the billion-dollar conglomerate responsible for Axe Body Spray) have all hosted hackathons and app-generating contests. It costs \$5,000 to throw an event for 100 participants—a tiny investment considering the payoff if a participant creates a blockbuster app that the company can market. Last summer Foursquare's first-ever Global Hackathon, held simultaneously in New York, San Francisco, Tokyo, and Paris (and also open to remote contestants) lured more than 500 developers from 90 countries. The winner received a faux-gold championship belt fit for Mike Tyson, a trip to New York, and dinner with a Foursquare cofounder. At one hackathon hosted by an upstart open source platform, I watched the winning team hoist an oversize novelty check for \$10,000.

Venture capitalists are looking to hackathons as a new way to spot fresh faces worth recruiting and good ideas worth funding. "It's an investor's nirvana!" says Ron Conway, an early backer of Google, PayPal, and Twitter and cofounder of investment firm SV Angel. "You can see the idea, see the product, and watch how quickly a team develops at the height of stress. It's a one-stop shop." At Angel Hack, the winner receives \$15,000 in seed capital and a spot in a startup accelerator. At TechCrunch's Disrupt hackathon, the winning hacks can earn up to \$250,000 (and meetings with top-tier "superangels" like Conway).

The trend has already spread beyond the conventional tech world. There are women-only hackathons, hackathons for teens, hackathons for college students, hackathons to fight autism, hackathons to improve education, hackathons to help veterans, hackathons to build Occupy Wall Street protest tools, hackathons on clean energy, hackathons on grocery shopping in Vermont, and 14 hackathons to troubleshoot water pollution—footage of which was streamed live from nine cities including Bangalore and Nairobi.

Hackathons didn't spring from nowhere. They are ingrained in the ethos of coding. In one notorious true-to-life scene from *The Social Network*, Mark Zuckerberg stages a 10-minute hack-off in a Harvard dorm. The win-

ner becomes his first intern. Today, every two months or so, many of Facebook's 700-plus engineers gather for a 24-hour competition at the company's offices, where the front door is emblazoned with huge decals that read H-A-C-K. Many of Facebook's hallmark features, including the Like button and Timeline, started as hackathon projects. Winners receive limited-edition posters illustrating pithy phrases like IN HACK WE TRUST. (In December, members of Congress even invited Facebook to host a hackathon on Capitol Hill.)

At Google, engineers are famously allowed to spend 20 percent of their time working on side projects; frequently those ideas are conceived at internal tests where up to 100 engineers assemble to rapidly hack Google's own products. Established tech companies from LinkedIn and Yelp to upstarts like RockMelt and Path all host overnight coding contests to foster creativity and stave off boredom.

nical wizard," I nabbed Scotty Allen, an ex-Googler who worked on the web server that runs the company's search engine. I also landed Zac Bowling, a baby-faced 27-year-old who's been coding professionally since he was 14. He has worked at Texas Instruments, Match.com, and four well-funded startups.

Truth be told, I had secured Bowling's services a month earlier, after we met at another hackathon. An admitted hackathon junky, he has competed in 75 such events since 2007. He averages two a month. More often than not, he wins. One victory was an iPad app for remotely controlling a Lego Mindstorm NXT rover using the tablet's accelerometer—tilt the iPad left, the bot goes left. Bowling beat out 54 teams for Coolest App at iOSDevCamp, a 48-hour event beloved by Apple developers. With Bowling in my corner, how could I lose?

At BeMyApp, they don't encourage hacking just for fun



8:41 PM  
One engineer tries to sell me a chip for \$20.



Reserved!  
S: we're



Of course, programmers have been participating in self-imposed hackathons since the 1960s, when MIT students preferred working in 24-hour "marathon bursts," as WIRED's Steven Levy wrote in his 1984 book, *Hackers*. Still, it wasn't until the late 1990s that today's version of the hackathon emerged: After back-to-back lectures, engineers at open source software conferences would be dying to get their hands dirty. So on the last day, they'd assemble in one room for a group coding session. There were no prizes. No pitches. And no nontechnical participants.

Which brings me back to BeMyApp. My pitch (more on that later) received the most votes. Better still, I won the talent war. Along with de Kok, a self-described "tech-

or to bring about world peace or win prizes (though my team could score a \$1,000 ad campaign and \$500 credit toward renting the subterranean coworking space we're toiling in). The competition's mission is to churn out mini-companies: "Come with your idea on Friday and leave with an app and a Co-Founder on Sunday," BeMyApp advertises. It is a mill. Every three months, BeMyApp events are held concurrently in up to seven cities around the globe, including London, Paris, and Zurich. The organizers claim each of its hackathons has yielded at least one project that makes it to Apple's or Android's app store.

Could that be my app?

By 11:27 pm on Saturday, my team isn't concerned with

9:26 PM  
Break off into teams, start brainstorming/planning.

9:26 PM  
I drink my  
first (of many)  
sugar-free  
Red Bull.

10:49 PM  
Zac sets up  
PiratePad  
(a collaborative  
text editor),  
Pivotal Tracker  
(to-do lists),  
and a Linux  
server for our  
project.



# “It gets weird at a  
hackathon around 5am.  
People are walking  
around like zombies.”

11:54 PM  
Ruby on Rails  
scaffolding set  
up, first code  
committed.

winning. We're just desperate to finish. “I'm not making any headway on this Rails bug, man,” moans Allen, the ex-Gooler.

“FUCK-ing Rails!” Bowling says.

It's been a couple of years since these two have coded in Ruby on Rails, software built to streamline app construction. On Friday they said they wanted to use Python or JavaScript programming languages. It was de Kok who lobbied for Ruby. But he's gone home to sleep. So we're at a standstill. We have 19 hours to go. There's no more free pizza.

**STEVE MARTOCCI AND JARED HECHT** searched for months to find a new office. The twenty-something cofounders of GroupMe settled on a grand 5,300-square-foot, 10th-floor loft in New York's Flatiron District. A bank of south-facing windows—six big panes—stretches across one wall. In the late afternoons, the startup's 23 employees can play Ping-Pong and watch as deep-orange sunlight bathes neighboring buildings.

The view tops the one at Martocci's last job. For several months in 2010, he was banished to an engineering “cave” at the online retailer Gilt Groupe. His morale improved when he finally moved offices. Then Gilt hosted its first internal hackathon. In a single night, the 27-year-old excitedly threw together software to analyze and display the real-time revenue of Gilt's biggest rivals. It wasn't a malicious hack, just a rich mashup of available data and public application-programming interfaces, or APIs—code that lets one piece of software pull information from another. Martocci took first place. His bosses tossed him an iPad. He asked to keep developing his software. The company balked, fearing bad publicity, he says. Martocci became disenchanted. His friend Hecht knew just the thing to cheer

## How Hackathons Work

These events are fast-paced contests to code software. And just like code, they proceed through a logical sequence. —S.L.

there was no app for that. So they decided to build one.

The duo met and talked about the problem. They honed their concept, features, and business plan. There was just one problem. “We had no idea how we were gonna build it,” Hecht says. They needed a way for everyone to send texts to a single phone number, which would then relay those messages to each person. “We were going to use a messaging platform called Clickatell, but we realized the feature we needed was banned in the US.” They learned this crucial piece of information right as they were walking into Disrupt. Without Clickatell as the foundation for the app, their messaging platform didn't have a messaging platform.

In the conference hall, they discovered a company they'd never heard of, Twilio, a cloud platform for voice and text messaging that would enable the kind of message distribution they wanted. (Twilio's pipes run Hulu's customer support, StubHub's sales, and Airbnb's mobile booking service.)

The duo spent the next 12 hours hammering out an app they originally called Groop.ly. Hecht registered the domain name and Twitter handle, designed a logo, printed 1,000 business cards at Kinko's, and whiteboarded a demo. He also delivered beer and pizza to Martocci, who stood up only for quick restroom and stretch breaks. “Shit gets weird at a hackathon around 5 am. People are walking around like zombies,” Hecht says. “I found a corner of some room and just passed out on the floor.”

Seventy-two hours later, Martocci was onstage demonstrating Groop.ly in front of 300 people. He did it in 97 seconds. The app was even mostly functional. After the presentations, Martocci stormed the conference floor. “We're gonna solve group communication!” he boasted, handing a business card to any investor who would take one. He whipped out his iPhone to show off the app. A line of people formed. They kept coming.

The following Monday, Martocci and Hecht got a call from venture capitalist Charlie O'Donnell. He'd seen Groop.ly at the hackathon and arranged for all the principals at his firm, First Round Capital, to be added to a group text. They loved it. Hecht and Martocci quit their jobs. In August they launched with a new name, GroupMe, and \$850,000 in funding from a handful of firms, including First Round Capital and SV Angel. By January 2011 their funding had ballooned to \$10.6 million. At SXSW that March, 2 million messages were sent using the service. Five months later, GroupMe was acquired by Skype for an estimated \$85 million. Not bad for a 12-hour side project.

**VENTURE CAPITALISTS** are fond of the adage “Execution is everything.” Which is to say, they're not looking for ideas, they're looking for people. This is why investors have

him up: Entering the hackathon at Disrupt NYC 2010.

Hecht can't code. Back then he was a 23-year-old business-development guy at the blogging platform Tumblr. Like Martocci, he wanted to start his own company. They realized they shared the same frustration with text messaging: At concerts with friends, the pair realized there was no way to send SMS updates to a whole group. People with BlackBerrys could use BBM—but that excluded anyone with an iPhone, an Android, or a low-end handset. They wanted a group to be able to read and update one private feed. To Martocci's surprise,





## 1/ Come up with an idea.

Participants build applications from text-messaging services and photo filters to games. They mostly code for cell phones, but occasionally they hack hardware like microwaves, tablets, and Lego Mindstorm robots.



## 2/ Build a team.

Two to five people team up, either before the event or ad hoc once they arrive. Ideally each team will consist of an engineer (to code), a designer (to create the user interface), and a business developer (to present the business case).



## 3/ Execute the concept.

All or most of the work happens at the competition, which is typically 24 or 48 hours long. When time is up, the software's main feature is expected to be functional. The project should also have a name, logo, and website.



## 4/ Present a finished product.

Each team gets a minute or two to demo its product. A short slide show explains how the app works and highlights its potential for revenue, advertising, and growth.



## 5/ Face the judges.

Venture capitalists, CEOs, journalists, and programmers typically vote on a winner, based on the app's concept, functionality, design, utility, and business plan.



## 6/ Collect your prize.

At large conferences, a winner can take home \$250,000 in seed funding or a spot at a startup accelerator. At smaller competitions, teams might receive \$10,000, an iPad or laptop, or gift certificates for web hosting.

grown especially fond of hackathons and routinely send junior staffers to embed and schmooze at choice competitions: It's where the talent can be found. "Everybody used to host a hospitality suite at conferences. Now the big trend is, if you want engineers, go to a hackathon," says Shannon Rucobo Callahan, a partner at Andreessen Horowitz whose portfolio includes Facebook, Groupon, and Skype. Callahan oversees the firm's "technical talent" team, a staff of seven who in 2011 traveled to half a dozen hackathons and who she expects will attend even more this year.

O'Donnell, the first champion of GroupMe, launched his own VC firm, Brooklyn Bridge Ventures, in January. He attends one hackathon a month (so does Conway's team at SV Angel). He has already funded another startup that grew out of a hackathon—a digital warehouse for legal and business documents called Docracy. Twenty percent of the hiring recommendations he makes to startups are engineers he has met at hackathons.

Given the talent shortage in Silicon Valley, VCs aren't the only ones crashing the party. Independent tech recruiters are particularly aggressive. And with good reason: The starting salary for an engineer can be as high as \$100,000, and recruiters can make 20 percent commission on the first year's pay. But not everyone perceives the influx of head-



SATURDAY

11:24 AM

Domain registered.

12:15 PM

I lead a high-level walk-through to discuss functionality and architecture.

12:39 PM

2.5 bananas eaten; half the trail mix gone; one pot of coffee brewed for our team.

2:22 PM

Bones of our app are up and running on Zac's Android phone.

6:24 PM

People on another team break out Coronas.

hunting and the emphasis on business to be such a good thing. Hackathons, some say, should be left to the engineers, who'd be better off scratching itches than obsessing over revenue streams. "If I had my way, there'd be zero VCs in the room," says Facebook engineer Paul Tarjan. "It stifles innovation."

Each year, Tarjan travels to 10 universities, where up to 200 students participate in Facebook-sponsored hackathons. The winners are flown to Facebook's headquarters for a throwdown judged by Mark Zuckerberg himself. Winners of that event typically wind up interning at Facebook. "We once tried to do a collaboration between engineers and MBAs," Tarjan says. "It was pretty awful. They would build something that's exactly like a market leader and put a spin on it. Like, a Groupon clone. I much prefer hackathons that just try to throw it at the wall and see what sticks rather than focusing on a cold and calculated 'What will make money?'"

Tarjan's distaste reflects the natural tension between engineering and business cultures. It's a stereotype perfectly captured—and perhaps reinforced—by *The Social Network*, which pits a scrawny programmer against identical-twin meathead MBA types. That the real-life legal battle over Winklevossian ideation and Zuckerbergian execution dragged on for more than a decade hammers home the point.

The increase in nontechnical "idea generators" at hackathons bothers many engineers, who view these Winklevosses with a mix of skepticism and disdain. Several engineers, including ones who don't work for Zuckerberg, told me biz-dev guys shouldn't be allowed anywhere near hackathons. Even Hecht, the biz-dev half of the GroupMe founding duo, admits to some ambivalence. "Look, at TechCrunch the winning hacks get \$100,000," he says. "Is that pure? Is that evil? Is that corporate? It's still the culture of building new things that solve problems. You can't go wrong doing that."

**"I'M SUCKING AT RUBY** so bad, I might as well stop," Bowling, my head engineer, says with a disgusted sigh. He slept a few hours but awoke at 4:30 am to troubleshoot and has been at it ever since. It's now 1 pm on Sunday. My three engineers have five hours to finish debugging our software and hang the visual design onto the framework they've built.

Meanwhile, I'm putting together a presentation with our designer, Jeremy Van Fleet, who won the previous BeMyApp with a memorization tool called Namerick (it's in Apple's App Store). He's trying not to seem annoyed that I'm cutting it close. That's not to say I haven't been busy. Copying a page from Hecht's playbook, I've registered my team's domain and Twitter handle, sorted through our user interface and feature set with the team, helped design a logo, and sold a local ad to impress the judges.

So what are we building?

We're building what on **I CONTINUED ON PAGE 124**



## The 48-Hour Startup

CONTINUED FROM PAGE 111

Friday I pitched as HackZombie, an app for sharing, browsing, and “liking” hackathon projects. OK, so it’s a little meta. But since the events are so numerous, it’s difficult to keep tabs on what they actually yield. There is no clearinghouse. And for every GroupMe or Docracy, there are thousands of projects that dissolve into the ether. At best, a project’s source code gets uploaded to GitHub, a sort of Wikipedia for code where one of the website’s million users might start a new fork, or version. But often the code just sits there. Forever. It’s called abandonware.

So my idea is to build an app that brings orphaned software back from the dead. Engineers could write a 140-character description of their project, which would be published in a Twitter-like stream. Users could scroll through, then click a Like button à la Facebook. Only instead of a thumbs-up icon, I suggested a shaka, the Hawaiian hand sign for “Right on!” We’ve renamed our app hackYeah! and christened it “a home for hacks and burgeoning apps.”

I had worried it might become a tool for swiping ideas, not promoting them. But every developer I talked to disagreed. Sure, hackathon culture, which sprang from the open source community, has evolved into an efficient system for generating intellectual property. But it also encourages transparency. “Stealth mode is overrated,” says John Watkinson, cofounder of Docracy. “It’s our fault if we can’t build our idea faster than someone else.”

“Five minutes!” Bowling announces.

“Oh fuck off!” de Kok replies.

I head for the free beer.

My 60-second presentation is a blur followed by two minutes of questions.

Our app’s basic functionality—the shaka button—actually works. That’s more than I can say for a couple of the other teams. One group’s “app” appears to be a series of sketches made in Photoshop. After a 20-minute huddle in a conference room, the judges return. First they offer me some feedback: “Nice job trying to speak to a community that isn’t normally addressed,” one judge says. (Fingers crossed!) And the winner is ...

*JesterChess?* A game described as a cross between chess and Sudoku. No way. It’s that guy who’d said his app could be bigger than *Angry Birds*. Apparently the judges agree. And an honorable mention goes to ...

*Choice!*? It’s a “philanthropic calculator.” Type in \$3 before buying a Starbucks coffee and the app computes what a \$3 donation means to Unicef: 10 measles vaccinations.

That puts hackYeah! somewhere near the bottom. I don’t have the heart to ask exactly where. My team is deflated. I led them down this road. And now our project is already abandonware.

I remember Martocci and perk up. He hasn’t won a hackathon since that first one at Gilt Groupe. And he has competed in four, including the one where he built GroupMe. “It didn’t matter that our hack wasn’t the coolest and not the winner,” Martocci told me. “If standing onstage or just being declared the winner is your goal, you’re probably not doing it for the right reasons. Besides, our demo only half worked.”

At the close of BeMyApp, I’m loitering on the sidewalk above that basement, spitting ideas with Allen and Van Fleet. What about a food-delivery app? Post the meal you want, then restaurants bid on who can

deliver the quickest, cheapest food. Or perhaps a ticketing app?

You set the price you’d pay and as the date gets closer, the venue can choose to accept your bid or risk not selling out.

We’re jazzed about that last one. Building a prototype won’t be too difficult, Allen says. There’s a clear potential revenue stream and value proposition for venues, I note. Twilio is hosting a hackathon next week, Van Fleet exclaims. We should go.

Maybe it’s the lack of sleep. Or that “hackathon high” I’ve heard so much about. But right now our idea really feels like it has legs. All we have to do is execute. Because if we don’t build it, someone else will. ■

## COLOPHON

### LOOPOLES THAT HELPED GET THIS ISSUE

**OUT:** Carrying minibar liquor to pass the TSA’s 3-ounce rule—hello highball! Occupation: freelancer. Year of birth: 1987. Health care? Why, yes; delaying address change in an attempt to get out of jury duty; meta-bargaining; tilapia (sort of) standing in for haddock; persuading scientists to provide copies of their research papers instead of paying for journal access; the Cabbage Soup Diet; averaging water contaminant levels; Crayola color Thistle has been benched, not retired; playing the float; dragging my sister to a pizza place in order to use two coupons; rushing to make December 31 equipment purchases to take 2011 tax deductions; blaming it on the writer; learning not to drop stitches during the transition from regular knitting to purling.

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