HACKATHONS: WHAT ARE THEY?

ENTER THE WORLD OF COMPETITIVE HACKING

BY ABBY DUDLEY

Note: Posting from your friend's Facebook account when they forget to log out is NOT "hacking".
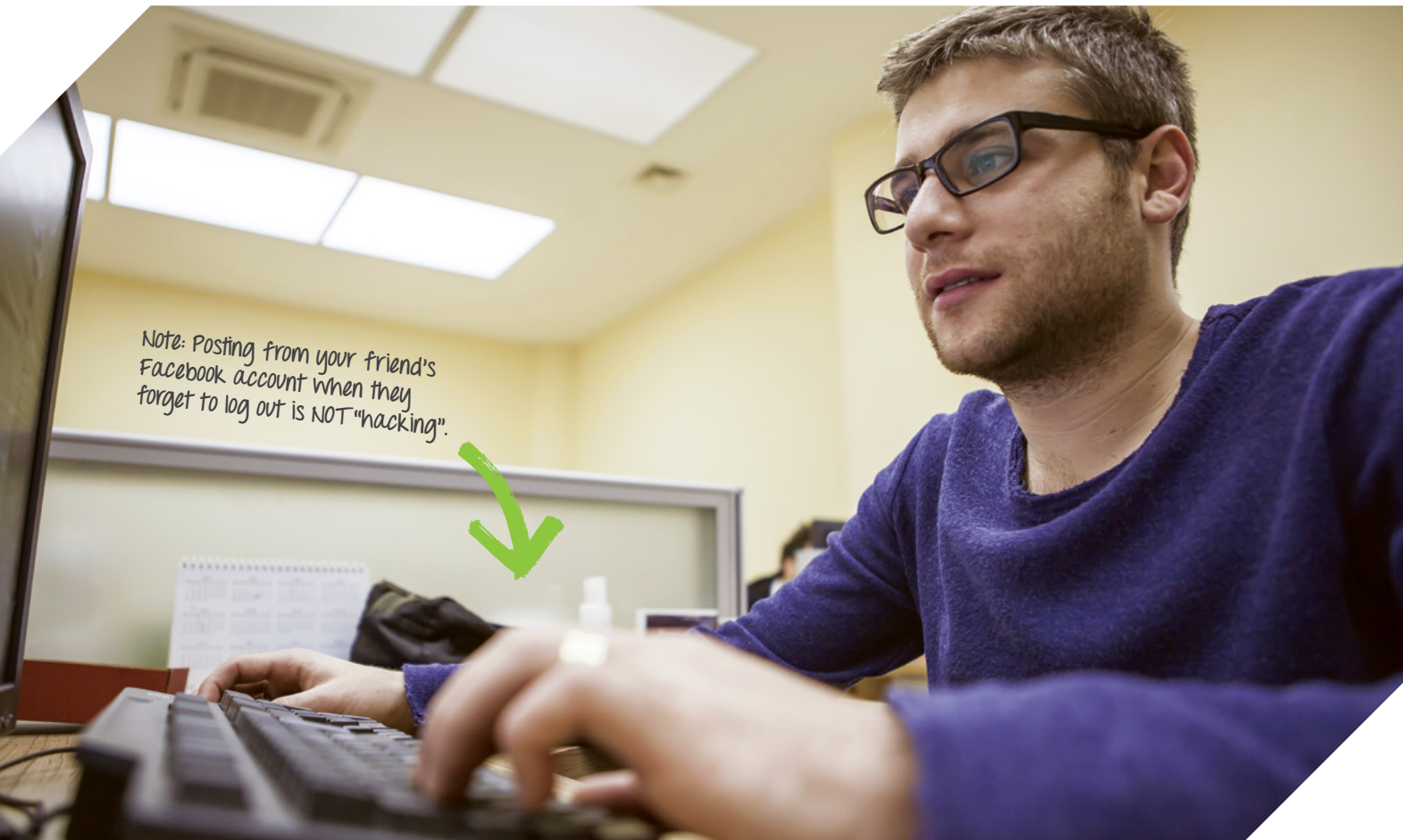
Hackathon (n): an event that brings computer programmers, graphic designers, software engineers, interface designers, project coordinators and entrepreneurs together for intense collaborative work on software—and occasionally hardware—projects.

Hackathons are innovative, team-based gatherings that either competitively or informally seek new technology in the form of apps, clouds or sometimes physical inventions.

Normally they last at least a day—and sometimes up to a week—effectively turning into slumber parties. They're big and small. Local and national. High stakes and low stakes. And they're awesome.

Picture a big room full of big brains that all specialize in different areas. Together, they make the most successful and lucrative businesses. And hackathons aren't only about creating the best prototypes—they also introduce these talented players to each other. Often, participants who were previously strangers bond over ideas in a beautiful display of creativity and teamwork. It's kind of like minor league sports for techies.

So, where are these and who can participate? Short answer: every-where and everyone. Long answer: big hackathons happen all over the county, namely in college towns and startup meccas. Some require appli- ▸

cations or fees and others only ask that you register. But the biggest hackathons fill up fast and delegate spots on a wait list. Why a wait list? Maybe because a lot of them involve substantial cash prizes for teams that place, as decided by a panel of judges. Plus, investors and huge tech companies recruit promising talent from events—attending one could be the beginning of the rest of your life.

Actually, it could be the beginning of a lot of people's lives. Namely babies in third-world countries. Medically centered hackathons have gained traction, and already some amazing technology has come of it. In 2012, the Consortium for Affordable Medical Technologies (CAMTech) hosted its first hackathon and from it came a life-saving device for newborns. Because of doctors' poor training in developing countries, 1.8 million babies die each year from breathing trouble and improper resuscitation. Enter the Augmented Infant Resuscitator (AIR). Three participants at the CAMTech Hackathon, each specializing in a different area, created a device in just two days that regulates the pressure for newborn resuscitation. This is what happens when smart people come together in the spirit of collaboration.

Still, you don't have to be a genius to participate. If it interests you, find one that's nearby. The team spirit of these events means that all angles of thinking are valued, expert coder or not.

Are you taking the STEM Type quiz?

HOW TO PROTECT YOURSELF FROM HACKERS

HACKERS ARE BECOMING MORE ADVANCED AND EVERYONE IS AT RISK.

BY STEPHANIE PETIT

Ever get an email from a friend with a weird link? Or saw a friend start posting strange tweets? They probably got hacked—and it can happen to you, too.

Here's how to protect yourself from these hackers. ▸

‣ USE DIFFERENT PASSWORDS

Most people use one or two passwords for all of their accounts, but that makes it easy for hackers—if one password is revealed, they suddenly have access to your email, bank account, social media accounts and more. It may be a little harder to remember different passwords for different accounts, but it's also harder to hack. It also doesn't hurt to change your passwords every few months.

MAKE PASSWORDS LONG AND COMPLEX

"ABC123" or "password" isn't going to cut it. Use upper and lower case letters, numbers and symbols in your passwords so that they aren't guessed easily. The length of your password is also important. Hackers use programs that sort through combinations of letters and numbers at lightning speed. Longer passwords mean more work for hacking software—and hackers generally want quick results.

USE AND UPDATE ANTIVIRUS SOFTWARE

There are many good antivirus programs out there that protect you from 95 percent of the danger that's out there. A free one is *Microsoft Security Essentials*. It provides protection from spyware, malware and viruses.

BE CAREFUL WHERE YOU CLICK

Never open an email if you don't know the sender—especially not attachments. Be suspicious if a friend appears to have sent you an email with no subject line, a subject line that only says "RE" or "FW" or is uncharacteristically vague or brief like "Hey." It may be a good idea to call them and ask if they sent the email. Also, don't click links that promise prizes or free things like movies—it's tempting, and that's why hackers use them, but they're not legit.

It's sad that these people are using their computer skills in all the wrong ways—**you can actually get paid to hack**. Jobs for "ethical hackers" are increasing because businesses and government-related organizations want to ensure their networks, applications and computer systems are strong enough to prevent theft and fraud.

It pays well, too! In your first years as an ethical hacker, you can earn anywhere from $50,000 to $100,000 per year depending on the company that hires you, your IT experience and education. With several years of professional experience, you could command $120,000 or more per year. And the big bonus—no risk of jail time like those not-so-ethical hackers.

Potential ethical hackers should start by earning a A+ Certification and getting experience in a tech support position. After some experience and additional certification such as Network+ or CCNA, move up to a network support or admin role and then to network engineer after a few years. Earn security certifications and eventually work toward the Certified Ethical Hacker (CEH) certification offered by the International Council of Electronic Commerce Consultants. Along with these skills and certifications, you'll need a strong work ethic, good problem-solving skills and the ability to say motivated.

Even with your skills, remember to never intrude anyone's network without their permission ... not even your ex-boyfriend or girlfriend. ▣

10 HOT CYBER SECURITY STEM JOBS BY SALARY

	NETWORK SECURITY ADMINISTRATOR	INTRUSION ANALYST	INFORMATION SECURITY SPECIALIST	ASSURANCE ANALYST	CYBER INCIDENT RESPONSE COORDINATOR	CYBER INTELLIGENCE ANALYST	SECURITY ENGINEER	CRYPTOGRAPHY AND APPLIED MATHEMATICIAN	CODE AUDITOR	SECURITY ARCHITECT AND STRATEGIST
WHAT WILL I DO?	You are the front door security—locking unwanted individuals or systems out of your network or systems. This differs from the data security analyst in that the focus is on network and system security including user permissions, processes, procedures and documentation.	Cyber crime is escalating at a breakneck pace. Whether it's a white hat or black hat hacker, a foreign nation or corporate competitor, if you have a system and information you want to protect you need a person dedicated to the task.	You are in charge of developing and implementing security measures for your organization. You are also responsible for analyzing existing security procedures and suggesting changes to upper management for increased efficiency and extra security. You will research options and then take charge of putting them into place.	You coordinate responses to data breaches and help develop strategies and policies. You are the "jack-of-all-trades" in the security department.	You will respond to incidents by analyzing what happened and working to rebuild the scenario, discover vulnerabilities and work to address them. When cyber security fails there is almost always a huge mess to clean up.	You are the go-to expert on network operations, emerging threats and trends and the evolving policy framework that is one of the hottest issues in global, federal and state government.	Security engineers are responsible for developing effective computing solutions to increase the security of their company's systems and projects. These individuals require exceptional incident response skills and an understanding of computer forensics.	You will use math for good. You focus on the toughest challenges by utilizing number theory, group theory, finite field theory, linear algebra and a host of other advanced resources at your disposal to keep ahead of the criminals who are doing the same on the other end.	All the coding and design in the world is only as good as the people creating it. This means that someone needs to be checking and rechecking everything before it is released.	You are the primary person responsible for the network and computer security for the company. You act as the project leader in creating initial design and oversee ongoing integration of new capabilities.
MEDIAN SALARY	$65,000	$73,000	$74,000	$76,000	$76,000	$78,000	$85,000	$85,000	$91,000	$109,000
STEM TYPE	Integrator	Investigator	Producer	Producer	Advisor	Explorer	Designer	Explorer	Solver	Advisor
WILL I LIKE IT?	You don't need me to tell you what a network is.	There are two kinds of people—those who have been hacked and you.	You're looking for job security—here it is.	You not only make lists, you make a list for all of your other lists.	"I told you so" is your middle name.	You're still trying to figure out how to get paid for that history degree.	Simply designing new things is not challenging enough.	Perfection is a start, but you can do better.	You like selling things, but don't like talking to people.	You are now bored with castle defense games.
SCHOOLS THAT TRAIN	• Lincoln Technical Institute— See ad on back cover! • ECPI University— See ad on pg. 33! • HyperLearning Technologies— See ad on pg. 11! • Advanced Training Associates • Michigan Technological University	• U.S. Air Force— See ad inside back cover! • Daytona State College • St. Ambrose University • Virginia Tech • West Virginia University	• Blue Ridge Community & Technical College • Fayetteville Technical Community College • Glendale Community College - AZ • Kankakee Community College • Mississippi Gulf Coast Community College	• Inver Hills Community College • Northland Community & Technical College • Seminole State College • South Mountain Community College • Texas Christian University	• Eastern Kentucky University • Mercy College • Texas Wesleyan University • Thomas Edison State College • University of Maryland Baltimore	• St. John's University • St. Joseph's College • U.S. Army • Valparaiso University • West Virginia University	• South Dakota School of Mines & Technology • Southern California Institute of Technology • St. John's University • Texas A&M Kingsville • University of South Florida College of Engineering	• Harris-Stowe State University— See ad on pg. 11! • Case Western Reserve University • Rensselaer Polytechnic Institute • Saint Francis University • Virginia Tech	• Alexandria Technical & Community College • Cossatot Community College of the University of Arkansas • Delaware Valley College • Florida Gateway College	• Carnegie Mellon University - H. John Heinz III College • Friends University • Hodges University • Mississippi College • Missouri Southern State University
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