Hacking The Future: Weaponizing the Next Generation

James Arlen, Leigh Honeywell, James Costello, Tiffany Rad, Tim Krabec

DEF CON 18 - Las Vegas
Disclaimer

We've got jobs and stuff. This is not our job. Mostly, the lovely people we work for don't talk like this. We do sometimes because it's the right thing to do. Therefore, what we're saying is **all** us and not them.

If you need to find someone to blame, it's just us, except if it's the voices in your own head - that's **all** you.

Also, there are no spiders or clowns in the presentation, in case you were worried.
The Panel
Leigh Honeywell

- jane of many trades
- security consultant
- finishing up a degree at the University of Toronto
- co-founder and director of HackLab.TO hackerspace
- on the board of advisors of the SECTOR conference
- Google Summer of Code mentor
- avid cyclist
- book nerd
- traveler

- Honorary Aunt to many
Tiffany Strauch's Rad, MA, MBA, JD

- lawyer
- hacker
- college professor
- presents at Black Hat USA, DEFCON, Hackers on Planet Earth, Hacking at Random, and Pumpcon
- likes cars and hacks them
- building school-integrated hackerspaces

Mom
Best summary ever:

- Infosec Geek
- Hacker
- Social Activist
- Author
- Speaker
- Parent
- Dad
James Costello, CISSP

How do you follow the best summary ever:

- Geek - Infosec and otherwise
- Repurposer/Hacker
- Blogger
- Pop Culture Referencer
- Secretary and VP of Affiliate Relations for CCCKC
- Board Member for Cyber-RAID and B-SidesKC
- Occasional Speaker
- British TV junkie
- SciFi Fan and aspiring writer
- Parent
- Dad
Tim Krabec

- **Geek. Infosec & General**
- **Active with ISSA & ASIS chapter 254.**
- **Husband**
- **Insane parent:**
  - former foster parent (40 children+)
  - Father of 4 children with the 5th on the way.
- **Actual Red team member (finally)**
- **Socratic Blogger & Podcaster**
- **Hacker**
The Topics
From the DEF CON 18 CFP Response

- What if you are not the breeder type
- making your home a micro-hackerspace when there isn't a community
- making smart kids through failure / anti-helicopter parenting
- parent's view of how to encourage school system
- adding logical processes, critical thinking
- education / educators
- new methods to attach to different ways of learning
- STEM + women / gender issues
- practical issues around managing gender inequality
- raising smart kids - emerging school of education theory we're doing it wrong
- ways that kids are being let down by the system
- How To discussion - dealing w/ kids and how to deal w/ miniature versions of yourself
- getting pwnd by your kids
- hacker mystique and kids
- variations on learning styles
- war stories
- open to the floor - audience interaction
- positive conflict communication

This is why we're going to be here for two hours.
Summarized for your protection.
What to Expect When You're Expecting

Schools and Learning

Gender Issues

Supporting Young Adult Children

Getting Pwned
What to Expect When You're Expecting

- Making Having a kid
- What's going to change
- How to navigate the "advice"
- Building a hacker
- making smart kids through failure
- logical processes, critical thinking
- mini-Me
- getting pwnd by your kid
Having a kid
Changes...
Advice
Building a hacker
The Value of Not Succeeding

What is Failure and how is Not Succeeding different?

Resiliency
Adaptability
Logical Processes / Critical Thinking
mini-Me

[Image: A child wearing a bumblebee costume holding a laptop with stickers that read "hacker." and "DEFCON DANGER." ]
mini-Her
Getting pwnd
Schools and Learning

- how to encourage school system
- education / educators
- new methods to attach to different ways of learning
- variations on learning styles
- raising smart kids - emerging school of education theory
  we're doing it wrong
- ways that kids are being let down by the system

- Hackerspaces & the Future of Education
Educators

Scientific Method

- When to start?

S.C.A.M.P.E.R.

Volunteers in the classroom
Learning Methods
Smart Kids
Hackerspaces & the Future of Education
Reverse Space

Herndon, Virginia

- Physically and contractually connected to a private educational facility (6th-12th grade)
- Hackerspaces Collaborating with Secondary & Post-secondary Educational Institutions
- Director/Co-Founder
Equipment and Projects

- It is 5,500 sq ft of workshop space
- Planned hardware acquisitions:
  - Laser cutter
  - Two 3D Z Corp printers
  - Drill presses, saws, soldering equipment and workstations
  - 1,000 gallon saltwater tank & 1,000 gallon open touch tank
  - Bio/Chem laboratory
  - Green Screen for video production and filmmaking
  - Cyberwar center/sandboxed servers
American Education Statistics

- 85% attain a high school degree
- 27% attain a post-secondary (2-4 year college degree)
- Budget of $972 billion (public and private)
- Literacy rate is 98% of students > 15 yrs old
- Science/Math education rank At THE BOTTOM as compared to other developed countries

- Program for International Student Assessment (PISA), OECD, reading literacy, science literacy & mathematics literacy all rank near the bottom of OECD-countries.
Women in Computer and Information Science

- By 2016, U.S. universities will produce only 53% of the computer science bachelors degrees needed to fill the 1.5 million computer specialist jobs projected to be available.

- Down from 37% in 1985, only 18% of computer and information science degrees were awarded to women in 2008.

National Center for Women in Information Technology, 2008 report.
Combing the Hackerspace with the School

- From 8am-5pm, the school students use the facility.
- From 5pm-11pm weekdays and 9am-11pm weekends, the space is for hackerspace members.
- Requesting that the hackerspace members share their projects with the students.
  - Establishing a mentorship program where a student pairs with a professional in the hackerspace.
Combing the Hackerspace & School

- Combining hands-on projects with a traditional accredited high school curriculum
  - For example, the aquarium/biology laboratory area will be used for the high school laboratory component for the courses
- Accepting volunteers from the D.C. area to teach short courses/lectures/workshops for the students
Why Hackerspaces Can Do This Better than Traditional Schools

- Students learn differently than the 1960s educational model upon which current science & math curriculums are still based.
- Students have different learning patterns & methods now; educational models have not kept pace.
- In 2004, 3 in 1000 preschoolers were taking antidepressant drugs to enhance ability to focus in school programs,
  - Perhaps changing education to a more dynamic, rather than static, model is necessary to attain attention of the “now” generation.

Distance Learning Program

- Weekend & Special Lecture Programs
  - For homeschoolers
  - Students whose schools don’t have laboratories or hardware & engineering workshops
  - Students who live long distances from schools
  - Mentorship programs
  - Brings special lecturers to a larger group of students
For more information

- Reverse Space’s Google Groups Page: [http://groups.google.com/group/ReverseSpace](http://groups.google.com/group/ReverseSpace)
- Tiffany@elcnetworks.com
- [http://www.elcnetworks.com](http://www.elcnetworks.com)
- Twitter: @tiffanyrad

And if you forget all of that, simply
[http://www.tiffanyrad.com](http://www.tiffanyrad.com)
Gender Issues

- STEM + women / gender issues
- practical issues around managing gender inequality
- experiences - the engineering program
STEM - women/gender issues
Practical issues around gender
Experiences
Supporting Young Adult Children

- continuing cerebral stimulation
- the safety of "home"
- oops.

- The next next generation...
Cerebral Stimulation
oops.
You might be Grandparents.
Getting Pwned

War Stories and Hilarity
War Story - Gnome Repo (wink wink)

How James C was nearly banned from a big box store
Yes, I know that my computer is nicer than yours.
Q&A

download updated slides from http://defcon.org or http://myrcurial.com
## Q&A

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<td><a href="mailto:james@genesyswave.com">james@genesyswave.com</a></td>
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