Building the Next-Gen Cyber Professionals

Ron Woerner

Tuesday, May 16, 2017, 11:00am
M100G-H
Keeping Young Hackers Out of Orange Jumpsuits (even if it's the new black)
R U a H@cker?

I am
Ron Woerner

- InfoSec Architect, Carlson Rezidor Hotel Group
- Professor Cybersecurity Studies, Bellevue University
- >25 years corporate IT, 15+ Security
- CISSP, CISM, & Certified Ethical Hacker
- US CyberPatriot Mentor since 2011
  - Mentor of the Year 2013-2014

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• These are my thoughts based on my studies and experiences
• Normal caveats apply
• Comments & questions are welcome any time
Meet Charlie Kilo*

* Name changed to protect the guilty

High School Sophomore

Hacker
WARNING
RANTING AHEAD
USE CAUTION
Kids are born to hack

Relentless Curiosity

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What happens?

Out of control curiosity
Lacking Teachers
No safe place to explore

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Leads to Trouble

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“Kids today know so much technology”

They know about tech. Most don’t know how it works.

WRONG!

* Pure Freakin’ Magic
Test time

How many ways does this have of communicating?
Just because I have a degree in Computer Science doesn’t mean I know anything about computers…
IT / Cybersecurity is not a part of standard HS curriculum

stay away

No Time
Lack Resources
Lack Experience

FEATURE

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What's going well

- Individual teachers & programs
- Job opportunities & Internships

- Gen Cyber
- CyberPatriot
- Hour of Code
- Hack4Kidz
- Hacker High School
- High School CTF
Good Things

http://www.hak4kidz.com/
Good things
Good Things

https://www.uscyberpatriot.org/
What’s the answer?

How do we address the issues and multiply what’s going well?
Embrace kids inner hacker
Teach them hacking?!

you have got to be kidding me

WITH GREAT POWER COMES GREAT RESPONSIBILITY...
CyberPatriot Demo
Build your own playground

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# High School CTF

Find the hidden flag for each challenge (solutions forthcoming)!

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<th>Cryptography</th>
<th>Reverse Engineering</th>
<th>Recon</th>
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```java
import java.util.Scanner;

public class SuperSecure {
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        String input = in.next();
        if(input.length() != 10) {
            System.out.println("LOL no");
            System.exit(0);
        }
        String changed = change(input);
        if(changed.equals("f0a1b0a1c1d1")) {
            System.out.println("Correct!");
        }
    }
}
```


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National Cyber Defense Competition

Time Management
Pressure to perform against the clock

Infosec Skills
Practical application of knowledge in live fire scenarios

Teamwork
Working well with others is the only sound strategy

http://www.nationalccdc.org/

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PLEASE HELP!!!!!!

1. More teams
2. More teacher coaches
3. The kids need the direction, or else they’ll turn to the dark side
4. You learn a lot
5. Professional mentors get CPEs / find recruits
6. Low $ needed
Volunteer Opportunities

• (ISC)2 Foundation - Safe and Secure Online Program
• (NCSA) National Cyber Security Alliance
• CyberPatriot
• Hackid Conference
• Hacker Highschool

Benefits

You, Kids, Everyone

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Getting a Cybersecurity job

• Breaking into the Cybersecurity Field – Derek Carlin
• Breaking into Security – 2015
• Breakin' into Security
• Josh More
  • Breaking into Information Security
  • Job Reconnaissance
Links & Resources

• Blogs:
  • http://www.csoonline.com/blog/educating-next-gen-cybersecurity-leaders/
  • https://securityintelligence.com/cyber-competitions-do-you-have-what-it-takes/
• Hak4Kidz - http://www.hak4kidz.com/
• CyberFed – http://www.cyberfed.org/
• CyberPatriot – http://www.uscyberpatriot.org
Links & Resources

• How To Geek School – http://www.howtogeek.com/school


• High School CTF – http://hsctf.com/

• Facebook CTF – https://www.facebook.com/notes/facebook-ctf/facebook-ctf-is-now-open-source/525464774322241/

• EPIC HowTo Be A Hacker – https://www.youtube.com/watch?v=tlezBUdD53w