



# The Adventures of ScriptKitty: Using the Raspberry Pi to Teach Adolescents about Internet Safety

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# Disclaimer

The views expressed in this presentation are those of the authors and do not reflect the official policy or position of the Department of the Army, Department of Defense or the U.S. Government.



# Introduction

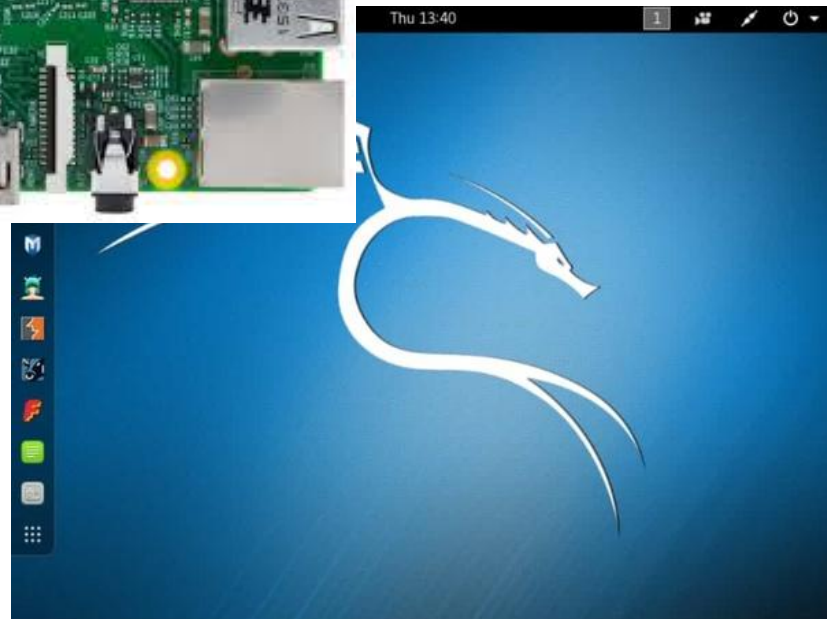
- 95% of teenagers have smartphone access, 45% report themselves as being online almost constantly
- 50% of surveyed teens believed info posted online was private
- Teachers and parents feel unprepared to introduce networking concepts or online ethics to children



# Overview of Materials

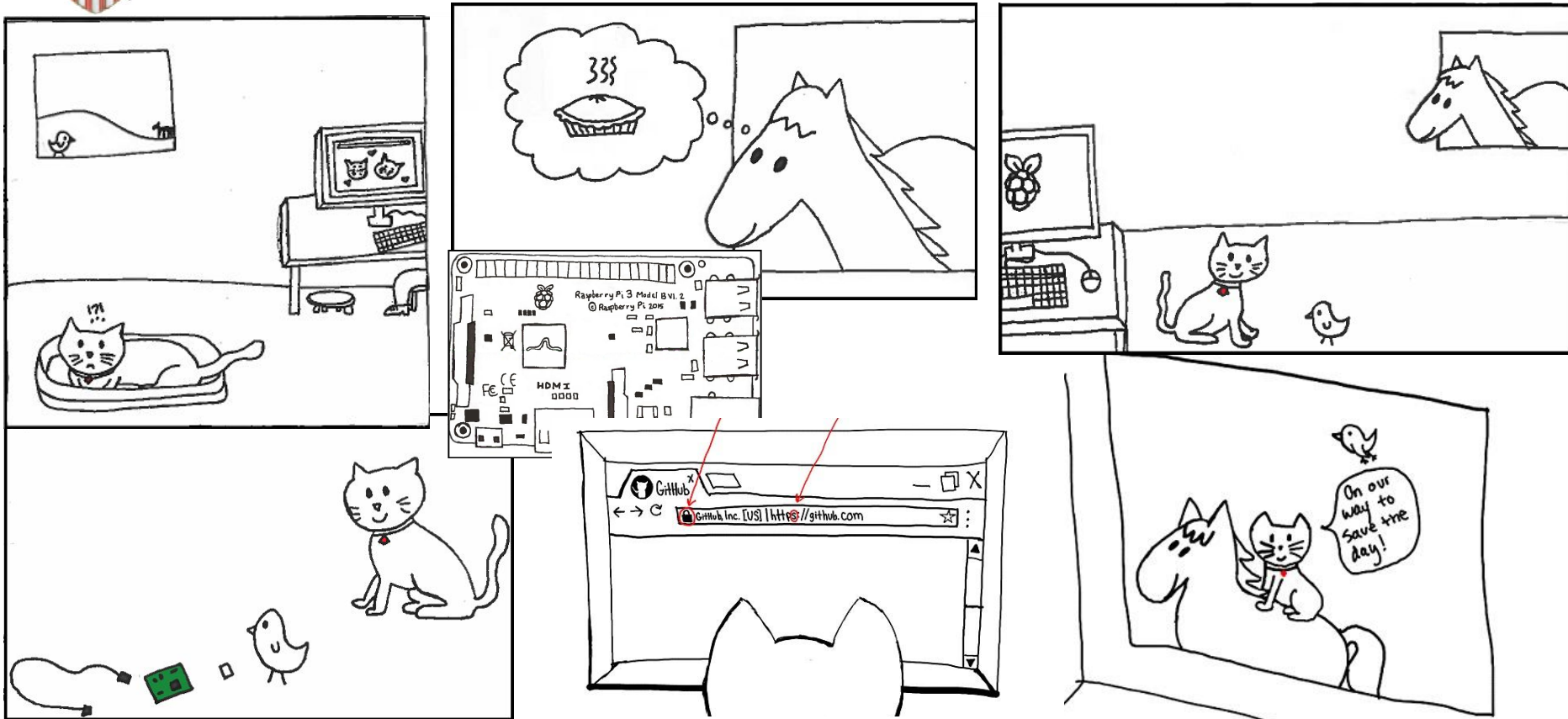


**GitBook**





# Story Overview





# Assessments



# Workshops

Piloted a *portion* of ScriptKitty

3 groups of students via Workshop

Workshops focused on Chapter 1 and 2  
(Raspberry Pi and Packet Capture)

Local Middle School - Computer Club

NYC High Schools - Minority Women

- One Charter School
- One Public School

Pre Quiz and Post Quiz given

Questions tested knowledge, safety practices,  
and confidence





# Pre and Post Test

Are the following statements true or false (circle the correct answer)?

- a. The programs that run on your computer are examples of software.     T / F / ?
- b. Computers communicate with each other through networks.     T / F / ?
- c. WireShark allows us to connect to computers without a monitor.     T / F / ?
- d. Information is sent through a network in units of data called folders.     T / F / ?
- e. If you share data on the internet, other people can see what you are doing or use your data without your knowledge or permission.     T / F / ?
- f. Open/free wireless networks are a safe way to browse the internet.     T / F / ?
- g. The term "encryption" refers to a virus that can be especially harmful to computers on a wireless network.     T / F / ?
- h. It's a good idea to use the default settings created by your router's manufacturer – they know what they are doing and will keep you safe!     T / F / ?
- i. "Packet sniffers" are bomb-sniffing animals that are especially good at detecting the unique chemicals associated with networking hardware.     T / F / ?
- j. It is definitely illegal for someone to monitor your network activity, especially without your knowledge.     T / F / ?

Which of the following are good practices for being safe when using the internet (circle all that apply)?

- |                       |                               |                                  |
|-----------------------|-------------------------------|----------------------------------|
| Use encryption        | Don't Know                    | Maximize use of social media     |
| Don't touch computers | Turn off GPS location posting | Regularly check privacy settings |

Figure 2: Sample quiz questions

## Section 1: Assess Knowledge

- True / False and "I don't know"
- Middle schoolers (questions a-f)
- High schoolers (questions a-j)

## Section 2: Safe Practices

- Circle all that apply

## Section 3: Confidence

- How to use computers
- How computers work





# Results



# Student Survey Quantity

**Table 1: Middle School Results**

Question	(Pre-/Post-) Population	Pre-Quiz	Post-Quiz
True/False	22/15	3.59	4.53
Best Practices	22/13	2.27	2.62
Conf./Using	17/10	4.14	4.30
Conf./Understanding	17/10	2.50	3.70

**Table 2: Charter School Results**

Question	(Pre-/Post-) Population	Pre-Quiz	Post-Quiz	P-value
True/False	16/16	5.00	6.31	0.0239
Best Practices	15/15	1.80	2.23	0.0484
Conf./Using	14/14	3.50	3.79	0.5000
Conf./Understanding	13/13	2.92	3.62	0.0019
Conf./Safety	12/12	3.16	4.00	0.0172

**Table 3: Public School Results**

Group	(Pre-/Post-) Population	Pre-Quiz	Post-Quiz	P-value
True/False	13/13	3.92	6.69	0.0014
Best Practices	13/13	1.54	2.46	0.0148
Conf./Using	9/9	4.16	4.16	1.0000
Conf./Understanding	9/9	2.78	3.67	0.2249
Conf./Safety	8/8	2.94	4.13	0.0371



# Student Survey Qualitative

*"What was the one thing (good or bad) that you took away from this workshop?"*



Figure 3: Big takeaway from the workshop



# Future Works

- Integration into GenCyber Camps
- Evaluation of Password Security chapters
- Comic-BEE partnership for interactive storyline
- Additional adoption by elementary school programs
- Add more internet safety topics





# Join the Adventure!

