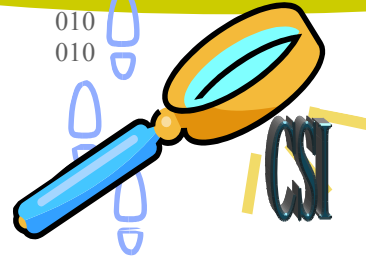


Cool Careers for Girls in Cybersecurity

2012



STUDENT PACKET LOGIC

Scenario

Reporter: NEWS FLASH!!!! Outbreak of student identity theft cases in the Orange Heights neighborhood. Fifteen known cases of identity theft have occurred within the last several months with all students attending Orange Heights Middle School. Here today to share her story is Anna Jimenez, an eighth grade student at Orange Heights Middle School. Welcome Anna.

Anna: [Anna smiles] Glad to be here.

Reporter: Anna, tell us a little about your story.

Anna: Well my mom tried to open a college savings account at the bank, but she discovered that there was already an account that had been opened with my Social Security Number. And they wanted my mom to pay back like a zillion dollars that they said we owed. And they said we had cashed a check for like two thousand dollars and said we were writing bad checks. Then later my brother Gabriel, he just started college, got three different credit and telephone bills adding up to thousands of dollars –none of which were his.

Reporter: So Anna it seems like the difficulties involve you and the rest of your family.

Anna: Yes. And there are others in my school and neighborhood that are having the same issues.

Reporter: Well we are excited to let you know that the all girls' middle school Cyber Super-Investigators (CSI) will collect and explore a variety of cyber and physical evidence to learn more about how these identity thefts are occurring. Clues provided by the lead investigators, the cyber professionals speaking at the Cool Careers in Cybersecurity for Girls Workshop, will help the middle school girls solve the crime!

Anna: This would be great if they could help out!

Reporter: Stay tuned to CyberEntertainment TV for more information on this developing investigation.





LOGIC

Duration: Each student session lasts for 20 minutes. Students will have a few minutes to travel to their next session. You are welcome to start your session as soon as you are settled and ready to begin.

Session Background and Overview: Throughout the rotations the following “clues” are given; some related to Anna’s family identity theft case, others while interesting, not necessarily related to the Anna’s case. An important part in solving this crime is to gather all the clues from a variety of places, determine which are related to Anna’s case and which are not, and to try and pull all the parts together to figure out a possible solution. This process of pulling all the different parts into a larger whole is similar to the job of a **Systems Engineer**. Systems engineering is an interdisciplinary engineering field that looks at complex systems and designs and develops solutions to problems, issues and concerns.

From the following clues, which seem to be related to Anna’s case? Which are not related to Anna’s case? If you were in charge of all the people at the tables today who were investigating the different clues, how would you organize their work to come up with a possible answer? Is there a more efficient way to have the groups work?

Clues:

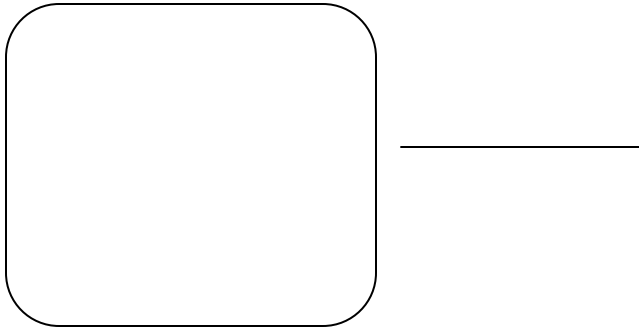
- 1 Observations indicate that there are numerous ways identity theft can occur, to include: dumpster diving, key loggers, shoulder surfing, weak passwords, and malware installed—through opening attachments or clicking on links.
- 2 Anna’s family recently got rid of an old computer but did not properly dispose of the hard drive. After Anna’s family learned of the identity theft they went back to the group they had donated the computer to —to see if they still had it. [computer parts-check hard drive]
Anna’s bother Gabriel lost his iPhone earlier in the month. Unfortunately he did not password protect it. Anyone could pick it up and gather all sorts of information. In addition, he had chosen the *Keep Me Logged In* option on both his Facebook and an iTunes accounts. By gathering up other information a person could easily figure out the user name, but how hard will it be to guess the password? [decrypt message and password crack]
- 3 User name and password and other personal information were thrown away in a trash can.
- 4 Cell Phone with deleted files. Students will use a SIM card reader to retrieve deleted files from a cell phone.
- 5 Computer found and investigation shows deleted files. Students use applications to retrieve deleted files.
- 6 Someone picked a lock and got into a school locker and stole a cell phone and other items.
- 7 From stolen cell phone from locker, facebook account left logged in, and person posted mean comments pretending to be someone else .
- 8 Cracking weak passwords– Anna’s brother’s iTunes account.
- 9 A check looks like it has been changed.
- 10 Clicking on images, unknown links or downloading files—key logger file - diagnostics on a machine and find a key logger.
- 11 Someone has not installed/updated/turned on firewall—someone else has not updated OS or installed patches.
- 12 Someone has posted a picture which looks like someone is breaking into a locker—the picture was actually false -pictures can be altered
- 13 A packet sniffer was found on the computer connected to the router.
- 14 List of user names, passwords and other important information have been hidden within a picture file. Use software/ diagnostic tools to look for altered pictures. Inspect altered images for clues to the criminal’s identity.
- 15 Students will access a wireless data stream and investigate the data.



Objectives: Students will review the list of evidence with a systems perspective to analyze what evidence is needed to identify the criminal. This connects with the analysis role of the systems engineering.



Use this space or the extra paper to develop a concept map of how your clues might be connected
Use Shapes and arrows like the ones started below



Cool Careers for Girls in Cybersecurity 2012



Systems Engineer

CyberCareer:

What is cool about this job?