



A **STEAM** High School Program for 11th and 12th Graders
Meet your future, head on.

CREATING STUDENT CHOICE

STEAM CLOWN™ PRODUCTION

CYBER PROJECT OVERVIEW - WHAT WE DID?

- Students worked as teams to create a Cyber Security Project
- Deliverables:
 - Slide Presentation
 - 8-10 slides
 - 10-15 verbal presentation, where each team member presented
 - Demo or Hands on Lab, that other students could see or do
 - With a step by step guide on how to do it
 - Individual Final Report
 - what they did, what worked, what they would change, and if given more time, what they would add to the project



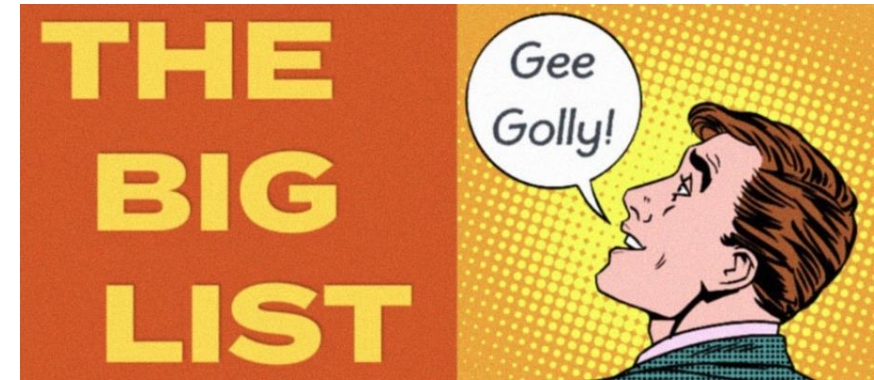
GETTING READY FOR THE CYBER PROJECT

- After about 6 weeks of getting introduced to Cyber Security topics...
 - Talk about the possible projects
 - Scope, deliverables, expected quality etc.
- Students create a list of 2-5 topics to learn more about
 - Gauge where each student was
 - What their motivations were
- I reviewed & compiled list of projects
 - What was realistic
 - Can they actually accomplish
 - Do we have the equipment



STUDENT CHOICE - PICKING A PROJECT

- The Big List
 - Student pick a project to do a research on
 - Write & turn in a short overview of the topic
 - Describe what they would need to know
 - Describe what equipment they would need
 - How would they demonstrate this to the rest of the class
 - I then created teams mostly of 2 students
 - I organized them into teams that I felt would help each other
 - And also based on the topics they had selected.



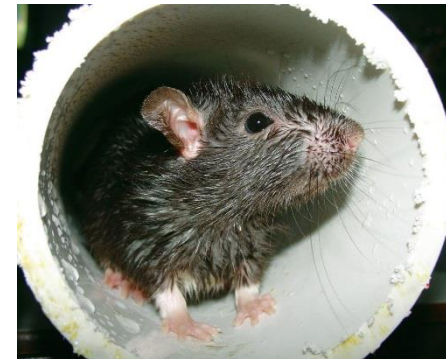
WORKING AS A TEAM

- Shake Down
 - Teams narrow down their selected topics to one research project
- Deliverables:
 - Presentation, where each student on the team had to participate in some way
 - Create a hands on lab or repeatable demo, with a step by step guide on how to do it
 - Final individual report on what they did, what worked, what they would change, and if given more time, what they would add



WHAT DID THEY CREATE?

- Fake Wifi network to trick you in giving up a network password
- Encryption system to encode messages
- Rubber Ducky – Computer, “what are you”... Rubber Ducky, “I’m a keyboard...”. Computer, “Cool, I love keyboards... tell me what to do”. RD, “OK... Lol”
- Code to brut force a password
- Do I smell a RAT (remote access Trojan)
- Fake Virus



WHAT I LEARNED

- Teams
 - Teams of 2 work well
 - Teams of 3 can work, but you need to watch them
- When students feel that they got to pick
 - They are more motivated to learn
 - They actually seem to work harder
 - They tend to explore and research more

