GENI Magic Wand Project Ideas

1. Richard Maiti, Berea University
   a. Project: wireless monitoring,
   b. real scenario of a city traffic
   c. Use router monitoring tools
2. Daniel Ellsworth - Colorado College, Brian Byrnes - Sentinel Cyber Solutions
   a. Project: Simulator for worm propagation
   b. Just in time network resources
   c. analyze logs
   d. Understand how to talk to humans, understand how to schedule human resources, make students understand that sure you can ssh and analyze logs but as long as you do not explain to humans the ROI and how it affects their business, you are doing half the work.
3. Joe Wang - Park University, Barry Burd, Ziyuan Meng - Drew University
   a. Project: web application security on GENI,
   b. develop a web application on GENI,
   c. SQL injection,
   d. Command injection,
   e. Javascript vulnerability,
   f. Intrusion detection
   g. Secure web development, software vulnerability
4. Chadi El Kari, Pacific University
   a. Project: DrDoS
   b. Amplification DDoS attack
   c. DNS resolvers that could be used as victim
   d. TFTP server as a victim - publicly facing
   e. nload & scapy
   f. Demo live!!
5. Aniuy Liu, Oakland University
   a. Rescue - a cloud based range for cyber security education
   b. Unifying solution for all cloud platforms
   c. Will create a template to embed GENI Rspecs
6. Victoria Hong, Susan Hammond, David Vosen
   a. Project: GENI magic wand project
   b. Villain in the middle - three node GENI topology
   c. Social engineering as a hook - gen ed history, psychology
   d. MIT App inventor - use mobile application development
   e. Wardriving - cars with mobile connections
   f. Stingray elements, cell-site simulators
   g. Growth mindset Ted Talk
7. John Quinn - Chicago Public Schools, Gary Lewandowski - Xavier University
   a. Project: Engage high schools
   b. Start simple with networking and other concepts that they see in everyday life, communication with the world
   c. Generalize and then conceptualize
   d. Projects of discovery: IP routing project for example, simplify, what is ping, what is traceroute, find the routes that are setup
   e. Configure a topology of your own starting from a blank canvas
f. Use openflow to redirect traffic for security, firewall concepts

g. Tracepath

8. ChunSheng Xin - Old Dominion University
   a. Already existent infrastructure at ODU, hosts, routers, and switches - can we port it to GENI?
   b. Traffic capturing and analysis
   c. Firewall
   d. Pen testing on Windows
   e. Password Cracking
   f. Log Analysis and Steganography

9. Ramachandra Abhyankar - Indiana State University, Arjun Mahat – Touro College:
   a. Project: MAC spoofing on GENI
   b. Man in the middle attack practice

10. Sudip Chakraborty - Valdosta State University, Greg Gagne - Westminster College
    a. Client server model using Java sockets
    b. Rspec that installs JVM
    c. Client server topology