Cyber Security Initiative for Nevada Teachers (CSINT) – Cyber Forensics

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Navy Junior Reserve Officers Training Corps (NJROTC)

The NJROTC program goals are to provide an opportunity for secondary school students to learn about the basic elements and requirements for national security and their personal obligations as American citizens to contribute toward national security. The NJROTC has the following basic objectives:

• Promote Patriotism
• Develop informed and responsible citizens.
• Promote habits of orderliness and precision, and develop respect for constituted authority.
• Develop a high degree of personal honor, self-reliance, individual discipline, and leadership
• Promote an understanding of the basic elements and requirements for national security.
• Develop respect for and an understanding of the need for constituted authority in a democratic society.
• Develop an interest in the military service as a possible career.
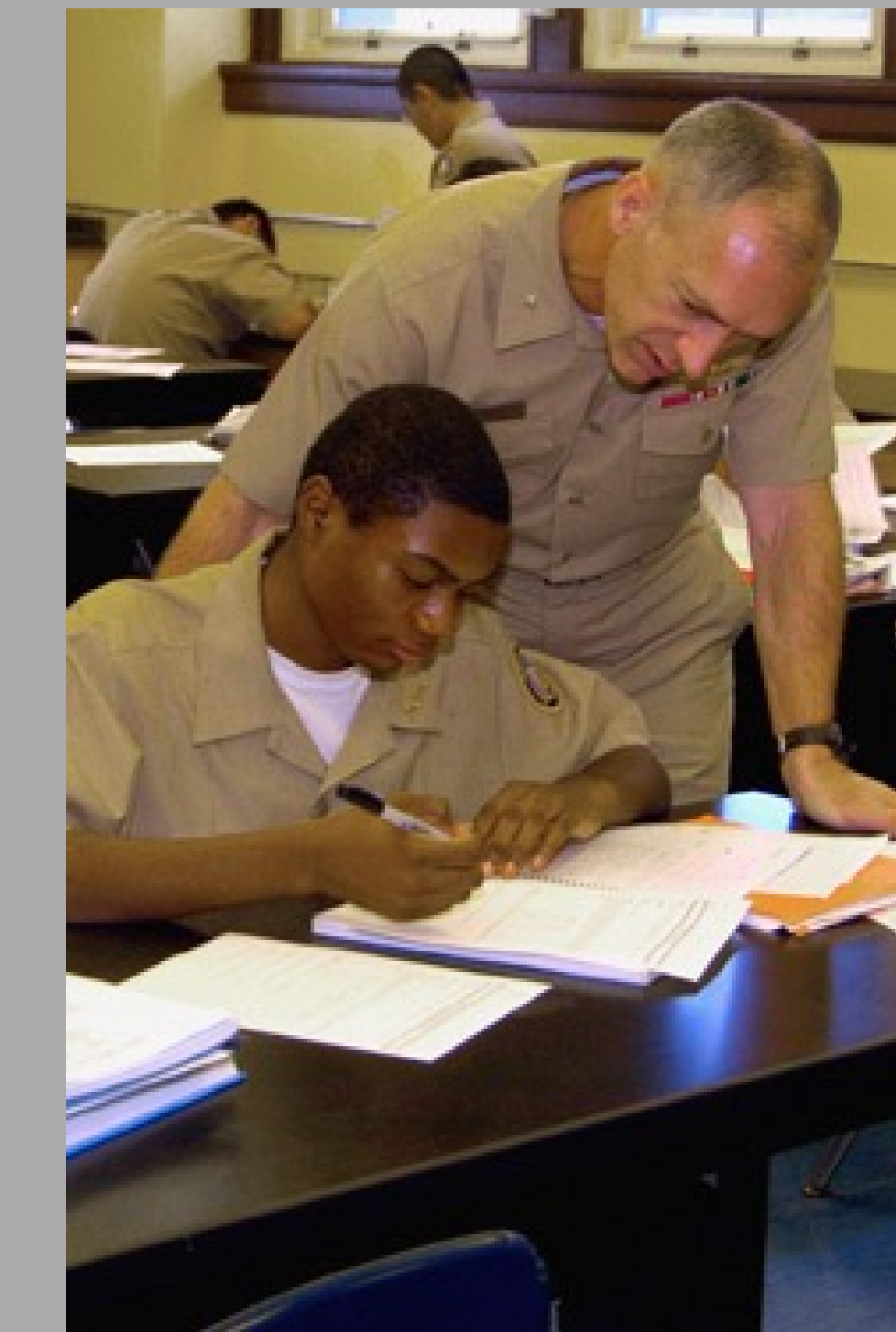
Fall 2016 Curriculum Integration

Learning Python to enhance NJROTC knowledge:

• <u>Three week module</u> - Cadets have to learn and memorize the Orders to the Sentry, their National Chain of Command, as well as their own battalion chain of command. This is often boring and monotonous. Using the repl.it website and Python code, cadets will create and run their own quizzes on the orders and chain of commands. Doing this will enhance the cadets learning as well as expose them to the rudimentary elements of coding.
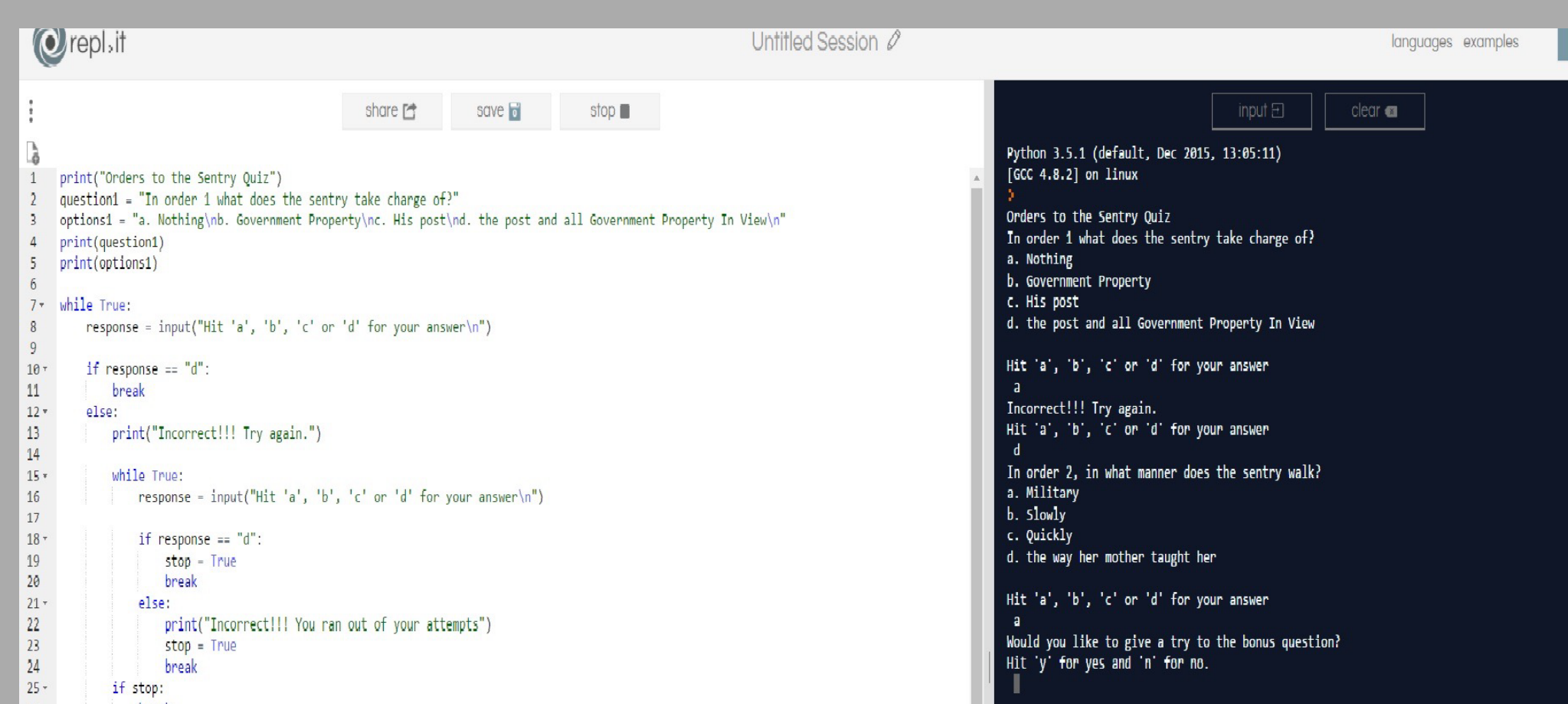
Assessments:

• Orders To The Sentry - Cadets will be given a Pre and Post Assessment for the orders to the sentry subject matter only. The orders to the sentry assessment will consist of eleven (20) fill in the blank questions which pertain to the exact wording for each of the Orders and personnel within the National Chain Of Command.

• NJROTC and US Navy Rates and Ranks – Cadets will be given a Pre and Post assessment for NJROTC/US Navy Rates and Ranks subject matter only. The Rates and Ranks assessment is made up of forty (40) fill in the blank and multiple choice questions pertaining to NJROTC and US Navy Rates/Ranks insignias.

Data collection:

• The assessments are conducted using Mastery Connect online, which tracks and identifies student mastery of standards.

• A survey will be given to the students after the completion of each module to see how much they felt creating Python code and Scratch projects assisted in their learning of the Orders To The Sentry and NJROTC/US Navy Rates and Ranks. The surveys will be conducted through Edmodo.

Using SCRATCH to enhance NJROTC knowledge:

• <u>Three week module</u> - The cadets will use the SCRATCH website to create code that in turn creates animations using images of all NJROTC and US Navy rank insignias. Not only learning and memorizing the NJROTC and Navy ranks, cadets will gain a better understanding of basic programming language syntax.
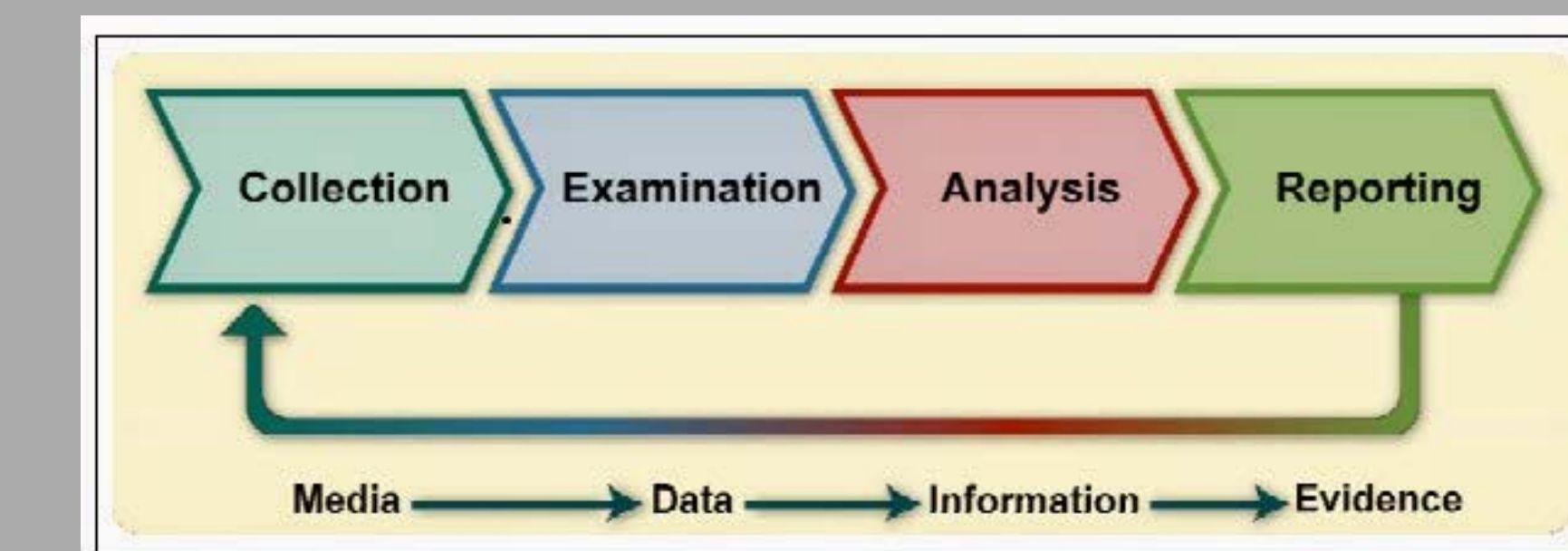
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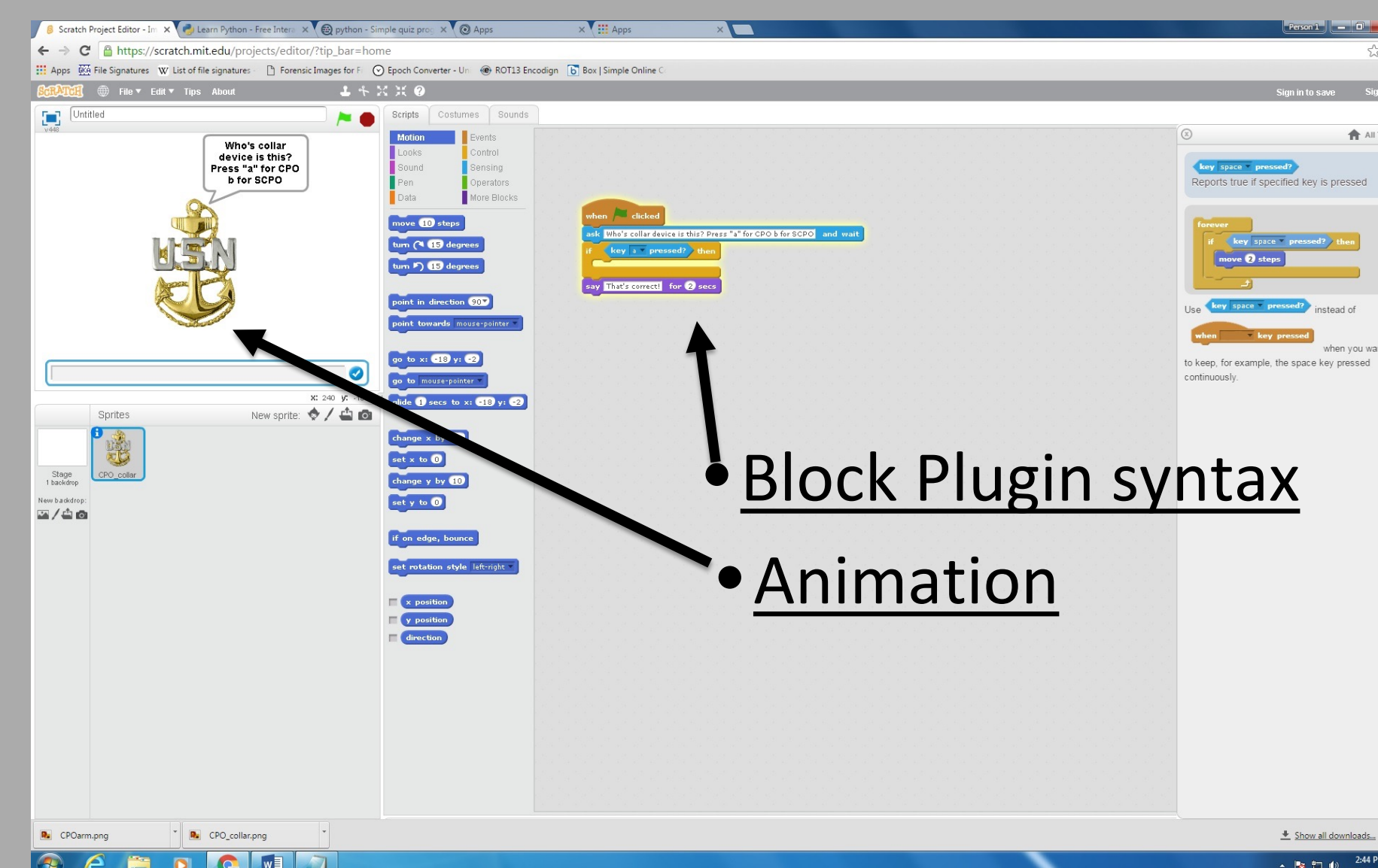
Spring 2017 Curriculum Integration

Responsible Citizenship and Cyber Forensics:

• To enhance responsible citizenship in both the physical and cyber worlds, <u>a six (6) week section of the Spring semester</u> will be dedicated to "Responsible Citizenship and Cyber Forensics".
• Cadets will learn about the Forensics processes of <u>Collection</u>, <u>Examination</u>, <u>Analysis</u>, and <u>Reporting</u>.
• Through live demonstration and hands on work, cadets will learn to use specific digital forensic tools for collection, examination, and analysis of forensic evidence. Tools to be learned but not limited to: HEX Editor, IrfanView, VLC Media Viewer, ThumbCacheViewer, ESE Database Viewer, OSForensics etc.
• Upon completion of the course, students will understand how digital forensics is used to gather evidence in order to enforce business, organization, city, county, state and federal laws. Cadets will have a greater understanding of what it means to be a "Responsible Citizen" and apply it, to their every day lives.

Assessments –

• Each tool demonstrated and used by the students will have a quiz based on that tool.
• A rubric based final project, based on industrial espionage will be assigned, cadets will use their learned skills to find and record evidence from a hard drive, thumb drive, and compact disc.
• The cadets' final projects reports will be submitted through Mastery Connect online, which tracks and identifies student mastery of standards.

Collection -

Cadets will be provided an image of a scenario's suspect computer hard drive, cd drive, and usb thumb drive. The cadets will log and maintain proper chain of custody documentation.

Collection, Examination and Analysis -

Cadets will use several cyber forensics tools to extract, examine and analyze data. Data the cadets determine to be evidence will be logged and documented appropriately.

Reporting -

Just as cyber forensics investigators are called upon by courts at all levels to provide expert witness accounts of evidence found, cadets will provide a report on the evidence they found and why it should be admissible in court.