Teacher: Steve Sabaugh

Unit Plan: UNIX and 'UNIX-like' Operating Systems

Grade and Content: AP Computer Science Principles

Date: Day 4

Lesson: UNIX Navigation & The UNIX/Linux Operating System

Overall Goal/Objective of Lesson (one sentence)**:** A lesson that introduces students to UNIX with a particular focus on Linux OS design, also an introduction to UNIX and Linux navigation and file creation.

Content Objectives (nouns) -Students will have an understanding of the differences between UNIX-like and other Operating Systems -Students will have an introductory understanding of the Linux operating System -Students will have a basic understanding of how the UNIX file system functions. -Students will understand basic file creation -Students will have a basic understanding of navigating the file structure of UNIX	**Assessments**
Skill Objectives (verbs/Common Core Standards) - Students will be able to demonstrate ability to navigate the basic file structure navigation in UNIX - Students will be able to demonstrate ability to basic file manipulation (creation or files and directories) in UNIX 9-12.DL.4 Independently select advanced digital tools and resources to create, revise, and publish complex digital artifacts or collection of artifacts. 9-12.DL.5 Transfer knowledge of technology in order to use new and emerging technologies on multiple platforms.	**Assessments** Formative- Student will create a UNIX Navigation 'Screenshot Safari' Following a teacher-made set of instructions, students will navigate through the file system and manipulate files, creating screenshots (also created from the CLI) along the way.

Materials

UNIX_Linux slide deck

Teacher's Laptop and projector

Guided Activity Notes:
unit_plan-stevesolo/assessments/UNIX_Navigation_Screenshot_Safari.md
same as command_line_exercise.pdf in this folder

Student computers with a UNIX/Linux environment
Student's Resource folder
Journal
Pen/Pencil

Sequence of Lesson Plan

Time Allotment	**Anticipatory Set** *List specific statements or activities you will use to focus students on the lesson. State clearly what students are learning/doing and how it connects to prior learning.* 1. **Do Now:** UNIX Navigation 'Screenshot Safari' (See command_line_exercise.pdf)	**Plans for Differentiation/ Culturally Responsive Instruction** -see below
20 minutes	**Guided Practice (with Teacher Monitoring)** *List activities which will be used to guide student practice (i.e. small groups, whole group with less scaffolding, partners). Teacher monitors individual and group understanding, providing timely feedback. Students are actively engaged in discussions and extend them without mediation by the teacher. Students assess and make improvements to their work.* 1. **Guided Practice:** Students will work in heterogeneous group, elbow pairs, but each individually do the guided assignment. (See command_line_exercise.pdf)	**Plans for Differentiation/ Culturally Responsive Instruction** -Groups are differentiated because students are working with partners based on coding level. -Each student has a guided instruction sheet provided digitally with the exact commands in UFT-compliant font for the terminal.(See command_line_exercise.pdf)

10 minutes 15 minutes	**Mini-Lesson** *What information is essential for the student to know before beginning and will this skill be communicated? How will you be demonstrating this skill? Identify strategies to be used to determine if students have learned the objectives. The teacher models the process to be followed and makes connections to previous instruction. The teacher checks for student understanding. The teacher's explanation should be clear. Questions and tasks are higher order and have multiple possible answers.* 1. **Personality Spotlight:** Profile on the person who literally wrote the book on the C Programming Language, UNIX chronicler, co-creator of the AWK language, which we'll study in this unit, and long-time employee at Bell Labs, Brian Kernighan. We will watch a short video about working at Bell Labs and the development of UNIX 2. **Mini-Lesson:** We will discuss UNIX OS in specific with emphasis on the Linux Operating System. Students will be called upon to read a slide. Teacher will explain in more detail, connecting to previous knowledge learned earlier in the semester. Teacher will also cue the students on how this will be germane to the upcoming unit and how it will be important for further study. Teacher will also make connections to OS experiences they already have in their personal computing lives with discussion	**Plans for Differentiation/ Culturally Responsive Instruction** -Mini-Lesson notes are completed in guided notes format, therefore being easier to copy and comprehend -Material is presented in clear and easy-to-follow format -Slide decks will be provided to the students