

Cool Careers for Girls in CyberSecurity Software Engineering

Duration: Each student session last for 20 minutes. Students will need a five minutes to travel to their next session.

Session Overview:

Students will “program” the shortest path that would be required to deliver the stolen radar from the criminal’s location to the pageant.

Objectives:

Explore how software engineers must consider cybersecurity
Record evidence from the retrieved package and the links to the potential suspects

Materials/Supplies (include AV needs):

Box

Introduction:

Software Engineers must know a lot about information assurance. They have to write code that makes it hard for criminals to use the programs that programmers write for evil purposes. Computer programs run on all of our electronic devices – computers, TVs, Phones, Microwaves, and even hearing aids! Software Engineers are needed for almost any field you can think of – Medical fields use programmers to help with their robotic surgery equipment. Anthropologists, use programmers to help them automate the translation of texts. Race car drivers use computer programmers to improve how their car functions.

Lesson:

A package should be placed nearby but behind something so that the students will have to program a path.

The speakers should follow the student instructions exactly. This means that if the students do not program an instruction to stop, turn, the robot will not be able to do that instruction. Instructions such as pick up, or return the box should be met with the words “does not compute” and the robot should wait for specific movement instructions.

Ask the students to debug their instructions by adding and revising their programming.

Final Thoughts:

As you do simple tasks, think about how you would instruct another person or a robot to make decisions, and learn from what you are doing. Think about the mistakes that you could make and remember that one of the jobs of a computer scientist is to minimize the mistakes that could put someone or their data in harm's way. But the most important job of a computer scientist is to design, create, and test programs that help humans do things faster and better. What can students think of that they would like to do faster or more efficiently?