Scribbler Robots Can Mimic Human Activities

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**Challenge to Students:** Write a function that will have the Scribbler robot mimic a human activity. Make sure to include comments, and to save the file. Save it as a .py and a .txt file.

Some human activities:

1. “School’s Out” - where the robot beeps to mimic the end of school, completes a series of turns to go out the room, calls back to one of its friends about what they are doing over the weekend, and stops in front of its locker to get this book.
2. “Paparazzi” – where the robot goes up to an object (or human), takes a picture, turns around, runs away, hides behind an object (like a fence), and checks the quality of the picture and makes a derogatory statement.
3. “Sporting Event” – where one or more robots mimic the actions taken by 2 or more players during a basketball, football or baseball game…such as running the bases and yelling homerun.
4. “Shopping” – where the robot goes through a store and purchases a number of items. You could have the robot take a picture of each item, assign a cost to each item, and then total the items. Don’t forget to calculate the tax.

**National / State Technology Standards**

**Time:** 2 class periods

**Deliverables:** Computer program that mimics a human activity

**Understandings**

* Machines can be programmed to complete human activities, usually at a faster and more efficient pace.
* Functions are a set of commands or actions. Human activities consist of a series of functions.
* Writing pseudocode can help us to decide what code will be used to implement an event.

**Essential Questions**

* Can robots be programmed to complete human activities more efficiently and quicker than humans?

**Performance Tasks:**

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| **Task** | **Time** |
| Inform students of the project, understandings and essential questions | Day 1: 5-10 minutes |
| Ask students to write down different activities that they do in their daily lives. Have some share with class. (Think, Pair Share) | Day 1: 10-15 minutes |
| Discuss with the class how these activities could be mimicked with the Scribbler robot. You might want to remind them of the commands learned so far, such as forward, backward, turnLeft, turnRight, rotate, and motors. | Day 1: 5-10 minutes |
| Use an interactive board to collaboratively write the psudocode for one of these activities. | Day 1: 15-20 minutes |
| Ask students to research the code for the needed functions, using <http://docs.phython/tutorials>  Have them write their code and add it to their page on the project wiki. | Day 1: Homework, 10-15 minutes |
| Work individually to program the sale procedure. | Day 2: Test code with robots and debug. |

**One Possible Answer**

>>> def paparazzi():

forward(1,2)

p = takePicture()

savePicture(“bradpitt.jpg")

rotate(2)

forward(1,2)

turnRight(1,2)

turnLeft(1,1)

forward(2)

speak(“I’ll sue”)

showPicture(“bradpitt.jpg”)

stop()

Rubric: Robots Can Mimic Human Activities

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| **Item** | **Points Possible** | **Points Earned** |
| Student has written psudocode for the program to help understand the steps the robot will go through to mimic a human activity. | 5 |  |
| Program is functional and returns no errors. | 5 |  |
| Program has comments that helps another programmer understand how the program works | 3 |  |
| Program code has been shared on the wiki | 2 |  |
| Student has peer reviewed at least two other programs and made constructive comments | 5 |  |
| **Total** | 20 pts. |  |