

Name: _____

Date: _____

Finch “Decades Dance Party” Challenge

Task: Program a robot that dances to music and performs a light show for 45 seconds and reflects the music of a given decade or style.

Performance Requirements:

- The student must program the Finch to perform various dance moves and light signals.
- The dance must be 45-60 seconds long.
- The robot must stay in the marked space (6 foot by 6 foot “dance floor”).
- The robot must be autonomous. Other than hitting the start button, no human can touch it while it performs. (You will, however, have to guide the wire.)
- The dance should be choreographed to the music you provide. The music must be appropriate for playing at school—no obscenities, etc.
- Props and/or costumes are necessary. You may dance alongside or dress your robot.
- You may work in a group to make multiple Finch robots dance together to the music of your choice.
- All students are expected to respectfully watch all other teams perform.

Process:

- Choose a decade or style and ok it with the teacher.
- Select a song and a segment of the song that can fittingly be choreographed to a “dance.”
- Build a program that directs the robot to perform dance moves and a light show.
- Test and revise the program. Make sure it runs for 45-60 seconds. Make sure moves match the music.
- Write a reflection.
- You will have four class periods to plan and program the robot and complete related tasks, and then you will present it on the next day.

Expected Pace:

- Programming/Planning Days: Tues., Aug. 29-Fri., Sept. 1 (4 days)
- Performance Days: Tues., Sept. 5 & Weds., Sept. 6 (2 days)

Rubric

Category	High 5	Medium 3	Low 1	No credit 0
Programming of Finch	Program showcases variety of relevant Finch capabilities, like varying directions, stopping & going, & changing colors; Finch changes action at least 8 different times,	Program is straightforward and demonstrates most relevant Finch capabilities; Finch changes at least 6 different times	Program fails to showcase the Finch's relevant capabilities; Finch changes at least 4 different times,	Program very basic, or program not produced
Choreography /Movement	Programming of moves matches music precisely. Finch changes actions as music changes tempo or as lyrics/mood shift	Programming of moves attempts to--and mostly does--match music in tempo, lyrics, and/or mood	Programming exists and Finch moves, but does not sync movement with music	Finch did not move or did not appear to dance
Light Show	The lightshow is in sync with the music, uses fitting variation, and displays dramatic, meaningful effects	The lightshow is in sync with the music but does not show much variation or meaning	Some limited light features appear, but not in sync with the music	No light at all.
Costume and/or props	Costume/props clearly indicate the decade/style of performance	Costume/props attempt to indicate decade/style of performance	Minimal or irrelevant costume/props used	No costume/props used
Fulfillment of Requirements	Requirements met, including duration (45-60 seconds) & location (within 6x6)	Requirements mostly met; perhaps slightly over or under time, or Finch goes out of bounds	Requirements partly met, but time of show may be significantly shorter than required	Not met
Song Choice	Appropriate	N/A	N/A	Not appropriate

Daily accountability Log: 10 points

Reflection: 15 points

Total: 55 points

Reflection: 15 points

Reflection: Your answers should be written in complete sentences (3 pts). Each question is worth three points.

1. Explain the process of building your choreography to match your song. For example:
 - a. How did you assess the song's needs in conjunction with the Finch's abilities?
 - b. What changes did you have to make along the way due to the Finch's limitations?
 - c. What did you include that was unplanned? Why?
 - d. What would you like to have included but didn't? Why didn't you?
2. What gave you the most difficulty and how did you overcome it?
3. Justify your choice of costuming/props.
4. In your opinion, what potential actual, useful work could a simple robot like the Finch perform, other than as a tool for learning basic programming?

Name: _____

Tuesday, Aug. 29	Wednesday, Aug. 30	Thursday, Aug. 31	Friday, Sept. 1
Today's Goal:	Today's Goal:	Today's Goal:	Today's Goal:
Report:	Report:	Report:	Report: