Final Presentation - Dancing and Walking robot

courseworks2.columbia.edu/courses/134953/assignments/709743

- Due Dec 7 by 11:59pm
- Points 100
- Submitting a file upload
- File Types pdf

The goal of this step is to share your final results with the entire class. This presentation can be live or pre-recorded. If pre-recorded, include a link to the recorded presentation video on the cover page.

This presentation will be uses to assess the final performance of your robot, including its final construction, untethered operation, and speed.

You are also required to prepare a short video demonstrating the entire design, fabrication and testing process, as shown in class (e.g. https://1drv.ms/v/s!Ap6pJEdQihYkwMFckd9oKoYKISnLhA?e=g9bA3S (Links to an external site.)). Include a frame and a link to the video in the presentation.

Hand in:

A presentation (Powerpoint, Keynote, Google Slide) including the information above. Include slides showing the best motion of the robot and quantified speed in cm/sec.

Include additional slides to describe any additional features of the robot you would like to highlight. If you trained the robot, describe the training process and show learning curve.

Append this assignment's slides to all previous slides from previous assignments. This assignment should be last, starting with a clear title slide. Save everything as a single PDF and upload the PDF. Any movies should be shown as a representative video frame plus a link to a video online.

Note that because this presentation is shared with the class, it must be submitted and presented by the deadline. Grace hours may be used to submit an updated version later.

PowerPoint Format

1. Page 1: Title slide: Robotics Studio MECE 4611, Semester, "Final Presentation", Full name(s), UNI(s), Date/Time Submitted, Grace hours (before submission, used/gained, after submission), Title of robot, glamor photo of final robot, link to pre-recorded video if not presenting live.
2. Page 2-X: Gait information as described above and below

Grading

Grading of this part is allocated as follows:

1. 20 Points Untethered robot shown moving autonomously on two legs
2. 20 Points Robot walking from video (1 point per cm/sec)
3. 20 Points Robot dancing from video (1 point per cm/sec)
4. 20 Points Video compilation showing design, manufacturing and testing of robot.
5. 20 Robot Aesthetics and quality

Final performance video

The goal of this step is to share your final results with the entire class, and the world, through a short video.

The robot should dance untethered on a clean background, with cables neatly managed. Ideally the robot would be decorated/dressed to give it some character. Show boot and shutdown sequence.

The video should show your dancing robot in action, plus a journey showing clips from sketch to assembly. You can choose whether you want to show the dancing robot first and then the journey, or vice versa, or some other arrangement. It is recommended that you start with some dancing, then show the journey, then conclude with more dancing.

Some video tips:

1. Record video clips in landscape (horizontal) camera orientation
2. Show robot in a stage-like uncluttered environment with appropriate lighting (e.g. spotlight or disco light)
3. You may speed up or slow down the video a bit to sync it with the music
4. Dress up and decorate your robot to give it some character. Eyes are especially important.
5. Make sure your name(s) appear in the credits of the video.

Hand in:

A PowerPoint presentation including a title page, an image of the robot and a link to an online video (e.g. on YouTube or Google drive).

Include additional slide to describe the following information:

1. Length of dance sequence (total number of seconds)
2. Number of dance moves
3. Beat sync method (manual or automatic)

4. Any additional features of the robot you would like to highlight. If you trained the robot, describe the training process and show learning curve.

Append this assignment's slides to all previous slides from previous assignments. This assignment should be last, starting with a clear title slide. Save everything as a single PDF and upload the PDF. Any movies should be shown as a representative video frame plus a link to a video online.

Note that you may keep updating the video until the final grading is done, regardless of grace hours.

Grading

Grading of this part is allocated as follows:

1. 25 Points based on quality of final robot (technical and aesthetic)
2. 25 Points for number and quality of dance moves (choreography)
3. 25 Points for synchronization with music beat (manual or auto sync)
4. 25 Points for journey sequence (cover all steps)