

# CS 1301 -

## Homework 8 - Be a Robot Movie Director!

**Due: Wednesday April 10th, before 11:55pm**

**Out of 200 points**

**You need to submit:**

**4 Python files**

- **filmingCode.py**
- **actingCode.py**
- **editingCode.py**
- **performanceCode.py**

**1 video file**

- **movie.avi, movie.wmv, movie.mov, or any video format TA can play without additional installations**

**2 text files**

- **project\_write\_up.txt**
- **team\_evaluation.txt**

For Help:

- TA Helpdesk - Schedules are on class website.
- Email TAs

Notes:

- **Don't forget to include the required comments and collaboration statement.**
- **Don't wait until the last minute to do this assignment!**
- If you find a significant error in the homework assignment, please let a TA know immediately.

## **Cameras, Actions, Special Effects, MOVIES!**

You suffered Python for a past few months and I am pretty sure most of you have already mastered it! Now, you have the brains of programmers, special effects, robots, creativity, and partners in both of your hands, so it is time to make a masterpiece of this semester, the movie! **You have to use robot(s) to film and act, and need to use Python to edit and merge pictures you have taken by robots.** Your group will make a **30 to 120 second** movie, and there

are **no** restrictions on genre or scenario. Just show your hidden passion!  
Here are a few examples from past years (Need Internet Connections):

[Scribbler Standoff](#)

[Pacman\(\): Try and Except Error!](#)

[RoboMovie](#)

[The Scribbling](#)

## **More Details**

This assignment is worth 200points, so do NOT wait until the last minute. 100points will be from the coding parts (4 Python files), and the other 100points will come from the three non-coding parts (1 video file and 2 text files). Please follow the formats of files as written in this instruction. Otherwise, you might be penalized. Each member of a group needs to submit all the same files except the team evaluation.

You strictly need to follow below instructions for coding parts.

**filmingCode.py(30pts):** Although you can add images from other sources when you finalize your movie with external video editors(see below), you have to shoot **AT LEAST 60 frames**(or 60 picture files) taken by the robot's camera and put them into your movie. The filming code will include codes which makes the robot(s) to capture these frames.

**actingCode.py(20pts):** Robot(s) should have some kinds of interactions with other robot(s) and/or the environment while being filmed. You can use more than two robots or you can just use one robot and film the environment with it. It depends on your scenario. The acting codes control your robots like movements during acting, turns,

and so on. If you need extra robots you can come to the TA helpdesk to borrow one.

**editingCode.py(30pts):** This code is to edit the films like applying special effects, setting delays between scenes, and etc. You can also apply some effects by using other editing programs, but you should use **AT LEAST 3 effects** which you might have created for the last assignment.

**performanceCode.py(20pts):** This code is for merging all individual pictures you have taken and edit into a file to show how they actually perform. You may add interesting music, sound effects, or narrations on your films through this Python code. You are allowed to edit your images by some editing tools (see below), but you still need to make this part at least for showing the images you took with the robot(s).

**movie.avi or some formats of a video(30pts):** This is a final movie file you have created with any kind of editing including using third party video editors or other tools you might want to use. It should be the length between 30 to 120 seconds. You can use some music not related to this course if you have appropriate permission to use it or it is in the public domain, or special effects not from Python. To find good editing programs to use, see the last part of this instruction.

**project\_write\_up.txt(20pts):** The project description text file is broken down in two parts: 1) Describe (in English, not Python) what your movie is about (the scenario) and what special effects you use. 2) Describe and justify any deviations you made from the code layouts we have provided above. If you did not make any deviations, just say "No deviations were made".

**team\_evaluation.txt(50pts):** This file is the only thing you need to submit individually. Each member of the group should submit a text file which contains:

1. Your name and the name of the other teammate(s).
2. What you did, and what each of the other member(s) did.
3. What percentage of work each member did (should add up to 100% - If three people contributed equally, each person gets 33.3%)

## **Notes**

You do not have to divide your movie codes into four parts as we suggested. You can mix actingCode and filmingCode into one file like actingFilmingCode. However, if you apply any deviations, please explain what deviations you made and why you made them in your team's project\_write\_up.txt file.

Making comments throughout your python file(s) will also greatly help your TAs when they grade the assignment.

If you do not want to copy and paste all the functions you made in specialFx for this assignment, you can import your .py file as a library like myro or math. For instance, if you have an already defined file named specialFx.py, which contains all of your special effects, and want to utilize it in other files, you can simply write "from specialFx import \*" at the top of the newly created file. You now have the ability to use any of the functions you defined in the specialFx.

## **Extra Credits**

This assignment has lots of extra credits! In each recitation, awards will be handed out based on the quality of movies you made. The TAs of each section will watch all movies and decide the awards. There are 5 types of awards and each award is worth 10 extra points.

- The Walter Award for innovative robot camera work.
- The Walter Award for outstanding robot performance.
- The Walter Award for excellent audio accompaniment.
- The Walter Award for stellar special effects.
- The Walter Award for superb screenplay.

Be Creative!

## **Resources**

As we mentioned above, you can use external film editing programs to finalize your robot movies. For students who do not know much about editing programs, we suggest several popular programs. For sharewares, you can get demo versions on the internet.

## **Freeware**

Windows Movie Maker (for Windows)

## **Shareware**

Apple iMovie (included in iLife) (for Mac)

Sony Vegas (for Windows)

NeroAG Nero Vision (for Windows)

Adobe Premiere (for Mac and Windows)

TechSmith Camtasia (for Mac and Windows)

## **Grading**

### **FILMING CODE (30pts)**

The code generates at least 60 frames by using the robot

**15pts**

The code will perform a similar functionality even if we re-run

**15pts**

### **ACTING CODE (20pts)**

The code will perform a similar functionality even if we re-run

**10pts**

The code contains a series of commands to move robot(s)

**10pts**

### **EDITING CODE (30pts)**

The code uses at least three special effects (6pts each)

**18pts**

The code applies the three special effects correctly

**12pts**

### **PERFORMANCE CODE (20pts)**

Can replay the movie using python code

**20pts**

(Does not have to replay the whole movie)

### **THE FILM (30pts)**

Film is between 30 - 120 seconds (no more, no less)

**10pts**

Film is playable on TAs' computers

**10pts**

Film is comparable to the video created by the performance code  
**10pts**

**PROJECT WRITE-UP (20pts)**

Movie description is clear, concise and accurate  
**10pts**

Any deviations made are described and justified  
**10pts**

**TEAM EVALUATION (50pts)**

Get generally good feedbacks from teammates  
**50pts**

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