

# 2017 RoboPlay Video Competition

## Call for Participation

**January 16 - Information put on the web site**

**March 1, 2017 – Registration open**

**April 14, 2017 - Registration deadline, Video submission site open.**

**April 28, 2017 - Video submission deadline, Parent consent and media release form due, Registration fees due**

**May 20, 2017 - C-STEM Day**

A RoboPlay Video combines creativity, digital media and robotics! The RoboPlay Video Competition is designed for K-14 students to work with robots while having fun and exploring their creativity in writing, storytelling, art, music, choreography, design, and film making, seamlessly learning C-STEM subjects. The necessary robot coordination requires not only teamwork in designing a well-organized visual performance, but also the math and programming skills to produce the desired actions. The competitions enable students with different interests to explore the basic concepts of C-STEM in conjunction with their artistic and music talents. Students of average skill should be able to reproduce the videos the provided documentation.

### Videos from the 2015 competition posted here:

[http://c-stem.ucdavis.edu/scoreboard/video\\_list/3](http://c-stem.ucdavis.edu/scoreboard/video_list/3)

### Videos from the 2016 competition posted here:

[http://c-stem.ucdavis.edu/scoreboard/video\\_list/4](http://c-stem.ucdavis.edu/scoreboard/video_list/4)

### Divisions:

- **Level 1:** Junior Teams with students from elementary and middle schools (grades 5-8)
- **Level 2:** Senior Teams with students from high schools and community colleges (grades 9-14)

### Rules for Video Competition:

#### ○ Teams:

- All team members must be enrolled in a K-14 school.
- Each team must have 3 or more students contribute to the video. There is no limit on the maximum amount of team members.
- Each teacher can sponsor up to 5 team videos.
- The registration fee is \$20 for each video submission.
- Up to three student representatives from each team will receive trophy awards.
- All team members will receive certificates of participation.

#### ○ Equipment:

- Each team must use one or more Linkbot or Lego NXT/EV3 or combination. Motion of these robots must be controlled using programs written in Ch, a C/C++ interpreter.
  - Backgrounds, sets, and costumes are recommended and encouraged, but not required.
- **Video Content Constraints: *Videos that do not meet these constraints will be subject to disqualification.***
- The robot(s) and their coded movements must be critical to the video. All scenes should focus on robots as the primary figures.
  - Each video must be between 1 and 5 minutes long.
  - Each video should have a title card with the video and school name.
  - Each video should have credits with:
    - Participating students
    - School Name
    - Teacher Name
    - A list of Ch code file(s) used to produce the video.
    - Attribution or permissions for any Creative Commons or Copyrighted works used.
  - Video credits must be no longer than 15 seconds.
  - Title cards or scenes featuring all text must be under 5 seconds each.
  - Submissions are encouraged to be creative and must be tasteful and non-discriminatory.
  - All elements of the video, except music, must be produced originally by the students. If you use Copyrighted music, it is the team's responsibility to contact the song owner/publisher to receive permission. Be aware that if you do not receive appropriate permissions, YouTube may take down your video and you may be disqualified.
  - Sources of Creative Commons music can be found at:  
<http://creativecommons.org/music-communities>
- **Video Technical Constraints: *Videos that do not meet these constraints will be subject to disqualification.***
- In addition to posting the video to YouTube, all entries must upload their source video to the RoboPlay Scoreboard website.
  - Video file size must be less than 150 MB.
  - Video resolution must be at least 480p vertical resolution
  - Note: All videos will be judged at a 480p resolution. Do not include elements which require HD video to view.
  - Supported file formats are: avi, mp4, mov, mkv, and wmv.

○ Ch Code Requirements:

- Each team must submit a copy of each of their well-documented Ch programs for controlling robots. **Failing to submit Ch code will result in disqualification.**
- Ch code must be original and created by students in the team submitting the video. Teachers may act as coaches during the writing process but they may not write any of the lines of code. Multiple teams may not use identical code.
- Ch code may not be generated by motion capture.
- The Ch Program must represent all motions shown on the video. This may be done as one large program or as multiple programs, each representing a different scene.
- Each Ch code file must be named with your title and scene number. For example, if your title is “This is a Wonderful Robo Story”, the file names of the first and second scenes would be:
  - This is a Wonderful Robo Story\_Scene01.ch
    - This is a Wonderful Robo Story\_Scene01a.ch
    - This is a wonderful Robo Story\_Scene01b.ch
    - If multiple files for muntiple characters in a single scene.
  - This is a Wonderful Robo Story\_Scene02.ch
- Each Ch code must start with a standard heading that includes the following:
  1. Video Title – Scene #
  2. Teacher advisers
  3. School Name
  4. School District
  5. Names of student participant
  6. Names of code student authors
  7. Purpose of the code / general description of what the code does

A sample on-line document is shown below

```

/* 2017 RoboPlay Video Competition
   Division #: (1 or 2)
   Video Title: This is a Wonderful Robo Story – Scene 01
   Teacher Advisor: John Doe
   School Name: Wonderful Middle School
   Student Names: Cindy Clark, Mary Smith
   Code written by: Mary Smith
   Purpose: The robot will move forward one foot, turn 180, and move
   6 inches.
*/

```

- Programs should contain comments which link the code with actions occurring on the screen. If you copy and paste code from Ch examples be sure to replace the comments with your own.

○ Submitting Team Videos

- In order to compete in the RoboPlay Video Competition, you must submit your video to YouTube as well as to the C-STEM Scoreboard website.
- If you have not created a YouTube account, please follow the instructions in the video at <http://www.youtube.com/watch?v=3PFYeXb7fPw> to create one.
- **Metadata on YouTube**
  - Title your video “RoboPlay 2017 – YOUR TITLE”
  - The description of your YouTube video should be:  
“Video Entry for the RoboPlay 2017 Video Competition  
Teacher coach: TEACHER NAME  
SCHOOL NAME, DISTRICT NAME, COUNTY NAME  
<http://c-stem.ucdavis.edu/c-stem-day/>”
  - The video must be tagged “RoboPlay 2017”
  - Video must be set to “public”, not “private” and your video must “Allow Embedding”
  - Note: These settings will be strictly enforced by the RoboPlay Scoreboard website.
- Once you upload video submissions to YouTube, you will submit a link to your video on YouTube, upload the video file, Ch code, and any supporting documentation or 3D model files, to the RoboPlay Scoreboard website.
- *For further information on how to submit a video to YouTube, please see Appendix A in the teacher instructions pdf.*

○ Awards

- A team is limited to winning only one category award plus the overall award
- *Teams are strongly encouraged to review the rubric scoring guide for the category they wish to win prior to planning and creating their video. Reviewing these rubrics will give each team a better sense of how the judges will be grading the videos.*
- Award categories:
  - Best Storyline – Videos which include characters and plot that engage the audience. These videos will be judged on the following categories:
    - Setting
    - Plot Development
    - Conflict and Resolution
    - Theme
    - Character Development
    - Creative Use of Props
    - Script – Dialog
    - Script – Movement

- Best Choreography – Videos with synchronization of robots to music. These videos will be judged on the following categories:
    - Synchronization with Music
    - Technical Difficulty
    - Interaction with Environment
    - Interaction between Robots
  - Most Interesting Task – Videos that include demonstrations of robots completing a task (such as making coffee). These videos will be judged on the following categories:
    - Technical Difficulty
    - Innovation
    - Creative Use of Robots
    - Creative Use of Attachments
    - Script – Dialog
    - Script – Movement
  - Best Custom Designed Part – Videos that complete an interesting task or performs an interesting motion through the use of an original designed and built part. Students of average skill should be able to reproduce part(s) with the provided documentation. These videos will be judged on the following categories:
    - Complexity
    - Functionality
    - Documentation
  - Best Film Promoting Computational Thinking – Videos that include complex, well defined code. These videos will be judged on the following categories:
    - Completeness of Ch code – all robotic movements shown in the video is correlated with Ch code
    - Code Precision and Brevity
    - Complex programming structures
    - Code Comments
  - Best Overall Video – Awarded to the video averaged the highest in Storyline, Choreography, Most Interesting Task, and Film Promoting Computational Thinking. This may be awarded independently or in addition to any of the other awards.
- Additional Requirements for Scripts
- Scripts must include a basic scene description including:
    - A description of the setting
    - Description should include scene .ch file name (scene\_name01.ch)

- Scripts must include stage directions that explain how the robots move
- Scripts must include the dialog present in the video
- **Additional Rules for the Best Custom Designed Part Competition**
  - To Win Best Custom Designed Part, documentation of the part must be submitted in addition to the video and Ch code.
    - If the part was rapid prototyped/3D printed, the CAD file must be submitted
    - If the part was constructed without 3D modeling software, then blueprints, drawings or sketches must be submitted
  - At least a paragraph summary describing a) the function and b) use of the part must be submitted as well
  - Missing any of the above information may result in disqualification for the Best Custom Designed Part award.

## Organizer

UC Davis Center for Integrated Computing and STEM Education (C-STEM)

## Co-organizers

UC Davis Integration Engineering Laboratory  
Hewlett Packard Enterprise

## Contact

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