



MECH-ANIMAL SIDEKICK



Problem 2
Technical

Mech-Animal Sidekick

Problem No. 2: Divisions I, II, III & IV

Introduction

Robotics is an exciting field where creative problem-solving meets technology. Engineers build robots to do all sorts of tasks that humans or even animals used to do — robotic cars anyone? However, it takes a special talent to do something from a deeper human nature, such as cheer a person up. Fortunately, with the Spirit of Odyssey of the Mind, OM-gineers are especially equipped to take on that task! The saying goes “dog is man’s best friend,” but this year OMers will invent their own bestie — with a robotic twist!

A. The Problem

In this problem, teams will design, build, and operate an original robotic animal that has the ability to make characters happy. In the performance, the Mech-Animal will perform three tricks that cheer up at least two characters. When it suddenly goes missing, one or more of those characters search for it and find the Mech-Animal in a very unusual place. The performance will also include live music, a team-created toy for the Mech-Animal, and a Trainer Character who explains the tricks.

The **creative emphases** of the problem are on the overall performance, the engineering of the Mech-Animal device, how the tricks cheer up the characters in the performance, the Trainer Character, the unusual location where the Mech-Animal is found, the live music, and the Mech-Animal's toy.

The **Spirit of the Problem** is for the team to design and build an original robotic animal that performs tricks in order to make characters happy. These tricks cheer characters up in the performance. When the Mech-Animal goes missing, one or more of the characters it cheered up will find the Mech-Animal in an unusual place. The performance will also include live music, a toy for the Mech-Animal and a Trainer Character that explains the tricks.

B. Limitations (Italicized words/terms are defined in the Problem Glossary or in the *2024-25 Odyssey of the Mind Program Guide*.)

1. **General Rules:** Read the *2024-25 Odyssey of the Mind Program Guide*. This manual is updated each year and includes important rules for solving Odyssey of the Mind Problems and forms required for competition. This problem cannot be solved without referring to the Program Rules section of the guide.
2. **Problem Clarifications:** The *Odyssey of the Mind Program Guide* explains the types of questions that will be clarified and how to submit them. Problem clarifications can be submitted and accessed at www.odysseyofthemind.com/clarifications. The deadline for submission is February 15, 2025. CCI may find it necessary to issue clarifications after that date, so continue to check for them after February 15 and before each competition.
3. The **time limit** for this problem is 8 minutes. This includes setup, Style, and the presentation of the solution. Time will start when the Timekeeper says, “Team, begin,” and will end when the team gives its signal that it is finished or the Timekeeper calls “Time.”
4. The **cost limit** for this problem is \$165 (U.S.). The combined value of all materials used during the presentation of the solution, including Style, cannot exceed this amount. The Odyssey of the Mind Program Guide explains the cost limit and how to determine the value of the materials used.
5. The team will create an original performance that includes:
 - a. a team-created *robotic* Mech-Animal device.
 - b. three tricks performed by the Mech-Animal device that cheer up *characters*.
 - c. a Trainer Character who explains the tricks.
 - d. the Mech-Animal going missing and being found.
 - e. *music* that is produced during the performance.
 - f. a team-created toy for the Mech-Animal.
 - g. five Style elements listed in F. Style, including two that are chosen by the team.

6. The Mech-Animal device:
 - a. will perform three tricks to cheer characters up.
 - b. must be an original device designed and constructed by the team. It may include *commercially-produced* parts.
 - c. may use one or more power sources as allowed in the General Rules of the *Odyssey of the Mind Program Guide*.
 - d. can be *triggered* by the team, but teams cannot *touch* any part of the device while it is attempting a required trick. The device may be triggered multiple times during the performance. Division 1 may use *indirect human power* at any time. Divisions 2-4 cannot use *human power* after the device is triggered.
 - e. cannot be *remotely controlled* once the device is triggered.
 - f. will represent an animal *as portrayed in the performance*.
7. The three tricks performed by the device:
 - a. must include two that are chosen from the list below and one that is team-created:
 - (1) Pick up an object and give it to a character.
 - (2) Make a tangible object disappear. The object must be visible to the judges and audience before the Mech-Animal device makes it disappear from view.
 - (3) Physically change the *appearance* of a *backdrop*.
 - (4) Walk: all of the device's floor contact points alternate so as to not contact the floor at the same time.
 - b. At least two different *characters* must be cheered up, and they cannot include the Trainer Character in B8. They can be *portrayed* in any way, but must meet the criteria for a character as described in the Program Guide glossary. The characters will be considered cheered up *as portrayed in the performance*.
8. The Trainer *Character*:
 - a. will explain each required Mech-Animal trick in the performance.
 - b. must be a team member in costume.
9. The Mech-Animal going missing:
 - a. can occur at any time after it cheers up at least one character.
 - b. will be searched for, and found, by one or more characters it cheered up in B7b. Other characters may be involved.
 - c. will be found in an unusual place *as portrayed in the performance*.
10. The live music:
 - a. can occur at any time in the performance.
 - b. can be anything the team wishes, but must be heard by the judges and audience.
 - c. can include singing and vocal noises, but does not have to. However, it must include *music*, created live.
11. The team-created toy for the Mech-Animal:
 - a. can be anything the team wishes provided it is created by the team. It can include *commercially-produced* parts.
 - b. will be considered a toy *as portrayed in the performance*.
 - c. will be held or used by the Mech-Animal at some point in the performance.
12. The team should present the Staging Area Judge with four copies of the Team List Form found in the forms section at www.odysseyofthemind.com/members or four copies of a list on one side of one or two sheets of 8 ½" x 11" or A4 paper. This list can be hand-printed, typed, or computer generated. It is for reference only. This list must include:
 - a. the team's official member name, the problem and division.
 - b. a brief description of the Mech-Animal device.
 - c. the order in which the tricks will be attempted in the performance, and a brief description of the two selected tricks.
 - d. a brief description of the team-created trick.
 - e. a brief description of the characters who are cheered up by the Mech-Animal.
 - f. a brief description of the Trainer Character.
 - g. when in the performance the Mech-Animal goes missing and where it will be found.
 - h. a brief description of the live music and when it will occur.
 - i. a brief description of the team-created toy and when it will be used by the Mech-Animal.
 - j. the signal the team will use to indicate it has finished its performance.

C. Site, Setup and Competition

1. A stage or floor area a minimum of 10' x 10' (3m x 3m) will be used, but a larger area is desirable. This will not be marked. Teams must be prepared to perform in a 10' x 10' area. If space permits, the team may perform and/or place equipment, props, etc., outside the 10' x 10' area. If a drop-off exists beyond the 10' x 10' dimensions, a caution line may be taped 30" (76.2cm) from the edge of the drop-off. This will serve as a warning, not a boundary.
2. A three-prong electrical outlet will be available at the performance area. Teams must bring their own extension cords and adapters, if needed.
3. The team members should report to the competition site with all items for the presentation of their solution at least 15 minutes before they are scheduled to compete.
4. At the end of the 8-minute time period, the Timekeeper will call "Time" and all activity must stop. The team may end before the 8 minutes but must signal the judges when it is finished.
5. Teams should bring cleaning utensils to clean up any mess. Should a team take an unreasonable amount of time to clean the site, or leave a mess, the judges will assess an Unsportsmanlike Conduct penalty. Others not on the team's roster can help the team clear the site and remove the team's props. The competition area must be left clean and dry for the next competing team.

D. Scoring

1. Creativity of the overall performance (originality, effectiveness)..... 1 to 20 points
2. Overall quality of the presentation 1 to 15 points
3. The design of the Mech-Animal device 8 to 40 points
 - a. Creativity of its engineering5 to 25 points
 - b. Risk-taking of its functional design3 to 15 points
4. The Mech-Animal device performs three tricks 4 to 35 points
 - a. Successfully completes each required trick (5 points each) 0, 5, 10, or 15 points
 - b. Impact on the performance2 to 10 points
 - c. Creativity of how the tricks cheer up two or more characters in the performance2 to 10 points
5. Trainer Character..... 4 to 25 points
 - a. Explains each trick 0 or 5 points
 - b. Originality of the overall appearance2 to 10 points
 - c. Effectiveness in the performance2 to 10 points
6. The Mech-Animal goes missing and is found 2 to 20 points
 - a. Goes missing 0 or 5 points
 - b. Creativity of where it is found2 to 10 points
 - c. Is found by at least one character it cheered up 0 or 5 points
7. The live music..... 4 to 25 points
 - a. Occurs within limitations 0 or 5 points
 - b. Impact on the performance2 to 10 points
 - c. Creativity of how it is produced2 to 10 points
8. The toy for the Mech-Animal 4 to 20 points
 - a. Creativity of how it interacts with the Mech-Animal2 to 10 points
 - b. Originality2 to 10 points

Maximum possible: 200 points

E. Penalties

1. “Spirit of the Problem” violation (each offense)-1 to -30 points
2. Unsportsmanlike conduct (each offense)-1 to -30 points
3. Missing membership sign -5 points
4. Outside assistance (each offense)-1 to -25 points
5. Over cost limit.....-1 to -30 points

Teams that don't present a scored element of the problem will not receive a penalty; they will receive a zero score for that category.

F. Style (Elaboration of the problem solution; use four copies of the Style Form from the 2024-25 Odyssey of the Mind Program Guide.)

1. Artistic quality of a setting 1 to 10 points
2. Creative appearance of a costume other than the Trainer Character 1 to 10 points
3. (Free choice of team) 1 to 10 points
4. (Free choice of team) 1 to 10 points
5. Overall effect of the four Style elements in the performance..... 1 to 10 points

Maximum possible: 50 points

G. Tournament Director Will Provide

1. 10' x 10' (3m x 3m) presentation area (larger, if possible).
2. A three-prong electrical outlet at the performance area.
3. A judging team and materials necessary to judge this problem.

NOTE: *Contact your local Tournament Director for site specifications, such as actual dimensions, floor surface, etc. Do not submit a clarification request for this information.*

H. The Team Must Provide

1. Four copies of its Style Form, one Cost Form, one Outside Assistance Form, and all team-specific clarifications.
2. Four copies of the Team List as described in B12. This list is to assist the judges. If the team fails to provide the list, there will be no penalty; however, it benefits the team to have the lists because without them the judges might miss a scored aspect of the performance.
3. Any necessary extension cords or outlet adapters.
4. Cleanup materials as needed.

I. Problem Glossary (*Italicized terms that are not in this Glossary can be found in the 2024-25 Odyssey of the Mind Program Guide.*)

Remotely Controlled – Direct interaction with a device that helps propel, guide, power, or steer it, whether or not it is continuous.

Robotic – The Mech-Animal device built by the team that performs the required tricks must be a type of machinery that represents an animal as portrayed in the performance.

Trigger – The process of starting the required device, which will then function to perform the required action.

© Copyright 2024— Creative Competitions, Inc.

Creative Competitions, Inc., its licensees, and the problem authors assume no responsibility for damage or injury incurred as a result of attempting to solve this problem.

®Odyssey of the Mind, OotM, OM and the Odyssey of the Mind logo are federally registered trademarks of Creative Competitions, Inc.