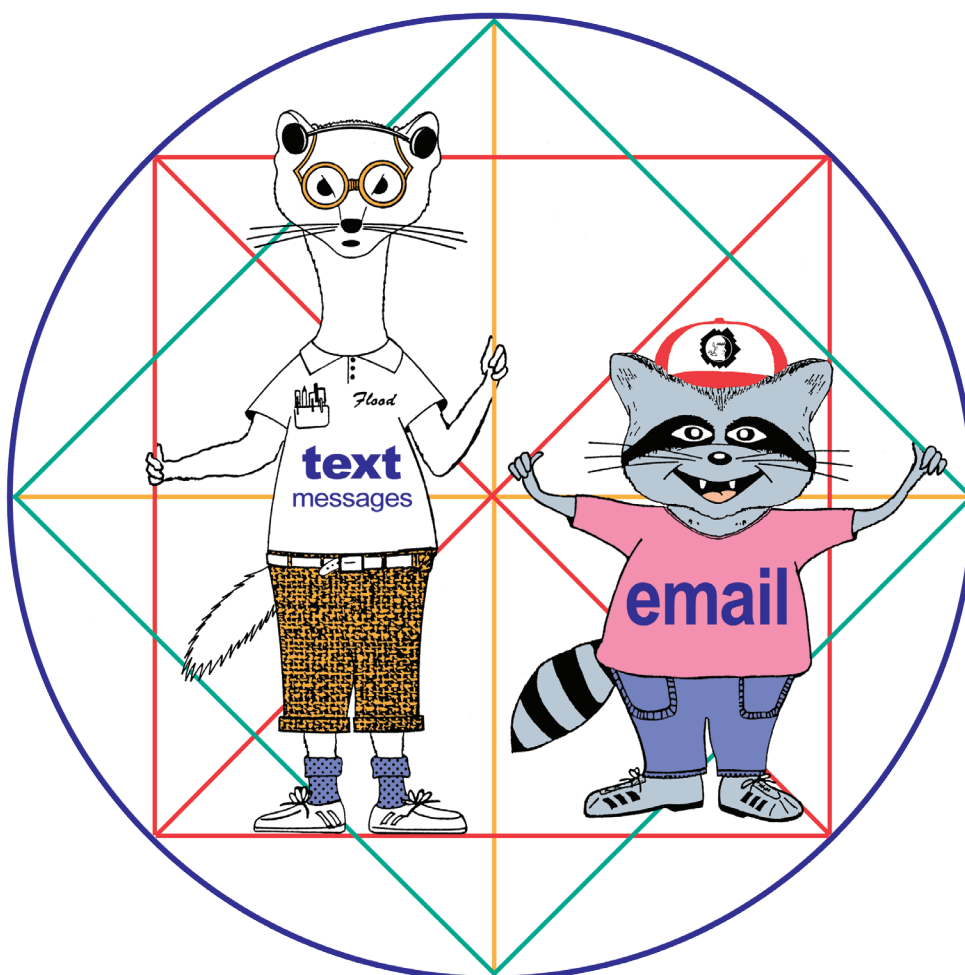




Odyssey of the Mind

Problem No. 2:

NET WORKING



Net Working

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

Introduction

When we make a phone call, text a picture or message, or send an email or a link for an interesting website, we take for granted the many components it takes for these items to successfully travel to their destinations. In fact, when the transmission is slow or rejected, we get frustrated and upset. In what seems like a simple task, many components must work perfectly together each time. It might be a task as simple as transmitting electricity, or something more technical such as encrypting and decrypting messages. No matter what the function, all the various stages must succeed every time we send a seemingly effortless message. For this problem, teams will create a solution that highlights these components and explains their roles in our modern world.

A. The Problem

Computers, satellites, and servers work continuously to allow people from all over the world to communicate. These networks give us access to information including communications, messages, and videos. In this problem, the components making up the network are characters who work to keep the world connected. During the performance, an image, a text message, and an email will be transmitted between locations by a team-made Network Device. A Pop-Up Advertisement appears, and a Malware Character will infect the network taking it offline. An Anti-Virus Hero comes to the rescue and team-made instruments will be used to present an original song.

The **creative emphases** of the problem are on the overall performance, how the Network Characters represent technical components, how the Network Device operates, the information transmitted by the device, the Malware Character, and the Anti-Virus Hero.

The **Spirit of the Problem** is for the team to create a performance where an original team-created Network Device is used to transmit different objects that represent different types of information in segments. Three Network Characters that represent components of a computer network will explain their role while information is being transported in their segment of a transmission. A Pop-Up Advertisement will appear, a Malware Character will interrupt the Network Device, and an Anti-Virus Hero will restore it so it works once again. An original song will be performed during the presentation and will include the playing of team made instruments.

B. Limitations (Italicized word/terms are defined in the Problem Glossary or in the *2019-20 Odyssey of the Mind Program Guide*.)

1. **General Rules:** Read the *2019-20 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, 2020.** 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 \$145 (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. Network Characters.
 - b. a team-made Network Device that *transmits* information.

- c. a Pop-Up Advertisement.
 - d. a *Malware* Character.
 - e. an *Anti-Virus* Hero Character.
 - f. team-made instruments used during an original song.
 - g. five Style elements including two that are chosen by the team.
6. The three required Network Characters:
- a. will represent different technical components of a team-created network that transmits information. These will represent actual or fictional technical components.
 - b. may be portrayed in any way the team wishes but must meet the requirements of being a *character*. They must be different from one another.
 - c. must each explain how it functions during at least one segment of one required transmission of information. That is, one character explaining each segment at least one time (see B7e).
7. The Network Device:
- a. must be an original device designed and constructed by the team. It may include *commercially-produced parts*.
 - b. will transmit three types of information separately and each transmission will include three segments. Each segment will represent a different function within the network to complete the delivery.
 - c. is allowed to use any power source permitted in the *Odyssey of the Mind Program Guide*, including electric (A/C or D/C) and human power.
 - d. The information can be placed in the Network Device at the start of each segment by a team member, but it must move through the segment without a team member touching it directly or indirectly. If a team member touches the information in any way during a transmission, that attempt is over and the transmission must be started again from the beginning of that segment or at any place the information traveled legally in the transmission. Teams can make as many attempts as needed before time ends.
 - e. Each segment will represent a Network Character. That character will describe what is happening during that segment one time during the performance.
 - f. must use a different method to transport items in each segment. The degree of difference for how each segment operates will be scored.
 - g. items must be transported at least 5 feet for each segment. Judges may request to measure the distance traveled after the performance if it is in question. Teams should be prepared to demonstrate the distance traveled in each segment.
 - h. does not have to transmit information in a direct line. However, where the information begins a segment to where it completes the segment must be least five feet apart.
 - i. can be touched or adjusted when information is not being transmitted through a segment.
8. The information transmitted by the Network Device:
- a. will be tangible items created by the team. These items can be anything the team wishes except team members in costume.
 - b. must be large enough to be seen by the judges and audience.
 - c. will represent different types of information sent through the network. These must be one of each of the following:
 - (1) an image or video
 - (2) a text message
 - (3) an email
 - d. will be transported/moved by the Network Device one at a time. An attempt at a transmission is considered over if a team member touches the information or a new transmission begins, except between segments as described in B7d.
 - e. must travel from the beginning of a segment to the end of the segment at least five feet away. It can continue traveling using a different method or may stop and start for the next segment. The next segment may be in any direction including toward where it began the previous segment.
 - f. must travel successfully through all 3 different segments for score in D5.
9. The Pop-Up Advertisement:
- a. can be anything the team wishes. There may be more than one Pop-Up Advertisement but only one will be scored in D6.
 - b. will interrupt one of the segments and slow it down or stop it. The slow down/stop caused by the advertisement must be indicated in the performance. If it stops, the transmission may continue to be transmitted from where it was stopped. The team may restart the transmission any way it chooses including touching it.

10. The Malware Character:
 - a. may be portrayed in any way the team wishes but must meet the requirements of being a *character*.
 - b. takes the network offline as part of the performance.
 - c. takes the network offline by stopping a transmission of information listed in B8c. This can be done in any way. It is allowed to touch the information to meet this requirement, but it is not allowed to help transmit the information by any means other than placing it back where it was stopped or at a place earlier in that segment. This is the only exception to the limitations regarding touching the information at all other times in the performance.
11. The Anti-Virus Hero Character:
 - a. may be portrayed in any way the team wishes but must meet the requirements of being a character.
 - b. will stop the Malware Character and bring the Network back online. Information stopped by the Malware Character may continue to be transmitted by the Network Device from where it was stopped. Team members may touch it to get it started from where it was stopped or choose to start it from the beginning of that segment.
12. The team-made instruments:
 - a. can include *commercially-produced* parts.
 - b. will be used in an original *song*. The song can occur at any time in the performance.
13. 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 1/2" 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 membership name and number, the problem and division.
 - b. a description of the three required Network Characters and the technology they represent.
 - c. a brief description of the Network Device and the three ways it transports the information.
 - d. the order in which the information will be transported.
 - e. when in the performance the Pop-Up Advertisement will appear and slow down or stop the transmission.
 - f. a brief description of the Malware Character and when it will stop a transmission.
 - g. a brief description of the Anti-Virus Hero and how it restores the network.
 - h. 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 20' (3m x 6m) will be used, but a larger area is desirable. This will not be marked. Teams must be prepared to perform in a 10' x 20' area. If space permits, the team may perform and/or place equipment, props, etc. outside the 10' x 20' area. If a drop-off exists beyond the 10' x 20' 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. Teams will place information to be transmitted on the device one at a time. Once the device begins to transport an item, team members are not allowed to touch it. The Malware and Anti-Virus characters are allowed to touch the information when taking the Network offline and putting it back online for score. Once it completes a segment of the device, teams have the option to move it to the next segment, and so on. If the judges think the information did not travel 5' on a segment, they will measure after the performance.
5. 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.
6. 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 15 points
2. Overall quality of the presentation 1 to 15 points
3. The Network Characters..... 2 to 30 points
 - a. Represent three different technical components of the network..... 0 or 5 points
 - b. Creativity of how they represent technical components2 to 10 points
 - c. Explain their roles during one segment of one transmission (0 or 5 points each)..... 0, 5, 10 or 15 points
4. The Network Device 13 to 60 points
 - a. Degree of difference between how each segment works4 to 15 points
 - b. Creativity of how the segments transmit the information5 to 20 points
 - c. Risk-taking in design.....2 to 15 points
 - d. Degree to which team members are NOT involved in its operation.....2 to 10 points
5. The information transmitted by the device..... 3 to 30 points
 - a. 1st required1 to 10 points
 - (1) Successfully delivered 0 or 5 points
 - (2) Creativity in how it ties in with the theme of the performance 1 to 5 points
 - b. 2nd required1 to 10 points
 - (1) Successfully delivered 0 or 5 points
 - (2) Creativity in how it ties in with the theme of the performance 1 to 5 points
 - c. 3rd required.....1 to 10 points
 - (1) Successfully delivered 0 or 5 points
 - (2) Creativity in how it ties in with the theme of the performance 1 to 5 points
6. The Pop-Up Advertisement 2 to 15 points
 - a. Slows down/stops transmission..... 0 or 5 points
 - b. Unexpectedness and impact on the performance2 to 10 points
7. The Malware Character 1 to 10 points
 - a. Takes the Network offline by stopping a transmission 0 or 5 points
 - b. Creativity of its portrayal 1 to 5 points
8. Anti-Virus Hero 1 to 10 points
 - a. Restores the network..... 0 or 5 points
 - b. Creativity of its portrayal 1 to 5 points
9. Team-made instruments and song 2 to 15 points
 - a. Team-made instruments are used in the song..... 0 or 5 points
 - b. Creativity of how the instruments produce sound during the song 2 to 10 points

Maximum possible: 200 points

E. Penalties

1. "Spirit of the Problem" violation (each offense)-1 to -100 points
2. Unsportsmanlike conduct (each offense)-1 to -100 points
3. Incorrect or missing membership sign.....-1 to -15 points
4. Outside assistance (each offense)-1 to -25 points
5. Over cost limit.....-1 to -100 points
6. Segments operate
in the same manner..... zero score for information being delivered successfully

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 2019-20 Odyssey of the Mind Program Guide.)

1. Creativity of the Malware Character's appearance 1 to 10 points
2. Artistic quality of a message transmitted by the Network Device 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 20' (3m x 6m) presentation area (larger, if possible).
2. A measuring tape and a 5' piece of string to measure the route taken by the information.
3. A three-prong electrical outlet at the performance area.
4. 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. 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 2019-20 Odyssey of the Mind Program Guide.*)

Anti-Virus—software that is designed to protect computer users and systems from malware and to remove malware from a computer.

Malware—a file, program, or software that is designed to be harmful to a computer user or system that is invasive when transmitted throughout networks. This includes computer viruses, spyware, etc.

Transmits—For this problem only, transmits means to physically move the required objects that represent information.