

Robotic Easter Egg Hunt

Object

A robot will find and gather plastic Easter eggs. All entrants will be released simultaneously (just like a child's Easter egg hunt). The robot that gathers the most eggs wins!

The Arena

The Arena will consist of an area approximately 24 feet by 24 feet. In 2007, the contest will be on the carpeted floor of the RTC classroom used for SRS meetings. The boundaries will consist of a series of 6 foot long rectangular tables placed on their sides, covered in a dark cloth. These tables will be arranged in a square. There will be no intentional openings in the perimeter, but small gaps may be present due to shoddy construction techniques. The arena will be filled with plastic eggs of different colors as well as some obstructions of varying sizes. The obstructions will all be colored black or dark grey or blue and will be at least 1 foot wide by 1 foot high.

The Robot

The robot's footprint can be no larger than 18" in any dimension (i.e. it must fit inside a 18" square box). There is no height or weight restriction. The robot cannot expand beyond these dimensions at any time during the event.

The robot may have a transmitter or marking system of some sort to identify its home, although nothing can permanently mark or damage the arena.

The robot must be completely autonomous and self contained; external computers are not allowed. Robots may not leave any trail or markings other than the "Home" marker. They also may not split into separate robots. The robot may not leave the arena at anytime. If it does, the robot will have to be restarted.

The Eggs

The eggs are standard colored plastic Easter eggs and may contain additional prizes inside. For the 2007 contest, all eggs will be 1.66" x 2.3". Sample eggs can be purchased from Oriental Trading Company, part #IN-5/912, <<http://www.orientaltrading.com/application?namespace=browse&origin=catalogProducts.jsp&event=link.itemDetails&sku=5/912&tabId=PartyPlanning>>. In future contests, there may be weights in the eggs, different size eggs, and some colors may be worth more than others.

Operation

Prior to the start, all competing robots must be placed in a designated location in the arena. After all of the robots are placed, the eggs and obstructions will then be placed in the arena. An auditory signal will be given, at which time all of the robots may be started by their respective owners, by what ever means they choose. No robot may be allowed to move until after the starting signal.

The robots will be allowed to run until all of the eggs are found, or until the judges deem that a clear winner has been identified.

The robots may either keep the eggs with them as they play, or return the eggs to a container of the owners design at their home base. The container may not exceed 18 inches by 18 inches with no restriction on height. Once the eggs have been brought home they are safe from theft or loss via penalties. When a robot returns to home base (other than as a result of a restart), its owner may physically transfer eggs from the robot to the container.

Robots ARE allowed to steal from other robots, block access and cause other mischief provided that no damage to the robot or the arena takes place, and that the robots are actively participating in the hunt.

Robots are *not* required to return eggs to home, although eggs at home are protected from theft by other robots and remain scored even if a robot is restarted.

Restarting

If a robot leaves the Arena, violates the rules in anyway or becomes "Confused", the owner may take the robot back to the starting position and restart it. Any eggs the robot currently has in its possession will be redistributed in the arena by the judges without stopping the play. Any eggs that have been taken back to the robot's home prior to the malfunction will remain in the robot's possession.

Note that restarting is *optional*, at the discretion of the owner. The owner may decide to let the robot remain on the field so as not to lose the eggs he has gathered to that point. The robot is still open to pilfering by other robots though!

Winning

The robot with the highest number of points will be the winner. In 2007, each egg will be worth one point. In future contests, points may vary by egg color or by hidden prizes in the eggs. Prizes will be awarded for 1st, 2nd and 3rd place.