ARVP Machine Vision Labeling Guide

Set-Up

1. Go to https://cvat.mami2.moe/ and create an account.

You can use your name as your username as only ARVP members will be users. However, please use a strong password as the login page is accessible by the public.
After you have created an account

2. please ping @CVATadmin in the discord

We will validate your account and assign you tasks. After we have validated your account you can

3. log in at https://cvat.mami2.moe/ and start labeling.

Types of Labels:

Polygon: This year we are using Segmentation labeling for objects which means you will draw out the shape of the object you are labeling by placing points on the corners of the object. This is only for the objects not for the printed symbols.
Please note that the corners will be connected in the order that they are placed, so place the points on the corners in either clockwise or counterclockwise order.
You can also specify the number of points in the polygon. All objects except the chevrons and DHD have 4 points.The Chevrons have 6 points and the DHD has 8 points.

Box: This is for any symbols. Please draw an unrotated box with the entire symbol.

Note on When to Label: Please label any object if atleast 1 quarter of the object is showing. As well only label the symbols if you can clearly see what they are without zooming in on the image. A table of what all the symbols look like is at the bottom of this document.

Objects Labeling Instructions
Gate [3 Parts]

- Gate
  - The entire gate should be labeled if one of the side polls & the middle are visible.
  - The points of the polygon should be placed on the corners where the crossbar and side polls connect and at the bottom of the side polls.
  - If only part of the gate is showing, place the corners on the above listed positions that are on screen and the remaining points on the edges of the image approximately in line with where they would go if the entire gate was in frame.
- Symbols
  - If the symbols are visible, draw a box containing the banner the symbol is on .
  - See the table below for the label names for the symbols.

Buoy Task [5 Parts]

  - Buoy
    - The full banner containing the 4 symbols
    - If a quarter or more of the buoy is visible it should be labeled.
    - Place the 4 points of the polygon on the corners of the banner.
    - If part of the buoy is off-screen place the polygon around all of the buoy visible in the frame
    - If the corners are off the edge of the camera view, label at the edge of the screen as close as possible.
  - Symbols
    - If the symbols are clearly visible, draw a box that contains the entire symbol.
   - See the table below for the labels for each symbol

Torpedoes Task [5 Parts]

- Torpedo Banner
  - Please draw a polygon with 4 points on the corners of the banner
- Torpedo open
  - Draw a box around the banner section that with the open symbol (see symbols)
- Torpedo closed
  - Draw a box around the banner section with the closed symbol (see symbols)
- Torpedo hole

- Draw 2 boxes around each of the holes in the banner. These boxes should contain the red border around the holes. Both holes in the banner need to be labeled but they have the same label type.
- Only label if you can see where the image ends and hole begins

Bins Task [4 Parts]

- Bin
    - Full bin with or without the lid on
    - Please draw a polygon around the entire bin including the black flaps on the side
- Lid
    - Please draw a polygon around the orange lid, even if the lid is on the floor and not on a box
- Handle
    - Purple Handle on the orange lid
    - Draw a polygon around just the purple handle, even if the lid is on the ground
- Bin Abydos/Bin Earth
    - When the lid is off the bin label the image inside the bin with a polygon with the corresponding label in the table below.
    - Please label the image even if only part of it is visible in the frame.
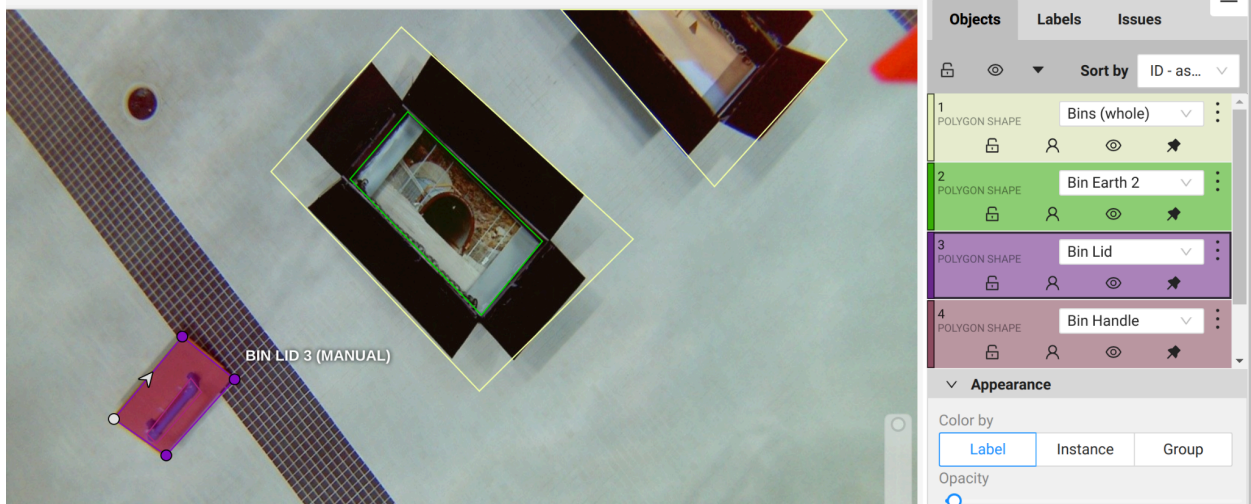
DHD/Octagon Task [8+4+1 Parts]

- DHD
  - If at least a quarter of the DHD table is in frame draw a polygon around the table that contains all of the table that is visible in frame
- Symbols x8
  - There are 8 Symbols on the table please see the chart below for each symbols label
  - Draw a box that contains the entirety of the symbol.
- Chevrons x4
  - These are the red arrows
  - For these objects please place points at all 6 corners of the object.
  - Please label every chevron as its own object.
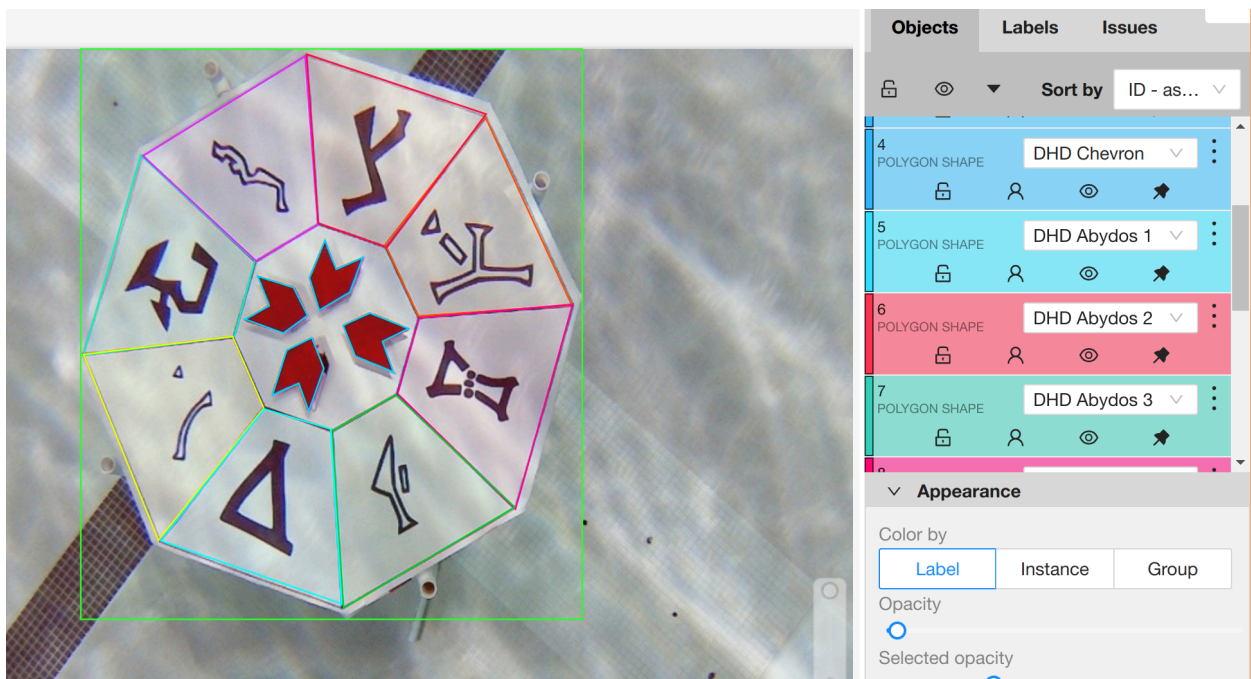
Object Symbols:

Label the symbols if **at least half** of the symbol **is showing**

Gate

Abydos Gate	Earth Gate
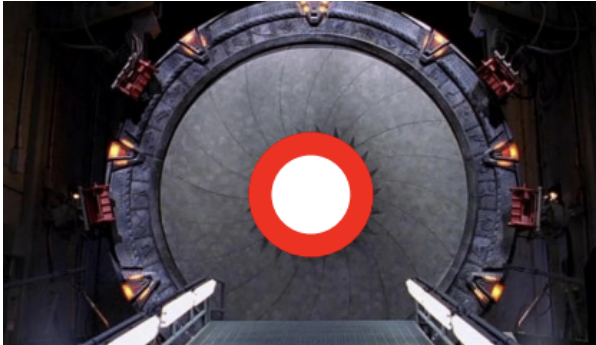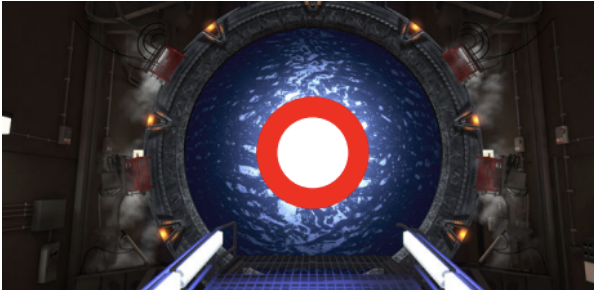
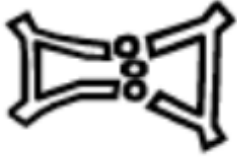## Buoy

Buoy Abydos 1	Buoy Abydos 2	Buoy Earth 1	Buoy Earth 2

Bin

Bin Abydos 1	Bin Abydos 2
Bin Earth 1	Bin Earth 2

Torpedo

Torpedo Closed	Torpedo Open

DHD

DHD Abydos 1	DHD Abydos 2	DHD Abydos 3	DHD Abydos 4
DHD Earth 1	DHD Earth 2	DHD Earth 3	DHD Earth 4