

## Thirsty Crow - Revised Scoring Criteria

Dear Participants

We hope you guys are working hard for the Theme Implementation.

In the last week, we have reviewed the Progress Task submitted by all the teams and we have given helpful suggestions to the teams who submitted the video. Here we would like to discuss some changes made in the Final Scoring Criteria which has been given in the Rulebook.

**Total Score = (300-T) + CPP\*100 + CPD\*100 + CARP\*50 + CARA\*100 - P\*30 + DB + B**

**T - Time (in seconds)**

**CPP - Correct Pebble Pickup**

**CPD - Correct Pebble Drop**

**CARP - Correct AR Projection**

**CARA - Correct AR Animation**

**P - Penalty**

**DB - Design Bonus**

**B - Bonus**

The changes made to the scoring criteria are as follows:

- **Correct AR Projection** - During the evaluation of Progress Task, we realized there is ambiguity in what is considered as Correct AR Projection. Henceforth, Correct AR Projection (CARP) is defined as projecting the correct Blender model (Pebble should be projected for Pebble AR\_Object and Water Pitcher should be projected for Water Pitcher AR\_Object) with **properly applied texture**.

**Examples are given as follows:**

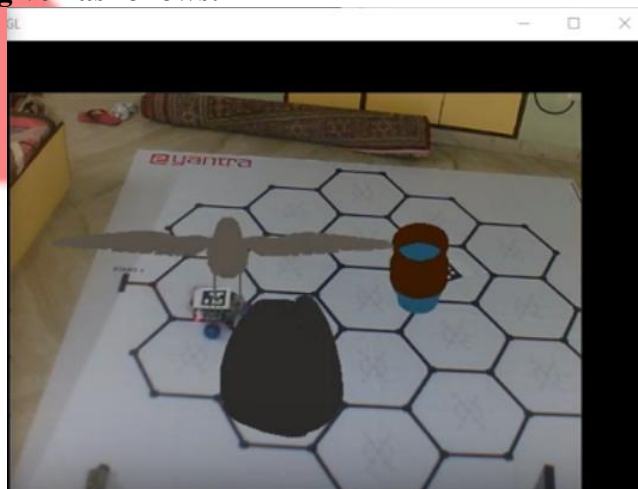


Figure 1: Wrongly Applied Texture



Figure 2: Wrongly Applied Texture

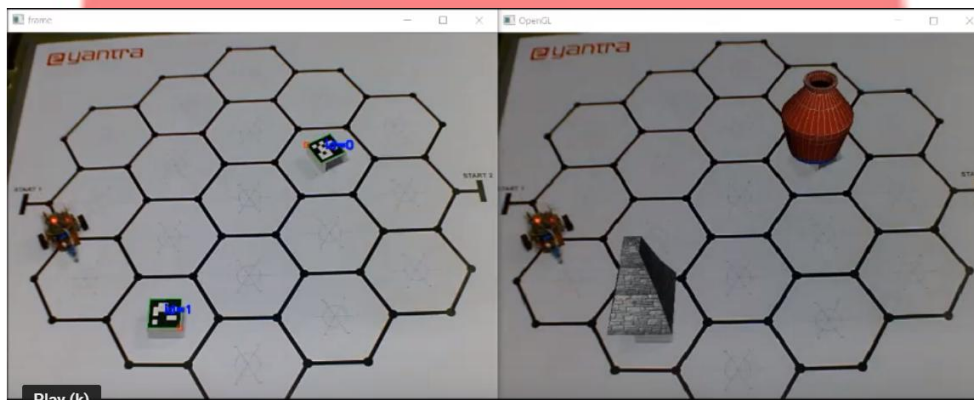


Figure 3: Correctly Applied Texture

In Figure 2, the texture has been wrongly applied to both the models. Hence such projection will not get points for CARP. In figure 1, only the water pitcher texture is applied correctly so that will get points for CARP. Figure 3 represents perfectly applied texture for both models. Hence both models will get points for CARP.

Correct AR Projection applies to the Crow Model as well. So if you have projected the Crow Model properly on your robot, that will get points for CARP as well.

- **Design Bonus** - Design Bonus has been expanded from 100 points to 250 points and has been sub-divided into following criteria.
  - **Position of Blender Model Projection (50 points)** - Blender models should be projected exactly on top of the corresponding AR\_Object. In Figure 1 and 2, we can see that the water pitcher is displaced with respect to the corresponding AR\_Object. Figure 3 represents a good AR projection where the models are projected exactly on top of AR\_Object. 50 points have been allotted for this.
  - **Size of Blender Model Projection (50 points)** - Size of Blender model should be in proportion with the Arena. As you can see in Figure 1 and 2, the Pebble models are extremely big as compared to the Arena. 50 points have

been allotted for this.

- **Flicker of Blender Model Projection (50 points)** - In many of the progress task videos, the ArUco markers are not continuously detected and due to this the models periodically disappear or “flicker”. This usually happens due to using bad quality markers or poor lighting. Flicker of the blender models should be as low as possible. 50 points have been allotted for this.
- **Aesthetics (100 points)** - 100 points have been allotted for how well the blender model has been designed and the aesthetic aspect of the AR animation.

**Note - Design Bonus points will be given entirely on the discretion of e-Yantra staff and Judges.**

- **Bonus** - Bonus of 100 points is awarded if the task is completed perfectly i.e.
  - All magnetic pebbles are picked up and dropped correctly.
  - All AR projections and AR animations are correctly shown.
  - There are no penalties incurred during traversal.
  - Task is completed within 300 sec.

**Note - Bonus is not dependant on how many points team gains for Design Bonus. For example, if a team gains only 50 points for DB but have full points for CPP, CPD, CARP, CARA and no penalties. They will still get Bonus.**