

Lunar Scout: Task5 - Mini Theme Implementation

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Jan 15

Finally...

We hope you are having fun balancing and driving your bikes!! 😊



Credits- <https://www.tenor.com/>

Task:

For Task-5 you are supposed to perform **Mini Theme Implementation (theme play)** using the LS (Lunar Scout) bike built in Task-4 & on the arena printed in Task-3.

- In addition to the development done till task 4, you will have to **interface hall effect sensor, buzzer & indication LEDs on the bike.**
- Refer to the **The Theme Play** from the **Rulebook**, to recall the theme play that needs to be performed for the **Task 5**.

To summarize, the teams have to perform exact theme play with the RUN configuration given here on Task-5 page. Bike and Remote should be built and used as per the Theme Rulebook. The bike's actions will be scored and penalized based on the **theme rules** and **scoring pattern** given in the Rulebook.

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RUN Configuration:

The configuration of the arena for task 5 is given below,

Configuration Table

Start Location	S1
Colony Sites	1, 2, 6
Obstacle	O1, O4

Requirement Table

NOTE: This will be undisclosed at the time of Grand Finale. It is given for this task just because you have to set up the Arena yourselves. **In the Grand Finale, e-Yantra Team will set up the Arena.**

Colony	Polarity
1	North
2	South
6	North

Arena Set Up

Follow the [Arena Description](#) to set up arena elements including the magnet, magnet stand, colony site cylinder and obstacles.

- Draw a mark with a different color on the cylinder at the side where magnet is oriented.

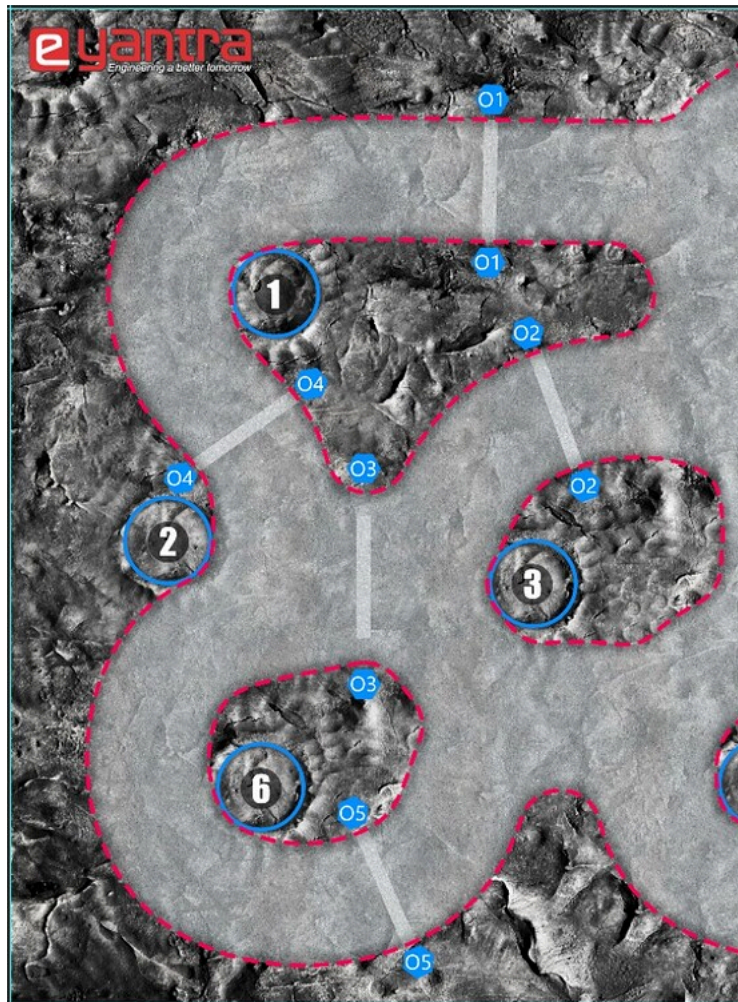



Figure : Arena Image

Task 5 Upload Instructions

In this task you should submit the following two requirements:

1. Youtube video as per the instructions

- Upload the video to YouTube with the name eYRC-LS#<TeamID>_Task5 (eg: eYRC-LS#9999_Task5). Please ensure that your video is **UNLISTED** on YouTube.
- Record a professional video in **Landscape Mode**.
- Do **NOT** upload it as Youtube Shorts or REELS or vertical/PORTRAIT mode videos ❌
- Video should be un-cut & un-edited ❌


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If these rules are not followed → It will be directly discarded as INVALID submission 🤖

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- The frame should record hardware LS balancing with only 2 points of contact with ground and performing theme play according to the configuration provided.
- Same frame should record the action performed on the remote which is used for maneuvering the bike
- Video should properly record start of run and end of run indication also. Prefer to start video few seconds before you start the run.
- Only one team member is allowed to enter the Arena, that only in the case a manual intervention is required. In any other case of team member tampering with the arena or bike will be considered as manual intervention or in serious cases - invalid run.
- One team member can give a voice-over or narrate the actions performed by the bike during the run.
 - The video length should be minimum 3 minutes, maximum 10 minutes.
 - Keep camera static for entire video duration.
 - The video should be recorded in at least 1080p resolution.

And... follow the Common THEME Video Recording Instructions: 🏁

👉 It is a long document... **DO NOT SKIP IT**, read through all of it carefully.

How clearly you showcase your work, decides the impact of your work. It's the moment when finalist teams begin to stand out.

2. Code files

- Create a folder named "**TeamID_Task5**" and place the following files in the same folder.
 - **.ino** code file(s) for bike and the remote,
 - **.m** Octave script(If using LQR),
 - CAD files(if used)
 - JPEG/PNG images of **Front, Back, Left, Right, Top, Bottom views** of the bike (Hence total 6 images).

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- JPEG/PNG images of **Top, Bottom views** of the remote (Hence total 2 images).

- Then compress the folder into .zip format and then submit this **TeamID_Task5.zip** file in the Task 5 and on portal.

For Coding Standards, follow the below given method for commenting:

Function Level Comments:

- Function Name:
- Input: < Inputs (or Parameters) list with description if any>
- Output: < Return value with description if any>
- Logic:
- Example Call:

Variable Level Comments:

- Variable Name: Description of the variable and the range of expected values of the variable.

Further deep in the code you need to explain what a particular part of code is expected to do in form of comments.

Important - You should upload both **Youtube video** and **.zip file** for Task 5

Deadline

Deadline for this task is **15 Feb 2024, 23:59:59 hours**

Task 5 Portal Upload

[🔗 \[Announcement\] Task 5 is live now!](#)

[🔗 Regarding number of magnets](#)

Listed on Jan 19

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