GSoC-2022 JdeRobot
RoboticsAcademy Challenge

You will need to accomplish this challenge as part of your GSoC application.

Robotics applications are typically distributed, made up of a collection of concurrent asynchronous components which communicate using some middleware (ROS messages, ICE, DDS…). Building robotics applications is a complex task. Integrating existing nodes or libraries, which provide already solved functionality, and using several tools may increase the software robustness and shorten the development time. **JdeRobot** toolkit provides several tools, libraries and reusable nodes for Robotics and Computer Vision.

JdeRobot **RoboticsAcademy** is an open source collection of exercises to learn robotics in a practical way. There are exercises about drone programming, about computer vision, about mobile robots, about autonomous cars, etc. It is mainly based on Gazebo simulator and ROS. The students program their solutions in Python language.

Each exercise is composed of (a) Gazebo configuration files, (b) a ROS node that is the template to host student's code and (c) theory contents. The student inserts her code in the template file and uses the provided simple API to access to sensor readings and actuator commands (HAL API) and the provided simple API for Graphical User Interface and debugging (GUI API).

For execution the student launches Gazebo with certain configuration file (specifying the robot and the simulated scenario for that exercise) and launches the ROS node hosting her code.

This challenge is focused in *__installing__* Robotics-Academy on your machine and solving several of its exercises (ONLY of release 2.3, the one with web based templates).
Resources:
- https://jderobot.github.io/RoboticsAcademy/
- https://jderobot.github.io/RoboticsAcademy/exercises/

Results:
- A link to your YouTube video launching the Academy exercise you have chosen.

If you solve an exercise, then upload a video of your solution running at YouTube and send a tweet at twitter mentioning @JdeRobot.