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QBot Platform

Play

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QBot Platform – Application Guide

Play

Why play?

Before getting into the lab content using the QBot Platform, it is important to first get a good understanding of how to interface with the robot, deploy code and models to it, and be able to understand the available hardware capabilities. This first lab is a chance for you to play around with the sensors, camera, lidar, and driving capabilities of the robot to get a good feel for how it works!

QBot Platform Overview

The QBot Platform is equipped with a variety of different hardware: two motors, corresponding encoders (position) and tachometers (speed) for each motor, a downward facing grayscale global shutter camera, a forward-facing colour and depth camera, a lidar, user programmable LEDs and an LCD display. The QBot Platform also includes magnetic attachment points on the top surface and attachment slots for adding your own hardware.

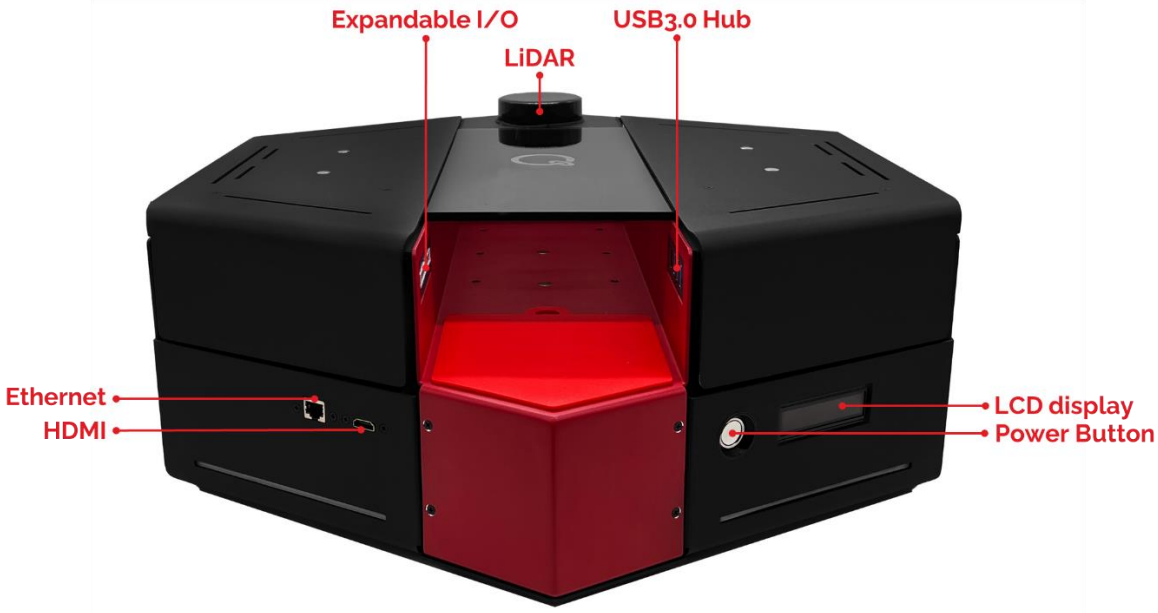

Figure 1: QBot Platform Back View

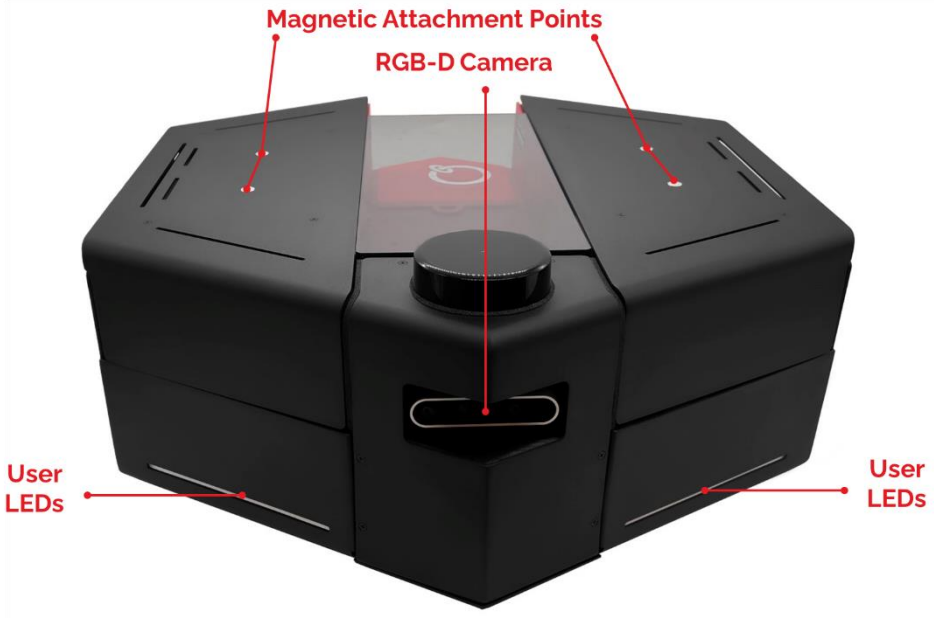

Figure 2: QBot Platform Front View

Getting Started

The QBot Platform is a differential drive robot designed to allows students to understand key fundamental topics in robotics: sensors and actuators, control systems, programming and software, robot perception, path planning and mapping and the list goes on!

Before you begin this lab, make sure that the following criteria have been met:

- The QBot Platform has been setup and tested.
    - See the **QBot Platform Quick Start Guide** for details on this step.
    - Review the **QBot Platform User Manuals** for more information.
- You are familiar with Python or Simulink.

When you are ready, start the Lab 1 Play – Lab Procedure.