

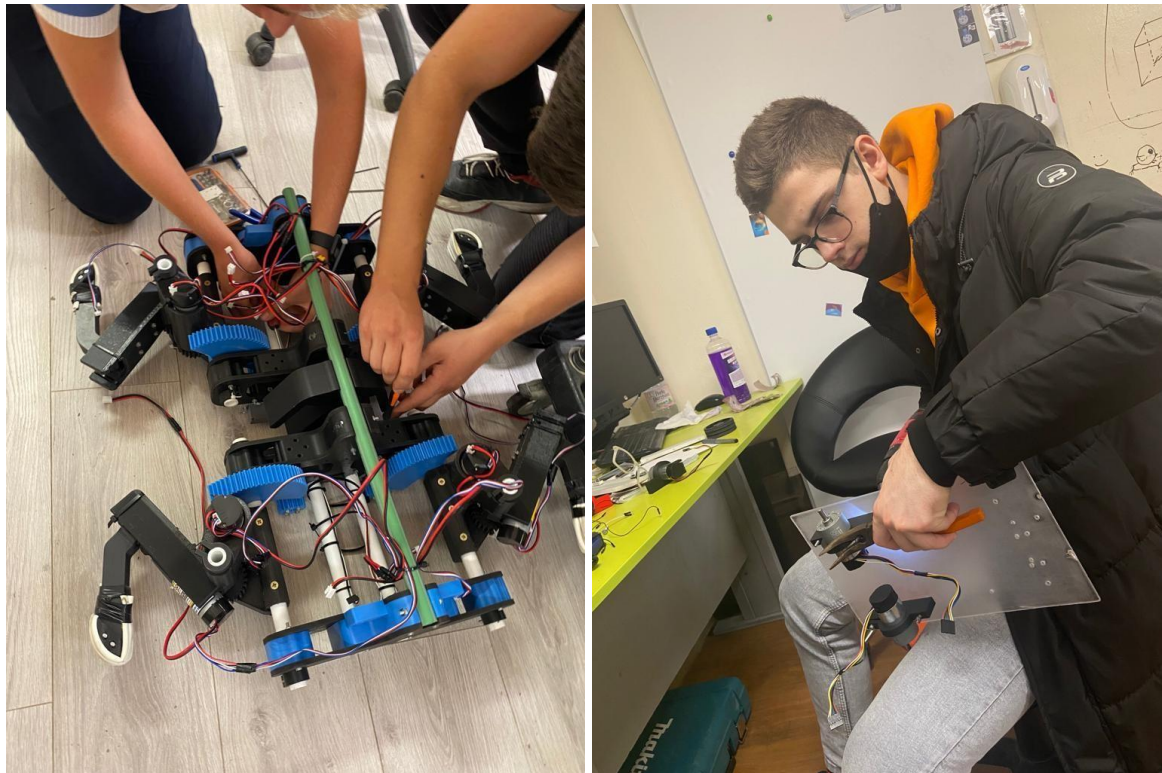


Receiving Tasks and Guidance Through Beacons

The use of beacons is not novel, yet their use for educational purposes has not been fully developed. There has been a lot of development since Apple unveiled iBeacon in 2013. Smart bluetooth beacons are currently employed in various industries across the globe, and demand is at an all-time high. Smart beacons, also known as "bluetooth beacons," "BLE beacons," or simply "beacons," are small, wireless bluetooth devices that broadcast a signal that other bluetooth devices, such as smartphones, can "see." Beacon technology does not broadcast noise. It's sending out a unique identifier that tells the receiver which beacon it is in close proximity to. The smartphone app, upon coming within range of a beacon, will read the beacon's data, examine the data to determine the action to be taken, and then take the appropriate action.

One way that people might be able to influence energy use is through the use of a well-designed network of beacons that establishes a robust connection to a bigger control mechanism. Beacons can determine user location, which can then be sent into a centralized set of controls for modifying aspects of the workplace environment, such as temperature and lighting. A vote can be taken on whether or not to increase the temperature. When there is no demand for lighting in a given area, it is not turned on. Students are more likely to attend events if they are alerted when they're nearby.

Our school plans to adopt this system in student life. They are going to implement NFC tags in classes and labs through which, just by being close to the phone, the students receive data about the experiments and the tasks to be performed. This system could also be implemented in the school hallways, the students receiving directions about where they are, thus being guided to the laboratories, classes, dormitory and canteen of the high school.



The CyLis robotics workshops that are under the tutelage of the Grigore Moisil Iasi Theoretical High School of Informatics could use this system to monitor the entry of members into the laboratories. In the construction of the robot, this system is also used as odometry, to find out its exact position in the field.