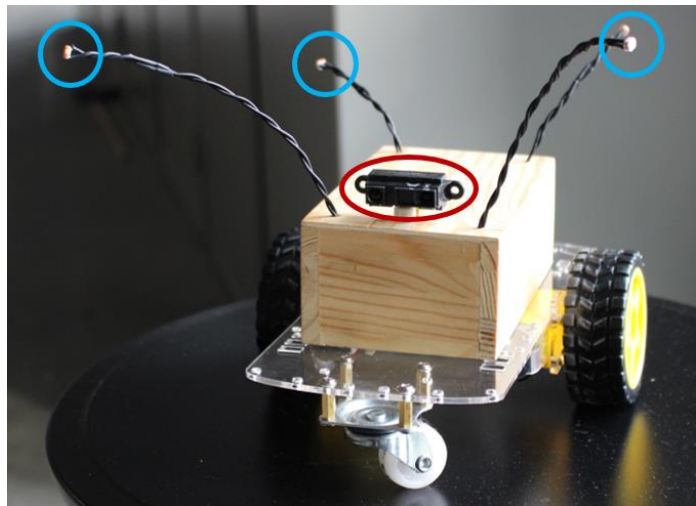


B.U.G.

B.U.G. is a small, self-driving robot and was developed as a final project for the course “Robotic Arts Introduction”. B.U.G. is equipped with four photoresistors and one infrared distance sensor to detect his environment. The input information gets processed and translated into an according movement using an Arduino UNO in combination with a custom made Arduino shield .



Photoresistor

Infrared Distance Sensor

Not only through his visual appearance B.U.G. reminds one of a bug, but also through his behaviour.

B.U.G. is a night-bug and therefore he does not like light, and will always try to stay in the dark. In a lighted room he will display a seemingly confusing behaviour trying to find the dark. Watching B.U.G. in this state is interesting, due to him noticing slight changes of light intensity in the room, which are not noticeable for the human eye. Therefore, his decisions of where to go sometimes seem random to us. Eventually, though, he will walk along the walls, stay in corners, or hide in the shadows under tables or other objects in the room. Having found a dark enough place, or in a being in a dark room, he will stay still, as long as not being disturbed.

Additionally, to his light sensitivity B.U.G. is also afraid of unknown objects and will try to avoid colliding with them. This collision detection will work the same in the light and the dark, and cause B.U.G. to turn around, away from the obstacle.

Due to these light- and collision sensibilities, B.U.G. gets disturbed by external light sources and close objects. Therefore, when being in a dark place and standing still, he can be controlled by pointing a flashlight near him, or putting one's hand in front of his face.

The contrast of the confusing behaviour in the light, and the possibilities of interaction in the dark, gives the robot an animal, or even pet-like, character. For me personally, he obviously is a night-bug. But talking to different people during the development of this project and the behaviour of the robot, everyone had a different reaction of what characteristics they saw in him. One person said, it is a shy robot, because he hides in corners and the dark. Other people said, it reminds them of a vampire, due to seeking the darkness.