

Task A : Small retrieval robot

Objective: Design a small robot (should fit in a box measuring 14x14x14cm) that can lift an object right underneath it to its own height. The robot must be able to receive and send commands to/from a nearby receiver wirelessly. The robot must be able to execute the whole lifting procedure by itself when a command is given. The robot should not require any exotic components and it should be possible to build the robot using standard production methods.

Previous work: No previous work is done with regards to the robot itself but significant work is done on the environment in which the robot will operate and the characteristics of the objects that the robot must lift, all of which will dictate certain specifications for the robot as well as design limitations.

Work extent: Time commitment is as expected of a standard technical semester project. Upon completion, if desired, a master thesis can be arranged where the student will build the prototype designed during the semester project and test/evaluate/modify the built prototype.

Recommended knowledge/competence:

- Mechanical Engineering
- Electrical actuation
- Embedded systems
- Wireless communication

Conceptual drawing of the robot system:

