

# SECURITY SOFTWARE DEVELOPMENT FOR ARDUINO-ROBOT MOTION CONTROL

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The given work is devoted to the software development for Arduino-Robot motion control. There is considered the mobile robotics application, the general approach to a mechanical design, security software mechanisms for developing, the description of Arduino-Robot platform and the methods of motion control is explained. The main steps for development Arduino-Robot is described in this paper. During execution, these steps it is developed the software for Arduino-Robot control with application of different motion algorithms and programming procedures.

Mobile Robotics is an active long research, where people find new technologies to improve mobile robots intelligence and application. Robots now move in a dynamic way where they are autonomous.

Locomotion is a method that robots use to transport themselves from place to place, a major goal in this field is in developing capabilities for robots to autonomously decide how, when, and where to move. Autonomous robot locomotion is a major technological obstacle for many areas of robotics, such as humanoid. Types of locomotion include walking, running, hopping, swimming, sailing, flying, skating etc. Moreover, one of the popular approach for the development of mobile robotics is used based on Arduino platform. Because Arduino is an open source computer hardware and software community that manufacture and design microcontroller kits for building digital devices and objects that can sense and control object in physical world.

For achievement of aim of this paper was done such steps, as: considering the mobile robotics application; considering description of Arduino Robot platform, different types of Arduino hardware and the IDE, advantages and problems; development the Software for Arduino Robot control with application of different motion algorithms and programming procedures [1-2].

According to this aim of the paper, the following steps are assigned:

- Mobile robot and Arduino.
- Installation.
- Development of coordinates and line following.
- Range finder.

The aims and assignment were all appropriately done and made visible and possible because of the availability of the robot language allowing us to

program the microcontroller enhancing the use of an open source Arduino application which has the libraries needed to achieve the listed goals.

The program were written and implemented with the aid of integrated development environment enabling connection between the application and the microcontroller with the use of a USB cord which is a direct link to program the microcontroller. Thus this allows the full implementation of the aim listed above and the Arduino robot fully understand the programming language and perform the function needed [3-4].

### **Conclusion**

The main aim of the project was to realize the use of Arduino platform to make an approach on mobile robot. This is a huge impact in the world as a whole where robot literally does all the dangerous work a man is meant to do be in industrial purpose, medical purpose and a lot more. Here in the project we are fortunate to use Arduino as a whole concept of the project and see how it helps in robotics.

The issue of security is needed to secure our code from being corrupted or turn invalid, the security mechanism is added to the on-board microcontroller, to signal overloading of data to the chip.

### **List of Reference**

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