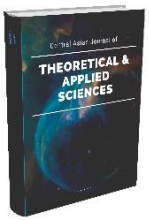

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Wheelchair Control Automation

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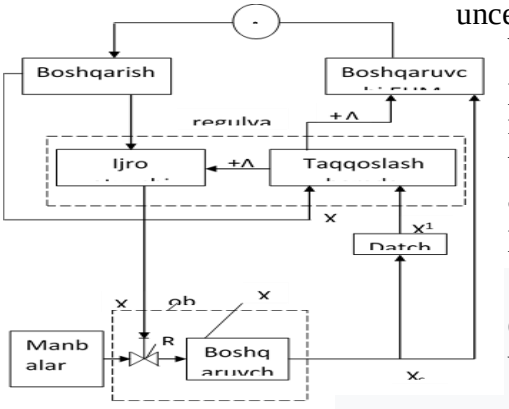
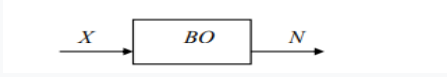
Abstract: *Today, the field of information technology plays an important role in the development of our country. The widespread use of electronic devices in medicine has not only economic but also social significance, as it changes the content of labor, that is, the development of its work. Widespread use of electronics in medical and household services, energy frees a person from partial physical labor and spends his free time on his spiritual and spiritual level.*

Physical movement control is a controlled automation of wheelchairs for people, i.e. people with disabilities. The Arduino Uno controller can be connected and adjusted to the ATmega328 microcontroller and the L298N Dual H Bridge DC Motor Driver.

Automatic operation of the control

I use the Analytical method to use the control machine. The analytical method is much cheaper, but these uncertainties can arise. The experimental method has high accuracy, but the costs here are much higher. The object of control and the process in it can be represented by generalized coordinates. For most objects, two generalized coordinates are sufficient. One of them (input parameter) indicates the amount of energy and matter, and the next (output parameter) characterizes the final value of the process.

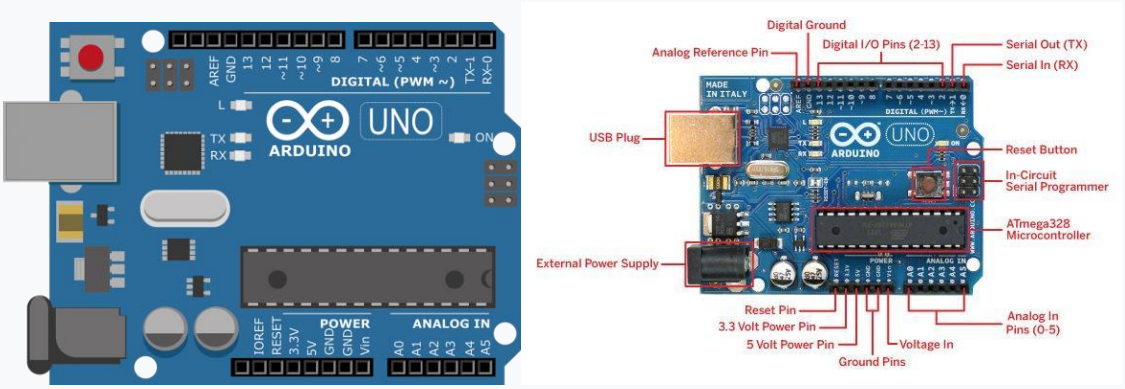




Such objects are simple automation objects 51 and can be determined using linear differential equations. Here the third variable is the magnitude of time.

Description of the control object using generalized coordinates: X, N- generalized input and output coordinates, BO- control object.

There is also an Arduino IDE (Arduino Software Compiler) running on Windows, Mac OS, and Linux to learn and write Arduino, and you can use it absolutely free of charge. Creating algorithms and applications in the Arduino IDE program is very easy and easy to operate.



Arduino Uno

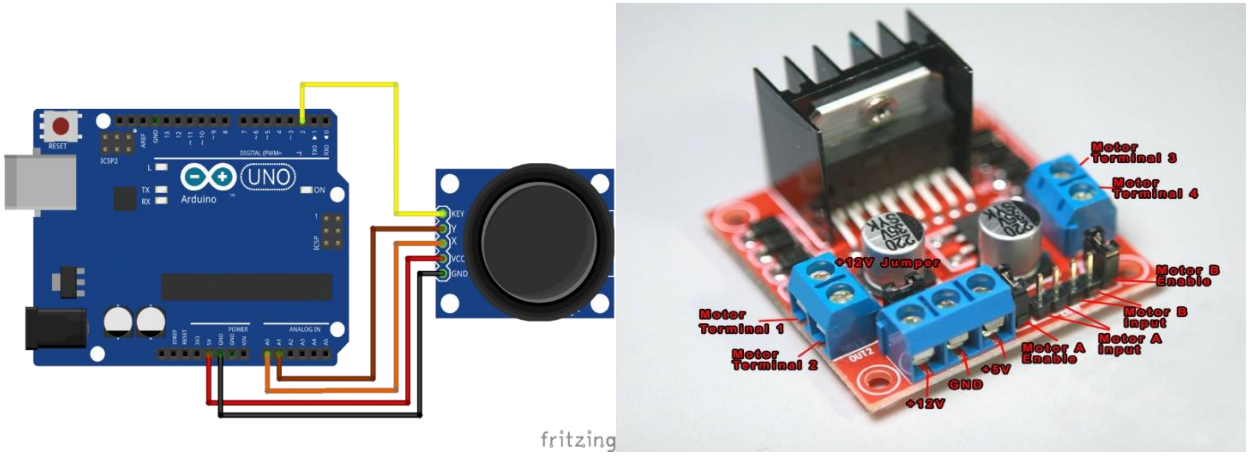
Arduino Uno is a controller based on ATmega328 microcontrollers, the platform has 14 digital inputs / outputs (6 of them can be used as KIM (Shirotno-Impulsnaya modulation)), 6 analog inputs, 16MHz quartz generator, USB port, voltage port , ICSP port and reboot button.

Creating a wheelchair management system.

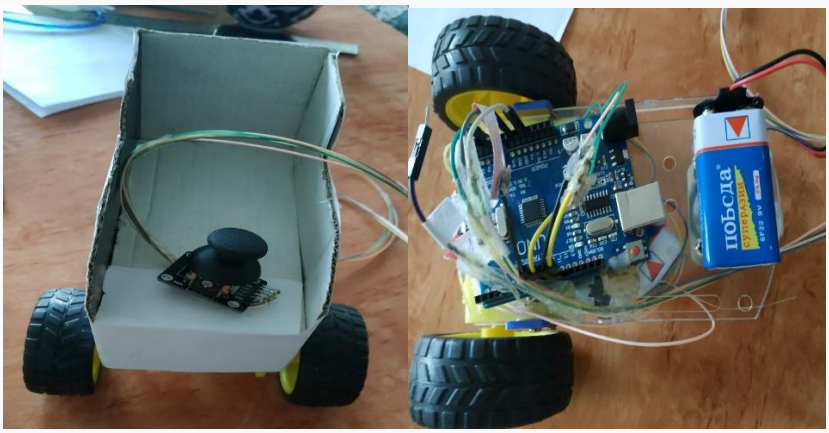
Equipment we will need to complete this project:

1. Arduino uno
2. Joystic.
3. DC Motor x2
4. L298N Dual H-Bridge Motor Driver
5. Cables
6. Arravacha model.
7. Battery.

Joystick. Moves along a two-dimensional cortina. This sensing device returns the value of this data depending on the voltage. The voltage-dependent value varies depending on the position of the joystick. The volt-dependent value varies between 0 and 1024.



L295N engine driver device



Wheelchair structure Installation of internal modules for wheelchairs

REFERENCES

1. Educational-metodical complex on informatization and librarianship module. M.A.Raxmatullayev, S.R.Arakelov, O.O.Ishniyazov. Tashkent – 2016, 41-44-pages.
2. R.McRoberts Published 2009 // by Earthshine Design. Design: Mike McRoberts
3. J.Frydon. modern sensors. Directory. M. : Technosphera , 2006. 560 c. Access control and managment systems. V.A.Varona. V.A.Tikhinov. 2010.
4. A Staff Access Control System Based on RFID Technology. Danmei Li, Huanle Yang , Kayijire Fred, Yuxing Chen.
5. RFID-technology at the sirvice of your business. Manish Bkhuptani, 2012.
6. Yahui Wen, The design and implementation of access system based on RFID, J. Information Communication. 2012. In Chinese.
7. G. Roussos, Networked RFID, Systems, Software and Services, first ed., University of London, UK, 2008.
8. RFID Based Security and Access Control System. Umar Farooq, Mahmood ul Hasan, Muhammad Amar. August 2014.