

Building of a Platform Simulating Robotic Means on the Basis of the Designer Lego Mindstorms NXT 2.0 in Terms of Motor Control

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Abstract: We consider a platform for modeling and studying robotic means on the basis of servo motors and parts from the designer Lego Mindstorms NXT 2.0 and debug board STM32VLDISCOVERY.

Key words: robotics, microcontroller, software, designer Lego Mindstorms NXT 2.0, debug board STM32VLDISCOVERY.

REFERENCES

- [1] A. L. Pechnikov, V. A. Zhmud', V. G. Trubin, A. B. Kolker. Perspektivy razvitiya robototekhnicheskikh uchebnykh stendov dlja vysshego special'nogo obrazovanija v oblasti robototekhniki, avtomatiki i mehatroniki. Trudy konferencii Scientific World – Perspektivy innovacii v nauke, obrazovanii, proizvodstve i transporte' 2012. URL: <http://www.sworld.com.ua/index.php/ru/technical-sciences-212/informatics-computer-science-and-automation-212/13341-212-831>
- [2] NXT® motor internals URL:<http://www.philohome.com/nxtmotor/nxtmotor.htm>
- [3] Synthesize-your-own NXT® connector plug URL: <http://www.philohome.com/nxtplug/nxtplug.htm>
- [4] Reversible Motor Driver for Brush Motors 2.0A or More Reversible Motor Drivers (Single Motor) BA6219BFP-Y, BA6222 URL: <http://rohmfs.rohm.com/en/products/databook/datasheet/ic/motor/dc/ba6219bfp-y-e.pdf>
- [5] LEGO MINDSTORMS NXT Hardware Developer Kit. Appendix 1-LEGO MINDSTORMS NXT hardware schematic. URL: http://cache.lego.com/Media/Download/Mindstorms2SupportFilesDownloads/otherfiles/download8CFD37F17F7EFCDC412AE7CEBF245C6A/HDK_Download1.zip
- [6] UM0919 User Manual STM32VLDISCOVERY STM32 value line Discovery. URL: http://www.st.com/internet/com/TECHNICAL_RESOURCES/TECHNICAL_LITERATURE/USER_MANUAL/CD00267113.pdf
- [7] Eclipse (sreda razrabotki) – Wikipedija URL: http://ru.wikipedia.org/wiki/Eclipse_%28%D1%81%D1%80%D0%B5%D0%B4%D0%B0_%D1%80%D0%B0%D0%B7%D1%80%D0%B0%D0%B1%D0%BE%D1%82%D0%BA%D0%B8%29
- [8] Mentor Graphics. Embedded Software. Sourcery CodeBench Lite Edition URL: <http://www.mentor.com/embedded-software/sourcery-tools/sourcery-codebench/editions/lite-edition/>



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