

Design of Wheeled Football Robot Coordination System at Base Station Using TCP / IP

Perancangan Sistem Koordinasi Robot Sepak Bola Beroda Pada Base Station Menggunakan TCP / IP

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Wheel Soccer Division, Indonesian Robot Contest is an annual competition held by the Ministry of Education. One team in this division consists of 3 robots connected in wireless communication coordinated by base station. Besides that, base station computer also connects the robots with referee computer or called Refbox (Referee Box). Refbox as server for base station computer and base station computer as server for robots. The problem arises in base station has to play double roles, as server and client. In testing had two the results of communication from the referee box to basestation and basestation to the client so the data from the referee box can be accepted by the client *with a success rate of 93%*.

References

1. M. A. Suharbi, "sinkronisasi protokol UDP untuk komunikasi robot sepak bola beroda indonesia," Sink. Protok. UDP untuk Komun. Robot sepak bola beroda Indones., pp. 1-9, 2019.
2. T. Niemueller, "Referee Box for the RoboCup Logistics League Integration Manual 2014," pp. 1-22, 2015.
3. Ristekdikti, "BUKU PANDUAN KONTES ROBOT SEPAKBOLA INDONESIA BERODA (KRSBI Beroda)," Direktorat Kemahasiswaan Direktorat Jenderal Pembelajaran dan Kemahasiswaan Kementerian. Riset, Teknol. dan Pendidik. Tinggi Republik Indones., pp. 15-46, 2017.
4. T. Ardiansyah, I. Syarifuddin, M. R. Naufal, Y. Pramono, and O. T. Hartatik, "Pergerakan Otomatis Robot Sepak Bola Beroda Melalui Komunikasi dengan Referee Box Menggunakan Base Station," 5th Indones. Syposium Robot. Syst. Control, no. June 2018, pp. 82-86, 2017.
5. W. Dai, Q. Yu, J. Xiao, and Z. Zheng, "Communication - less Cooperation between Soccer Robots," no. July, 2016.
6. N. M. Figueiredo, A. J. R. Neves, N. Lau, A. Pereira, and G. Corrente, "Control and monitoring of a robotic soccer team: The base station application," Lect. Notes Comput. Sci. (including Subser. Lect. Notes Artif. Intell. Lect. Notes Bioinformatics), vol. 5816 LNAI, no. May 2014, pp. 299-309, 2009.
7. K. R. R. A. Rahmansyah, W. Darwin, and A. R. Box, "Penggunaan Bahasa Pemrograman Python Sebagai Pusat Kendali Pada Robot 10-D," pp. 23-26, 2017.
8. Y. D. Santoso, S. Nugroho, H. K. Wardana, and M. Fielder, "Communication Between Wheeled Soccer Robot," pp. 287-299, 2017.
9. A. Jaedun, "Oleh : Amat Jaedun," Metodol. Penelit. Eksperimen, pp. 0-12, 2011.
10. R. Pi, "DATASHEET Raspberry Pi Compute Module 3+ Raspberry Pi Compute Module 3+ Lite," 2019.
11. H. Listiyono, "Program Socket Untuk Mengirim File Dengan Visual Basic Pada Sistem Operasi Windows," J. Din. Inform., vol. 1, no. 1, pp. 1-5, 2009.