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DEVELOPMENT OF A SHOOTING SIMULATION SYSTEM BASED ON THE ARIES 210 PLC WITH AN OPERATOR'S ARM

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This paper presents the development of a shooting simulation system designed for use in training complexes, sports, and educational purposes. The project is based on the use of the OVEN 210 programmable logic controller (PLC) and the operator's automated workstation (ARM), ensuring high reliability and ease of control.

The system simulates the shooting process while recording participants' reaction time, making it useful for training speed and accuracy. The use of limit switches and a SCADA interface ensures clarity and ease of interaction with the system.

Key stages of the work include:

- Analysis of existing solutions and selection of the optimal system architecture.
- Development of structural and functional diagrams.
- Implementation of software for the PLC (CoDeSys) and the ARM interface (SCADA).
- Testing the system for compliance with response time (<100 ms) and accuracy requirements.

The project demonstrates the application of modern automation technologies in educational and training systems, as well as the development of professional competencies in the design and programming of microprocessor systems. This work can be used in educational processes to study the principles of PLCs, SCADA systems, and automation fundamentals.

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