FROM TEACHERS FOR TEACHERS

TECHNOLOGIES IN STEM EDUCATION

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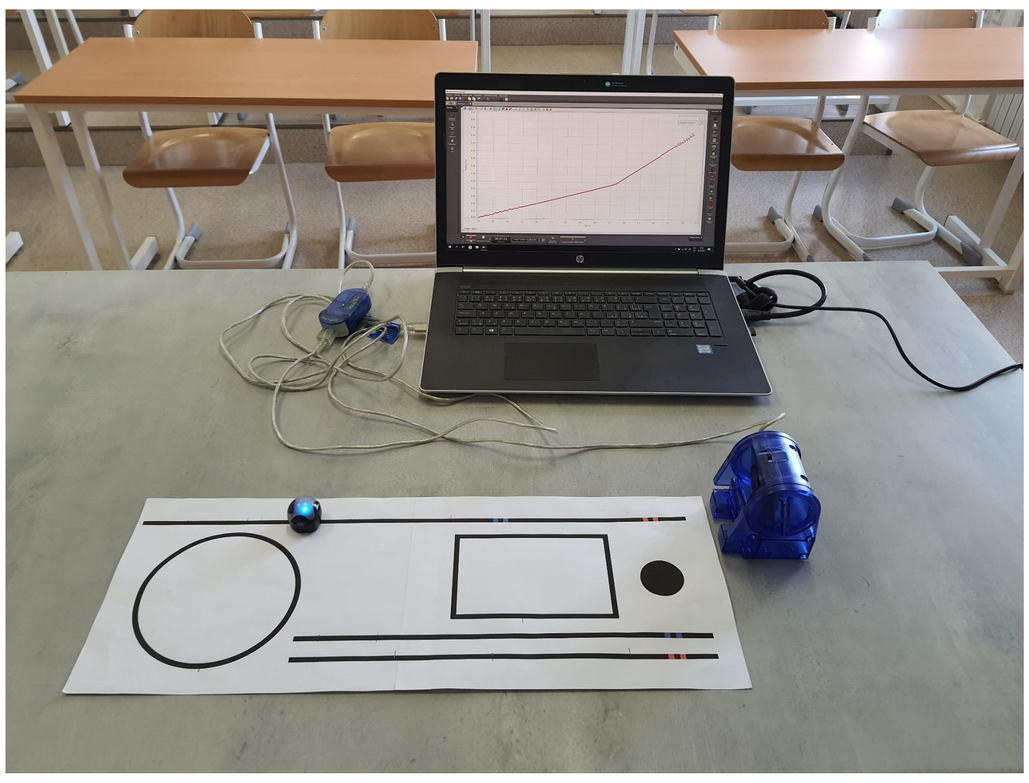
Kinematics with Ozobots

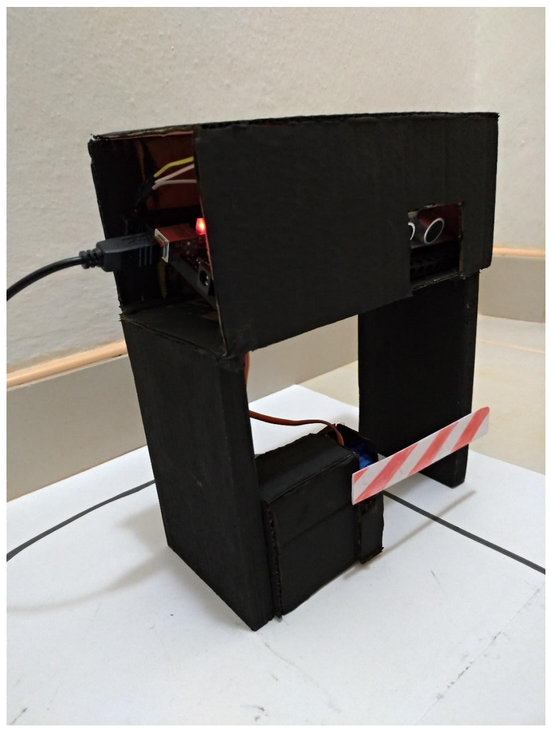
The project presents various activities with simple robots - Ozobots, which were used in teaching Physics, especially Kinematics. The different applications can be divided into three areas.

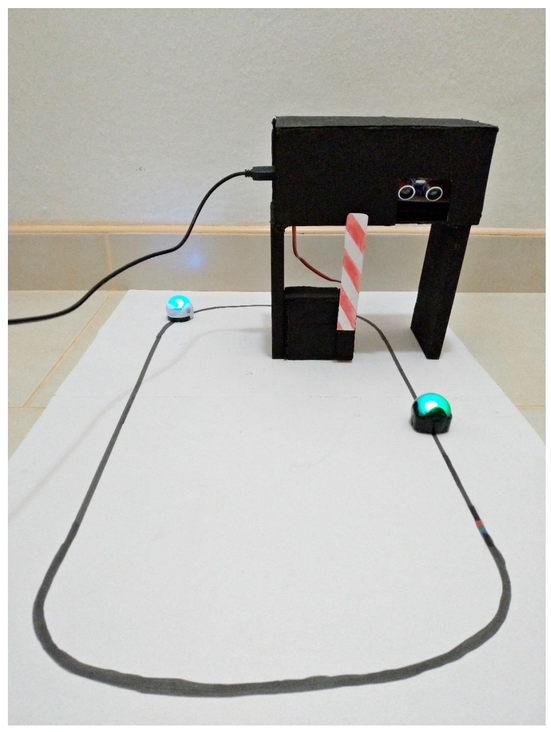
I. First, small robots can be well used for independent **student exploration** of uniform body motion - determining velocity, trajectory, or time of motion, composing velocities, and verifying simple motion problems. In addition to simple measurement tools, drawn trajectories with colour codes are sufficient for such experimentation to control Ozobots.



III. The most advanced option is to use Ozobots in combination with an Arduino-type programmable platform to create **simple autonomous systems**, for example, as part of independent student projects. Here the need to link Physics, Engineering Science and ICT technologies is well applied.

II. Using laboratory measurement systems, students or teacher can easily graphically interpret the uniform motion of Ozobots at different speeds. Due to the programmability of Ozobots, even non-uniform motions can be demonstrated.





Conclusion: Ozobots, due to their small size, ease of use and relative accessibility, are excellent teaching tools that motivate students and allow them to explore motions of real objects instead of solving only theoretical problems.

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