



Virtual Lego Robotics Club with College Park Academy



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Site Information:

Name of Site: College Park Academy (Virtually Conducted)

Address: 5751 Rivertech Ct, Riverdale Park, MD 20737

Supervisor: Dr. Timothy Reedy

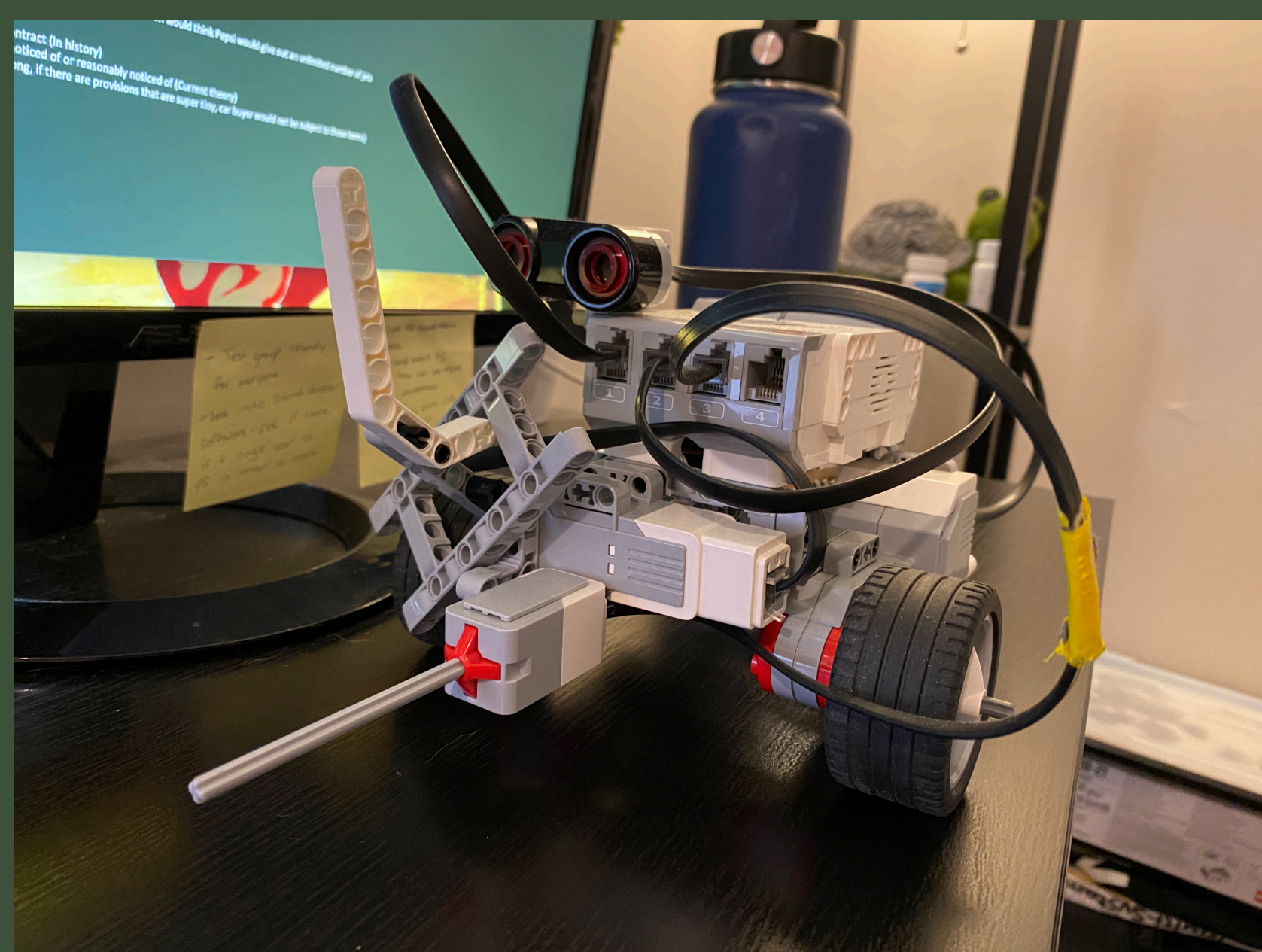
Vision: *To be a high-quality, highly rigorous college-preparatory public school rivaling the very best in the nation in collaboration with the University of Maryland, College Park (UMD)*

Website: <https://collegeparkacademy.net/>

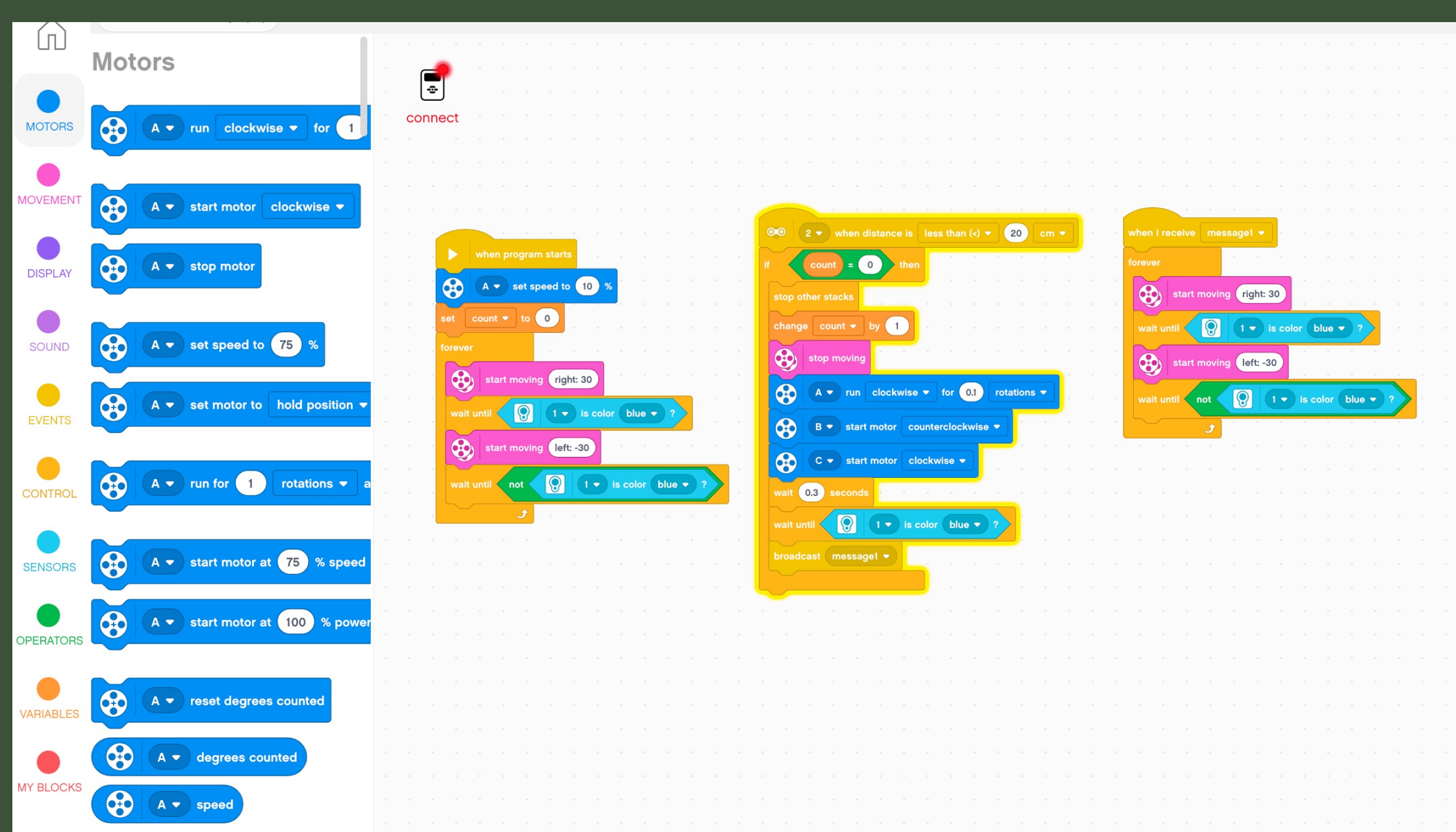
Typical Day:

The robotics club ran once a week every Thursday from 4:00 P.M. to 5:00 P.M. Most days looked like the following:

- Log on to group Zoom and await CPA student virtual arrival
- Break off into groups and start with ice breaker
- Showcase exemplary videos of EV3 Robots completing tasks
- Quick lesson about specific sensor and/or coding
- Mini-Challenge for students to try
- Wrap-up and return to main Zoom room



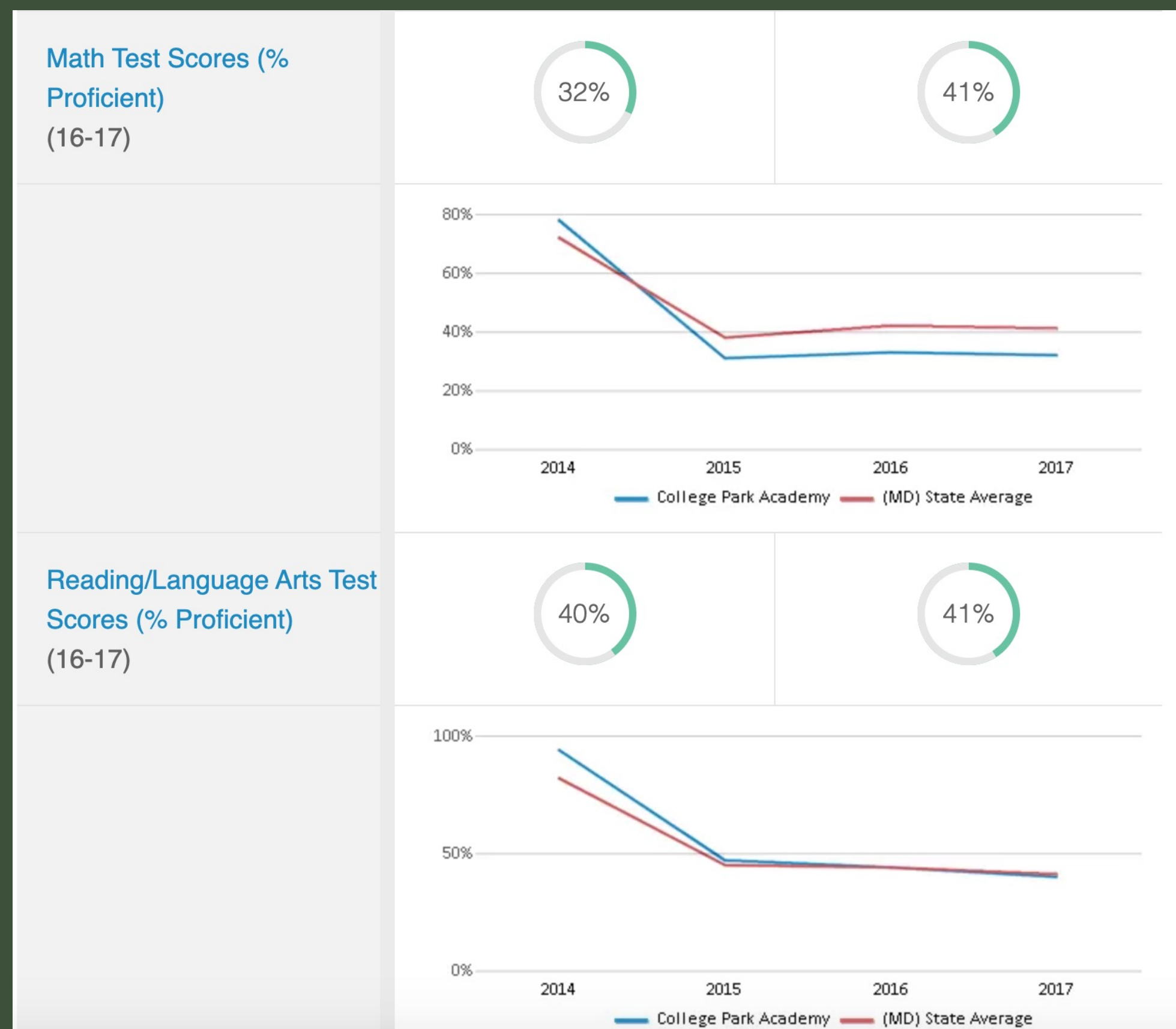
EV3 Robot with touch, ultrasonic, and color sensors attached



Screenshot of software used to program robots

Introduction:

For my practicum, I participated in CPSS240, a service-learning course that focused on the contemporary issues surrounding STEM education. I was involved in the planning and execution of lesson plans utilizing Lego EV3 Robotic kits to middle schoolers at College Park Academy (CPA). Outside of service days with CPA students, I learned about the disparities of STEM participants and performance related to POCs as well as female students in our American education system.



Above is the percentage of proficiency in the subjects of Math and Science among CPA students during the 2016-2017 academic year. As evident, a majority of students at the institution test below the State average proficiency for both subjects. Graphic acquired from *Public School Review* (<https://www.publicschoolreview.com/college-park-academy-profile>)

Issues Confronting Site:

College Park Academy is a blended learning institution that includes grades K-12. The student body is primarily POCs (93%) but have lower proficiency scores in Math and Reading/Language Arts compared to the Maryland State average.

Impact on Students & Myself:

- Students were motivated and eager to learn how to code
- Picked up coding concepts very quickly. Some even had prior experience coding
- Expressed future interest and aspirations into the Computer Science field
- Made me realize how important STEM education is
- More appreciative of the education and privileges I have

Future Work:

Many of the students we worked with expressed an interest in pursuing a career in Computer Science. Although I am a business major, it would be nice to connect back with these students once they graduate high school to see if their aspirations still stand.

Acknowledgments:

I would like to extend my sincerest gratitude to Dr. Merck and Dr. Holtz for an invaluable two years in the Science and Global Change Scholar Program, to Dr. Reedy for giving me the opportunity to give back to the community in a unique way, and finally College Park Academy for making this whole experience possible despite the hardships that have come with this pandemic and a virtual learning environment.



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