



Great Value Tesla

By Group 9



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Motivation

Our motivation for this project is to help teach kids about stem at an early age. We wanted to make a robot that can be used at all ages and make it easy to learn something no matter how much you already know.



Entrepreneurship Ad

- Promise: To make the most reliable and fun robot that inspires children to pursue stem roles.
 - Credibility: We are a team of aspiring engineers that are in touch with what inspired us to pursue stem roles.
 - Differentiator: The robot will be designed for speed and aesthetic appeal to reflect the values of a sports car.
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- Price: The price of the robot will only \$25. This is so it is a low enough to not break the budget for kid but is enough to make sure the toy is reliable.
 - Risk: There will be minimum risk with are robot since it will have a top to keep all the electrics inside. As well as no sall pisces for younger kids to choke or or swallow.
 - Effort: We will make a effort to make are robot more reliable than any other robot on the market. We want it to last for a lifetime.

Final design



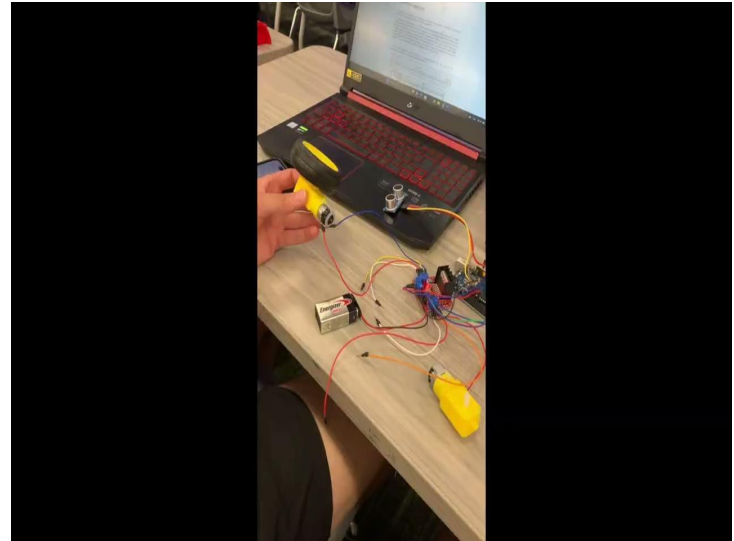
Product development

In the product's development we encountered many problems. Though in spite of them we worked together as a group to solve them. One main problem that our group faced was the robot's turning ability. This was a problem that we all worked together on and ultimately solved. After completing this part of the product's development we finished everything with minimal problems.

Engineering technology

<https://drive.google.com/file/d/1XUqPgTFbEkad5nfPyAfNnjEMuiTNMksa/view?usp=sharing>

This is a video of our prototype working.



Product specification

Values	Metric
2 mph	How fast the robot will travel in mph
On board power	The way to get the design power by itself
\$25	Budget below others designs
10 in - 200 in	The range of the ultrasonic sensor
90mm - 90mm	Max size of area design

Conclusion

Great value tesla robot is specially designed to teach kids about the future of engineering. It is able to open and reveal its internals to help teach the kids about the wiring as well the different components. It can also be used at all ages, from playing with when you are little, to being able to build your own robot when you are ready. This is the perfect robot for anyone looking to have fun as well as learn a thing or two about STEM.

Recommendations

In the future design of our robot we would implement a four wheel design, faster speeds, and better internal hardware for example instead of the h-bridge we would use an arduino shield. This would mean we would have to implement new code, since we would have to have code for all four wheels, as well as new code for the arduino shield. With more time, we may have been able to add on some decals to the car as well as paint it so it looks more professional. In a future design we would have also added some loops for tie downs to hold in all the component instead of having to use velcro. However, adding the tie down places on the chassis would add extra print time as well as more of a worry that the print won't come out the right way.