Presentation

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Recommendation

Motivation

Entrepreneurial Ad

Figure 1: Entrepreneurial Ad

Final Design

Winnie the Pooh Bear

- Based on the popular animation character.
- Easy to manufacture and can be assembled in 5 minutes.
- The honey pot carries candy.

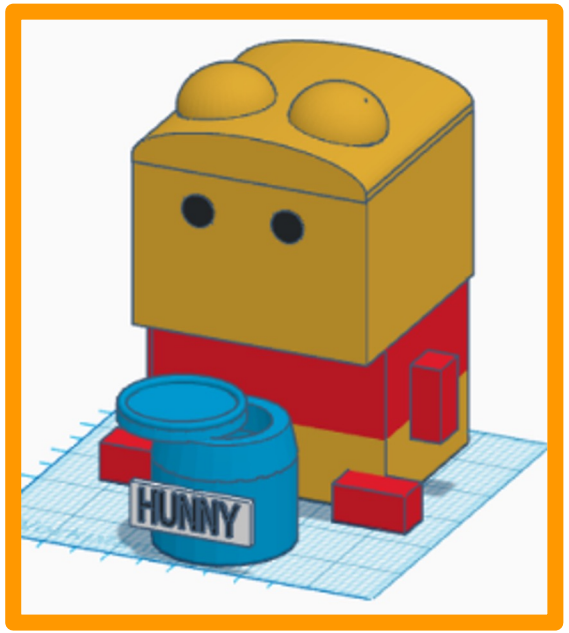

Figure 2: Final Design

Design Process

- 3D printed by PLA filament.
- The body’s dimension is 6x6x6 inches.
- The pot is a cylinder with the radius of 2 inches.

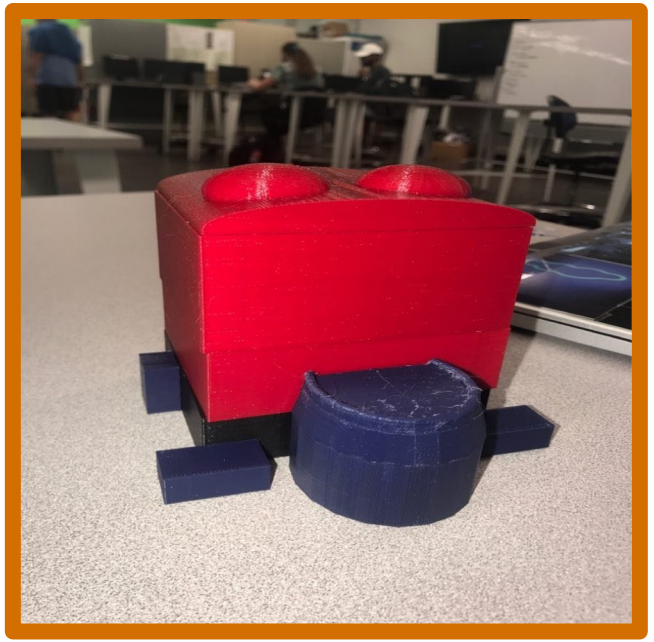

Figure 3: 3D Printed Parts

Manufacturing Process

1. Parts are painted with different color.
2. The parts are hot glued together.
3. Velcro connects two main parts.
4. Hardware is fitted into inside.
5. Chocolates are added.

Figure 4: Robots parts

Product development

- The parts fit into a 6 inch X 6 inch X 6 inch box.
- The robots assembly time is 5 minutes on average.
- We optimized our design by implementing LED lights, adding a smile, and hollowing the honey pot.

Figure 5: Prototype

Engineering technology

- Follows a line
- Detects object in front, stop and blink

Table 1: Performance & Specifications of robot

Dimensions	6.0” x 6.0” x 6.0”
Batteries	1 9V battery
Arduino Board	1(all wires wired in)
H-Bridge Control	1(controls motors)
Ultrasonic sensor	1(detects object)
Motors	2
Wheels	2
IR sensors	2(detects line)
Speed & distance	130 & 10 cm

Product Specification

Table 2: Design Specifications

Net Weight	5.0 lb.
Dimensions	6.0” x 6.0” x 6.0”
Maximum Speed	1.0 ft/sec
Power Requirement	9V Battery
Assembly Time	4.0 - 6.0 minutes

Conclusion

- The aim of this project was to design and manufacture a robot that is both appealing to kids and fuels a desire to learn about STEM. We believe our Winnie the Pooh robot does just that.

- While the design of the robot is a recognizable character for children, the functions and inner workings of the robot will aid in developing children's interest in science, technology, engineering, and math.

- Our robot is a toy, but it is also a learning tool. We are proud to be making STEM as sweet as honey!