Literature Review

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Before constructing a mousetrap car, it is important to know how it works. Donna [3] points out that a mousetrap car is powered by the energy of a wound-up mousetrap's spring and what is the most basic form should be. Although the author's design is clear and concise, it requires a woody mainframe which is hard to build for the majority. In his design, he explained how to make body then attach the wheels, in the end how to power the car by setting up the mousetrap and string attached on the rare axel. My favorite of this article is that the troubleshooting part and tips for success part, both of them are useful because they solve the real problems the audiences may facing.

In Teresa Coppens' article [2], he explained how to use fewer materials to build a functional mousetrap car. In his design, the most instructive part is how to build the mainframe of a mousetrap car. He uses four eye hooks as the axle and mousetrap connector, this smart move gets rid of the need to build an extra mainframe for this car. Another fact that grab my attention was the cost of his design because the materials he chooses are seems totally free except the mousetrap itself.

When it comes to the appearance of the mousetrap car itself, Anja Kroon [4]'s solution catches my attention when I saw her mousetrap car's picture for the first time. She uses two big records as the car's wheels, and her design let me realize it could be an artistic way to do this project rather than an engineer one. The design report is well-organized, it starts from terminology paragraph, then the material list. After that, she presents a step by step to build this artistic mousetrap car. The detail of her build process is considerable, for instance, she uses graphite to decrease friction between the rod and the axel, she also adds nuts and washers in order to let the wheels spinning more accurate. She lists the coming result of her mousetrap cars such as wheel to axle ratio, car's inertia, rate of energy release and car's friction. At the end of her report, she put some pictures of how she made the car during that process.

The competition takes material cost as a crucial part to measure the points, In North Bank [1]'s video, the author uses cheap elements to build a functional mousetrap car within 3 minutes, and what impressed me was the author's ingenuity. The hardest part is rolling the dowels in the paper and how to attach the string to the axle from the lever. The main material he uses is paper, which makes the whole process hard to manage, but the mousetrap car is considerably lightweight.

In order to adapt the mousetrap car for distance rather than speed, WikiHow [6] lists the four main modifications necessary. These modifications include a large rear wheel, use thin, light wheels, use a narrow rear axle, also create traction by giving the edges of the wheel’s friction. All the modification made this mousetrap car tend to move longer than other designs, the author also points out that some customization of the frame may prolong the car’s one-time mileage. For instance, build the mainframe as light as possible, make the frame long and narrow, use glue instead of nails for lightweight and reduce the air resistance, also keep the frame's structural integrity. In the last part of this article, the author states that maximize power is another crucial element to build a long-distance travel mousetrap car.

Despite the competition requirements, Yuri Ostr [5] demonstrate a really cool mousetrap car which made by solid metal and monster truck's wheels. The design of a mousetrap car usually focuses on its mileage or speed, people tend to be pursuit a car's performance rather than its appearance. Yuri Ostr's mousetrap car is a good example of how to design a car from different aspects. If Anja Kroon [4] shows the audience that a designer could put art elements into a mousetrap car's blueprint, Yuri Ostr presents how to build a good-looking man-like one.

Conclusion.

# Works Cited

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