The Skate Trainers

Problem statement

Hard landings on skateboards can cause falls, sprains, scars, and board breaks. Anyone who rides a skateboard is at risk for these injuries. I think skateboards can be modified to prevent damages and injuries to yourself. Modifying skateboards can help anyone in the world so no serious injuries happen to them. I was thinking adding a trainer on the wheels to prevent injuries.

Research

People who might be interested with using my design are skaters. People who would be interested in buying would be beginner skaters. I've seen that there are existing solutions, but I will make mine better. A website called,¨Skatertrainer¨ sells a similar thing to what I wanted to make. This product costs $19.99 on their website but I will make mine $4.99. I had chose this design because I am also new to skating and want to learn tricks. What bugged me was how much it cost just for trainers, which I will make mine cheaper. I would improve it by firstly making it cheaper, then I would make it out of different materials.

Criteria and Constraints

Criteria
1. Durability
2.Size
3.performance

Constraints
1.Cost
2.Time
3.Knowledge

Possible solutions

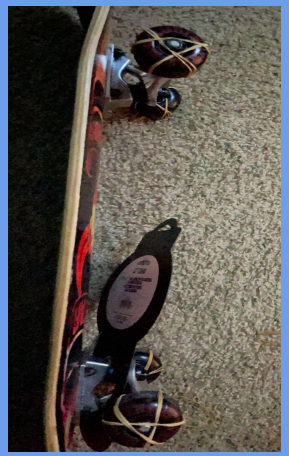
-I can use 1 layer of the rubber strip that doesn't overlay

-I can use the whole rubber strip that overlays

-I can use a few rubber bands that go onto the wheels

Designs and prototypes *Rubber bands*

To do this design you need four rubber bands and add them like a square. The rubber bands did not stay on the wheels and some had broken.The rubber bands were not good and their performance was so bad. I would not recommend these and just use nothing.



Criteria	Score out of 10	Score out of 10	Score out of 10
durability	3	0	6
size	0	0	0
performance	3	1	7

Designs and prototypes

Layer of the rubber strip

For this test I used 1 layer of the rubber strip and to make it roll it on th wheel till you reach the start and glue it a little above. The layer was mostly good except for the shuv-its. The ollie was great and the manual was the best. For the shuv-its it wasn't good because the strip kept falling off the wheel.

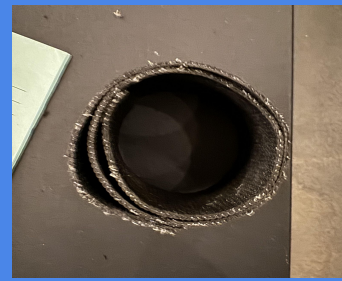
Criteria	Score out of 10	Score out of 10	Score out of 10
durability	8	6	10
size	9	7	9
performance	8	4	10

Design and prototype

Full rubber strip

This prototype is very easy to make and works very good. To make the prototype you need a whole strip of rubber and add the whole thing to the wheel and just glue under the edge This makes a big difference from all of the other prototypes. These trainers also help you land a bunch of tricks like an ollie or manual. Some specific tricks like shuv-its are harder since the trainers slide off.

Criteria	Score out of 10	Score out of 10	Score out of 10
durability	7	6	10
size	10	9	10
performance	9	3	10



Final Conclusion and Real World Application

In conclusion, the third(full rubber strip) prototype was the best working prototype.It's the best prototype because it worked for all of the tricks even the shuv its. The limitations affected my outcome because I had limited supplies like glue and rubber. My prototype could impact society or the world, especially people who love skating, have never done it before, and want to learn how to skate. A lesson I learned is making skate trainers teaches you that safe practice builds essential muscle memory.

Lab Notes and Journal Notes

My rubber bands prototype wasn't really stable as I thought it would be, so it didn't really work good. The second prototype which was the 1 layer rubber strip worked way better than the rubber bands and it helped me land tricks. The last prototype which was the whole strip worked really well and also better than the 1 layer. It also helped me land tricks faster and easier since it's more stable. These notes show that 2 out of 3 prototypes worked.

Resources and websites

skatertrainers.com

Devaskation.com

brailleskateboarding.com

Hapaboardshop.com

locosonix.com

zumiez.com