

# Vex Battery Holder

Zoey Vessey

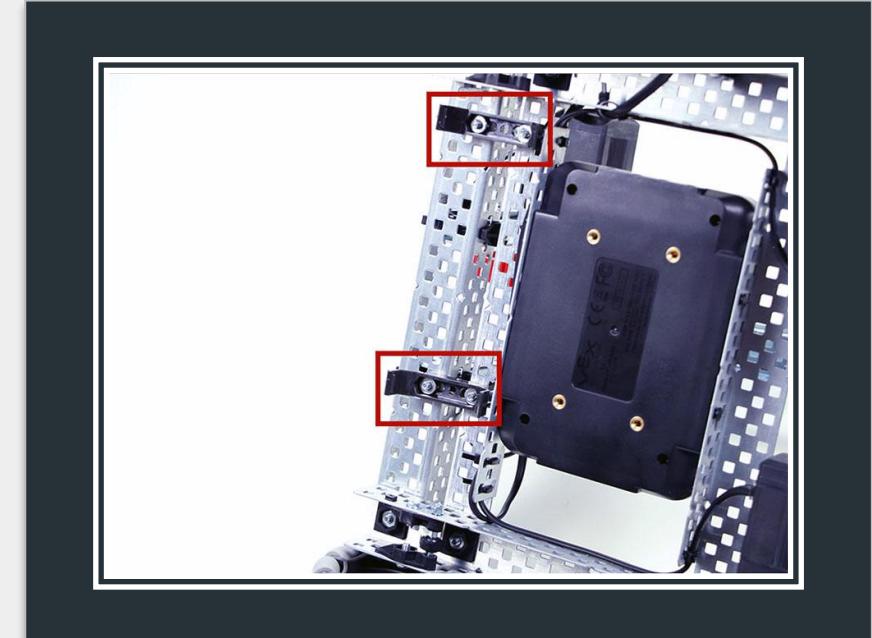
Wendy Cui

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# Situation

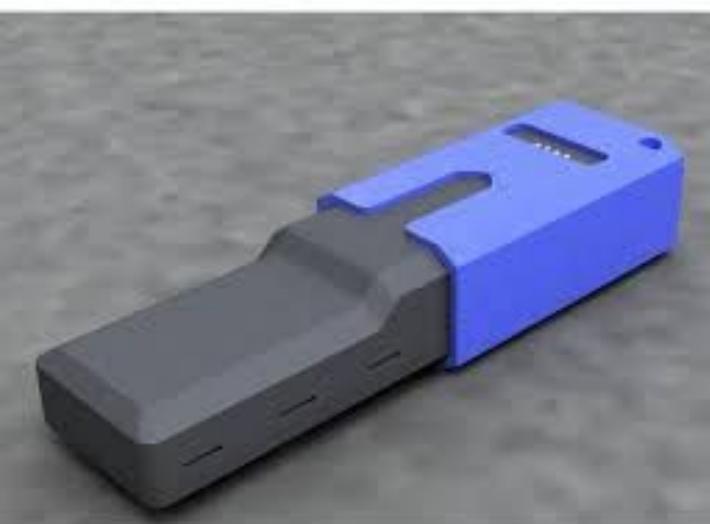
- The battery holders we have break easily.
- They make it difficult to remove and place the battery.



# Problem

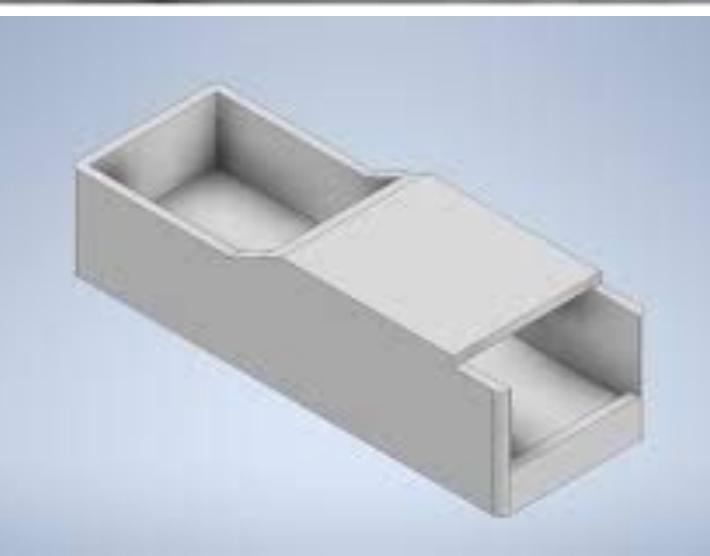
- Thicker the arms.
- Change the way to put in the battery.





## Investigation

These were some of the first ideas we saw, having the battery partially covered eliminated the problem of the arms breaking easily and ensured extra support, but they seemed too bulky which could create a new problem by taking up space.





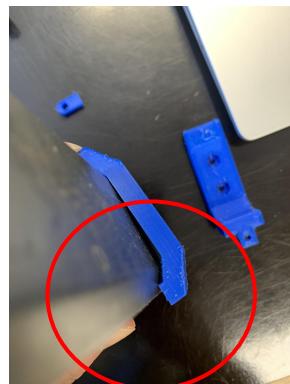
# Investigation

These ideas influenced our final design, by:

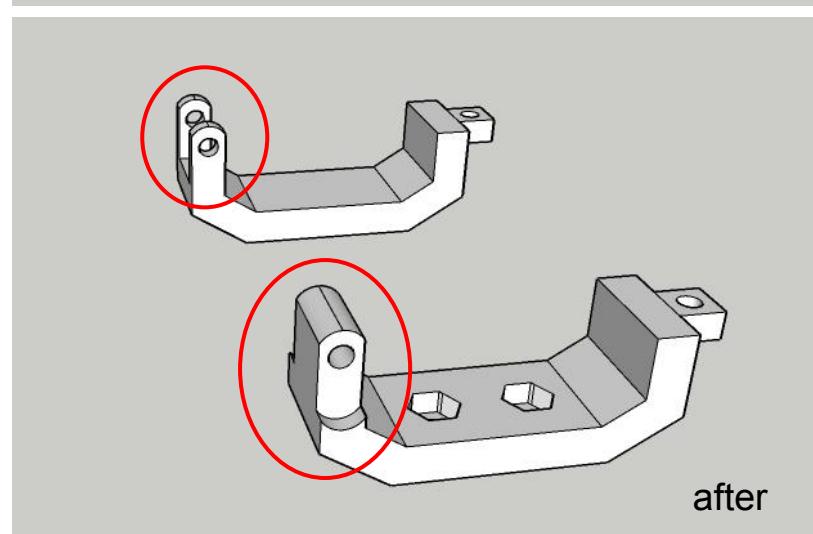
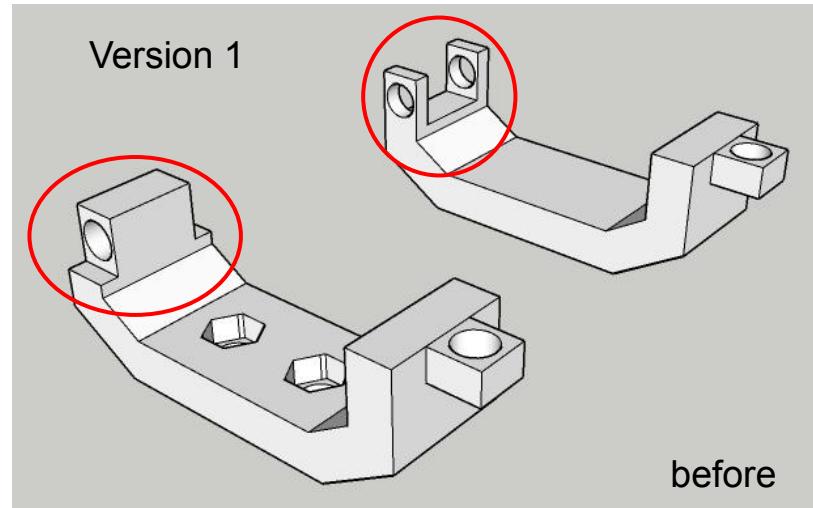
- Having support on the top and bottom to keep the battery more secure
- Getting rid of the pressure on the arms to reduce breaking
- Making placement and removal of the battery easier

# Investigation

1. Round the sides to allow rotation.



2. We had to make it wider than the original to make the clips sturdier.



# Construction

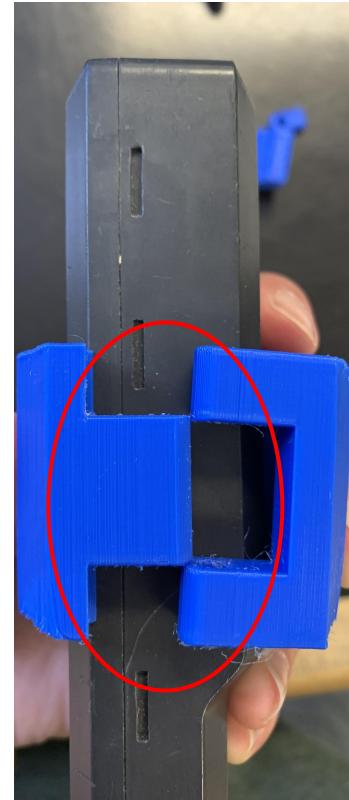
Version 2

The connection part on one side doesn't have the same size.

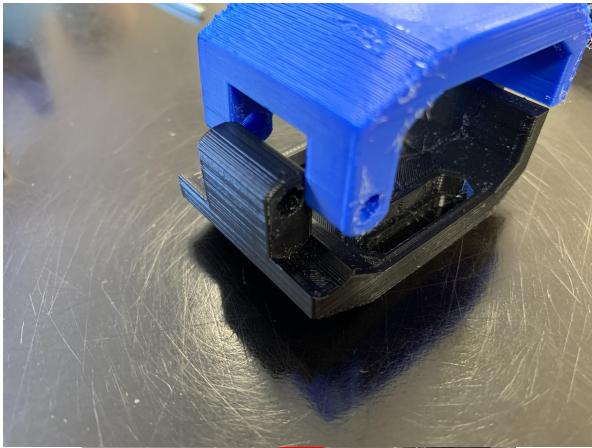
So...

Leave a 0.1-0.5mm space for the 3-D printer to round is important.

We decided to keep the place for holding nuts as the original battery holder.



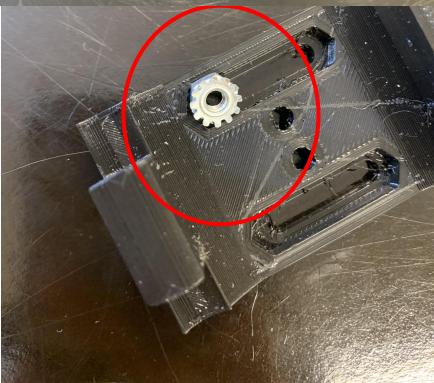
# Construction



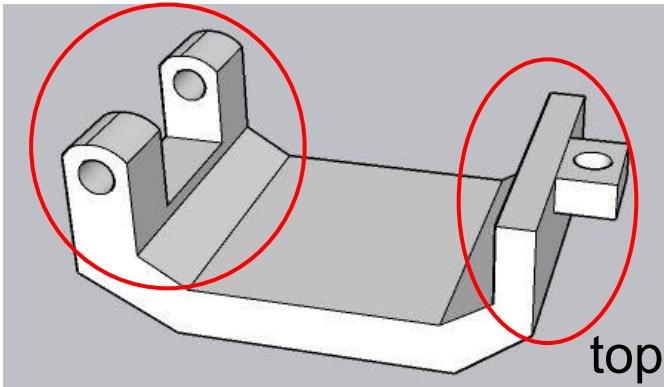
Version 3

In version 3, the battery fits, the connection fits,

But the place to hold nuts doesn't fit.

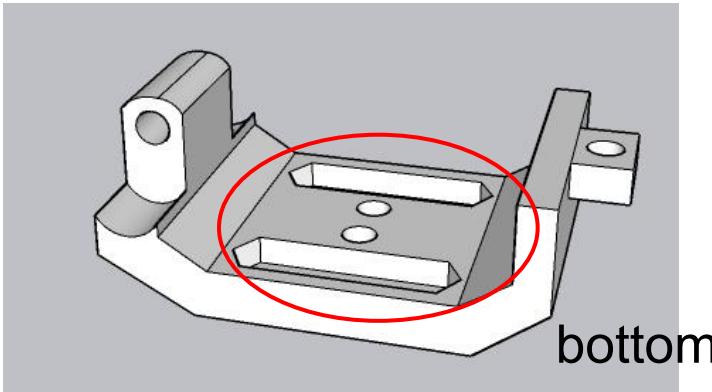


# Investigation



Version 4

1. Thicker the left side of the battery holder.
2. Measure the data of the nut again and leave 0.5mm space for the 3-D printer to round.



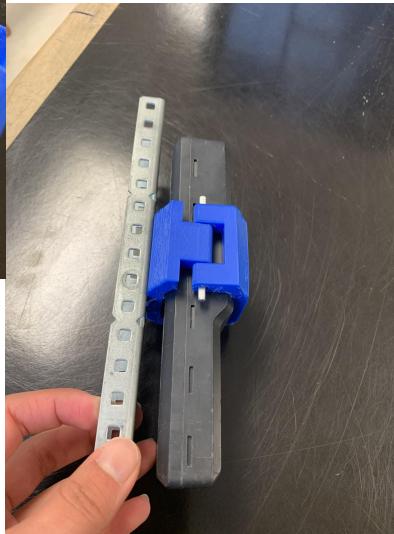
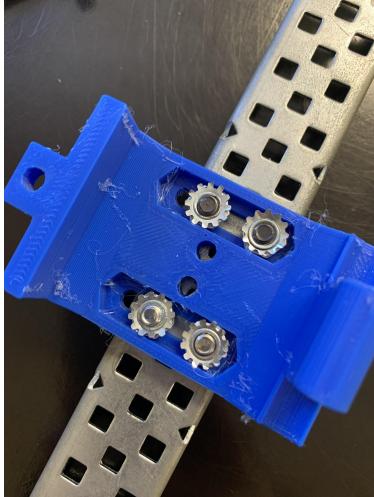
# Evaluation

Version 4:

The nut fits

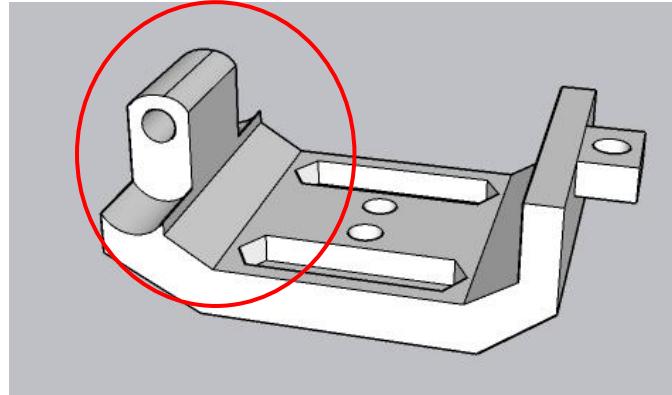
The battery fits

The connection part fits.

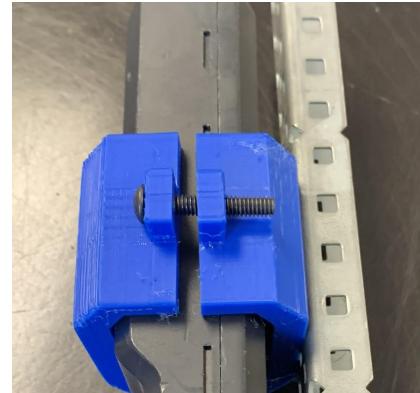


# Evaluation

1. Give the battery holder more positions to change the height of it.



2. A place to put nut.



Thank you for your time!