I decided to create an electric razor on Solidworks. I chose this particular item because as an aspiring biomedical engineering major, I want to build and design items that would ease the use for other people and be more efficient than previous products. One of these types of products is a razor which cause skin irritation, cuts, and uncomfortable pain at the time of use. By trying to alter the shape or method of the razor, I was thinking of potentially making a more useful product.

Although my razor looks very similar to the one pictured below (figure 1), my razor has a few differentiating features that make it more effective. Most razors have multiple blades for the company’s personal agenda of making more profit. More blades equal more money. My razor has one straight blade. It would make the razor cheaper and also decrease the dreaded “tug and pull” which makes razors really uncomfortable during use. Most razors also do not have a base in which it can stand vertically, only horizontally. My razor has cone-like-space at the bottom which will allow my razor to stand vertically and be more convenient. Finally, the blade is made of durable steel that last for multiple years there won’t be a need to change it every few weeks.

During the project the most difficult part was the planning and designing how to assemble the razor on Solidworks. However, once I was able to establish the methods in which to build the razor and calculated the dimensions of each part of the final product, the actual design process was very quick and easy. For this project I attempted to learn and use surfaces (a different method to design parts on Solidworks). Although I was able to learn its basic features and how it works, I did not have enough time to practice using it and implementing it. I am hoping to use surfaces for my next project.

This project really increased my Solidworks knowledge and skills. Initially, I used to start my projects by just trying to make everything fit and work and eventually with a bit of magic come out with
the final product after many attempts. However, for this project, before diving into the multiple attempts, I first visualized how I would build the final product and which features, methods, and dimensions to use. This process was much more efficient and allowed me to easily finish my final product within a few hours instead of a couple of days. Also, after a semester of adjusting to Solidworks, I am now able to locate and fix problems that used to perplex me in the beginning.

Figure 1: a normal electric razor.
Personal CAD Razor:

Isometric View:
Front View:
Side View: