Personal Cad report

The personal cad work is a 3d model of electric guitar. Before doing the project, I targeted two kinds of objects that I might do, the first one is aircraft and the second is guitar. Considering the structure complexity, I think the former option may takes more time than the latter one, what’s more, I am an electric guitar player. I think I know more about guitar and I am also pretty interested in making a 3D model of guitar.

For this electric guitar, because of the limitation of time and the limited approach to get the design draft of the original object, I have to make it form only picture on the website so it may not be perfectly accurate. As a result, there are some difficult parts in the process. The neck and head of the guitar are the most difficult part. There are several reasons. First, the two ends of the neck of guitar are not exactly the same size. At the position of the conjunction of the main body the neck is wider and at the end close to the head is narrower. As a result I need to do a loft on the right side of the body to create the neck. Another problem occurs, the head of the guitar is not 100 percent horizontal, but about 15degree bending downward. Unfortunately, I do not know how to define a precise angel of an irregular body on Solidworks, so I need to estimate the distance and use loft to make it bending down. The frets on the necks is not equally distributed neither, so I need to sketch it on a picture. For the guitar body, it is a bit converging on the surface for the actual object, however, it is too complicated to do so on the solidworks so I just make the surface flat. There are no strings in my guitar model because they require accurate measurement.

The most valuable experiences I got from this CAD work is to make a background picture and sketch on it. Many part of the guitar is irregular but I do not have a design draft, so I need a picture background to sketch on. Before this assignment, this technique was not mentioned in the PC lab class. So I spend a
little time searching for the video which talked about this technique online. Moreover, I review how to use extrude, loft and create new plane.

In conclusion, this CAD is very interesting, I am happy to have a chance to learn knowledge and spent time on designing what I am interested in.