The Oriental Pearl Tower
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Description of the Oriental Pearl Tower

The Oriental Pearl Tower is the highest TV tower in Asia located in Shanghai, China. It contains 11 different sizes spheres up from ground to sky. The unique design of the building makes it a remarkable sign in that area.

Images of the Oriental Pearl Tower
Figure 5 Drawing
I picked to do the Oriental Pearl Tower because it is one of the most famous building in Shanghai, China. And I personally went to visit the tower. It has really unique appearance and it is complex enough to fulfill requirments for this solidworks personal project. I loved it when I went to visit, and I believed that if I choose the tower as my project, and as I was doing it through solidworks, I could understand the design better and I did. I was amazed by how unique the structure is and it is actually not as complicated as I thought if I intepret it in the right way.

I started this project by doing its base. I used Extruded Base to create the three cylinders throughout the building. And then used Revolve Base to create the balls in the middle parts of the building. And the other parts on the top of the tower, I used Extruded Boss/Base to create those cubes and small balls. Once I finished base, I added different planes using different angels to make the base more firmly stand on the ground. And then I created a new part by using Circular Sketch Pattern to make those platforms in the hollow part of the tower through the three cylinders. And then I used Linear Component Pattern to mate the middle parts fits into the tower.
There were several hard parts completing this model. First one was to figuring out its structure and figuring out how to start and how do divide it into different parts. Second hard part is to setting tilted angel planes and do the calculation for the tilted plane to fit the tower. Third hard part was to create the middle platforms which fit into the hollow part of the tower. And I learned how to use Circular Sketch Pattern to make those circular platform and then use Linear Component Pattern to mate it. It was really convinient using these two new features since there were six platforms and by using these features I only need to make one and Solidworks automatically did it for me.

I learned that viewing objects through different views. Maybe one object looks really complicated in the front view, but it might be just a circle if you view it in the top view. And that is how I started my personal projects. The bases are just three circles on the top view and I just need to extrude it. Also I learned that for some problems if we look in a different angle, we might have different thoughts thus the problems would be easy enough to solve, this finding does not only apply to solidworks, but also applys to our lives as well. Also I learned that even some buildings/ objects look really complicated, if we divide them into different parts and do it one by one, it is a simple enough problem to solve.