F1 in Schools Car

Formula 1 in schools is a completion which involved the creation of miniature formula 1 car which would race down a 20 meter track. Being part of the marketing side of the competition I never got a chance to be involved in the design process of the car, hence I decided to build this car as part of my personal project.

Process of building the car

The whole process started off by making the basic curved body of the car, and then using extrude boss/bass, the height of the body was increased, following that, a cut was made in the front wing to make the car more aerodynamic. Later loft feature was used to create a cylinder shape on the car as seen in the photo.

This cylinder is used to make the car smoother and also it is the place where it holds the Carbon Dioxide cylinder, which makes the car move on the track.

There were three other parts used which were the wheels, and the rear wing and also the wheel support system. The rear wing (rightmost image) was created by making a long rectangle and then using extended cut feature, the shape of the rear wing was made and cut out.
Hardest Part

The hardest part of the project was getting a good design, since there was no physical design available while creating the car. The second part was getting the dimensions of the car right. F1 in schools has a certain set of rules in place for the car, hence making the car to the rules was a hard issue.

Learned from the Project

This project taught me how to use solidworks efficiently for designing various products and items. Also using a few tutorials (in the reference) I learned how to create curved extruded surfaces in solidworks and also animation in solidworks. After working on this project I feel more confident while using solidworks.

Drawings
References

1. https://www.youtube.com/watch?v=uTsYkFmU9m8
   This link was used as a starting point for the design of the car, using the video I learned how to make the body of the car.

2. https://www.youtube.com/watch?v=VVfCluub7XA
   Using this link I was able to create the cylinder of the car.

   This link is the rules and regulations to be followed while making the f1 car, this was used for all the dimensions and getting all the parts in place.