Session report n°3

Session's Subject : Reduction system, gears, gearbox

Goal : Obtain a 3D model of the reduction system to use as a model later

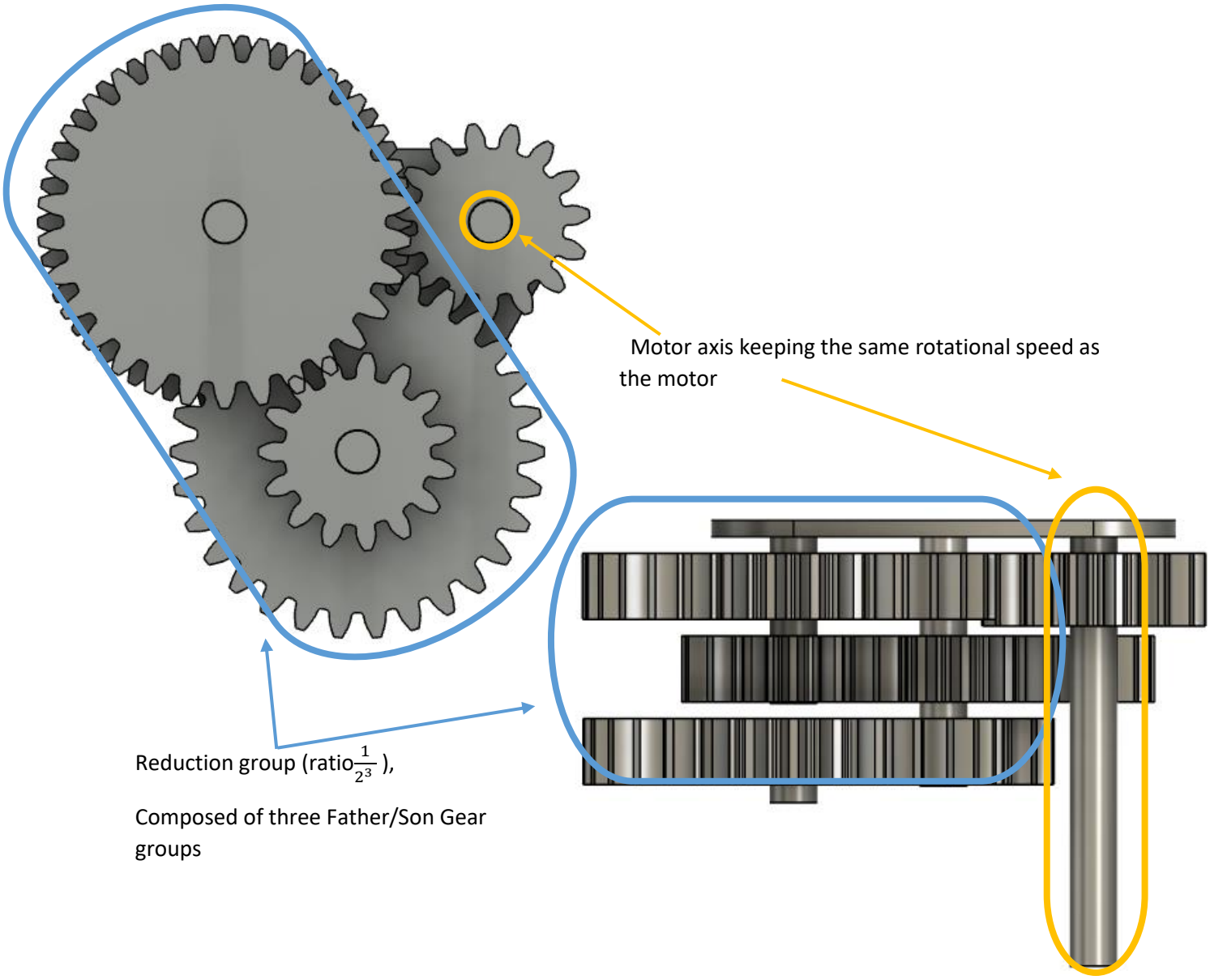
I/ Choice of reduction ratio

We choose a reduction ratio of ½ to simplify the calculations in the beginning. If we realize that the reduction is still too light compared to the rotational speed of the motors, we will increase it.

We therefore choose gears of 15 and 30 teeth, with a respective diameter of 30mm and 60mm.

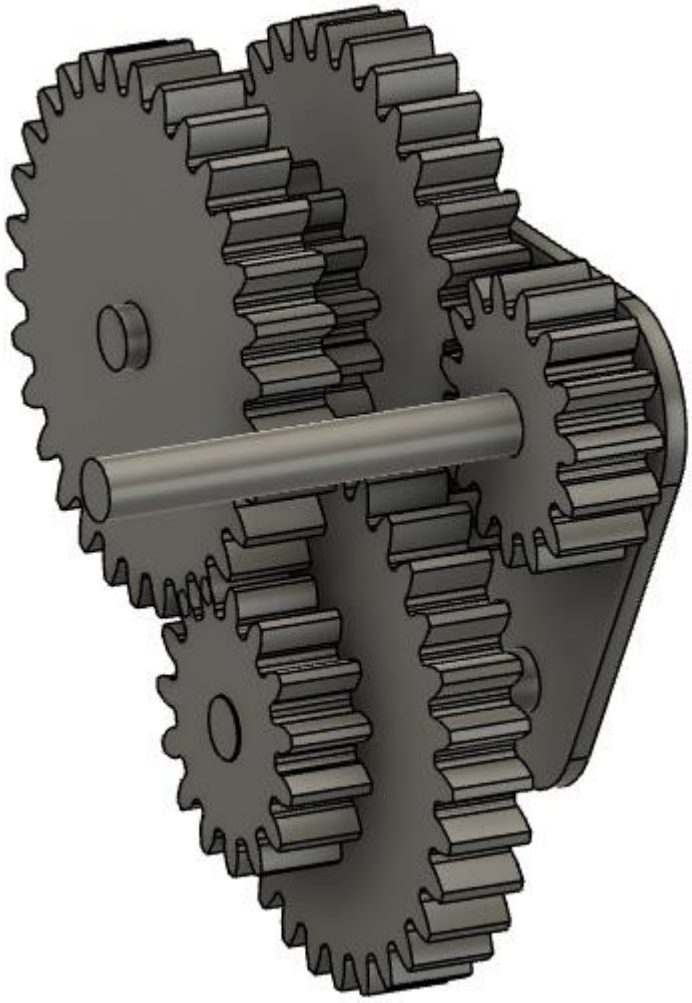
Note that it will be necessary to keep an axis of rotational speed equal to that of the motor to take the brushes (next session).

II/Modeling



Reduction group (ratio $\frac{1}{2^3}$),

Composed of three Father/Son Gear groups



3D rendering of the 1/8 ratio reduction system with triangular support