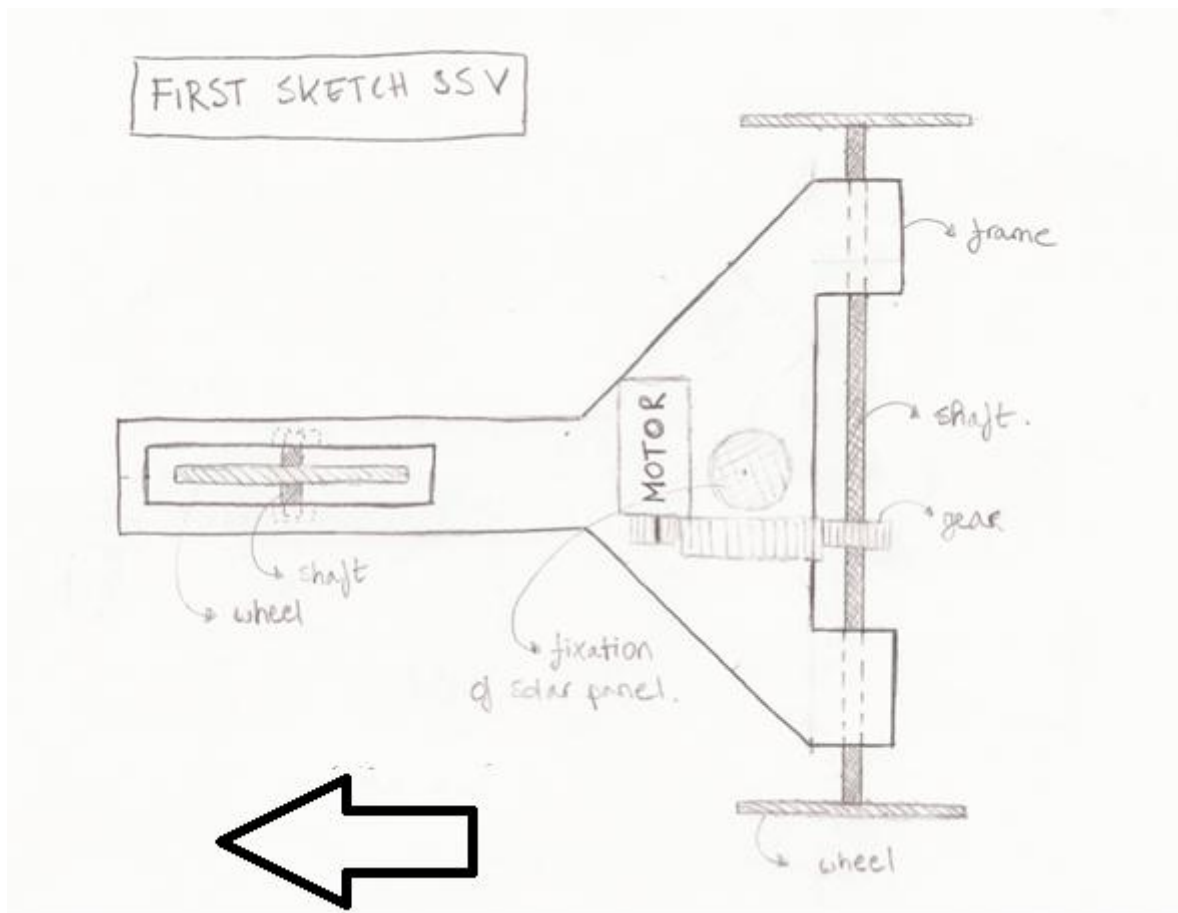


First sketch of our SSV

One of the first problems that arose when we thought about our solar car vehicle was whether we would use four or three wheels. It seemed the best solution would be a design with three wheels. This decreases the weight of the car, but there is still enough stability to move in a straight line. The form of our chassis is clearly visible in the sketch underneath:

First SSV design:

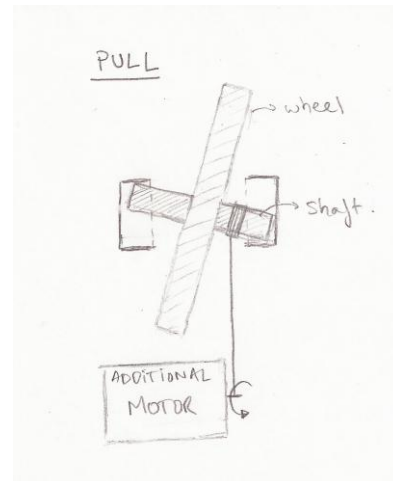
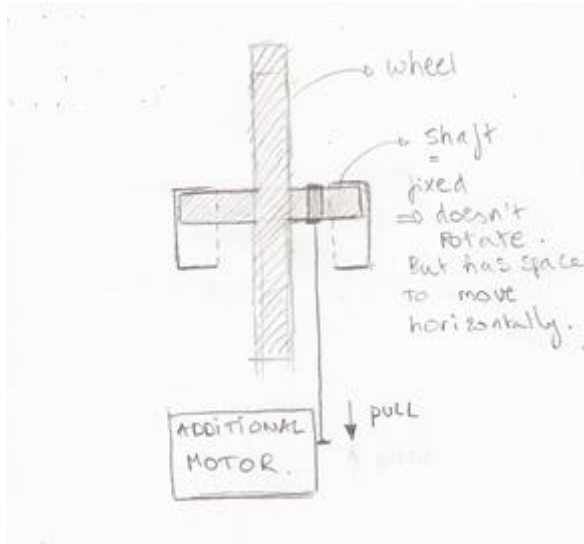


The solar vehicle will move in the direction the big black arrow indicates. This was not chosen arbitrary but has an underlying reason. When the vehicle moves in the indicated direction the center of gravity will lie more to the rear end of the car. The consequence of this is that the gravity center will have to climb less on the steep hill, meaning that the car will reach the finish faster.

The SSV's wheels will probably be made out of small Cd's. Cd's are perfectly circular, don't weigh much and have a low rolling resistance. This makes them ideal to use as wheels.

One of the other problems while designing the vehicle was the steering system. The car shouldn't hit the walls because that would mean a huge speed loss and would ruin the chances of winning the race. To make sure the car stays in a straight line a form of steering is needed. The first idea is sketched in the pictures below:

SSV steering, a first sketch

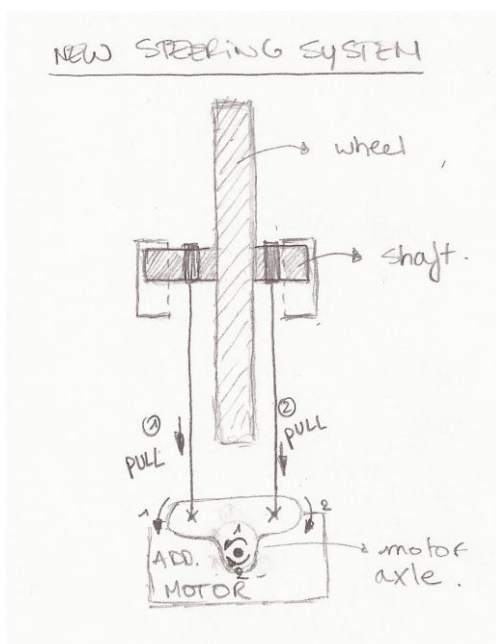


This steering system has the following problems:

- it can't use the push (in contrary of pull) method because:
 - o the push/pull-cable would prohibit the wheel from going to the right
 - o you can't push the shaft further backwards from it's start position

Solution:

- make a system that can pull the right side and the left side of the shaft.



This is one possible solution. Putting the motor's axle vertically up. This gives the option to make two pull cables. One on each side of the wheel. This solves the problem of not being able to push the right side. For solving the first problem we need to make sure that the fixed wheel shaft is long enough and the open space wherein it slides is short enough so the shaft can only move a little bit and the cables won't be prohibiting the wheel from moving.