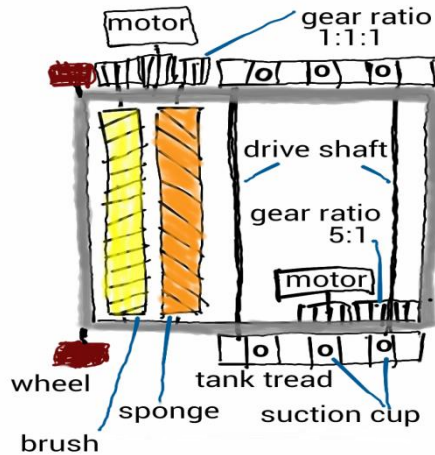


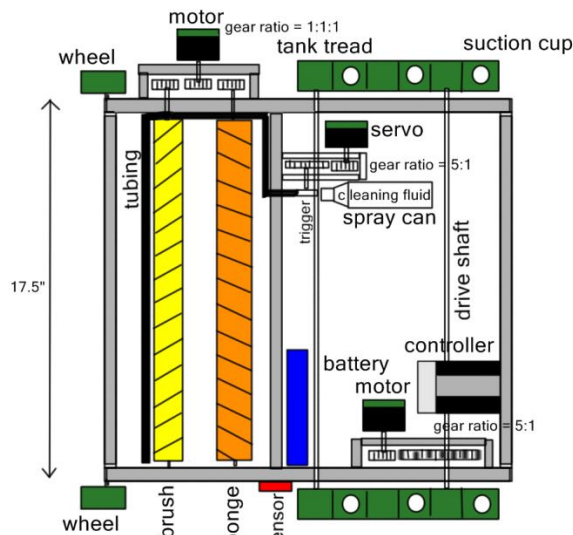
Progress of design process – Spider Maid



Spider Maid

First design sketch is drawn with Autodesk SketchBook Mobile on iPad with a finger, showing the chassis, drive train, brush and sponge.

We use suction cups mounted on tank treads as the drive train.

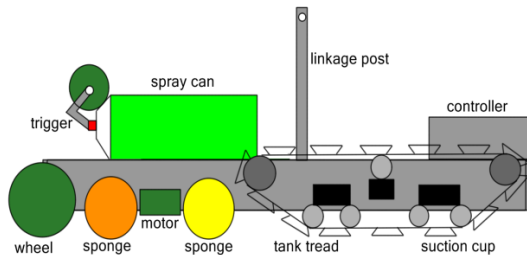


Top view of Spider Maid

We decide to draw with Autodesk Sketch Pro on notebook.

We add a spray can, trigger, servo motor and latex tubing to form the cleaning system.

Side view of Spider Maid



In the final review, we replace brush with biodegradable sponge as brush scratches windows.

Increase number of spray cans to two and move them in front of the sponge for direct application. Latex tubing is removed.

Additional motor is added to drive train to deliver enough torque as we underestimated the friction between suction cups and glass surface earlier.

A linkage post is added at the center of robot for attachment to the hanging rope from rooftop.