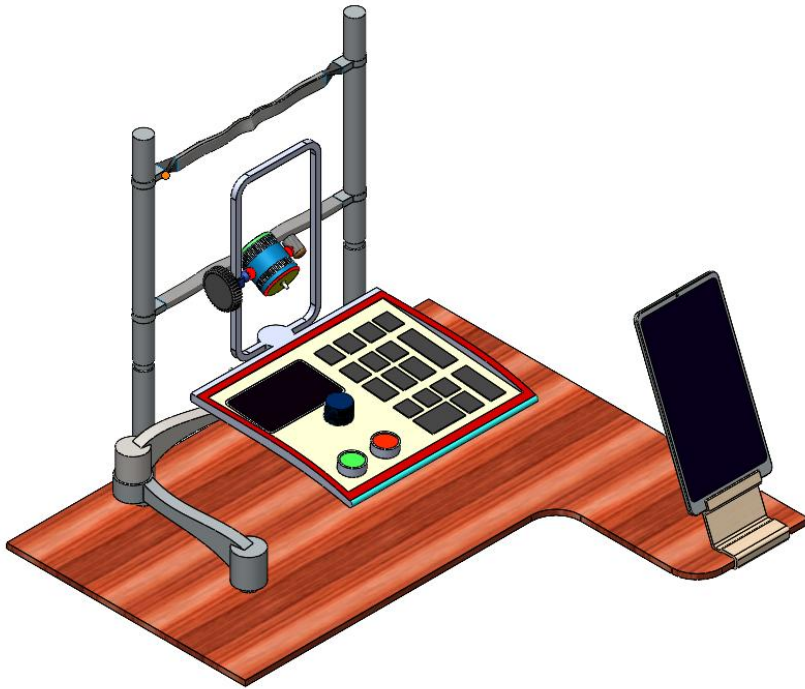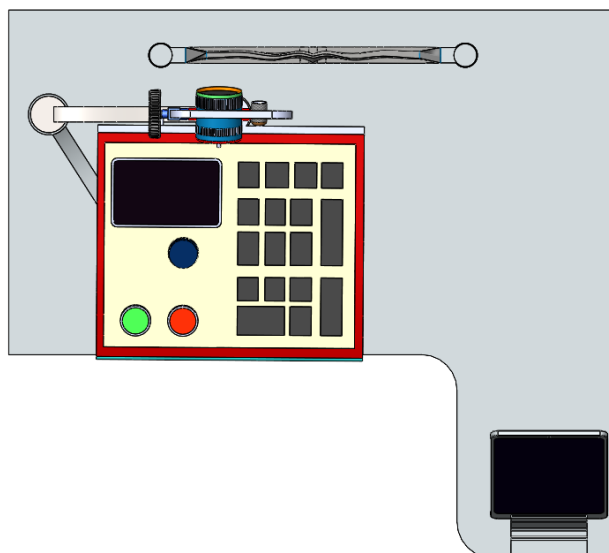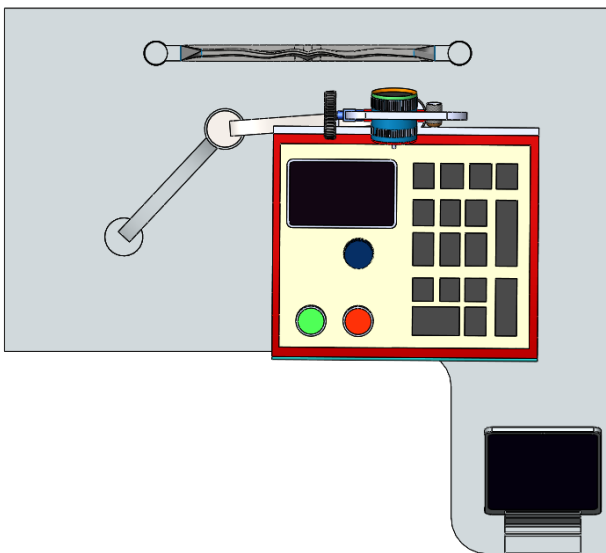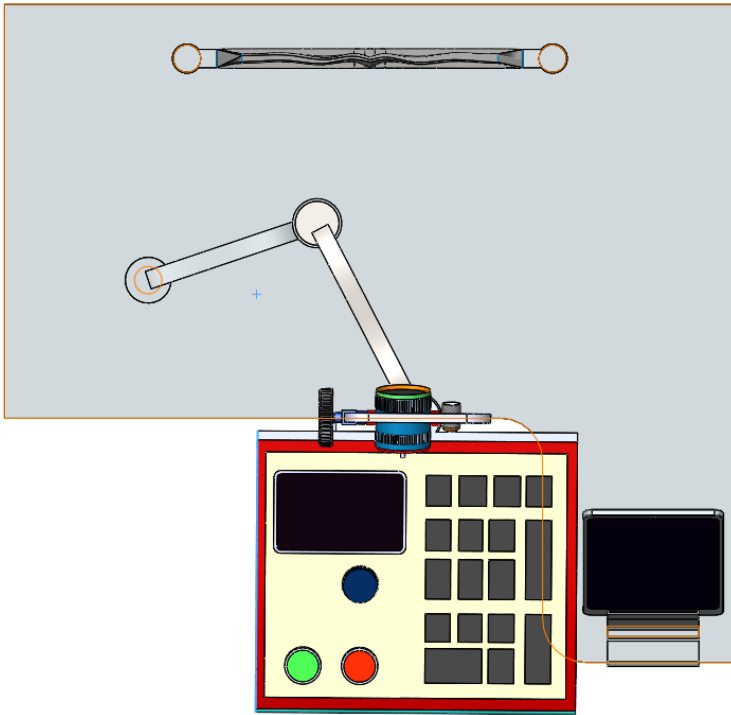# Oralens Face Capture Device:

A short note about Myself: I am L. Gnana Deepak, a third-year Mechanical engineering Student at IIT ROPAR. I have done several CAD projects prior to this and I am very passionate about Designing things keeping in mind the design parameters like ease of manufacturing, Ergonomics, Aesthetics, Stress-Strain analysis,. Etc.
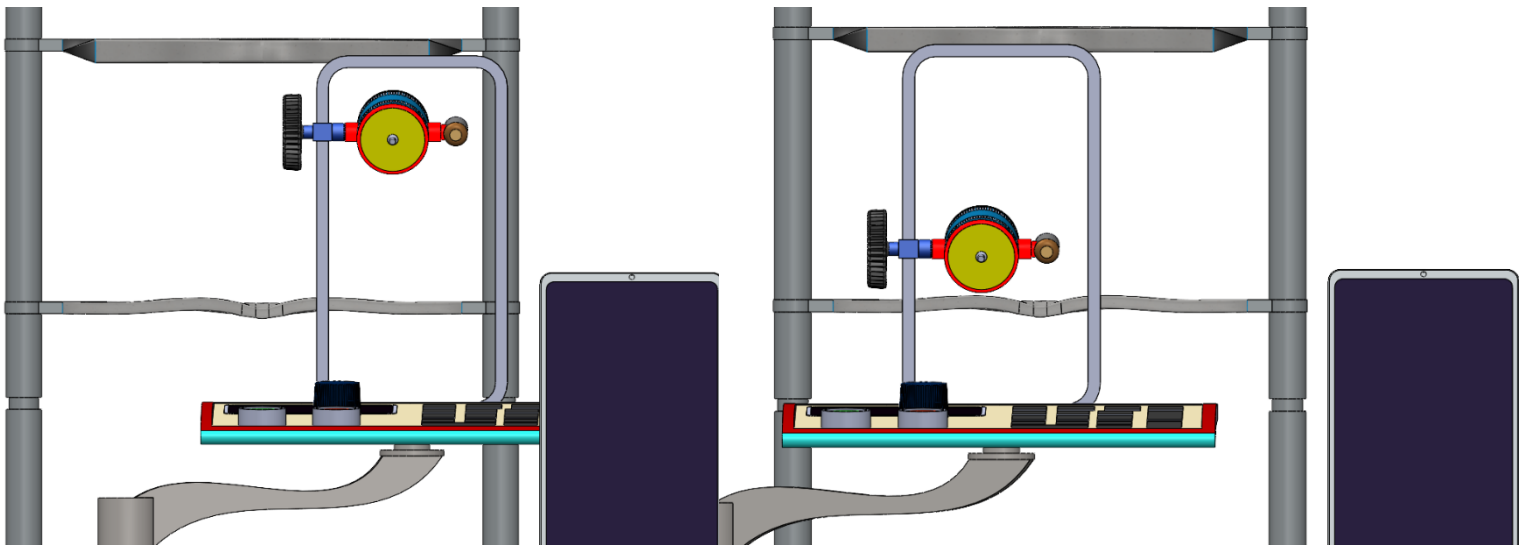

I have designed this face-capture device taking inspiration from the eye check device in an eye-hospital that I saw a year ago. This Model that I designed has 5 degrees of freedom (4 rotations and one translation) which helps the operator to place the camera anywhere he/she wants to focus. The control platform is attached to the camera stand setup and both move together. The camera is attached with an LED light and in whatever direction the camera is focusing, the light also focuses there. As mentioned in the problem statement, I have also added a cell phone or tablet-like Screen attached to the table.
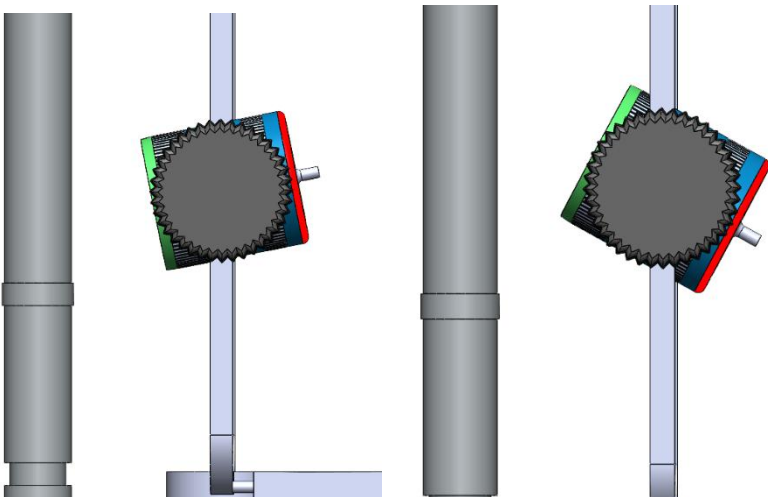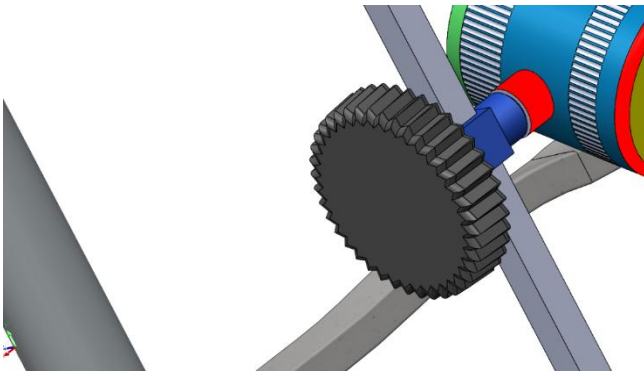
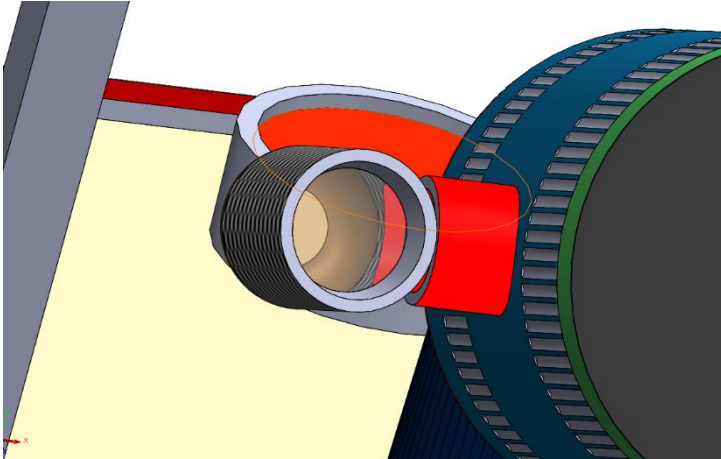As you can see, the camera can be placed anywhere in 2D plane of the table.

The camera's height can also be adjusted depending on the patient's height because, depending on the patient's height, the head rest is going to be adjusted and depending on their head's position, the camera is to be adjusted.
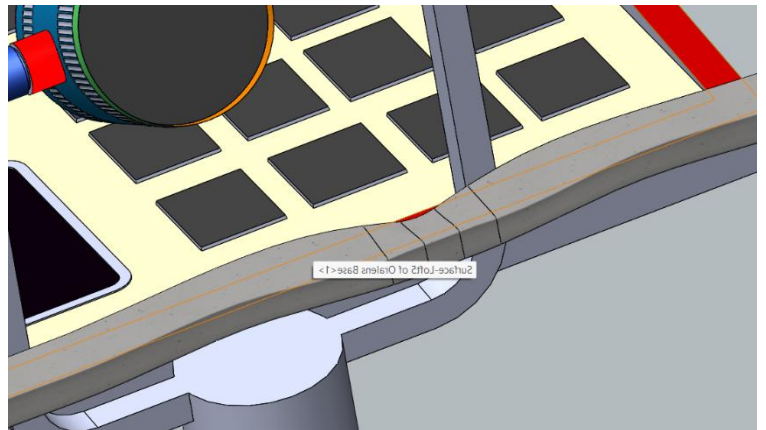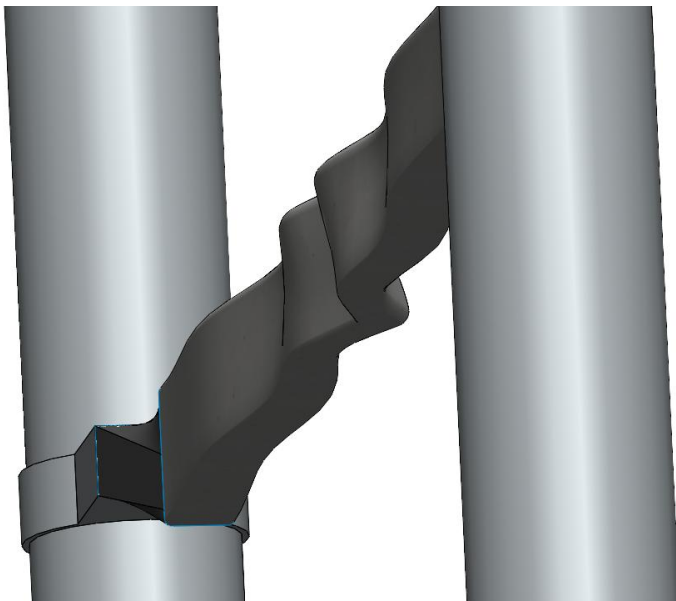

The camera's orientation can also be changed as shown in the left side images.

This black-coloured rotatory object can be used to change the orientation and height of the camera.

This is the LED light attached to the camera.

These are the images of the Nose rest and chin rest for the headrest of the patient. Their Ergonomic shape provides comfort and stability for the patient during face capture.

Draw Backs of the Setup:

- The location of the LED screen may cause discomfort for the operator's right hand.
- The control apparatus also rotates along with the camera. A fixed control apparatus is more desired I believe.
- Aesthetics are not so good.

Despite realizing the drawbacks, I did not change the design because I was already late for submission because of my END Semester exams and I did not want to delay more. Given more time I would have done way better than this…

I request you to look at the SLDASM (SolidWorks assembly file) rather than the standard files that I attached.