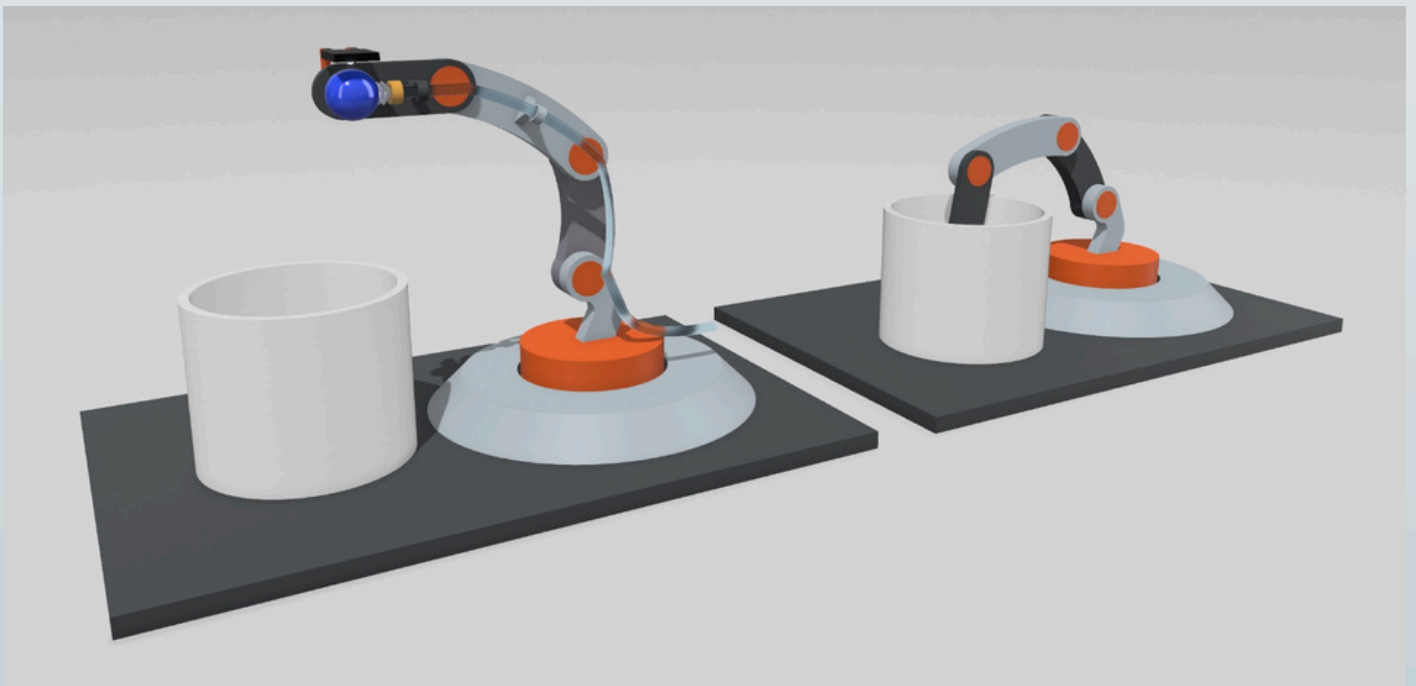
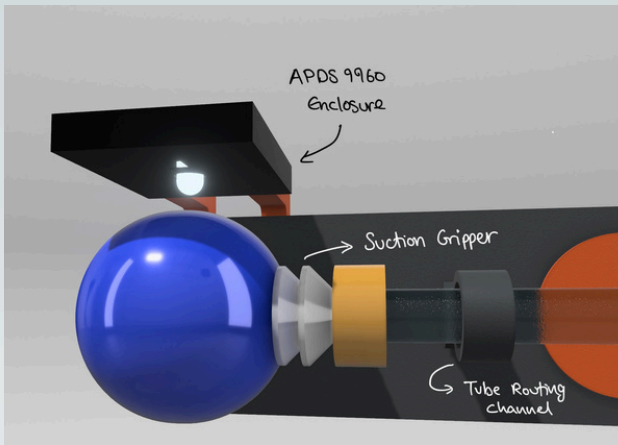
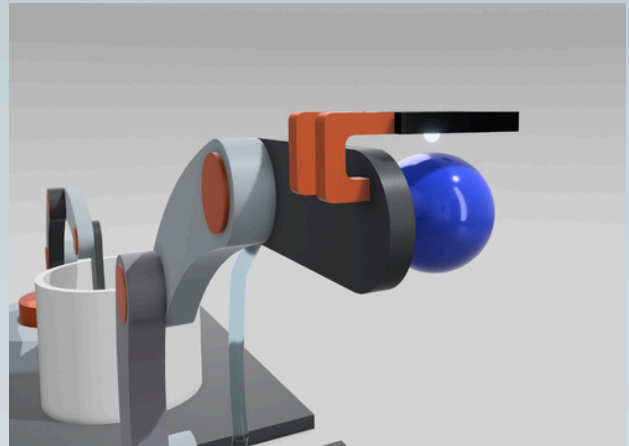
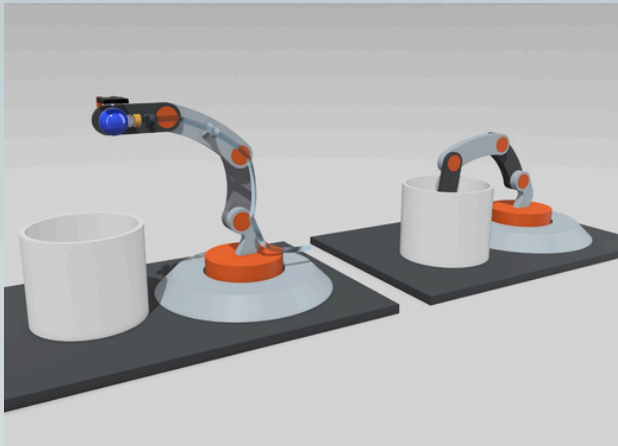


CUSTOM ROBOTIC ARM

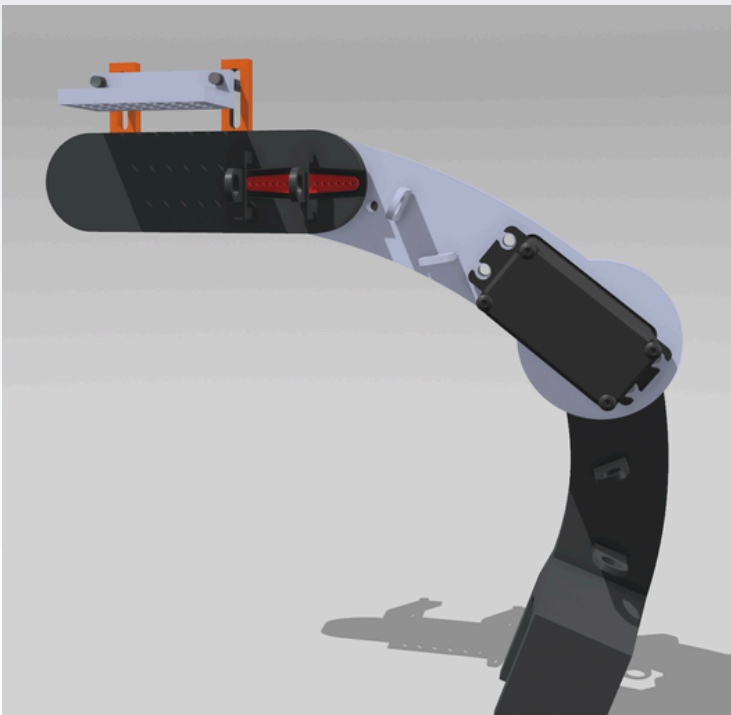
(FEB 2025 - MAR 2025)

DESIGNED A CUSTOM ROBOTIC ARM FOR IIT-MADRAS'S DIR-V SYMPOSIUM HACKATHON. THE ROBOTIC ARM, POWERED BY MG995 AND MGS90 SERVO MOTORS, WILL BE USED TO COLLECT AND SORT COLORED PLASTIC BALLS FROM A COLLECTION BUCKET. AN APDS960 SENSOR IS USED AS BOTH A PROXIMITY AND COLOR SENSOR, ELIMINATING THE NEED FOR SEPARATE IR AND COLOR SENSORS. INSTEAD OF A TRADITIONAL MECHANICAL GRIPPER, A VACUUM GRIPPER MECHANISM IS IMPLEMENTED TO AVOID COMPLEX MANEUVERS TO PICK UP THE BALLS; IT ALSO REDUCES THE SIZE OF THE FIRMWARE AND THE NUMBER OF JOINTS.





IDEATION PHASE



FINAL ARM 3D MODEL (ONGOING)