# CNC PLOTTER

CADD24328 - CATIA TERM PROJECT

PRESENTED BY: SANDEEP SINGH – 991490328

PROFESSOR: FEREYDOON DIBA

INTRODUCTION

- Project designed and modeled in CATIA.

- CNC Plotter - A handy machine to draw.

- Controlled by CNC programs generated by Mastercam.

- Arduino based actuators controlled.

- Easy to manufacture and replaceable parts.

- X, Y and Z Motors to draw on Letter size paper.

- Fine level of details in point of manufacturing and assembly
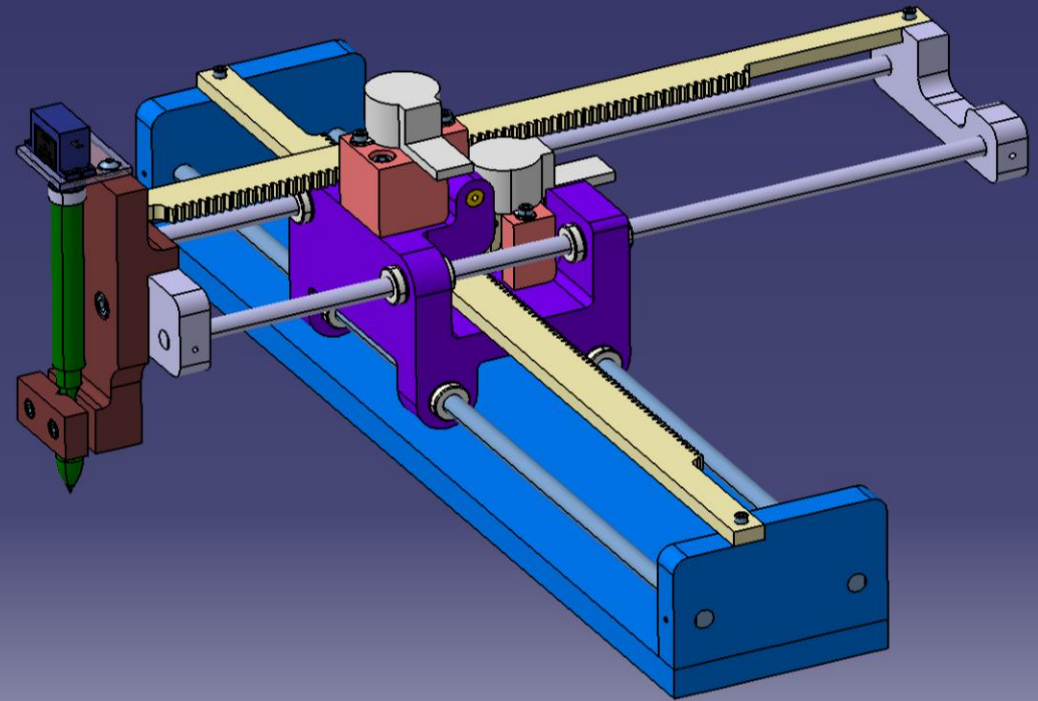
INSPIRATION

- Combination of mechanical and electrical spheres – as a small robot.

- Creative and useable at some point

- Project- based learning in fields of 3D modeling, drafting, simulation, advanced manufacturing processed and programming.

- Medium scale projects helps building up strong base for large projects.
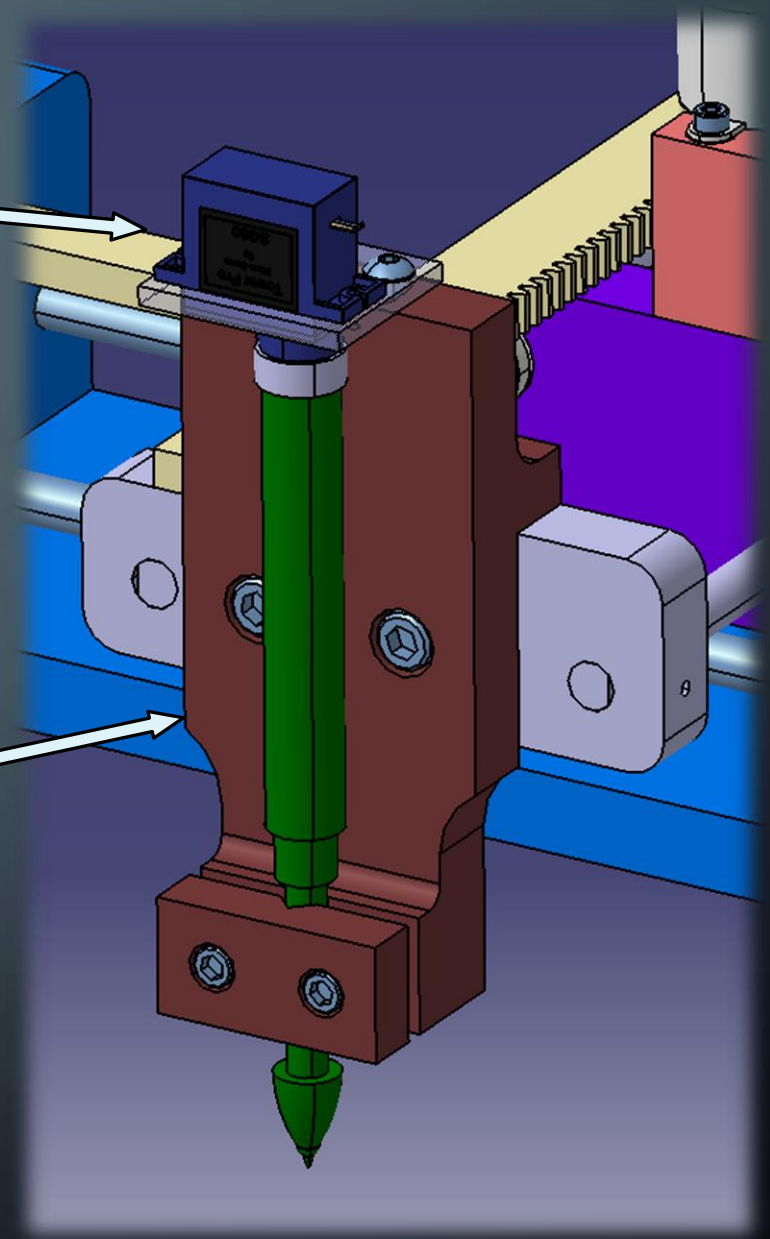
MAIN PARTS
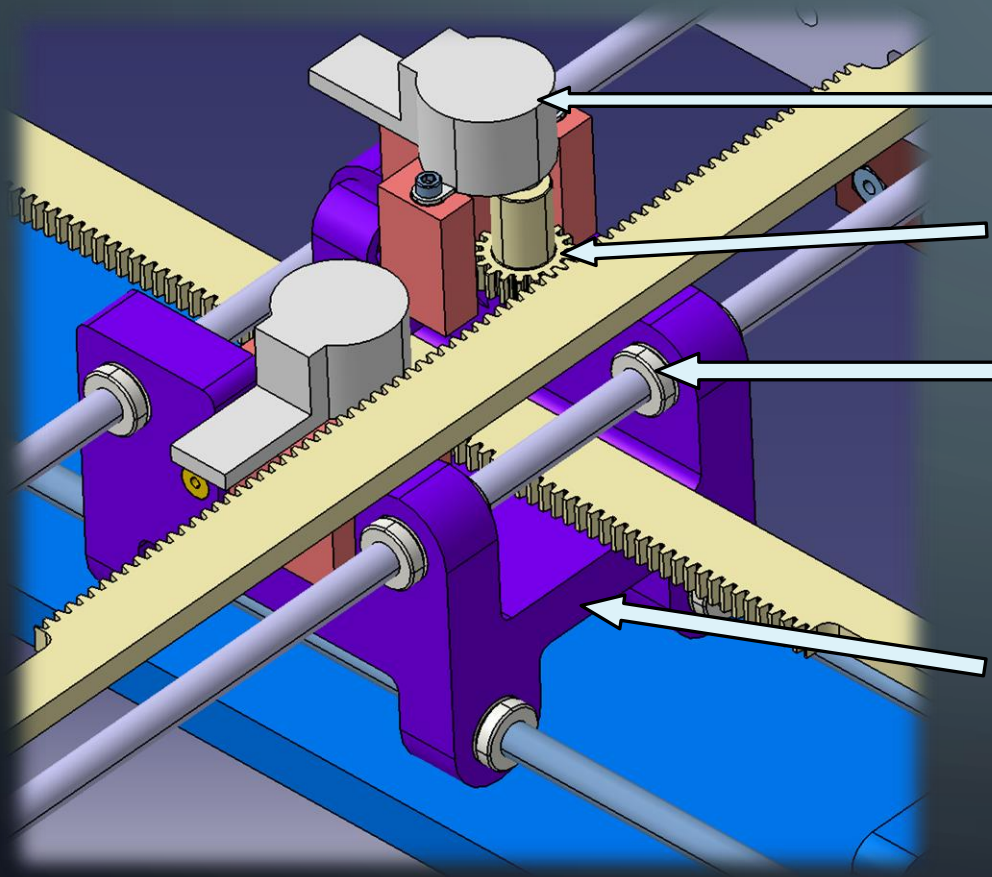
Servo motor
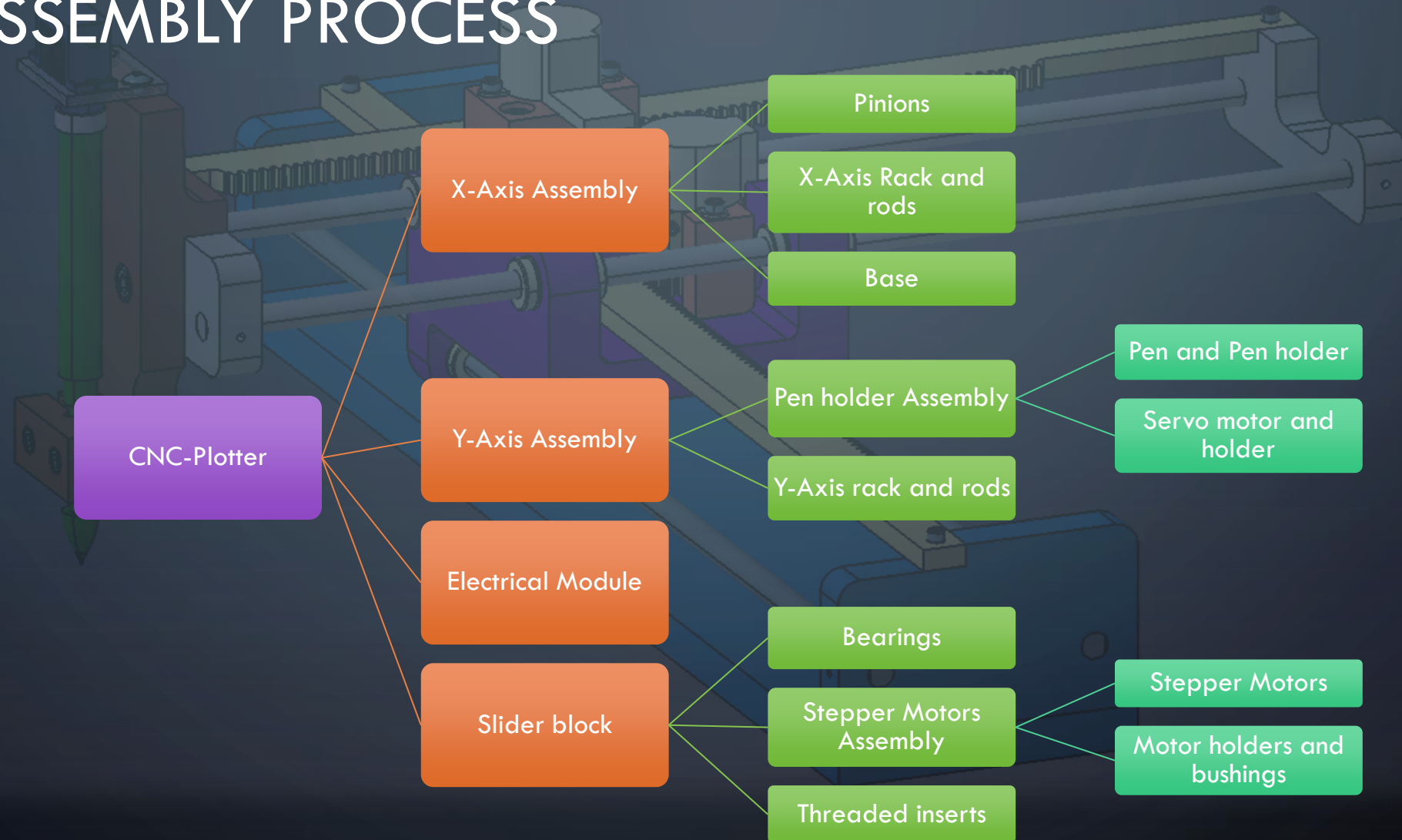
4 Phase 5V Stepper Motors

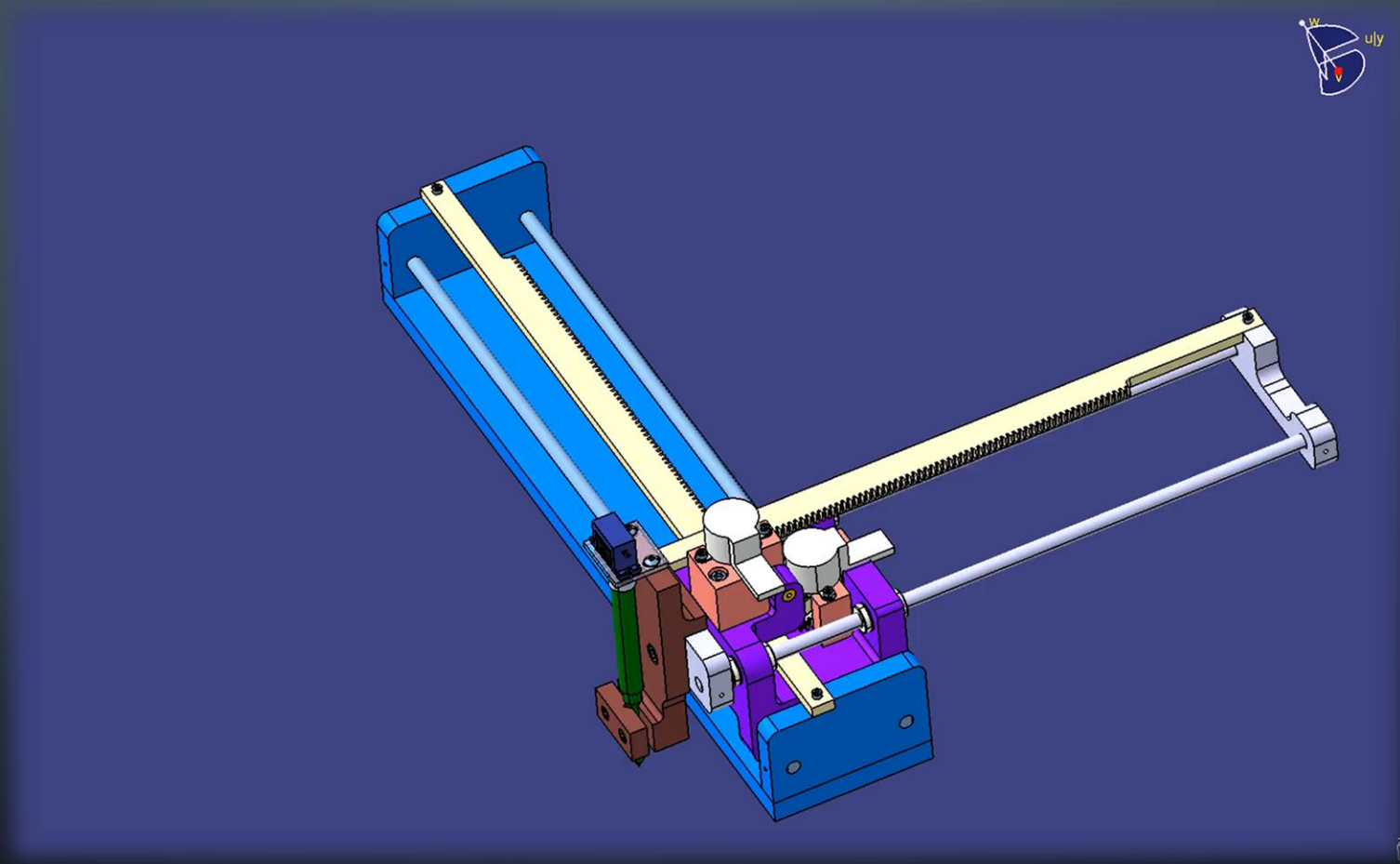Racks and pinions

Linear Bearings

Pen Holder and Assembly

Slider Block

ASSEMBLY PROCESS
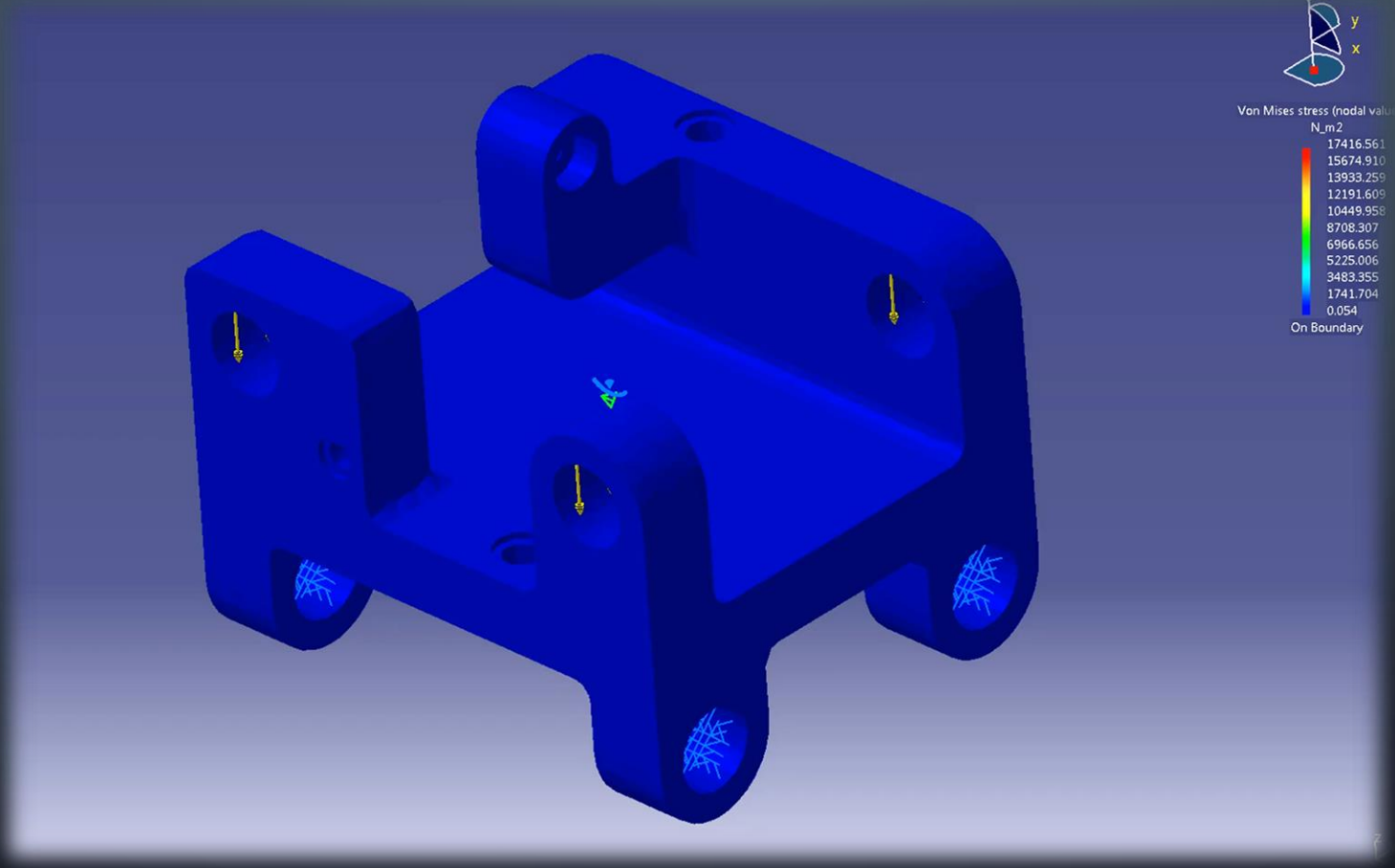
CNC-Plotter
- X-Axis Assembly
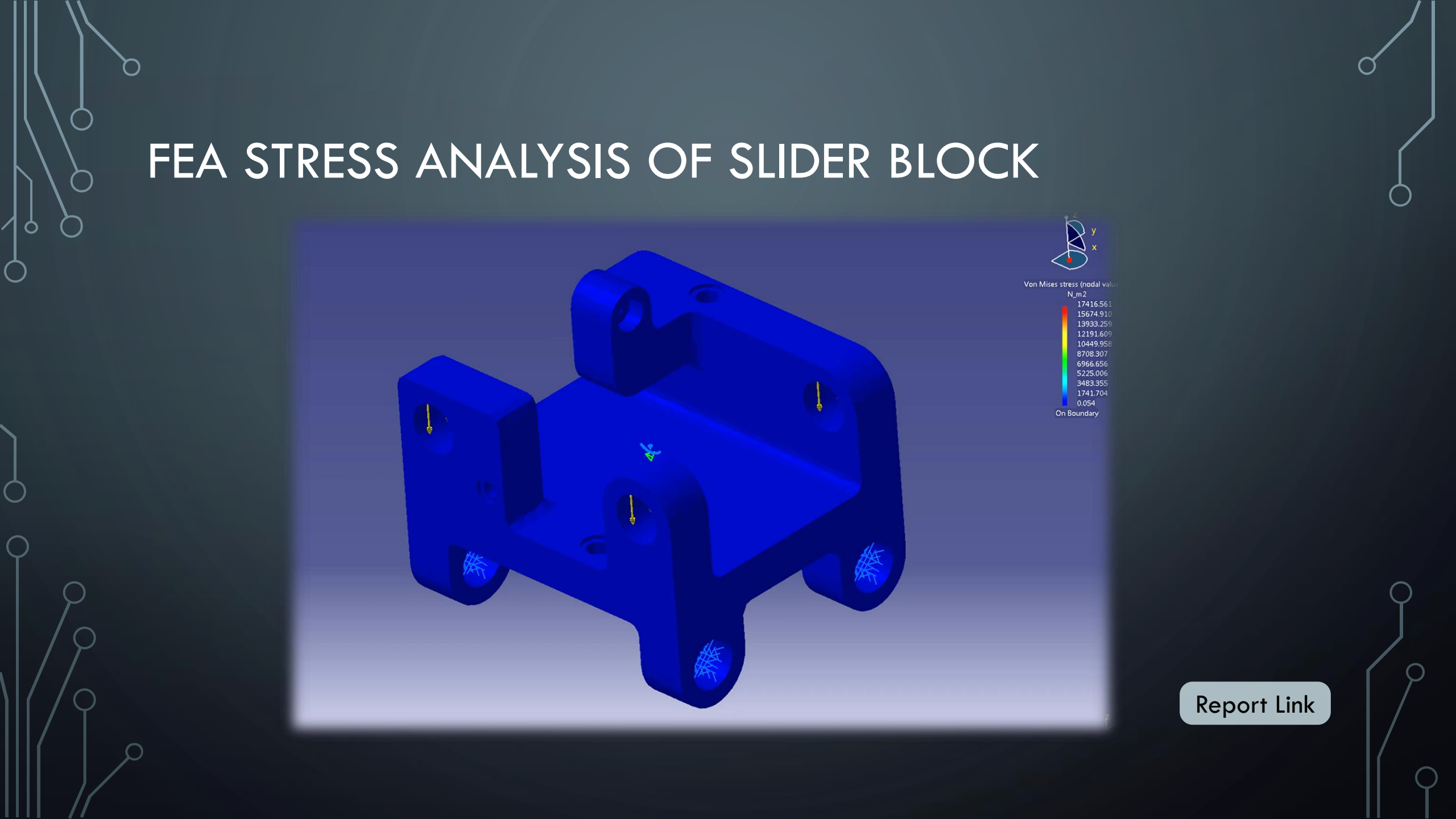 - Pinions
  - X-Axis Rack and rods
  - Base
- Y-Axis Assembly
  - Pen holder Assembly
    - Pen and Pen holder
    - Servo motor and holder
  - Y-Axis rack and rods
- Electrical Module
- Slider block
  - Bearings
  - Stepper Motors Assembly
    - Stepper Motors
    - Motor holders and bushings
  - Threaded inserts

SIMULATION

FEA STRESS ANALYSIS OF SLIDER BLOCK

Report Link

DETAILED DRAWINGS
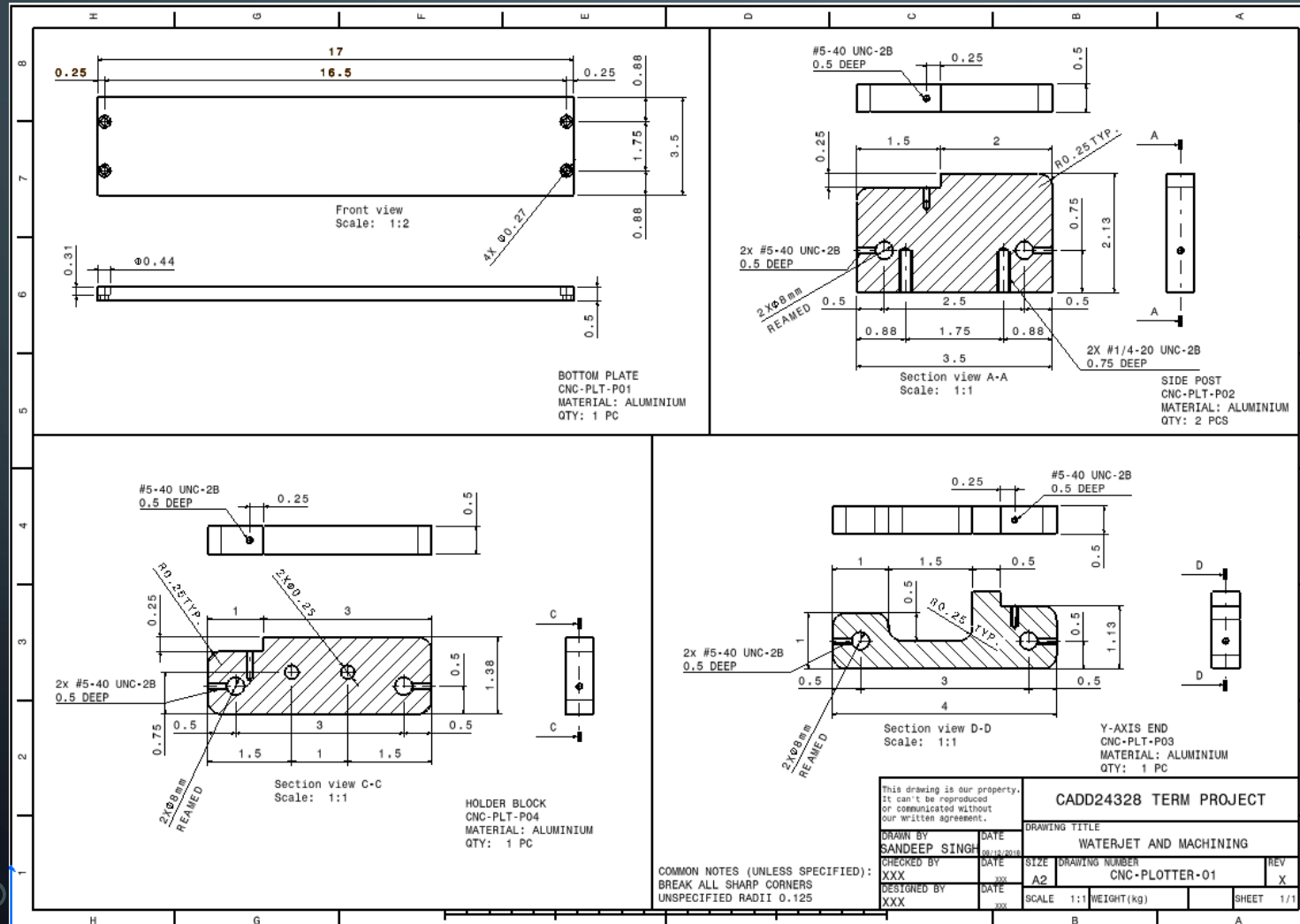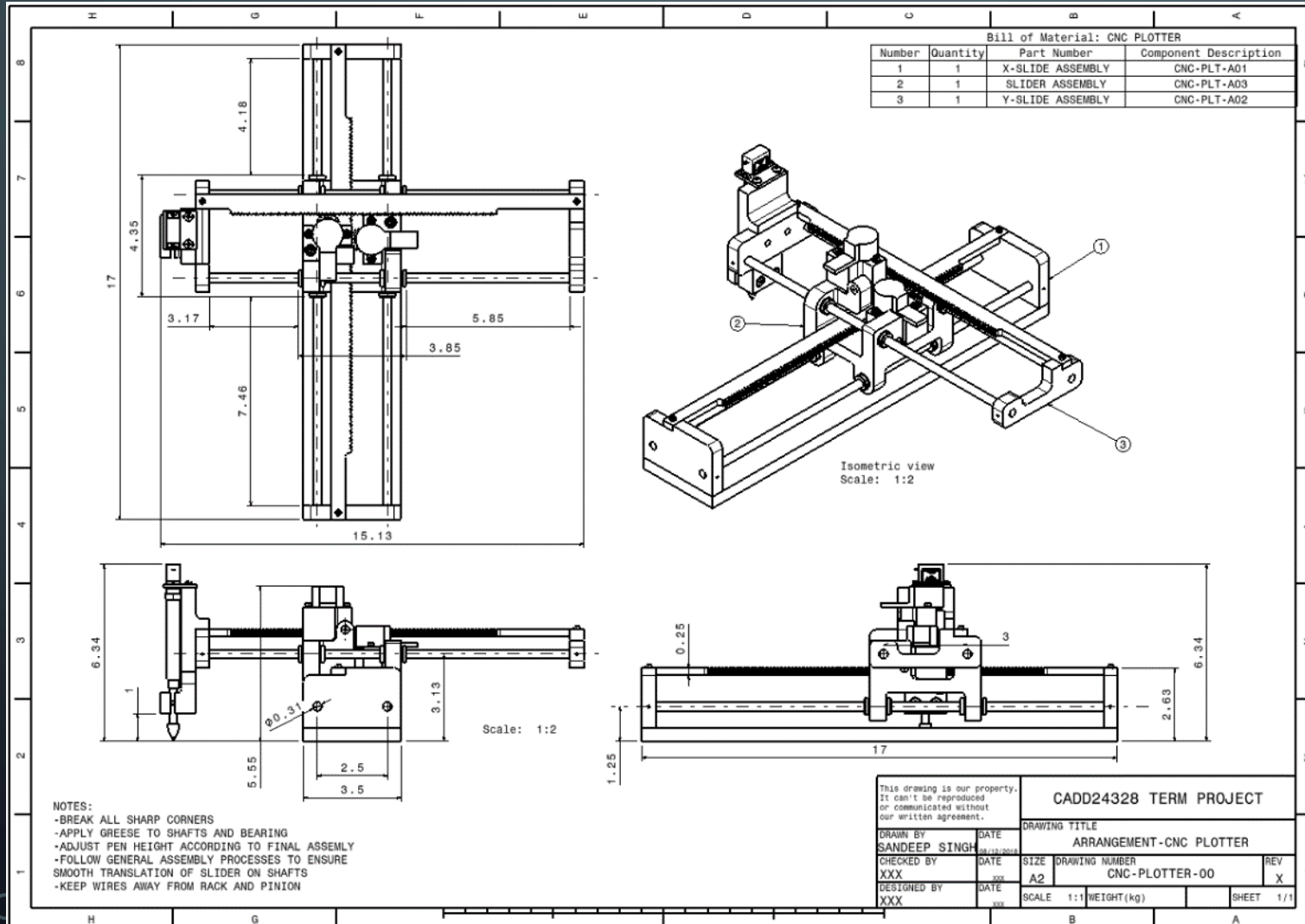

- Detail drawings donated as "CNC-PLOTTER-xx"

- Detailed parts donated as "CNC-PLT-Pxx"

- Different drawings according to manufacturing processes – Waterjet, Laser Cutting, and 3D printing

ASSEMBLY DRAWING

- Assemblies donated as "CNC-PLOTTER-Axx"

- Separate drawings for Sub- Assemblies

- Bill of materials contains part numbers

- Notes for specific assembly instructions

THANK YOU
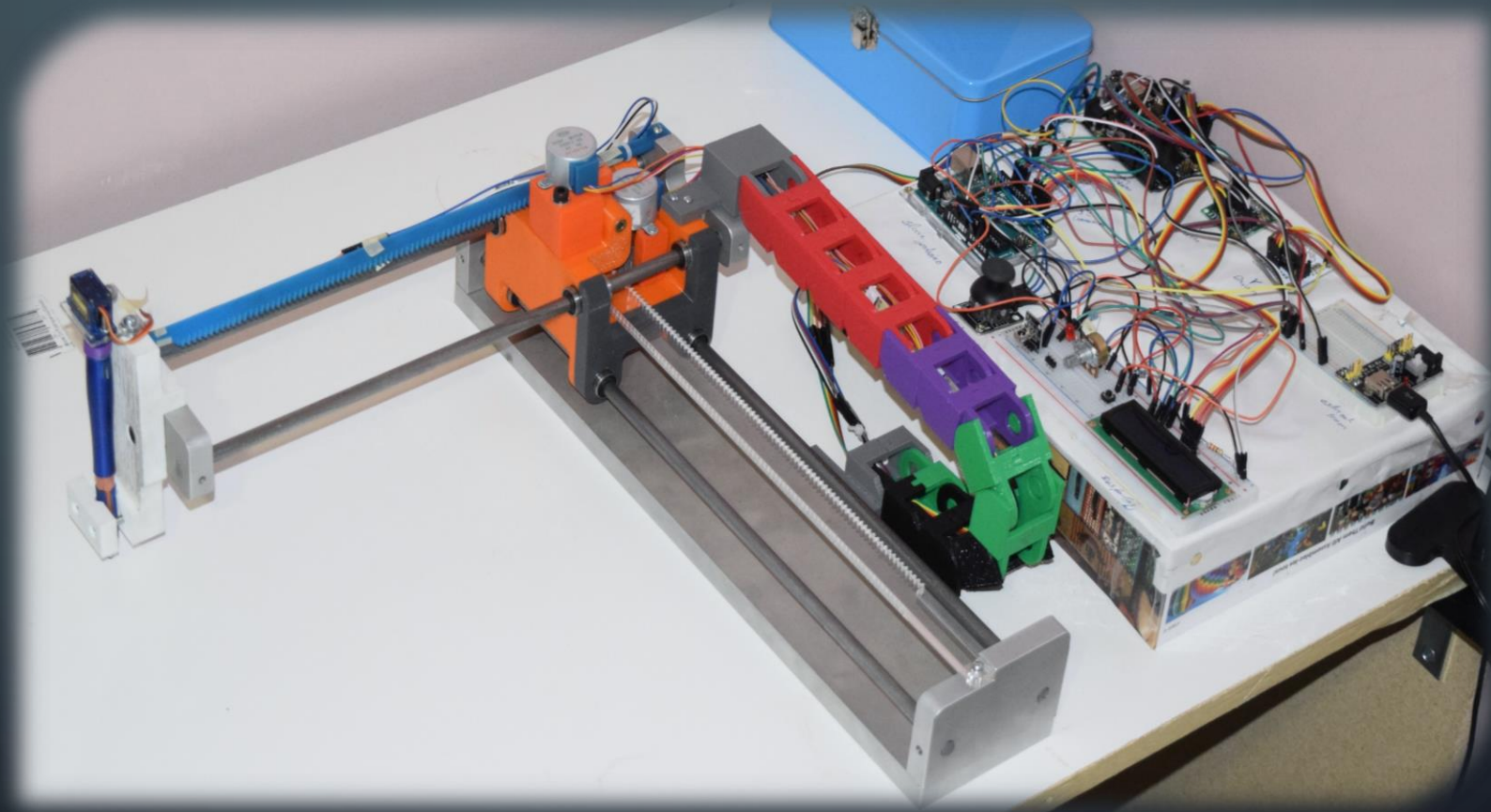
Please feel free to ask questions