

Project Summary Two Axis Robotic Arm

The project involves developing a Two-Axis SCARA Robotic Arm capable of drawing lines and shapes on paper. A fully completed design of this project will have the Robotic Arm draw with heightened precision and accuracy.

As a team, we approached this project piece by piece. In the early phases of the project, we discussed our potential strengths and weaknesses and what each person hoped to get out of this project. After that, we split the work based on the discussion. Nathan described his goal of practicing and growing his programming skills. Louis talked about his motivation to learn more about PCB design, and Johan spoke about his mechanical design and 3D printing background. This is how we specialized in our roles, and both blocks for each person revolved around those discussed topics. For the first and second block checkoffs and during the design and build phases, each person approached the project differently. Eventually, during the system integration phase, we combined what we worked on.

An important lesson the team learned from this project is to order parts early. This can make the assembly process smoother. This applies to the PCB, DigiKey parts, 3D prints, and other tools. Another critical lesson is constant communication, even during the early stages of the project. This will ensure all the parts each person is working on can easily be integrated into one system. Lastly, a key lesson is always striving to be ahead of schedule to leave room for slowdowns during challenges and unexpected issues.

JUNIOR DESIGN 2 TIMELINE

