Essilor of America, Inc. is currently performing the cross hatch adhesion test manually by hand to evaluate how well the hard coating applied to an optical lens is adhered to the substrate. Essilor of America, Inc. would like to replace the repetitive nature of this process with automation. The team was challenged to design and build a prototype that automates the cross hatch adhesion test, which will eliminate ergonomic issues and provide consistent test results.

The team would like to acknowledge:

- David Shirley
- Neil Roche
- Dr. Baughn
- Dr. Hart
- Mark Powell
- Kenneth Sangston
- Courtney Packer
- Essilor of America, Inc.
- UTDesign

Thank you all for your guidance and support!

Mimic manual operation
- Fully automated
- Repeatability
- Comply with OSHA
- Stay within $4500 budget
- Table top size

- Compatible with lenses of various diameters, thicknesses, and curvatures as specified
- Perform tape application and removal process only
- Convex surface only

With the automation machine, Essilor of America, Inc. will experience:
- Increased ergonomics, which leads to a safer and healthier environment
- Consistent test results, which leads to enhanced research capabilities
- Increased efficiency and increased amount of lenses tested per day (Currently restricted to 20 lenses per day per person)
- Higher repeatability due to reduced human interaction

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