3D Printable Eyewear

Challenge: This being my capstone project, my group and I were tasked with helping a local business named “Eyes on Fremont” do conduct both the design and manufacturing of eyewear in-house. The purpose was to remove the need for long shipping times and waste of unsold products.

Solution: We turned additive manufacturing to find a solution. We conducted various mechanical tests such as bending, tensile, and hardness on various 3D printed mediums according to ASTM standards. Going above and beyond, my team and I also provided the business with minimum frame width and groove style to assist with the design process.

Result: As our roll was an advisory one, we provided Eyes on Fremont with samples of our prints, advised them to purchase a SLS 3D printer from Formlabs, suggested that they use nylon, and provided them with a basic design template.

My Contribution: At the time of the project I already had four years of constant 3D printing experience and owned three of my own 3D printers. This allowed me to take the lead and provide a lot of input into the world of additive manufacturing. I was able to communicate with the client and help come up with a list of reasonable expectations and dispel any myths about 3D printing. I was in charge of designing the test specimens according to ASTM standards, doing research into many different mediums and printing types, and 3D printing our test specimens.