Ford Fusion Autonomous Vehicle Interior

Overview
Ford plans to release a generation of autonomous Ford Fusion vehicles by the year 2021. The interior amenities and design of the vehicle will be a key component of brand value, setting Ford apart from the competition. Our team worked to design new tools for rapid prototyping of vehicle interiors, and designed a novel chair design and seating layout for the autonomous vehicle setting.

Objective
The objective of this project is to generate a seat design and configuration for Ford’s autonomous Fusion model.

Approach
● Develop a survey to distribute among other students around Penn State to determine customer needs.
● Research existing patents. The team discovered some patents owned by Ford.
● Create CAD designs for both the Ford Fusion model and chairs.
● Adjust the seating and designs to fit the needs of the customers (i.e. workspace, recline feature, rotation, layout, etc.).
● Submit finalized CAD models to the Learning Factory at Penn State to be 3D printed.
● Inspect 3D prints to make adjustments to CAD design (Resubmit if necessary).
● Use Samsung VR technology to develop an immersive simulation of our interior design.

Outcomes
● Gathered data about customer needs for future consumers of autonomous vehicle products.
● Developed tools for rapid prototyping and simulated testing of vehicle interior layouts.
● Produced 3D printed cabin and chairs for hands-on seating configuration exploration.
● Developed virtual reality simulation to experience in first-person how design elements impact passenger experience.