Volvo Trucks 3 – Modularization of Storage Spaces in Cabins

Overview
Currently, Volvo trucks do not offer a customizable storage option for drivers. This forces drivers to make difficult decisions on how they want to store the many items necessary for their trips. Thus, the goal of this project was to create a modular storage space that can meet all drivers’ needs for customization.

Objectives
- Modularize the current Volvo cabin storage space and make it adaptable for multi-brand Volvo trucks.
- Focus on the storage areas located above the seats and in the living area behind the seats.
- Design a CAD model of the final solution and develop a physical prototype.

Approach
- Researched potential solutions and patents already on the market, including in-home storage solutions that may provide insight to this project.
- Performed site visits to gain an understanding of Volvo’s manufacturing processes, as well as getting inside of different trucks to understand the current storage space and its various limitations.
- Gathered customer needs from drivers and Volvo employees who have knowledge of the current market and the company’s products and processes.
- Used concept generation to develop as many potential solutions as possible for this problem.
- Used concept selection to eliminate concepts that do not efficiently solve the problem.
- Further refined concepts to arrive at one final solution to move forward with.
- Used SolidWorks to develop a 3D model of the final solution.
- Met with manufacturing employees from Volvo, as well as the sponsor, to get feedback on the CAD model and its viability.
- Used feedback to further refine CAD model for ease of manufacturing.
- Developed small physical models using both wood and 3D printing.
- Tested the models for ease of use.
- Develop a larger scale wooden model that fully demonstrates ease of use and customization.

Outcomes
- The final product uses a combination of dividers and shelves, as well as spring loaded pins, to offer a customizable storage space for truck drivers.
- This solution can be implemented above the windshield in a horizontal manner or behind the driver in a vertical manner.
- This solution provides customization of the storage space, with quick and easy installation, helping to eliminate the frustration drivers experience with the current design.