Abstract
The traditional windshield squeegee design has been the same for a few decades and provides very limited functionality. The goal of this project is to improve the functionality of the windshield squeegee, while providing superior performance with a competitive price to customers.

Benchmark
Multiple windshield squeegees have been tested in three major areas. Testing criteria:
- Water absorption/wiping quality
- Reaching range
- Blade quantity

Comparison:
• Traditional - Dimension: Length: 1.2 feet, Blade width: 0.6 ft, Weight: 13.2 ounces, Fixed handle, Single blade, No integrated water absorption
• Advanced - Dimension: Length: 1.3 to 2.5 feet, Blade width: 0.8 ft, Weight: 13.9 ounces, Extendable handle, Three blade design, Blades integrated with water absorption

Final Design and Prototype
The blades are integrated with a synthetic high water absorption material. The material is made of polyvinyl acetate (PVA), which has a three dimensional open cell structure providing absorption up to 12 times its dry weight. According to COMSOL FEA model, the maximum deflection is limited to 0.08 inches.

Conclusion
Our design shows significant improvement over the traditional design. Our design adds more functionality to squeegee, providing greater efficiency and window accessibility than the traditional product. Future iterations may include a self tilting blade assembly, curved blades and an interchangeable blade assembly for different applications.

Acknowledgement
We would like to thank our instructor Mr. Steve Laguette, TA Greg Toland and Chris Hammetter

Reference
http://www.ameditech.com/medinfo/aboutpva.htm
"What Is PVA?"