



Design to Win

An Interface for an active suspension system



Overview

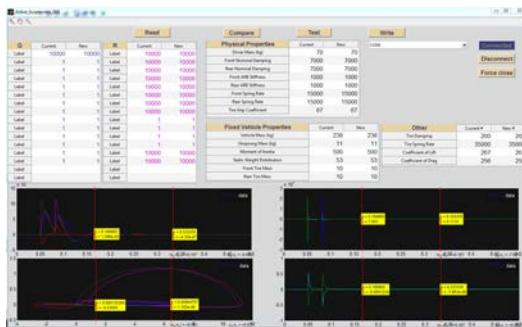
The UW Formula Motorsports team is composed of students who come together to design, manufacture, test, and race two, small, formula-one style racecars against competitors from around the world.

The Problem

How can I develop an active suspension interface that allows team engineers to quickly and effectively manipulate parameters that enhance vehicle performance?

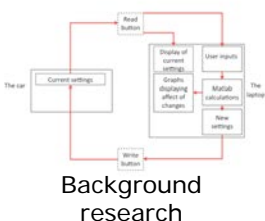
The Solution

- Matlab interface communicates with Arduino microcontroller.
- Fully functional: can read and write parameters to the vehicle, test values compared to current inputs.
- Automatic RS232 port detection.
- Visual feedback indicating status of connection between interface & microcontroller.
- Easy graph manipulation for details on demand and zooming functionality.



Final screen: Values read

Design Evolution



Sketching



User research



Early interface development

Defining the aesthetic

