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### Calibrating Force Signals and Video Streams

This project applies video analysis with real-time signal processing.

The background is that, in a current study, we analyze how to surgically stabilize wrist fractures with a dedicated mechanical testing system. We acquire video signals with a video camera, recording the video on digital storage media. The force signals are obtained using a mechanical device that includes to a computer for signal digitization. Combining these two data sources requires alignment of signals in time, a process known as temporal calibration.

Automation of the calibration will provide improved accuracy and efficiency for repeatable experiments. The purpose of this project is to design a framework and to develop code for automatic calibration. It requires knowledge of algorithms, software design, and programming. The project provides a coherent learning package of image and signal processing, scientific computing, and medical data analysis.