A successful scientific experiment requires infrastructure. For small experiments with limited resources, the details of controlling and monitoring components may require more thought and effort from the scientists than the actual research goals. But even scientists on large experiments with access to engineering expertise need some engineering knowledge to understand how design and control choices can influence the reliability and quality of the experiment. I will try to convey some of this knowledge. I will include some basics of control theory and human interface design, along with some best practices. I will also discuss how instruments and control systems actually interface. Throughout, I will include examples from my experiment, EXO-200, which was largely built by graduate students who had to learn things along the way. Hopefully this will help other scientists avoid common pitfalls and design experiments that run smoothly and maintainably.