

# ARCHITECTURE OF A TWO-AXIS POSITIONING GIMBAL CONTROL

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## **Abstract**

This paper presents the design decisions made and architecture used in developing a real time system to control a two-axis positioning gimbal. This system is interesting in that it includes several real-time to non-real-time interfaces for user interaction and network communications. The development process is described from the initial stages and selection of an operating system through the development of code. Of particular interest to the real-time beginner is that each critical design decision is described with supporting information which may be useful to others making such decisions. The overall architecture of the system is described along with a basic functional description of each module, with particular attention to the interfaces. The system makes use of Tcl/Tk to provide a user interface and some novel approaches for the interface between RTLinux and Tcl/Tk are presented.

Paper is distributed separately at the workshop.