Designing and Building a Set of Smart Blinds[1] SIMON CARAN-
DANG, CALVIN BERGGREN, Texas Lutheran University — The project con-
ducted this summer was to design and build a device that can be attached to a
set of standard blinds to open and close them autonomously. The main inputs are
the amount of sunlight entering the room, measured by a phototransistor; whether
someone is in the room, measured by an IR sensor; and the tilt position of the
blinds, measured by an accelerometer. A stepper motor was used to turn the blinds.
Various custom parts used to mount the device were designed in CAD software and
3D printed. The device was controlled using an Arduino development board, which
was programmed to turn the blinds based on sensor input.

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