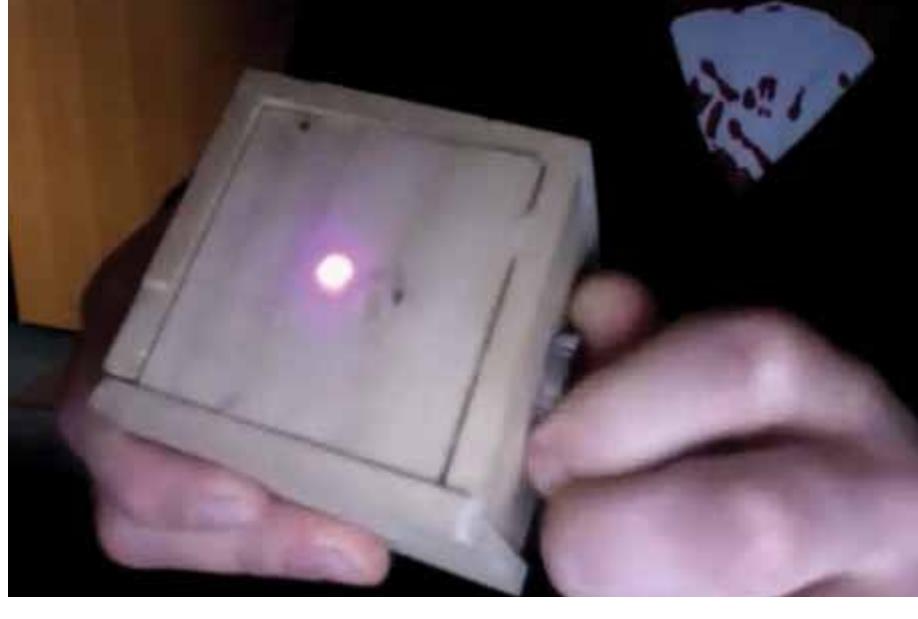


BlinkM Project Feature



BlinkM in Energy Mementos

By: James Pierce

Energy Mementos are small objects for collecting (generating) small amounts of electrical energy, keeping (storing) the energy, and recording and storing energy metadata related to the various qualities of its production such as direction, magnitude, age and time of energy generation; the energy metadata is used in various ways to share (distribute) and activate (use) the energy to which it refers.

For this project I built two functional Energy Mementos prototypes: The Shake-light bottle and the Turn-light Box. The basic idea is to generate small amounts of energy (by shaking a magnet in a coil winding, or turning a small DC motor), store the energy, store energy metadata about the magnitude of the energy generated, and then later “play back” the energy in interesting ways using the energy metadata.

One of many possible envisioned scenarios is to give the Turn-light Box to a loved one as an expression of the giver’s personal energy. The recipient could then keep the box in a special place, such as a shelf or drawer in the home. The recipient could, perhaps in a moment of longing for the giver, activate the giver’s energy using the box. The energy is activated as a unique pattern of light colors and intensities corresponding to the amplitude and direction of the electrical current generated and stored within the box.

The following circuit uses a voltage divider and zener diode to measure voltage and direction of power generated by turning a small DC motor by hand (100:1 gear ratio). An Arduino mini is also used. The Arduino is programmed to wake when voltage is detected on the SPEED pin and begin sampling voltage and direction. The measured energy metadata is stored in the onboard 512 bytes of EEPROM. A small switch is used to “play back” recorded energy an BlinkM RGB LED.

Video Link:

www.youtube.com/watch?feature=player_embedded&v=v0Rw9KbbCx8

