2009: ID110 Design Contest 1

Electronic distance measurement using a mouse

Use a mouse as a distance measurement device. The mouse is placed on a surface. Key press(es) record the initial position. The mouse is dragged to a different position on the surface. Key press(es) record the final position. The computer should display the distance in centimeters. The distance range can be many times the full screen size.

- You should be able to "pinpoint" to the start and end points. Placing the mouse which is several centimeters on each side over the point is not sufficiently accurate.
- You cannot rely on moving the mouse by hand from start to end in a perfect straight line. If you need this condition, you have to make appropriate arrangements to ensure it, or design it in a way that is insensitive to this condition.
- You cannot rely on the mouse's orientation being exactly same at start and end when moved by hand. If you need this condition, you have to make appropriate arrangements to ensure it, or design it in a way that is insensitive to this condition.

Evaluation criteria: Accuracy, ease of use.
Category: Software

Wireless lamps

Design lamps that will glow when placed on a tray. The lamps can be, for example, diyas (mud/ceramic wick lamps) that are lit during Deepavali etc. The lamps must be electric. There must be no wires connecting the lamps to the power source. The tray can be connected to a source of electric power of up to 10MHz in frequency(common lab function generator).

Evaluation criteria: How well the lamps glow, how much power is taken from the source, aesthetics, size.
Category: Hardware