Amanda is using Posey and the Puppet Show application to build a teddy bear puppet. First she assembles a skeleton of a teddy bear by connecting the physical hubs and struts. Next she skins the virtual puppet with puppet parts from a menu. Finally she animates her puppet by manipulating the physical model.

**Posey**  
a computationally enhanced hub-and-strut construction kit

Michael Philetus Weller, Mark D Gross, Ellen Yi-Luen Do*

*ACME Lab, Georgia Tech

The Posey construction kit is composed of hubs and struts with poseable optocoupled ball and socket connectors.

**Technology**

LEDs embedded in each ball send serial data to photosensors in each socket.

A lookup table is used to infer the angle of connection from observed LED-photosensor couples.

**Applications**

The Puppet Show application is for building and animating virtual puppets. Left - the physical skeleton of a “bearosaur” puppet; right - a screen shot showing the 3D view window and puppet part menu.

The Molecule Explorer application treats hubs as atoms and struts as bonds and gives feedback on related molecules. Left - a nearly complete Methanol model; right - a screen shot showing the modeled atoms.

**Computational Design Lab**

School of Architecture, Carnegie Mellon University  
http://code.arc.cmu.edu

This material is based upon work supported by the National Science Foundation under Grant No. ITR-0326054.