Introduction to Soldering Technique and Medical Instrumentation Repair

Date/Day: Feb 26, 2009, Thursday  
Time: 7:00 pm  
Where: ECB 2043  
Facilitators: Lucas Vitzthum, Vince Mi, Kuya Takami, Joseph Yuen & Amit Nimunkar (Engineering World Health – EWH)  
Website: http://www.engr.wisc.edu/studentorgs/ewh/

Introduction
This seminar is organized by the EWH University of Wisconsin – Madison Chapter, whose mission is to deliver medical expertise and equipment to underserved nations. Through this seminar we will provide a hands-on training to the students in a. basic soldering technique and b. repair of medical equipments.

Introduction to Soldering Technique (~1 hour)  
We will provide hands-on training in the following:

- Proper soldering technique  
- Desoldering using vacuum pump and bulb  
- Heatsinks  
- Splicing solid core wires  
- Splicing stranded wires  
- Soldering parts into perfboard  
- Introduction to softwares for printed circuit board prototyping

Testing & Repairing Medical Equipment (~1 hour)  
We will provide a quick introduction to the basic principles involved in different medical equipments. We have acquired medical equipments from two non-profit organizations in Madison, The Hackett Hemwall Foundation (http://www.hacketthemwall.org/HHF/WELCOME.html) and Sharing Resources Worldwide (http://sharingresourcesworldwide.org/) and we plan to do the following in the hands-on training session:

- Test the device for its functionality  
- Make sure that the device is properly calibrated  
- Acquire test data from the device  
- If the device is not functioning properly trouble shoot and repair (Use the internet to find manuals or other helpful information)  
- Make a list of specialized parts required to repair the equipment  
- Write a short manual (with lots of pictures and diagrams for users in developing world hospitals with limited English) explaining how to use the equipment and test the equipment