May 20, 2008

Reading:

- S. Greenberg, C. Fitcheett. Phidgets: easy development of **physical interfaces** through physical widgets. UIST 2001. Presenter: Joost
- Björn Hartmann, Leith Abdulla, Manas Mittal, Scott R Klemmer. Authoring Sensor-based Interactions by Demonstration with Direct Manipulation and Pattern Recognition . CHI 2007. Presenter: 俊達
- Pei-Yu Peggy Chi, Jen-Hao Chen, Hao-Hua Chu, Jin-Ling Lo. Enabling calorie-aware cooking in a smart **kitchen**. Persuasive 2008.

Group discussion

From the Phidget paper: "We had no formal evaluation metric except to see what students designed and whether they found it difficult to program with phidgets." From the Examplar paper: "presents evaluations through a first-use lab study and a theoretical analysis using the Cognitive Dimensions of Notation framework."

- Can you think about better evaluation methods (no formal evaluation in Phidgets or qualitative evaluation in Examplar) for UbiComp tools such as Phidget and Examplar? Why are your evaluation methods better than Phidget or Examplar? As a potential user of these tools, how would you go about designing such evaluation procedure, metric, user studies, etc.?

From the Phidget paper: "just as widget makes make GUIs easy to develop, so could phidgets make the new generation of physical user interfaces easy to develop." From Examplar paper: "This approach emphasizes design exploration by enabling very rapid iterative demonstrate-edit-review cycles."

- What dream tools and/or dream features of tools you wish to have (but they are not in Phidget and Examplar) that can make it really easy for you, or other engineering students with similar skill levels, to prototype your course project applications? Think about some of the difficulties that you are facing while prototyping your course projects.
- For creative designers and artists with little programming skill (e.g., only Flash, Javascript, etc.) and no hardware skill, what dream tools can you create for them so that they can also prototype UbiComp applications? Think about Topobo for children.

Giant electric-assist bicycle "Lafree": (http://www.giant-bicycles.com/zh-TW/bikes/ebike/)
I visited Hua-Lien over the weekends, and had an opportunity to ride on the Giant's new e-bike or smart bike. The bike has so-called "power assisted pedaling". The bike comes with a battery pack and small motor that is turned on to provide the appropriate amount of "extra power" for the biker. This makes going uphill an "easy ride". The "extra power" was appropriately inserted so that it feels like a bicycle, not a motorbike. For example, I was pulling a small trolley where my daughter was sit in it, and it makes it easy.

- This Giant's smart bicycle is not only a good example of "green technologies", but can also make an ideal UbiComp-on-a-bike platform – (mobile, exercise, green, genuine-cycles, social, etc.) Can you think about any good UbiComp-on-a-bike applications? Think about UbiComp applications in a car.
- How would you go about designing a tool that can make it easy to develop UbiComp-on-a-bike applications?


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GIANT
Lite
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GIANT
Lafree