Summary of the administrative activities in this quarter:

- Happy Chinese New Year!
- We are very happy to share the good news of our student, Shih-Ping Kerry Chang, who has received PhD admission (with full scholarship) to CMU HCII, UC Berkeley Computer Science, and other top PhD programs in the U.S. Based on our knowledge, her CMU HCII PhD admission is the first one awarded to a student applying from Taiwan. We would like to let you know that a major part of the Intel research funding have been used to benefit our students, subsidizing students’ international conference travels, funding their research assistantship, and supporting their research activities. During the past 5 years, the Intel research funding has helped at least 10 of our students who have received admission from some of the top computer science programs in the U.S., including 4 to MIT (Pei-Yu Peggy Chi 2008, Tsung-Hsiang Chang 2008, Tung-yen Lin 2007, Chao-Ming James Teng 2005), 1 to Stanford (Te-Yuan Huang 2008), 1 to Berkeley (Keng-Hao Chang 2006), 1 to Harvard (Tsung-Han Lin 2008), 1 to U. of Washington (Shih-Yen Liu 2006), 1 to U.T. Austin (Yi-Chao Chen 2009), etc. All of them have been awarded full scholarships from the U.S. Universities. The Intel research grant has a significant impact in making differences for these students and also help cultivate “世界一流的傑出人才” from Taiwan.

Summary of the research activities this quarter:

- Physical Health (Playful Bottle). We have submitted a journal paper to ACM TOCHI that shares our findings in the Playful Bottle user study. We hope that these lessons learned can help researchers in the persuasive computing community to improve the effectiveness of their social persuasion systems. The main lesson is to motivate the motivators by exploring both human and system feedback channels to encourage caregivers and caregiving actions. The second lesson is to reduce performance pressure for users, explore ways to give users choices in personalizing their interfaces, and furthermore, present the system as a tool with which users can create their own clever self-improvement systems. The third lesson is that positive reinforcements can stand out and become stronger when they are combined with negative reinforcements in a persuasion system.

- Financial Health (Mobile Shopping Detection). We have continued to work on the shopping detection project. This project is about using sensors on a mobile phone to sense the amount of time a user spent shopping, with the hope of preventing overspending. We have designed, prototyped, and evaluated this mobile shopping detection system. We have collected shopping/non-shopping data from users recruited via the Internet. Experimental results analyzing 630 hours of real data indicate that our system accurately labeled motif groups with an accuracy of 88% for shopping activities and 93% for non-shopping activities.

- Infrastructure Health (PipeProbe). We are continued to work on a mobile sensor node (called PipeProbe) for determining spatial topology of hidden water pipelines behind walls. PipeProbe works by dropping a tiny wireless sensor capsule into the source of the water pipelines. As the PipeProbe capsule traverses the pipelines, it gathers and transmits pressure readings. We are working on the following three extensions: (1) 3D pipeline mapping, (2) variable pipeline diameters, and (3) addition of mobile beacon nodes to improve accuracy.

- Publications (SCI-Jam). In an attempt to change the way academic evaluation in computer science is done in Taiwan (focusing on the so-called SCI journals) and to push it toward the higher quality standard of the top U.S. computer science programs (focusing on the top conferences), we are conducting a small-scale experiment to provide support for moving away from the SCI journals toward the top conferences.