Improving and Motivating Physical Activity using Context

**Problem**
- More than half of US adults remain overweight or obese despite spending $30 billion on weight-loss products and services.
- The main barriers that prevent people from exercising are: lack of time, no places to exercise near work, and lack of family/friend with whom to exercise (Brownson et al., 2001).

**Relevance**
- Provide immediate impact and benefit to users by leveraging the benefits of context-aware devices to help in the problem of health.
- Explore using information about a user’s daily behavior to motivate and encourage the user to be more physically active.

**Approach**
1. Identify barriers.
2. Increase awareness.
3. Use real-time info and reflection to help address barriers.

**So Far...**
- Explored space of devices to use for monitoring.
- Interviewed people who are trying to lose weight to learn about their strategies.
- Surveyed current physical monitoring systems to reveal problems and deficiencies.

**System Monitoring**
- BodyMedia SenseWear
  - Physical activity
- GPS-enabled phone
  - Location

**Feedback**
- Provide real-time feedback and just-in-time suggestions to motivate users.
- Encourage users to reflect and analyze their physical activity by summarizing days of information.
- Reveal to the user ways to circumvent or avoid barriers to exercise.

**Design Considerations**
- Kinds of barriers
  - personal
  - social
  - environmental
  - device/system
- Stages of exercise
  - Novices vs. experts
  - Non-exercise physical activity vs. exercise
- Recreational vs. competitive sports

**Current and Future Work**
1. Interview current users of existing physical monitoring systems to help design the IMPACT system.
2. Design real-time and summary visualizations. Build IMPACT software and integrate devices.
3. Conduct user study to demonstrate that the system can help users become more physically active.