DESCRIPTION:

Information Art as Visualization for Physical Activity

Personal informatics tools and self-tracking devices report physical activity to help people become more aware of how active they are. But some data views output from these devices can be off-putting for consumers.

The goal of SPARK is to explore fun, engaging, and creative ways of visualizing exercise. SPARK helps users explore their physical activity levels by converting collected data into abstract information art. When presented as an engaging or ambient display, physical activity feedback is perceived as less discouraging, and users may be more motivated to maintain a healthy, active lifestyle.

TARGET POPULATIONS:

- Older adults prone to inactivity
- General users seeking support for weight management, athletic training, or other health concerns
- Avid walkers and self-trackers

BENEFITS:

- Outputs Fitbit data visualized live
- Allows users to interact with their visualizations
- Presents activity views over a week, month, or year
- Motivates continued physical activity and self-tracking by appealing to creative interests

ABOUT THE RESEARCH

SPARK is the first of several design concepts that explore new ways technology can encourage older adults to be more physically active. SPARK currently provides a collection of live visualizations for Fitbit physical activity data. The SPARK web application is hosted on the Google App Engine. The backend is coded in Python, and the frontend coded in HTML, CSS, and JavaScript. Data visualizations are created with Raphaël, a JavaScript vector graphics library, and HTML5 Canvas. Spark uses OAuth and the Fitbit API to continuously pull step count data from the Fitbit tracker and display them using one of 4 current abstract visualizations.

Each SPARK visualization is an animation that unfolds as the day progresses. Different metaphors represent a variety of physical exercise features, including time, duration, step count, and elevation. For example, circles are created based on step counts. The size of the circle represents number of steps, and the color of the circle represents intensity (casual walking, brisk walking, or running). Real-time SPARK activity visualizations can be viewed on a computer, or more ideally, displayed on a surface in the home, such as a tablet computer mounted on the wall or an image projected directly onto a wall.

LEARN MORE: Contact Chloe Fan at chloe@chloefan.com or visit http://www.sparkvis.com/