



Body Metrics: A New Exhibition

Opened October 2014

THE TECH. REINVENTED.

In 2012, The Tech Museum of Innovation launched a five-year institutional transformation that is redefining the museum as a Silicon Valley resource for innovation. The Tech aims to do this by creating deep experiences that are open-ended, social, and collaborative. New galleries under way include Social Robots, which challenges visitors to design and program a robot for human interactions in real-world settings, and DIY Genetics, where visitors will explore the world of genetic engineering. Multiple new “design challenge” galleries will cover the museum’s 30,000-square-foot lower level. The gallery makeovers on the upper level will also reflect this deeper engagement and highlight technology that benefits humanity.

WHAT IS THE BODY METRICS EXHIBITION?

The Tech Museum of Innovation is developing Body Metrics, an exhibition that invites visitors to explore data streams generated by the human experience. In the spirit of technology-driven health-and-wellness initiatives that track behaviors such as activity, mood, and social interaction, the exhibition will give visitors the tools to collect data about themselves. They can then ask questions and explore the meaning of their behaviors via interactive exhibits, wearable devices, and intuitive data visualizations.

Design challenge exhibitions such as Body Metrics enable a deep level of engagement using hands-on activities to examine and solve real-world problems. This learning method reinforces essential 21st century skills including creativity, problem-solving, collaboration, leadership, risk-taking, perseverance, and learning from failure.

THE EXHIBITION EXPERIENCE

Using tracking tools, Body Metrics creates a digital reflection of visitors to enable them to assess their behaviors’ influence on physical, social, and emotional health in new ways. When people modify their behavior throughout the exhibition, the changes are reflected in their digital identity. Through awareness, people can learn how to make positive changes in their lives, connect with others, and ask new questions about themselves and their communities.

Mission Central is the exhibit entrance, where staff members help visitors check out a sensor kit and start to build their digital reflection. Visitors are outfitted with sensors, enabling them to begin thinking about how they can control and manipulate their data, their body, and their journey.

On the screen of a wearable device, visitors are prompted with their “status” based on six metrics: physical activity, tension, focus, attitude, communication, and proximity. They can then choose activities

and goals related to each metric. Throughout the experience, the sensor kit prompts visitors to engage in activities relevant to their goals and give them feedback on changes in their physical state. For example, if a visitor wants to be more relaxed, he or she might try the “Body Moves – Flow” mission and see a short message, supplied by exhibit sponsor Kaiser Permanente, about how it can influence his or her current state.

Heart Sync challenges visitors to achieve a calm state, as measured through heart-rate variability (HRV). The ability to consciously achieve calmness is useful in coping with life’s stresses. Heart Sync asks visitors reach this physical state alongside others to encourage collaboration. The exhibit presents visitors’ heart rates and HRVs through real-time visualization, allowing them to collectively enter a calm state through biofeedback and breath guidance. Each visitor is able to see his or her own activity in relation to others’, and the group is rewarded when synchrony occurs.

Body Moves begins with visitors standing in front of a large-scale projection. An onscreen guide leads them through one of three activities — Flow, Balance, or Bounce — during which body position, activity level, and range of motion are measured. The stations encourage conscious movement and record a data representation of each session. For example, during Bounce, visitors jump up and down as their body’s data are captured and displayed in real time along with their shadows.

Voice Print analyzes our verbal selves, which are unique and revealing. Language can be analyzed for positivity, negativity, conversation dominance, and other traits. In this component, two users take turns responding to evocative prompts, collaborative tasks, and word games. Their words are converted to text and visually represented. Data mining finds connections between visitors and within a visitor’s own speech. This data will be aggregated over time.

Data Pool is where a richer, interactive exploration of the sensor kit’s data streams can occur. At the Data Pool table, visitors culminate their experiences from each exhibit component with the help of correlation-finding algorithms in the software. Visitors can compare their journeys to those of their companions through visualizations of data and insights that would otherwise be opaque or ephemeral. This information can be saved to their profiles in our Smart Museum system and explored on their mobile devices or post-visit online.

Digital Reflection gathers data about individuals and reflects it back, closing the loop on the personal data production and storage that occurs elsewhere in the Body Metrics exhibition. Comprised of a large-format display behind a half-silvered mirror, visitors see their reflections laid over by representations of their museum visit and activities. This station accommodates a spectrum of visitors, from those who have not engaged in any activities to those who have done every possible mission, wearing every sensor available at Mission Central. As visitors move along that spectrum, their reflections show more detail and become sharper. People with little data are blurry, because the less they measure, the less they can know.

The Body Metrics exhibition will be strategically placed across from the Cyber Security exhibition, where visitors will be challenged to stop a potential cyber attack. This juxtaposition will remind visitors that everyone has a wealth of stored personal data vulnerable to exploitation.

BEYOND THE EXHIBITION

This exhibition will propel additional museum programming on health and data at The Tech that includes guest lectures, hackathons, meet-ups, talks, and other high-profile events that foster conversation. The Tech will galvanize and localize discussions that would not happen without our dedication to serving as a community resource for innovation.

TIMELINE

Opened October 2014.

BUDGET

\$3 million (\$1 million already secured from Presenting Sponsor Kaiser Permanente and Technology Sponsor NetApp)

YOUR OPPORTUNITY

A gift to the Body Metrics exhibition will align your company with the intersection of health and technology. Donors will be recognized on the exhibition and will be entitled to many other benefits, including friends and family memberships, admission tickets, and discounts on museum rentals.

IN GRATITUDE

We value your consideration of partnership to support this work at The Tech and in the Silicon Valley community, and we look forward to many years of mutually beneficial collaboration. If you have any questions, we would be happy to discuss them and share more details of this exciting project. Thank you for your consideration of this philanthropic opportunity.

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