

Prompting In-Person Conversation Toward Empathy

Interaction Design in a Networked Environment

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Introduction

Sociologists and psychologists assert that *in-person interactions* uniquely lead to opportunities for *self-reflection, understanding, and empathy*, and are critical for forming healthy relationships with ourselves and others.

Networked technology has the potential to connect us with others. However, some researchers have found that the presence of technology can **reduce the potential for empathy** during face-to-face interactions.

This study explores ways of **designing encounters** through technology that might encourage and increase empathy between people by prompting interactions that facilitate conversations and the potential for empathy.

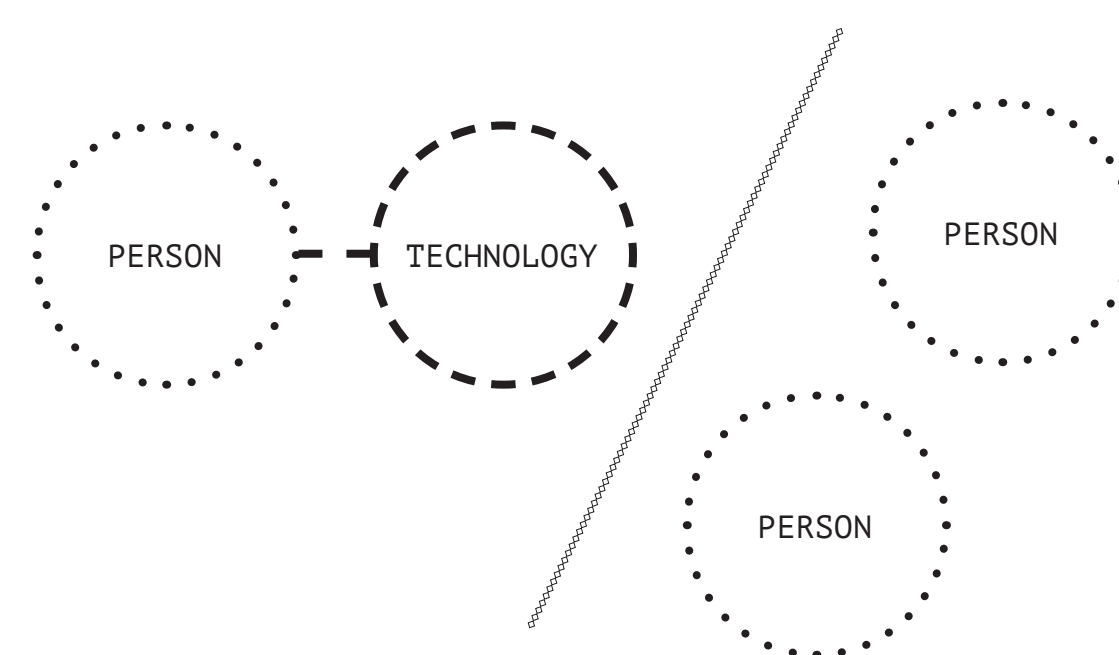


Figure 1. Representation, technology can disconnect us

Research Questions

How might networked technology in a physical fitness environment be designed to support in-person interactions that offer opportunity for building empathy among older adults?

How can **presence** be represented through the design of an interface in a public, semi-public, and private setting to encourage meaningful interaction?

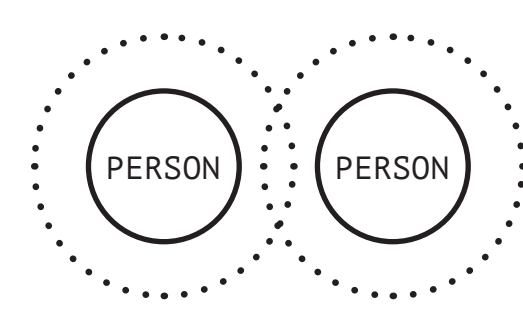


Figure 2. Representation, presence of self and others

How can **exchange** be represented through the design of public, semi-public, and private interfaces to encourage meaningful interaction?

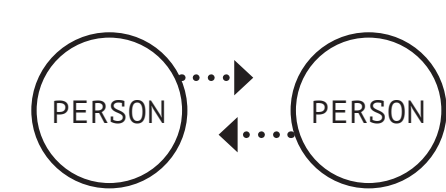


Figure 3. Representation, exchange with others

How can **delight** be incorporated into the design of device-initiated content to encourage in-person interactions?

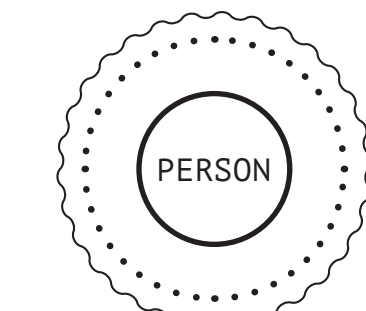
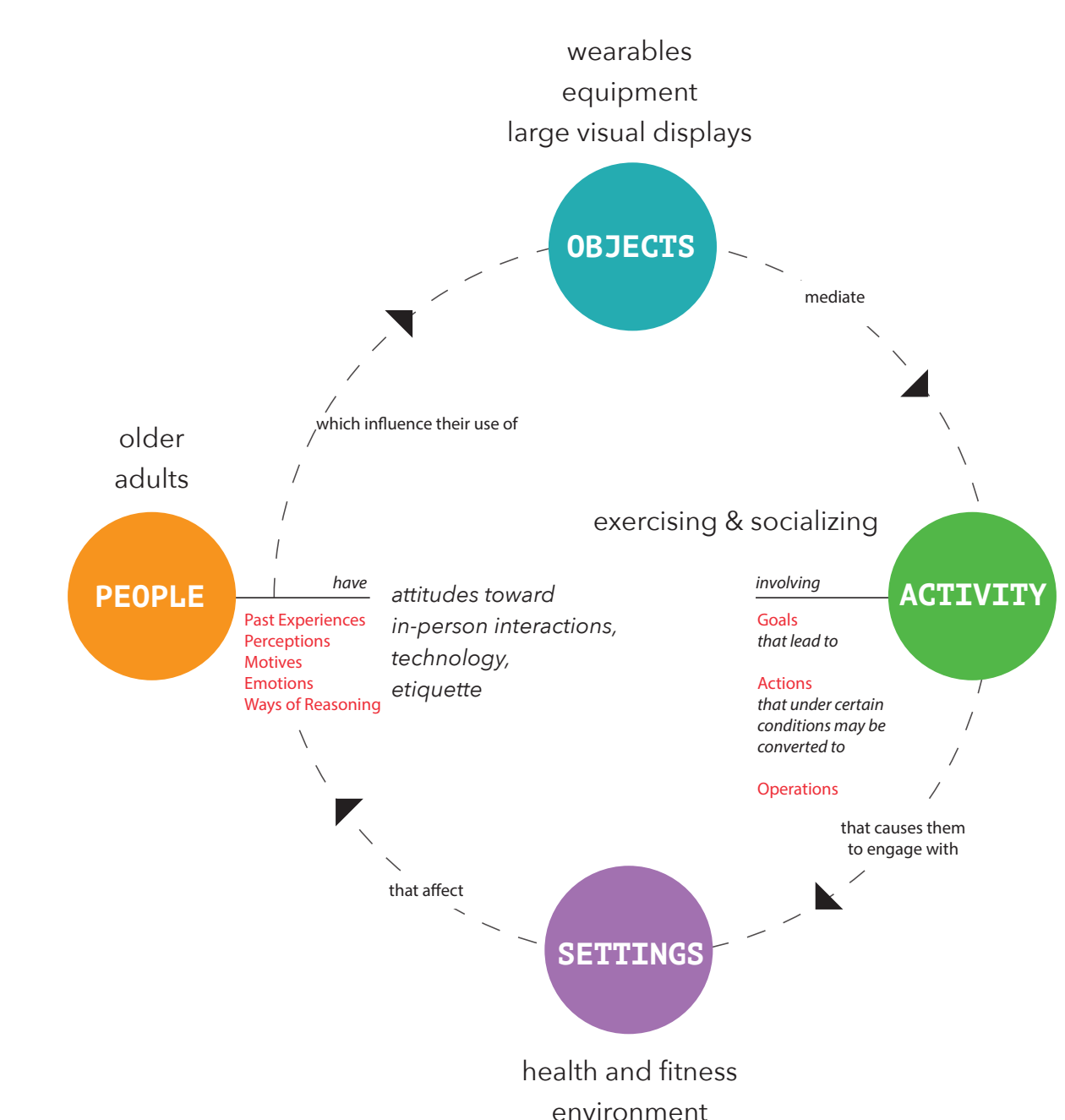


Figure 4. Representation, delight

Design Frameworks

Activity Theory examines how humans interact with technology by examining the activities surrounding the use of technology, incorporating social, creative, emotional and cultural contexts that reflects more accurately how people work and play using technology.



The **Designing for Subtlety Scale** ranks the interaction methods of devices based on their capacity to intrude upon a user's attention. I am positioning my design approaches in the non-intrusive categories as indicated in the diagram.

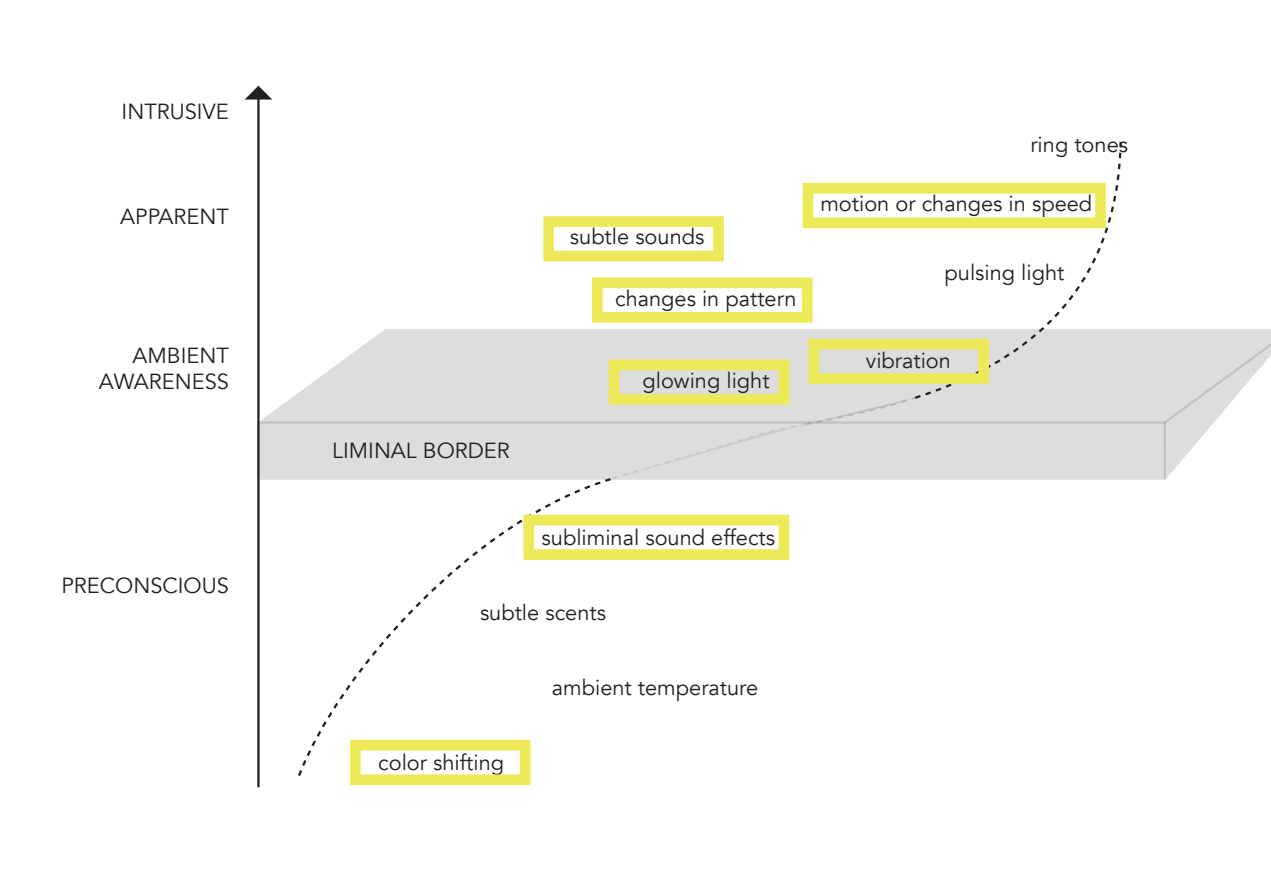


Figure 5 (left). Adaptation of theoretical framework for Activity Theory based on Kaptelinin and Nardi.

Figure 6 (above). David Rose's Designing for Subtlety Scale, emphasizing relevant design interactions.

Selected Bibliography
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Research Methods

Case Study Review

Review of 20 existing or proposed design solutions using technology to encourage or supplement in-person conversation.

Observation

Semi-structured observations in a senior-oriented fitness center.

Interview/Questionnaire

1 gym administrator
1 physical trainer
3 senior gym goers

Inquiry Results (subset)

REASONS FOR GYM VISITS:	HEALTH BENEFITS + SOCIALIZATION OPPORTUNITIES
COMFORT LEVEL WITH TECHNOLOGY (SELF-RATED):	1 (LEAST) ————— 5 (MOST)
FREQUENCY TECHNOLOGY USED TO INTERACT WITH OTHERS:	DAILY

Precedents

Balance Table by David Rose uses slow, ambient feedback mechanisms incorporated into surface of a conference room meeting table to guide turn-taking in a collaborative setting. During discussion, glancing at the table reveals the dominant or balanced speaking pattern. Feedback can be observed and utilized by participants to change their behavior to achieve a shared goal.

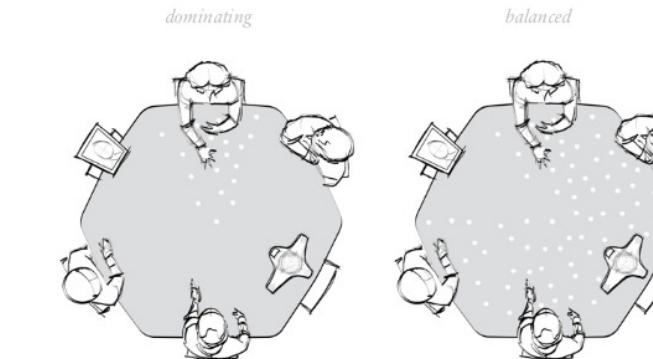


Figure 7. David Rose's Balance Table

Wikipedia Audiovisualizer by halves is a real-time data visualization that uses simple sounds and shapes to visualize current activity occurring on Wikipedia. Additions, subtractions, and modifications on Wikipedia are uniquely described with variations of tone, scale and color to create a tapestry that is both visual and audible. Initiators of changes are minimally identified by username.

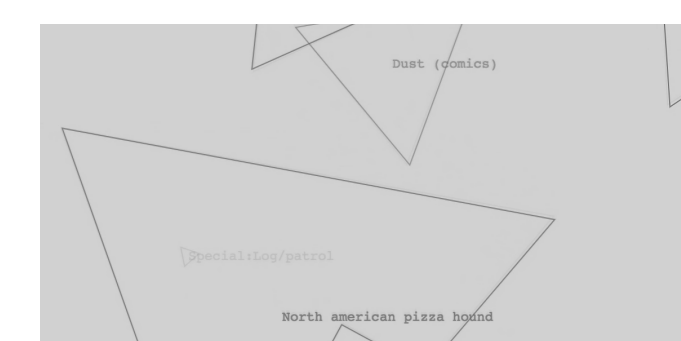


Figure 8. Wikipedia Audiovisualizer by halves, in grayscale for emphasis

Journey Mapping

Commonly observed behaviors shape a gym visitation journey map which is used to identify points for exploring interactions.

Technology already in a space, or that can be added, determines the scope of interfaces for an interaction point.

Applying presence, exchange, and delight to specific moments lead to the mini study investigations.

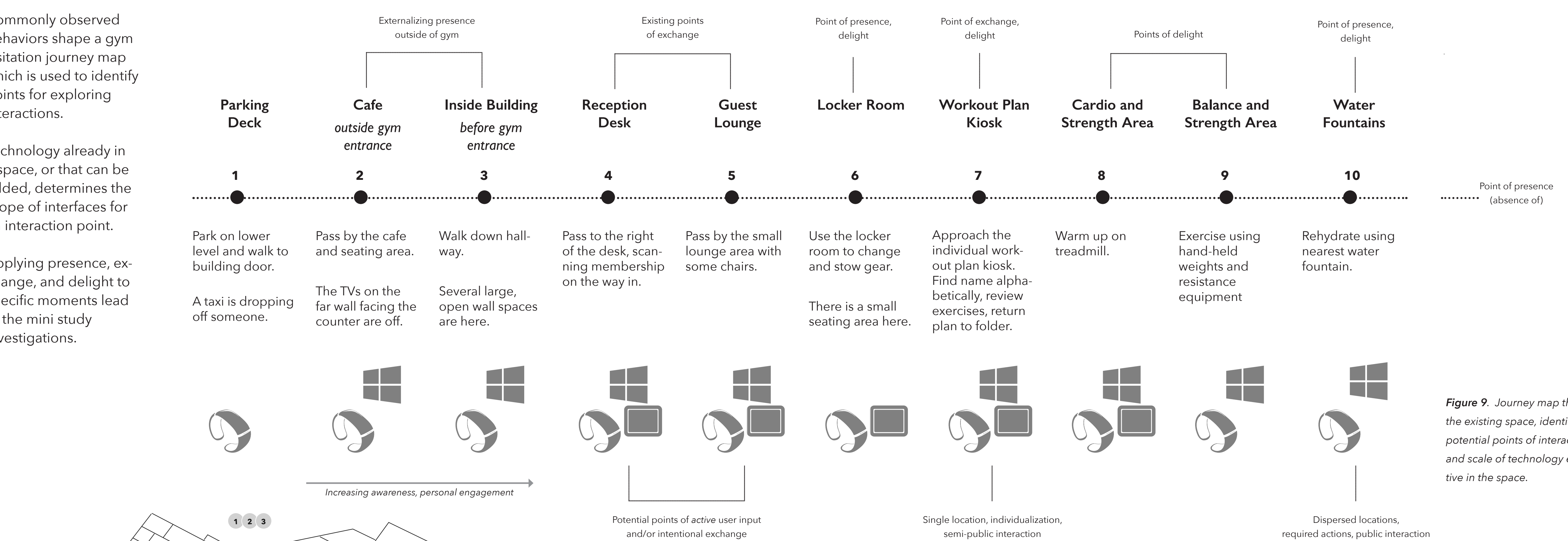


Figure 9. Journey map through the existing space, identifying potential points of interaction and scale of technology effective in the space.

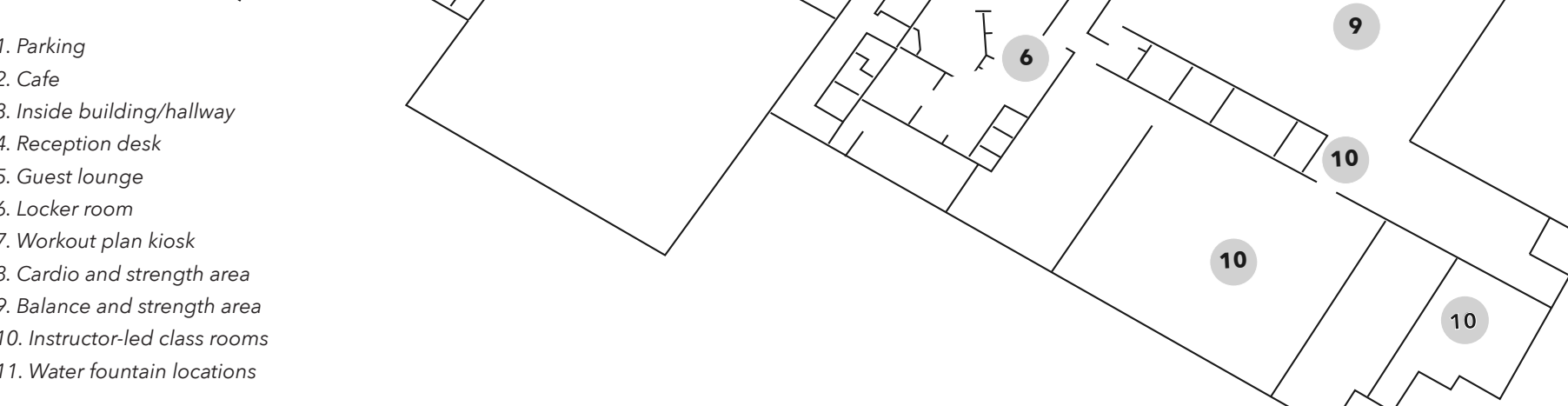


Figure 10. Physical layout of fitness center, indicating locations of steps in the journey map.

Visualization Strategies

Latent data gathering

Data gathered from individuals in the fitness space through wearable devices.

Subtle feedback mechanisms

Device initiated content provided using less disruptive interactions.

Scale of interface

Wearable device
Touch-enabled, tablet-sized device
Large-scale wall surface

Privacy of information

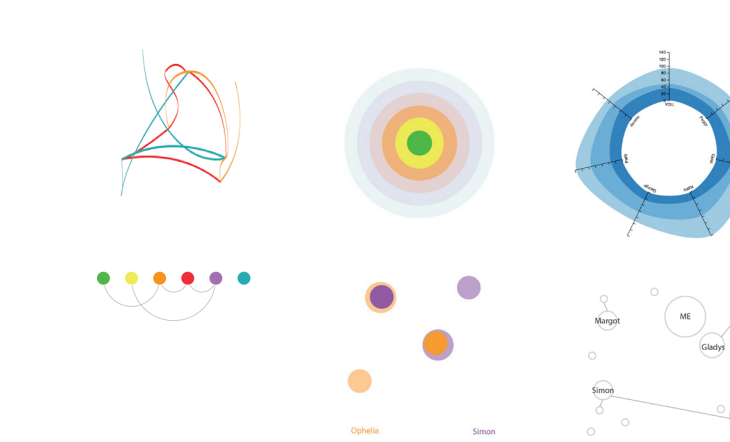
Information displayed along a range from intimate to public, depending on device.

Responsive technology

Networked devices respond to changes revealed through activity within the fitness environment.

Mini Studies

Presence visualization



Exchange experiment

Say Hi intervention to observe if publicly sharing a name would motivate interaction in the presence of technology.

Delight discovery

Bodystorming exercise to see types of experiences that amuse, entertain, or establish a rhythm.

Preliminary Indications

INFORMATION ABSTRACTION:	INCREASED LEVELS OF INFORMATION PROMPT MORE CURIOSITY AND POTENTIAL MOTIVATION
KNOWLEDGE:	SIMPLY KNOWING INFORMATION MAY NOT MOTIVATE ACTION
DATA USED TO ESTABLISH A CONNECTION:	ISOLATED FACTS ARE LESS EFFECTIVE THAN A SHARED EXPERIENCE FOR CREATING A MEMORABLE CONNECTION

Next Steps

The mini studies inform the design of solutions for hypothetical scenarios in the space. A non-functional prototyped design visualizes a designed intervention which is evaluated against design frameworks to inform conclusions.

Relevance to Other Disciplines

This research explores systems of interaction that work to preserve the values of in-person experiences in the presence of technology. Information displays consider data privacy, disruptiveness, and the needs and concerns of older adults.

The findings of this investigation may interest designers concerned with **Interaction, User Interface, Data Visualization** and **Environmental Graphics, Technologists** and **Human Factors** researchers can benefit from the considerations of technology in the space and the way this audience utilizes it. This research may also benefit **Social Science** researchers interested in the attitudes and behavior of older adults, particularly with respect to the use of technology.