A place can be described by a set of coordinates—longitude, latitude, and altitude. It can also be described through stories—experiences and memories that are deeply rooted in a particular locale and are often intimately shaped by it. Ancient Greeks had two words for place, signifying these two different ways of thinking about it—*"topos"* and *"choros." Topos* referred to location—objective, physical features of a place. *Choros* provided a holistic reference to a place as an experience, a trigger for memory and imagination. Topography, a science dating back to Aristotle, uses the concept of *topos* to represent place as a set of objective, physical coordinates. This is the context for most of today's maps. Not surprisingly, our experience of a new place often starts with finding its topographical features as we locate it on a map. The *choros* is usually hidden from us—that is until we develop it as we experience the place ourselves or learn of others' experiences in it.

Topos and Choros Merge

A homeless person sleeps here every Saturday.

Flash mob here on November 3, 2003.

Vanilla lattes free with purchase of a scone

N 37° 28.521 W 122° 10.148

Institute for the Future
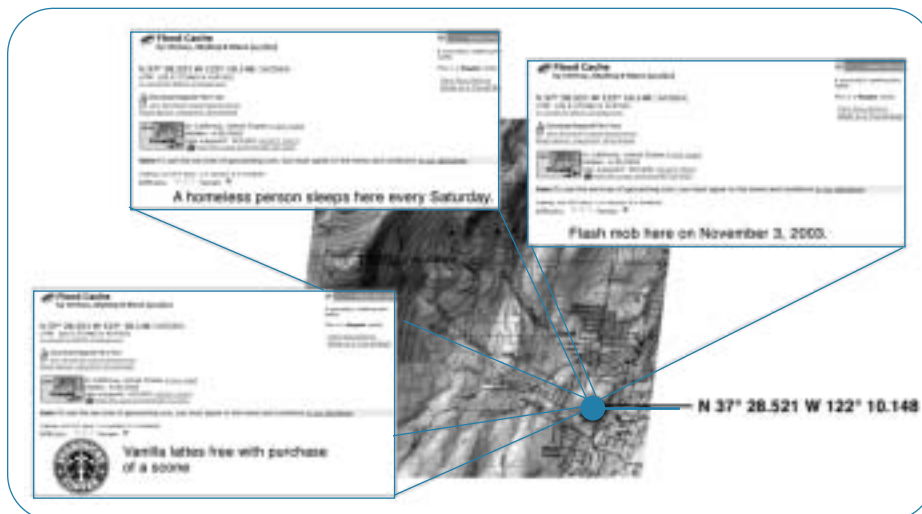
However, this is about to change as a new generation of connective and positioning technologies enable the integration of many different kinds of information, including experiential and emotional (choros) with location information (topos). In the next few years, Internet protocol Version 6 (IPv6) will allow everything from buildings to café tables to have their own Internet addresses. Location technologies, such as GPS will enable location-based services that help people navigate spaces. Geocoding of data will link information to places—by latitude, longitude, and altitude, and by Internet address. And wireless technology will make all of this information accessible from a wide variety of mobile devices and embedded displays. In short, new technologies will create a world where information and experience—the choros of a place—are tightly integrated with the physical landscape. What's more, this choros will be accessible both locally and remotely. It will fundamentally change our experience of places and spaces, creating a new spatial landscape for individuals, businesses, and society at large. Understanding the nature and the impact of this transformation is critical to business success in the next ten years.

Four Critical Shifts

The places and spaces we move through influence what we see, who we are, how we think and perceive, and what we know and remember. Indeed, our identities are shaped in part by our relationships with the places we locate ourselves. The integration of location data with layers of experiential information, which are accessible in context in a specific location, will reshape how we orient ourselves in a place, how we use that place, how we acquire knowledge about it, and even how we think about it. For business, the new spatial landscape will enable new types of consumer interactions, create new sets of needs, and open new channels and contexts for communication with customers, partners, and employees. We identified four critical shifts in the nature of places that will characterize the new spatial landscape.

Places Will Be Embedded with Social Narratives

We are moving toward a world in which physical places are embedded with layers of digital narrative—stories, memories, opinions, and other social information—created and left by individuals, groups, and businesses. Of course, places have always contained layers of meaning, expressed in place as graffiti or signs, and in guidebooks, novels, and other media. However, digital spatial annotations are different in three ways. First, they eliminate scarcity: a virtually unlimited amount and variety of digital information can be bound to a place, whereas even the most crowded space can display only so many signs. Second, selected layers can be accessed and filtered by users. Third, they can be produced by ordinary people, in contrast to the past when most sources of information were official in nature or individuals had to have significant resources to get their information published. Digital spatial annotations will do for images and memories of places what the World Wide Web did for journalism: they will level the playing field.

Places Will Be Multi-Layered

As physical places become annotated with information, they will evolve multiple layers of identity and meaning. A café can be annotated with business information, such as advertisements of its products, opinions of café regulars about its ambiance or service quality, stories of gamers who have used the place as part of their game experience, geocachers who have hidden a cache behind the bar, and mobile workers who use the café as their workspace. Individuals or groups can create distinct layers of information, and these layers will be available to anyone interested and armed with the right tools. Much of this information will be available in-situ, that is, in "real space" when people are in the location. They may want to access one layer of information—about the quality of wireless connectivity or best items on the menu—or multiple layers. Which layer of information they decide to access, will shape their perceptions of the place and their use of it. To one person it may be a place to get a good wireless connection, to another it may be the best place to get a cup of coffee or for good conversation. Navigating multiple layers of meaning will become a key practice as physical places become information spaces.

Places Will Be Customizable

A new generation of connective tools and technologies will give individuals and groups increased ability to customize places to their needs at a particular time and in a particular context. They will empower the individual to create a private space that is suitable to his needs and context. People have always done this—they could walk into a bar with a book and read rather than participate in a conversation; cell phones, connected laptops, and PDAs are but the latest generation of technologies that facilitate the ability of the individual to convert any space to his context and needs. They expand the toolkit for converting spaces in an important way by giving an individual the ability to access distant resources—people, information, places that are outside the bounds of his or her immediate surroundings. People are thus able to not only customize what they do, but also who or what they "bring in" and engage with in a particular physical location much beyond the bounds of who is actually there. To the degree that people will be able to use connective technologies in more and more places in the future, it is difficult to conceive of many places that will not be customizable.

Places Will Be Subversive

Situationism is a movement that emerged in France in the mid 1950s and has influenced artists and architects for several decades. According to Guy Debord, the best-known proponent of the movement, a situationist is "one who engages in the construction of situations." Thus, when students in Paris turned Boulevard Saint Michel into a lecture hall or invited workers into the Sorbonne to set up Workers' Councils, they were being situationists—they were subverting a particular physical or social setting, by appropriating it and using it for novel purposes. The purpose of many situationist actions in urban spaces was to break the routine, the existing spectacle of urban life, to undermine existing authority, and reinvent the environment. Situationism appealed to the students of the 1960s because of its subversiveness, playfulness, and irreverence.

As information and intelligence move off the desktop and into everyday objects and environments, physical spaces will increasingly acquire some of this subversive, irreverent quality. Our interactions with each other and our environments will become less planned and more emergent simply because once things acquire intelligence they also acquire autonomy. Emergent interactions will not be staged and controlled from the center because there is no center. Environments and places become

stages for "situations" in Debord's definition. Today's geocachers redefine physical places by placing caches in the most unlikely locations. And by their very existence, caches become catalysts for new visitors and new encounters. They elevate forgotten or hidden places to the level of landmarks, thus disturbing the routine definitions of what constitutes and who defines a landmark.

Challenges

Connective technologies and the emerging geoweb will transform physical places and this transformation will present challenges for organizations, employees, information designers and researchers, and society as a whole.

Organizational Challenge:

Monitoring and Constructing Presence in a Multi-Layered World

Who is creating narrative about you? We are getting used to people offering opinions ratings, and advice about products and services online. In the geocoded world of the future, where every URL or piece of information can contain location information, such narratives become available in context—right when someone passes the place where the product or service is located. Thus social narrative about products or services acquires immediacy and additional value. Organizations will increasingly need to blend brand with place. In the new spatial landscape, impacts of local culture become more obvious, so businesses will increasingly need to understand local culture and be able to tie their brand and its communication to the local context. A Gap brand may have to look very different in a Mumbai suburb than in downtown New York City. Businesses will not only have to monitor location-specific social narratives to understand perceptions of their brands, but they will also need to participate in creating their own location-specific narrative about their brands.

RESEARCH PROCESS

In preparing this collection of artifacts, the Institute for the Future (IFTF) team conducted in-depth observations and interviews in several global hotspots—Silicon Valley, Finland, Switzerland, and Japan—to identify shifts in the evolution of physical spaces and to understand the new social meaning of such spaces and their use. Observation research sites included a wide range of public spaces including cafés, hotel lobbies, airports, restaurants, community plazas, trains, and transportation stations. You can learn more about the research process and view summaries of observations and interviews at http//:blogger.iftf.org/place.

Employee Challenge:
Navigating Multiple Levels of Presence

Connective technologies allow people to be simultaneously present in several worlds. Anyone observing a teenager with multiple instant messaging screens open chatting online while on the phone, can see that presence and attention management are quickly evolving as key skills for the generation growing up in the world of abundant connectivity. New skills include:

• Creating presence markers to let others know what communicative state one is in (i.e., available vs. unavailable) and through which channels, and reading the clues left by others and adjusting interactions accordingly.

• Multi-contexting—switching contexts and identities across multiple interactions.

• Reconfiguring public spaces to suit one's immediate needs and context.

Organizations can expect to face generation gaps in these skills and will need to think about strategies for bridging the gaps. This area is ripe for intergenerational conflict.

Information Challenge:
Visualizing "Choros"

The ancient Greeks had two ways of understanding a place—through its *topos* and its *choros*. Today, most of the tools we have to orient ourselves to a place are based on *topos*. These tend to be simple navigation guides that provide us with geographic coordinates and other physical information. However, as geographic coordinates become enriched with social narratives and we increasingly rely on such narratives to navigate in place, our navigation tools will have to evolve. New tools will need to take into consideration the best way to access and present *choros*-based information and whether one is accessing information in that space or from a remote location. Developing such tools will provide a vast and challenging area for information researchers, designers, and social scientists.

Societal Challenge:
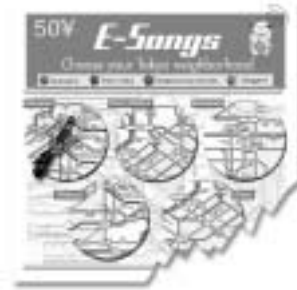*Learning to Love Emergent Behavior*

Emergence is about unpredictable phenomena, which occur when lots of independent actors, following a few simple rules, create complex behaviors. Such phenomena are often unpredictable and cannot be controlled from the center since there is usually no center of control. Emergent behaviors tend to break routines and established patterns and undermine hierarchies. They are often playful and subversive in nature. In contrast, businesses, governments, and educational establishments tend to operate in highly organized and hierarchical fashions. How will they fair when confronted with swarms whose members follow a few simple rules but in the process change the rules of the game—convert a street into a classroom, a park into a stage, an unknown location into a landmark? Beyond these institutions, the larger question for society as a whole is: Will we try to block such behavior or will we embrace it and see it as a way to reinvent our organizations and ourselves?

Artifacts: Windows to the Future

In this package, *The New Spatial Landscape: Artifacts for the Future*, our forecast is presented in the form of eight artifacts from 2013. These are everyday objects habitually used in the future world where *topos* and *choros* have merged. Each artifact tells a story about the future—an internally consistent, and plausible future scenario based on our research and field observations. The artifacts allow us to present our forecasts not as abstractions but as concrete prototypes of what the future might look like from the point of view of everyday people—your customers, employees, and partners.

Our artifacts are based on insights from our primary research—ethnographic interviews and observations of people in different locations and their interactions with and in physical places. These insights are then combined with our technology forecasts for the next ten years to develop the artifacts. Behind each artifact there are insights about the future direction of change—shifts that will have important implications for organizations, consumers, and employees. After describing the artifacts, we identify "signs" of change that we see in the current environment that point us to these insights.

While each artifact is a forecast in itself, collectively they present a rich picture of the new spatial landscape. They can also be used as tools for thinking about the future and for developing strategies and actions for success.

Mapgeste is a personal mobility management tool that supports the user as he navigates the physical and digital landscapes of people, places, information, and focal points of connectivity. The tool is organized into layers of text and map-based information. Each layer is highly personalized and represents an important part of the mobile infrastructure for daily life in 2013. Mapgeste's layers include: the base layer, which contains menus for personalizing the service to specific dates and times and travel route; the wireless infrastructure layer, which locates wireless hot-spots and their service quality; the work-resource layer, which points to resources related to the user's line of work such as clients and suppliers; the social-network layer, which marks the location and availability of different friends and colleagues along the user's travel route; the identity layer, which highlights the location of resources related to entertainment or personal interests; and the annotation layer, which contains digital opinions or stories attached to places in the physical environment. The map is dynamic and layers can be changed or updated throughout the day.

Field Notes

Date: November 12, 2013

Provenance: This artifact was found in an upper-left desk drawer in a vacant office in downtown Helsinki, Finland. The drawer was half-open and the desk was the only piece of furniture in the room.

Artifact: A series of six flexible color-printed transparent polymer sheets 21.59 cm (8.5 in) x 27.9 cm (11 in). The sheets cling together by a static-elec band at the top, whic disengaged so

Institute for the Future

INSIGHTS

1. New Technologies Will Make Mental Maps Visible

People develop mental maps that support their mobility. These maps are created through the ongoing process of making mental notes of resources as they are encountered in physical and digital landscapes. Such maps serve to orient a person in a particular location and make a range of resources (e.g., work, social, and technological) available and accessible in that context. For example, most people have a mental map of the area around work—good places to go for lunch, a quiet place to escape to do some creative thinking, the most likely place to bump into people one knows, and so on. These mental maps are not constructed randomly; rather they are shaped by a person's pattern of mobility. In Silicon Valley, most people commute anywhere from 30–60 minutes one-way to work. The commute then, for many, becomes the organizing framework of people's mental maps and shapes the kinds of resources that get folded in for work, entertainment, dining, and so on. A new generation of geo-location and connective technologies will make such mental maps visible and accessible any place in the future.

2. Mobility Will Be Redefined in the New Spatial Landscape

Mobility no longer simply means the movement through physical landscapes. Mobility also includes the movement through digital, identity, connectivity, and social landscapes. When people move through different digital landscapes, whether that is a Yahoo Group, a Web log, or a professional organization's Web site, the person also moves through different communities, affinities, content areas, and sets of knowledge, each with its own protocols for exchange and interaction. Mobility then is multidimensional and layered, and movement in one landscape often triggers movement in another.

3. People Will Increasingly Navigate Layers of Information Around Place

INSIGHTS

Places will have multiple layers of information attached to them—from information about connectivity to nearby entertainment opportunities. The layer of information a person chooses to access depends largely on their needs and identity at a particular time. For example, a person working at a café might look for information on the connectivity services offered on site or nearby. The same person, at the end of her workday, might want to know which band is playing tonight. Each layer of information has value as the person switches contexts. As more and more layers of information are attached to locations, people will increasingly navigate these layers, filtering for information that supports their needs or enhances the experience of the place.

USER	ORGIN	DESTINATION
Mikko Kokkonon	1040 Balboa	118 Second Street
Identity:	San Francisco, CA	San Francisco, CA
Simulated	94118	94115

Time:
0946 09/18/13

Orgin:
1049 Balboa
San Francisco, CA
94118

Destination:
Second Street
San Francisco, CA
94105

ROUTE OVERVIEW:

NORTH

The Starbucks of New Montgomery and Market has Wi-Fi, but if you sit at the northwest corner table the Wi-Fi from the furniture designer next door is accessible and free.

Erin Lopez

SIGN 1 | Emerging Mobility Typology

People create and manage complex and highly personalized mental maps of place-based resources that support their mobile life. These maps are based on a person's pattern of mobility. Together, these patterns define an emerging mobility typology. In our research we identified four distinct mobility patterns that comprise the typology.

—Male, software engineer,
Silicon Valley, CA

Concentrated Around on a Focal Point

These mental maps are concentrated around a focal point such as home, school, or work with resources (e.g., coffee shops and restaurants with Wi-Fi) noted around the focal point.

Bound Within Institutions or Organizations

These mental maps locate mobile resources within a bounded space—think of a university campus or large corporate office.

—Male, engineering student,
Silicon Valley, CA

Along a Travel Route ▶

These mental maps are defined by points of origin and destination (e.g., home and work), and resources are located along the route.
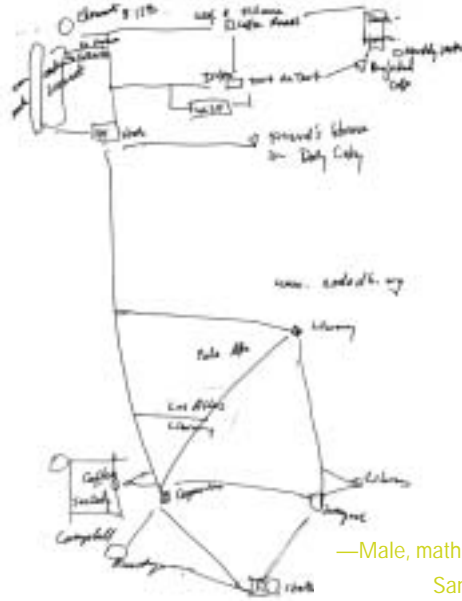
—Male, mathmatics student,
San Francisco, CA
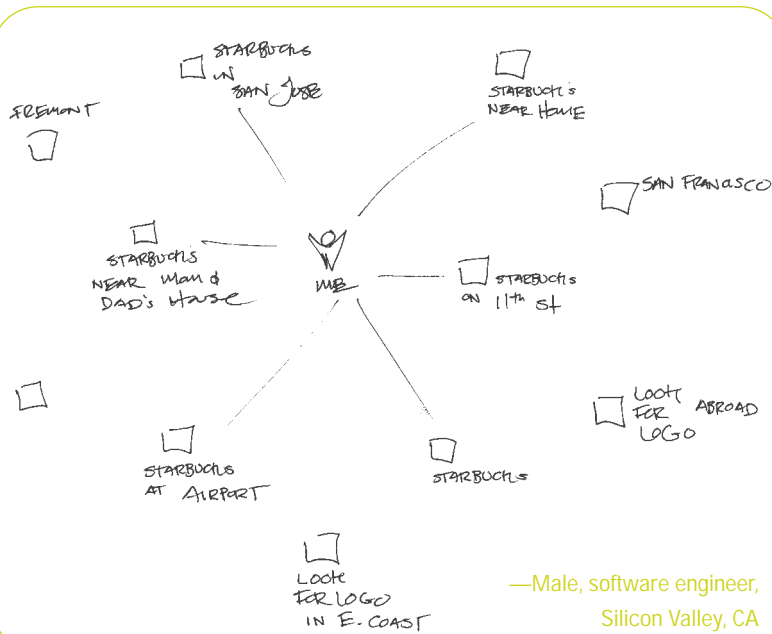
—Male, software engineer,
Silicon Valley, CA

◀ Ad Hoc and Opportunistic

No well-established route or routine characterizes this pattern of mobility. A person relies on random encounters with familiar focal points to access necessary resources. When in an unfamiliar environment, finding a Starbucks will assure wireless online access, for example. Thus, all one has to do is scan the physical landscape for the Starbucks logo.

SIGN 2 | **Moving Through Layers of Identity in Digital Landscapes**

When people move through different digital landscapes, whether that is a Yahoo Group, a Web log, or a professional organization's Web site, the person also moves through different communities, affinities, content areas, and sets of knowledge, each with its own protocols for exchange and interaction. Here one woman discusses how difficult it is to do this in online environments and how software engineers have failed to create tools to help people shift in and out of different identities and personalities.

Another person we interviewed also discusses the range of personalities he moves through while checking e-mail. In fact, having multiple e-mail addresses for different personalities is the way he moves through layers of identity.

I'm okay being in public and being whoever I want to be, because I'll still have a job in the morning. That's not the case for a lot of people, and it always makes me really upset, the fact that it's assumed that everybody can present their public life and their private life in one big mix. I mean it's tricky, because the people who built the software are very happy to be always who they are, always and in every situation. And those are the people building the systems. So there's not anybody who might want to construct these nuances, and it's really hard to do. Because we manage it offline without a lot of thought. You know when you're in a pub what kind of context or social situation that is versus when you're working—you change your linguistic habits, you change what you wear. But to do so online requires way too much effort, so people don't do it.

—Female, student researcher,
San Francisco, CA

I have various e-mail accounts. I have Yahoo, Hotmail, and I can access my own personal Comcast from online as well. I have multiple personalities. There's me and then I have various e-mail addresses for my Web sites. So Webmaster—I have advertising for the theater so I have publicity for the theater, and I have addresses for that as well. So I can actually access them from wherever because they're all accessible from the Web. So whenever I go to a friend's house and I haven't checked my e-mail for a while I'm checking my Yahoo, my Hotmail, my own personal Comcast, I'm checking Comcast in various different accounts. So I'm there forever, checking my e-mail.

—Male, software engineer,
Silicon Valley, CA

SIGN 3 | **Uncovering Context-Specific Information Layers**

As more information about places becomes available, people are accessing layers of information that suits their unique needs and context. One of our interviewees, an avid geocacher, traveled about 50 miles to our office in Menlo Park for the interview. Before she came, she called the office for the address. She then looked up and came prepared with information about local Wi-Fi hotspots and geocaches. During the interview, she revealed that she had located a particular geocache that she wanted to find after the interview before heading home.

They're just about everywhere else. … I looked them up around your place, and there are about 50 [geocaches] within 50 miles.

Q | Right here?

At your office. Yes.

Q | So you're going to find it after our interview?

Yes.

—Female, self-employed,
San Francisco, CA

Use Patterns of Mobility to Identify Product and Service Needs

Companies seeking to fit their products and services into the mobile experience should consider people's needs across the emerging mobility typology, and identify ways to fit their offerings into the mobile routines of consumers. Each pattern has its own distinct profile and user needs, and the typology represents a new way to segment consumers. The mobility lens will become increasingly important in understanding user needs and desires in the next ten years.

Establish a Presence in Key Places or Risk Irrelevance

Brands will be increasingly tied to physical location as people access information on the go, in actual physical places. Businesses need to identify the key places for them to be, and establish a presence in the information layer of those locations. Without a well-established presence in these key locations, businesses run the risk of becoming irrelevant to those that visit them.

Contribute Information to Add Value to Experiences

Consumers will increasingly access multiple layers of information attached to a place, including experiential information. Companies need to contribute to the information layers of a place to add value to the consumer experience there. They will increasingly need to make this information relevant to the physical environment and the person's experience in it.

This artifact, E-song, is a device that looks like a piece of jewelry and is worn on the ear. It is embedded with an antenna tuned to GPS and it has the circuitry and a nanospeaker to produce high-fidelity sound. The device is activated by a specific set of GPS coordinates. When you enter a neighborhood wearing this device, it plays stories about the neighborhood, helping the place come alive through stories, music, or other information. E-songs use aggregated geocoded Web information provided by various individuals, groups, and commercial establishments. Different models of the device tell different stories. For example there are E-songs that tell you about flash mobs that have occurred in the neighborhood; others give you a tour of bloggers and stories from their blogs; yet another one leads you to geocaches hidden in different places—what was buried there, who found it, and interesting stories associated with the cache. An important characteristic of the E-song device is that it doesn't tell the user where to go, like a guided tour; rather it provides information as the user moves about on his own.

Field Notes
Date: February 8, 2013
Provenance: The west wall of a 7-Eleven just south of Tokyo Station, in Tokyo, Japan.
Artifact: The artifact consists of a ripped cardboard display rack (w 50 cm [19.69 in] h approximately 49.3 cm [19.41 in]) with mountings for 20 small devices. Printing on the display reads: E-SONG, 50 (around 0.5 USD): Choose Your Tokyo Neighborhood. The backgrou the display is a map Tokyo region, div

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INSIGHTS

1. Places Will Build Up Layers of Social Narrative and Meaning

Physical places and spaces will acquire layers of social narrative created by people who annotate such places with personal stories, opinions, and other information. Of course, places have always contained layers of meaning. As the saying goes, "There are 8 million stories in the naked city." However, a combination of technologies including geocoded Web, XML, and intelligent agents, will provide the infrastructure for capturing social narrative and making it accessible to a wide range of people—basically anyone who enters a geographic area, is interested in uncovering the story, and has the tools to access it. The narrative will also be accessible in context—when one is standing or walking by the place.

2. No Place Will Be a Strange Place

People living in the new spatial landscape will never have to experience the anonymity of an urban place or any other place, for that matter. Mobile phones and other wireless connective devices are increasingly allowing users to get a quick orientation to a place by connecting to relevant resources. If one finds himself in an unfamiliar place, he can quickly orient himself and get a lot of visible and invisible information suited to his particular identity or interests at a particular time.

This is an important shift since people today spend a lot time planning. The experience of planning a trip will be completely reinvented as more detailed information about specific locations makes its way to the geocoded Web. Planning may well become an option, not a requirement.

3. Dead Time Won't Be Dead Anymore

People may want to purchase E-Songs for different reasons. A tourist visiting the neighborhood for the first time may want to get an "inside scoop" on the place. Someone just briefly transitioning through a place on her way to a meeting may have some time to kill, so why not listen to some stories? Someone living in the neighborhood may want to uncover some "invisible stories" about neighbors and different places in the neighborhood or simply get other people's opinions/ratings of businesses

in the area. For some, it is really a game—walking around the neighbor-
hood, searching out places that trigger the E-song device to tell a story,
scoring how many times the device was activated, how quickly one can
find a way to activate the device. In many of these instances, E-Song
devices provide entertainment and a break from the routine, they bring
novelty into otherwise mundane activities. No matter what the motiva-
tion is, devices such as E-songs will increasingly fill in "dead time." In
addition to being productivity tools, which allow people to accomplish
tasks while in transit or otherwise not in a work setting, communication
technologies offer a break in the routine. They bring novelty into peo-
ple's lives and often can be seen as means of gift giving among friends
and acquaintances—sending a joke or a smiley face, which gives a
friend a light moment during the day or a smile. Not surprisingly, com-
munications become fillers for every free moment in people's lives, fill-
ing in more and more niches of time in between things, in transit, during
"dead" times.

INSIGHTS

SIGN 1 | Geocaching—Precursor to E-Song

Geocaching is a game in which people create caches—objects or messages they hide in different locations—and provide players with clues (usually GPS coordinates or approximate coordinates) for finding them. It is a treasure hunt that combines physical objects and locations with digital information about them. When people find a cache they send stories about it—pictures, what they found, how they found it, who was around—thus building up a whole layer of social narrative about the place. A geo-cacher we interviewed describes how people who found the cache provided her with updates on what was happening in the location.

I put one (cache) in a park, out in Concord. And it's really interesting. It has a stream, and roses are hidden way back in there, and then there's a numbered area. So I suppose there's probably a brochure somewhere where you can match the number to what the tree is, or the exotic vegetation. And I put mine near number 13, and called it "Lucky You!" It got very interesting because after I placed it, a homeless person had been near it. I thought, this is a really inhospitable place because the tree is spiky, everything around it is spiky. All the bushes are spiky, It's got the spiky aloe, and some other cactus-y things. And then the tree sheds all this spiky stuff. So, it's not somewhere you'd want to stay long. So I was pretty boggled that a homeless person moved in near it.

Q | How did you know that the person was living there?

Because in the logs, people were writing about him. "Oh, somebody's living here," and "Oh, I saw him on the other side of the park," and, "Oh, looks like he's out right now," or "Oh, I don't want to disturb him." So I get these updates of this homeless person. And it's so weird, because it's in a park, where it says, nobody's supposed to be there after dark. And he's in the most inhospitable part of the entire park. Everything is prickly right there. I even prickled myself. I mean, it's really wild!"

–Female, self-employed,
San Francisco, CA

4

SIGN 2 | On-the-Fly Location Research

Learning about an unfamiliar place takes a lot of time and effort. Or does it? For some, access to the Internet is all that's necessary to get an orientation to an unfamiliar place. Here is how an interviewee "discovered" everything he needed to know about Tokyo, in a just a few hours, on-the-fly in the Tokyo airport.

A friend of mine got married recently and I was all excited when I found out the wedding was going to be in China. So a small group of people got to go there and see some of China. I had a layover in Japan, so I just hopped off the plane and stayed there for four days.

Q | Did you just decide to stay in Japan while you were there, or did you plan to stay?

I was talking with the same friend who got married, and he said, "Well, you know, why don't you just stay in Japan for a day?" So, I actually blocked out four days and stayed there. That was a lot of fun because I didn't know anybody in Japan and didn't know the language—I didn't actually even know where the airport was in relation to anything, so the first six hours in the country were a bit difficult, but the airport had everything I needed. It had some Japanese translation books, it had maps and it had Internet access—so I was able to get on the Web and pull up maps and find out where I was. Turns out I was only about an hour from Tokyo.

I sat at the Internet kiosk and looked up where I was, and found a hotel online and made a reservation. Did a little bit of research about the city, looked at maps and tried to figure out where the densest part of the streets were in Tokyo and so on; tried to find where the downtown section was.

Q | So, you did it all while you were sitting there, as you landed from China? You didn't plan before?

No—I just basically stepped off the plane.

Q | How long did it take you to do that?

I was in the airport for probably about six hours before I finally had everything down—you know, found a hotel and knew how to get to the hotel, knew how to take the bus there—knew enough about how to get around the city so that I wouldn't be totally lost—memorized a couple of phrases.

–Male, unemployed,
Silicon Valley, CA

SIGN 3 | No More Dead Time on the Road

Time on the road no longer has to be "dead" time; in fact, it's an ideal window to connect with others, be it for fun, work, or simply because there is nothing else to do. One of our interviewees fills up dead time while on the road with conversations.

When I was working for the company that had me doing installations here in California, I was living in San Francisco, but really I was on the road 50 weeks or so out of the year, down in LA and in San Diego. For that, I rented a pick-up truck with an extended cab, so I could put my tools in the back.

They had sites all up and down, you know, from LA down to San Diego, and I'd just drive up and down the coast; as there was a problem I'd motor off to that site and take care of it. [Traveling up and down the state is] extremely time-consuming, so I had many, many, many hours in the car.

Q | Did you use any technologies while you were in the car—did you use your phone or did you have your laptop with you?

Yeah—I'd have my phone with me and I carry a headset. I'm sure I annoyed people so much with this, but sometimes when I'd be in the car and I'd be bored, I'd just pick somebody from my phone list and call them, and just start chatting with them at work. I'd tell them—"Look, you know, I'm just calling you to bug you at work and waste your time, because I'm bored," and then we'd proceed to talk for an hour or an hour and a half—and so then I'd say, "I'm here—I've got to go." I'm sure it was terribly rude, but—but it was fun!

–Male, unemployed,
San Francisco, CA

Tie Your Brand to Physical Location

Brands will be accessed and experienced in more physical locations in the future. Thus, companies will need to understand how to fit their brand and the narrative around it into particular physical contexts. What message does Starbucks in a suburban mall need to communicate to people in the area as opposed to Starbucks in an urban location? Designing brand messages and narratives that fit into physical location and culture will become critically important.

Companies also need to understand that their brands are a part of a narrative someone else is creating. We are getting used to people offering ratings, opinions, and advice about products and services online. In the geocoded world, where every URL contains location information, such narratives become available in context—right when someone passes the place where the product or service is located. Thus social narrative about products or services acquires immediacy and additional value. Businesses will increasingly need to monitor location-specific social narratives to understand perceptions of their brands and how such perceptions are being communicated to their customers.

Position Yourself Vis-à-vis New Location-Based Information Filters

People are increasingly turning to other people, rather than businesses or other official sources of information, to serve as filters for relevant information. For example, many bloggers specializing in certain subjects—anything from mobility to diabetes—search the Web for the most relevant information, latest news, and expert opinions on the subject. The bloggers who compile and publish the information then serve as trusted agents for readers, easing the load of information searching and processing for them. Businesses will increasingly need to understand how information can be filtered to fit the physical context of a person, who the new trusted filters are in the geocoded world, and how to position themselves vis-à-vis such filters.

Become Visible in the Geocoded World

Places and things are also acquiring a digital presence. The new digital divide may be less about who is able to access specific technologies than about digital presence. Some people are becoming highly visible on the Web—these include intense bloggers and others who post great amounts of information or are frequently quoted on the Web. When you perform a search on their name using Google, hundreds of pages may pop up. These people may be the new digitally "rich." Much research remains to be done on how these digital "riches" impact other aspects of a person's life—their access to resources, both social and monetary. Just like people, physical places and things are also acquiring digital presence. Things (like products and services) that are not included in the narrative about places become invisible to people traversing the physical space. Thus, businesses will increasingly need to build presence and visibility in a geocoded information world.

Think About Interfaces for Information Embedded in Physical Objects

Businesses interested in developing location-sensing services will have to contend with a deeply turbulent and diverse technical landscape in the next decade. Even if common geocoding standards are widely adopted—which would lower the risks involved in geocoding legacy content—users will access location-based data through a variety of devices and interfaces, ranging from e-books and cell phones to head- or eyeglass-mounted displays. At the very least, developers will have to create multiple templates and style sheets for the same content; at worst, they will have to develop multiple systems for presenting the same data.
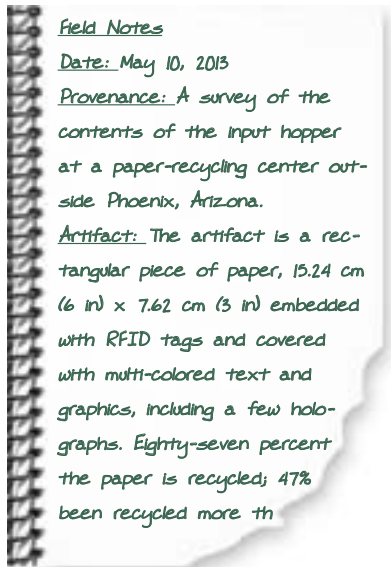
Not only can we expect the technologies to change rapidly; use patterns will evolve quickly, too. Companies will need to pay close attention to how users react to and act upon location-based data and services, and revise their designs accordingly.

This artifact is a coupon worth 1,000 Simoleans. A Simolean is the currency for the virtual economy in the massively multiplayer game (MMP), *The Sims Online*—a game about the management of everyday life of simulated people called "Sims." Sims have a whole range of needs—hunger, comfort, hygiene, energy, fun, social, and room (environment)—all of which need to be satisfied by the player through the consumption of products, interactions with other Sims, building skills such as social networking, and spending Simoleans. The interesting thing about this coupon is that it is not worth anything in the game world; it is an offer for credit in the *real* world. Embedded RFID tags facilitate the transfer and exchange of Simoleans for credit at different retailers including fast-food restaurants, clothing stores, supermarkets, and gas stations. Close inspection of the coupon reveals an exchange rate of 200 Simoleans for $1. The artifact not only points to the increasing role of MMPs in people's lives, but also the intertwined nature of the virtual and real-world economies.

Field Notes
Date: May 10, 2013
Provenance: A survey of the contents of the input hopper at a paper-recycling center outside Phoenix, Arizona.
Artifact: The artifact is a rectangular piece of paper, 15.24 cm (6 in) x 7.62 cm (3 in) embedded with RFID tags and covered with multi-colored text and graphics, including a few holographs. Eighty-seven percent the paper is recycled; 47% been recycled more th

Institute for the Future

INSIGHTS

1. Virtual and Real Economies Will Become Increasingly Intertwined

Virtual economies are distinct from real-world economies in several ways including the types of resources consumed, their size, and their boundaries. They are also similar in many ways: people consume products and services to fulfill their needs, prices are set by what the market will bear, and some brands are found in both worlds. This means that companies have a presence in both worlds and have customers in both worlds. This overlap will result in the two worlds being increasingly intertwined, as more and more companies test and advertise and, perhaps, even sell their products in virtual worlds. Indeed, messages delivered to one world will have increasing impacts on behaviors in the other.

2. MMPs Will Provide Important Social Environments

MMP games such as *The Sims Online, EverQuest,* and *There* are growing in popularity and will increasingly be integrated into many people's daily lives in the future. Beyond the "fun" of playing these games, players can also fulfill their real-world needs for socializing and role playing. For many players, the games provide opportunities for experimentation, fantasy, and creativity, all of which have value in the real world for work, relationships, and self-development. In fact, these virtual environments will become important platforms for real-world relationships, social interactions, and skill development.

3. MMPs Will Become Important Channels to Reach Consumers

For business, MMP game environments will become important channels to reach certain consumer segments, and having a presence in these worlds will become ever more important. Think product placement in digital space. The Simoleans coupon points to an evolution of increasing business interest in online gaming environments. Each game will have its unique demographics and its own marketing niche. Already, *The Sims Online* can boast that half of its regular players are young women, for example.

Selling Simoleans on eBay

Source: www.ebay.com

SIGN 1 | **User Innovation Drives Integration of Virtual and
Real Economies**

MMP game players are coming up with new ways to integrate the real
with the symbolic and are assigning real-world value to virtual artifacts.
They are also coming up with innovative ways to create value in virtual
worlds and to track their net worth in these economies.

We see this today in the world of online auctions such as eBay. On
eBay, players trade Simoleans for dollars. The exchange rate on eBay at
the end of 2003 was about 20,000 Simoleans to $1 dollar. What's more,
according to a recent press release by Electronic Arts—the makers of the
game—*The Sims Online* economy is now worth well over 4.7 billion
Simoleans, all of which were amassed by Sims through the building of
skills and assets, utilizing job objects, devising business ventures, and
having other Sims visit their properties. At current exchange rates on
eBay, this is about $235,000. This is not much now, but the potential
value of this symbolic economy is much larger when you consider the
growing number and range of MMP games and their growing number of
users worldwide.

SIGN 2 | MMP Game Subscribers Are Increasing

The number of MMP games has been growing since 1995, despite the failure of many during the dotcom crash. Among the most popular is *EverQuest* with nearly 450,000 subscribers. *The Sims Online* had 100,000 subscribers in 2003 and with all other MMP gamers they are part of a growing community of several million worldwide.

Subscribers to
Online Gaming Worlds
Doubling Approximately
Every 18 Months

Thousands

- EverQuest
- Ultima Online
- Mankind
- Asheron's Call
- The Sims Online

Source: http://pw1.netcom.com/~sir-bruce/Subscriptions.html.
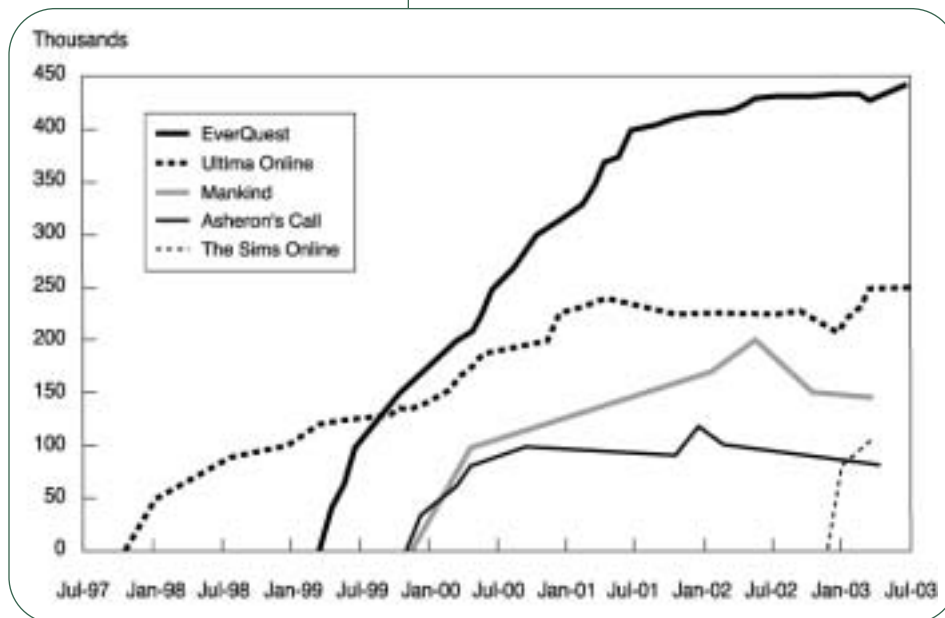
SIGN 3 | **Product Placements Growing in Virtual Worlds**

Several companies already have a presence in the virtual worlds of
MMPs. Some companies such as Levi's are leveraging these virtual
environments as testing grounds for the introduction of new products,
while others like McDonald's are simply experimenting with them as a
new advertising channel. For example, McDonald's is present in *The
Sims Online* and can also be found in *Neopets* among others.

McDonald's in The Sims
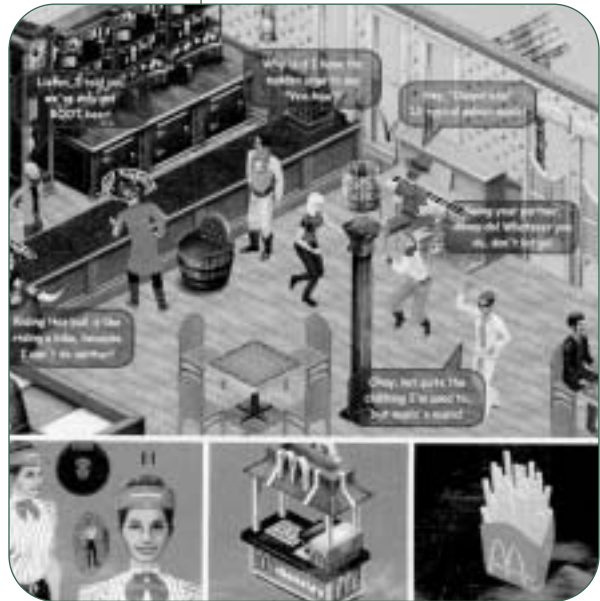
Source: *Advertising Age*

Establish a Presence in Virtual Economies

Watch these virtual economies develop and create a parallel presence in the physical and digital worlds. As consumers increasingly learn how to seamlessly move between the virtual and real, these environments will become critical places to engage consumers with your products and services.

Create Focal Points of Integration

Create ways to integrate the virtual with real-world experiences—from consuming the same brands in both worlds and facilitating the exchange of currencies, to bringing metaphors and designs from the virtual into the real world and creating places in the real world that feel virtual. Creating such focal points is one way to provide relevant contexts for these markets to interact with your products or services.

Provide Formative Brand Experiences

Companies experimenting with MMP environments are counting on people transferring their shopping habits to the virtual world. Many of the same needs people have in the real world exist in the virtual world—from eating to clothing oneself—and the hope is that users will fill these needs with familiar (but virtual) brands of products and services. In turn, this exposure to products and services in the virtual world will affect purchasing choices and decisions in the real world. As younger generations become adults and form their own households, these game environments will become critical contexts for providing formative brand experiences, making a company's presence in these gaming worlds important.

Be Careful of Backlash

Despite the likely benefits, companies with a presence in MMP games run the risk of backlash from gamers that feel that product placements and other forms of advertising take away from the aesthetics of the game. Already, there are instructions on the Web for ways to "adbust" McDonalds's presence in *The Sims Online* without breaking the law, getting suspended from the game, or being accused of libel. For example here is one recommended strategy: "Actually order and consume virtual McD's food, then use *The Sims Online's* 'expressive gestures' in creative ways. Lie down and play dead. Emote the vomiting, sickness, or fatigue that might overcome you after eating a real life McNugget."

Leverage MMP Players' Skill Sets in the Workplace

When people learn to play MMP games, they learn a lot more than just how to play the game. Success in many of these games depends on several core skills such as social networking, interacting with strangers, context shifting, creating and managing portfolios of different selves, and managing the demands and lives in the digital domain with those in the physical domain. Because these kinds of skills will have increasing value in the workplace of the future, gaming environments will become an important training ground for tomorrow's workforce. Expect to see practices, skills, ways of interacting, signals of trust, metaphors, layers of meaning, and language transfer to the workplace.

This artifact is a jacket distributed by the coffee shop corporation, Starbucks, to its loyal customers. The jacket has multiple technologies embedded in it including digital memory storage that interfaces with a Wi-Fi antenna in the sleeve, an antenna for wireless earphones and speakers, and flexible displays on the sleeves and back. The jacket also contains pockets for a variety of portable electronic devices. Wearing the Starbucks jacket confers clear benefits—with every purchase at Starbucks the owner accumulates points that can be exchanged at Starbucks and at its partners for products and services, much like frequent flyer miles. Although the jacket can be worn anywhere, it is most useful when worn in Starbucks shops. When the wearer enters Starbucks, the jacket automatically synchs to the Starbucks server, registers it on the network, accesses the customer's profile, and establishes his credit. This allows the wearer to make purchases without cash and to use the network to communicate through various devices and technologies embedded in the jacket and those in Starbucks such as displays on tables and walls. In a sense, all the devices and embedded technologies in the jacket "light up" when the wearer is in a Starbucks.

Field Notes

Date: June 4, 2013

Provenance: This artifact was found on the floor in the back of a 2009 Ford Plimsoll Hybrid parked on the street in a quiet neighborhood in Louisville, Kentucky.

Artifact: The artifact is a men's jacket, size 39 regular, made of an inexpensive microfiber blend. It is black in color and has the Starbucks logo over the left breast et. There are no fewe other pockets,

Institute for the Future

INSIGHTS

1. Technology Infrastructure Will Be Integrated into the Body

We are witnessing a paradigm shift in how we access the information technology infrastructure. As devices shrink in size and wireless connectivity spreads, we will increasingly carry an increased share of our technology infrastructure on us—literally on our bodies. And our relationship with these devices will be substantially different than with their stationary and larger counterparts, such as PCs. Wearable technologies will be viewed as extensions of people's bodies, indispensable parts of their lives, and integral to almost every domain of activity.

2. A Layered Infrastructure Is Evolving

On the body will be just one part of a distributed IT infrastructure of the future. Our interviews identified three additional parts of a distributed infrastructure that people already rely on.

- Stationary and place-specific. These are tools and other resources permanently located in places like the office and home.

- Distributed. These are resources that the user either puts in place or are provided by others that are accessed occasionally or in an ad hoc fashion. The distributed infrastructure includes resources such as wireless connectivity in airports or cafés.

- Virtual. This part of the infrastructure consists of virtual resources such as files and e-mail servers that can be accessed remotely through a variety of devices.

Most people have multiple layers of this infrastructure. People build redundancy into their tech infrastructure to minimize risks or breaks and to have greater choice in the kind of infrastructure they use to meet their immediate needs. This pattern is likely to continue in the future.

Highly directional speakers

Microphone

Flexible display

Personal server

4-terabyte digital sotrage

Wi-Fi antenna

Control for music player

Flexible display

Keypad

GPS

3. Technologies Will Become Sociable

Technologies we carry on us will be sociable, in three ways. First, they will be designed to adapt to their users, rather than requiring their users adapt to them. Software that observes the way it is used and then minimizes unused functions and optimizes heavily used ones is an example. Second, technologies will be designed to enhance group sociability—helping users locate friends, identify social connections between strangers, and assist smart-mob activities. Finally, they will be sociable with each other: they will communicate sometimes on behalf of humans, and sometimes in pursuit of pre-programmed goals.

4. Global Technology Infrastructures Will Diverge

The nature of so-called seamless connectivity infrastructures will vary around the world. In Japan, the device ecology is centered on a small, portable, cellular-based communication device that provides connectivity anywhere any time, and innovation is focused on adding functionality to this single, all-purpose device. The United States, on the other hand, has a strong PC infrastructure, and new device categories are often created by pulling pieces of functionality from the PC. However, neither of these ecologies can provide a perfectly seamless experience for users. Seamlessness in Japan is likely to continue to be shallow, with limited functionality in terms of display capabilities and the amount of data and functions available on small devices. The U.S. infrastructure is likely to continue to develop in a fragmented way, with deep levels of access at certain focal points, what we call seamlessness focal points. Despite visions of ubiquitous computing, what we see emerging in the next ten years, at least in the United States, is a world of "fractured ubiquity," characterized by islands or focal points of connectivity.

INSIGHTS

Large flexible
display

New York Times
wireless reader

SIGN 1 | Wearable Devices Become Indispensable Body Extensions

As people adopt more and more small portable devices, they are increasingly coming to see them as essential items. Cell phones and other portable communication devices, such as the Sidekick (a mobile device that provides access to the Internet), are viewed, at least by some, as an extension of their body. Not having a device is often viewed similarly to losing a vital organ.

This is in contrast to how people view larger, less portable devices, which are often identified with work and are harder to integrate into daily routines.

Q | Do you take [your Sidekick] literally with you everywhere?

Yeah. Well, it doesn't come with me running. It comes with me to Tahoe but I usually don't snowboard with it. But that is mostly because I feel it's too delicate. But if I go next year, it will probably be right there in my pocket. I've dropped it enough times now to know that it still works.

Q | Do you bring it to the gym?

No, not to the gym. Although I could see it entering into all this. It's weird, but I see it could. If it were small enough, it probably would.

–Male, software engineer,
San Francisco, CA

RESEARCH OBSERVATIONS

Starbucks
Menlo Park, CA
May 1, 2003

The Starbucks on this morning was filled with the usual mixture of working nomads—students, professionals, and others equipped with laptops as well as moms with their kids, older people, and other small social groupings. A woman with a baby sat next to me.

The baby, who was very cute, started to smile and reached to play with the laptop and various other devices and things on my table. … When the woman with a baby saw me with my laptop typing, she said to the baby, "Don't bother her, she is working." What I was doing, the device I had with me, and my whole being communicated to her that I was in the "work" mode. … I had to turn away from the screen and engage in the conversation to communicate that it is okay to engage in social interactions.

— http://blogger.iftf.org/place

SIGN 2 | Creating a Distributed Infrastructure

People are creating distributed information and communication technology infrastructures to suit their needs as they travel from place to place or otherwise change the context they are in. Sometimes they need the technology with them, on their body. At other times, they need resources scattered in places they are likely to frequent or they need access to virtual resources. Their immediate context determines what type of infrastructure they need to access.
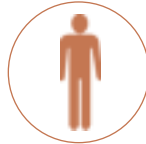
On the Body

This is actually a Scott E-vest, which is made for technology and being all wired up. It has over 25 pockets. And the wiring goes through all these points. So it's kind of a personal area network.

–Female, self-employed,
Silicon Valley, CA

Distributed

My brother was going to Stanford Business School, and he had an apartment in Palo Alto. So, I made him get a wireless hub about eight months ago. So then if I was ever in Palo Alto, I could go to his house and work. Or if I was really desperate, I could go to his front door, and if he wasn't there, I could just sit on his stoop and work.

–Male, writer,
Berkeley, CA
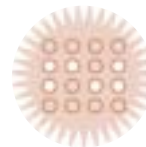
Virtual

If you have a "find me, follow me model," you can configure stuff so that nothing is stored on your hard disk or your hard disk is alternatively always available to network resources. So when you sign on, you always get that same desktop and that same view of the world. … I had that [set up] and it allowed me, wherever I went, to sign on, and there was all my stuff. The response was slower but everything was there.

–Male, former CIO,
Silicon Valley, CA

SIGN 3 | **Starbucks as an Island of Seamless Connectivity**

One of the reasons some people are drawn to Starbucks is that it provides a consistent and reliable infrastructure for connectivity—you can find a Starbucks almost anywhere; you can use the same identification in every place, thus minimizing start up costs. In this way, Starbucks becomes an island of seamless connectivity.

I used one near Union Square. I'm like, there's got to be a Starbucks around here someplace. So I just walked around the block and I found one. I don't know, someplace else [in the neighborhood] might have had Wi-Fi access but I knew that Starbucks had it, so that's why I looked for it. One of the questions with Wi-Fi [in public places is] how hard is it going to be to get configured and get on. Because each time you do it [in a new place], there's a multi-step process. You can plan in the best case you're going to spend ten minutes doing it. Worst case, you're fiddling with it for a half hour or an hour and you wonder why you even bothered.

–Male, computer-company executive,
Silicon Valley, CA

SIGN 4 | Shallow Seamlessness Versus Seamlessness Focal Points

In Japan the process of building technology infrastructure has been additive—more and more features have been added to one small and widely diffused device, a *keitai* or cell phone. Layers of new functionality have been added without replacing the basic device infrastructure. This infrastructure is uniform and fairly stable.[1]

Over 60% of households in the United States have a PC. Early PC experiences shape expectations around access, display, and communication of information. Ten years ago, the equivalent to the Palm was PIM software. What the Palm did was to crystallize that function into a device. Similarly, MP3 players are simply a way of pulling off a piece of audio interface so that it can be taken away. Pulling the feature off and getting it and its data mobile is the way the next generation of devices are being developed. However, as features are moved to smaller portable devices, expectations of use are carried over from the PC. This involves ability to access, view and manipulate large amounts of data. This is often not possible with smaller devices. Not surprisingly Wi-Fi rather than the cellular phone infrastructure is diffusing rapidly—it offers ability to access PC-type applications in focal points of connectivity.

Japan: New Features
Continuously Added to the
Same Portable Device

Numeric & text messages + Voice & Internet + Camera & Video

[1] Mitzuko Ito, "A New Set of Rules for a Newly Wireless Society," *Japan Media Review*, 2003.

Define a Role in the Focal Point Ecology

As we move toward an ecology of focal points where activities and attention are focused on dispersed hot spots of connectivity, businesses will increasingly need to think of themselves and their assets as a part of the ecology of focal points. Thus, understanding what role you play in this ecology, your connection to various focal points, and what resources and transactions flow through the ecology, will be necessary for success.

Think of New Alliances

Focal points are points where different resources come together. Starbucks is a place where mobile wireless infrastructure and café culture come together to attract a variety of people—those wanting a place to work or relax and chat with friends. As technology infrastructure gets built out and as our bodies literally become a part of this infrastructure, businesses will need to think of new kinds of alliances. Using our Starbucks jacket as an example, partnerships could involve a diverse group that includes clothing manufacturers, wireless providers, credit card companies, and furniture manufacturers.

Design Interfaces and Experiences for Extended Self

As interfaces move from the desktop and become embedded in devices that are part of people's bodies, businesses will increasingly need to think about the design of these interfaces in new ways. Design of social objects, objects that respond and interact with their environments, will increasingly call on companies to think about the experience of the wearer.

This artifact is a business card. Both sides are printed in English with a name, address, a train car and seat number, cell phone number, e-mail address, and Internet address. The card's owner is offering Chinese language instruction during the commute on the Altamont Commuter Express train from the edge of the California's Central Valley to the Silicon Valley. On the back of the card there is a detailed service list. While it looks like a typical, modern-day business card, upon closer inspection there is a big difference—the business' address is the *commuter train*. The instructor, Isabella Chin, has repurposed the train as a site for language instruction. Her clients are fellow commuters who wish to fill the otherwise unproductive time they spend on the train with learning Chinese. The commute in this context is an ideal niche of time and place to be leveraged for productive work.

Field Notes
Date: March 27, 2013
Provenance: This item was found in a Chinese-language instruction book in the public library in downtown San Jose, CA.
Artifact: A rectangular piece of white 95% recycled rag-plastic blend stiff print stock measuring 5.08 cm (2 in) x 8.89 cm (3.5 in). Printed in black one side, in English, were a name, address, a train, and seat number,

Institute *for the Future*
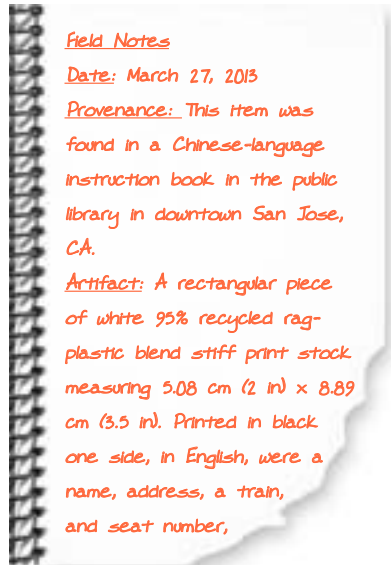
INSIGHTS

1. Technologies Will Further Facilitate Repurposing of Place and Space

People are getting very good at repurposing spaces to meet their needs—whether it's their home, a café, train, or car. Rather than looking for the "perfect place" for a particular activity, people customize or repurpose places to better suit their needs for work, social interaction, concentration, and so on. In the future, a new generation of connective technologies will expand the toolkit for repurposing spaces. Most important, they will give individuals the ability to access distant resources—people, information, places, and so on. People are thus able to not only customize what they do but also who or what they "bring in" and engage with in a particular physical location.

2. People Will Manage a Palette of Workplaces

With the ability to repurpose places and bring in remote resources, people will increasingly create palettes of places and spaces for different activities—reading, writing, brainstorming, client meetings, and so on. Attributes of the place such as location, time of operation, architecture and layout, technology connectivity, and social resources within its vicinity will determine the niche it plays within the palette. Some places are suited best for being anonymous such as cafés with tables made for one person, while others require more active engagement with others nearby. Creating, selecting, and managing different choices within the larger palette of spaces, will be one of the key activities for workers in the new spatial landscape.

Chinese **Language**
INSTRUCTION

Isabella Chin
Senior Instructor
ACE Train

6:57 am Westbound from Lathrop/Manteca
Train #5, Car 2, Seat 10
5:25 pm Eastbound from San Jose
Mobile: 209-555-2744
bella@speakchinese.com
www.speakchinese.com

SIGN 1 | Practices for Repurposing Places

People we interviewed use of a variety of practices and tools to help them repurpose places to meet their needs.

Mining Niches of Time and Space

Places are repurposed when visitors mine the in-between moments of time and space throughout their day for a variety of activities. Niches of time and space or in-between moments are, by definition, times when people are neither in one place or the other. However, for many people these in between moments are no longer wasted time. They can fit work, social interactions, entertainment, and the like into these spaces. Many of these niches of time and space are transitional contexts that can last anywhere from a few minutes to several hours and often occur in cars or trains, before, after, and in between meetings, and on the way to and from work. One activity that people fit into these niches is messaging. The table below shows how messaging fits into niches of time through-out the day for one of our interviewees.

Niches of Time and Space
Can Become Functional
Messaging Environments

Arrive at work,
check e-mail,
respond to clients
& immediate
project work

Facilitate
conference call
with team regarding
work schedule while
eating lunch

E-mail
unfinished
work to home
technology
infrastructure

Review work,
complete e-mails
before bed

Listen to new
voicemail while
at restaurant
before client
meeting

Compose e-mails
during meeting

Dinner
at 8:30

Preview work
on home PC

6:00 a.m.   12:00 p.m.   6:00 p.m.   12:00 a.m.

Use mobile
phone in car
to listen &
respond to
voicemail

Respond to
e-mail after
client
meeting

Review agenda
on PDA before
meeting

In car back
home – voicemail
colleagues about
days events

While in taxi
create agenda
on PDA for client
meeting

Grab latte
& SMS
colleagues
about schedule
change for
afternoon meeting

Use cell phone,
leave message
about being late
for dinner

Source: Institute for the Future

3

Distributing Work Across Time and Space

People divide work tasks into smaller bits or chunks and distribute them across time and space. In the process, they repurpose the space in which the chunk of work is performed. Chunking is a practice identified by anthropologist Jan English-Lueck and her colleagues in their studies on Silicon Valley workers and culture[1]. Many workers do this today, as they are pressed for time and are unable to find long uninterrupted periods of time to do work and, yet, face the very real need to be productive. Many of these chunks get mapped onto different places and spaces redefining their purpose and value. For example, one Silicon Valley knowledge worker we interviewed discussed how much he needed to read to stay on top of things as part of his job, and how hard it was for him to get much reading done during the workday. As a result, he carried much of his reading with him on his PDA and fit it into different times in many different places throughout the day.

Putting on Performances

The way people behave, what they wear, and the things they do in spaces also serve to customize the space and repurpose it for different needs. These behaviors can range from sitting way in the back and isolating oneself to sitting at the front counter to maximize the probability of being seen by friends or wearing certain clothes to fit in. Through our observations and interviews, we saw that people move in and out of different roles while in a space so that they become the *busy worker* that does not want to be bothered, the *local community person* that is familiar, the *troll* in the corner that is having a bad day, or the *conversationalist* who is approachable.

Here is how an editor we interviewed describes the different identities he puts on in different places and how he uses clothes to transform himself.

> I have different clothes for different spaces. I don't have very many clothes, but I have basically work outfits, which are sort of like this; intentionally non-descript. You can sort of go most anyplace that you don't have to wear a tie, and you can fit in because you are innocuous. But then usually when I'm going to hang out at CZ, I've got these old kind of clothes. When I'm going to places for music, I've got these leather jackets and these sort of punk band t-shirts and things like that. And you can fit in there much more.
>
> —Male, self-employed, editor, San Francisco, CA

Using Technology Tools and Props

Technology provides an important set of props that people bring into spaces that shape the meaning and use of the space. For example, tools such as laptops and headphones create a very private space within a café and communicate to others that the person is engaged in work and not open to interruptions. In this example, an editor for a publishing firm discusses which tools he brings with him to his favorite café, depending on the purpose of his visit.

> Gaylord's is usually the place where I go when I want to be … off the network. Because it's sort of a soothing place to be, I'll just leave my phone at home. I'll leave all that stuff at home and go there just to read.
>
> Q | And that stuff is?
>
> Cell phone, with T-Mobile, and the Toshiba Libretto. It's a fully functional laptop that is really small. And I like it because of its portability. So I've got my wireless card, and everything I work on is stored in here.
>
> Q | So basically these two things are with you all the time?
>
> Yes, exactly. I feel very kind of strange when I leave the house without both of them. … When I have these things, my office is with me. … It's very strange, because at the same time that you are free to go anywhere, in a certain sense, you are not really going anywhere, because you are still in the same place on the network.
>
> —Male, self-employed,
> editor, San Francisco, CA

[1] C.N. Darrah, J.A. English-Lueck and J.M. Freeman, Department of Anthropology, San Jose State University. "Creating Culture in Dual Career Families" 2002. http://www2.sjsu.edu/depts/anthropology/svcp/svcpccdf.pdf

SIGN 2 | Unbundling Work

People have highly customized and varied palettes of places and spaces. These palettes become important resources as people assign different values and roles to different places to meet specific needs. The end result here is that workspace gets unbundled and, rather than relying on one multi-functional office, people often have many places, each one serving a particular niche in a person's portfolio of work tasks. Thus a car may be used for phone conversations, a quiet café for reading and writing, an office for meetings, and so on. Here one person describes the different places and spaces that he relies on for work, and their different roles and values.

We've already discussed Gaylord's and how it's a place to be away from work and [off] the network. Strata and Berkeley Espresso are both sort of working cafés. … So when [I am] having to be a little more creative, free-wheeling, thinking things up, I do that kind of work in [these] cafés. I'm not sure why, but there is more of a sense that these are places where you don't really have to concentrate on a particular aspect. You are kind of trying to get to the big picture, the overview. You are sorting through a lot of information, but not in a rigorous way. So that's sort of what these cafés provide. I go to another place for more boring work. It's work that I'm having a harder time paying firm attention to, so I go to a place where there are fewer things that could draw me away from it.

—Male, self-employed, editor, San Francisco, CA

Mine Niches to Deliver Products and Services

Companies should look for ways to build their presence and bring their products and services into more niches of time and space in their customers' lives. "Niches of time" is a good framework for thinking about products and services—identifying the key niches of time and place where your products (or your competitor's products) get used can help companies deliver increased value to the consumer experience.

Facilitate Consumer Repurposing of Space

Traditional assumptions about how a particular place is used and what people are doing there no longer hold. Two people can be using the same space in completely different ways. Companies that have a physical presence, whether it is a retail space or an office building, should look for ways to facilitate the repurposing of that space to enhance the value and experience of all that use it.

Carve Out a Role in Consumer's Palette of Spaces

Companies should look at the range of places and spaces in which their products are used. For example, take watching movies on DVD. Immediately, the picture of a consumer watching the movie in their living room comes to mind. However, thinking more broadly, consumers are increasingly watching DVDs in cars, particularly SUVs, in their bedrooms, on their desktop PCs or gaming consoles, and just about anywhere with portable DVD players. Thinking broadly about all the possible places or contexts that consumers might use a product can help companies identify more niches or new roles for their offerings to occupy.

This cartoon from a 2013 issue of the *New Yorker* magazine is a commentary on the changing role and use of public spaces. In it, two people are sitting next to each other at a bar—a public space. Although they are together in the same physical place, they are in different social places. They are not socializing with each other but with distant others. One person is instant messaging a friend; the other is highly engaged with an online community of fellow *The Sims Online* game enthusiasts. One of the cartoon characters laments that he used to come to the bar for conversation, but now he just comes there for the beer. Obviously he now gets his conversation and his social connections elsewhere.

Field Notes
Date: October 8, 2013
Provenance: Found on the bulletin board in Joe's Saloon in Queens, New York.
Artifact: A section of a page of glossy 42 lb. magazine stock 7.92 cm (3.12 in) by 7.52 cm (2.96 in) torn from a magazine identified as The New Yorker, containing a cartoon. Two men sit at a bar with devices. Thoug balloons over their heads that one is thinking: "H Lounge buddies" and

INSIGHTS

1. New Tools Will Facilitate Privatization of Public Spaces ...

Connective technologies give individuals and groups the ability to convert public spaces into private spaces, disconnecting themselves from the immediate physical environment or activity. Some may see this as detrimental to the very idea of a public space but in many cases, it also gives an individual freedom to escape the tyranny of the immediate surroundings. Think of sitting in a boring meeting or being stranded in a place you don't want to be. If you are able to connect with the person you really want to be with or maybe an interesting Web site, it empowers you to create a private space that is suitable to your needs and context. What is important to remember is that the individual can decide when to create such private space and to engage in "distant" interactions and when not to. The people in the bar can also decide to turn off their devices and engage with each other and other patrons, once again turning it into a shared social space.

2. ... And Erode Boundaries of Third Places

A bar is what we have traditionally thought of as a quintessential "third place." Ray Oldenburg, a sociologist and author of the *Great Good Place* (1999), defined third place as a "great variety of public spaces that host the regular, voluntary, informal, and happily anticipated gatherings of individuals beyond the realms of home and work." It is called the third place because it is distinct from the first place (home) and second place (work). In a highly stratified world of work and home, third place has come to fulfill many important functions the other two domains are unable to provide.

We have gotten used to bringing work into the home and vice versa, doing home chores at work—scheduling children's games, or looking up health information—thus eroding the boundary between work and home. Similarly, people are increasingly bringing these other domains into public spaces—bars, cafés, and restaurants. One can sit in a bar and be deeply engaged in a work conversation via the phone or e-mail; or be playing an online game with many people; or negotiating chores with a child or a husband. This is not to say that there won't be places specifically designated as home, work, or public. What it does say is that each one of these places, including a public place, can be repurposed to serve individual needs at a particular time and in a particular context. A third place at particular times may also serve as the first or second place.

3. New Types of Third Places Emerging, Not Tied to Physical Location

In Oldenburg's definition, the third place has a distinctly local flavor. The whole notion of the third place rests on intense face-to-face interactions in local public places, with "regulars" playing a critical role in sustaining conversations and helping integrate strangers into the community. Connective technologies, however, are transforming the definition of the third place from one solidly based in a local physical place to one defined by ties to social resources, which are often removed from the physical or local context. New types of public spaces are emerging in cyberspace. These include online communities focused on issues, ranging from politics to health, blogs where people can exchange information and opinions and contribute knowledge, and local marketplaces such as Craig's List.

Over a decade ago, Howard Rheingold wrote about emergence of such "places" or communities. People in such communities provided different kinds of resources—information, expertise, and emotional support—to each other. However, to connect to these communities one had to be in front of a computer screen, usually at home or at work. Connectivity was session-driven and limited to a few places in a person's life. Twenty years later, such social connectivity has become a constant in people's lives—they can access such social or "public places" and resources any time, any place.

INSIGHTS

SIGN 1 | Escaping the Tyranny of the Immediate Physical Environment

According to the psychologist Kenneth Gergen[1], communication technologies facilitate a state of diverted or divided consciousness. One can be physically present in a place but be absorbed by a technologically mediated world of elsewhere. They bring these "absent" others into their reality and experience of the place and, at least for the time they are involved in such interactions, diminish the primacy of their immediate surroundings. Returning to the notion of being able to escape the "tyranny" of a "boring" meeting, here we see how one interviewee's experiences in meetings have changed with the addition of wireless networking in the workplace. While it may diminish the primacy of the physical surroundings, it also removes its tyranny, enabling one to choose who to interact with and which activities to engage in a particular context.

Q | Do you have wireless at work?

Yes, we've had wireless there a long time. In fact, I think that changed the dynamics at work quite a bit because the computer actually became a part of the meeting. … For parts of the meeting that may not be directly applicable to you, doing e-mail also became part of it. … You could definitely see the culture around meetings change.

… I'd say meetings were more structured before. The reason I say that is, it wasn't that you didn't have an agenda, because you did. But the difference [then] was who was involved in the discussion. Invariably now you have a meeting where some subset of the group is not directly involved in the discussion all the time.

Q | That's the group that's doing IM?

Right. They're generally not involved because that part of the agenda is not directly applicable to them. So they will be doing their e-mail or on IM, or whatever.

–Male, computer-company executive,
Silicon Valley, CA

[1] Kenneth Gergen "The Challenge of Absent Presence" *in Perpetual Contact, Mobile Communication, Private Talk, Public Performance*, edited by James E. Katz and Mark Rakhus, Cambridge University Press, March 2002.

SIGN 2 | **Third Places Being Converted to Home and Work Places**

The idea of a strict separation of the three types of places—home, work, and public—is becoming increasingly suspect as connective technologies allow people to repurpose places to suit their needs. This interviewee points out how the same café serves as a workplace and an entertainment space at different times.

> I'll come here and work on real work. Use my computer, read my book. … Or I'll meet people here and we'll have breakfast or brunch or we'll just have a late night cookie. My roommate and I have been known to come here almost every night and we bring our backgammon set and we'll just play backgammon and have like a hot chocolate or something like that before bed.
>
> Q | So is there a difference when you come here to do work as opposed to when you come here to play backgammon, to just have fun?
>
> There is a difference in what I need to do. Well, I mean, I'll probably put on my earphones or I'll just have my computer with me. Whereas if I'm meeting people here, I'll put my computer away. And so I use this place in kind of two realms—the ability to work and then the ability to be social.
>
> –Male, software engineer,
> San Francisco, CA

SIGN 3 | Virtual Third Places Emerging

New places share many of the same characteristics of third places as identified by Oldenburg—they are open, serve as equalizers, often have regulars who maintain conversations, have playful moods, are accessible and accommodating, and serve as "homes away from home." These virtual places bring people together, who are physically apart, for shared community or social activities. For example, Craig's List is an online, region- or city-based marketplace that brings people together to buy and sell items and services and even share ideas. Interactions in the online space often lead to physical encounters when people arrange in-person trades, meetings, or sign up for classes. Through Meetup.com, one can find individuals or groups in their local area who are interested in the same issue or hobby and arrange to meet up with them in person. These virtual worlds are serving two functions: to bring far-flung people together in the online space and to facilitate face-to-face interactions in physical places.

Source: www.craigslist.org

SIGN 4 | Context Drives Place Selection

In our observations and interviews we discovered that depending on their context, our interviewees looked for two different types of places.

Generic public places are places where one can be anonymous. Such places include various chain restaurants and cafés—McDonald's, Starbucks, Burger King—where one can hang out without standing out, often for extended periods of time, and where there are few social obligations. Such places can be easily repurposed for individual needs. No one would care if one "privatized" the space to serve his or her needs. Mimi Ito[2] writes about Japanese teenagers preference for such places because they are able to convert such places for their private use, which is important given limited privacy at home or at school.

Character places have a regular clientele and strangers are generally noticed. Many have strong social protocols about behavior. In these places it is difficult to be anonymous, and visitors are expected to engage with others in some way. In these places there are also explicit and implicit rules about technology use. In some, technologies are not welcome because visitors are expected to be fully engaged in the social life of the place. The Jahva House is representative of a place with strong character.

RESEARCH OBSERVATIONS

Jahva House—A Place with Character
Oakland, CA
April 15–May 16, 2003

Last Friday, I sat in The Jahva House to process some observation notes from April and May. I can't remember how many times I've been to The Jahva house over the years. It's a good spot for coffee, entertainment, and good conversation. The Jahva House has always been the alternative or the other coffee house on the street (i.e., alternative to Starbuck's and Peet's Coffee). I think I first walked over to The Jahva House a few years ago when the line at Peet's was too long and out the door. I was running late for work so I walked over to get a latte. When I walked in, it was a delight to the senses—think African and East Asian motifs, reggae music, flyers and leaflets for this or that community event, music act or poetry reading everywhere, graffiti and art on each wall, conversations happening in different salon areas, each with its own peculiar set of vintage chairs and sofas. I go there quite often now but for more than just coffee. Starbucks (the quintessential generic café and Peet's Coffee (hang out for the coffee snobs) are more places to consume coffee itself—a source for coffee beans and all the other things that could possibly be linked to the coffee experience (e.g., commuter mugs, coffee makers, filters, Italian espresso machines, Madeline's, and of course chocolate!). I think The Jahva House is more than that. The place has character, an identity, content, and social ties to different slices of local life and community. I think people are drawn to The Jahva House because they feel tied to it in some fundamental way—whether they are artists, musicians, or creatives.

— http://blogger.iftf.org/place

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[2] Mitzuko Ito, Daisuke Okabe, "Technosocial Situations: Emergent Strategies of Mobile E-mail Use," http://itofisher.com/PEOPLE/mito/mobileemail.pdf.

Rethink Physical Assets

In a world where there are several avenues for social interactions—in the local physical environment and in online spaces—and where people can organize their social interactions to suit their immediate needs, businesses have to think carefully about their physical assets and physical presence. Consider the full range of reasons why your employees, customers, and partners will come to your location—be it your office, your retail space, or your service outlet—and what they may want to do there. Ask questions such as: What is the key value of your physical assets to your organization and how might repurposing by visitors increase or decrease that value? If a physical presence is essential to your business, what kind of presence do you need to create to attract customers or employees? What are the essential ingredients of your physical set up that will bring them in over and over again? When taking users' or visitors' needs into consideration, decide what kind of space—generic versus character—you want to create.

Rethink Face-to-Face Activities

For several years we have talked about consumers and employees, empowered with information, taking charge of many life and work decisions that they previously left to experts. Beyond information empowerment, connective technologies are empowering employees in new ways—largely by empowering them to participate in activities that are removed from their immediate physical surroundings. This means that companies will find it increasingly difficult to hold employees' attention simply because they share a common physical space. Companies will also need to rethink how they conduct internal and external meetings and any other face-to-face activities that are a part of their daily operations, in particular, creating protocols for technology use in such environments.

Bridge Generational Skill Conflicts

Connective technologies such as instant messaging, e-mail, and phones allow people to be present in several worlds simultaneously. Anyone observing a teenager chatting online through multiple IM screens while also talking on the phone can see that presence and attention management are just some of the skills that are quickly evolving for this generation. Key skills include:

- Creating presence markers to let others know what communications state one is in and which types of interactions she is open to, and the ability to read similar markers left by others and adjust interactions accordingly.

- Multi-contexting or switching contexts quickly between different types of interactions.

- Reconfiguring public spaces to suit one's immediate needs and context.

Companies can expect to face generational gaps in these skills and will need to think about strategies for bridging them. This is also an area ripe for generational conflict in the workplace.

Create New Third Places

Just as companies need to rethink their physical assets, they also need to rethink their public online spaces. New social-software tools do not require huge infrastructure investments and are easy for most people to use. Companies, communities, and individuals have been extremely successful in using these tools to create vibrant public spaces for various types of exchanges. Companies also need to rethink their knowledge-management strategies in light of these new tools, learn from the successes of such Web sites as Friendster, Craig's List, and Meetup.com, and incorporate the lessons into the next generation of group-collaboration systems.

Six Degrees is a wristband device that maps one's social network by geographic location. It displays the location of each person (node) in the network, along with his or her communication preferences and availability at that moment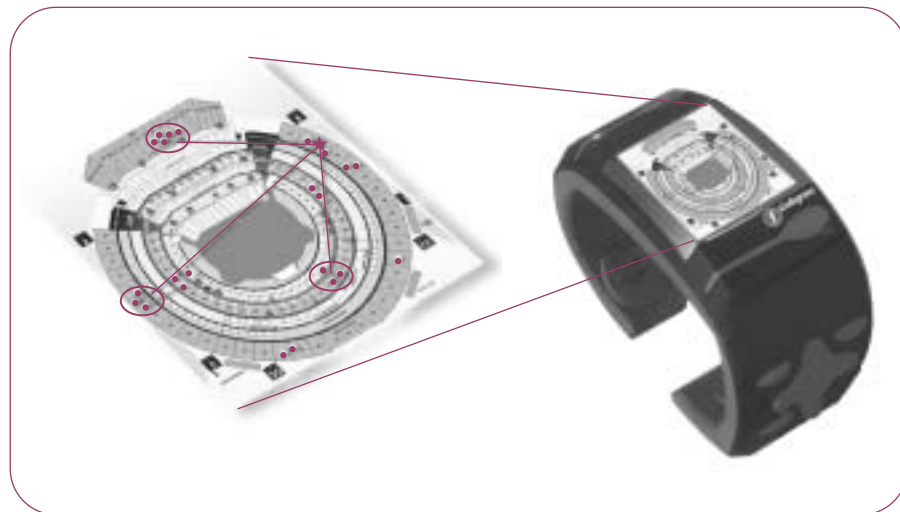. The device allows users to keep their social networks persistently present, accessible, and visible as they enter and move through a variety of contexts and settings. On this particular device, the display shows a seating chart of a stadium. Superimposed are the locations of the user's social network displayed as clusters of people seated in different areas of the stadium. Each network node is color-coded, indicating different degrees of intimacy or type of relationships with the user, ranging from professional, to neighbors, family, and acquaintances.

Field Notes

Date: March 5, 2013

Provenance: Found on the ground beside a public print kiosk at a stadium in Oakland, CA.

Artifact: A bracelet, 3 mm (0.12 in) thick and 3.81 cm wide (1.5 in) and 20 cm (7.87 in) long. It is made of a flexible but firm polymer that can be bent around the arm and will remain in place. There are a number shallow projections, apparentl controls on the band, thou they no longer functio controls are on

INSIGHTS

1. New Technologies Will Facilitate Location-Based Social Interactions

The Six Degrees wristband device facilitates location-based social interactions by noting which members of one's social network are in the immediate vicinity or geographic location, whether that is a stadium, a store, or some other location. The technology in this example maps interconnections and makes otherwise invisible affinities visible. By doing so, technology facilitates social interactions in that location. When people enter a place, they usually search out those people they know and can engage with socially. The next generation of technologies will make this process easier and automatic by making such connections and affinities visible in real time and place.

### 2. Social Networks Will Become Visible and Persistent

New technologies will not only make the locations of members of social networks more visible, but they will also help create a feeling that the network is constantly present, no matter the location. Access to one's social network will become a resource that persistently "travels" with individuals. In fact, communication technologies will make it easy for people to engage in the practice of *social surveillance*—the monitoring of one's network to get a sense of where members are, what they're engaged in, and their availability.

3. Individuals Will Increasingly Visualize Themselves as a Part of a Larger Social Body

The growing awareness of the interconnections between people is fundamentally changing the way they perceive themselves as they begin to literally see on a persistent basis where they are in connection to the larger social network. This sense of being a part of the larger body entails new sets of personal practices, which will increasingly become a regular part of individual's daily activities—for example, monitoring conversations in the larger group to step in when necessary, assessing the mood in the larger group on an ongoing basis, and monitoring flows of communications, ideas, and exchanges.

4. Filtering Location-Based Social Interactions by Degree of Social Intimacy

INSIGHTS

Not all relationships are the same, and people segment the relationships in their social networks. Our research suggests that one way to distinguish between nodes in a social network is by degree of social intimacy—this means making distinctions between family members, close friends, professional contacts, everyday acquaintances, and so on. For many, the concept of social intimacy provides an index on which to segment their social relationships and thus filter through the potential location-based social interactions one could have in a café or stadium. This is important because determining degree of social intimacy shapes the way one responds and interacts with the person. Lower degrees of intimacy may result in not approaching the person, little interaction, or no attention at all. Higher degrees of social intimacy get the most attention. Venue experiences designed with social intimacy in mind will add the most value to user experiences.
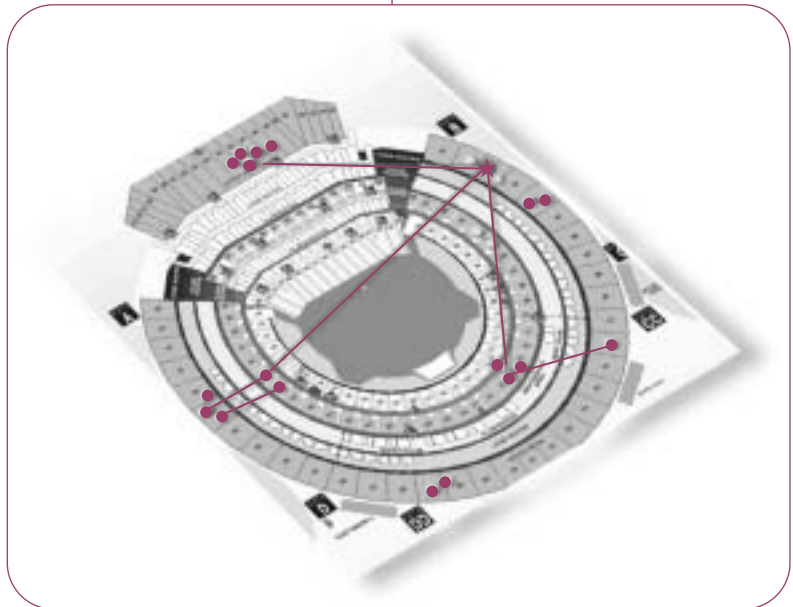
SIGN 1 | Abundant Connectivity Makes Social Networks Easily Accessible

Technology and the range of communication modalities are already increasing the interconnections between people and members of their social networks. In fact, current technologies make networks just a few mouse clicks away, making them much more present across different facets of daily life.

In this example, we hear one person describe the range of choices he has to reach his network.

If I need to contact somebody, I have a couple of ways to do it, and I can contact them immediately. Most of my friends are online all the time in some respect, because of work or some other reason. And I can go online, and I'll see their screen name or whatever, or I can e-mail them immediately, and then I'll get a response pretty quickly. Or I can telephone them—everyone has a cell phone. Or I can text message or IM them. You know, there's so many different ways to use technology, to contact somebody. … And a lot of the times you'll know that somebody is with somebody else. And if they don't have a service, you can use the other person's service, because you can say, "Hey, is this guy with you?" And so, to be interconnected that way is very nice, you know, always be able to plan something. Like if I want to go bowling tonight, I can call one person that I know I can get a hold of now, or IM them and say, "Let's go bowling tonight, you figure out who else can go." And then 15, 20 minutes later we'll have an event for tonight!

—Male, university student,
Silicon Valley, CA

SIGN 2 | Services That Map Interconnections

Today there are a whole range of services and social software that allows
people to visualize, manage, and access their social networks. Services
like Friendster, LinkedIn, Ryze, Yahoo Groups, and Meetup give people
a real sense of interconnection (with people they already know and those
they don't), putting networks much more front-of-mind and converting
them into resources for everyday life.

Here a person discusses a whole range of services he uses from
Friendster and Yahoo Groups to map who he is connected to, from for-
mer colleagues and neighbors to interest groups and an overseas Scottish
diaspora community.

> Friendster is primarily a place where you meet people for dating. But
> the secondary function of Friendster is to keep in touch with your
> friends. You can share information with your friends. You can pass notes
> together. You can build up a friend network. You can see that your friend
> has four friends that you've never heard of before, and you can meet
> them virtually and discuss things with them and potentially meet with
> them later—all as a group or individually. … I have lots of former col-
> leagues [in Friendster] who have moved to different areas. One is in
> Australia now. A couple more are back in the United Kingdom. So it's
> good to keep in touch with them through Friendster. …I also have
> quite a few groups in Yahoo.
>
> —Male, self-employed, software engineer,
> Silicon Valley, CA

Source: www.friendster.com

SIGN 3 | Using Device Features to Segment Social Networks

People segment their relationships along degrees of social intimacy in a number of ways including sharing different e-mail addresses with people with different degrees of intimacy and assigning them to "fast keys" on their mobile phone.

In this example, we see how a university student uses the speed-dial feature on his mobile phone to segment his social network.

> [The lowest numbers are] voice mail, mom, and then my closest friends and … girlfriend. The way I map it out is according to, center is most important, Then as you go out, they're kind of peripheral friends, and then the 10s are, 10, 11, 12 are my co-presidents, and then all the way up to 20 are pretty important people. And then I categorize them by 20s, 30s, 40s. If they're the 40s, they're this group, and then my fraternity brothers take up 30s and 50s.
>
> —Male, university student,
> Silicon Valley, CA

Create Consumer Value by Facilitating or Mapping Connections

People can have a sense of connection in many different ways: geography, interests, values, politics, hobbies, and so on. By helping people find each other in physical and digital landscapes, companies can leverage these communities for a variety of business needs: to test messaging, product exposure, or evolve them into markets. Mapping interconnections adds value to the consumer experience. For example, the Altamont Commuter Express train in the San Francisco Bay Area includes community and chat features on its Web site, allowing fellow commuters to discuss such topics as strategies for making connections to other forms of transit and the strength of Wi-Fi on the train.

Integrate the Concept of Degree of Social Intimacy into Product Design

Businesses should design for different degrees of social intimacy, and think through the kind of social interactions their product or service fits into. A good example is Microsoft's IM platform called Three Degrees. Rather than it being a general and open platform for all IM users in your network like AOL's instant messaging platform, AIM, Three Degrees is designed with degrees of intimacy in mind. It accommodates only up to ten people and members can customize the interface and share photos, video, and music files with their intimate group.
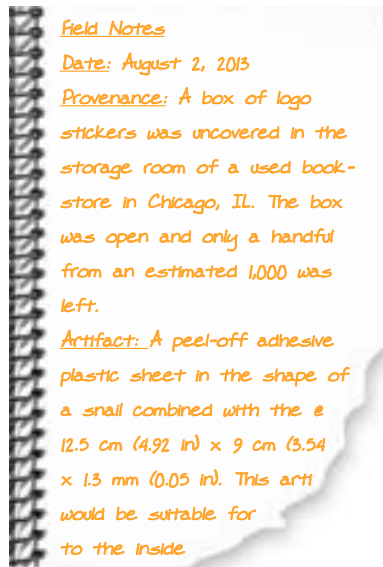
Use the Network as a Unit of Analysis

Companies can gain a lot of insight into their customers by looking at their networks as the unit of analysis for building customer understanding. Networks are powerful communication channels and markets in their own right that companies can leverage to their advantage. Taking a network perspective also reveals who your customers are connected to, which in turn can reveal much about their tastes, desires, and needs. IFTF research has shown that social networks shape the entire purchasing cycle of products and services from defining what is desirable, filtering product and service choices, influencing the actual purchasing decision, and shaping the use of the product itself.

The artifact is a sticker with embedded text. Electric-blue neon letters across the body of the appliqué repeat at 30-second intervals a series of five phrases: real time, real presence, real place, real conversation, alone.

Field Notes

Date: August 2, 2013

Provenance: A box of logo stickers was uncovered in the storage room of a used book-store in Chicago, IL. The box was open and only a handful from an estimated 1,000 was left.

Artifact: A peel-off adhesive plastic sheet in the shape of a snail combined with the e 12.5 cm (4.92 in) × 9 cm (3.54 × 1.3 mm (0.05 in). This arti would be suitable for to the inside

These stickers are signs of a backlash movement against the effects of pervasive connectivity and mediated environments. The founders of the movement wrote a SLO-GO manifesto, a set of behavioral rules and beliefs that members of the movement abide by.

- **Real Time**—time that is not divided into smaller and smaller niches

- **Real Presence**—face-to-face presence that is not mediated by technology

- **Real Place**—not an online place or community

- **Real Conversation**—face-to-face conversation that is not mediated by technology

- **Alone**—not connected to anyone

Institute for the Future

INSIGHTS

1. Growing Need to Navigate Physical and "Floating" Worlds

Kenneth Gergen, professor at Swarthmore College and an authority on cultural change, talks about evolution of a new "floating world," in which exchanges can float free from the moorings of everyday life, creating their own "conversational objects" and meanings.[1] Increasingly, these domains of meaning insinuate themselves into the world of full presence—the world in which one is otherwise absorbed by the immediacy of concrete, face-to-face relationships.

Recent communication technologies—the Internet, cell phones, instant messaging, and the like—are but the latest in a series of technologies to expand the realm and possibilities of "absent presence" (presence without physical proximity). Print technology was the first force in the historical emergence of absent presence, as it allowed wide dissemination of ideas outside of the local context, bringing absent and far away voices and making them present in one's consciousness, thus diminishing the sway of the local and physically present. People will increasingly need to navigate between these two worlds, making choices about what to pay attention to, who to bring into their social space, and how to switch between face-to-face and "floating worlds."

2. Presence Management Will Become a Key Practice

In a highly layered world, presence becomes disengaged from location and physical proximity. One can be present in someone's daily encounters without being physically co-located. Distant others are increasingly brought into our daily encounters and become a part of our experience. Presence thus acquires a layered meaning—there are different ways to be present. With the expanded portfolio of presence choices, creation and management of presence will become a key domain of people's lives.

[1] Kenneth Gergen "The Challenge of Absent Presence" *in Perpetual Contact, Mobile Communication, Private Talk, Public Performance*, edited by James E. Katz and Mark Rakhus, Cambridge University Press, March 2002.

2. Co-Existence of "Real" and "Floating" Worlds: Fertile Ground for New Social Movements

INSIGHTS

Connective technologies bring in distant others into an individual's immediate reality, often diminishing the primacy of the "local." One can no longer assume that because a colleague is at work, he is actually working, or because someone is in a pub, he is there to socialize with other people. Just like our nomadic ancestors who settled into permanent dwellings could no longer see what their neighbors were doing, people operating in a highly connected environment cannot make assumptions about what their peers are doing, what place they are in mentally, who they are connecting to, what social group they are engaging with. This shift will create social dislocations as people learn to live in a highly layered world and navigate the "local" and "floating worlds."

SLO-GO is just one example of a potential backlash movement. Like every movement, it is likely to have many varieties and strands. There might be zealots who strictly adhere to "SLO-GO" edicts and eschew any mediated environments and the technologies that facilitate them. Others may be sympathetic to the movement and try to incorporate some of its principles into their daily lives, but may be less zealous about adhering to all of them.

SIGN 1 | Emergence of the "Floating World"

Many people we interviewed are deeply involved in an elaborate dance of navigating the two worlds—one firmly based in their local physical reality and the other a "floating world" of people, places, relationships that are physically absent and yet very much present in their daily lives. Unlike Gergen, however, we do not think that these two worlds are completely separate and constitute two different realities. In fact, interactions in the local and physically co-present are often extensions of interactions initiated in the "floating" world and vice versa. Weaving together and navigating these two worlds, however, will be a major domain of life for people in 2013.

One interviewee talks about how he navigated between face-to-face and online interactions at a conference.

There were areas where you could be online and areas where you couldn't be. At O'Reilly it was great. There was wireless everywhere, so you could be chatting with people and updating, and blogging, and doing all that stuff. We tried to update J's blog during the conference about what was happening there. A lot of people didn't get to go, and so they would want to know what was happening. But in practice it's very difficult, because you're not getting very steady Internet connections, and there are all these people around that you don't get to see very often, so you want to talk to them.

–Male, writer,
Berkeley, CA

SIGN 2 I Shades of Backlash to Always Connected
Environments

We already see different attempts to limit the use of connective tech-
nologies in various locations—on trains, in meeting rooms, and in cafés.
These are examples of tensions arising as a result of diffusion of connec-
tive technologies. Social norms and protocols as well as regulatory
frameworks are likely to emerge to contain and manage such tensions.
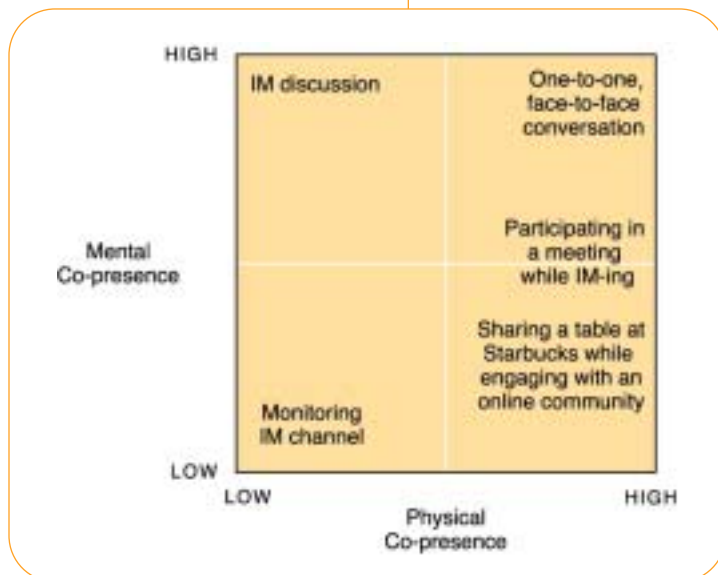
NO CELL PHONE
ZONE

SIGN 3 | New Types of Presence Emerge

Voice over IP and better video and audio technologies imbedded in devices from laptops to phones will make "absent others" a more real presence in people's lives. This will place more demands on awareness and produce new social practices. John Perry Barlow in his blog marvels at the ease with which he could communicate by voice with a friend in Japan via Apple's I-chat.[1] When he left the audio channel open, he could hear not only what was going on in his friend's home far away but he could also feel the friend's ambient presence as both of them went about their daily lives. Imagine many such channels being open where you can feel the ambient presence of many people in the privacy of your home. Whether it's a camera on new G5 Mac, voice over IP, or new camera phones, these technologies will bring absent others into people's lives in new ways, making them "present" in ways that are not currently familiar to us. These new types of presence will bring new sets of social practices and innovations in how we interact with others and how we navigate between mediated and un-mediated worlds.

Many Ways to be Present

HIGH

IM discussion

One-to-one, face-to-face conversation

Mental Co-presence

Participating in a meeting while IM-ing

Sharing a table at Starbucks while engaging with an online community

Monitoring IM channel

LOW

LOW   HIGH

Physical Co-presence

Source: Institute for the Future

[1] http://blog.barlowfriendz.net

SIGN 4 | Presence Management Practices

Connective technologies expand our portfolio of presence choices, thus making creation and management of presence a key domain of people's lives. Practices in this sphere include the following.

- Deciding how to be present—what to engage with, where, and how. For example, I am in a bar, do I want to engage with others or do I want to engage with someone I know online?

- Communicating one's state to those around you and to distant others. That is, letting them know that you are available or unavailable for certain types of interactions.

- Parceling out attention and different types of awareness—what do I want to be aware of and how much attention do I want to dedicate?

- Ability to switch attention and vary levels of presence with context.

One interviewee describes how she manages her online presence, deciding whom to grant access to her online channel, communicating what state she is in, and switching her presence markers.

I only allow a set number of people into my IM channel. So only certain people can see me. And if I continuously notice that they don't listen to the "I am working and go away," I start blocking them because I just can't deal with it.

Trillium has a new feature that allows me to look like I'm away and still IM with people. I'm having work conversations inside the "I am away" structure.

... Honestly. I don't have a lot of attention span for lectures, anywhere, anyway. So the thing about conferences is—I'm half-present at them, whether I'm just in my own head of whether I'm online. The reason I'm there is for those breaks in between time when you talk to people. Because I read a lot of stuff that's going on, that which interests me. … Clay Shirkey gave a great talk at E-Tech, which motivated me to not be online. If the talk is good enough, I will escape from a digital presence. But you've got to engage me one way or another. That doesn't happen too often.

–Female, student-researcher,
San Francisco, CA

Understand and Take Advantage of New Types of Presence

Businesses will increasingly need to understand new forms of presence and develop strategies for incorporating these into work processes throughout the organization. New forms of presence will significantly impact collaborative processes and practices. Taking advantage of new presence forms will allow companies to expand their boundaries and become more innovative. At the same time, new forms of presence may disrupt existing processes and create social tensions as they impinge and diminish the sway of the local.

Design New Social Protocols for Navigating Physical and "Floating" Worlds

SLO-GO is an example of a social movement that is borne out of the new possibilities of navigating between the local, physical reality and the mediated reality of interactions occurring with physically distant others. These types of conflicts and backlash are likely to permeate business organizations as generations with different skill levels, expectations around presence, communication preferences, and formative technology experiences collide in the workplace. Companies will need to develop a clear set of social protocols for navigating the two worlds in the workplace and training workers in practices in such areas as attention and presence management.