

6 x 6

Emptiness Can Hold Things

a media architecture exploration in multi-stream video sound

sponsored by the Rockefeller Foundation Program for Media Artists

BRIEF

At intervals and thresholds of an urban landscape, "6x6 Emptiness Can Hold Things" is an unusual experiment with peripatetic perception and the cinematic construction of a sense of place. This project pursues a new paradigm for the synthesis of multi-channel motion picture projection with spatially distributed cinema sound. A 6-channel projection environment with displays and speakers distributed about a physical space lends architectural structure to cinematic experience, establishing a setting where visitors selectively sample and interact with multiple video streams in a 3D sound field as they would move around a location in the landscape.

figure1. An iPad app models video and audio display configurations that correspond to characteristics of different location studies and fit the layouts of specific exhibit spaces.

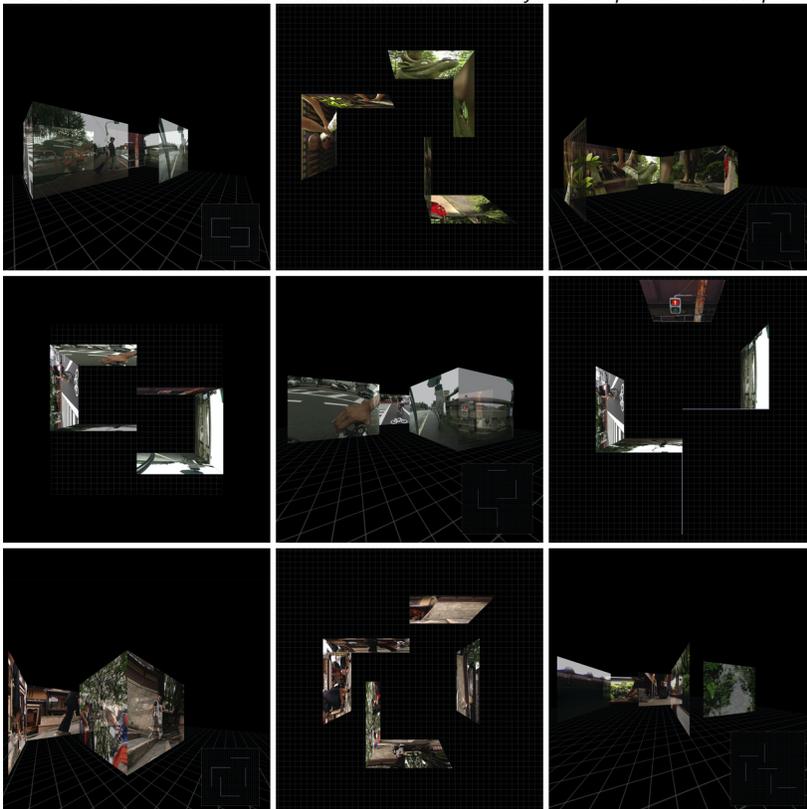
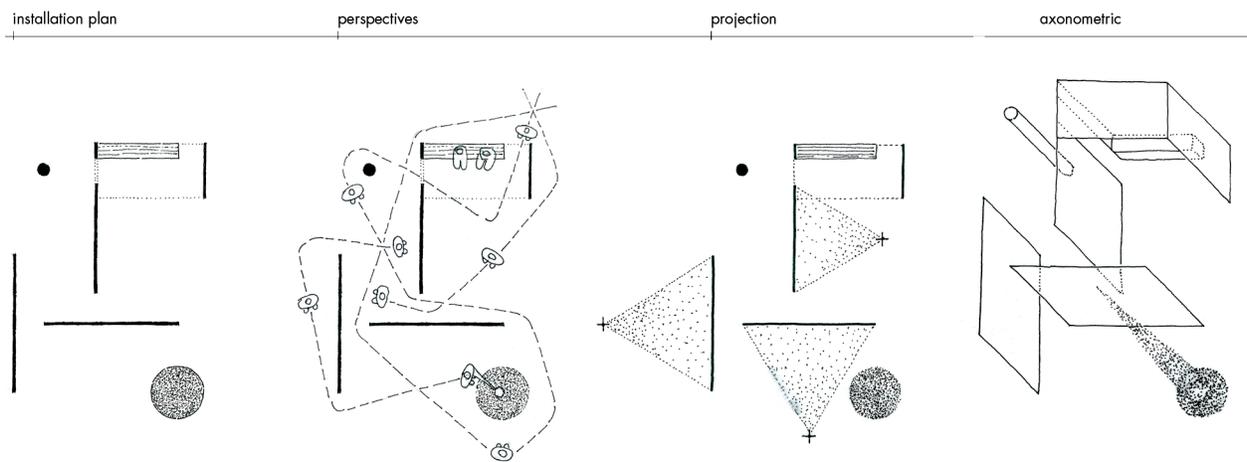
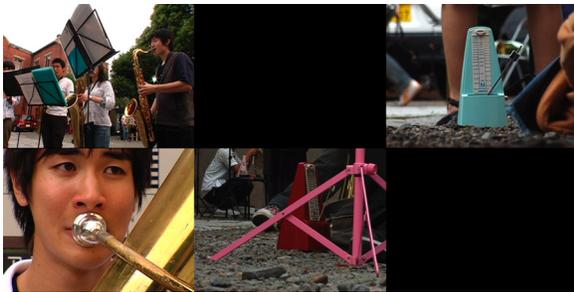


figure 2. A preliminary pencil sketch considers display surfaces and circulation paths.



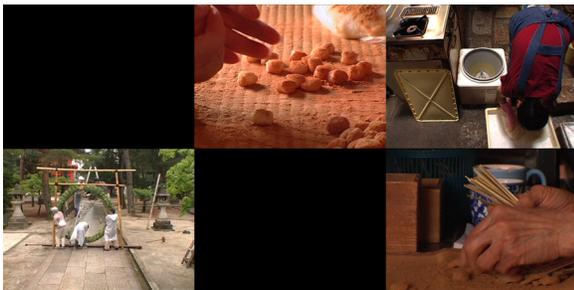
Several work-in-progress sequences may be viewed in split-screen version on Vimeo:



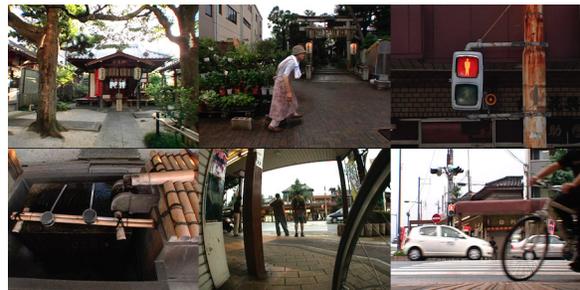
[Soundsurround](http://vimeo.com/9135769)
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[Look Before You Leap](http://vimeo.com/12846834)
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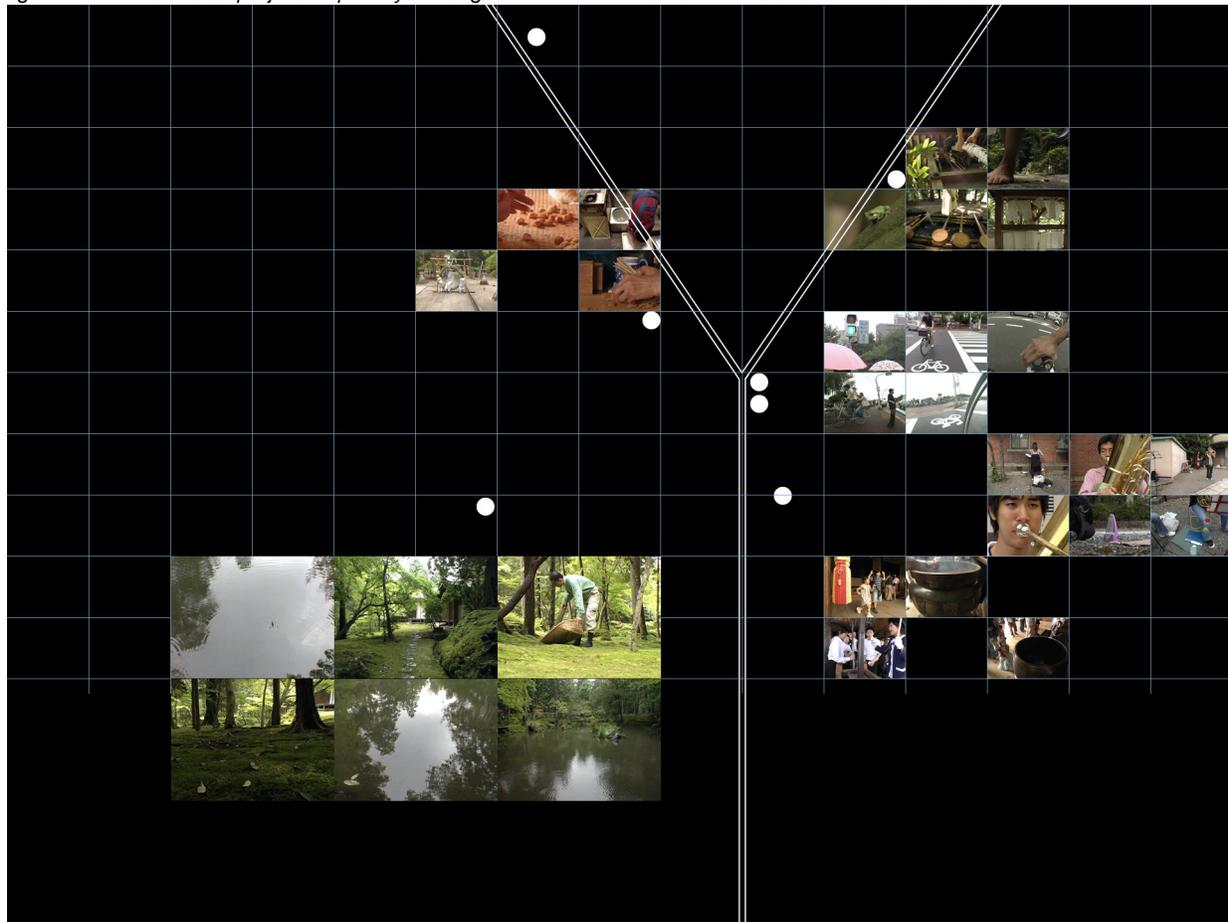


[Boundary Conditions](http://vimeo.com/5916750)
<http://vimeo.com/5916750>



[Cycle By](http://vimeo.com/9123459)
<http://vimeo.com/9123459>

figure 3. This schematic project map of Kyoto diagrams 6 video locations in relation to the Kamo River.



WORK-IN-PROGRESS

Initial research and video field production for "6x6 Emptiness Can Hold Things" were made possible by a Rockefeller New Media Artist Fellowship awarded to filmmaker Rachel Strickland (2005) and a research residency at Kyoto Institute of Technology (2006). Strickland's 6 months of place-recording experiments in Kyoto yielded 90 hours of video observations, drawing scenes from the everyday life of 6 public places. Subsequently video and audio source material have been aligned in a split-screen matrix, and 6 split screen sequences representing 6 location studies have been edited to a total running time of 90 minutes. Location-specific sound designs that lend acoustical complexity, architectural arrangement, and perceptual elements to the production audio have been sketched with 5.1 surround.

Strickland and sound designer Jim McKee turned to interaction designer Eric Gould Bear for help with devising a portable presentation strategy that lets people preview this spatially distributed video environment in a 3D simulation with localized audio. The result is [Walk-in Theater™ for iPad®](#), available from Apple's App Store. To assist realization of "Emptiness Can Hold Things" in the physical dimensions of an installation, Walk-in Theater also promises to serve as a rapid prototyping tool for configuring multiple video planes and spatialized sound sources to fit different exhibit spaces.

The architectural arrangement of projectors, screens, speakers, paths and clearings through the installation, as well as other site-specific affordances, remain to be explored for specific exhibition venues. Completion support is required for 3D sound design of individual sonic treatments associated with each of the 6 location studies—developing McKee's preliminary concept mixes and work-in-progress tracks in combination with an extensive library of Japanese sounds.

Recent technological feats in surround cinema and multi-channel audio-vision, while striving for ever more dynamic range and stunning realism, have barely begun to articulate the elemental logic of digital cinema's spatialized and many-dimensional multiplicity. The motive of "6x6," and incentive for producing this installation as an art-research collaboration, consist in the invention of a language of soundscape/ image/ sequence field dynamics for first-person locomotion in physical space. Working a parallel process between visceral navigation in acoustic space and virtual modeling with 3D graphics and headphones should furthermore yield provocative findings for side-by-side comparison and transposition, as we venture to identify, understand, and express patterns of this polylinear-polyphonic interface logic that belongs to emerging media environments.

CONCEPT AND TREATMENT

The intention of a movie is to register something that is fleeting—elements of a process, for example, a response to prevailing conditions; or to reveal something that is otherwise invisible—drifts of a wind, the relationships that impart structure to an environment. Relinquishing narrative purposes and deviating from the synoptic, causal, chronological logic of plot-based linear montage, polylinear video affords a structure that is more akin to architecture than storytelling for capturing and articulating a kind of experience that belongs to many different dimensions.

A place is constructed in the mind. Whereas western architectural design invests energy in the tangible matter of enclosure, mass, and façade, Japanese practice has embraced aspects of the environment that people neither see nor bump into—through a vocabulary of architectural gestures and cues that designate directions, interruptions, concentrations and dispersions of a habitable 3-dimensional field. Improvising on techniques of polylinear perspective that have been uniquely employed in Japanese painting and landscape design, "6x6 Emptiness Can Hold Things" merges cinematic structure with architectural space in order to explore formal and experiential principles inherent in the definitions of place.

For purposes of this work, both cinematography and installation design take inspiration from techniques of landscape representation that have been employed by Japanese painters and garden designers—such as the panoramic and time-extended picture scroll, serial depiction of a landscape feature through multiple viewpoints, variable visibility perspective composed with mist and clouds, and the suggestive differentiation of physical 3D space through mutable, portable, or immaterial elements.

The first phase of the exploration involved deploying the video camera as an instrument for tracing or annotating these otherwise imperceptible spatial gestures—resolving the peripatetic vista into a spare but coherent pattern of dynamic relationships, like parts of a dance. Once in a while at a confluence of two rivers, the scene on any weekend unrolls like a picture scroll. When the current swells with spring rain, a footpath crossing the channel becomes submerged in its torrent. Acceding to a sudden downpour, the art student in the 700-year-old stroll garden continues sketching with one hand while attempting to restrain an unfurled umbrella along with the sketchbook already balanced in her other. Deep in forest shadows, flights and landings of an ancient shrine are surveyed through eyes of a Butoh performer's feet. On clear evenings a cacophony of instruments rehearsing musical scales fills the space where cars had parked from 9 to 5. The players do not hear one other. In every angle of this city there is a parallel universe perceived by bicyclists. Now you see it, now you don't. Private performances occur in public spaces. The purpose of stepping stones placed in a garden is to make individuals conscious of their own walking. What is to be empty must first be filled.

Such fragments of an urban landscape concentrated in 6 distinct locations provided the basis for inventing and experimenting with a cinematic vocabulary of architectural space that focuses on its dynamic and ephemeral dimensions, and calls into play the perceptual apparatus through which people experience and identify with places in the world. This is a matter of multiple perspectives, both simultaneous and accumulated over time through movement. It is a mobile viewpoint, propelled by feet.

The objective for phase 2 concerns methods of revealing. Cinema and digital media have much to glean from Japanese building and place-making traditions. Places—like stories, but different—are structures of communication and collective memory. A place is an organization, and memory is often an articulation of space. Something about space escapes our attempts to look at it from above. For purposes of the proposed installation, the Japanese stroll garden offers quintessential clues for inventing a cinematic language of peripatetic perception. Here trajectories, anticipation, and memory conspire to deny a fixed perspective. The ingenious garden designer has employed techniques for beckoning, framing, and arresting visitors' attention, while regulating actual and perceived rates of locomotion.

Architectural spaces can exist solely in the imagination, but we come to know them through accommodating our actions to them, by arriving and going and looking around and stopping and reflecting, and engaging with other people there. A projection environment with multiple displays distributed in physical space can lend an architectural structure to cinematic experience, establishing a setting where visitors may selectively sample and interact with multiple video streams as they would move around a location in the landscape. This experience is not only visual; it is profoundly influenced by sound.

SOUND MAKES THE DISTANCE OF THE IMAGE POSSIBLE

6 semi-transparent 10' x 7.5' planes, perpendicular and detached, float suspended in black space. The planes are illuminated with images cast by 6 synchronized video projectors. A person's view of 3 to 6 angles projected simultaneously is partially occluded at any point in the display space by the placement of the planes themselves. The vista that proposes itself is alternately hidden and revealed by several freestanding portals that constrain visitors' sightlines as well as their locomotion around the space. Indeed, these spare arrangements and eccentric framings are apt to strike us as nothing more than abstract composition until we place our own mobile perspective in the picture. It is as if the cinematography has been choreographed by the locations displayed here, and our job as participants is to extrapolate the rules from the movement and to discover its meaning in the pursuit of our own trajectories.

When you walk from home to the post office, for example, you are 1) watching your steps and 2) discerning the path that lies ahead and 3) noticing things along the way, all the while 4) identifying birdsongs and familiar noises and locating their sources, 5) eavesdropping on bits of conversation, 6) responding to new sonic developments, and 7) humming the tune that's stuck in your short term memory. Collapsed to a single audio-video channel, this multi-focus attention that you naturally exercise is obliged to meld into an unintelligible muddle, or else unravel and disperse in a scatter of broken threads. The technique developed in the current video exploration has involved capturing and editing multiple perspectives for simultaneous display. A network of intersecting pathways amidst parallel perspectives are arranged in this peripatetic movie theater to let spectators filter and assimilate the cinematic data by intuitively employing their own feet, eyes, and ears in response to familiar proprioceptive cues. The elusive maneuvers of peripheral vision, for example, specify a consequential basis for determining the layout of screens. Through sensorimotor selection processes that are sometimes subliminal, a visitor chooses not only what details of the video/sound/scape to hold in focus, but also what points of view to adopt.

Responsive elements in this peripatetic cinemascapes are intended for the purpose of making people conscious of their own perceptual meanders, trajectories, and drifts of attention. Having considered computer-controllable devices for adding effects to the video stream in real time, we realized that a far more subtle, immersive, and sensorial scheme for bringing attention to attention could be achieved with aural design. Sound makes the distance of the cinema image possible—surrounding and pursuing us as it fills the space between screens. Using spatialized audio display technology, the acoustic dimension of this installation might be described as a kind of walkabout sonic sculpture whose characteristics change to reflect and emphasize spatial qualities and treatments associated with the different video locations, as well as attention states of audiences. To this end we have begun to map distinct keynotes, signals, soundmarks, and sonic treatments for each of the 6x6 sequences.

When image resolution, size, and immersion increase, the soundtrack must cooperate by becoming more vivid on its own terms. Not only IMAX, but also experience with public exhibition and games design, attest to this principle. The collection of sonic treatments that we propose to implement with 6x6 will extend the vocabulary, in sound-for-film terms, of backgrounds (BG's), environmental and perspective shifts, interruptions and delays in time, subjective (POV) sequences, and spatial montage. Musical elements and metaphysical sounds moreover arise in a theater of the mind whose outlines will emerge as we learn to suspend disbelief within this new image sound field.

VIDEO FUGUES, SONIC ETUDES

In a **topographic** meander, the visitor becomes aware of localized sonic regions—field, forest clearing, mountain stream, the percussion section and the parade route—in the process of walking around the installation. Although related to images appearing on screens, these other sound sources may remain invisible and spatially discrete.

A **transition** scheme emphasizes edges and intersections. The size of experiential space is not measured by its physical dimensions so much as by our perception of the events that it contains. Such spaces can be enlarged by slowing down time. Along the passage to a place of stillness, the visitor's progress is articulated by a series of thresholds where one event space leads to the next.

In a **travel** scenario, the bicycle's steady clatter of metal and brakes propels us on a circular route, while sounds that issue from passing motor vehicles, birds in flight, a gust of wind and the torrent of the river, or the flute player's melody carried by a tease of breeze, literally travel through the installation, with potential Doppler effects.

Departing from temporal and event-focused scenarios that employ narrative structure and chronological time, composer Karlheinz Stockhausen's idea of "moment form" has more in common with architectural arrangements. Musical moments, by his definition, consisted of recognizable formal units that were modular, interchangeable, and dispensable. Instead of linear development, concentration on the "now" might bring the listener's attention to a "timelessness" or "eternity that does not begin at the end of time but is attainable in every moment."

Without incurring the encumbrance of buttons, dials, and motion detectors, the interactive sense of the proposed installation depends largely on where visitors are standing at a particular moment and how they position their bodies and move around the space. The sonic treatment for the stroll garden is more esoteric, involving meditative consciousness. Ordinarily our awareness focuses on specific objects, ever exhausting itself in the process. This particular perambulation invites us instead to entertain a condition of choiceless awareness, becoming conscious of consciousness. The sonic transformation occurs as a shift from synchronous ambient sounds emitted by their respective images to the metaphysical or **supersensory** sounds of this place that emerge from silence although they may be hidden from view.

Departing from one-way linear cinema played on a single rectangular screen, the proposed installation pursues a cinematic paradigm that undoes our habitual ways of framing things, employing Japanese architectural concepts in a polylinear-video polyphonic-sound construction to create a kind of motion picture that lets the world reveal itself and permits discovery on the part of audiences. The experiment furthermore probes new dimensions of experience design, modeling an architecture of spatial montage that holds provocative implications for design of actual as well as virtual installations.

BIOS

Rachel Strickland, Videographer, is a documentary filmmaker, architect, and time-based media designer, whose work of the past 35 years has focused on cinematic dimensions of the sense of place, animate and ephemeral dimensions of architectural space, and new paradigms for narrative construction in digital media. Strickland earned a Master of Architecture degree at Massachusetts Institute of Technology, with a concentration in *cinéma vérité* filmmaking. She has taught film and video production at MIT, UC Santa Cruz, and Southern California Institute of Architecture. Atari, Apple, and Sun have employed her as a research videographer, and she directed experimental cinema projects at Interval Research Corporation. Strickland's **Portable Effects** video project surveyed people's schemes for organizing the miniature environments we carry with us—in pockets, backpacks, briefcases, and handbags—as a way of learning about design behavior in everyday life. With Brenda Laurel, Strickland co-directed **Placeholder**, an unorthodox Virtual Reality project that pursued the *genius loci* of natural landscape and explored a new model for narrative action with multiple players in virtual environments. As Adjunct Professor at California College of the Arts, she teaches Spontaneous Cinema for Design Research.

Jim McKee, Sound Designer, works with computers, samplers and tape, using concrete sound elements and human voice to build impressionistic and abstract sound environments. Projects are typically developed in collaboration with film producers, playwrights, radio producers, performance artists, and product designers. McKee's experience includes mixing, engineering and sound design for national broadcast television, radio, commercial and drama, as well as research and production for interactive media. In addition to “best sound design team” recognition, his San Francisco company **Earwax Productions** has won honors in The Bay Area Theater Critics Circle awards, Northern California Broadcasters, Association of Independents in Radio; grants from the National Endowment for the Arts; and the Academy Award for Francis Ford Coppola's production of **Bram Stoker's Dracula**. McKee received a Bachelor of Music Education from Shenandoah Conservatory of Music in Virginia and a Master of Fine Arts from the Center for Contemporary Music at Mills College in Oakland, California. He has lectured at YLE Radio in Helsinki Finland, the Institute for the Advancement of Journalism in South Africa, Western Public Radio, San Francisco State, RTÉ Radio Ireland, California College of the Arts, and the College for Recording Arts.

Eric Gould Bear, Interaction Designer and Engineer, CEO, **MONKEYmedia**, has designed computer interfaces since 1984 and is first-named inventor on over 100 software and hardware interaction patents and patent applications. A dancer and musician, Bear began programming computers at age 12. He holds a Bachelor of Arts in Cognitive Science (Psychology, Philosophy, Linguistics and Computer Science) from Wesleyan University and a Masters in Interactive Telecommunications from Tisch School of the Arts at New York University. His early focus on research in human perception of audio/visual phenomena shifted in the late 80's to experience design when he found his skills could make direct contributions to people's everyday lives. Bear's eclectic multi-disciplinary background prompted him to approach experience design from a personal perspective—looking through the computer screen to “viewers” as a performer engages with an audience from the stage. Bear has taught at San Francisco State University and the University of Texas. He has held executive positions at Microsoft Corporation and Yahoo! Inc. He has lead UX strategy and designed computer mice, universal remote controls, mobile phones, stock trading applications, legal research tools, home automation systems, and medical devices for Logitech, Tektronix, Samsung, Motorola, Charles Schwab, and Thomson Reuters, among others.