LARGE SCALE EXPERIMENTAL MEDIA AND PERFORMANCE

By Joel Slayton

This discussion presents three works by media technology artist Joel Slayton. Two of the projects, *DoWhatDo* and *Conduits*, integrate large scale media technology with site specific experimental performance. The third project, *Telepresent Surveillance*, (a work-in-progress) is a media installation scheduled for exhibition at the Krannert Art Museum in Champaign Illinois in November of 1995.

DoWhatDo revisits the urban drive-in as a principal means of social interaction. The top floor of the city of San Jose's six story public parking facility was transformed into a hi-tech, multimedia drive-in movie environment. The performance was experienced from strategic vantage points in and around an atmosphere of automobile culture. The theatrical space enabled total immersion of the audience into the actual performance. *DoWhatDo* explored edges of cross-culturalism characteristic of the diverse demographic population in Silicon Valley. The performance creates a world of illogical manifestations, where electronic forms of information challenge traditional perceptions of individual and ethnic identity. Silicon Valley's romance with multiculturalism provided a springboard for an innovative conceptual, visual and musical experiment. Two hundred performers present a cross-cultural re-definition of San Jose in a parade of circumstance and event. A professional rollerblade team, skateboard enthusiast, sport motorcyclist, young entrepreneurs, Latino, Indian, Afro-American dance ensembles, martial arts groups including Kendo, Fencing and Caporia, and a parade of low rider automobile culture in a finale that directly involved the audience in celebration of DoWhatDo theory, comprise the cast of performers. The event was moderated by a master of ceremonies/information theorist, located in a mobile 30 ft. mechanical lift posturing above the performance site. The performers engage the audience in a series of simultaneous demonstrations of sport, dance and ceremony with each act presenting a mixture of contemporary sub-culture and cultural tradition, all to illustrate the principals of DoWhatDo theory. Automobiles were directed into the environment to pre-selected viewing positions in an orchestrated parking art event. Audience members were encouraged to leave their automobiles and move in and around the environment during the performance.

DoWhatDo was the result of a unique collaboration of interdisciplinary artists, musicians and performers with technologists that encompass computer graphics, engineering, interactive systems, video, networking, tele-communications and electro-acoustics. A one-year process of planning engaged cultural arts groups, civic agencies and corporate sponsors in real-

ization of the event. From set design to software, DoWhatDo theory served as the principal conceptual thread which enabled and focused all discussions and participation.

The concept for the performance was appropriated from the work of information theorists Paul Pangaro and Gordon Pask. Pangaro and Pask originated a conversational and learning systems model called DoWhatDo at MIT in 1980, where Joel Slayton was Technical Coordinator of the Visible Language Workshop. The theory describes how associations between topics are manifest and give rise to new sets of propositions and questions resulting in knowledge structuring. Pangaro and Pask developed DoWhatDo as a computer simulation model to emulate human conversation. *DoWhatDo*, the performance, appropriated the theory as both subject matter and process. As subject matter, the performance centered on presenting the substance and significance of the theory to the audience. As process, a collaborative strategy derived from DoWhatDo theory served to engage the contribution of performers, artists, technical staff, community and governmental agencies and corporate sponsors.

The set design of *DoWhatDo* centers around an elevated, multi-sided computer controlled projection sculpture. The sculpture is a 3 sided, 30 ft. high self contained projection system underneath which live performance is directed. *DoWhatDo* performance control software based upon the central tenets of the theory was developed at the CADRE Institute of San Jose State University. Networked multimedia computers running this performance control software were able to converse with one another, determine the subject matter, compositional style and temporal sequencing of real time digital movies which were projected onto the sculpture, under and around which live ensembles performed. Each projection screen displayed a separate computer generated digital movie relative to the action underneath it. The projection sculpture's multi-sided format provided viewing from any audience members orientation. A 100 meter lighting corridor running from the spiral automobile entrance and exit at each end of the parking facility established the principal performer staging area. Ensembles simultaneously performed within the corridor influencing the perception and activity of one another. There were three lighting and AV towers located on the perimeter of the garage. A pre-scheduled and produced FM radio broadcast provided background information on DoWhatDo the theory and pre and post show orientation. An original electro-acoustic music score created by CREAM, the Center for Research in Electro-Acoustic Music at San Jose State University, complimented the live performance. A two-way microwave telcom link with an off-site auditorium provided remote audience interactive viewing.

By all acclaims *DoWhatDo* was a success. Perceived as both a guerrilla act and mainstream performance *DoWhatDo* speak associated with the theory and event became part of the street vernacular and a cross cultural phenomena. A feature length was documentary produced. From bumper stickers and graffiti to art criticism and reviews the process of the performance engaged the entire community.

Conduits

Conduits, an experimental multimedia performance was commissioned by the city of Palo Alto as the culminating event of the city's 1994 Centennial. *Conduits* premiered April 16th, 1994.

Conduits presented a satirical reflection on Palo Alto's hubris as a model community. Since its incorporation in 1884, Palo Alto has strived to be recognized as one of the nations most important cultural centers. The presence of Stanford University and Silicon Valley contribute to this notoriety. Palo Alto's commitment to 'embracing the future' is expressed in city government, education, business and the arts. Joel Slayton conducted investigative research of public sentiment in response to this objective by reviewing historical archives, meeting with city representatives and interviewing citizens. This research and two events in 1994 receiving national news media coverage established the thematic focus of the performance.

In a nationally covered news event, an anonymous phone call to the police department reported that a Black Mamba, a highly poisonous and illegal snake, had been released in Palo Alto. City agencies responded with dissemination of public information warning of the danger and conducted extensive police and fire department searches. Urban mythology quickly grew. The Black Mamba was described as a ferocious predator capable of chasing down small pets and children and able of leap from trees upon unsuspecting bystanders. The Black Mamba was never recovered nor were there any incidents. At the time of the performance it was not determined if the Black Mamba was still at large or simply a hoax. In the second nationally covered news event, a prominent public art sculpture, donated by sister city Linkoping, Sweden, entitled 'Foreign Friends', a painted wood sculpture depicting a man and woman seated on a park bench accompanied by a dog and bird, had been 'vandalized' repeatedly in a series of public activists statements. The man and woman had been decapitated and the dog removed only to be found deposited in a trash dumpster. More sympathetic factions adorned the sculpture with scarves, hats and miscellaneous clothing in colder weather. The city responded with the installation of a video surveillance system to monitor the sculpture. Palo Alto is currently re-assessing the role and purpose of art in public spaces. Both events demonstrated volatile expressions of public discourse and city government response.

Conduits immersed the city of Palo Alto in a third controversial event, this time performed as experimental theater: The 'C-Machine', a hypothetical telecommunications public art sculpture of extraordinary disfunctionality is donated by a consortium of Palo Alto's sister cities as a centennial gift. The 'C-Machine' located in the most prominent of sites in the commu-

nity, City Hall Plaza, provides the public with direct access to a sophisticated information encryption/translation engine for public discourse and international message sending. The performance simulates the donation ceremonies, first use demonstrations by citizen advocates, and a public information disaster of epic proportions. In the citizen advocates demonstration the sculpture massively fails to function properly resulting in an information disaster rescue operation performed by the Palo Alto Fire Department and Swat Team. In the resulting mayhem the Black Mamba is recovered and safety is restored the city of Palo Alto. This plot is portrayed as a 'real event' by a set design capturing the look of a film production documentary of the donation ceremonies. *Conduits* offered an inspiring, humorous and insightful look at the roles of citizens, civic leaders and community as they debate the merits of the 'C-Machine' and the role of public art.

Conduits directly incorporated city of Palo Alto resources, services and personnel, including cameo performances by the mayor, city manager and council members. City agencies including the Swat Team, Fire Department, Rescue and Decontamination Units provided extensive resources and participation. The city of Palo Alto enabled structural engineering assessment, risk management, insurance security and pubic safety. Local computer industry provided extensive technical assistance. Corporate sponsors included Xerox Parc, Silicon Graphics, SuperMac, RasterOps and Fry's Electronics. Community arts organizations, performers and renown citizens were selected to participate in the actual event. Staging and AV was coordinated by Riverview Systems Group.

The set of *Conduits* resembled that of a real movie production including apparatus and crew. Collaborative efforts of twenty seven computer artists, fifty technical operators and one hundred fifty performers contributed to the performance content and implementation. *Conduits* showcased applications of interactive multimedia, computer graphics, digital video, electroacoustics and high bandwidth networking. The centerpiece of the set design featured the impressive computer controlled media sculpture, the 'C-Machine'.

Conduits involved a one year period of investigation, technical and artistic experimentation, and dialog with participants, sponsors and city agencies. The dynamics of the collaboration were influenced by a multitude of agendas ranging from political to personal. Concept development was intentionally shaped by the input of the many participating individuals and organizations. This gave rise to the specifics of plot, script, music and staging. The experimental nature of the performance, the focus on media and technology, issues involving site logistics, fiscal responsibility and public safety, significant corporate participation, the inclusion/exclusion of performers and dignitaries, the relevance of content, the interactions of artists, technicians and performers makes apparent the necessity of an appropriate collaborative strategy.

Palo Alto City Hall Plaza was selected as the performance venue because of its central location and public visibility. The plaza is a pedestrian mall entrance to City Hall, bordered by trees and three major avenues. The nine story City Hall building served as back drop for the performance. A large flower planter, forty feet in diameter sits at the entrance to City Hall. The central plaza is approximately 75 by 35 meters. Due to site lines it was determined that the audience would experience the performance with viewing accessible from three sides. The avenues were closed during the performance for this purpose. Approximately three thousand people attended.

The set design established four staging areas that were technically integrated. From upstage to down stage these include: Council Chambers; located in City Hall, The Clean Room; location of the 'C-Machine' media sculpture, the Master of Ceremonies Platform and the Citizen Advocates Interface; both located down stage from the Clean Room. An elevated walkway was built connecting the 4 staging areas. The walkway lead from City Hall doors passed between two scaffolding structures, across the planter and then branched into the down stage area. Technical control center for the performance was mounted in the scaffolding. The 'C-Machine' was built on a special platform over the planter.

The centerpiece of the performance was the 'C-Machine' sculpture. Design of the sculpture required defining a hypothetical telecommunications system. A concept paper guided the actual form of the C-Machine and was integrated into performance script. The concept paper describes the extraordinary absurdity of its function. According to the paper, "The 'C-Machine' is a custom prototype multi-matrix media communication system devised for inter-personal and infra-societal public communication. The current prototype is configured for up to five remote interface links routed to a central multi-interface hub. The 'C-Machine' provides near real time transmission in over seven different languages and simultaneous content translation and reinforcement (in text and image form) with the use of our latest Central Processing Array (COPMRA). The purpose of the 'C-Machine' is to translate what is said into what is meant".

The 'C-Machine' was a 24ft high x 10 ft wide x 18ft deep metal fabricated structure with seamless front and side rear projection scrims used to represent its internal processing. Two Silicon Graphic Elan workstations and two Pentium based PC's generated real-time animated sequences. The sculpture was topped with four computer monitors, a microwave transmitter, various antennae, and a satellite dish. The 'C-Machine' location over the flower planter required the removal of 20 tons of dirt and construction of a specialized platform for support. Surrounding the 'C-Machine' were an additional 24 display monitors, representing the specific subject matter of the 'C-Machine' processing. Four Mac 840 AV computers generated real time digital movie sequences for this display.

The down stage branching walkway incorporated the Master of Ceremonies and Citizens Advocates Interface. The Master of Ceremonies Platform consisted of the LiveBoard interface to the 'C-Machine' and two large format Barco monitors representing the 'C-Machine's' operational status. The Citizens Advocates Interface used a blue screen video process for synthesizing input into pre-recorded digital information for video teleconferencing. Bleachers were located immediately adjacent to the Citizens Advocates Interface where fifty distinguished Palo Alto citizens participating in the performance were seated. Two large format projection screens located at the furthest down stage point were used to display the output of the 'C-Machine', teleconferencing and live video of the event.

The *Conduits* performance environment incorporated real time performance control systems for computer graphics, digital video and electro-acoustics developed at the CADRE Institute of San Jose State University. Technical Operation of the event required ten high end computer workstations operating over an ethernet network. AV from City Hall Council Chambers to the plaza was established for direct broadcast. Local cable access to the live event was distributed from the Council Chambers AV center. ISDN and Codec, provided by Xerox Parc, were used for real time video telecommunications. The event was distributed live over the MBone.

The performance presented five discrete scenes depicting the *C-Machine* donation ceremonies, the first use demonstrations and technical failure of the *C-Machine*, culminating in media spectacle. The finale, scored and choreographed to big band jazz included the entire performing ensemble engaged in a dramatic rescue operation conducted by the Palo Alto Fire Department, Rescue and Decontamination Units and Swat Team. Each scene depicted a simulated 'movie take' complete with camera crews, a motorized camera dolly, and scripted re-takes of particular events. A two minute interlude at the conclusion of each scene was dedicated to technical preparation of next scene and for the actor-stage manager to informally interact with the audience. The overall illusion was that of a 'real' movie production. The performance was unrehearsed to preserve the spontaneous interactions of the technical crew and operations, performers and audience.

Narrative for principal performers was written and rehearsed. All other speaking roles were performed by individuals portraying themselves. The Mayor, City Manager, Council Members, and Sister City Dignitaries formulated their commentary based on the conceptual orientation of the performance event. Therefore, the final narrative structure combined both written and improvisation roles. None of the performers rehearsed together to preserve the spontaneity of the event. Electro-Acoustics combined with traditional jazz, opera and choral music were used to create the score.

Conduits was an extraordinary conceptual art accomplishment involving hundreds of volunteers intensely working together over a one year period. Corporate sponsors recognized the significance of this enterprise and contributed resources, technical assistance and personnel. The city of Palo Alto worked closely with Joel Slayton and his staff to address the many difficult hurdles involved in supporting an event of this scale. All involved, were rewarded with a very special collaborative experience resulting in a significant artistic accomplishment that initially seemed an impossible undertaking.

As desired, *Conduits* stimulated a wide reaction in the audience and news media. To some the satire was clear as a bell, for others the illusionistic context prevailed. Local news media touted 'Technological Failure Hits Palo Alto Centennial" and " Fellini Was Never so Bad". In response to these negative reviews, City Hall, the Mayors Office and the Centennial Planning Committee were inundated with letters and phone calls applauding the experimental nature and savvy of the performance. Accusations of conspiracy were floated at publicly. Editorials surfaced in the media comparing *Conduits* to the Robert Mapplethorpe debate, where a small group of individuals attempt to polarize pubic opinion. *Conduits* became what it was about; debate, divisiveness and polarization.

Conduits illustrates that we are all human, technological reliance is not a cure for our cultural woes and that our destiny is in our own hands. What better community to address the idea of 'embracing the future', than that of Palo Alto.

Telepresent Surveillance

Telepresent Surveillance is a media installation to be presented at the Krannert Art Museum in Champaign n Illinois, USA in November 1995 as part of the 'Art as Signal' exhibition.

The installation incorporates self navigating robot probes, wireless video surveillance, and telepresent display via the internet. Three semi-identical robot probes are designed to operate independently and together (exhibiting observable emergent behavior) seeking and tracking individuals within their proximity. The created impression is that of being watched by automated machine intelligence.

Programmed movement behaviors for each probe are activated by human presence within their defined and shared proximity's. A 4 ft. diameter helium filled balloon tethered to the probe suspends a miniature CCD camera and wireless video transmitter. Real time video output from each probe's spatial orientation and activity is displayed on monitors included in the installation. A camera positioned at the entrance views the tracking and interactions of the probes with viewers. Monitors are connected to a computer controlled sequencer determining periodic sampling of the probes output. Collected image files are accessed by a host server, located at the CADRE Institute in

San Jose, California, via the internet. Continually updated images are automatically incorporated into a WWW interactive document for telepresent viewing.

Design and engineering for the robots was produced in collaboration with Guy Marsden of Art-Tec, located in Oakland California. Mr. Marsden describes the technical configuration and design: The probes each have a custom designed infrared/sonar system that is used to track the humans in its working radius. The rotating head of the sensor contains a tightly focused passive infrared sensor that triggers a Polaroid ultrasonic ranging device which has a working range of 13 to 30 feet. As the scanner rotates it detects warm body via I.R. and then determines its range via an ultrasonic ping. Connected to the rotating head is a simple positional encoder that resolves 8 angular wedges of the rotation. A Basic Stamp computer is used to store range and vector information, and select targets for observation. It then sends the appropriate vector data to the Stamp that controls the robots movement.

The controller Stamp computer uses the vector data transmitted from the sensor to orient the probe such that the overhead video camera/transmitter is pointed more or less at the selected target. The robot is driven by 2-6 motorized wheels at the sides with a caster at the front and rear. Speed and direction of the motors are controlled directly form the Stamp using hand wired power MOSFET driver circuits.

Collision avoidance is accomplished with 44Khz ultrasonic transmit/receive sensor pairs. There are 4 systems per probe, 2 forward and 2 facing back. These sensors were adapted from a surplus device intended for automobile use. In a car they had a module mounted to the mirror that would show a bar graph of the distance to the nearest object as you back up. By connecting the output form these to the Stamp computer we have immediate warning of an impending collision so that an avoidance routine can back the robot away.

The robot probes are designed to be free ranging within a defined environment. Being context dependent, the interactions with viewers is dramatically influenced by the nature of the installation environment. In the Krannert Art Museum, the audience is there, of course, to see art. In this instance, the art they are viewing, is viewing them view it, on behalf of an unknown and non-present audience. The result is a kind of influence as interaction.