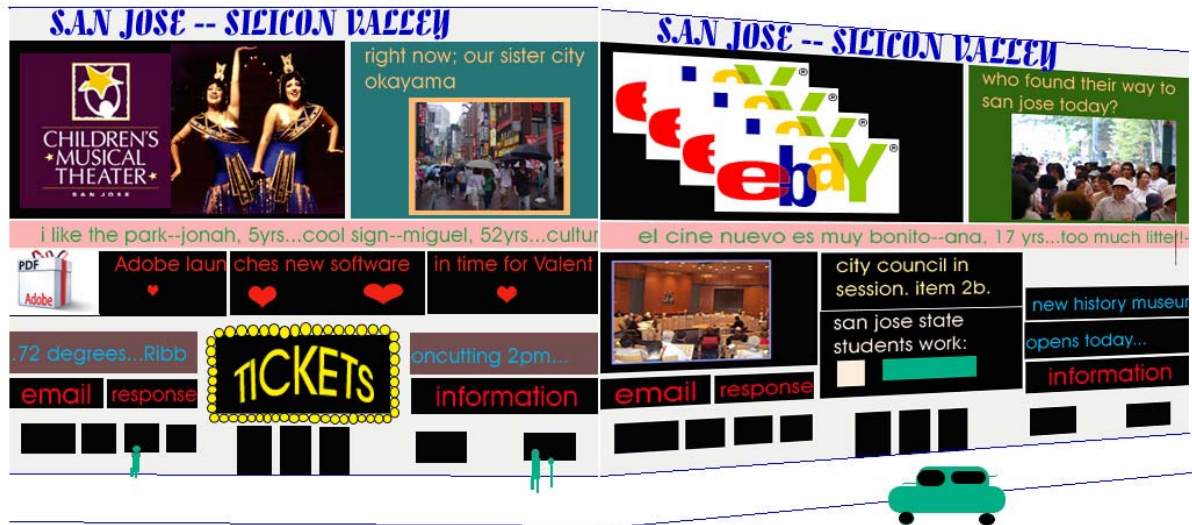December 1, 2004

11.947 New Century Cities: Real Estate, Digital Technology and Design

Landmark San Jose—Silicon Valley:
Using Digital Technology to Create a Physical Locus
for City Identity

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In today's global economy, city identity is becoming increasingly important in differentiating one city from another. Cities are competing on a global scale for industries, companies, and workers. One such city, San Jose, also known as the Capital of Silicon Valley, is urgently weaving a competitive identity in the wake of a destructive recession. Having lost 200,000 jobs in three years, the City has produced a vision for San Jose's economic future posited on its identity as a creative and cultural technology center. I propose an urban design intervention in the form of programmable signage as building façade at a prime intersection in Downtown San Jose. The signage would be a landmark for Silicon Valley, as well as a dynamic representation of companies and community.

It is Time the Capital of Silicon Valley Catches Up with Technology

A town of 328,300 in 1965[1], today San Jose is the eleventh largest city in the nation and quickly nearing one million people. The engine of this tremendous growth is Silicon Valley, which for the last two decades has superseded and subsumed San Jose, its self-proclaimed capital. Forced to leave behind its agricultural identity as "Valley of Heart's Delight," San Jose has been busily trying to keep up in production of housing and provision of basic services for its burgeoning population.[2] The relative richness of the city coffers and the speed at which business moved in the valley, made anything as ostensibly superficial as posturing identity seem superfluous. That was so until 2001, when Silicon Valley's primacy in the world was suddenly thrown into question and San Jose faced a starker vision of its competitiveness in a world of Silicon Alleys, Triangles, Plains, and Prairies; San Jose lost 200,000 jobs between 2001 and 2003. In response, the City sought an economic development strategy that acknowledged the global pressures on technology centers and built on San Jose's assets. The economic strategy adopted in 2003 seeks to position San Jose as the world's leading center for innovation, by expressing and promoting its tremendous creativity, high productivity, and diverse culture. In response to this goal, I propose the installation of programmable signage as a large-scale, physical expression of "what it means to be the Capital of Silicon Valley." The project would be situated at a development site known as Block 8 in the downtown. The site fronts onto Plaza de Cesar Chavez and would create a place for companies, tourists, and residents alike to witness and react to the creative and cultural intersection of technology and community. There are no other public landmarks that function as a gathering space or focal point for Silicon Valley—this would be the first. It would be the only public place to which one might go in Silicon Valley's vast suburban land of office parks in order to feel physically connected to and interact with Silicon Valley.

Before addressing the details of the proposed project, it is relevant and appropriate to consider the increasing importance of identity to cities, as well as San Jose's own efforts to dovetail technology with identity as a driver of economic and social growth.

City Identity in the Global Economy

City identity is critical for San Jose to attract and retain companies and residents in the global economy. Predictions that communications technology would gradually reduce our need for daily face-to-face interaction and thus for cities have fallen short, as companies continue to headquarter in major metropolitan areas and young professionals and "empty nesters" migrate into cities from the suburbs. Manuel Castells writes convincingly of this tendency to retain city centers,

> These cities, or rather, their business districts, are information-based, value-production complexes, where corporate headquarters…can find both the suppliers and the highly skilled, specialized labor

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[1] City of San Jose, (11/16/04)

[2] According to Castells and Hall, by 1994, the surface of open space per person in San Jose was only about one-third that of New York City (1994).

they require…also, face-to-face contacts for critical decisions are still necessary in the age of widespread eavesdropping…And, finally, major metropolitan centers still offer the greatest opportunities for the personal enhancement, social status, and individual self-gratification of the much-needed upper-level professionals from good schools for their children to symbolic membership at the heights of conspicuous consumption, including art and entertainment.[3]

Not only do companies want to be in cities, but so do their (white-collar) workers. In this scenario, city identity becomes increasingly important in differentiating one city from another. Cities no longer compete only through comparative advantage (the information economy can be located just about anywhere), or within a given region, but globally.

More and more cities are basing their competitive edge on the experience of being in the city. The most profitable sales pitch is still to companies, but the pitch has changed. It is now based more on the companies' access and retention to a strong labor pool and industry concentration, than on a few tax credits for the company. In an economy based on information and innovation, the strongest asset to a company is a highly productive, creative workforce. Given the mobility of today's information technology workers and the growing proclivity in the first world to consume experience with every purchase, cities are positioning their competitive edge around the experience of being there, which is promoted through a simplified identity.[4] This is seen most frequently in the form of city districting, especially historic or cultural districts.

In 2000, a San Jose community task force divided up the downtown into districts as a means to directing development, categorizing building and activity type, and developing a sense of place. While these districts break up the downtown into interesting areas, they do little to promote a unique identity for San Jose, or to capitalize on its reputation as a technology center.[5] The opportunity lost by this middling approach has been recognized subsequently in the 2003 economic strategy.

San Jose's Search for Identity

In 2003, the City adopted an economic strategy for the next five years that makes city identity a priority. The City argues that for San Jose to maintain and grow its economy in a global environment described as competitive, uncertain, and opportunistic, then San Jose "must excel at *productivity*, *creativity*, and *livability*."[6] A distinctive identity that is supportive of the types of activities desired by the tech sector is one that allows for creative destruction (i.e. rapid growth and dissolution of companies and products based on up-to-the minute developments), attracts a talented labor pool by the promise of a high quality of life, and provides for high productivity. The City notes that San Jose is no longer the only region in the world with a

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[3] Castells (2001), p.315-316

[4] Any retail trade publication will illustrate this point: With the homogenization of goods, competitors differentiate by providing a variety of experiences. See growth of "lifestyle centers."

[5] The San Jose Redevelopment Agency led the task force's creation of the Greater Downtown Development Strategy 2000, which listed twelve districts within a total area of less than 2 square miles. Examples include: 1st and 2nd Streets, Diridon/Arena Area, and more generally un-evocative names.

[6] Office of Economic Development (2004), p.4

considerable concentration of technical talent, but still reigns as a center for innovation and entrepreneurship.

> Having a clear, compelling vision—a distinctive identity for our community—has become important at this stage of San Jose's development. An attractive and visible identity is critical for attracting and retaining innovative people and companies in a highly competitive global environment.[7]

San Jose has aptly analyzed its position within the new economy. While communications technology, the high cost of living, and the sheer increase in the number of educated technology workers in the world have deteriorated some of San Jose's comparative advantage, San Jose still has access to a concentration of venture capitalists and one of the most productive workforces in the world.[8] Venture capitalists, engineers, entrepreneurs, and such still need to meet face-to-face to share ideas, access labor/employers, and make deals. Their concentration is what gives rise San Jose's advantage (and what needs to be reinforced for economic growth). In other words, Metcalf's Law of network externalities is at work in San Jose.[9] The more venture capitalists and entrepreneurs there are, the more they give rise to, and the pattern of lending and creation is mutually reinforced. This phenomenon was identified by Castells and Hall as early as 1994,

> …the attraction that Silicon Valley continues to exercise over the high technology researchers and entrepreneurs of the entire world relies on the simple and fundamental fact of being the depository of the most advanced knowledge in electronics and on its capacity to generate the next generation of such knowledge by processing the flows of information through its social networks and professional organizations. Silicon Valley's fate is to live up to its own historic roles as a milieu of innovation of the latest industrial revolution...[10]

As it turns out, Castells and Hall gave more credit to fate than perhaps was due, as it was the city governments within Silicon Valley that kept the milieu from disintegrating during the recession. For example, Adobe System's headquarters expansion, e-bay's relocation, Hitachi's new campus, and I-S-cubed's relocation were all secured through active outreach of the City of San Jose.

Through its strategy, the City further refines its vision for the future with fifteen initiatives.[11] Several of these items relate directly to my proposal, including the following:

- Evolve and Position Downtown as a Unique Creative and Cultural Center of Silicon Valley.
- Make San Jose a Tech-Savvy City; Lead the Way in Using Technology to Improve Daily Life.
- Prepare Residents to Participate in the Region's Economic Opportunity, from K-12 to Lifelong Learning.
- Communicate a Compelling, Consistent Community Identity for San Jose.

My proposal for programmable signage will contribute to these goals in the following ways:

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[7] San Jose Office of Economic Development (2003), p.5
[8] According to the Joint Venture Silicon Valley Network, value added per employee in Silicon Valley's driving industries grew 9% from $184,500 to $201,900 (2002-2003). In comparison, the national growth rate in productivity has hovered at 1% for the last 13 years and reached its highest point so far in 2003 at $99,600 per employee. See jointventure.org for more detailed information.
[9] Metcalf's law: the value of a network increases in proportion to the square of the number of nodes on the network.
[10] Castells and Hall (1994) p.26
[11] Office of Economic Development, 6.

- The programmable signage will be located in the center of the Downtown, visible from the convention center, the central park, the museum of technology, and three major hotels. It will be the ever-present signifier that visitors and workers are in the Capital of Silicon Valley. It will be a landmark displaying creativity and culture twenty-four hours a day.

- The programmable signage will utilize the latest technology, none of which has been seen in such a large scale anywhere west of Times Square. The signage will serve as a landmark, as well as business marketing support and a forum for community expression.

- All San Jose residents and groups will have the opportunity to submit programming. Workshops will be held to help people who lack familiarity with or access to the requisite technology. Community programming will actively seek to narrow the digital divide.

- The signage project will be marketed as a creative experiment of technology and community in Silicon Valley. Its launch will be celebratory, and will be a newsworthy event. Subsequently, the signage will be programmed such that the identity of San Jose is constantly refined and displayed.

What is "programmable signage"?

The programmable signage I am suggesting is essentially a plasma screen that acts as a building skin. Rather than static stucco or brick, the façade is made of dynamic material. The façade is divided up into different sized screens, allowing for multiple presentations at once. Examples of this type of signage can be seen in the figures below.

Figure 1: Examples of Programmable Signage
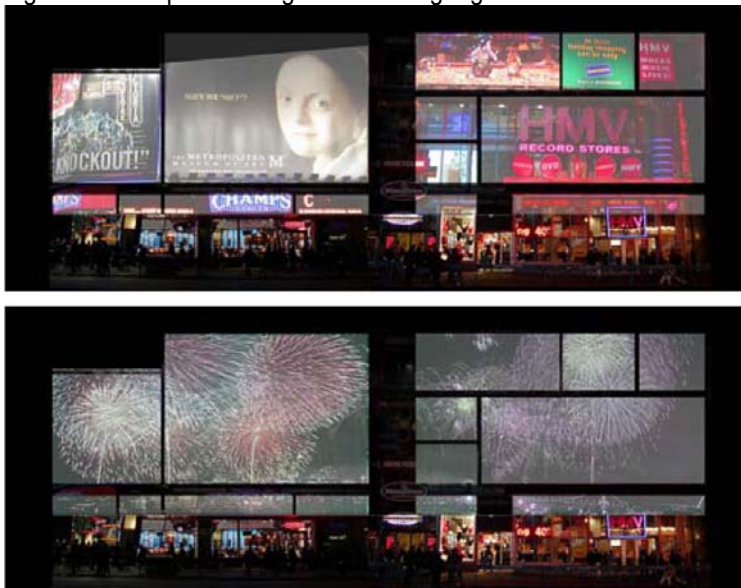
Example A was created as part of proposed guidelines for a Seoul Digital Media City; similarly large signage can be seen throughout much of Seoul though it is infrequently so dynamic. Another example is from Times Square and illustrates the combination of text tickers with imagery. In both cases, the signage is not merely

a message board or flashing lights. It is signage that tells a story, creates a mood, and disseminates information. The pieces can be separated out for different uses simultaneously or act in unison.

Where would the signage be sited?

The development of Block 8 along San Carlos and Plaza de Cesar Chavez provides an excellent site. Block 8 is a high profile corner with site lines to the convention center, the South of First Area Entertainment District, the Tech Museum of Innovation, and three first-class hotels. Block 8 also borders "the living room" of San Jose, Plaza de Cesar Chavez. Because of the uses intersecting at this corner, the signage would support and enhance the urban fabric. See the figure below for the proposed site.

Figure 2
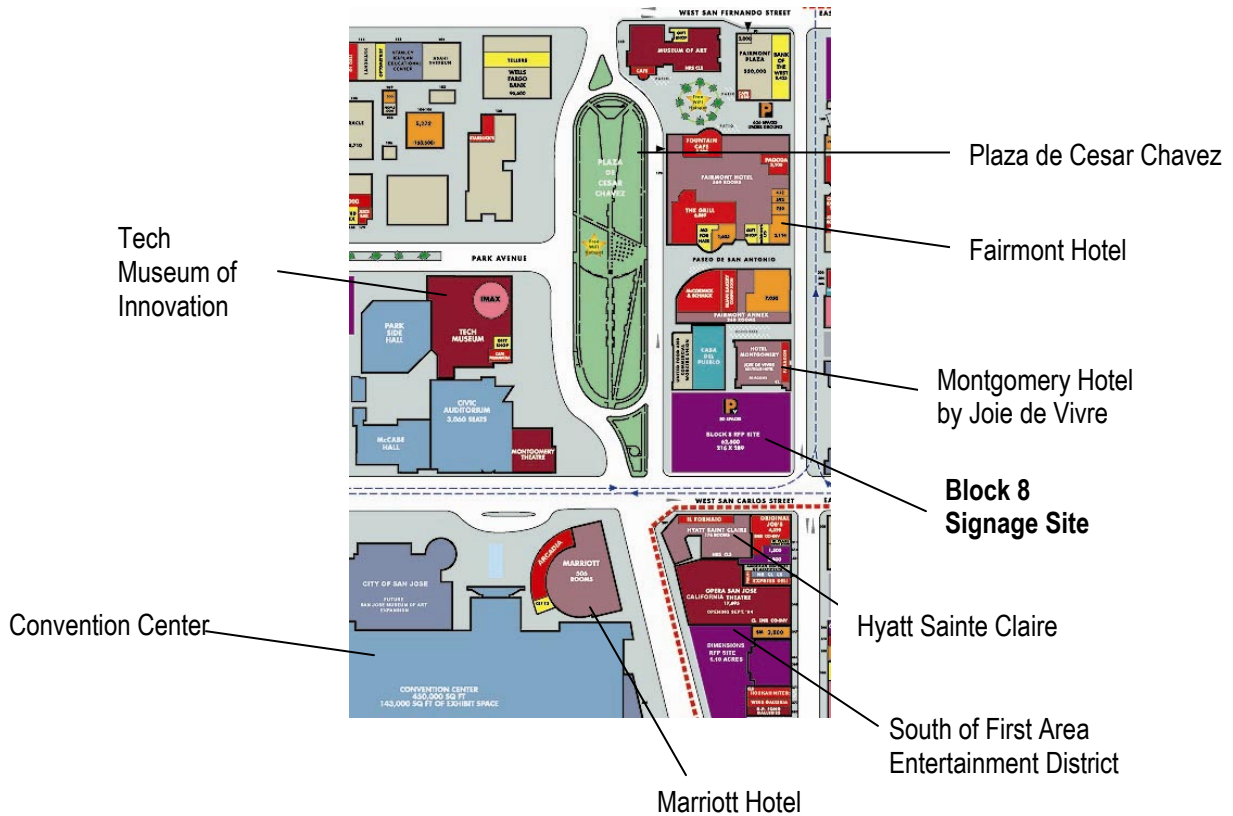
Because the Redevelopment Agency is currently working with a developer for the development of the parcel, the integration of the signage program is timely. Also, because of the Redevelopment Agency's role in the negotiations (i.e. property owner, most powerful supporter or detractor on the local government side), there is the opportunity for the public sector to bear some of the risk of this cutting-edge technology. The project would likely require special permitting, so having the more innovative Redevelopment Agency to interface with the more conservative Planning Department would also be an asset to the project.

Who would program and what would they say?

   The signage could be programmed in part by the City, technology companies, local non-profits, downtown businesses and citizens. Each of these groups would have different objectives and programming resources, and should be permitted different amounts of time and be charged differently. It is important to strike a balance between technological creativity, community building, advertising, artistry, and practical information. For example, if technology companies are allowed full access to the signage, it might devolve into nothing more than a high tech billboard. Besides possibly promoting job growth, the billboard would do little for the community. In contrast, if the signage were limited only to community use, then it is unlikely sufficient revenue would be produced to sustain it, and San Jose would be paying an enormous opportunity cost by not marketing its strongest economic assets.

   Below, I propose a generalized matrix that would categorize groups and preserve a reasonable balance between commercialism, artistry, and practicality. The exact ratios in this matrix, and all subsequent ones, should be considered first drafts to be further analyzed.

Matrix 1: Programmers

Programmer	Purpose/Impact	Share of Time	Restrictions?
City of San Jose	Promote City. Public Service Announcements. Civic events.	Default programmer. Minimum of 25% of screen once per hour.	None, except by city law (i.e. city council members cannot use for electioneering)
Technology Companies	Promote selves. Share ideas. Recruit employees. Showcase new technology. Should be considered an amenity of doing business in San Jose.	5 minutes maximum at a time. Cannot lease entire façade for more than five minutes at a time.	Different fee schedule for Downtown, San Jose, and non-San Jose companies.
Local non-profits	Promote causes and San Jose community.	No more than 15 minutes per hour per group.	Only San Jose-based non-profits.
Downtown businesses	Promote doing business, shopping, living downtown.	5 minutes maximum at a time. No more than 5 advertisements per hour.	
Citizens	To bridge the digital divide by encouraging diverse and particularly low-income groups to participate. To encourage creativity. To celebrate San Jose.[12]	As much time as possible given City's minimum and demand from other groups.	

Programmers would apply for the relevant slots on a first-come, first-served basis. Depending on the popularity of the signage, limitations may have to be placed on how often a given business or non-profit can

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[12] Precedence for a grassroots artistic expression of San Jose by its residents can be found in Two Fish Design Group's Lomo exhibit on construction walls from 2002-2004. Two Fish gave lomo cameras to children and adults, asked them to photograph their lives, and then posted blown-up prints on a series of construction walls in Downtown San Jose.

advertise in a given week or month. Equitable access to the signage is important for it to be an asset to the community, and not create divisiveness.

Yes, but who is in *charge*?

A small non-profit organization and a community-based board of directors would be tasked with oversight of the programmable signage. Rather than house the responsibilities for the signage within the city bureaucracy, I suggest creating an autonomous body. Despite pains to provide equitable access and prevent censorship, it is likely challenges to both will arise. It is best for the City to not be making difficult decisions like these, particularly as relate to First Amendment rights. The non-profit's charter would be succinctly and tightly written to limit it to the intentions of the City, but would allow it to make decisions regarding exclusion as may unfortunately need to be made at times. Any changes to the nonprofit's charter would require an endorsement by 2/3 of the city council. Also, the city council would have the power to dissolve the nonprofit by a 2/3 vote of the city council. As another check and balance against the non-profit, I suggest a community-based board of directors consisting of two representatives from each of the above categories: City of San Jose, San Jose technology companies, local non-profits, downtown businesses, and citizens-at-large.

The non-profit would need a staff of a minimum two employees who would be responsible for scheduling, as well as for technical and administrative issues. The staff would also give public programming workshops. The board of directors would review all programming submissions and make any decisions regarding inappropriate content. The board of directors would vote for each piece. The vote would be whether the piece was acceptable for public screening. Appropriate reasons for denial might be excessive obscenities, representations of illegal activity, or extreme indecency. The board might consider the Federal Communications Commission's or Motion Pictures Association's guidelines when constructing their own. In order to prevent a piece from being screened, at least 2/3 of the directors must vote against it. All denied pieces, along with all accepted pieces would be permanently stored in the nonprofit's library, which would be open to public viewing with an appointment (to be scheduled within ten days of the request).

The board would also be charged with setting rates. The rates would depend on the final costs of project implementation, as well as local market advertising rates. Roughly, the rates would vary depending on type of organization (i.e. nonprofits pay less than for-profits) and relevance to San Jose (i.e. Downtown companies pay less than other San Jose companies, which pay less than non-San Jose tech companies).

What might the signage look like?

The signage would illuminate the northwest corner of Market and San Carlos with vibrant colors and motion. While sound may occasionally be a component of the signage, such as for summer outdoor film programming, that feature would be limited as to avoid becoming a noise nuisance. Below is a basic

rendering of what the signage might look like from the southeast corner of the intersection. (See Appendix A for larger version.)
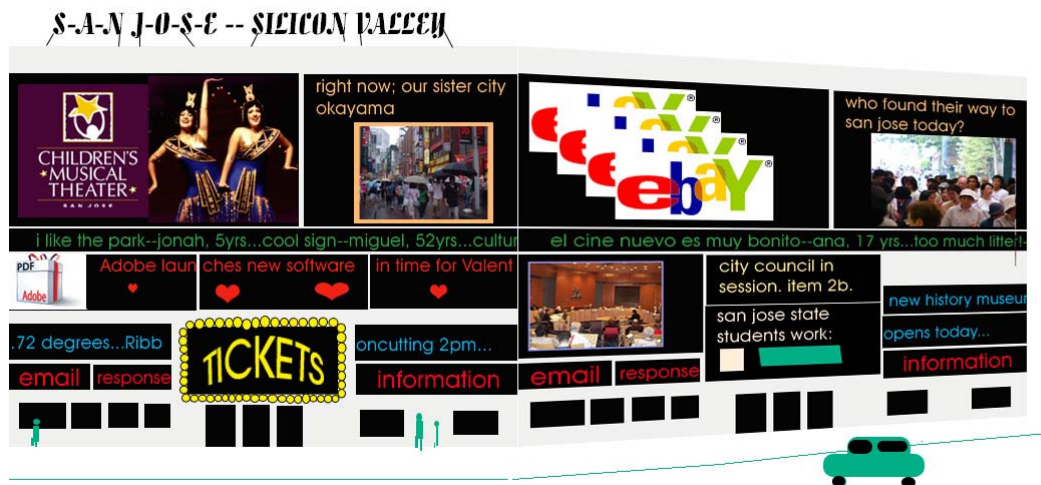
In addition to the programmed signage that is set to a particular schedule, there would be several interactive elements at the street-level. These elements will allow visitors to instantly engage with the piece and provide practical information. Suggestions:

- Touch screen with information on Downtown sites. *Geared toward visitors, the screen would function with the same technology as an Automated Teller Machine, but would provide pictures and directions to places like St. Joseph's Basilica and Peralta Adobe.*

- Computer for checking email. *The City of San Jose has provided free wireless at Plaza de Cesar Chavez, but not everyone has access to a wireless device. This computer would help close the "digital divide."*

- Ticket booth for purchasing tickets to San Jose theatrical productions, sports games, and other events. *For the last several years, the City of San Jose and partners have been actively pursuing a permanent space for a centralized ticket booth. None has yet been secured.*

- Participative art. *This element might be based on the "Memory Wall" an art piece at Seoul's International Media Arts Biennale 2002. There, the wall snaps photographs of passersby. The myriad of likenesses are then combined and recombined in presentation as a memory of all the visitors that day.*

- Response. *The San Jose Museum of Art has a community room in which visitors are asked to write a few words of response on the notebooks provided beneath works of art. The signage wall could offer a computer for people to type in responses to what they have seen. These responses might scroll across the screen, as an amplification of the person's silent voice.*

How would the project be financed?

The exact details of the financing are not in the purview of this proposal, but the general structure is for the Redevelopment Agency and the Block 8 developer to share the costs, perhaps 70:30. The developer would retain ownership of the façade but would lease rights to it to the nonprofit for the next fifty years. In return, the developer would share in profits after a certain breakpoint, as would the Redevelopment Agency. One scenario is for the nonprofit to receive 100% of the rents until a breakpoint is reached, at which point the rents would be divided 30% to the developer, 30% to the Redevelopment Agency and the remaining 40% to the nonprofit. Once all investors are made whole, the developer's share would decrease to 20% for the remainder of the lease, and the remaining funds would go to the nonprofit.

This is Just the Beginning

While there are many details of the programmable signage yet to be worked out, the project is exceedingly doable and would have a tremendously positive direct impact on the City's economic development goals. It would provide an answer to the question of tourists wanting to visit Silicon Valley, and it would solidify for questioning high technology companies the locus of the center of innovation. As a highly accessible and cutting-edge urban intervention, it has the potential to go beyond a marketing tool or piece of public art and become an educational tool and to some extent, a soap box of the community. In a place as diverse and rapidly changing as San Jose, a high tech megaphone for the non-tech geek and tech geek alike may be just the thing to keep the innovative spirit alive. With the rest of the world looking on, San Jose could experiment and showcase how 'the every city" can utilize the best in technology for daily life.

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Figures

Figure 1A: Examples of Programmable Signage. Example of potential signage. Frenchman, Dennis. "MiT/Seoul Media Street: Media Street Elements, Guidelines, and Illustrations." Working paper, 9/21/2004. Illustration by Lining Geng.

Figure 1B: Examples of Programmable Signage. ABC Building at Times Square in New York City. Times Square Signs. "The ABC Building." (Accessed 11/5/2004.)

Figure 2: Site Location map. Excerpted from map by San Jose Redevelopment Agency. "Downtown San Jose Retail Map." San Jose: SJRA, Last updated 7/2004.

Figure 3: Rendering of Programmable Signage. Alison Novak. "Programmable Signage at Block 8." 2004.