

The Tech Museum:
Inspiring Innovations

An Essay
Presented to
the California Pioneers
of Santa Clara County

by
Sarina Patel
1082 Ellis Avenue
San Jose, CA
95125
(408) 294-0393

Table of Contents

Introduction.....	1
Novel Dream.....	1
Viewing a Mission and Goal.....	2
Negotiating Cities.....	3
Original Museum.....	4
Applying Education to the Museum.....	5
Initiating the Expansion.....	6
Opening Day.....	8
New Museum.....	9
Tech Challenge.....	12
Symbolizing San Jose.....	12
Appendices.....	14
Endnotes.....	18
Bibliography.....	21

Introduction

In a world of new technology, the Tech Museum of Innovation in San Jose is *opening up minds, hearts, and an understanding into the world of tomorrow*. It symbolizes the technology of the present, an age that will be considered one of the most important advancements in history. This educational resource is designed to bring science, technology, and the spirit of Silicon Valley together under one roof, inspiring the innovator in everyone. The Tech Museum of Innovation is a substantial addition to the city of San Jose and truly representative of Silicon Valley.

Novel Dream

The Tech Museum of Innovation first started out with a brilliant concept, a dream that one might have thought impossible to fulfill. Carol Schwart of Menlo Park, in 1977, thought of an idea for a Silicon Valley institution for technology, just like Chicago had done for the Industrial Revolution. She wanted something that would represent the fast growing technology whirling around her, a learning center devoted to science and *technology in the heart of Silicon Valley*.

Carol Schwart eventually persuaded fellow members of the Junior League of Palo Alto to endorse her concept of a learning institution. The Junior League of Palo Alto was later joined by the San Jose Junior League as they envisioned together a new museum.

Envisioning this concept into a reality was not as easy as it may seem. They had to come up with their own idea, separate from the other two museums, exhibiting technology, that were already existing at that time. Peter Giles, the current CEO of the Tech Museum, described it as a “...big challenge...to articulate clearly what we were trying to do in a phased, scaleable way, and to make it something that was truly adopted to the Silicon Valley.”¹

After much collaboration, the Junior League of Palo Alto and the San Jose League had a vision that could become a reality. In the next four years, these two groups worked hard to raise money to support their idea and put together an advisory board.

Viewing a Mission and Goal

The board of High Technology Science Museum worked very hard to conjure up a purpose and a mission. There were already museums existing that had the history of the development of technology and how it all began, but they wanted something different, something more unique that would allure people from around the world and, especially, the people interested in the Bay Area and Silicon Valley. Since technology plays a large role in people's daily lives, particularly in Silicon Valley, they wanted the visitors to get to know and understand the technology that it presents around them. They decided to create a museum to exhibit technology on the cutting edge, not that of the past or the history. As Peter Giles said, "The wealth of nations today depends on the ability of the people to understand and work with technology."²

The High Tech Board of advisors had a lot of goals to fulfill. They needed to benefit the local educational institutions, the youth, and the enhancement of technological and scientific literacy. They wanted to try and reach the grandparents and parents, as well as the children to carry forward and extend the values and positive aspects that have made Silicon Valley what it is. By engaging people of all ages and backgrounds with technologies affecting their life, they were eager to design the museum to express the forward-looking, creative spirit the world equates to Silicon Valley.

Goals had been decided upon and now the mission had to be completed. Peter Giles understood that they needed "...to be able to stimulate reflection as well as inspire the innovation."³ They needed to challenge the way people think, by opening up minds, hearts, and an understanding into the world of tomorrow. They designed the museum to help

visitors understand how the innovators of Silicon Valley have changed the lives of people around the world. They did this by bringing science, technology, and the innovative spirit of Silicon Valley to the museum.

The basic purpose of the museum was to enable local families, individuals, and visitors from around the world to discover new insights into technology and the process of *innovation through exploratory activities*. They planned to *inspire students with exhibits and lab experiences with applications of technology from industry and everyday life*. They also decided to empower teachers with training and access to applications or current technologies that reinforce and compliment concepts taught in the classroom.⁴

Negotiating Cities

During this time, the advisory board was deciding upon a place to locate the museum. This was an important decision because they wanted to locate the museum in the heart of Silicon Valley since it represented the technology industries. Tom McEnery, even before he was the Mayor of San Jose, started to determine ways to bring the museum to downtown San Jose, the heart of Silicon Valley, rather than to the north county. He teamed up with Anthony Ridder, at that time the publisher of the San Jose Mercury News, to convince the Junior league to locate its project in downtown San Jose. By December of 1984, Mountain View and Sunnyvale were no longer options. San Jose, then, received permission to set up the museum pledging \$30 million in construction and \$2 million each year.⁵

Original Museum

In October of 1982, the board set up a feasibility study by Skidmore, Owing & Merrill in conjunction with Economics Research Associates, and the Burdick Group. The tech creators interviewed non-techie people in the community about what they already knew and what they would want to learn. With all of the research completed, the museum was set to satisfy the future patrons who would be visiting the museum.

In January of 1983, a new board of High Technology Science Museum was formed. The first chairman of this board was Ed Zschau. He was a former congressman and high-tech executive. Anthony Ridder then replaced Ed Zschau and became the new chairman.

Finally, in 1987, Peter Giles, formally the president of Santa Clara Valley Manufacturing Group, took over as the CEO of the Tech Museum. He guided the Tech into reality making consistent progress. He worked quickly and smoothly to get the job done, after its dormant progress of the previous five years. Peter Giles remembered that, "Very early on when I got this job, I said I need to get an outstanding educator to go in with me and talk to the leaders of Silicon Valley and say, Look what this will do for the young people of our valley growing up here."⁶ He went to Monterey with Yvette Del Prado, who at the time was superintendent of the Cupertino School District, to plan a temporary facility for the museum, to be known as the "Garage".

This prototype, the "Garage", was established in 1990. After twenty years of fund-raising, the board members were able to raise \$5.8 million in cash and \$4.2 million in in-kind contribution.⁷ With that money, the Tech Museum was able to open its doors, in the month of November, in 1990. It was approximately 6,000 square feet and located in the Civic Auditorium.

The "Garage" only lasted for about one year, until the High Technology Science Museum Board was able to find a new, unique name to describe the museum. In 1991, the

name was changed to the High Technology Museum, then the High Technology Center. At the end of 1994, the name was again changed to The Technology Center of Silicon Valley.

Applying Education to the Museum

In August of 1997, The Technology Center of Silicon Valley went into partnership with Vista Software. Vista Software was able to supply the museum with many exhibits to keep the museum on track with the newest technology advances. The Technology Center of Silicon Valley was not the only museum with donations from Vista Software. Other museums from around the Bay Area as well as San Jose, such as The Children's Discovery Museum, had received similar support from the company.

Inside the museum were many hands-on experience exhibits and labs. These exhibits and labs are useful to those who are particularly "visual" or "hands-on" learners, which much of the population is most apt to be. Some of the most popular exhibits at that time were the birth of a computer chip, designing your own bicycle with, at that time, the latest technology, a flying jet pack, and exploring the surface of Mars. Exhibits, such as these, are the ones that help make the museum such a wonderful place to learn.

The museum had special presentations, guest speakers, and special exhibits occurring all the time. The Robot Zoo, is just one of the many examples that the museum presented. The Robot Zoo was one of the rotating exhibits which lasted for three months from October 3, in 1997. The Robot Zoo was comprised of mechanical animals. One could learn how a grasshopper chirps, a chameleon catches its food, and how a duckbill platypus swims. Exciting new exhibits and special events is what kept the museum so interesting throughout its existence.

Initiating the Expansion

As each year went by, the Tech Museum gained more exhibits, public popularity, and support. *The new reputation of the Tech Museum needed a bigger place of its own.* Peter Giles and Board members starting thinking of a new place to represent the Tech Museum, this time bigger and better. They thought that they should expand the museum and give it an even more significant name to make it unique among all top-notch science centers. The support of this idea was viewed in favor by many people. Large companies, small companies, city officials, residents of San Jose, architects, and each construction worker, everyone, helped in creating the new Tech Museum of Innovation of San Jose. In fact, one of the speakers at the Tech's grand opening said, "It takes a whole village to raise a child, well it took a whole city to build the Tech."⁸

The first step in constructing the Tech Museum was to find an architect. Ricardo Legorreta, a prestigious designer from Mexico City, had built the Children's Discovery Museum in downtown San Jose, which has been a well-praised building, and designed a library in Arizona that attracted so many people that it became a tourist site in Arizona.⁹ An architect like this was exactly what the new Tech Museum needed, someone who could turn the Tech Museum into a worldwide, or at least nationwide, tourist attraction.

In spite of the success of the Children's Discovery Museum, there turned out to be *leaks in the roof and problems with the exhibit space not working out right.*¹⁰ To solve this problem, the Steinberg Group, a professional architect company, was assigned the task of making sure Ricardo Legorreta's designs work.¹¹ They had to view all of Legorreta's work and make sure it was sensible, because although Legorreta has talent, his creativity does not always work.

Ricardo Legorreta designed the building with three floors, two consisting of full floor exhibits, and the ground floor for ticket admissions, the Tech store, Primavera Cafe, and the IMAX theater. Although the ground floor does not have any exhibits, one can see

the exhibits on the level below. The ground floor is set up so that one can catch a glimpse of the IMAX Theater, can shop at the Tech Store, and can eat at the Tech Cafe without paying for an admission to the museum. It was designed this way to attract people to at least come inside. Then from there, the impressive museum can allure the visitors to buy an admission ticket to see the exhibits inside. This enables the IMAX Theater to have a separate admission ticket, so that visitors who already have seen the exhibits can just come to see a movie and possibly grab a bite to eat. The IMAX Theater is thereafter opened even after the museum itself is closed for those interested in viewing a night show. With these options a highly potential attraction is made for the Tech Museum.

Ricardo Legorreta also worked on the color of the Tech Museum, inside and out. Legorreta has always been passionate with color. He loves what he calls “Mexican Walls”, walls painted with joy, color, peace, and romance. He decided to paint the outside of the building a combination of an azure and mango color. The mango color was chosen to bring out the bright spirit of the museum. “In Mexico, we call mango a beautiful woman. It is purely emotional”, Legorreta expressed at the Tech’s groundbreaking in June of 1996.¹²

Ricardo Legorreta was not only able to make the design of the building, but also caused a large controversy over the museum’s color. Maya Surgaraman, a Mercury News writer opinionated, “The building’s bold hue is grabbing passersby and the electronic color may be generating as much lively discussion as the gee-whiz gadgets inside.”¹³ Many people complained that the museum’s color makes it out of place, but Ricardo Legorreta and many other people in the community agreed with the Tech’s color. City officials are counting on this to help turn the Tech into an area (and mark its color). Gloria Chin-Hoo, the Tech’s Vice President of marketing and public relations, observed, “The public reaction to the color has been largely positive.”¹⁴

In 1996, the Tech Museum was ready to start the construction process, but at this point there were already buildings going up all over Silicon Valley. The Caltrains were in midst of Seismic retrofits, Valley Medical Center was under construction, and the San

Francisco International Airport was in the middle of expansion. This created a high demand for labor; therefore, the museum had to pay overtime since construction workers were in short supply. This two-year construction site cost an overtime account for about \$1.2 million, but it is still being negotiated at \$2.9 million.¹⁵

The new Tech Museum took a lot more fundraising than for the old one, but in the end everything was paid off. The starting total estimation was \$41.6 million dollars, but instead there was a fifteen percent increase to \$48 million. All claims are not set yet, but when they are, the total should be \$50 million. The total project is set at an estimation of \$103 million.¹⁶

Opening Day

On October 31, 1998, the Tech Museum of Innovation opened its doors to the public after a spectacular opening ceremony. Across the street from the Tech Museum, there was all-day entertainment, food booths, and music at the Plaza de Cesar Chavez. There was also Mexican dancing at the Montgomery Theater. On the southwest corner of Market and Park Avenue, the San Jose State University cheer squad performed and the Santa Teresa High School marching band performed. Several important speeches were made and many thanks were given. John Warnock, a member of the board of directors and one of the opening speakers, described the creation of the new museum as, "... sort of like a snowball that rolls down the hill. It got bigger and bigger. It symbolizes what technology is in this valley. And the really great thing about the Tech is it's cool."¹⁷

There was no ordinary ribbon to be cut for this grand opening; instead, it was something more unique, just like the museum itself. Peter Giles called it the "official plugging in of the Tech." CEO Peter Giles, board of directors chairman John Warnock, San Jose Mayor Susan Hammer, and City Redevelopment Agency director Frank Taylor

slid a giant electronical plug into a giant electrical outlet. After the plugging, confetti exploded from the roof top and then doors opened to the visitors.¹⁸

The grand opening day was a great success. The line of visitors, before doors were opened, stretched around the block along Market Street to San Carlos Street. The line was not so bad, because there was technological entertainment walking or driving around. *Electronical miniature cars drove around people's feet for those people waiting to get it.* Robots were also outside to greet people. They were electrical and they were able to form a real conversation with the visitors.

Over a thousand people came on the opening day, which was promising because the new Tech plans to serve more than 650,000 people annually.¹⁹ Officials had cordoned many of the exhibits to keep the crowds moving along, but at noon the barriers came down and people were able to interact with the exhibits. The first weekend had free admission to the museum and free previews of the IMAX Theater, viewing "Mount Everest".²⁰

New Museum

Innovation, the introduction to something new, is in the new motto of the Tech Museum. The motto of this museum is to "*inspire the innovator in everyone*". The mission is simple, but the challenge is complex. The museum has to always keep up with the newest technological advances and scientific findings. Peter Giles commented, "True we'll never keep up--but with those good relationships, we have the best of what these companies make new, and as technologies change, I'm confident they will want us to have new things."²¹

"San Jose's Tech Museum multiplied in size, gadgetry and finding-and thrust fifty years onto the future", described a Mercury News reporter.²² It is the biggest, most diverse collection of advanced technologies ever assembled in a Silicon Valley locale. In this 130,000 feet facility, this world-class civic project is a unifying thread of what weaves

throughout all of the Tech's exhibits and programs, the profound relationship between people and technology.

The Tech Museum works in a joint-venture with the Redevelopment Agency and the philanthropic leaders. The tech Museum also worked with Tom Shanks and staff, the Makula Center for Applied Ethics at Santa Clara University, who helped with ethical dimensions.

Inside the Tech Museum, there are many facilities, galleries, learning centers, and exhibits. Each item and object, every person, volunteer, and guest speaker help make the Tech a wonderful learning place for all people, children to grandparents, engineers and scientist to teachers and foreigners.

The Robert N. Noyce Center for Learning, inside the Tech on the lower level, is designed to enable more than 30, 000 Bay Area teachers to use technology for improved classroom learning.²³ The center will encourage innovation and experimentation, bring the unique recourses of the Tech to the essential effort to improve teaching and learning in science and mathematics and to promote the effective use of technology. With the support of the Tech and its education and industry partners, the center will develop programs to design activities to contribute to improved teaching practice and increased students' achievement.

On the ground floor of the Tech Museum, the IMAX Dome Theater provides technological advanced films which surround the viewer in sight and sound. With 14,000 watts of sound and the domed screen, a creation of impact is made for the viewer. The world's renowned *New Zealand Mountaineer*, Sir Edmund Hillary, who in 1953 became the first person to reach the top of the earth's highest peak, with Tenzing Norgay of Nepal, came to the IMAX Theater to see "Mount Everest".²⁴

The Tech cafe, Cafe Primavera, is another new addition to the museum's facilitations. With both an indoor and outdoor seating arrangements, any person, whether visiting the museum or not, can enjoy the food offered at the cafe.

Volunteers at the Tech Museum help make up the friendly Tech Museum's atmosphere. With over 500 volunteers at the Tech, the Tech has become a community project. High school students, scientists and engineers, business people, college students, and anyone fifteen years of age and older can volunteer at the Tech. Brenda Versteeg, volunteer service assistant, helps put together training classes, badges, newsletters, and award ceremonies for the volunteers that help run the museum.

The Tech Museum's most important item is, of course, the nearly 300 educational exhibits. In the museum there are four different galleries: Innovation, Communication, Life Tech, and Exploration. Innovation lets the visitor see how computers have evolved, how computers can be used in one's life, and see where one can find computers. Amit Patel, a volunteer at the Tech Museum and student at Moreau Catholic High School in Hayward, observed that, "...computers are everywhere: from my watch to my television".²⁵ The communications gallery lets a visitor explore how technology is broadening the ways that *we connect to each other, work together, find information, and follow our creativity*. The Life Tech gallery lets one experience the ways technology helps people investigate and extend concepts of life and the human body. The Exploration gallery is designed for the visitor to discover how technology is expanding our ability to reach and understand new worlds. Some of the examples of the exhibits featured in these galleries are the "miniature revolution", microchip, designing a roller coaster, and the virtual bobsled ride.

The Tech Museum is also featured on the web. People who visit the Tech on-line can have a three dimensional view of parts of the exhibits. "Digital High", an on-line magazine, is made by and produced for the Bay Area teens. The magazine will include sections of the new Tech Museum. It can be accessed at www.mercurycenter.com/digitalhigh/tech/.

A special time capsule has been placed in the Tech Museum to be opened fifty years from now. Technology artifacts, as well as everyday items have been stored away for future generations to see tangible evidence of the year 1998.

The Tech Museum has been built and exhibits have already been placed inside, but the Tech Museum is still working on continuing to improve the Tech yearly. The new technology coming out rapidly from the Silicon Valley will always be replacing the old ones. The Tech is also left with future possibilities. The Tech plans to light the museum's famous dome at night and connect the floor to the web page to make a possible earthquake simulator. *Ricardo Legorreta also turned the roof into a terrace for future exhibits relating to sky-watching or astronomy.*

Tech Challenge

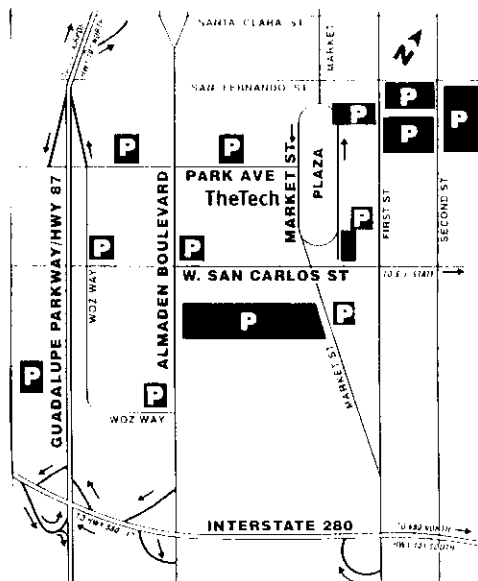
To innovate the students of the Silicon Valley and in the Bay Area, the museum puts out what is called a Tech Challenge every year. The museum seeks to encourage young people to get involved in technology challenges instead of just athletic challenges. The museum puts out a different problem every year for any student who wishes to participate, and the students try to solve it. For example, for the eleventh annual Tech Challenge in 1998, students were given the problem to create a device that would run along a bridge cable and inspect it for damage. Over 660 students from northern California elementary, middle, and high schools tried to solve this problem at San Jose Tech Museum.²⁶

Symbolizing San Jose

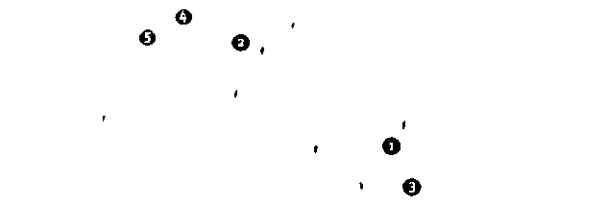
Peter Giles said, "Silicon Valley is making a difference, and how it is changing things, not only how fast we can do things, how fast we can communicate, but also the imponderable and the philosophical and societal questions about where this is taking us."²⁷ On the opening day of the Tech Museum, Peter Giles concluded, "Today is not just the opening. Today is the celebration of what San Jose is becoming: the cultural center of Silicon Valley."²⁸ The national attention that is being given to the new Tech means, according to Leonard Hoops, Vice president for Public Relations and Marketing

Communications, that San Jose has a chance to become a tourist destination.²⁹ He also said, “Whenever a convention or trade show is coming to town, organizers are urged to include a visit to the Tech Museum of Innovation.”³⁰ He reported that tour operators tell him that Germans, especially, have a desire to see the electronic industry in Santa Clara County. Chuck Little, a long time volunteer at the Tech Museum and employer of Hewlett Packard said, “I have told people that it was also a place for the people of San Jose to take visitors tired of the Winchester Mystery House.”³¹

The Tech Museum of Innovation is an educational recourse that is educating the hundreds, by the day, about the new technology existing in the world around them. The new mark the museum has made in the Silicon Valley will soon be one of the most popular tourist destinations in the nation and possibly later, a world one. The Tech has brought a new symbol to the city of San Jose as well as Silicon Valley in general. Each day the Tech is different: new guest speakers, different guest visitors, new movies, and new exhibits. *The Tech Museum of Innovation is an innovation itself, and it will continue to be innovised as the years go by.*

Appendices

Three dimensional view of each of the building's levels



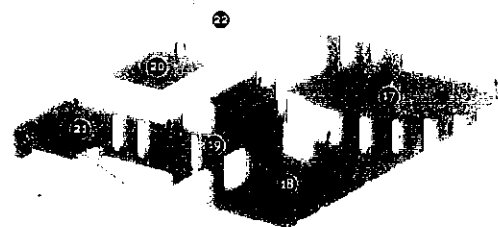
Upper Level

- | | | |
|----------------------|---------------------|---------------------|
| 1 Innovation Gallery | 3 Observatory | 5 Science Lab South |
| 2 Life Tech Gallery | 4 Science Lab North | |



Ground Level

- | | | |
|-------------------------------|-----------------------|---------------------------|
| 6 Main Entrance | 10 North Atrium | 14 New Venture Hall |
| 7 The Tech Store | 11 Grand Lobby | 15 Group Greeting Area |
| 8 The Tech Cafe | 12 South Atrium | 16 Reception/Meeting Room |
| 9 Hackworth IMAX Dome Theater | 13 Main Level Gallery | |



Lower Level

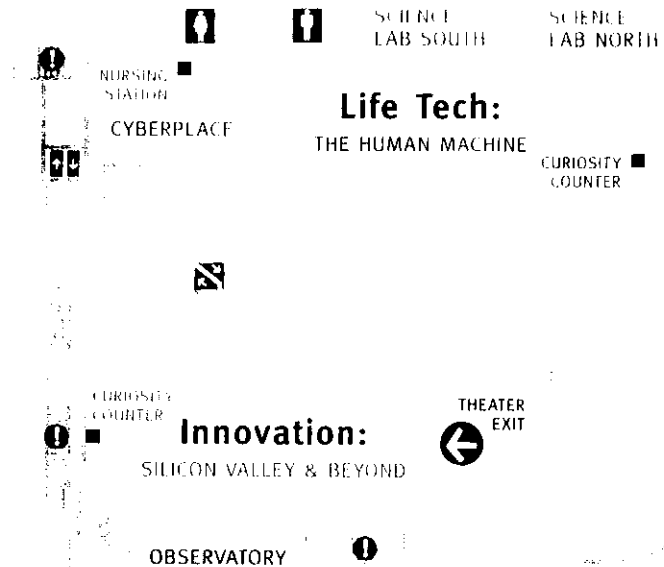
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|--------------------------|--|----------------------------------|
| 17 Exploration Gallery | 19 National Medal of Technology Exhibit | 21 The Center of the Edge |
| 18 Communication Gallery | 20 Robert N. Noyce Center for Learning Idea Labs | 22 Data and Communication Center |

The Level Layouts

UPPER LEVEL

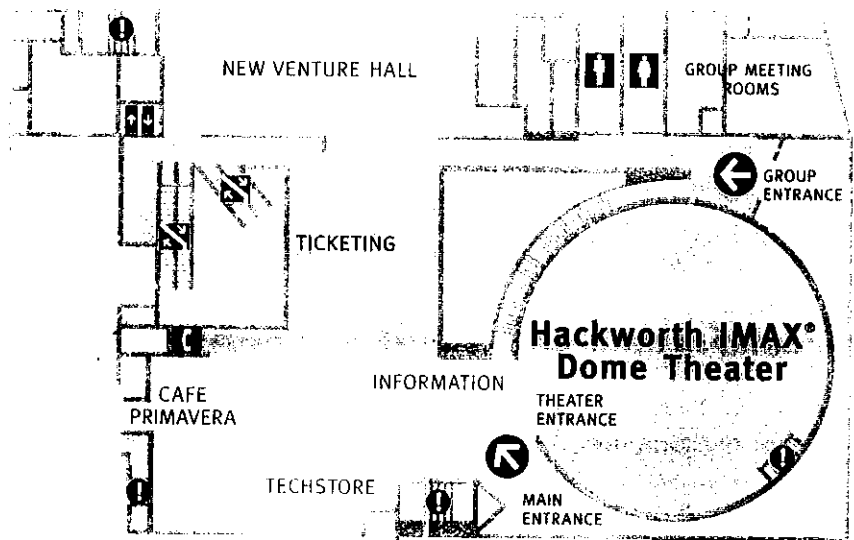
INNOVATION: Silicon Valley & Beyond
Pilot a robotic submarine, experience space travel in the jetpack simulator, create your own earthquake, and watch the seismometer!

LIFE TECH: The Human Machine
Ride an Olympic bobsled, see your bones on ultrasound, and check out the latest in DNA research!



GROUND LEVEL

HACKWORTH IMAX DOME THEATER
Immerse yourself in the movie experience and discover the technology of IMAX®—a state-of-the-art, eight-story dome screen.



LOWER LEVEL

EXPLORATION: New Frontiers

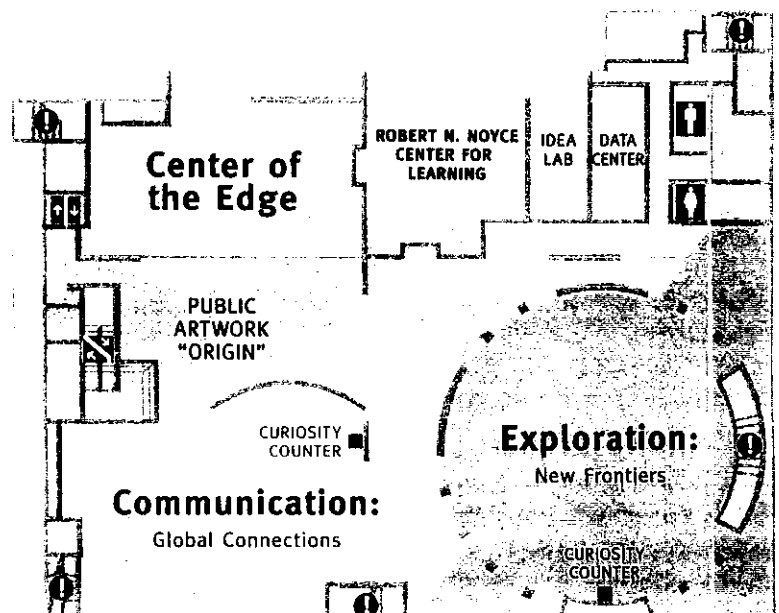
Pilot a robotic submarine, experience space travel in the jetpack simulator, create your own earthquake, and watch the seismometer!

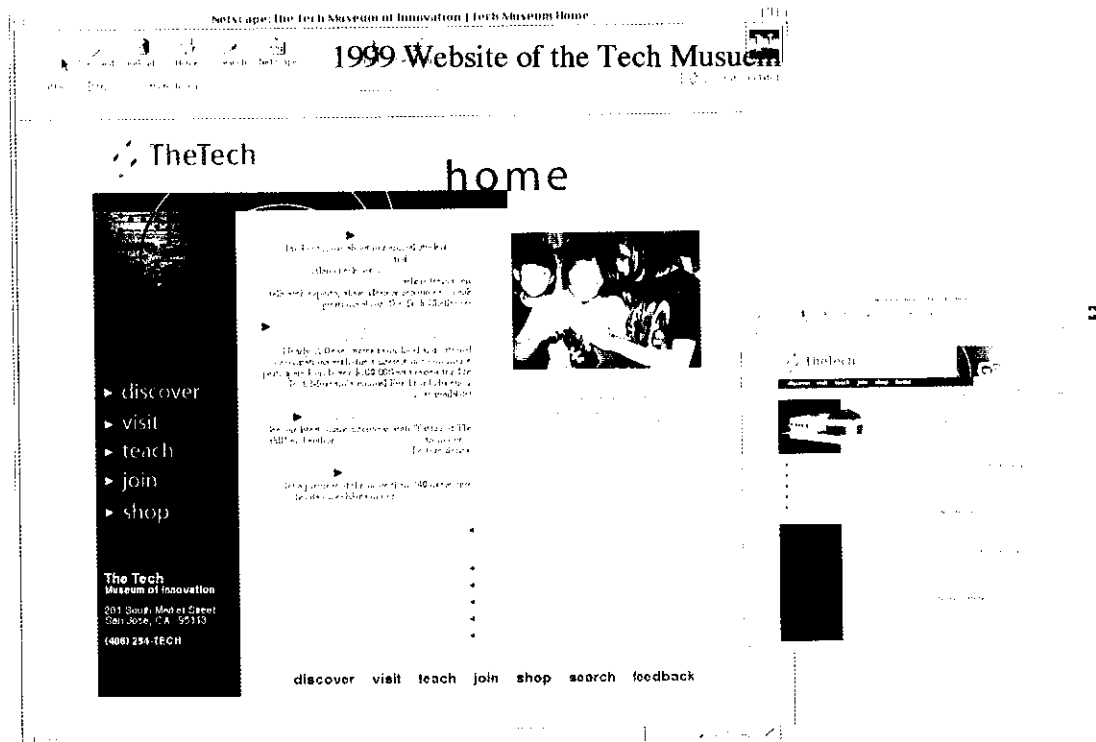
COMMUNICATION: Global Connections

Teleconference with other visitors, create a multimedia video, and enter the information explosion!

THE CENTER OF THE EDGE

Featuring state-of-the-art technology, this changing space opens with a special exhibit from Interval Research.





www.thetech.org draws a
million views a month

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Willow Glen High School
Advisor: Mrs. Kathryn Philp