The Computer Museum

Downtown Boston on Museum Wharf

Fire up your imagination for an integrated circuit around a most exciting place.

Computer Companions Are Made Here

BACKGROUND

The Computer Museum, the only museum in the world exclusively devoted to computers and their impact on society, has established itself as a living classroom for people of all ages since its 1982 founding as a public non-profit organization.

The Museum combines the latest hardware and software with historical computers and robots in exhibits that educate and entertain everyone. Each year, the Museum offers recreational learning in an informal atmosphere to some 100,000 visitors from around the world.

FACILITIES

53,000 square feet; 6 exhibition galleries; 275-person function space (3,200 square feet). Restaurants are located nearby.

FUNCTION RENTAL

The Computer Museum exhibit and function space may be rented for corporate, non-profit or private events. Call the Functions Manager for details.

MEMBERSHIP

Individual and corporate membership income supports our continuing educational and exhibit programs. Members receive free admission for one year, invitations to exhibit previews, advance notice of exhibitions and lectures, invitations to member-only events, our bi-monthly newsletter and **Annual Report**, and a 10% discount on Store purchases.

Individuals may join at The Computer Museum Store or by mail. Corporate members receive special benefits; contact the Development Director for details.

COLLECTION

1,350 artifacts; 1000 photographs; 200 videotapes and 40 films. The Museum collects computers, software, robots, photos, film, memorabilia and related material of significant historical interest.

THE COMPUTER MUSEUM STORE

Open during regular Museum hours, the Store offers an imaginative selection of computer-related books and educational materials, including color slide sets from the Museum's collection and audiotapes of talks given by industry leaders at the Museum. Chocolate "chips," posters, games and high-tech jewelry are also available. A catalog of selected items may be ordered by mail.

Exhibits

## Your Visit Will Include:

The Smart Machines Gallery: Artificial Intelligence and Robots

This major exhibit shows how machines are becoming more like ourselves. You can test machines that demonstrate key aspects of human smartness: understanding language, having knowledge, sensing the environment and movement.

From a 19th century French automaton to a fully programmable teaching robot, the **Three-dimensional Timeline** introduces the first historic and modern overview of robots and artificial intelligence.

More than 25 robots come to life in the **Smart Machines Theater**, a dramatic 10-minute video presentation of sound, light and motion effects. Among them: NASA's Mars Rover and Shakey, the first intelligent mobile robot.

Still **More Robots** include a mobile sentry robot which uses TV camera, sonar and microwave beacons to perform as "night watchman"; Hubot, a robot which greets visitors and a robot that visitors control by using a joystick.
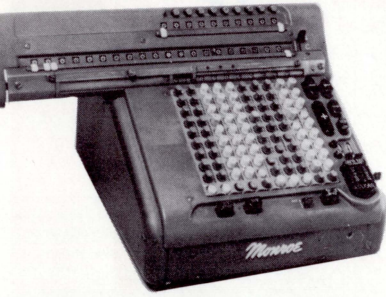
Walking, talking **Robot Toys** are available for play including robotic stuffed animals like Pupster and Talking Wrinkles.

A computer that **Recognizes Speech** enables visitors to paint a map of the US using their own voices.

A **Robot Touch Sensor** shows how a pressure-sensitive pad mounted on a robot gripper gives machines a sense of "touch."

A playful talking computer uses something humans don't (and bats do)—an ultrasonic **Distance Sensor** which tells you how tall you are.

A **Grammar Checker** can check spelling, hunt synonyms and successfully analyze sentences for grammatical errors.

The primitive "trick" conversation program **ELIZA** plays the role of a nondirective psychotherapist who seems much smarter than she really is.

Based on "2001: A Space Odyssey," the interactive video exhibit **Hal** explores computer interaction with humans.

By answering questions with unexpected humor, the **Racter** exhibit makes a virtue out of being outrageous.

Tale-Spin, a computer storyteller, gives the visitor the elements of a story so that together they can spin a yarn.

The **Direction Assistant**, accessed by phone, speaks English language directions for the quickest route between any two points on an 11-square-mile map of Boston-Cambridge.

Haggle with **Haymarket**, a rule-based expert system that bargains with you over the price of a box of strawberries.

A **Wine Advisor** expert system gives advice on the wine appropriate to a variety of meals.

Via computer programs and a Kurzweil 250 synthesizer, the **Cybernetic Composer** automatically composes and performs jazz and rock music—without musical instruments.

When visitors play Old MacDonald on the **Computer Accompanist** keyboard, this computer plays along.

Using a **Medical Expert** system, visitors can try to diagnose three sample patients and explore the symptoms and causes of 570 diseases.

Playing **Tic-Tac-Toe** and **Five-In-a-Row** computer games, visitors discover how "smart" machines can be in their strategies against human adversaries.

The **Computer Chess** exhibit shows how sophisticated a software program can be, even if a visitor engages in master level play.

AARON, the computer artist, draws a complex original picture every time, while a nearby interactive exhibit explains how AARON draws human figures.

The Computer and the Image

This area displays computers that enhance and transform pictures, as well as creating synthetic images from scratch. Many hands-on exhibits give visitors an immediate experience of computer imagery.

At our **Computer Imaging** exhibit, visitors see how a computer processes picture information by touching a screen to experiment with camera images of their own faces.

Visitors can "paint" a landscape at **"Color By Numbers!"** using a mouse to select the season and mix the paint, while also learning about computer graphics.
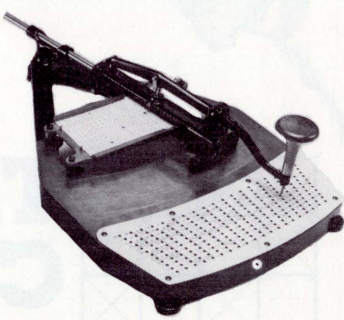
Explore **Computer-aided Design** by building a 3-D model of a house on a computer or designing a car on a screen and then analyzing mileage capability.

A working Cessna **Flight Simulator**, with color screen and joystick, shows visitors how computers can help train aircraft pilots.

The **Spacewar!** exhibit includes the actual PDP-1 on which Spacewar!, the world's first interactive computer game, was played in 1962, and a modern microcomputer on which visitors can also play.

With the touch of the screen, **Plato** takes a sentence and transforms it into action—animation on the screen.

The **John William Poduska Sr. Computer Animation Theater** features a 20-minute program of the latest computer generated animation—models of what the eye can and cannot see.

Historical Exhibits

Computer history comes to life through vintage installations, displays, films and artifacts of historic machines and moments in the information revolution.

The **Whirlwind** exhibit includes part of the first vacuum tube, real-time computer with an operational core memory, and the 1952 "See It Now" TV program, with Edward R. Murrow's "interview" of Whirlwind.

The **AN/FSQ-7 and SAGE air defense system** was used by the US Air Force from 1958-1983 to monitor the skies for enemy aircraft. Less powerful than a modern personal computer, it is the largest computer ever built. It had more than 25,000 vacuum tubes and occupied a four-story building. Its banks of vacuum tubes, a flickering maintenance control console and the blue light in the SAGE control room bring the massive air surveillance computer back to life.
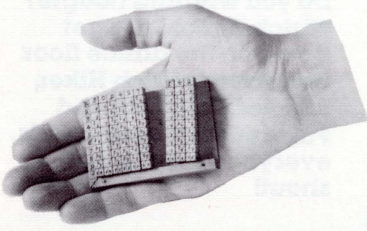
UNIVAC 1, the US's first commercial computer, was introduced by CBS anchor Walter Cronkite as "that marvelous electronic brain." On election night, 1952, it accurately predicted Eisenhower's landslide victory over Stevenson.

More than 100 artifacts evoke a walk through history in the **Three-dimensional Timeline (1950-1969)**, from the invention of the transistor to integrated circuit computers.

The **IBM 1401**, the most widely used transistor computer of the 1960s, is recreated as it would have been in 1965 at The Travelers Company. Nearby is a card punch machine where visitors can punch in their own cards.

The **"See How They Ran"** presentation in the Museum's IDG Communications Theater is a 45-minute show of vintage films highlighting dramatic moments in computing history from 1920-1981.

A Saint Bernard, fox and dragon, created for an advertising campaign by **Honeywell**, are beautifully detailed, colorful animal sculptures made out of computer components.

The **Tinker Toy** computer shows the logic needed to play Tic-Tac-Toe, using a computer built with more than 10,000 tinker toys, fishing line, sinkers and brass pins. It has a modern computer for visitors to play too.
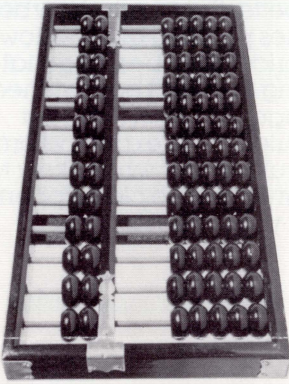
"A Man and His Machines: Seymour Cray" chronicles the life of the legendary builder of highspeed supercomputers.

Integrated circuits (ICs, or chips) made the prototype **Apollo Guidance Computer**, used by astronauts to navigate spacecraft and a lunar lander small enough to fit inside the spacecraft. Like the astronauts, visitors can talk with the computer via simulated display and keyboard.

The **ILLIAC IV** was used by NASA for satellite support, and was one of the largest computers ever built, occupying 23,400 square feet.

Other Exhibits

The **PC Gallery** shows how to experiment with putting information into and getting it out of computers. Using keyboard, touch sensitive screen, mouse and voice output, visitors can play a spelling game, learn about the States of the Union, draw colorful pictures on a screen and make a computer talk. Another computer gives facts about the outmoded PCs stacked in a "burial mound" behind it.

Browse billions of bits of information on over 1,000 electronic databases at the CompuServe **On-line Information Exhibit**. Up-to-the-minute news, weather, sports and financial information is at your fingertips.

Many more vintage artifacts, films, video, photographs and slide shows highlight the past, present and future of computers.

The Computer Museum

Enter

Welcome to my data base. As your companion on your visit to the one and only state-of-the-smart Computer Museum, I'm all booted up to introduce you to a whole array of adventures. I'll be your host for a tour that will stay in your core memory for a long, long time to come.

More than half an acre of hands-on and historical exhibits awaits your discovery. The Computer Museum is just a 15 minute walk from Faneuil Hall.
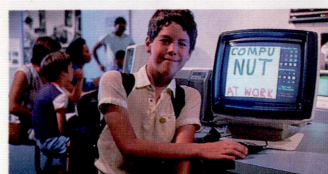
Step right inside our glass elevator. The data bus is about to embark.

Step right this way, kids! We're on the trail of computers past and present. I can see that you've brought your smarts with you today. You'll put them to good use as you get in touch with your hidden talents on more than 50 hands-on exhibits. Ready to paint a picture, "compose" a melody or maybe convince a friendly computer to say your name? We're going to design a car and then get a computer to change your face a bit. We'll get animated! Then we'll seize the throttle of your private airplane and take off for the wild blue yonder.

I'm a tin man of decidedly digital dimension. We're off to be the wizards.

Technologically speaking, I'd like you to meet my family. We'll explore four decades in the evolution of computers, from vacuum tubes and transistors to a computer on a chip. While you're processing all this information, we'll look at computers in real-time for real-life applications.

Those of you who enjoy crunching data in the comfort of your CPU's are about to interface with a world of wonder. You're certain to find me a most compatible host.

I may be artificially intelligent, but I can render a medical opinion, call up a menu of fine wines and show you a thing or two about the game of chess. Does your brain perceive in sonar?

Looks like Aaron inherited all the artistic genes in the family. Actually, this creative genius incorporates 250 thousand lines of creative code, making him capable of endless expression. This artiste never draws a blank.

Step right up to the SAGE's control panel, once the helm of a hundred scientists. All hands on board!

DIRECTION ASSISTANT

Which way to Fenway Park? Step inside the Direction Assistant Phone Booth and you'll leap tall buildings in a single bound. Take the next right on Summer Street, then hop aboard the Expressway. This computerized compass knows Boston's best shortcuts.

Ever meet someone who has something to say about everything? Just say the word and Racter will talk up a storm. Or a stork. Or a very tricky story.

Once upon a time there came a tiny transistor. It was 1948. By 1954, it had transformed the heart of the Regency Radio. And we all lived tunefully ever after.
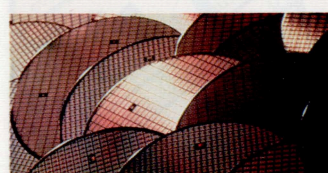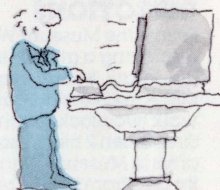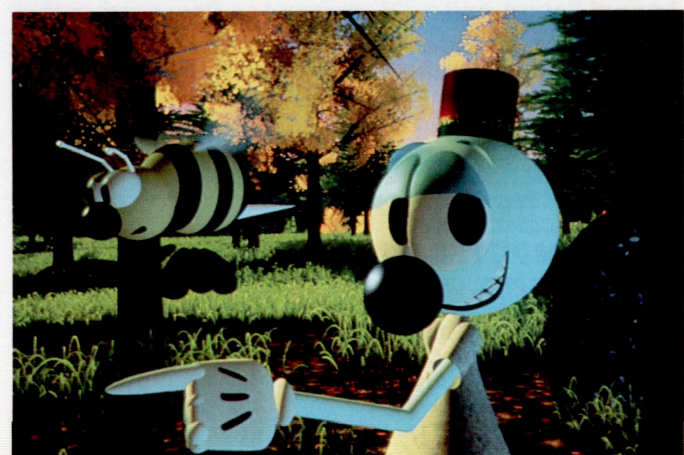
Oh, you doll. "Color Your Face" is the ultimate plastic surgeon. A touch here, a touch there. You're manipulating tiny pixels and creating a whole new you. Now there's a face that could launch a thousand chips!

Think his bark is worse than his byte? The pure pedigree of the Honeywell St. Bernard is evident in his coat, sculpted of transistors, resistors, switches, cabling, diodes and integrated circuits. Sit!

What could possibly taste better than fresh strawberries plucked at a low, low price? Your best negotiating skills will be matched against Noah Budge, a rule-based expert system fruit vendor who's likely to give you the old raspberry if your offer is too low.

Three decades of smart machines show the stuff of human invention in the Smart Machines Theater. Welcome to my family reunion. Hey, Shakey! Last time I saw you, you were this big!

Dr. Frankenstein, please report to the operating room. Max and Igor are about to announce the creation of their robotic child. Ah, software, the robotic spark of life. Does anyone have a cigar?
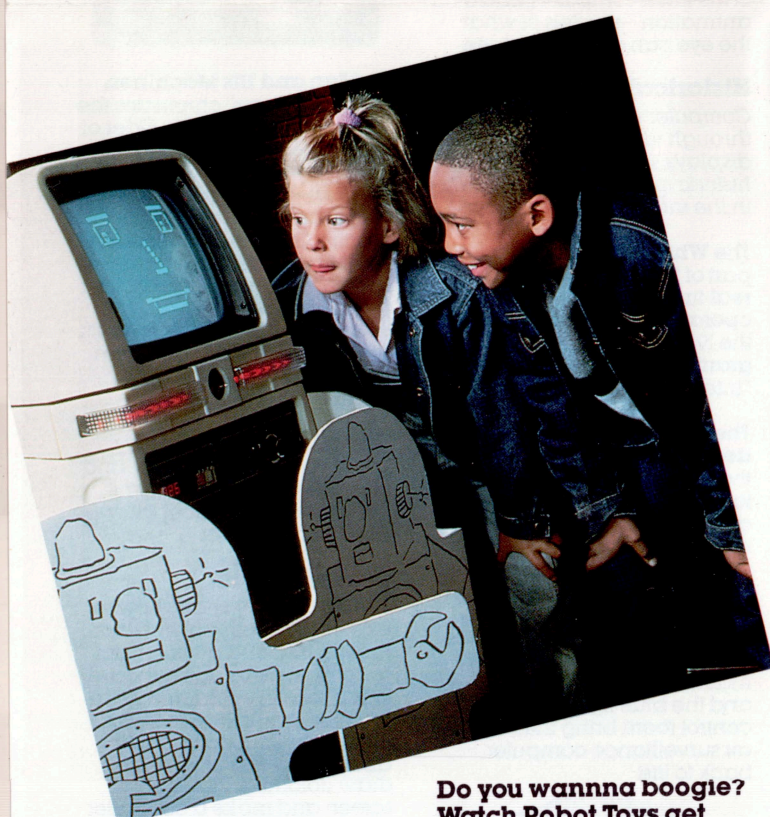
You snooze, you lose. That's what André finds out while taking a nap in the forest. Along comes arch-bumbler Wally B. and suddenly André can't see the forest for all the fast-motion trees. André gets stung daily in our Animation Theater, cited as Boston's Best Undiscovered Exhibit.

Just listen to the hot licks coming off our Kurzweil 250 synthesizer. Music to my ears.

Spacewar! pits the whole family against the odds. Press forward on your joystick. You can destroy your opponent's ship with a single, well-aimed missile. You're playing the first interactive computer video game, a verifiable relic from 1962.

In Plato's republic, things are very strange. Give Plato a sentence like: The rabbit carries the car from the house. Plato takes you at your word. Have you ever seen a rabbit lifting a car? What was the car doing in the house, anyway?

Do you wannna boogie? Watch Robot Toys get down on the dance floor. Hey, there's Hitch Hiker, Flip Bot, Toot Toot and Pupster. Clap your hands, everybody! Twist and shout!
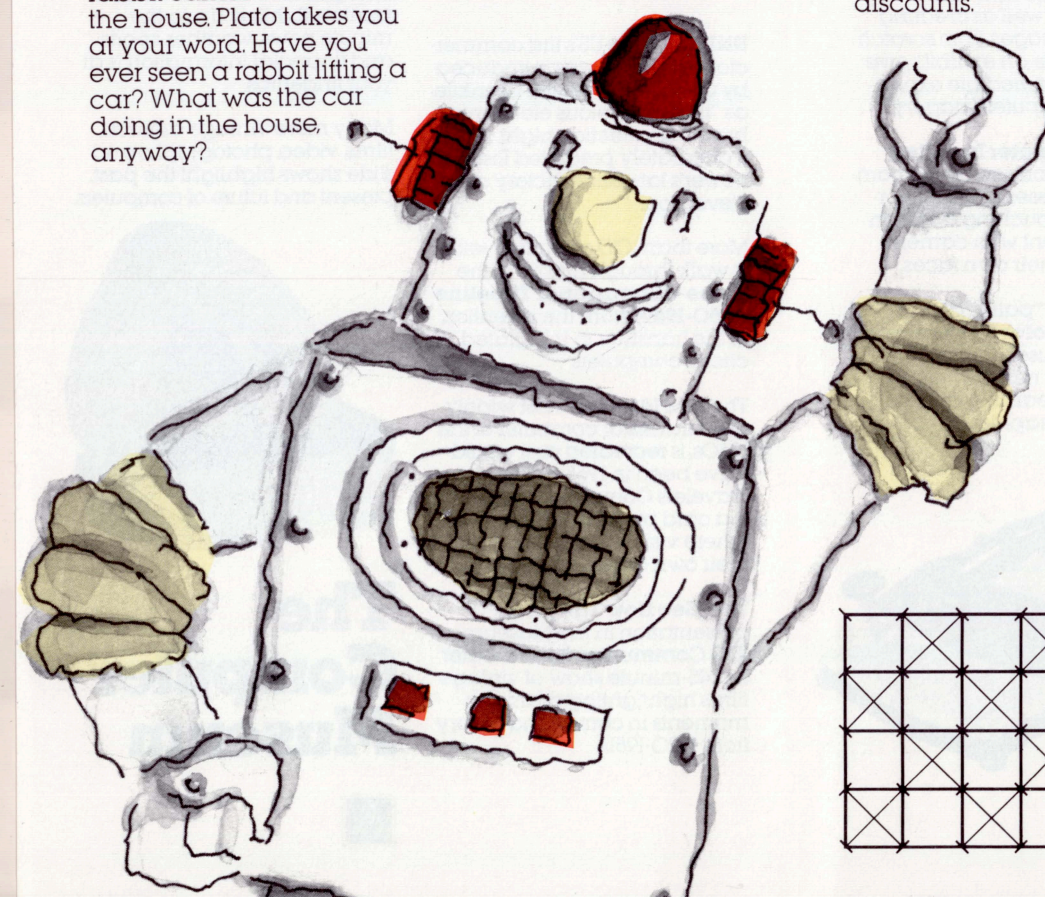
Hardware, software, gift-ware. Where else could you discover the perfect gift for every computerphile in your life? From computer jewelry to the floppy clock, from T-shirts and books to the Micro Chess Challenger, the Museum Shop is the place to cache in. Members receive big discounts.
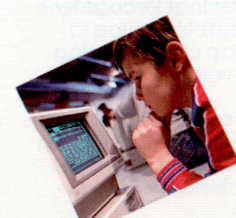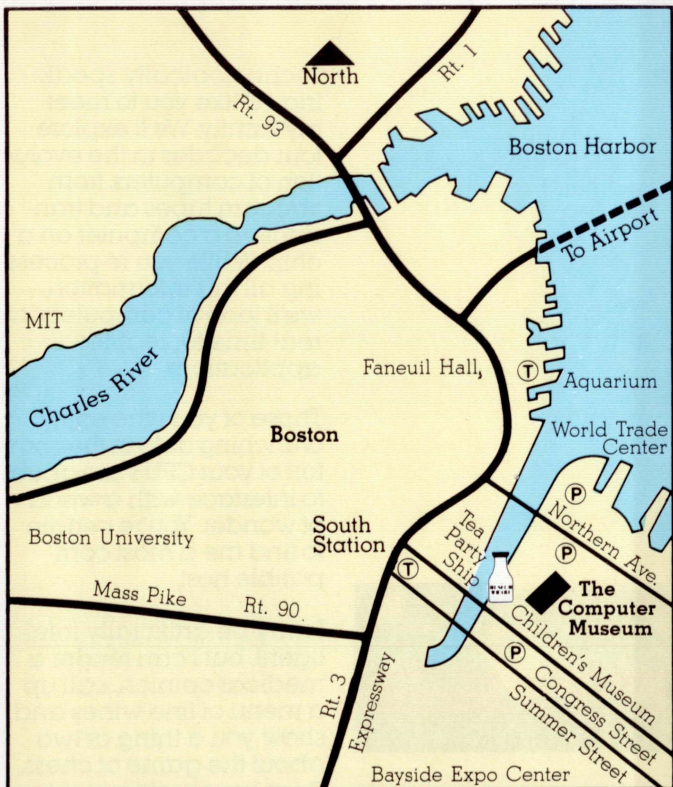
Now that you've taken your tour, I hope you'll come visit again and again. A world of computer information awaits you and your whole family. Next time you happen to interface with a smart machine, give the regards of this chip off the old silicon block.

For information on special events or exhibits, call me at The Computer Museum: 617/423-6758.
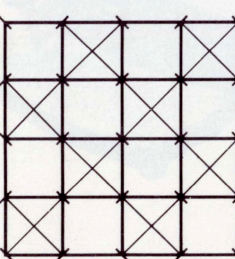
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DIRECTIONS

Follow the Museum Wharf signs displaying a giant milk bottle, our landmark. **By subway:** take the MBTA Red Line to South Station, walk two blocks north to Congress Street, then 2 blocks south on Congress to Museum Wharf.

By car: From North: Expressway (Rte 3) south to exit 23 (High and Congress Streets); third left onto Congress Street and across bridge. From South: Expressway (Rte 3) north to Atlantic and Northern Avenues exit; immediate right over Northern Avenue Bridge. From West: Mass Pike (Route 90) to Expressway (Rte 3) north to Atlantic and Northern Avenues exit; immediate right over Northern Avenue Bridge.

PHOTOGRAPHS

Visitors may photograph the exhibits for personal use only. Permission to use a tripod must be obtained from the Public Relations Department, Monday through Friday, 9am—5pm.

HANDICAPPED ACCESS

All exhibit areas are handicapped accessible.

TELEPHONE

Call our talking computer for more information at (617) 423-6758. The Computer Museum offices: (617) 426-2800.

PROGRAMS

The Museum hosts a variety of events and talks throughout the year. Call or write for more information.

GROUP ADMISSION

Reduced rates and guided tours are available for groups of ten or more by making reservations at least two weeks in advance.

ADMISSION

Adults $4.50, students and seniors $3.50; free for Museum Members. **Prices subject to change.**

OPEN HOURS

Summer: Open daily 10-5, Friday 10-9. Winter: Open Tuesday through Sunday 10-5, Friday 10-9. Open also Monday holidays and during Boston school vacation weeks. Closed New Year's Day, Thanksgiving and Christmas. **Hours subject to change.**
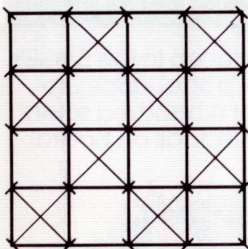
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Museum Wharf
300 Congress Street Boston, MA 02210