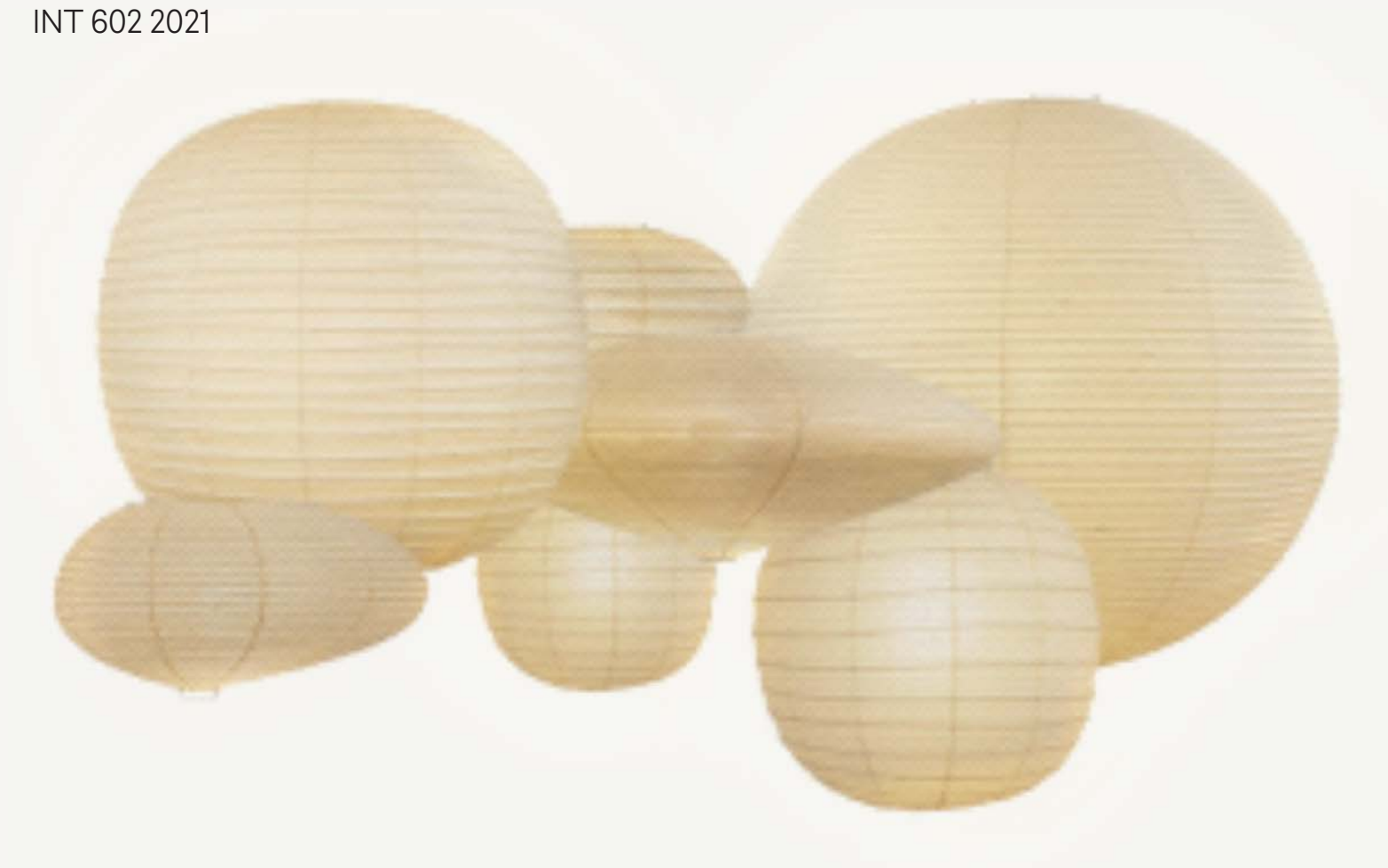


The Breathing Akari

claudia oertli

professor tetsu ohara

INT 602 2021



“Like the beauty of
falling leaves and the
cherry blossom... Akari
are ‘poetic, ephemeral,
and tentative.’”

- Isamu Noguchi via the
Noguchi museum

CONCEPT

concept statement
concept drivers

concept statement

Using bamboo and crafting a modular system, a suspended bamboo “forest” will be illuminated by the Akari lights which it helps display.

The visitor is guided through the forest by the light of the Akari and notices the lightness (in terms of weightlessness) as the sculptures float among the bamboo rods and is invited to touch, to experience the Akari that hang and sit within reach.

The Akari lights become one dispersed organism, **omnipresent and interacting** with the “forest” as their light dims slowly up and down, responding to the visitor’s presence, which evokes the notion of life within the “forest”. Soft, rhythmic sounds of Japanese bamboo forests play from speakers within rods, organized in a way which creates an experiential fluctuation throughout the space.

This modular display system is a **celebration of the Akari and its origins; displaying the sculptures in a way which celebrates their materials, organic forms. The mechanics behind this design allow the configuration to take nearly any form, for maximum potential in flexibility and adaptation or reconfiguration.**

Additional areas of the program are designed to support this celebration of the Akari; digital educational and informational interfaces are incorporated, displays of additional Noguchi Shop inventory are integrated, and the design language throughout shares a consistency with that in the retail/display space.

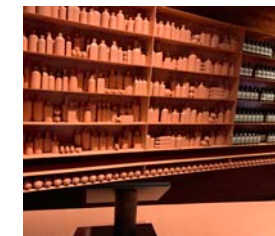
concept drivers



Noguchi’s aesthetic;
materials, influences



flexible systems of
demarcating space



future trends
of retail; visitor
experience

SITE ANALYSIS

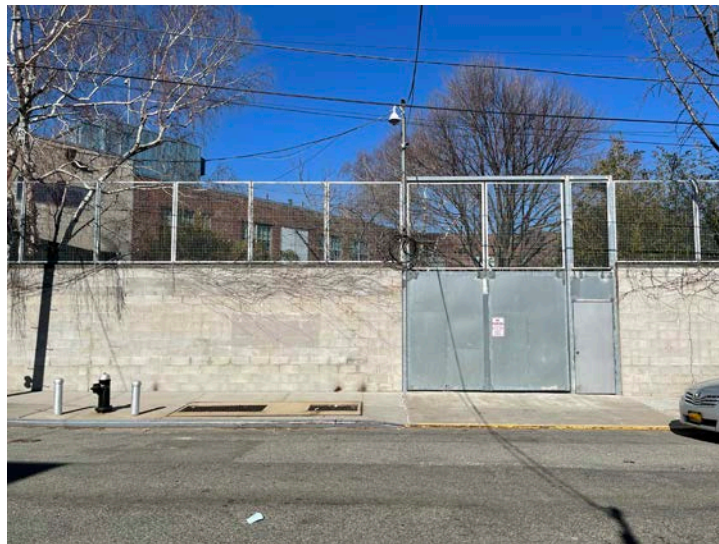
site analysis; visibility and directional relationship between museum and studio



museum entrance from studio



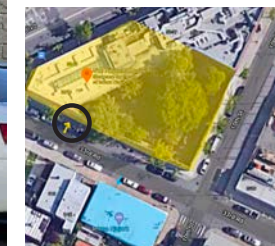
studio space visibility from museum (from outdoor space stair)



outdoor museum space from entrance of studio space



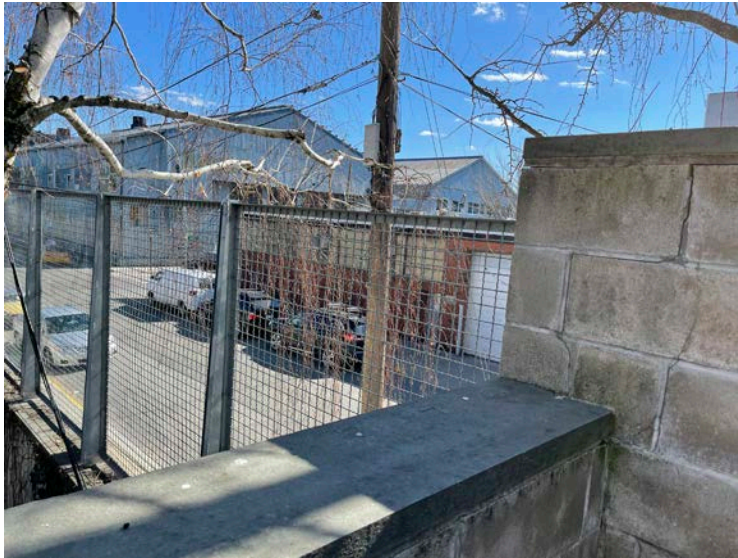
studio space from museum entrance



ENTRANCE

relationship to museum

materiality referenced and introduced



sight lines from the museum to Noguchi's studio are angled. signage is designed which positions itself in the most visible way and signals the studio building's relationship with the museum

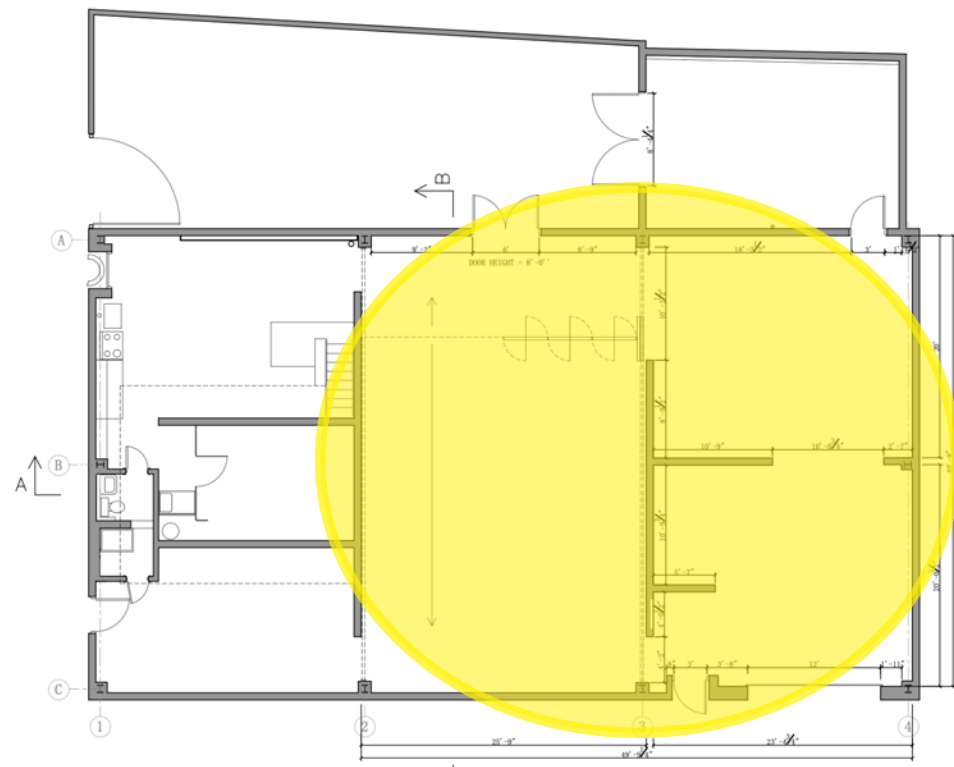


the existing museum's signage above is referenced in materiality and geometry on the studio exterior which angles the information towards the visitor. glowing recessed letters are illuminated and reference the glowing Akari on the interior

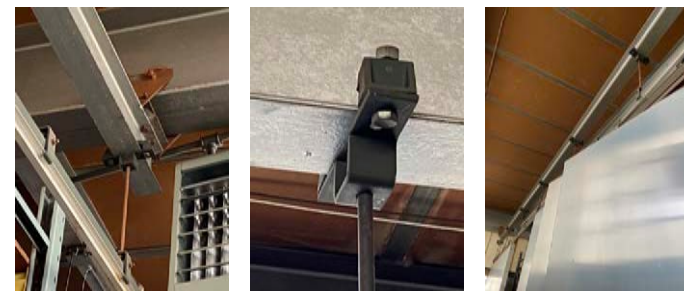
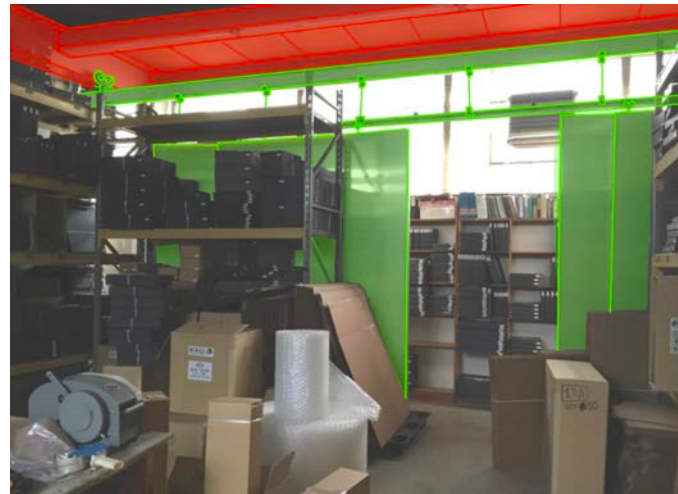


INTERIOR EXISTING CONDITIONS

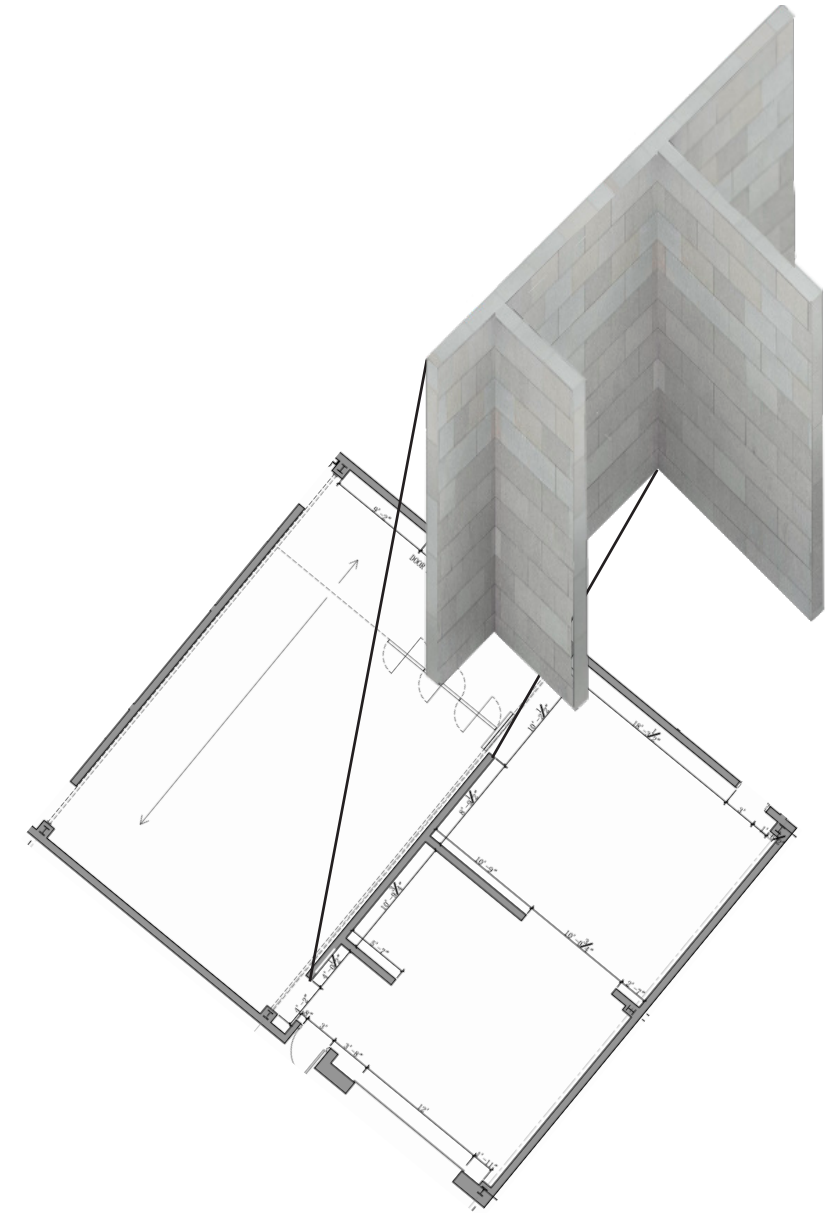
interior space and existing components



space available



movable partitions



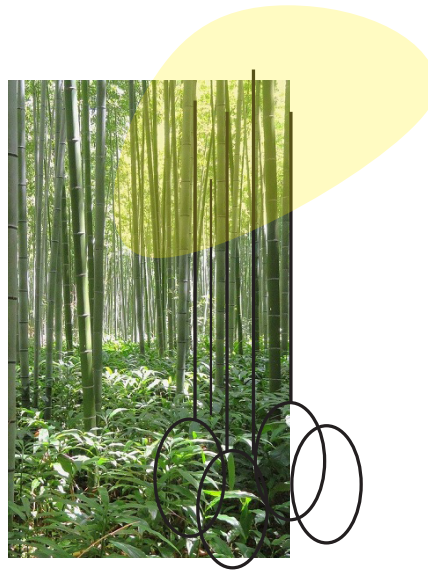
CMU walls

DESIGN INSPIRATION

concept driver analyses; studies which inform design
language, system of display, and space organization

informing: design language + space organization

geographic analysis;
bamboo forest



*floor, vertical, and
suspended components*

sculpture analysis;
Leda



*"clumping" of form
subtraction / extraction*

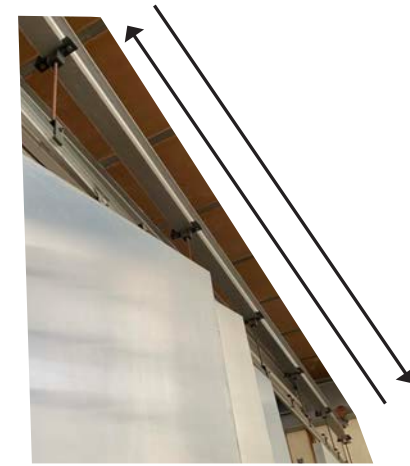
material analysis;
bamboo



*linear verticality + build-ability,
sustainability*

informing: flexible
system of display

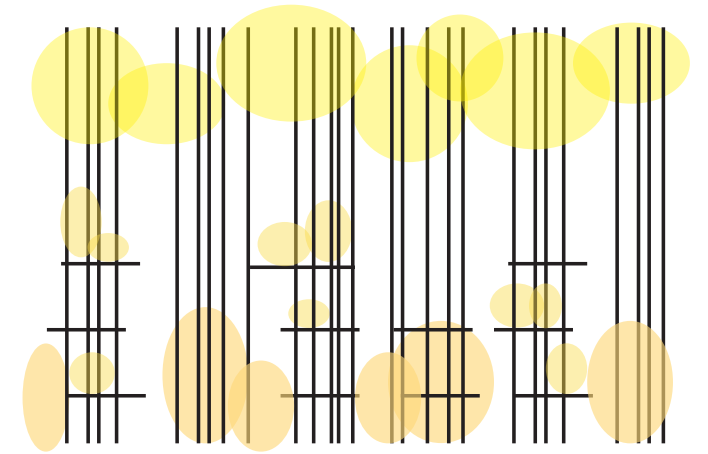
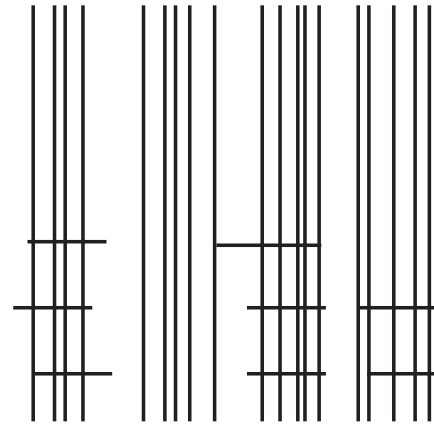
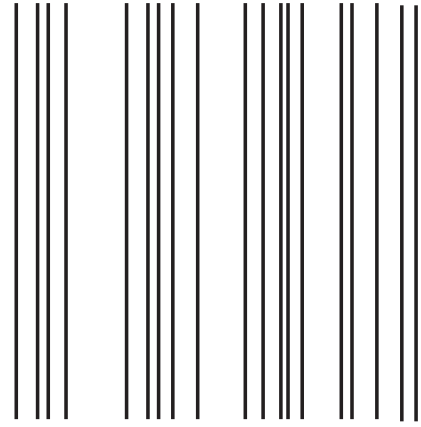
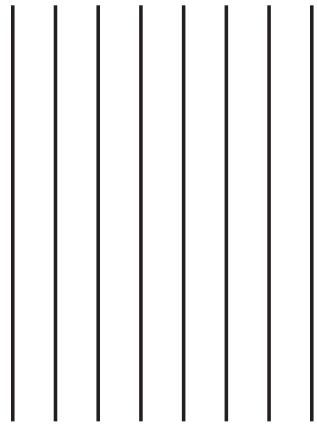
precedent analysis;
Noguchi Studio



*a system of movable
components which
engage with the existing
structure and enable
flexible creation of space*

DESIGN LANGUAGE

design language; diagrammatic and materially represented
design language, sequentially composed



linear verticality / materiality

linear verticality / materiality
+ clustering of form to create contrast

linear verticality / materiality
+ clustering of form to create contrast
+ flexible build-ability; shelving

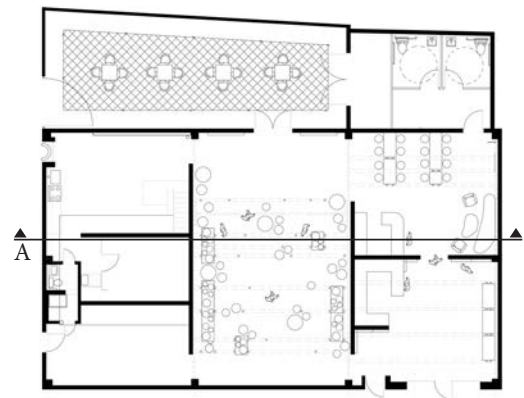
linear verticality / materiality
+ clustering of form to create contrast
+ flexible build-ability; shelving
+ relating design components to bamboo forest

DESIGN LANGUAGE APPLIED

design language apparent in rendered section elevation



section elevation a ; *showroom and café shown*

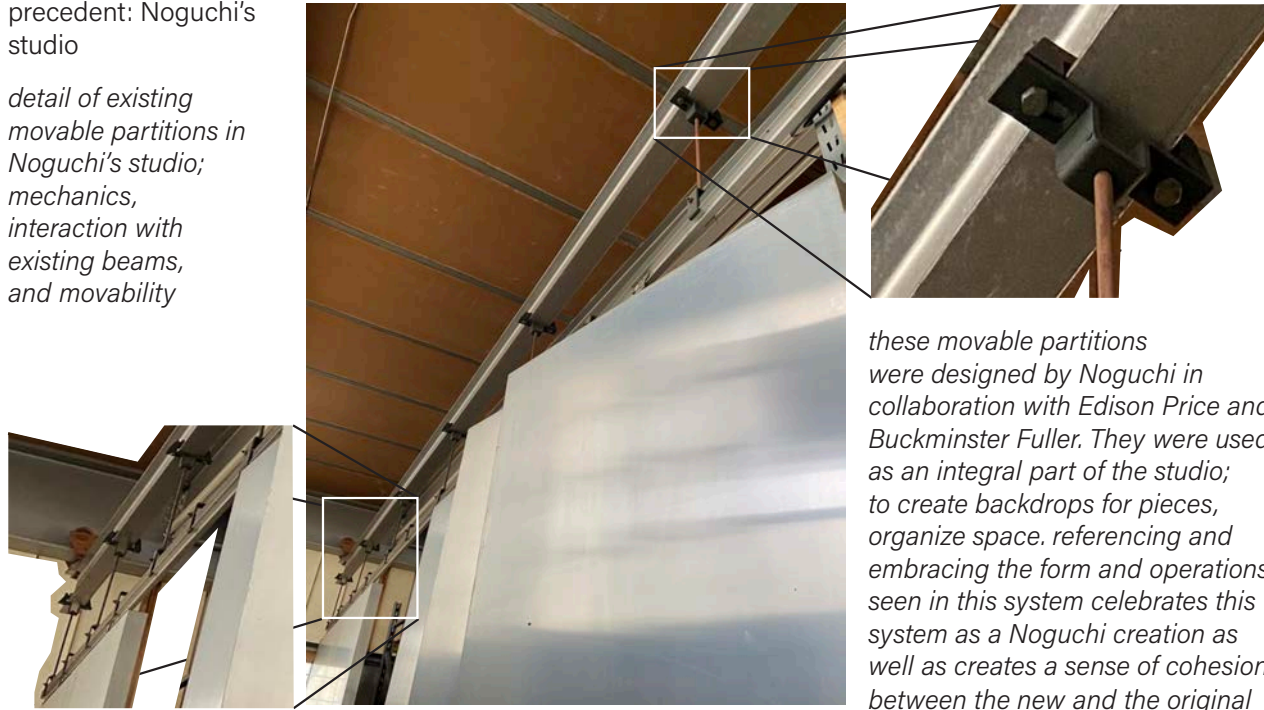


DISPLAY SYSTEM

studies in flexibility; precedent and exploration

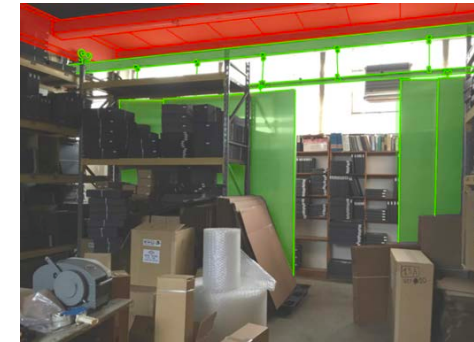
precedent: Noguchi's studio

detail of existing movable partitions in Noguchi's studio; mechanics, interaction with existing beams, and movability



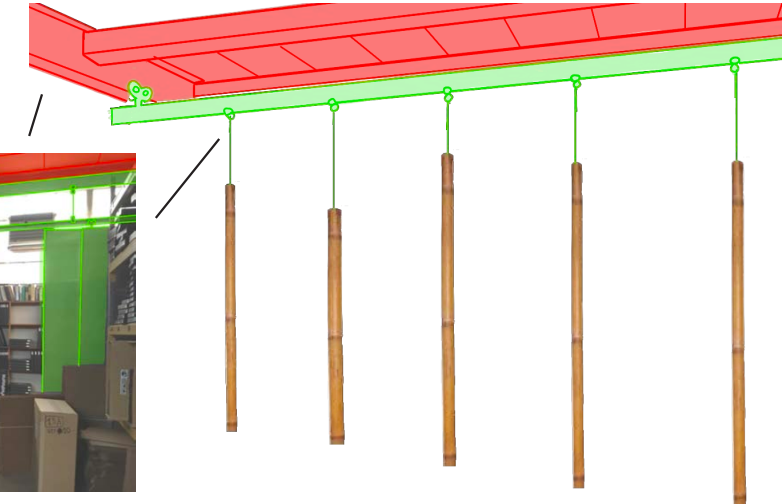
these movable partitions were designed by Noguchi in collaboration with Edison Price and Buckminster Fuller. They were used as an integral part of the studio; to create backdrops for pieces, organize space, referencing and embracing the form and operations seen in this system celebrates this system as a Noguchi creation as well as creates a sense of cohesion between the new and the original

application of design language



existing system

- structural beams + ceiling system
- Noguchi flex wall system



proposed additive system

- structural beams + ceiling system
- Noguchi flex wall system iteration
- bamboo rods as system components

early system models; explorations of various configurations with same / added components



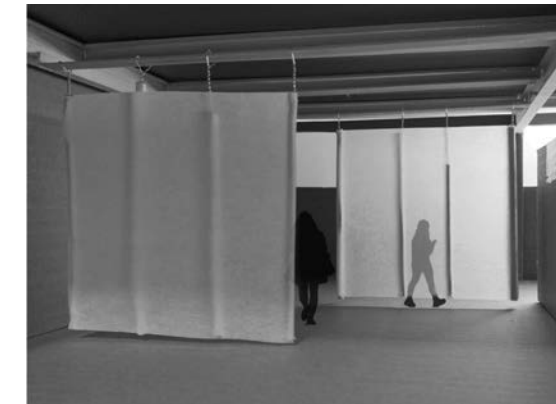
only suspended bamboo, verticality, organic arrangement of bamboo forest referenced



suspended bamboo with shelving system deployed; build-ability of bamboo and reference to bamboo forest with various free standing rods



suspended rods solely used for shelf system support; a more basic retail environment geared towards product display

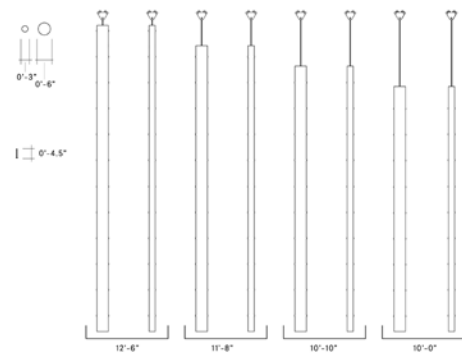


shoji screen system (same attach-ability concept as shelving); potential use in space demarcation as well as for special events

DISPLAY SYSTEM

components + joinery; rods
shelving; joinery

rod components for display system



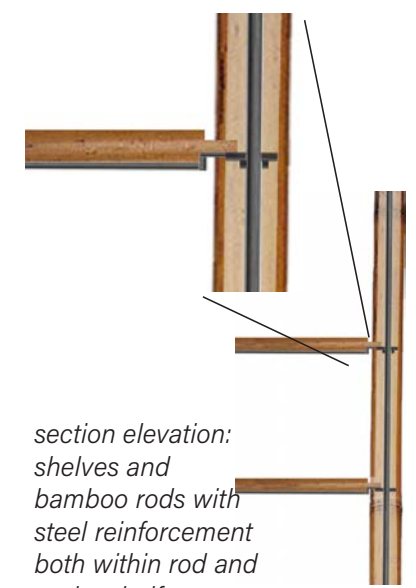
dimensioned sections/elevations; bamboo rods

reinforced rods for shelving

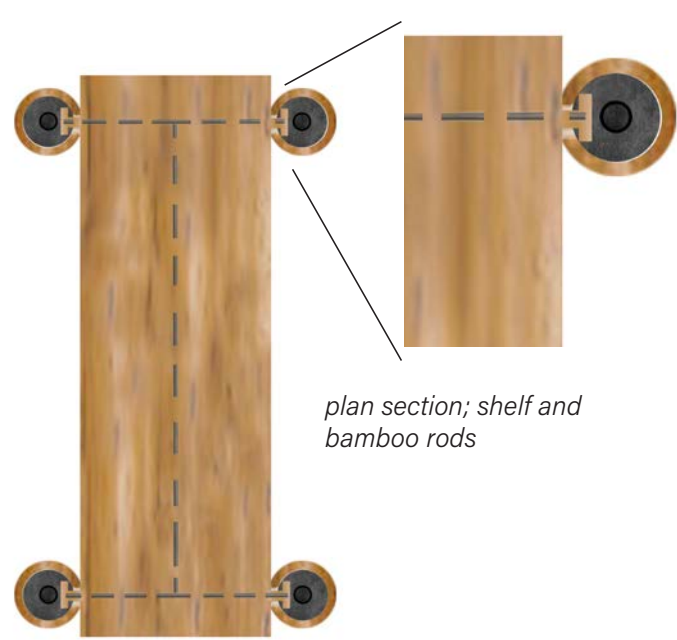


rods used for shelving may be reinforced by steel or aluminum to support heavier loads such as books or café use

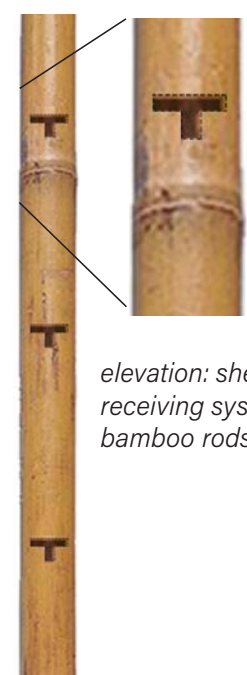
shelving system (adjustable joinery)



section elevation: shelves and bamboo rods with steel reinforcement both within rod and under shelf



plan section; shelf and bamboo rods



elevation: shelf receiving system, bamboo rods

bamboo rod component



movable beam;

(attached at either end to existing beam with wheeled trolleys; not visible)

wheeled beam trolley

immovable connector (detachable)

steel connector rod



bamboo rod

retractable steel stopper rod with rubber foot



internal hinge system



stopper system only included on rods with shelving notches

DISPLAY SYSTEM

audio/visual wiring
audio/visual coordination

electrical wiring for Akari lights
(shelving rods only)



electrical outlet at mid-point on bamboo (right) and runs up to ceiling attachment, cords run along ceiling and power rods

integrated speakers for audio system
(non-shelving rods only)



integrated speakers in rods at base and top and wired for electricity

electricity supply to rods + ceiling Akari



observed existing electricity supply at ceiling system will supply electricity to the movable rods via coiled extension cords with magnetic power strips. These power supplies can thus be moved to along the beam according to the configuration of the rods. The nature of the I beams will keep the wiring concealed along the lower interior half of the beam, not visible from the ground.

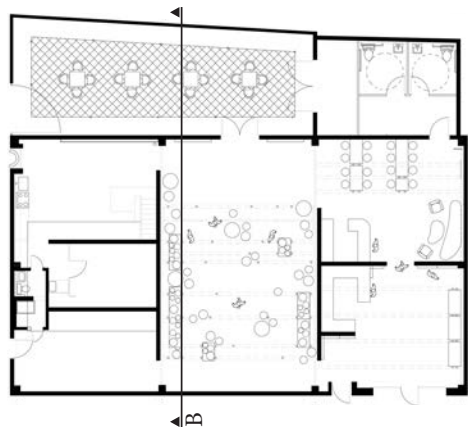


DISPLAY SYSTEM

display system shown rendered in elevation

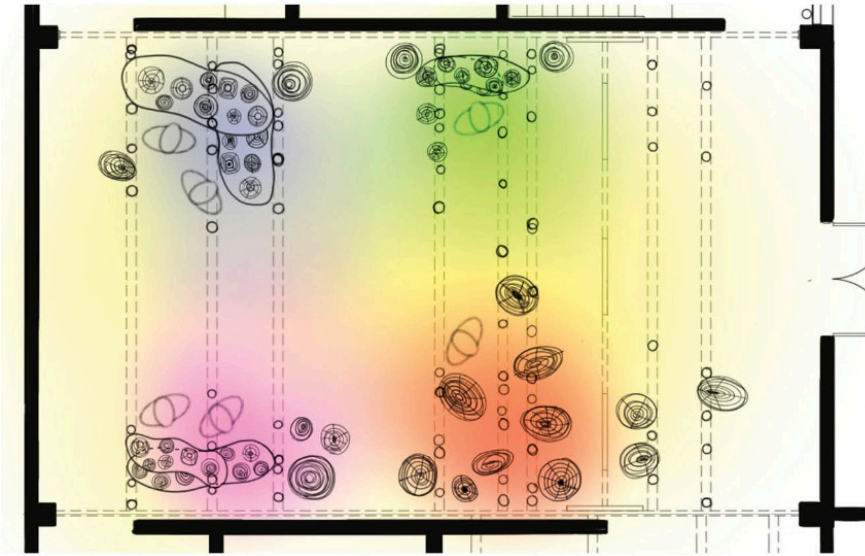


section b; Akari showroom and patio visible



DISPLAY INTERACTIVITY

display system interactive audio/visual components

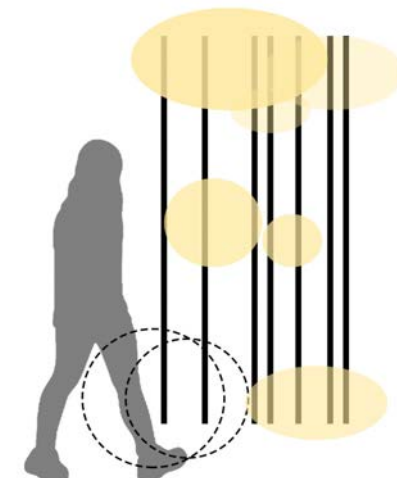
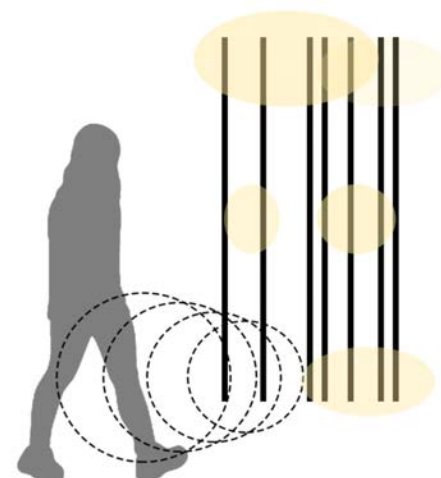
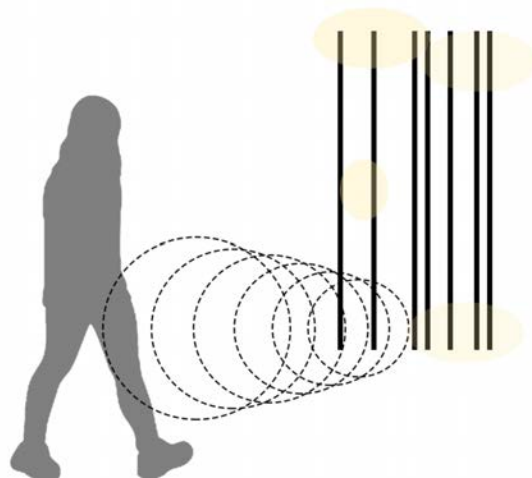


sketch floor plan showing "zones" of coordinated Akari light and sound movement

the speakers inside the bamboo rods are coordinated with each other through an audio visual programmable system which responds to the closeness of a moving person to produce fluctuating lights and sounds.

the zones (pink, red, green, blue) shown represent where sound and light is varying and different from the rest of the room, the yellow represents a cohesive sound through the space. this system engages the visitor by responding to their movements in a very passive and quiet way, the lights move slowly but there is still a sense of response from the "forest".

the Akari appear to be "breathing", the sense that the Akari become one omnipresent organic source of light throughout the space is apparent.



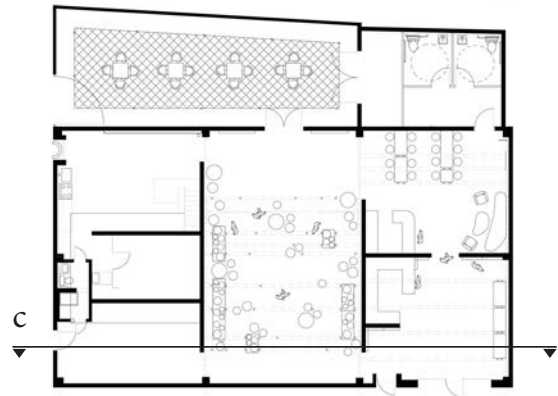
concept of light/sound increase of movement as visitor gets closer in proximity to the zone

LIGHT STUDY

rendered section with showroom Akari shown
varying to depict light undulation



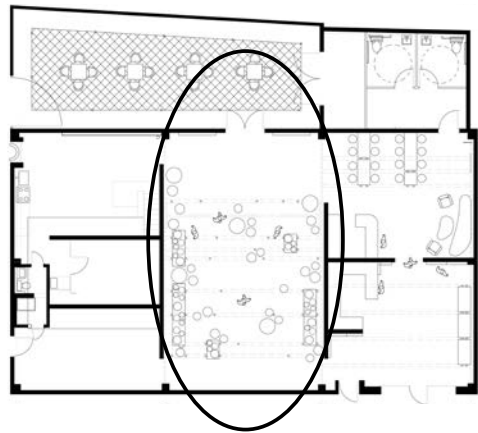
section c; Akari showroom and shop entrance visible



SHOWROOM

rendered perspective of Akari showroom area

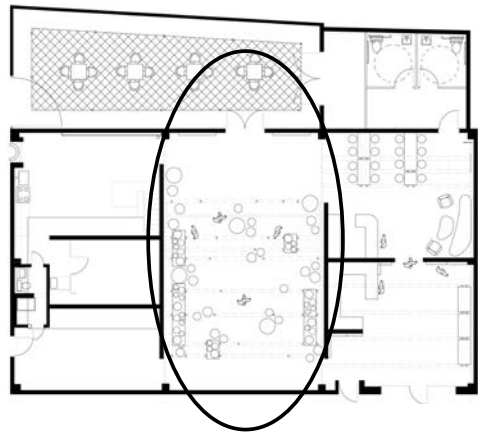
*representation of Akari show room as currently designed
and shown in floor plan*



DENSITY STUDY

rendered perspective of Akari showroom area with adjusted density of rods

representation of Akari show room with scaled back presence of bamboo rods; only shelving being shown. because of the flexibility of the space this change could be achieved in a very short amount of time; adapting the space according to the expected crowds is possible.

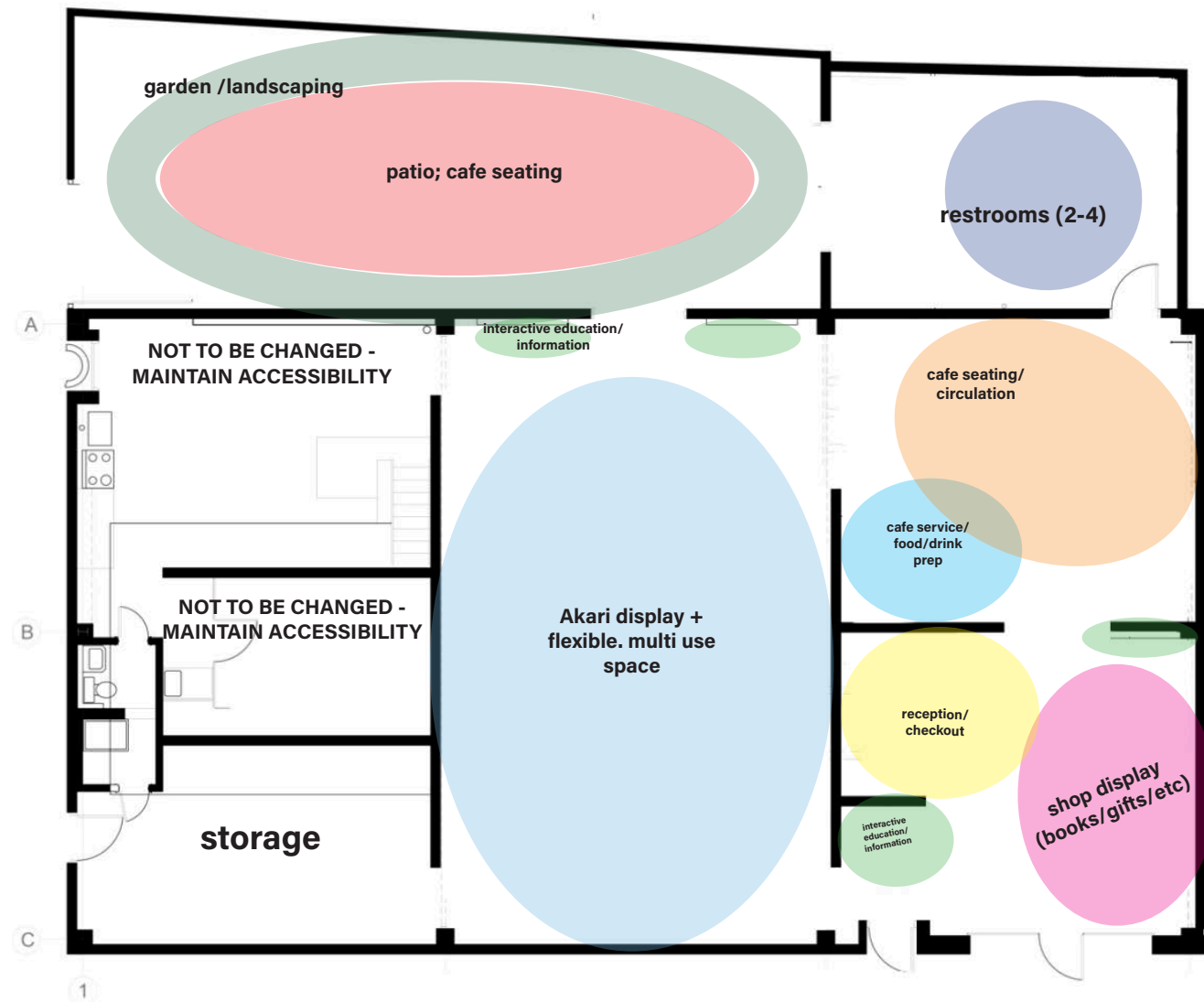


SPACE PLANNING

program organization

interactive program components

programmatic space planning + circulation



interactive education/information

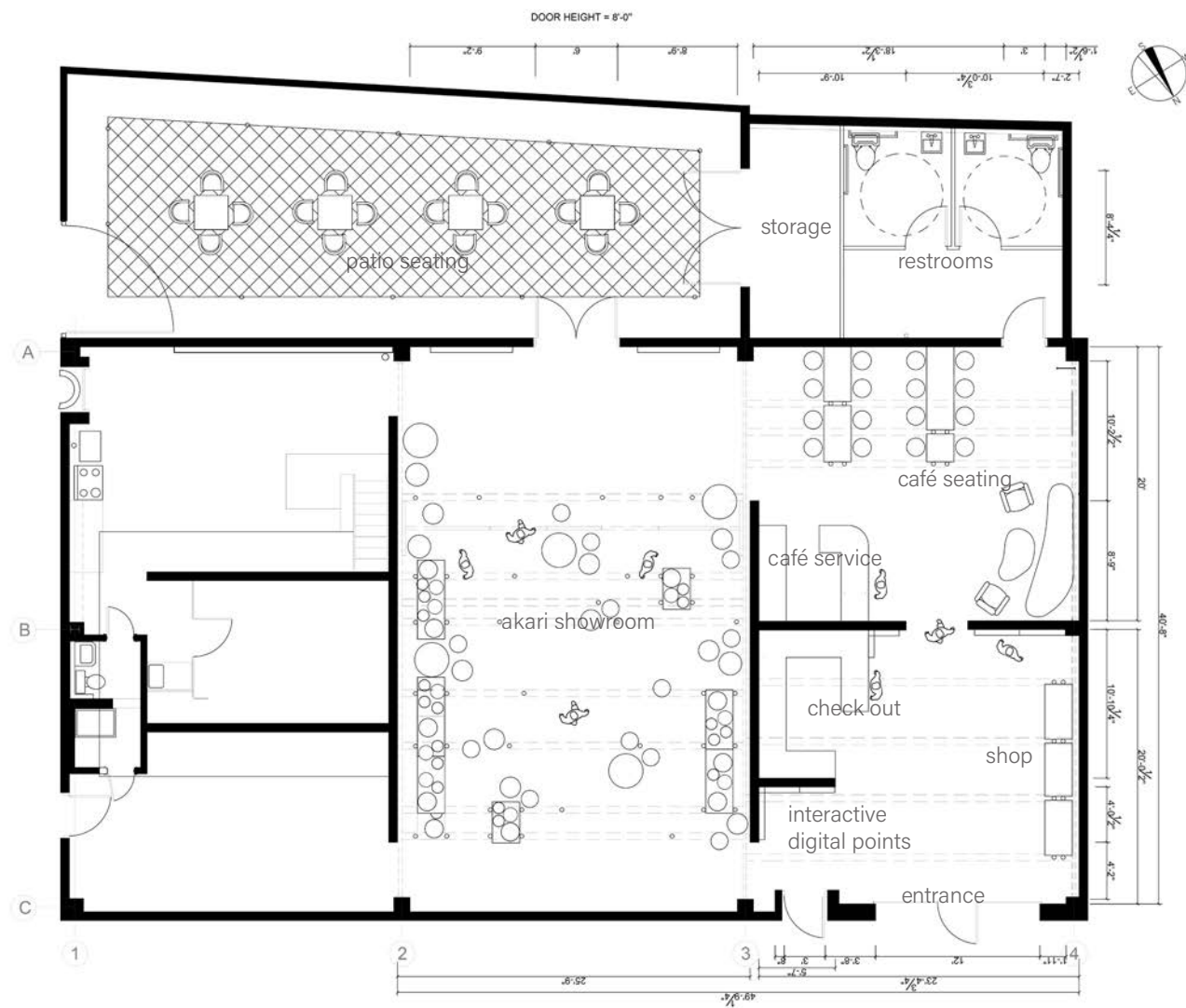


interactive digital screens supported by the existing partitions and walls are located in both the entrance/shop area as well as the showroom area. each offers interactive information such as how to build an Akari, a map which shows Noguchi's global influence, a catalogue of materials and tools used by Noguchi.

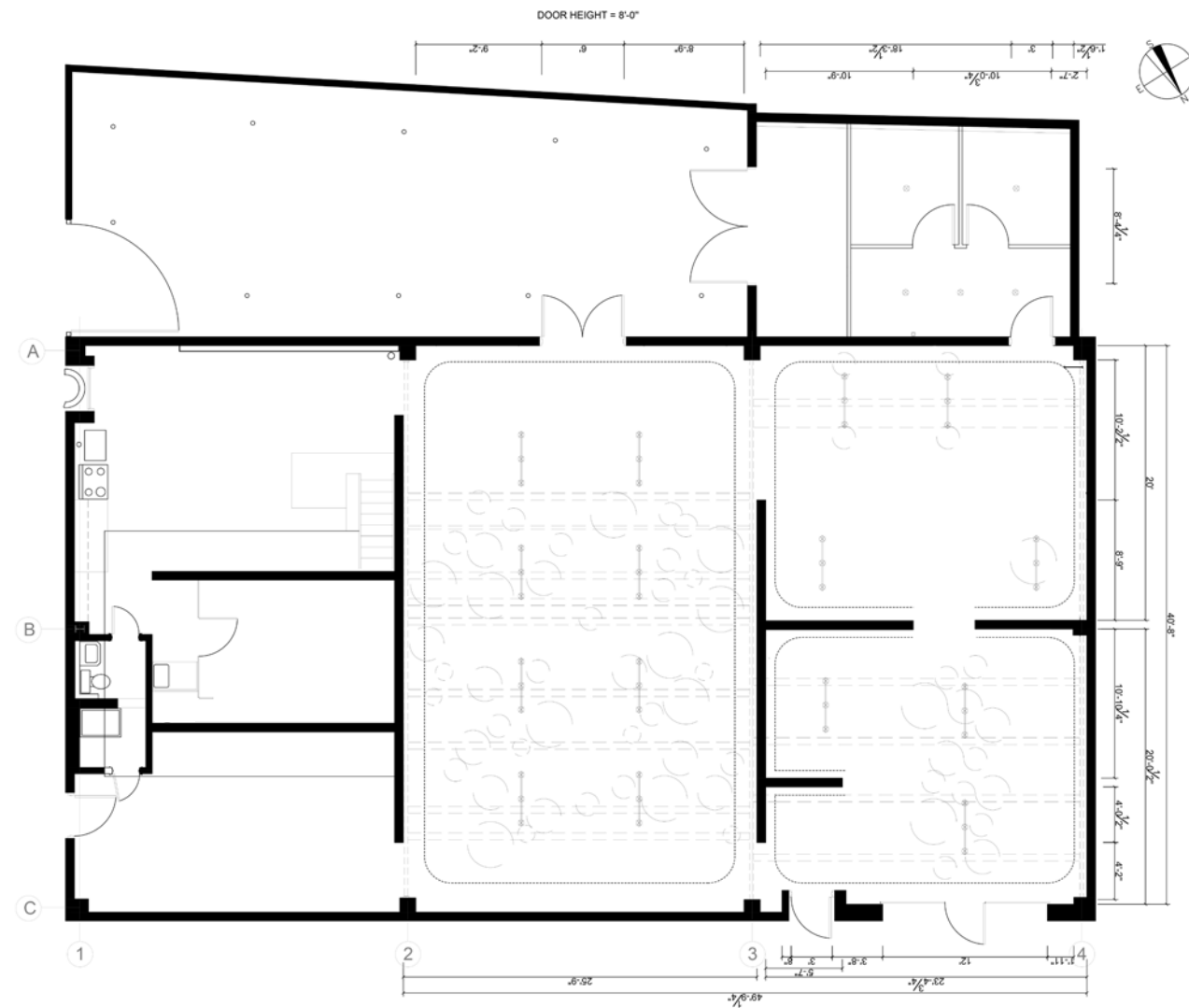
another digital screen located at the checkout area shows an interactive digital Akari catalogue where visitors can both verify information and dimensions of Akari on view as well as look up Akari options which are not on view.

MEASURED DRAWINGS

floor plan
reflected ceiling plan



floor plan
0'-1/4" = 1'-0"



reflected ceiling plan
0'-1/4" = 1'-0"



AKARI DISPLAY

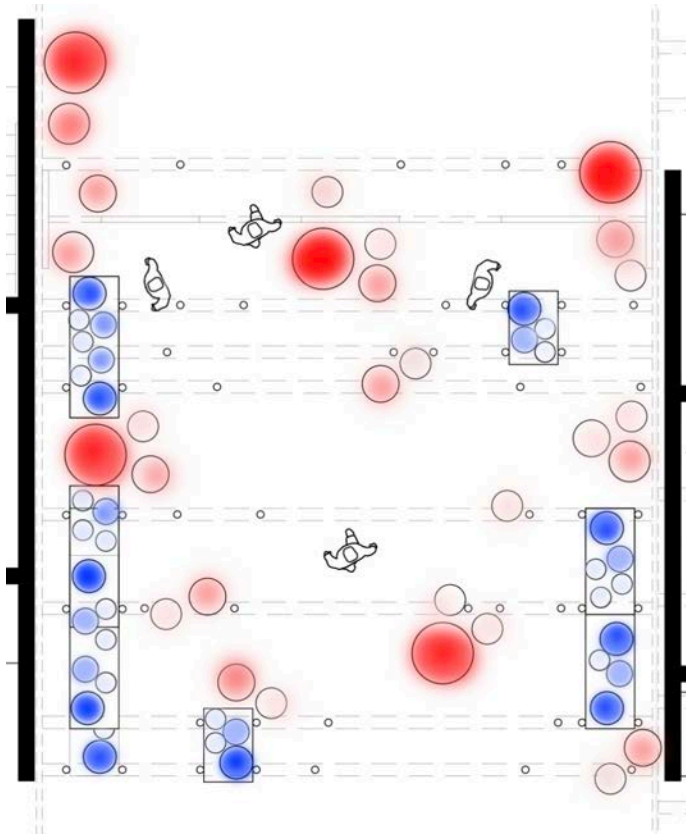
locations + quantity of Akari displayed

Estimated total quantity of Akari displayed; 80-90

Floor Plan:

table Akari   

floor Akari   



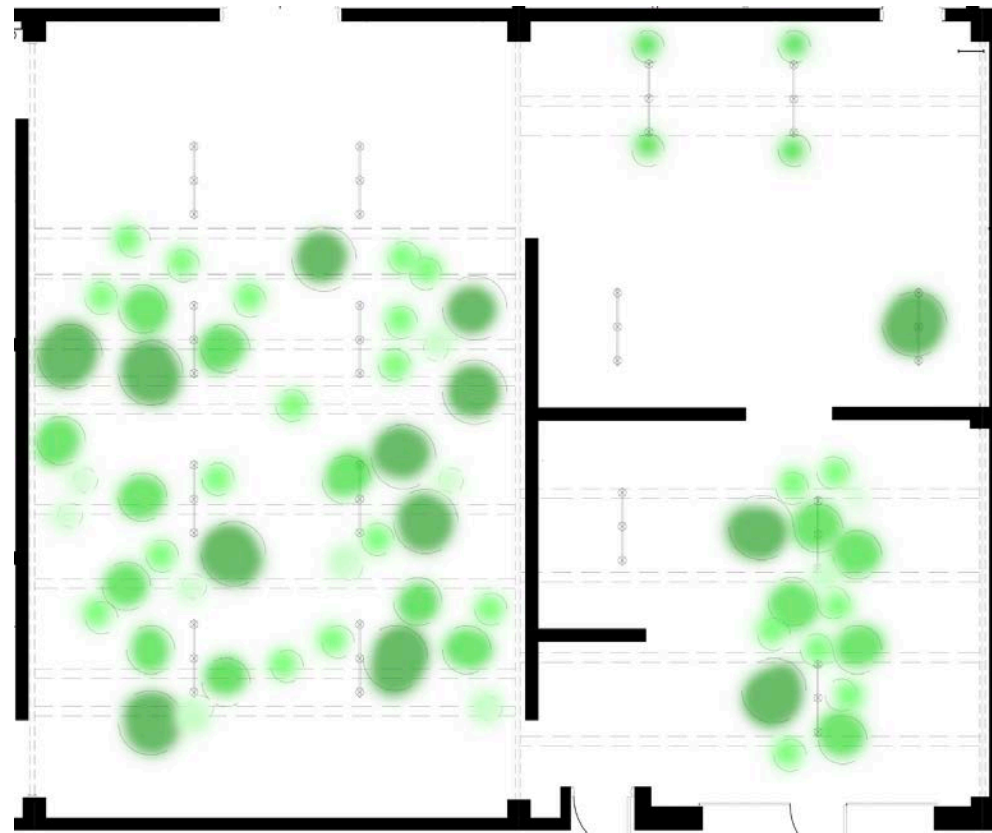
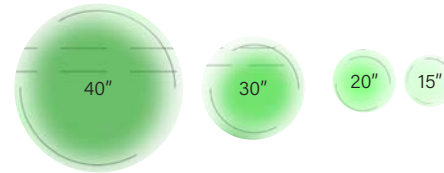
Display counts:

table Akari: about 50 (considering not visible in plan)

floor Akari: 20-25

RCP:

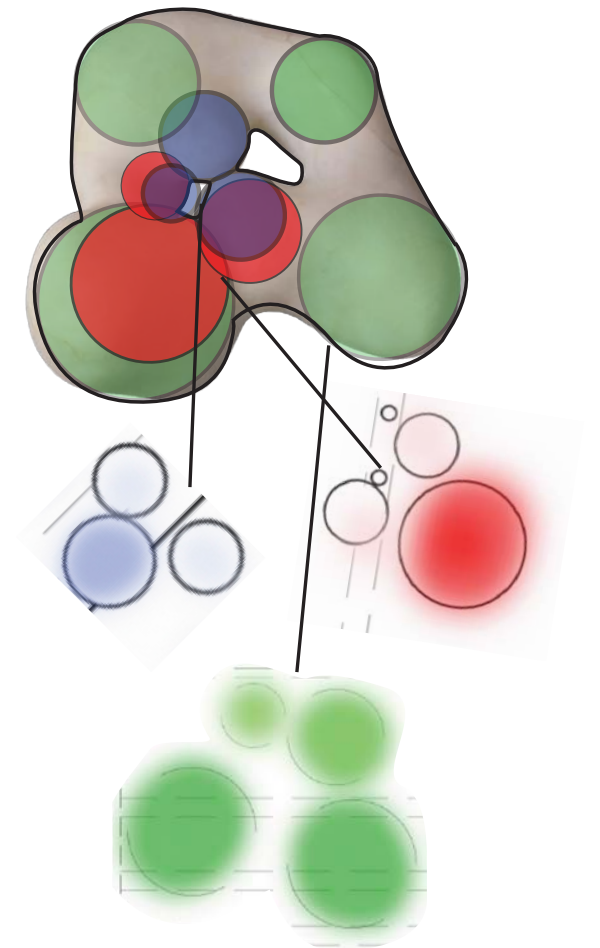
ceiling Akari



Display counts:

ceiling Akari: 20-25 (not including repeats)

**Akari arrangement;
sculptural clustering
of form**

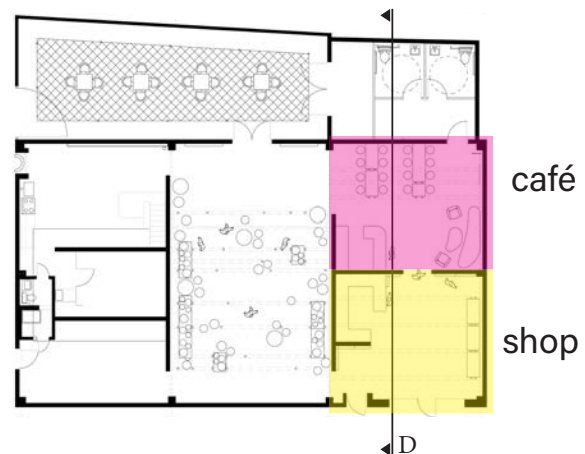


CAFÉ AND SHOP AREAS

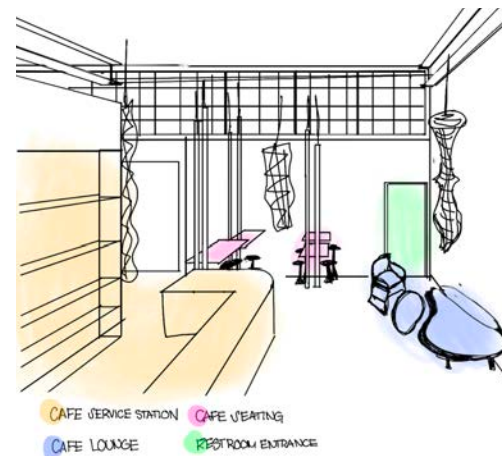
café and shop areas shown rendered in elevation



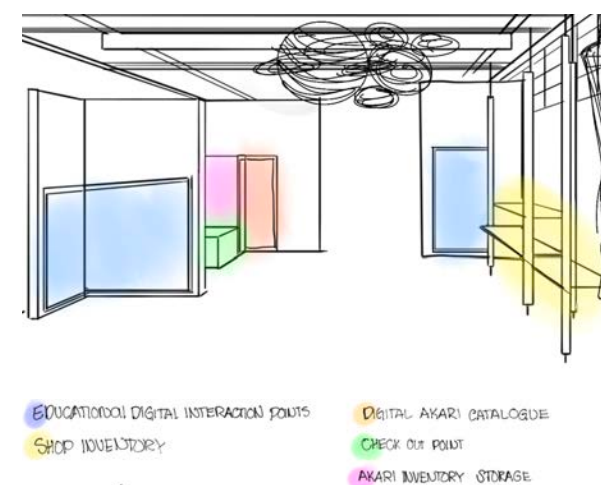
section d; *café, shop, and restrooms visible*



café



shop

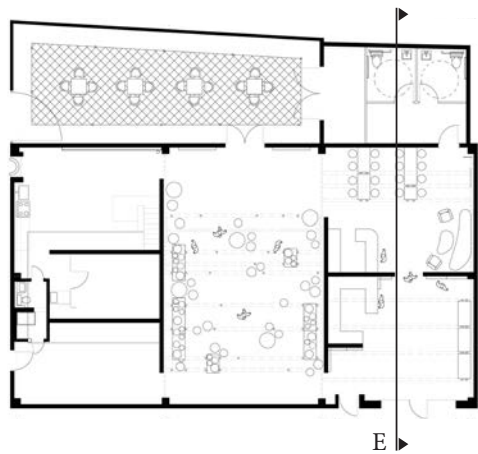


CAFÉ AND SHOP AREAS

café and shop areas shown rendered in elevation

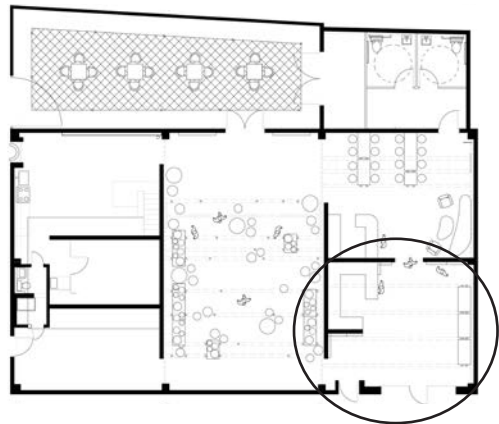


section e; *café, shop, and restrooms visible*



SHOP ENTRANCE

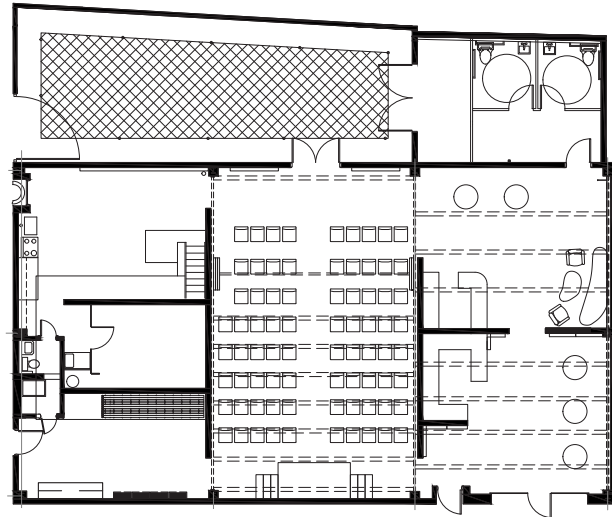
rendered perspective of shop/entrance



ALTERNATIVE CONFIGURATIONS

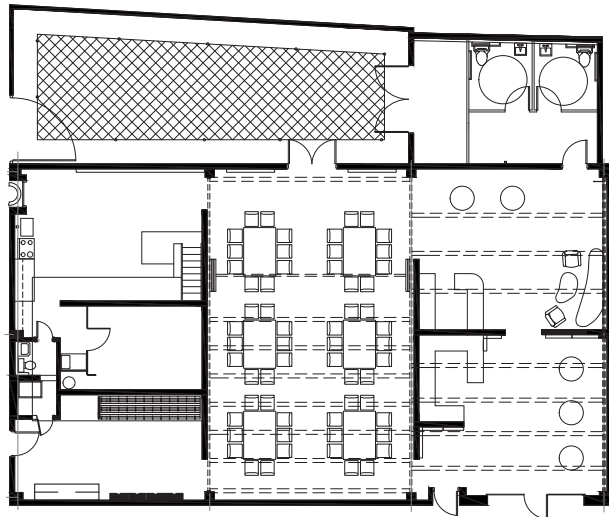
alternative configurations of flexible system for other program requirements

configuration one; lecture/event



this configuration shows the rods, shelves, and table and floor Akari stored in the storage area. the central area, with rows of chairs and a stage would be used for lectures or educational events. The entrance and cafe areas would be used as reception and beverage service with high top tables.

configuration two; banquet



this configuration shows the rods, shelves, and table and floor Akari stored in the storage area. the central area would serve as the dining area, and the reception and café areas would be used for reception and beverage service with high top tables and the lounge area. a tent would be deployed in the patio area to serve as an area for catering.



intimate dinner party rendered to show possibilities of bamboo and lighting system in use to support an event