
Filament Mind: Luminous Media Architecture

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THE MIND OF THE LIBRARY

Filament Mind is a data-driven lighting installation designed to visualize the collective curiosities and questions of Teton County Library visitors through a dynamic and interactive spatial sculpture. Whenever any Wyoming public library visitor anywhere in the state performs a search of the library catalog from a computer, *Filament Mind* illuminates that search through synaptic firings of color and light in a glowing web of translucent fiber optic cables. As a display of emergent collective intelligence, *Filament Mind* is quite literally the mind of the library, and by extension, the mind of the community.

SPATIAL TEXTURE

Physically, *Filament Mind* is composed of 1000 linear catenary fiber optic cables, each a mere 3mm thick, arrayed in a continuously differentiating pattern and mirrored across the central axis of the library lobby space. Totalling over 8000 meters of length, the suspended fibers create a spatial texture that augments the lobby's existing architecture and appear as if they are part of an infinite mesh connecting spaces beyond the visual, material, and perceptual boundaries of the library. The cables are both side-glow and end-glow fiber optics made of extruded acrylic. Light is transmitted instantly upon illumination in all directions, the cable acting as a "vector" of light. At the core of this mesh is a central column cantilevered from the floor, anchored directly to the slab, supporting 44x 40W LED illuminators that pass light into the bundled fiber strands.

The complex geometry of the catenary fiber optic cables was modeled, managed, and output for fabrication using parametric design software.

URBAN VISIBILITY

The library building is in the core of the small city of Jackson Wyoming and is highly visible. Passersby can see the project easily and are often drawn in to look. The lobby space with bus stops on two sides of the site, making the lobby an interior pathway for riders. The project is a visual beacon in the urban night afterhours. Regardless of the point of view, the installation appears uniquely life-like, at times resembling a mountain, a crater, a bird in flight, vertebrae, a web, a nest, or a canopy of branches, although never literally nor superficially.

COMPLEXITY OF THOUGHT

Most importantly *Filament Mind* resembles an abstracted, electrified simulation of a mind at work. Each time a library visitor searches for media in the library catalog, fiber threads indexed to 1000 knowledge categories in the Dewey Decimal system, shown in text on the lobby walls, glow in color indicating the subject term of knowledge returned from either a search or a check-out. A companion digital display in the lobby cycles through various statistical graphs related to when searches take place, what topics are searched, and what content is checked out. As multiple patrons search simultaneously, *Filament Mind* captures this overlapping activity in continuous flashes throughout the space. This activity

manifests the complexity of thought captured by all the live searches across the state and reveals the unseen but sophisticated work of the library's own computational brain: the databases and applications managing the library collection. In this way the typical opacity of library structure is replaced by a communicatory bridge between the world of knowledge and the library space itself. Witnessing the dynamic feedback in *Filament Mind* encourages one to participate in the process that gives it life, removing barriers to deeper and wider discovery.

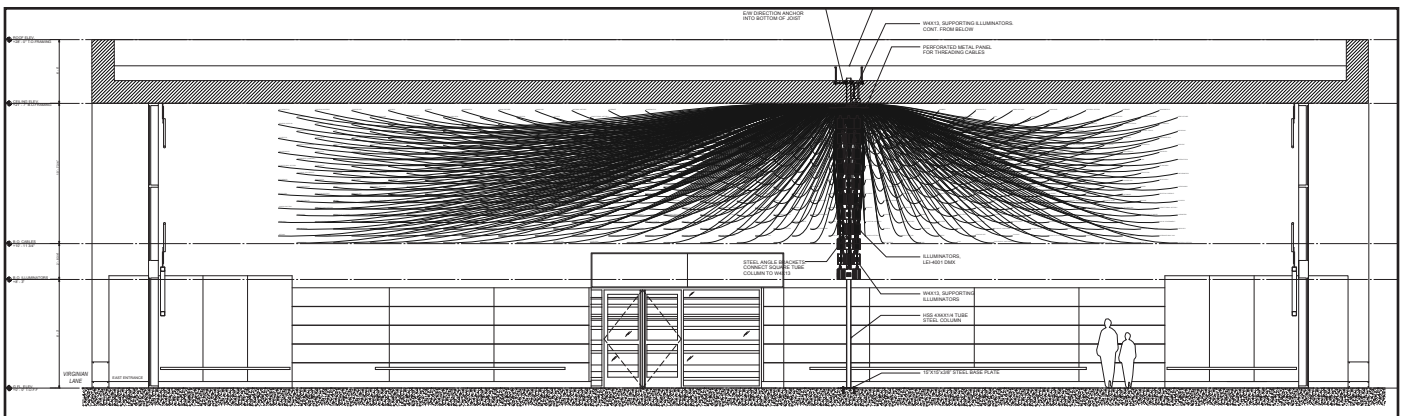
VIRTUAL REPRESENTATION

Ultimately, *Filament Mind* is a visualization of what community members search for that serves to inspire further exploration by others. It's positively infectious and reinforces the library as the "heart" of the community as a place for all, especially those without access to the web, to gather and learn and have their questions acknowledged. *Filament Mind* gives them a unique form of virtual representation, both visually and socially, they might not otherwise have in the community.

Filament Mind was created in collaboration with Yong Ju Lee and Noa Younse.

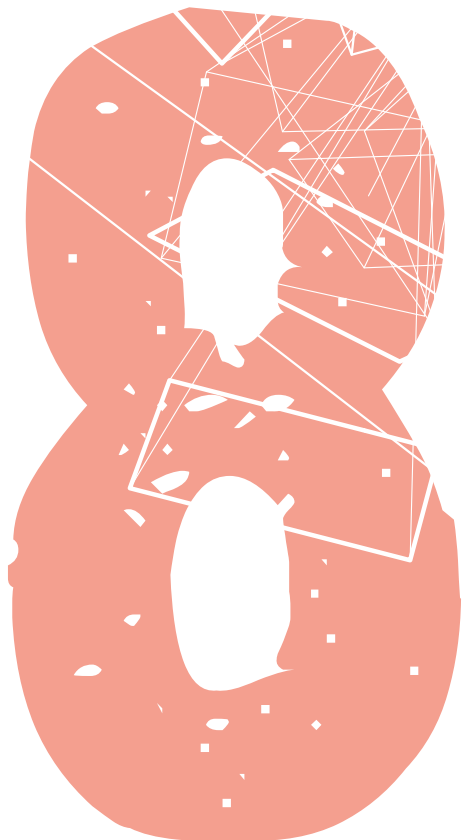
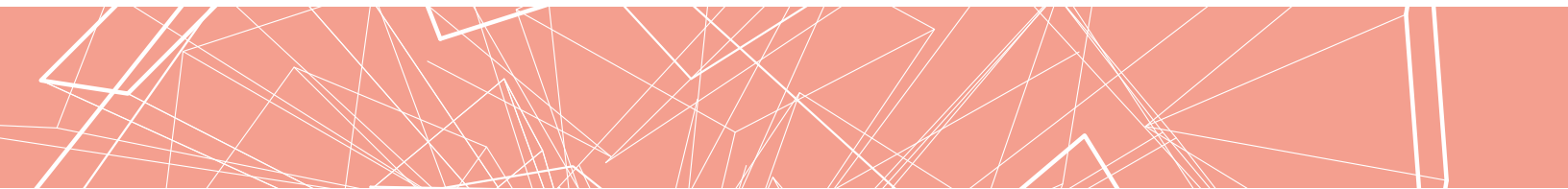
Building design and architecture by Gilday Architects of Jackson, Wyoming.

Photographs by David Agnello and Eric Daft.



KNOWLEDGE AND LIGHT

Filament Mind transforms library searches into colored illuminations of fiber optic cables that indicate what library patrons from the entire state of Wyoming are searching. Through this activity, the space is transformed into a dynamic field that mobilizes live data for architectural and technological performance.



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