
GBBN
DX18 SAN FRANCISCO

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INTRO

SAN FRANCISCO

GBBN's Design Expedition (DX) was developed to engage, explore, and discuss design ideas among a diverse cross-section of our employees.

On this, our 4th annual DX, we set out for San Francisco to explore how digital design and fabrication impact architecture and construction, and how communication powers innovation.

We visted manufacturers who are changing the built environment. Along the way, we documented iconic architecture up close—and took a close look at how we can better connect with each other as we work.

The DX18 group has already begun to implement lessons learned from the expedition. For example, this DX kick-started action on a planned internal employee website to help us better share information and knowledge across offices.

GROUPS

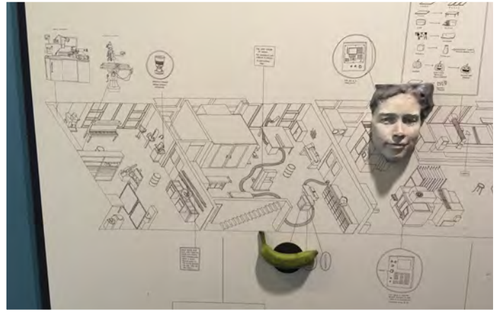
We intersect with itent. Our DX trips bring together a diverse group of GBBNers from our offices in Beijing, Cincinnati, Louisville, and Pittsburgh. Every DX supports inter-office idea pollination, fosters a studio environment, builds camaraderie, and breaks down communication barriers between our four disparate locations.

LOCATIONS.

BACKGROUND

Kreysler originally used fiber reinforced polymer (FRP) to make custom shapes for boats. As they've moved their focus from boats to building façades, they've had the opportunity to work on some of the most customized facades in contemporary architecture, including the Broad Museum and SF MOMA.

KREYSLER.



WHY

We sought to observe the process of digital fabrication in its most advanced way, and draw inspiration for using materials in new applications. We wanted to learn about the latest techniques to manipulate and shape them into custom forms.

Kreysler produces all the horse statues for P.F. Chang's

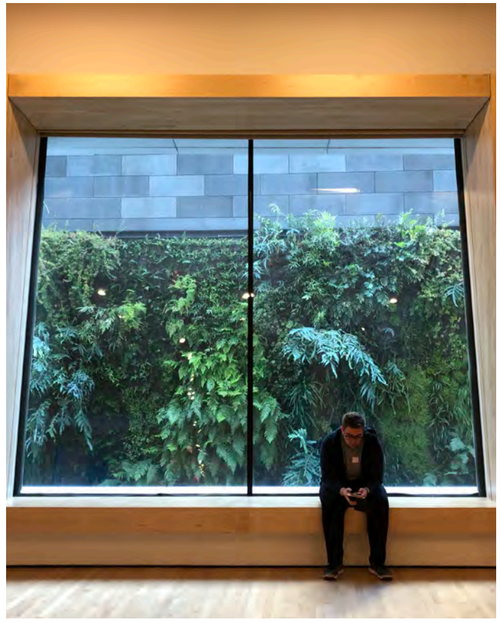
TAKEAWAYS

Kreysler has pioneered smart, custom ways of using recyclable EPS (expanded polystyrene) molding for FRPs (fiberglass reinforced panels). The material provides opportunities for panels to be unique. It reduces repetitive design, and creates rich planes, textures, surfaces, and experiences.

Kreysler fabricated SF MOMA's facade

BACKGROUND

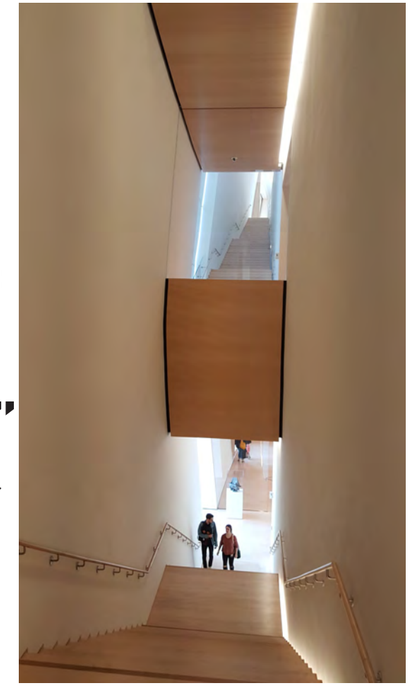
Snøhetta's 2016 expansion of Mario Botta's original 1996 design, more than doubled the size of the museum and changed the way people experience a museum.



SF MOMA.

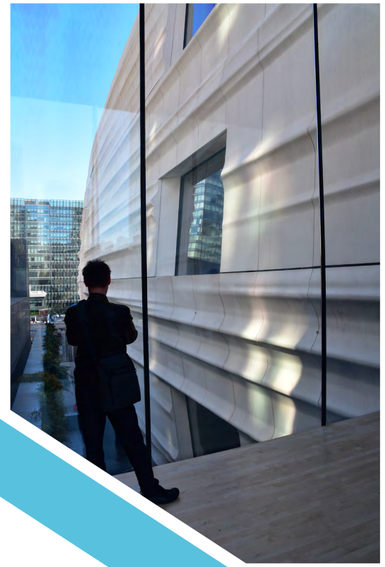
"...being there in person, able to explore the details brought the process of digital design into focus."

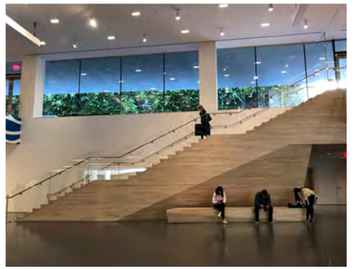
–John Meyer



WHY

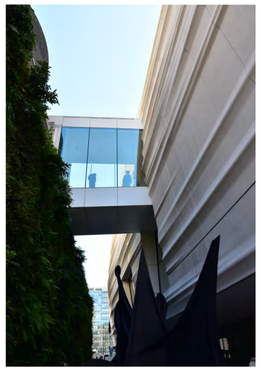
We wanted to experience a building that has a contemporary approach to form and material, and uniquely stands out in its approach as infill within a city block.









TAKEAWAY

The building creates an inviting and enriching museum experience that enhances a strong connection with its art as well as its community and city.

3D fabricated texture at Autodesk Pier 9

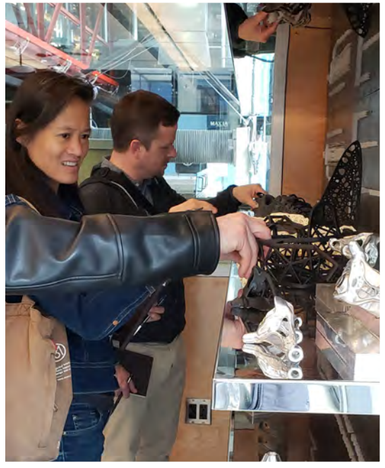
BACKGROUND

The residency program at the Autodesk Technology Center (located on Pier 9 in San Francisco) provides a collaborative makerspace for industry, academic, and community teams doing forward-looking work. The space integrates digital fabrication, manufacturing, and provides an environment for learning and exploration.

AUTODESK PIER 9.

"The trip opened a connection in understanding; workflows and scheduling are aligning better."

–Melanie Ngami

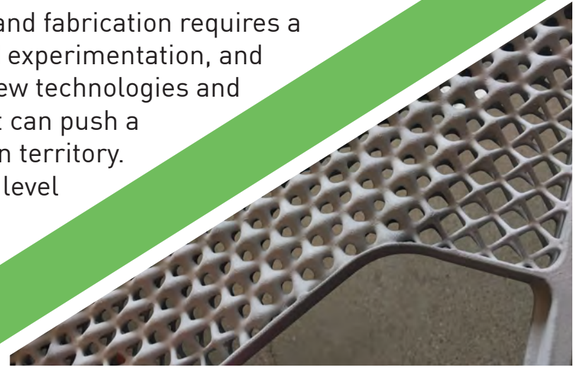


WHY

Our goals were to explore functional methods of fabrication and experimentation, and to view "makerspace culture." We wanted to see how we could integrate this culture into the way we push design boundaries.

TAKEAWAY

Exploratory design and fabrication requires a level of unrestricted experimentation, and demystification of new technologies and ways of thought that can push a project into unknown territory. This also requires a level of risk that should be balanced with design results.

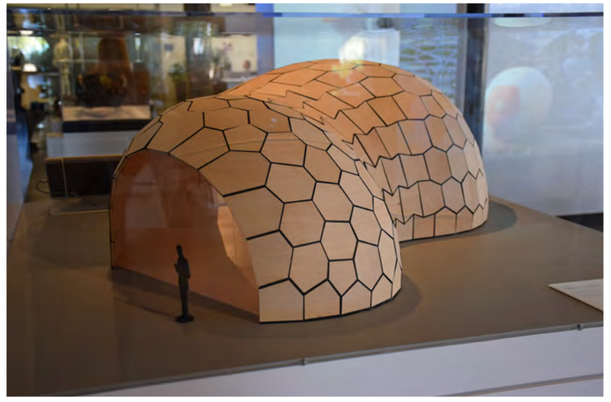


3D printed model of San Francisco on exhibit in the Autodesk Gallery

BACKGROUND

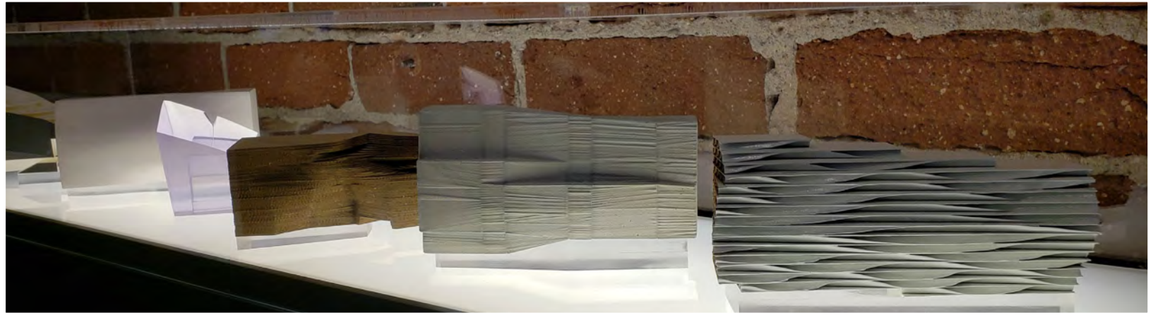
Primarily for customer briefings (but open to the public on Wednesdays), this showcase space for Autodesk production displays results from both digital and physical work.

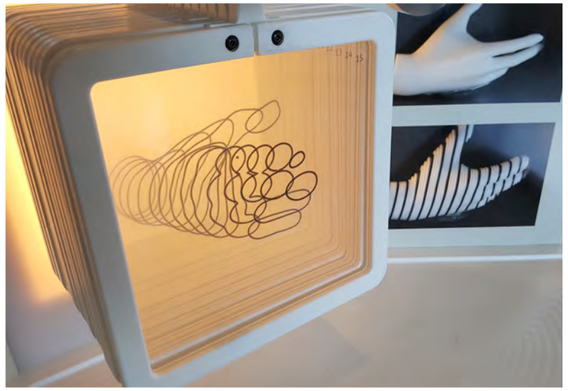
AUTODESK GALLERY.

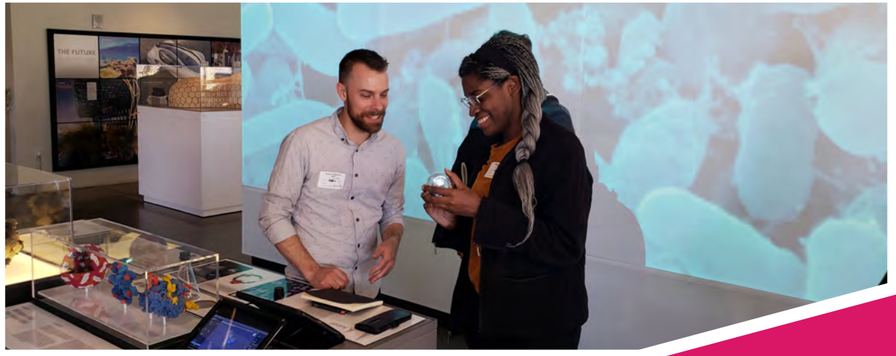


WHY

We wanted to see the product of the design research from the Autodesk facilities in Boston and Toronto, and explore what boundaries can be pushed.







TAKEAWAYS

We saw potential uses for different programs and methods of fabrication that GBBN has yet to explore. Our visit also closed the gap between seeing something online and experiencing it in person.

A company called Zahner helped de Young develop this copper skin

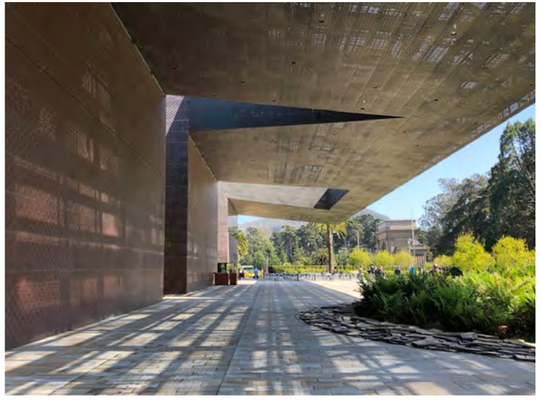
BACKGROUND

This Herzog & de Meuron design replaces the original 1894 Fine Arts Building and 1916 de Young museum expansion, which became damaged from the 1989 earthquake. Located in Golden Gate Park, the de Young Museum is sited along an edge of the 1894 Mid-Winter Exposition's Grand Concourse, and across from Renzo Piano's California Academy of Sciences building.

DE YOUNG MUSEUM.

"...I saw how it's comprised of interwoven strands of gallery space and within the strands are tendrils of park that work their way into the building."

–Ted Madden

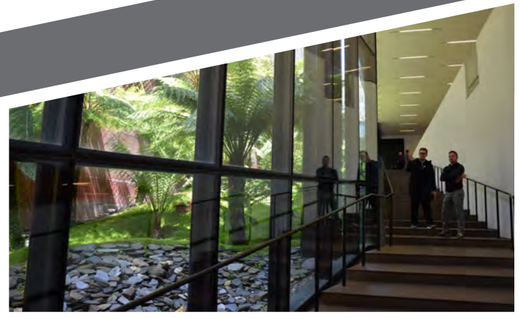


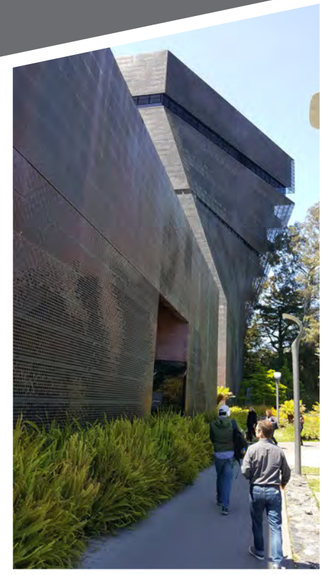
WHY

We wanted a deep dive into the exploitation of metal's inherent tendencies, and to see, up close, how the material was utilized in an extradorinary way. The digital design process for the project developed and managed 218,000 sf of embossed/perforated copper panels and nine different levels of surface texture.

TAKEAWAY

This project demonstrates the value of onboarding a digital fabricator early in the design process. By working closely with a fabricator like Zahner, Herzog & de Meuron could exploit the metal's inherent tendencies and use the material in new and exciting ways. A digital design process allowed for a more efficient design which transitioned digitally into the fabrication of 218,000 sf of embossed/ perforated copper panels.

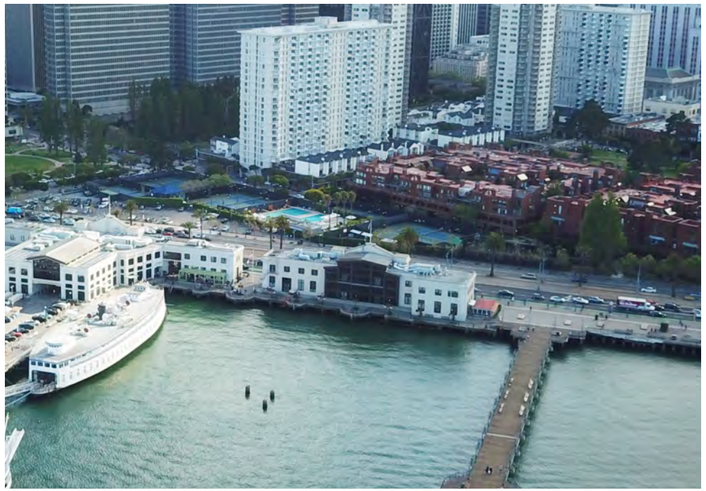




With specific focus on digital design and fabrication, getting to know fellow DXers from across different offices was even more valuable: By learning who in the firm has these skills, we can better leverage our collective knowledge by connecting eager learners and experienced mentors. DX18 kicked off development of our internal employee website, which now connects people to people across our four offices.

As we learned from Snøhetta's SF MOMA and Herzog & de Meuron's de Young Museum, having design savvy only gets you so far. We must constantly research, develop, and engage with the newest models of fabrication and design; we must strive to be pioneers.

PARTING SHOT



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