2021 DETROIT DESIGN JAM REPORT

Urban Manufacturing Alliance

JULY 2022

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THESE EVENTS ARE PRODUCED IN PARTNERSIP WITH:

Urban Manufacturing Alliance

design core DETROIT

College for Creative Studies

AND IS SPONSORED BY:

carhartt

Detroit Pistons

Foot Locker

StateFarm

BEST TOOL & ENGINEERING

AND IS PRESENTED BY:

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AND IS SUPPORTED BY:

Goldman Sachs 10,000 small businesses

THIS PROJECT WAS SUPPORTED IN PART BY THE NATIONAL ENDOWMENT FOR THE ARTS.

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INTRODUCTION

Manufacturing plays an enormous role in our country's safety, resilience, ability to innovate, and economic sustainability. Yet, over generations it has become regarded as insignificant in a regional economy, disconnected from design and innovation, as well as from communities. However, the COVID-19 pandemic brought a moment of awakening that manufacturing matters, and matters deeply, to our country. Now we have the opportunity to leverage this renewed need for and interest in manufacturing. This requires myriad activities, including new **federal policy** and cooperation between agencies; **addressing the negative stigma around manufacturing**; and removing silos between designers, makers, manufacturers, and decision makers. This report will focus on the latter issue.

The National Endowment for the Arts, in their *Valuing the Art of Industrial Design* report, identified that small- and medium-sized manufacturers (SMM) are generally unfamiliar with industrial design's value, but the few manufacturers that do partner with industrial designers see revenues increase and costs diminish[1]. The Urban Manufacturing Alliance's (UMA) *State of Urban Manufacturing*[2] research captured insights on a regional level which illustrate an interest from designers, makers, and small-batch manufacturers to connect to SMMs in their regions, but barriers to connecting limit potential business development. These two reports highlight the importance of helping designers and manufacturers connect to one another: increased awareness of product design, creative entrepreneurship, and manufacturing builds connections across communities and sectors, leading to more economic activity, and helps build a stronger, resilient local manufacturing ecosystem. UMA's Design Jam events do just that.

Design Jams are interactive events that unite designers, manufacturers, and community members, inviting them to explore new product designs, systems, and processes based on locally-available production

1 "Valuing the Art of Industrial Design: A Profile of the Sector and Its Importance to Manufacturing, Technology, and Innovation." August 2013. https://www.arts.gov/sites/default/files/Valuing-Industrial-Design.pdf

2 "The State of Urban Manufacturing, National Report." June 2019. https://www.urbanmfg.org/wp-content/uploads/2017/11/SUM-National-Report-Final.pdf

techniques. Together, they solve problems members in their communities face, all while inspiring greater collaboration within place-based manufacturing ecosystems and creating new supply-chain connections.

Jams establish a strategy for connecting designers, makers, and engineers to legacy manufacturers and policymakers, thus opening up new markets, new scalable businesses, new product concepts, and new relationships. The Design Jam intentionally goes beyond a simple introduction to unite groups who don't naturally work together — and who have preconceived notions of how the other operates — and offers a collaborative and supportive environment. UMA's intention is to foster the change necessary to bring disparate but reliant communities together — and it starts with getting disconnected people to spend more time talking to one another.

These events, at their core, are about building community and bringing unlikely partners together. This includes manufacturers interfacing with designers; students with industry; communities of color with manufacturers; economic development practitioners with designers — and everyone in between. The manufacturing sector historically was, and continues to be today, a key source of employment for the middle class and workers without a college degree, who make up approximately 65 percent of the workforce[3]. Increased opportunities combined with a more connected manufacturing ecosystem lead to a resilient, nimble, and equitable economy and engine for innovation. The net effect is more, better paying jobs with career paths for all communities. At UMA, we work to harness moments like these to connect communities to each other and to new opportunities in manufacturing, helping illuminate the power and promise the sector holds.

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3 "Almost two-thirds of people in the labor force do not have a college degree." March 2016. https://www.epi.org/publication/almost-two-thirds-of-people-in-the-labor-force-do-not-have-a-college-degree/

CONTENTS

2021 Design Jam Detroit

In September 2021, UMA, College of Creative Studies [Detroit, MI], and Design Core Detroit continued their Design Jam programming by adding inclusive design aspects to the innovation challenges inherent in all UMA Design Jams. This Jam was split into two parts. The first part was an Anti-Ableism and Inclusive Design Workshop led by Ani G Accessibility, “A consulting firm improving how we move throughout & interact with our environments as we age & live with disability,” and Ellie Schneider, former Director, Detroit City of Design, Design Core Detroit. The second part of the Design Jam brought together over 70 design students, creative professionals, makers, manufacturers, and event partners at the College of Creative Studies Fashion Design Program’s studio to collaborate on six design challenges. Final designs included backpack designs for people with limb loss, biking apparel for individuals with multiple sclerosis (MS), and boots for parapalegic snow skiers, among other design proposals.

Anti-Ableism and Promoting Inclusivity

Excerpt from Ani Grigorian's Anti-Ableism Workshop:

Disability is a natural part of the human experience that impacts all of us, regardless of other identities we hold. Our world is largely designed by non-disabled people, limiting flexible and accessible options that overlook our vast range of needs. This means we have to learn to approach design with a better understanding of the diverse experiences of disability and to be critical when designing for disability-centered accessibility.

First it is important to understand that ableism is a system of oppression valuing non-disabled people while actively harming disabled people that leads to discrimination and prejudice against disabled people. Ableism is reinforced by capitalism, in concert with additional systems of oppression – such as racism and classism – and is reinforced at personal, interpersonal, cultural, political, and institutional levels.

Accessibility is defined as: "Ability for a person to fully enter a space or use a product/service in the way that works best for them." Accessibility solutions can be both individualized and universal depending on the context and whether a space is public or private. Everyone has to contribute to creating accessible spaces. Because the majority of our environments were not built with accessibility in mind we have to go through an iterative process making improvements on an ongoing basis. Accessibility principles and practices have to be applied to services and products as much as they have to be applied to spaces.

Disability is not a bad word, do not shy away from using the term. To discuss disability you can either use identity first language (IFL) or person first language (PFL). Many disabled people prefer IFL because disability is not part of their identity that can be separate from other parts of themselves. The Autistic and D/deaf communities overwhelmingly prefer IFL. PFL came from people in proximity to disability, and many people feel that if we have to put "person" in front of the word "disability" to remind someone that a disabled person is a person it says more about the negative association society has with the word disability than the term itself. In general, remember that

disability is not bad, and language that compares or associates disability with something bad is ableist language and should be avoided.

Designers, and anyone making decisions about how products, spaces, and services are used must find ways to incorporate people with disabilities (PWD) into the design process. Engaging with PWD to collaborate on new solutions requires a willingness to create space for people to share intimate and traumatic details and to gain access and trust with the team. Living with a disability is often exhaustive – emotionally, physically, and mentally – and it is important to be aware of this when working together. It's important to also be aware of one's own bias going into the collaborative process. PWD are not inspirational for living their lives, they have the right to their autonomy, just like all people, and a disability is not something to overcome, to cure, or to fix.

Learn more about Ani Grigorian's work.

Excerpt from Ellie Schneider's Inclusive Design Presentation

In partnership with Connect313 and College of Creative Studies, Design Core's City of Design Challenge invites participants to develop community tech hubs to improve access and opportunity in Detroit neighborhoods. The following insights were gathered through engagement with a diverse group of Detroit citizens contributing insights about how to create an inclusive city for everyone.

Inclusive design is defined by Design Core Detroit (DCD) as: "A set of approaches that takes into consideration the spectrum of human diversity and the individual experiences of each person at every stage of the design process to create solutions which have a broader social impact." When you practice inclusive design, you expand your community, improve the experience of community members, innovate, and spend less time and money. Through a series of interviews and workshops DCD developed a set of guiding principles to incorporate inclusive design into any creative practice:

- Acknowledge the people and the work that came before you including our indebtedness to native and indigienous populations.
- Make sure you're asking the right question.
- Imagine what failure looks like.
- Spend some time looking inward.
- Understand how privilege and power show up in the design process.
- Good partnerships are built on trust, communication, and clarity.
- Establish shared values or community guidelines at the beginning.
- Diverse perspectives enrich the experience and improve the final outcome.
- It's not about avoiding conflict, it's about being conscious of how you respond to it.
- Conflict is inherent in collaborative work, but it can present opportunity.
- Be aware of the ways trauma can show up in the design process.
- Take an asset-based approach to how you view community.
- When it comes to working with communities, one size does not fit all.
- True change and transformation requires tackling systems of oppression at every level, from institutional to individual.
- Accountability can help sustain and build trust.
- When the story is told, make sure it's inclusive and authentic.

Learn more about Design Cores Detroit Inclusive Design Training Program.

Connecting Detroit's Manufacturing & Design History

Excerpt from the Urban Manufacturing Alliance's *State of Urban Manufacturing* City of Detroit Snapshot

Perhaps more than any other American city that rose to prominence in the 20th century, Detroit has manufacturing in its DNA. For three-quarters of the century it was the world's center of production for the automobile — the machine that largely defined 20th-century America of that era, and instigated shifts in global settlement patterns for at least 50 years. From the founding of Henry Ford's eponymous firm in 1903, Detroit became not just the automotive capital of the world, but also a veritable R&D lab for mass production, engineering, and factory worker training and education. In addition to the headquarters of the big automakers, thousands of industrial suppliers still dot the southeast Michigan region — a testament to the dense hinterland of this production capital even as much of automotive and other large-scale production has shifted to other parts of America and overseas.

Despite that decline, Detroit has seen an emergence over the past several years of a burgeoning sector of small-batch and designled production companies. This includes businesses like an internationally acclaimed denim apparel firm, a third-generation specialty metal fastener shop, and a variety of food and beverage producers. People comment on the hive of production activity occurring in Detroit today — and how much entrepreneurial spirit it is generating here and attracting from farther afield. Yet, this group of emerging entrepreneurs — and the various organizations and institutions that have sprung up to support them — is not particularly well understood. Their numbers are not apparent in the data collected by economic analysis agencies. And while they are often thought of as manufacturers, if smaller-scale ones, this does not always match these entrepreneurs' own assessment of themselves. Many start out thinking of themselves as artists, artisans, or designers. That's vitally important to understand because it may impact where these entrepreneurs go for assistance if they want to grow their businesses.

Indeed, our study shows that, despite Detroit's strong industrial heritage, infrastructure, and a recent stabilization of production employment in the region, the city's newer, smaller manufacturers face a variety of challenges to scaling. Business owners anxious to grow find it hard to hire aptly trained employees. There are millions of square feet of vacant industrial real estate in the region, but almost none of it is appropriate for small firms lacking capital to rehabilitate and subdivide those spaces. In fact, access to capital and appropriate space are two of the biggest challenges cited by the firms we surveyed and spoke to.

This is despite a collection of eager, motivated stakeholders — public and private alike—who have banded together in Detroit to help figure out what resources and services small-batch, design-led producers need access to in order to grow and thrive. The question for them is how Detroit can tune its industrial heritage and infrastructure to the needs of today's — and tomorrow's — manufacturers.

Read the full UMA SUM City of Detroit Snapshot.

Bringing People Together

Design Jams bring designers (professionals and students) and manufacturers closer together to benefit supply chains, increase prototyping speeds, and spur new partnerships that could lead to economic growth for designers and manufacturers. Design Jams also expose local creative and production economies to local service providers, industry, and academic institutions.

With the right relationship development, strategy, and awareness, we can build new models of collaborative innovation in the manufacturing ecosystem, and bring together diverse parts of the ecosystem, thus increasing innovation. By opening up definitions of what it means to manufacture, by providing places for all stakeholders to have a place to speak, and by supporting co-learning about complex systems, inclusivity, and sustainability, we see new

attitudes, new connections, and new solutions to complex issues. UMA's Design Jams focus on:

- **Educating people.** We invite people to look into manufacturing facilities and witness the product development process so they can learn about its potential.
- **Creating linkages.** We show how different stakeholders and organizations are tied together and impact one another.
- **Engaging untapped innovation.** We open up the innovation process to all populations by doing work in a collaborative, inclusive space.

The Design Jam model creates a participatory process by bringing in diverse practitioners and voices. Design Jams shift product innovation, which typically happens behind a few closed doors, to a collective and open space. Our process leverages the belief that more hands, eyes, and ideas lead to more understanding and insight.

UMA's goal is to elevate the power of manufacturing within communities. Increasing the value of manufacturing spurs dependable, stable economies; and it creates jobs for people who are cut off from equity-generating career paths. We need to ensure manufacturing remains a valued economic development strategy, which requires increasing the connections into and between the world of manufacturing, design, and policymaking.

Outcomes

The Design Jam event brings together many different elements of the design and manufacturing ecosystem. This creates a variety of diverse outcomes, some of which are easy to measure, and others of which are not; some result in immediate opportunities and others take time to develop.

By interviewing participants, UMA has captured some of these outcomes. As more events take place in other cities, and new events in Detroit build on these early experiences, UMA will continue to track, reflect, and learn from short- and long-term outcomes.

Designers and manufacturers experienced first hand that inclusive collaborations can lead to business transactions and can help alleviate existing social inequities.

With the additional focus on adaptive apparel, inclusive design, and anti-ableism, the 2021 Detroit Design Jam illustrated that the combined efforts of design and manufacturing can lead to more than just a financial impact. The Detroit Design Jam was able to model a new approach showcasing what happens when we bring together those with the tools and insights about how things are made with those that have challenges outside their control.

All participants learned the importance of networking with individuals and organizations outside their sector.

In our follow up interviews, all participants identified the connections they made at the Jam as an important and valuable outcome. Design students were able to meet professionals and at least one student was able to secure an internship. Product developers and prototypers had three new projects develop from new connections made at the Jam. Two sponsors, who had not been connected prior to the Jam, are working on a speaker and event series together.

Established professionals benefitted from connecting to the next generation of designers and makers.

Several design professionals, in product design and fashion design, left the Jam with new inspiration after working with design students. It can be easy for designers to fall into repeating the same design processes and research methods, and utilizing the same manufacturing processes over the course of their design careers. By working with students, professionals have a chance to learn what is new in design, about more cutting edge practices, and see their career through new eyes.

Everyone gained new awareness of the challenges people with disabilities face everyday.

The way products are designed play a massive role in whether or not a product is accessible by everyone. Most designers and their collaborators are often not aware of their bias and how the decisions they make in the design process impact who can and cannot utilize their final products. Events like the Design Jam are a valuable way to help people understand negative impacts of poorly designed products and spaces on people with disabilities while also providing training and insights on how to integrate new thinking into the design process.

Design students practiced what they have learned in the classroom in a non-academic setting.

Design students in business, product design, and fashion design are not always able to practice what they are learning in a setting outside of the classroom. Several students, from varying schools and programs, shared how much they enjoyed being able to bring their skill set into a new context. They were excited by the chance to transform their capabilities into designs and prototypes for an immediate audience. Students also left the Jam inspired to take new skills back to the classroom, including talking to more experts, working with representatives from their target customer group, and learning how to talk to manufacturers to better understand opportunities and limitations.

Business development leaders saw first hand how valuable it is to have supply chain partners working closely together.

In an exit interview with a member of Detroit's business development community, it was shared how important it is to have many businesses interacting quickly and collaboratively in the Design Jam process. The participant shared a vision of what it would be like if fashion designers, technical designers, material suppliers, and contract manufacturers all occupied the same business district. This vision is supported by many others, including UMA, and opens the question: What does it take to extend the Design Jam experience beyond one day and into a year-long strategy for product and business development?

Ongoing Activities

The 2021 Detroit Design Jam reinforced our belief that community resilience and increased accessibility occurs when you have deeply connected stakeholders working together in a regional ecosystem. This Jam built on previous successes, increasing the number of interactions between manufacturers, designers, decision-makers, and citizens responding to short- and long-term personal and community challenges in one event. Like previous Jams, this year we created open lines of communication so that when new opportunities to connect and contribute appear, individual organizations can find ways to work together outside the Jam.

The success of the Jam can be seen by ongoing activities that were not defined by the lead partners:

- 2021 Design Jam sponsors and participants have reached out to event leaders to offer partnership and new opportunities in a 2022 Design Jam. This has led to an increased number of design and entrepreneurship college and university programs signed up to participate in 2022 as well as increased resource investment in both in-kind and financial support.

- A College for Creative Studies design student, Sydney Kendrick, is currently (as of February 2022) completing an independent study with an industrial design professor, Stephen Schock, to develop an adaptive shoe for people with limited leg mobility in wheelchairs. The project is responding to challenges of putting on, taking off, and wearing shoes while in a wheelchair. Some of these issues include: a small opening for the foot, difficult to use closures, and limited hand grips. After incorporating field research and user feedback, Sydney has proposed a new design that is aesthetically pleasing and functional for wearers. The design is able to be manufactured by Pingree Detroit, one of the 2021 manufacturing partners.

History of Design Jams

In 2018 the Urban Manufacturing Alliance completed the *State of Urban Manufacturing* (SUM) report. The SUM report looked at six cities across the U.S. to identify trends, challenges, and opportunities to better support manufacturers. In each city, UMA brought together makers and manufacturers and their supporters to contribute to group discussions and online surveys. One of the issues cited in all cities was the disconnect between design and contract manufacturing and the need for these business segments to connect in order for businesses to scale.

UMA's SUM research, combined with insights from the National Endowment for the Arts' *Industrial Design: A Competitive Edge for U.S. Manufacturing Success in the Global Economy* report, inspired a collaboration with DesignHouse, a Chicago-based nonprofit, to launch UMA's Design Jam program. Design Jams, as described by the NEA report, are:

> "... a unique type of networking and innovation activity being staged in cities across the country. Design Jams are initiated by identifying local manufacturer's capabilities and facilities, then engaging teams of local designers, students, and entrepreneurs. The manufacturer's facilities are highlighted for the entrepreneurs and the manufacturers are exposed to possible new products.
>
> At the Jams, the attendees come up with potential products that could be produced on the manufacturer's existing machinery. This inspires local manufacturing innovation in those involved in product and process development. Through the hands-on experience of the Jams, manufacturers learn how industrial designers work and designers, students, and entrepreneurs seeking to generate their own products benefit by learning how to work with a manufacturer."

In our short history, the Design Jam program has brought together over 200 professional and student designers, makers, and manufacturers to innovate new product ideas in metal fabrication, textiles, COVID PPE, and adaptive apparel, leveraging manufacturing capabilities in Cincinnati, New York City, and Detroit.

2019 Cincinnati Design Jam

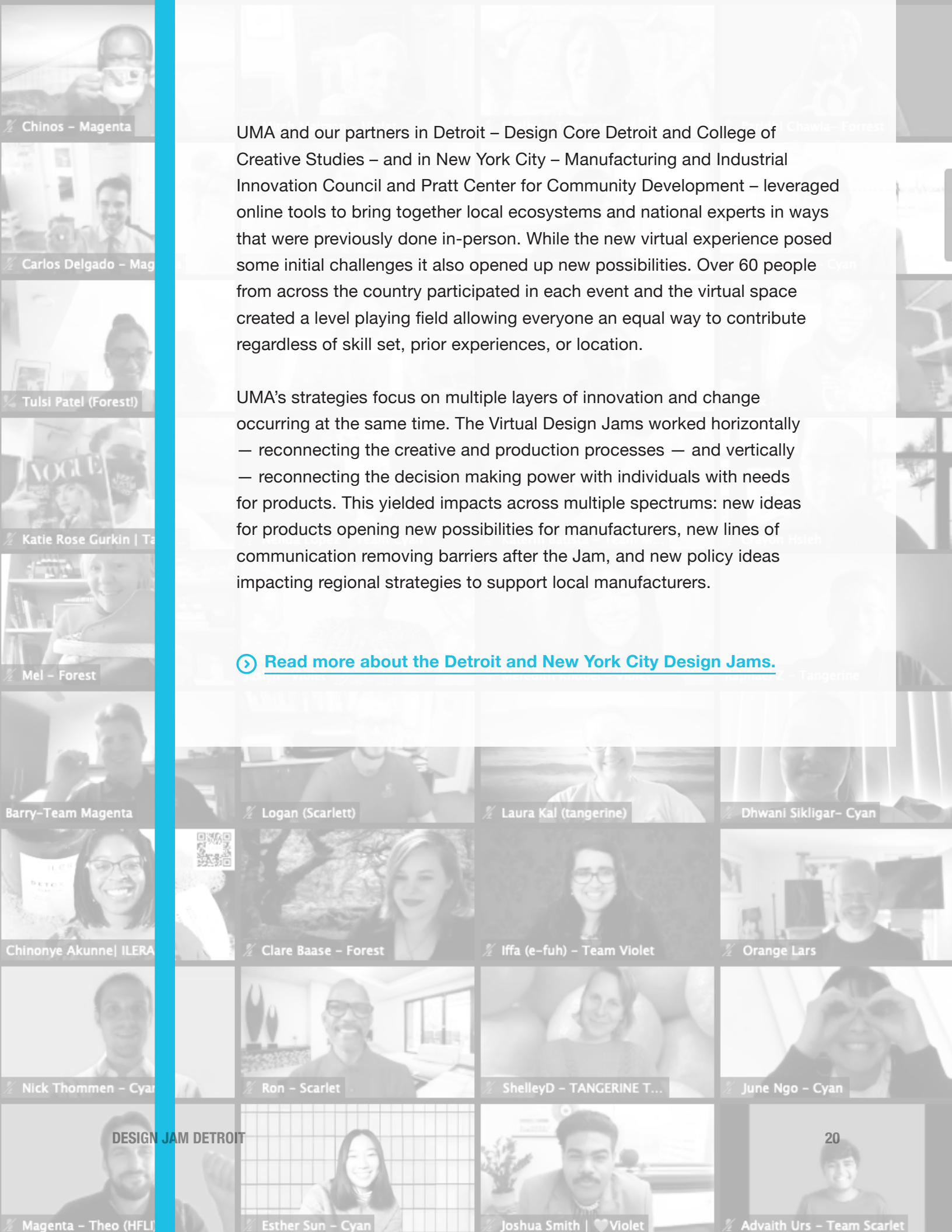
The Urban Manufacturing Alliance hosted our first-ever Design Jam event in the historic manufacturing city of Cincinnati. Cincinnati is an epicenter of design and manufacturing activity. The University of Cincinnati has one of the most celebrated design programs in the nation, and major manufacturers like Procter & Gamble have called the city home since the 1800s.

Around 50 professional and student industrial designers, makers, entrepreneurs, and the people and organizations that support them came together to collaborate with manufacturers to respond to design challenges. Cincinnati Design Jam was limited to one evening, but participants say impact from the event is still resonating today. It catalyzed connections between design and manufacturing experts and beginners that have bloomed into meaningful partnerships.

Read about the Cincinnati Design Jam.

2020 Virtual Design Jams: Detroit & New York City

The COVID-19 pandemic brought to light the large role manufacturing plays in our country's safety, resilience, ability to innovate, and economic sustainability. This new awareness helped solidify the importance of the 2020 Virtual Design Jam events and also created opportunities to elevate the events to not only bring communities together, but to also propose solutions for personal protective equipment (PPE) and innovate on new strategies to deliver services in ways that met safety guidelines.



UMA and our partners in Detroit – Design Core Detroit and College of Creative Studies – and in New York City – Manufacturing and Industrial Innovation Council and Pratt Center for Community Development – leveraged online tools to bring together local ecosystems and national experts in ways that were previously done in-person. While the new virtual experience posed some initial challenges it also opened up new possibilities. Over 60 people from across the country participated in each event and the virtual space created a level playing field allowing everyone an equal way to contribute regardless of skill set, prior experiences, or location.

UMA's strategies focus on multiple layers of innovation and change occurring at the same time. The Virtual Design Jams worked horizontally — reconnecting the creative and production processes — and vertically — reconnecting the decision making power with individuals with needs for products. This yielded impacts across multiple spectrums: new ideas for products opening new possibilities for manufacturers, new lines of communication removing barriers after the Jam, and new policy ideas impacting regional strategies to support local manufacturers.

Read more about the Detroit and New York City Design Jams.

APPENDIX:

Lead Partners

Urban Manufacturing Alliance

The Urban Manufacturing Alliance (UMA) is a national coalition of manufacturing practitioners working together to grow more equitable and prosperous economies in cities by building robust, environmentally sustainable, and inclusive urban manufacturing sectors. As an organization, UMA advances place-based strategies that create more equitable communities by building wealth through employment, ownership, and entrepreneurship, connects and convenes 900+ members across 250+ cities, helping them learn from one another, and acts as a collaborative ecosystem builder that builds up local manufacturing communities and a national movement.

UMA's network, collaborations, and research positions us as leaders in ecosystem development, resource mapping, and policy recommendations for community-based industry and manufacturing. UMA offers collaborative capacity building to bring this know how and passion for regional manufacturing ecosystems to local partners and leaders.

Design Core Detroit

Design Core Detroit champions design-driven businesses and their role in strengthening Detroit's economy. It offers services to strengthen, grow, and attract design businesses, increase market demand for design services, and tells Detroit's design story locally and globally. Design Core is a department within the College for Creative Studies. Since forming in 2010, Design Core has assisted in the efforts that have led to over 3,000 new jobs in Detroit. They serve design-driven industries that specialize in design or utilize design as a central discipline of their business strategy.

The organization has become the central hub for Detroit's design community through its events that attract more than 30,000 people annually. And, in 2015, it successfully applied for Detroit's UNESCO City of Design designation, becoming the first U.S. city to receive it. As the steward of Detroit's UNESCO City of Design designation, Design Core serves as the convener and backbone organization for the Detroit City of Design initiative.

College for Creative Studies

The College for Creative Studies (CCS) is a nonprofit, private college authorized by the Michigan Education Department to grant Bachelor's and Master's degrees. CCS, located in midtown Detroit, strives to provide students with the tools needed for successful careers in the dynamic and growing creative industries. CCS fosters students' resolve to pursue excellence, act ethically, engage their responsibilities as citizens, and learn throughout their lives. With world-class faculty and unsurpassed facilities, students learn to be visual communicators who actively use art and design toward the betterment of society. The College is a major supplier of talent to numerous industries, such as transportation, film and animation, advertising and communications, consumer electronics, athletic apparel, and many more. Its graduates are exhibiting artists and teachers, design problem solvers and innovators, as well as creative leaders in business.

Founded in 1906 as the Detroit Society of Arts and Crafts, CCS plays a key role in Detroit's cultural and educational communities. A private, fully accredited college, CCS enrolls more than 1,400 students, pursuing Master of Fine Arts and Master of Arts degrees in Art Education, Color and Materials Design, Design for Climate Action, Motion Design, Transportation Design and User Experience Design and Bachelor of Fine Arts degrees in Advertising Design, Art Education, Art Practice, Communication Design, Craft and Material Studies, Entertainment Arts, Fashion Design, Film, Illustration, Interior Design, Interdisciplinary Art & Design, Photography, Product Design, and Transportation Design. The College also offers free art education for more than 4,000 Detroit youth annually through its Community Arts Partnerships program. In addition, the College's University Prep: Art & Design is a public charter middle and high school enrolling more than 800 students in a high-performance academic curriculum with a special focus on art and design.

Manufacturing Partners

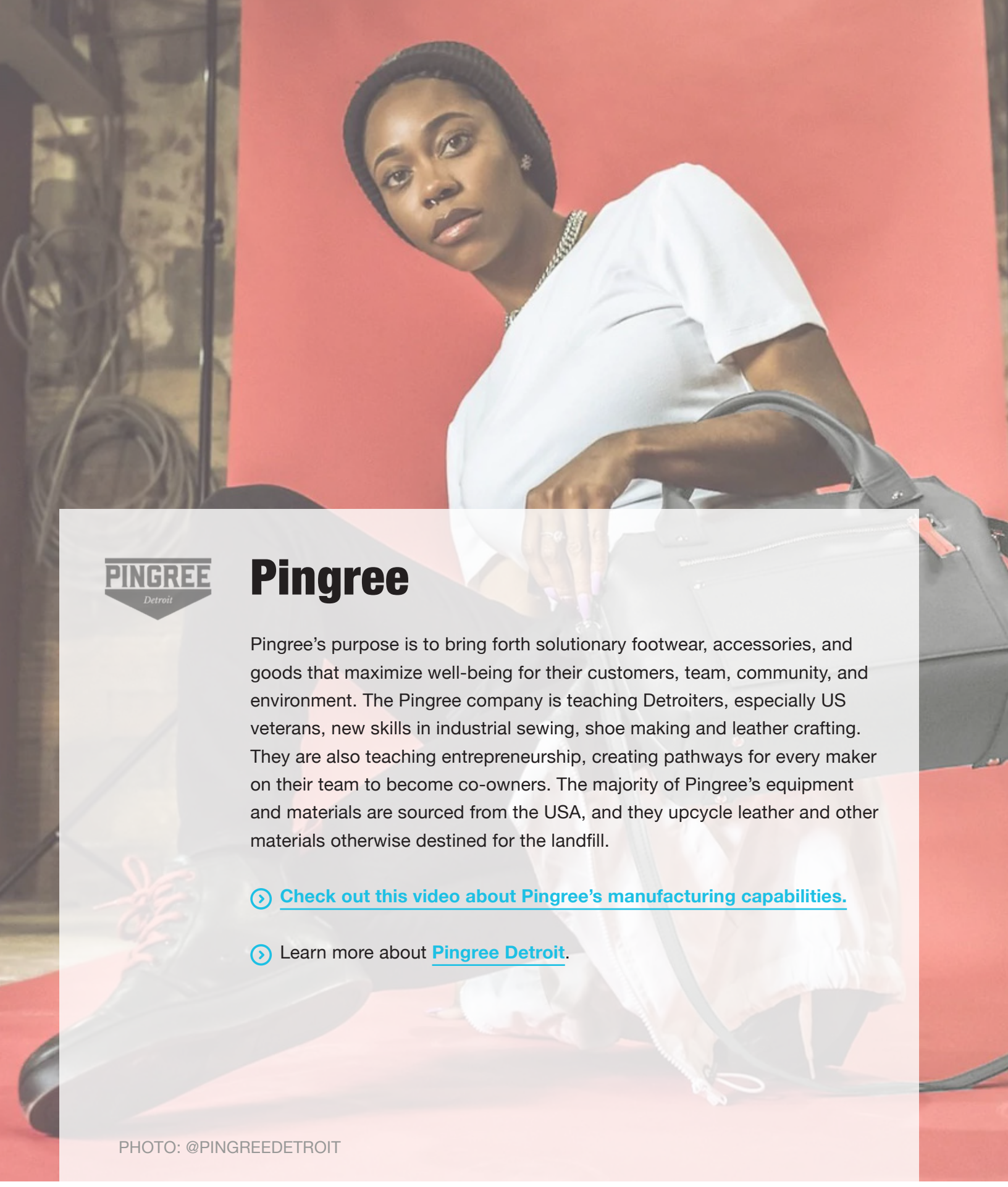
ISAIC

ISAIC, the Industrial Sewing and Innovation Center, is dedicated to creating a better industry that empowers people with the opportunity to relentlessly pursue innovation for better lives. ISAIC is a fundamentally new approach to talent force development and economic stimulus. A Detroit-based 501c3 nonprofit, ISAIC is a national resource for those committed to positive impact through responsible production of high-quality garments and provides solutions centered around people, education, advanced manufacturing, and upward mobility for workers. ISAIC's proprietary training curriculum is being used in multiple states across the country. Its learning and contract manufacturing factory is located in midtown Detroit, above Carhartt's flagship store.

Check out this video about ISAIC's manufacturing capabilities.

Learn more about **ISAIC**.

PHOTO: ISAIC, INDUSTRIAL SEWING AND INNOVATION CENTER



Pingree

Pingree's purpose is to bring forth solutionary footwear, accessories, and goods that maximize well-being for their customers, team, community, and environment. The Pingree company is teaching Detroiters, especially US veterans, new skills in industrial sewing, shoe making and leather crafting. They are also teaching entrepreneurship, creating pathways for every maker on their team to become co-owners. The majority of Pingree's equipment and materials are sourced from the USA, and they upcycle leather and other materials otherwise destined for the landfill.

Check out this video about Pingree's manufacturing capabilities.

Learn more about **Pingree Detroit**.

PHOTO: @PINGREEDETROIT

Anew Life Prosthetics and Orthotics

Anew Life Prosthetics and Orthotics, LLC is a destination prosthetic and orthotic practice located in the New Center area of Detroit, Michigan. Their historic Albert Khan building has American with Disabilities Act (ADA) accessibility and compliance. They are a full-service provider from head to toe, pediatric to geriatric, underhoused to CEO's, Veterans to hospice. They also provide home and clinic visits for people unable to travel to our office and fabrication laboratory.

Anew Life Prosthetics and Orthotics has an 1800 square foot well-equipped lab that includes from industry standard blacksmith's anvil for hand peening copper and steel rivets to digital scanning technology with computer aided design and manufacturing ability. The benefits to onsite fabrication are short build times, controlled quality control, and speedy repairs.

Learn more about **Anew Life Prosthetics and Orthotics**.

PHOTO: ANEW LIFE

Participant Statistics

ATTENDEES

63 total participants*

57 Anti-Ableism and Inclusion Virtual Workshop

57 Design Jam In-person Event

(not including Lead Partners, Manufacturing Partners, and Presenters)
Not everyone who attended the virtual workshop attended the in-person event and vice versa.

Participants were required to register for participation in the Design Jam. At the time of registration individuals were asked: Which of the following describes your role? Participants could choose as many of the following roles as they wanted:

- Business coach or professional service provider
- Design student
- Faculty / Staff
- Maker / Entrepreneur
- Manufacturer
- Professional designers (industrial, product, graphic, fashion, etc…)
- Other

Also at registration individuals were asked to provide their racial identity, pronouns, and whether or not they were a member of the limb loss community. Participants were allowed to skip these questions if they chose. The responses to these three questions were used to create teams with diverse professional and personal experiences. Based on this self identification process the following represents the make-up of the participants.

PROFESSIONAL IDENTITY

31 **Design Students from 3 Colleges & Universities**

- College of Creative Studies
- Western Michigan University
- Wayne State University

20 **Maker/Entrepreneur and/or Manufacturers**

17 **Design Professionals**

DISABILITY IDENTITY

3 **Members of the Limb Loss Community**

PRONOUN IDENTIFICATION

39 **She/Her/Hers**

19 **He/Him/His**

2 **They/Them/Theirs**

3 **Prefer not to say**

RACIAL IDENTITY

13	African American / Black
2	African American / Black / Latinx / Hispanic / Indigenous
6	Asian American / Asia
2	Asian American / Asian / Other
1	Asian American / Asian / Caucasian
1	Asian American / Asian / Pacific Islander / Caucasian / Latinx / Hispanic
31	Caucasian
2	Latinx / Hispanic
1	Latinx / Hispanic / Other
2	Other
3	Prefer not to say

Event Structure

The 2021 Detroit Design Jam was divided into two sessions, one that included an introduction to inclusive design and anti-ableism as well as initial team building exercises and the second that was an in-person collaborative design charrette.

Friday, September 10, 2021
Virtual Gathering

- Welcome and Warm Up
- Ableism Workshop - Ani Grigorian, MSW - Ani G Accessibility
- Inclusive Design Presentation - Ellie Schneider, Director of Detroit City of Design - Design Core Detroit
- The Challenge: Manufacturing Constraints
- Team Breakouts: Introductions and Team Building
- Thank Yous

Saturday, September 11, 2021
In-person Jam hosted by College of Creative Studies Fashion Design Program

- Introductions to Manufacturing Partners and Design Challenges
- First Activity - Big Thinking Pushing Ideas
- Second Activity - Narrow Down Thinking + Developing
- Third Activity - Prototyping
- Pitches, Votes, and Awards
- Wrap Up + Thank Yous

Customer Personas

Each team of participants, which consisted of design students and professionals, makers, manufacturers, and creatives, was assigned a persona that provided insights into a user experience and a design challenge. The challenge acted as a set of parameters to both focus the team's product explorations but also open up creative problem solving possibilities around a small set of functional, technical, and aesthetic needs. The personas were created by Emily Taylor, the lead industrial designer on the UMA team.

Meet Jenna

ABOUT

Jenna is a financial manager who loves to run on the weekends. She recently started training for a half-marathon after 5 years with her prosthetic leg.

APPAREL FRUSTRATIONS

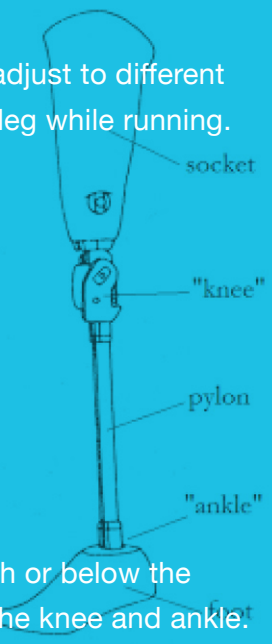
Most active wear flops around or rides up on her leg while running. It doesn't fit tightly where she needs it too.

APPAREL WISH

"I wish more stylish active clothing could be easily altered to fit my leg - and stay there while running!"

YOUR TEAM CHALLENGE

Design a pair of women's athletic pants that can adjust to different lengths of prosthetics and doesn't ride up on the leg while running.



MORE INFO

Prosthetic legs can range from starting at the thigh or below the knee. Various structures allow the leg to pivot at the knee and ankle.

A standard athletic pant is tailored to a human leg shape, becoming loose around the varying sizes of a prosthetic. The act of running stretches and pulls on the fabric, making it harder for the pant to stay in place.

Meet Michael

ABOUT

Michael loves hiking the numerous mountainous trails near where he lives in Colorado. It's an exciting activity that isn't limited by his shoulder disarticulation.

APPAREL FRUSTRATIONS

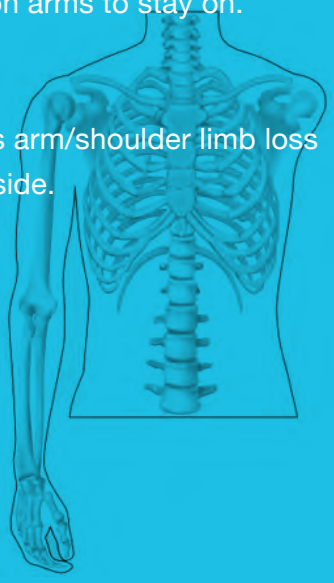
One frustration he does have is that backpacks don't stay in place over long hikes, requiring constant adjustment.

APPAREL WISH

"I'd love a backpack that isn't so reliant on arms to stay on."

YOUR TEAM CHALLENGE

Design a backpack that adapts to various arm/shoulder limb loss and makes it easy to access the items inside.



MORE INFO

Shoulder disarticulation is the separation of the entire arm from the should joint.

Given the way backpacks rely on the shoulder/arm area to hold the straps, a shoulder disarticulation can prevent a strap from staying in place or swinging the backpack around to access the contents.

Meet Tonia

ABOUT

As an active 14 year old, Tonia loves many sports – tennis, volleyball, soccer. She doesn't let her below the elbow arm prosthetic hold her back.

APPAREL FRUSTRATIONS

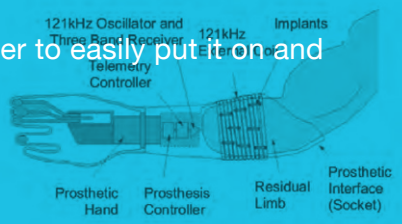
Her prosthetic arm makes it difficult to get into fitted jackets and the limited movement range make pockets hard to get to.

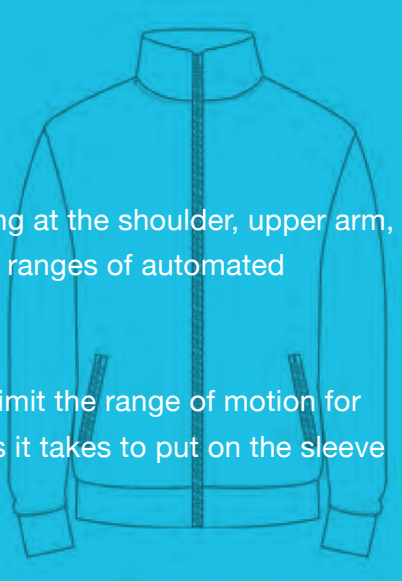
APPAREL WISH

"I need cool looking jacket that fits over my arm and helps me get to my keys, phone, and cards."

YOUR TEAM CHALLENGE

Design an athletic jacket that allows her to easily put it on and access the pockets.





MORE INFO

Prosthetic arms can range from starting at the shoulder, upper arm, or after the elbow and include varying ranges of automated movement.

In each case, the prosthetic arm can limit the range of motion for making the more complex movements it takes to put on the sleeve of a jacket or shirt.

Meet Dylan

ABOUT

Dylan, 17, is about to graduate high school and plays on her school's basketball team. Her prosthetic leg hasn't kept her back but it does make getting ready for the game more difficult.

APPAREL FRUSTRATIONS

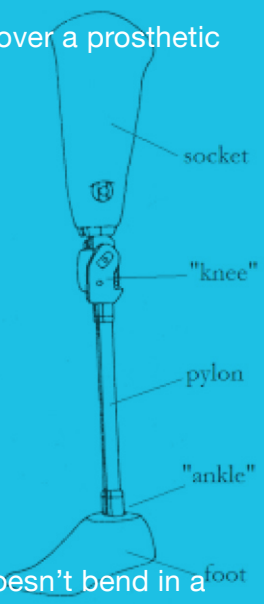
It is hard to quickly fit her gym shoes over her prosthetic foot.

APPAREL WISH

"Can someone make shoes that can fit my feet and don't look like orthopedics!"

YOUR TEAM CHALLENGE

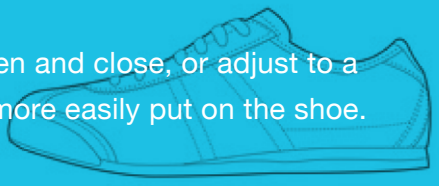
Design a pair of athletic shoes that can easily fit over a prosthetic foot.



MORE INFO

A prosthetic foot, as part of the prosthetic leg, doesn't bend in a way that a human foot does, making it difficult to slide into a standard athletic shoe.

Finding ways a shoe can stretch, open and close, or adjust to a prosthetic foot can help the person more easily put on the shoe.



Meet Tommy

ABOUT

Tommy loves riding on multi-day cycling trips and his multiple sclerosis has him favoring riding on his recumbent bike.

APPAREL FRUSTRATIONS

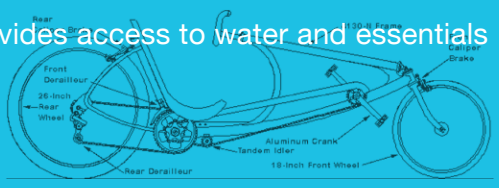
Cycling jerseys aren't made for recumbent bike, with storage pockets on the back, making it hard to access essential items.

APPAREL WISH

"I'd love a cycling jersey that I can easily access my sports water bottle while riding and has storage for basics, like my wallet and keys."

YOUR TEAM CHALLENGE

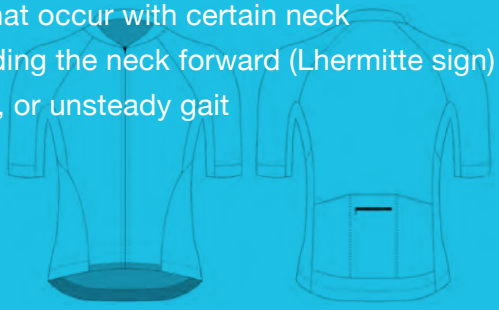
Design a cycling jersey that provides access to water and essentials for a recumbent bike.



MORE INFO

Multiple Sclerosis (MS) is apotentially disabling disease of the brain and spinal cord (central nervous system). Symptoms often affect movement, such as:

- Numbness or weakness in one or more limbs that typically occurs on one side of your body at a time, or your legs and trunk
- Electric-shock sensations that occur with certain neck movements, especially bending the neck forward (Lhermitte sign)
- Tremor, lack of coordination, or unsteady gait



Meet Clara

ABOUT

Clara loves to ski using adaptive gear that lets her ski in a sitting position due to her paraplegia. She has been training for 6 years and hopes to run her course goal this year.

APPAREL FRUSTRATIONS

With little motion capability below her waist, Clara can't use her legs to push her feet down into her socks and boots.

APPAREL WISH

"I'd love to have warm performance boots that can magically connect around my feet!"

YOUR TEAM CHALLENGE

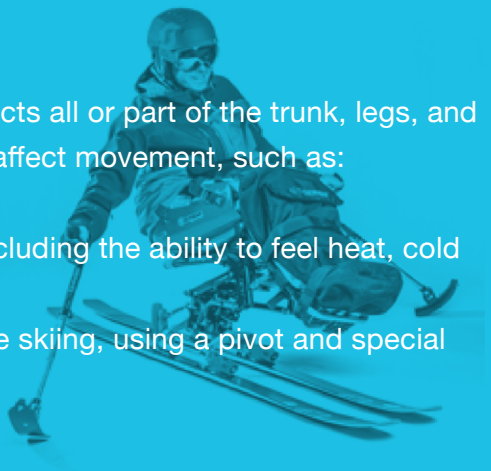
Design a pair of snow boots that can be put on by a user with limited leg/foot movement.

MORE INFO

Paraplegia is aparalysis that affects all or part of the trunk, legs, and pelvic organs. Symptoms often affect movement, such as:

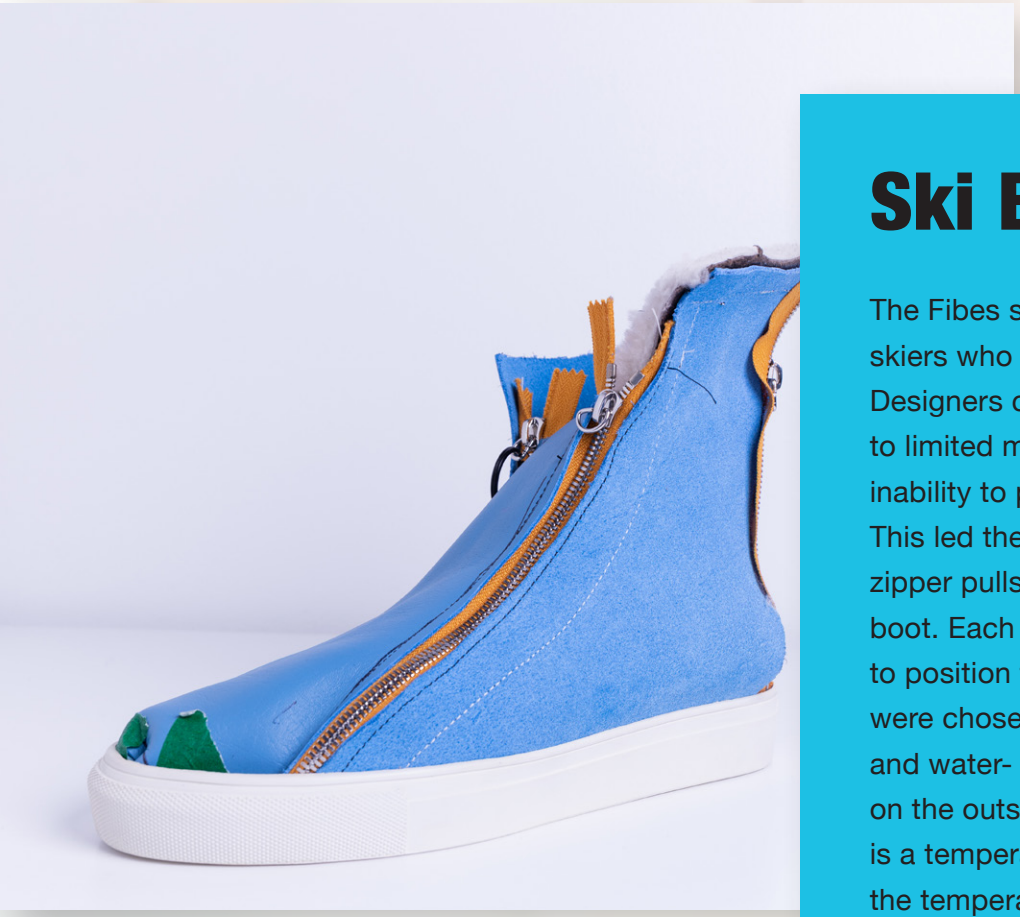
- Loss of movement
- Loss or altered sensation, including the ability to feel heat, cold and touch

A bi-ski allows a skier to sit while skiing, using a pivot and special poles to balance.



Design Proposals

After the full day of collaboration, brainstorming, refinement, and prototyping, all participants gathered to share their design proposals and celebrate the work. Each participant was given a chance to vote for their favorite designs. The two designs that garnered the most votes were a backpack designed for outdoor enthusiasts who have shoulder disarticulation, which is the separation of the entire arm from the shoulder joint, and snow boots for skiers who are paraplegic, the paralysis of all or part of the trunk, legs, and pelvic organs.



Ski Boots

The Fibes ski boot was designed for paraplegic skiers who love to ski for as long as possible. Designers created the new boots to respond to limited motion and mobility, especially the inability to push one's feet down into a boot. This led the team to use zippers, with large zipper pulls, in the front and the back of the boot. Each boot opens flat allowing the wearer to position their foot then zip it up. The materials were chosen to provide warmth on the inside and water- and weather-proofness and durability on the outside. Another important feature is a temperature indicator to communicate the temperature inside the boot. Parapalegic individuals, along with limited mobility, have limited ability to perceive temperatures on their affected limbs. The temperature indicator provides awareness to the wearer helping prevent hypothermia and other risks that can cause bodily harm.

Back Pack

A new backpack innovation was developed to make it easier for outdoor enthusiasts who love backpacking and have shoulder disarticulation. The vast majority of backpacks on the market require the user to have two arms and two hands to function properly. For individuals missing an arm from the shoulder down, these backpacks slide off, create a weight imbalance, and make it difficult to carry the necessary items to enjoy long hikes. The design team responded by creating a design that stays centered on the body regardless of one's arms and can easily be opened with only one hand.

Urban Manufacturing Alliance

To learn more about Design Jams

VISIT www.urbanmfg.org/events/design-jam-cincinnati/

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