College of Design Research Poster Session
Wednesday, February 8, 2017
Rapson Courtyard

Research Summaries

First Name	Last Name	Briefly describe the research you will be presenting. Include the names of any others who may have worked on the project with you.
William	Angell	A poster and a handout describe how the Midwest Universities Radon Consortium (MURC) reduces lung cancer deaths caused by elevated indoor Radon exposure. Indoor Radon causes about 25,000 lung cancer deaths per year. MURC trains professionals to lower indoor radon exposure and thereby reduces lung cancer. Annually, MURC directly trains about 700 professionals through 50 courses in 14 cities and 9 states. MURC also partners with Kansas State University, Rutgers University, and the University of Colorado for additional training delivery. MURC is jointly administered by the College of Design's Department of Design, Housing and Apparel and the University of Minnesota Extension.
Abimbola	Asojo	A Post-Occupancy Evaluation of Occupants satisfaction: A Case Study of Indoor Environmental Quality in Classroom Buildings. Authors: Abimbola Asojo,PhD, Denise Guerin, PhD, Caren Martin, PhD & Suyeon Bae, MS Post-occupancy evaluations (POEs) have been used to study user satisfaction with the built environment. POEs have been recognized for documenting occupants' well-being and responses to indoor environmental quality (IEQ) factors such as thermal, lighting, and acoustic conditions. Sustainable post-occupancy evaluation survey (SPOES) developed by a Midwest University interdisciplinary team provides an evidence-based quantitative analysis of occupants' satisfaction to help direct attention to successful areas and areas that need improvement in buildings. The SPOES questionnaire has several IEQ categories which impact occupant health and well-being. The categories include acoustic conditions, appearance, cleaning and maintenance, daylighting conditions, electric lighting conditions, furnishings, indoor air quality, technology, thermal conditions, vibration and movement, and view conditions. SPOES questionnaire has been tested in office, laboratories, classroom and training center buildings. The authors present a comparison of IEQs in four classroom buildings to highlight their impact on occupants' health and well-being.
Mary Ellen	Berglund	The research for this project involves developing an unobtrusive elastomer-sensor composite for on-body dynamic pressure measurement. Sensing pressure on the body is useful for a variety of applications, particularly in the aerospace field. The successful manufacturing of an elastomer-sensor to be worn on-body could further improve sensing capabilities as well as the health and comfort of the user. This project has the graduate students Esther Foo and Mary Ellen Berglund currently working on it.
Kathleen	Bond	As part of the College of Design's Consortium for Research Practices, research was conducted in conjunction with BWBR at a special education school (Karner Blue Education Center) in order to determine the impact of unique design features on students with autism spectrum disorder (ASD), emotional behavioral disorder (EBD), and other developmental disorders. The efficacy of design features aiding the students in the curriculum component of self-regulation was studied through observation as well as online interviews with staff of this unique type of school--a healing learning environment. The research was conducted with assistance from Renee Cheng (U of M), John Comazzi (U of M), and Stef Trzpuc (BWBR).

First Name	Last Name	Briefly describe the research you will be presenting. Include the names of any others who may have worked on the project with you.
Robin	Carufel	I will be presenting the research from my master's thesis project: One Size Fits All? An Exploratory Study of the Body-Garment Relationship for a Sheath Dress. The research focused on understanding the body-form variations for a sample of women (all the same size) and how these variations may impact the development of a body-form based pattern block system for the apparel industry.
Sauman (Sue)	Chu	Kidney transplantation confers significant survival, quality of life, and cost benefits over dialysis in patients with end stage kidney disease (ESKD), but of the nearly 84,000 patients on the list for transplant in 2011, more than 5,000 patients died prior to transplant and an additional 1,900 were removed from the list due to deteriorating medical condition. While it is unknown how often clinicians counseling potential kidney transplant recipients discuss prognosis, patients with ESKD on dialysis significantly overestimate their own likelihood of survival and candidacy for kidney transplantation. In addition, those with the highest estimate of their own survival are more likely to report a preference for intensive life-prolonging therapies, suggesting that perception of prognosis may change clinical decision-making. A risk calculator was created for death, removal from the waiting list, and transplantation using data from the Scientific Registry of Transplant Recipients (SRTR). The central aim of this project is to study whether use of a patient interactive decision aid incorporating a risk calculator improves the accuracy of transplant candidates' expectations about survival and likelihood of transplantation, enhances their ability to participate in decisions about transplantation, and alters candidates' decisions about whether to proceed with deceased donor waiting list or more actively seek a living donor. Dr. Allyson Hart Dr. Marilyn Bruin
Julia	Duvall	My thesis work is centered around a shape memory alloy activated compression garment (SMA-CG) that can give a comforting "hug" to help treat Sensory Processing Disorder (SPD). SPD is a developmental disorder that makes it difficult to process sensory signals, leading to either over or under stimulation. The SMA-CG can generate controllable and remotely applied deep touch pressure to the wearer. I am currently investigating garment pressure output requirements for the system. Julia Duvall Nicholas Schleif Dr. Lucy Dunne Dr. Brad Holschuh
Karl	Engebretson	The working title of this MFA thesis project is Egali, a proposed language standard that extends accessibility into digital signage. The typeface of Egali is being developed as a highly legible typeface for use on digital screens/signage as well as font variations that support specific visual or cognitive reading difficulties. In development is also a prototype of an interactive signage experience where users language of choice and special requirements are effortlessly incorporated into the digital signage they interact with. On display will be examples of characters from the typeface that exhibit the design details on a scale noticeable to an untrained eye.

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Kira	Erickson	Understanding Muslim Girls' Preferences for the Design of Sports Uniforms- Muslim girls have multi-dimensional needs for clothing, including modesty, that differ from those of non-Muslim faith, therefore it is important to know their preferences in order to design sports uniforms that meet their needs. Twenty three Muslim girls from a Minnesota high school participated in a survey and focus group interviews to share their opinions and experiences with sports uniforms. The ultimate goal of this research is to establish design criteria for the creation of new sports uniforms for Muslim girls that better meet their physical activity needs so they can participate in sports without compromising their cultural and religious beliefs. This research explores domestic sewn product manufacturing in Minnesota. There is a renewed interest from consumers in products Made in America, thus some manufactures are taking advantage of the opportunities to produce locally. Fourteen companies from across the state that ranged in size and product type were interviewed about the motivations, opportunities and challenges they experience with domestic manufacturing. The second phase of the research will survey consumers of locally manufactured sewn products to understand the values that drive these customers and their perceptions about local apparel and accessories. Researchers on the project: Elizabeth Bye, Erica Langefels and Nokyeon Kim
Tom	Fisher	Urban Design: City of Rochester Urban Design Guidelines (with John Carmody, Bob Close, and Joseph Hang) and Ramsey Country Regional Rail Authority Riverview Corridor and Rush Lines (with Bruce Jacobson and Joseph Hang) Service Design: Pathways to Fuller Lives (with Emily Stover), Green Infrastructure Implementation Study (with Madeline Goldkamp), Health = Housing, HCMC (with Gabrielle Clowdus)
Esther	Foo	GIRAFFE- Garment Integrated Remote Awareness For Fluid Emission Project team members: Esther W Foo, Robert MT Pettys-Baker The team, in collaboration with Kimberley Clark Corporation, is developing a baby onesie with integrated sensors that is able to detect diaper leakage and location. The baby onesie is able to not only differentiate wetness zones for fluid leaks as small as 5mL, but is also able to capture when a leakage occurs.
Nika	Gagliardi	Other individuals who worked on the project: Mary E. Berglund Cade Zacharias The research: The aim of this project is to assess consumer wants and needs regarding wearable technology. Using a secondary and tertiary data analysis method, we are having individuals rate a selection of wearable technology market products and wearable technology product ideas. The highest rated products will be evaluated for themes in mechanism and function, which will provide information pertinent to the development of the next generation of wearables.
Rachael	Granberry	The research and design of novel, “smart” compression clothing is a collaborative project between the Wearable Technology lab and the Joyner lab at the Mayo Clinic. The team’s aim is to develop controllable gaited and gradient compression of the legs through the integration of shape memory materials into garments. The research purpose is to address issues such as orthostatic intolerance, cardiac rehabilitation in heart failure patients, lymphedema venous insufficiency, reducing DVT risk during long plane flights, sports performance, and countermeasures for flight or spaceflight. University of Minnesota: Julia Duvall, Rachael Granberry, Dr. Bradley Holschuh, Dr. Lucy Dunne The Mayo Clinic: Dr. Michael Joyner, Dr. Bruce Johnson, Christopher Johnson, Kevin Kelly

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Linsey	Griffin	Research in the Human Dimensioning Lab--The Human Dimensioning Lab (HDL) is dedicated to understanding body form and shape in relationship to wearable products. Paramount to improving design, sizing, and performance of the next generation of wearable products is a sound basis in how to use future 3D and 4D technologies, as well as the analysis and incorporation of anthropometric data into the design process. Current HDL research includes the evaluation of new 3D body scanning technologies and the collection of anthropometric data for women and men in the trades. Linsey Griffin, PhD Missy Bye, PhD Graduate Student Research: Robin Carufel, Heajoo Lee Undergraduate Student Research: Emily Seifert
Kathleen	Harder	Examples of the Center for Design in Health's work on using deep human-centered systems design to produce safer patient care will be highlighted.
Hyunjoo	Im	1. Variety Is Not Always Good by Hakyung Lee, Hyunjoo Im, & Ho Jung Choo It has been widely accepted that shoppers prefer to have a more various assortment of products than a less various one. However, previous research findings do not consistently support the positive effect of assortment variety on customer satisfaction. These inconsistent findings in the research may be due to how researchers have defined and operationalized assortment variety as a construct. Previous literature overlooked the important distinction between qualitative variety (i.e., a large number of options) and quantitative variety (i.e., perceived difference between options). In this study, we argue how assortment variety contains more than one dimension and empirically showed two distinctive dimensions of variety interact with consumers' shopping goals through an online experiment. 2. The Warm Glow of Gifts by Hyunjoo Im & Claire Whang Gifts can be used to share emotions and to build relationships. In the digital age, gifts are often sent electronically. Would this new way of gift exchange affect how we feel about the gifts and the other person? Is there a better way to send gifts electronically to show your love? Is there a better kind of gift to send your love? Through an experiment, this study investigated effects of electronic gift exchanges via different channels (i.e., personal computer and mobile phones) on consumers' perception of relationships and feelings.
Julie	Irish	Doctoral Research: Finding a Way: Aids to Support Children with Autism Spectrum Disorder (ASD) A wayfinding experiment with children with ASD and Collaborative Grant Project: Ask Me: Supported Housing Preferences for Transitioning Youth with Neuro-diverse Disorders (ND) Team members: Dr. M. Bruin, Housing Studies; Human Services Hennepin County; MN Organization of Fetal Alcohol Syndrome; MN Consortium for Citizens with Disabilities; Minnesota Brain Injury Alliance A survey to find out what transitioning youth with ND and their parents/caregivers want in residential housing design.

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Md. Tahmidu	Islam Molla	The scalable manufacturing techniques for integration of electronic components into textiles are key requirements for wearable industry. Current manufacturing methods for electronic-textiles or e-textiles involve soldering electronic components to conductive thread that has been sewn to create an electrical circuit layout. The objective of the study is to determine the durability of LEDs soldered to conductive thread in this way with slight variations on their manufacturing techniques. These variations include: size of the LED, thickness of the sewn thread, alignment of the LED and thread, and quality of the solder joint. The study found that surface-mount soldering of components to stitched conductors is a feasible method of joining e-textiles. Project members: Dr. Lucy Dunne, Mary Ellen Berglund, Md Tahmidul Islam Molla, Steven Goodman, Nicholas Schlief
Abbey	Kleinert	The emergent, rational, and embodied qualities of creative making are phenomenological. This MFA thesis uses creative making as a research methodology and teaching strategy. In an academic creative making process, the maker-researcher has discoveries not only about materials and practices surrounding creative production but also gains insight into areas beyond visual representation and creative production. For example, with my thesis I use drawing and printmaking as a methodology to answer my questions about the human relationship to the natural world. As a result of the experience and knowledge gained by the creative maker through practice-based research, the maker-teacher is able to “establish the contexts or situations in which [a student] can discover for [themselves] much of what [the maker] already knows, and also perhaps, much of which they do not.” (Ingold 2013) The maker-teacher designs creative exercises and assignments that teach not only design skills, but also allow the student to explore a specific topic through creative making. For example, I have designed making activities where my students and I study human rights and social activism through the act of printing posters. Making as a methodology is relatively new to academic research, and seems especially important to examine in the context of our screen-mediated culture.
Liz	Kutschke	On December 2011, Ford Motor Company closed its Twin Cities Assembly Plant which had operated in Saint Paul for over 80 years. The 157 acre property is located on the east bank of the Mississippi River, surrounded by a vibrant residential community and business district. The redeveloped Saint Paul Ford site is envisioned to be a global model of ingenuity, cutting edge sustainability, and vibrant, transit-oriented urban living that attracts the generations of tomorrow and today. This project will build on Saint Paul’s demonstrated success of initiatives to improve energy efficiency, reduce fossil fuel use and expand renewable energy generation, and will take it to the next level by striving for a net-zero community. The underpinning of this requires a site-wide, integrated energy system that incorporates renewable energy sources and design efficiencies to reduce demand and reuse energy. The site will be redeveloped from scratch starting in 2018 with installation of new utilities, streets, sewers and water providing a unique opportunity to design an integrated energy system. A fundamental understanding of the energy goals for the site, demonstrated feasibility, and an implementation framework were analyzed for three options to achieve a resilient and sustainable energy system. All options assumed very energy efficient buildings with performance guided by the Sustainable Buildings 2030 program the state of Minnesota adapted from Architecture 2030. The pathway to a Net Zero community is an integrated energy design concept that could serve as a model of future sustainable development.
Goldielyn	Lopez	Dutch Complex Housing Exhibition Julia W Robinson (Principal Investigator), Goldielyn Lopez (Graduate Research Assistant), Nathan Ehrlich (Undergraduate Research Assistant) with Lin Nelson-Mayson and Abby Kleinert from the Goldstein Museum of Design During fall and spring semesters our research team is designing the Dutch Complex Housing Exhibition, to be held fall semester 2017at the Goldstein Museum of Design's HGA gallery. Based on the forthcoming book Complex Housing: Designing for Density (Routledge 2017) the exhibition presents background on this special form of housing, and eight case studies. During this phase of the project

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Steven	McCarthy	Project Bi | Nary (upright slash is part of title, make sure to honor it!) This creative project uses garments to present 13 binary social relationships through conventional labels and images of faces. Labeled categories include race, gender, political affiliation, religion, nationality and so on. Each garment also has slurs for these labels "cut" into the fabric "behind one's back." An edition artist's book featuring the garments in in progress. Technical and creative support has been provided by Anna Carlson, MFA in graphic design, 2013. Project Bi | Nary enabled by a $4800 Minnesota State Arts Board Visual Artist grant.
Laura	Musacchio	The research to be presented is part of an interdisciplinary team project, which was funded by NASA starting in 2012. This project investigates how city size and shape and air pollution level influence the behavior of severe storms for major cities in the Great Plains. Dr. Musacchio's study within this project looks at bridging land change science to green infrastructure practice for sustainable and resilient metropolitan regions. Dr. Geoffrey Henebry of South Dakota State University is her collaborator on this study. The purpose of their study is to create the foundation for the development of a common information agenda to advance both knowledge bases and perspectives of land change science and green infrastructure practice—especially for severe storm research about extreme hydrological events affecting neighborhoods, urban forests, public infrastructure, and hydrological systems. The knowledge bases of land change science and green infrastructure practice have had little conceptual and practice integration even though both are concerned with land use and land cover changes but at different scales of concern. Their study attempts to answer this question: How can both experts in land change science and green infrastructure collaborate to enhance the practical relevance of the research? Dr. Musacchio and Dr. Henebry will be displaying two presentation abstracts based on their study that are currently under review at the 2017 U.S. International Association of Landscape Ecology Conference, which will be held in Baltimore, Maryland in April. The titles of the two abstracts are (1) Bridging Land Change Science and Green Infrastructure Practice: Challenges and Opportunities for Developing Use-Inspired Basic Research for Resilient and Sustainable Urban Regions and (2) Transdisciplinary Collaborative Models for Bridging Land Change Science and Green Infrastructure Practice: Advancing Knowledge and Action along a Boundary Work Spectrum.
Julia	Robinson	~Dutch Complex Housing Exhibition Julia W Robinson (Principal Investigator), Goldielyn Lopez (Graduate Research Assistant), Nathan Ehrlich (Undergraduate Research Assistant) with Lin Nelson-Mayson and Abby Kleinert from the Goldstein Museum of Design During fall and spring semesters our research team is designing the Dutch Complex Housing Exhibition, to be held fall semester 2017at the Goldstein Museum of Design's HGA gallery. Based on the forthcoming book Complex Housing: Designing for Density (Routledge 2017) the exhibition presents background on this special form of housing, and eight case studies. During this phase of the project ~Book, Exhibition and Symposium on Dutch Complex Housing. Complex housing is a form of multi-family housing that incorporates non-housing functions, has at least 2 different types of housing, includes low, middle and upper income housing, includes housing for rent and for purchase, uses diverse organizational strategies and is an urban landmark. Lots of people have worked on the project with me. This year my research assistants are Goldielyn Lopez and Nathan Ehrlich. In the past the following graduate and undergraduate students have worked on the project: Shengyin Xu, Joseph Messier, Hans Christian, Erin Lilli, Austin Lukes, Sean Meyer, Thomas Ducastel, Jianing Song, Kristin Ehrhardt, Andra Zerbe, Jennifer Asp, Yujing Su, Corinne Deger, Jinguang Xie, Hayden Rensch, Brittany Klingler, Edward Palka, Yujing Su, Mandana Motamed, Margo Fredricks, Terri (Chung Wan) Leung, Corinne Deger, Tad Neeser, Yun Koo, Max Ouellette-Howitz, Nicole Kiel, Anthony Alan Rodriguez, and Goldielyn Lopez.

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Virajita	Singh	Ellen Hopkins Elementary School Nature Based Play Space, 2016 This nature play space, planned after completion of a parking lot and playground expansion at the school integrated nature-based play space fully accessible to students of all abilities to serve both the school and the larger Moorhead community. The EHES project uniquely represented an integration of nature-based play with many concepts that are at the forefront of community sustainability and resilience in the design including accessibility, equity, environmental art, water education and community gardening. The intended outcomes of the project were he development of a master plan to inform the future development of the nature play space, Engagement of the students, PTAC and parents and Moorhead community in the design/input process and integration of arts and environmental education in the design process. Partners Center for Sustainable Building Research, Design for Community Resilience program; University of Minnesota Extension; Northwest Regional Sustainable Development Partnerships (NWRSDP); Center for Urban and Regional Affairs, Community Assistance Program (CAP); Ellen Hopkins Elementary School (EHES); Ellen Hopkins Parent Teacher Advisory Council (PTAC); River Keepers; Institute on the Environment; Full Spring Studio Research and Design Team *Virajita Singh*, Assistant Vice Provost | Office for Equity and Diversity Senior Research Fellow/Adjunct Assistant Professor | Center for Sustainable Building Research *Alexander Thill*, Master of Landscape Architecture 2016 | Department of Landscape Architecture, Graduate Assistant | Center for Sustainable Building Research --- Gary Pines Master Plan, 2017 ''Place' in regenerative development is alive, a living system or entity that is '…a unique constellation of patterns nested within patterns, interwoven with other patterns in families and guilds and social relationships, all endlessly changing, cycling, evolving and building to greater levels of complexity over time…an incredibly dynamic and complex being.' - Pamela Mang, Bill Reed & Regenesis Group and Story of Place Institute Gary Pines, a 160-acre area of planted pine forest, in northwestern Minnesota embodies the notion of 'place'. The Gary Pines project, exemplifies development of place and the possibilities generated when a community has a strong connection and commitment to place that spans generations. The planning team, the research and design team with the community envisioned the design for the Pines to accommodate the needs and future vision. The three aspects explored were the Pines as a site of nature-based recreational activity, a site for nature-based art installation and a site for environmental education. The project is intended to benefit the community of Gary and nearby communities as well as all visitors on Highway 32 who choose to use the site on their travels. Partners Center for Sustainable Building Research, Design for Community Resilience; University of Minnesota Extension's Northwest Regional Sustainable Development Partnership; Center for Urban and Regional Affairs (CURA)'s Community Assistance Program (CAP) Research and Design Team *Virajita Singh*, Assistant Vice Provost | Office for Equity + Diversity Senior Research Fellow | Center for Sustainable Building Research *Maxwell Dickson*, Master of Landscape Architecture candidate | college of design Master of Urban + Regional Planning candidate | Humphrey School of Public Affairs, Graduate Research Assistant | Center for Sustainable Building Research

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Patrick	Smith	The Sustainable Building 2030 (SB 2030) is a progressive energy conservation program designed to show how state funded buildings can be a model for the reduction of energy and carbon in Minnesota buildings. Initially based on the national Architecture 2030 program, SB 2030 was adapted to Minnesota's buildings, climate and policies, but could serve as a model for climate change programs anywhere. All state funded projects designed after 2010 must use 60 percent less energy than an "average building". The target improvement increases by 10 percent every 5 years until net zero energy is reached in 2030 for new buildings. Renovated portions of buildings must meet half of the reductions required by new buildings. 93 diverse buildings have participated in the program and are representative of the broader building stock of the state. This creates the potential to serve as a pilot program for more progressive energy codes. In addition, SB 2030 is integrated with an operations and benchmarking program to track the actual performance of completed projects and provide a feedback loop to policy makers and the building industry. Data from the first five years shows SB 2030 as a code would be one of Minnesota's most cost effective climate strategies. The next five years are critical as the research investigates the optimization of energy efficiency, validation of ongoing operation of early SB 2030 projects, the integration of on-site renewable energy, and the transformation of the state's energy grid to achieve net zero buildings for all state buildings by 2030. Richard Graves, Patrick Smith and Richard Strong, Center for Sustainable Building Research, College of Design, University of Minnesota and Chris Baker, The Weidt Group
Marc	Swackhamer	Paper pulp research - A screenwall installation in the Minnesota Design Center for filtering light and sound.
Michael	Urness	Becky L. Yust, University of Minnesota Andrew T. Carswell, University of Georgia Carla Earhart, Ball State University This poster examines language used by housing professionals and researchers within the field of housing in hopes of illuminating implicit biases and how terminology continues to shape assumptions in the discourse of housing. The analysis was rooted in post-structuralist discourse analysis (Foucault, 1976). This framework argues that language exercises a productive power that dictates how we see and understand the world; language does not merely describe an objective reality, it constructs reality. Previous researchers have used Foucault's framework in application to the field of housing (e.g., Flint, 2004; Flint & Rowlands, 2003; Jacobs & Manzi, 2000). According to Foucault (1976), there can be disciplinary power enacted through language to privilege certain activities or states of being when compared to others. There are many examples in the media on housing that contribute to the power of terms to shape opinions: use of the phrase "housing unit" when describing multifamily housing implying lower status compared to descriptions of "single-family homes." The researchers felt that it was important to assess how professionals, mostly academicians, use language as we describe subjects in our field. This project chose to assess how contributors to the second edition of the Encyclopedia of Housing (2012) used terms to describe various housing subjects. As the Encyclopedia was being developed, entries were divided by the editorial team into 20 categories. Using those main categories, we used content analysis of each entry to compare the use and frequency of ten commonly used terms to describe people and structures related to housing and the context of how they were used. Six terms were chosen to describe households: client, homeowner, household, renter, resident, and tenant. Four terms were chosen to describe the housing structure: apartment, home, house, and unit. The analysis revealed that there were clear differences in the way terms were deployed among the editorial categories and that some terms were nearly absent from certain discussions. For example, entries about behavioral aspects of housing almost completely ignored renters while those involving cross-national research had few mentions of homeowners, and entries that focused on the federal government's role clearly implied a preference for homeowners but more text was used in discussing rental assistance programs, even though mortgage interest deductions play a large role in the housing economy. These findings suggested that terms used in the entries in the Encyclopedia of Housing display the constructed discourse that privileges homeowners and single-family housing units over renting and multifamily buildings in ways that mirror previous research in the field.

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Sophia	Utset-Ward	Design and Development of Valgus-Sensing Leggings For this project we are working on developing a pair of leggings with textile stretch strain sensors that can detect valgus knee movement. Robert Pettys-Baker Crystal Compton Ann Heyer Tahmidul Islam Molla Dr. Marc Tompkins Dr. Lucy Dunne Dr. Brad Holschuh
Faten	Yanksari	(The Play-Doh, Chalkboard, and Drawing Table (PCDT) is a creative product designed by Faten Yanksari for active learning and playing. The PCDT design helps kids interact with the table. They can study, write, read, draw, and craft at this fun table with easy access to supplies. PCDT stimulates kids' creativity, action, motivation, and interaction. The table is attached to a movable blackboard made of half- inch plywood, using a CNC router to accurately cut the pieces. The main design was inspired by an artist pallet shape and function. The artist color palette provides the artist with materials (colors) that an artist uses to draw and touches artist's five senses. The artist can smell, touch, see, and visually taste while working, helping the artist interact with this tool to work creatively.