REPRESENTING DIVERSITY IN THE ARTS THROUGH INTERACTION DESIGN

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by

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PART 1: BACKGROUND

I. IDENTIFYING THE PROBLEM:

Throughout my classes in the Visual Communication Design program at Kent State University, I have either been the only student of color or one of several in a class. This makes me aware of the lack of diversity within the program and question why the pre-professional program for creatives has so little representation of different races. Visual designers can create signage, posters, logos, or symbols for businesses, governments, schools and other institutions. The creators of this content should be diverse in many factors — accurately representing any audience — women, men, the young, old, the rich and poor. Without any diversity, one homogenous group’s work would be based on similar experiences, backgrounds and beliefs. Through diversity comes a diverse range of thought, backgrounds and perspectives. Race is not the only factor to consider while investigating diversity, but it is one that is relatively easy to visualize because of its representation through data.

The lack of racial diversity affects many industries throughout the creative arts — not just graphic design. The five creative fields of writing, fine art, graphic design, photography and performing arts drastically lack racial diversity and have implemented a plethora of programs to increase awareness of this problem. Many of these programs are educational — teaching statistics, but do not necessarily demand or implement change. Education about this lack of diversity is important because it exposes the issue — which can allow for discussion, planning, action and change. An education effort can be witnessed through the Twitter campaign, “#OwnVoices” which was created by young adult author Corinne Duyvis, who advocated for stories about minority characters. Duyvis believed that stories about minority characters written
by authors who shared their characters’ racial identities should be celebrated for their authenticity and candor. This hashtag gained popularity in 2015, resulting in over 1,412,461 Twitter users engaging with the campaign.

Education is the first step in solving an issue as wide as lack of racial diversity throughout creative industries (AIGA Diversity and Inclusion Resources, 2017). To solve the problem, the problem itself must be fully recognized and appreciated. Through my own project, I chose to focus on how I, a visual designer, could publicize and educate others about the lack of racial diversity in creative industries while adding an impetus or more interactive connection with the data. The most direct way to inform people about the issue of diversity is by exposing them to the statistics. This provides a challenge as people’s attention spans are short and statistics in the form of charts and spreadsheets can be dry and unaffecting. Brochures, guides or graphics could all communicate diversity statistics, but my aim was to make this more compelling.

I have always been overwhelmed by charts, spreadsheets and masses of data. Their breadth and length lose my attention. I think that problems such as a lack of diversity within the arts could begin to be solved if this kind of information was public and visually communicated in a way people can easily understand. If this kind of information was publicized in a way that was attainable and communicative for the general public, more people may be able to provide their insight into how to fix it.
II. Diversity as a Lived Experience: Approaching a Solution

A. Overview:

With this in mind, my solution aims to create an entire experience that is physical, three-dimensional, interactive and immersive. With this approach I aim to transform diversity statistics from static numbers and charts to interactive, visual experiences that physically captivated viewers through an exhibit-like experience. Similar to a museum, each of the five industries are all represented by individual installations, but all would be grouped within the same area. This fuses principles of graphic design, user experience, interaction and visual communication.

Each of the five installations had a different form – influenced by the methods and tools used in each respective field. Color, materiality, texture, tone, location and levels of interactivity were all informed by the field. The installations all display a visual representation of racial statistics to teach viewers what races make up each of the represented five creative industries but also encourage interaction on the part of the audience. Displaying this information emphasizes the importance of inclusivity and commitment to diversity. The visualization of the contrasted majority and minority promotes the understanding of difference, variation and anomaly. The sculptures are free-standing, public and open — similar to The Picasso (Untitled Sculpture) or Cloud Gate – both in Chicago, Illinois.

B. Audience:

The intended audience for these installations is people of all ages, races and backgrounds. Due to the educational nature, the installations may serve different purposes for different
viewers, enlightening those who do not think about diversity often, and reminding others who do. For children viewing this exhibit, seeing the visual representation of racial disparities will teach them the reality of certain industries, which could provoke conversations as to whether they could see themselves in a certain industry. “[Children’s] developing minds are that little bit more unquestioning about what they see and hear on their screens. Or, of equal import, what they don’t see and hear,” wrote Rebecca Brand in If she can’t see it, she can’t be it: Why Media Representation Matters for The Guardian. Educating and exposing a child to this data could open up possibilities and opportunities they would never think they could obtain. American novelist James Baldwin wrote, “Societies never know it, but the war of an artist with his society is a lover's war, and he does, at his best, what lovers do, which is to reveal the beloved to himself and, with that revelation, to make freedom real.” How can statistics about racial diversity be transformed physically — through interaction and user experience design?

C. Location:

To ensure that the experience was realized as fully as possible, the exhibit gallery of the art building at Kent State University was envisioned to house this exhibit. This space is in the art building’s entrance and is commonly used to showcase gallery shows. The space serves a large audience including the staff, faculty, undergraduate and graduate students of the visual communication design school at Kent State. While designing each installation, I created the plans for construction, materials needed and placement within the exhibit space to make this concept as reproducible as possible.
D. Color:

Color is a powerful tool for any designer. The colors used throughout the exhibit were important to consider because of the nature of the subject matter (related to skin color). I decided to represent each race through a different color consistently throughout the exhibit. This way, a user could travel between each individual installation and easily understand the color as the exhibit’s visual language — rather than an evolving system he or she would have to learn (if each installation changed colors, for instance). By using consistent colors for each installation, the colors become a key that represents each race.

I developed two concepts for color usage throughout the exhibit. First, color could be representational of the race it was representing. White people would be represented through a lighter pigment while African Americans were represented through a darker one. This system worked for its immediacy and communication. As humans, we know what colors generally associate with certain races. Once the colors were established, this color system would have been an easy way to identify the different races.

The second concept for color was for the color to be skin pigment-agnostic — nonrepresentational of skin tone. Instead of realistic colors representing each race, completely unnatural colors would be used. Bright greens, neon oranges and sharp yellows would be abstract and the shun the concept of equating race to skin color.

Having race represented through a skin tone color was my initial concept and that which I initially envisioned as the final solution. However, when I began to investigate which colors
could represent each race, I realized that this approach was problematic. There are so many shades of skin color, it would be compounding a problem of stereotyping and generalizing to assign one to represent an entire race of people. For example, the range that falls under the moniker ‘African-American’ includes all different shades and values of color. For an exhibit committed to honoring diversity and celebrating inclusivity, I thought that committing to this narrow mindset would contradict the message of my project. For that reason, I chose to use nonrepresentational color throughout.

![Image](image_url)

**Figure 1: Chromosaturation, Carlos Cruz-Diez, 2016**

I was greatly inspired by the work of Contemporary artist Carlos Cruz-Diez. His use of color is vibrant and neon. Neons are captivating for a visual display and add a sense of energy. I avoided using colors that were associative of any cultural reference. Instead, I chose a palette that was
race-neutral and instead focused on creating engagement and drawing attention. Drawing inspiration from Cruz-Diez’s work, I based my colors off of his vibrant, electric palette to communicate a tone of digital color that felt removed from the human experience. By using these startling colors, the concept of color itself felt removed from the exhibit — as if the colors being used had transcended skin tone or cultural implications and were simply being used as a code of communication. I finalized with yellow represents Whites, orange — Hispanic/Latino, pink — Asian and purple — African Americans.

E. Inspiration:

Janet Echelman is a sculptural artist who uses different colored fishnets to create billowing, voluptuous, abstracted forms which have been hung in cities around the world. These sculptures are created entirely out of fishnet and are lit from below. In her TED Talk, *Taking Imagination Seriously*, she explained the process of creating these string-like sculptures and the effects they had on residents of the cities she has made them for.
“I want to create the oases of sculpture around cities around the world,” Echelman stated while describing her work. I was awed by the sculptures’ beauty and form. I realized there was an opportunity to use Echelman’s concept as inspiration for my own project. Echelman’s sculptures create immersive experiences — similar to the way I want viewers to be surrounded by the installations I create. Her sculptures look like three-dimensional graphs, which are similar to my own concept. What if sculptures could act as infographics to communicate information?
PART 2: THE DESIGN PROCESS

I. PERFORMING ARTS:

A. Gathering Context:

To start designing the representation of diversity statistics for the Performing Arts industry, I researched how the industry was currently operating. Through researching, I broke my findings into three sections: the current state of the industry’s diversity rate, challenges and solutions/initiatives that were being implemented to create a more diverse workforce. I thought about the messages I read and how I could translate these into interactive experiences — visually and physically representing the problem.
According to estimates by the U.S. Bureau of Labor Statistics, White performing artists were the majority race group in 2014, followed by Hispanic, Asian and African American. Essayist Laura Cohen investigated the underrepresentation of racial minorities throughout performing arts audiences to understand institutional perspectives towards race and diversity. In 2008, 78.9% of performing art attendees were White, 8.2% Hispanic and 7.0% African American.
American. There was not enough data to represent those of other minorities (Iyengar, 2009).

Compare these numbers to the United States population: In 2010, 63.7% of the population was White, 16.4% Hispanic and 12.6% was African American (US. Bureau of the Census 2011).

Chart 2: Performing Arts Attendees vs United States Population

There is no definitive answer to answer why so few minorities choose to enter the Performing Arts industry. Some causal link here might be explained by laws that were eventually outlawed in the 1960s which prohibited African Americans from participating in various forms of public theater and dance. However, African American participation in the Performing Arts is so small (and has limited amounts of data), so this connection is challenging to make.

Founded in 1990, AMAS Musical Theatre works to produce original musicals that include people of all races, origins and backgrounds (Toomer, 2001). AMAS earned notoriety
during their long-running Broadway production, Bubbling Brown Sugar. Beyond their work producing plays, AMAS has developed a training program that teaches teenagers about musical theater through workshops, events and lessons. AMAS created an outreach program in which they distribute free tickets to musical performances to social service organizations, schools and those who could not normally afford tickets. This effort has been positively received and the group continues to raise awareness for diversity into the future.

Once I had researched, I brainstormed what visual metaphors could be used in my own interactive pieces. While making this decision, I thought about what visuals could be easily recognized as associative with the Performing Arts industry and what could be transformed into a dynamic, immersive space.
B. Designing the Installation:

i. Concept 1: Drapes

Figure 4a: Stage Panels Sketch
I based this concept off of the large, curtains that hang on both sides of the stage—called side wing curtains. This is the location where performers and set pieces wait to appear in a scene or hide before a reveal. These tall curtains act as drapes, framing the stage and provide a hiding space for performers. In my interactive concept, I reflected the act of hiding and appearing by prompting users to wind in and out of the panels—while doing so, disappearing and reappearing, similar to a stage performance or choreography. Ninety-degree angles and sharp turns would aid the sense of drama. The panels’ arrangement establishes a suggested path for the user. His or her body would physically move—twisting left and right to navigate through the maze-like experience. I saturated the panels in color so users would be fully immersed while they walk through the space. This is reflective of the way performances—colorful, immersive and
vibrant. The colors would be painted proportionately to the percentage of the racial group it represents. In *Figure #: Set Pieces Sketch*, 79.4% of the entire range of panels is painted yellow, representing the majority of White performing artists. The entire surface of all four panels would represent 100%.

![Tree Map Chart Influence](image)

Figure 5: Tree Map Chart Influence

I was inspired by tree map charts, which display a set of data through grouped rectangles, which is all contained within one larger, parent rectangle. The tree map chart nests the rectangles of data without any space to spare. This nesting effect is reflected in my concept and achieves a vibrancy that would not be possible without the full panels of color. This treatment of the panels makes the users’ experience more immersive and dramatic.
Our Rainbow Panorama by Olafur Eliasson combined a winding hallway with vibrant color — much like my concept. Unlike Eliasson, the space I conceptualized was segmented by four separate panels. I made this distinction to provide multiple entry and exit points, alluding to the setup of the stage’s side curtains.
This interactive piece would be placed in the back of the Art Building’s exhibit gallery — hidden from users before they enter. Because this piece is dramatic and dependent upon the user’s movement, I wanted to reveal it towards the end of the entire interactive experience to reward the user with a feeling of accomplishment. Placing it towards the back would also provide enough room for the other interactive experiences, required in the space.

I noticed that users would be hidden behind the wooden panels at points, and this could result in awkward maneuverability as a user. To avoid users running into each other, the space needed to be more open.

**ii. Concept 2: Textile Panels**

I based this concept off of the main stage curtains that open and close for stage performances. These curtains will be represented as drapes hung from the ceiling. Drapes are made from flowing fabric which will open up the exhibit space (opposed to the wooden panels of the first concept). Fabric is used in costumes, set pieces and background decorations.
I used banners created by Excel London Advertising company for the 2012 London Olympics as a reference for my own. Because the drapes hang from the ceiling, this changes the mode of interaction, and as such, users at least once will look above at the banners, rather than eye-level, towards the installation. Looking up requires a physical motion — reflecting the physical movement required by performing artists.
The four drapes will be colored proportionately to the data they represent. As Whites make up 79.4% of all performing artists in the United States, the representative banner would be 79.4% of the space from the top of the ceiling where the banner hung to the ground. The ceiling to the ground represents 100%. Spaced out equally, the four banners would descend from longest to shortest. This order would be White (79.4%), Hispanic (9.5%), Asian (7.8%) and African American (3.3%) (Bureau of Labor Statistics, 2013).
iii. Concept 3: Revision

This concept was inspired by a bar chart turned upside-down. By reflecting the bar chart on itself, the data became the drapes. The Performing Arts installation will be placed near the Photography installation, which is towards the middle of the gallery space. The Photography installation will include a large panel that blocks off the surrounding area — yet is visible from the outside of the gallery. The banners of the Performing Arts installation will be hung on the back of the Photography installation’s panel. When considering placement, I considered the ergonomics of each space. I took advantage of the back panel from the Photography installation by using it for the front of the Performing Arts installation.
II. WRITING:

A. Gathering Context:

According to the Occupational Employment and Wages collected by the United States Department of Labor’s Bureau of Labor Statistics, writers and authors are defined by “originating and preparing written material, such as scripts, stories, advertisements, and other material” (U.S. Bureau of Labor Statistics, 2015). In 2015, The Bureau of Labor Statistics reported 83 percent of American writers as White, 5.3 percent Hispanic/Latino, 4.9 percent African American and 3.5 percent Asian (U.S. Bureau of Labor Statistics, 2015).

Since 1994, The Cooperative Children's Book Center has tracked the number of all published books by African-American, Asian-American, Native/First Nations and Latino authors. Since 1997, books published by minority authors comprised nearly 10 percent of all published books until a swing in 2015 increased the percentage to 20 — indicating the continued acceptance and integration of published works by minority authors. The lower percentages for multicultural literature indicates that publishing still has room to increase the number minority authors to capture the rich diversity of perspective from multiple races and cultures. In 2015, the center collected:
The need for more minority writers has been increasingly incorporated into the public dialogue. In 2015, the Twitter hashtag, “#OwnVoices” was created by young adult author Corinne Duyvis to advocate for stories about minority characters — written by authors who shared their characters’ racial identities. In an opinion piece written the same year, novelist Kayla Whaley embraced the message — stating that an “extra degree of nuance and authority comes with writing from a lived experience.” The hashtag gained fast popularity among libraries, reading groups and schools, using the phrase to draw attention to stories about minority characters written by minority authors. This focus on minority-written literature can be seen in reading groups such as Rich in Color — “dedicated to reading, reviewing, talking about, and
promoting young adult books (fiction and nonfiction) starring or written by people of color or people from First/Native Nations (Rich in Color, 2013).

Where a larger problem lies in producing the written material is among the publishing companies. In a 2015 diversity baseline survey, Lee & Lee Books gathered responses from 8 review journals and 34 publishers across North America to investigate the lack of diversity which directly affects working authors. The survey was sent to 1,524 reviewer employees and 11,713 publishing employees (13,237 total). 79 percent of all publishing company employees were White while 7 percent Asian/Native Hawaiian or other Pacific Islander, 6 percent Hispanic/Latino and 4 percent African American. On the executive level, 86 percent of all publishing executives were White, 7 percent Asian/Native Hawaiian or other Pacific Islander, 2 percent Hispanic/Latino and 2 percent African American (Low, 2016).

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<th>PERCENTAGE</th>
<th>JOBS</th>
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</thead>
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<td>3.5%</td>
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<tr>
<td>Black:</td>
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</tr>
<tr>
<td>White:</td>
<td>86.3%</td>
<td>179,504</td>
</tr>
</tbody>
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B. Designing the Installation:

i. Concept 1: Pens

Pens have an immediate association with writing. The act of writing is synonymous with the phrase, “putting pen to paper.” I took advantage of this imagery by conceptualizing an immersive experience in which hundreds of pens will be suspended from the ceiling on clear, nearly invisible strings. At a distance, the pens will hang together as one, unified mass. Within this mass, there will be four different colored pens. The number of each kind of pen will be based off of the data collected from the U.S. Bureau of Labor Statistics. In my concept, I based this structure off of 100 pens.
Figure 11: Pens from Underneath

Figure 12: Side View/Scale View
ii. Concept 2: Strings as Connections Between Words

In this concept, I approached words abstractly. Words themselves act as a connective tissue — stringing together thoughts and ideas. I made this approach more interactive to reflect the process of writing and developing connections. In this experience, users will be prompted to answer questions relating to their race. There will be four strings — each representing a different race. To answer a question, users will begin by selecting the color of string that represents their race.

Users will hook their strings on a nail next their answer to the question. They will continue to answer questions using the same string — hooking onto multiple nails to create a web of their responses. I referenced Dorota Grabkowska and Kuba Kolec’s piece *What Made Me* which was created for the 2012 *Birmingham Made Me* Design Expo. Kolec’s asks users to reflect on emotions and states of being whereas my concept will challenge users to think about the relationship they have with their race and share this with the public. I placed this interactive space towards one of the back walls of the exhibit space so this area could be seen from the outside of the gallery. This location provided room for the other interactive experiences required in the space.

I purposefully made this experience the most dependent upon user feedback because I wanted to reflect the complicated, messy reality of how people express their thoughts about race. Multiple strings from multiple users will overlap and these intersections will represent different opinions.
Figure 13: Side View 2
Figure 14: Side View 3

Figure 15: Side View 4
The Writing interactive experience will be the most personal and interactive — depending heavily on user input and expression. The visual metaphors used in this approach include connections and networks. String represents the act of connecting words and engages with the concept of connectivity. For the questions, I preferred providing answers to the questions rather than allowing users to write freely on the wall to maintain control of the experience. While open ended questions are unstructured, I needed to provide some kind of organization for the interaction to produce meaningful results.
I added the data collected from the U.S. Department Bureau of Labor Statistics in an additional, second panel. Because of the intense amount of user engagement in the interactive panel, the data will be separated from the interactive experience. By allowing the data to stand independently from the interaction, the data will be clearer. This gives users a passive moment to reflect separately on the data from their experience in the interaction.

Developing the questions for the writing interaction, I was challenged to compose a solution that fused user comfort with interactivity. Users needed to feel safe providing their answers yet the questions needed to be substantial and ask personal questions about race.
III. Fine Arts:

A. Gathering Context:

The National Center for Education Statistics (NCES) estimates that 85% of public schools in the United States offer some form of art education. Although this is the majority, the public schools that do not receive art education are often economically disadvantaged. Art programs are more likely found in suburban, affluent school districts than in poorer areas with less funding (Stankiewicz, 2001).

According to a 2016 study conducted by The Saint Petersburg Art Alliance, art programs in schools help students improve visual analysis skills, learn from previous mistakes and challenge them to be more creative. Students who were exposed to at least one art program maintained a 15% higher average grade point average than those who did not. Students in art programs graduated high school with a 93% graduation rate opposed to students who did not, at 67% graduation rate. A 2009 report by the Center for the Arts Education analyzed data from over 200 schools for two years in New York City. Schools that had the highest graduation rates offered students the most access to arts education in form of art classes, art programs and funding.

A 2002 report conducted by the Arts Education Partnership stated that elementary school students who participated in arts education scored higher scores on tests in the areas of reading, writing, and math. Overall, students who had participated in art education earned better grades and had higher rates of enrollment to college. The Solomon R. Guggenheim Museum reported a link between involvement in arts education and improved literacy skills through their, Learning Through Art program which provides art education to students in New York City. Students who
participated scored higher in literacy and critical thinking skills than those who were not part of
the program (Kennedy, 2006).

This data made me realize that my installation I was to create needed to be highly
immersive, similar to the way students were able to engage in the artistic programs that proved to
be helping them in school. This level of immersion could either be represented through an
interaction that was highly engaging or a visual that was engaging through its spectacle.
### 222,000 artists in the US:

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<th>PERCENTAGE</th>
<th>JOBS</th>
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</thead>
<tbody>
<tr>
<td>Asian:</td>
<td>2.7%</td>
<td>9,102</td>
</tr>
<tr>
<td>Black:</td>
<td>4.1%</td>
<td>5,994</td>
</tr>
<tr>
<td>Hispanic/Latino:</td>
<td>9.4%</td>
<td>20,868</td>
</tr>
<tr>
<td>White:</td>
<td>83.8%</td>
<td>186,036</td>
</tr>
</tbody>
</table>

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**Artists in the US**  
U.S. BUREAU OF LABOR STATISTICS, 2014

Chart 5: Artistic Statistics
B. Designing the Installation:

i. Concept 1: Paintbrushes

Figure 18: Paint Representation

Four different colored paints with paint brushes would be left out for users to leave a mark on a canvas-covered wall. The amount of paint would be proportionate to the represented race’s collected data. There would be no instructions, guide or template to prompt users as to what content to create. This interaction would encourage open, unrestricted, expressive drawing. The goal would be to get the canvas-covered wall covered in paint of the four different colors. The majority color (yellow — representing the White majority group) would dominate the composition, leaving the orange — Hispanic/Latino, pink — Asian and purple — Black paint to appear in small moments across the canvas.
This concept’s engaging method was held back by the lack of means to gain a valuable knowledge from the results. Additionally, because the concept left out only a proportionate amount of paint based on race, it would have been unfair for users who wouldn’t get to leave their mark. Some users may not have identified as one of the four races. Just because the experience was accurately representing the statistics didn’t mean the audience viewing it would necessarily reflect the numbers. The interaction needed to be inclusive and open as an opportunity for all users — lest the experience contradicts the message of inclusivity and opportunity it promotes.

ii. Concept 2: Colored Pencils

Figure 19: View from Underneath
Colored pencils have immediate associations with art. They represent hundreds of colors which make them widely accessible. They are also associated with a higher quality of craft for drawing as colored pencils involve shading, modeling and rendering techniques in a way the marker or crayon does not. A colored pencil allows its user to leave colored marks on its canvas. Abstractly, this reflects the ultimate goal of this thesis — attempting to make change and leave a message of inclusivity and promotion of the arts for minority students. The colored pencil can be sharp and dangerous. In the way the pencils are positioned (sharp side pointed down at the user), they could feel like a weapon or defense. A sharpened color pencil also indicates an eagerness to create — a takeaway message for the audience for this entire experience.

I modified the pen concept I created for the Writing experience and replaced the pen for the colored pencil. I conceptualized an immersive interaction in which hundreds of colored pencils will be suspended from the ceiling on clear strings, similar to fishing wire. At a distance,
the colored pencils will hang together as one, unified mass. Within this mass, there will be four
different colored pencils. The number of each kind of colored pencil will be based off of the data
collected from the U.S. Bureau of Labor Statistics.

Figure 21: 12,000 Colored Pencils, Black Lab Architects, 2013
I referenced an installation created by Black Lab Architects that reflected the imagery I wanted to achieve for the space. The Black Lab colored pencil installation was a complete rainbow of color, adhered to a wall. My concept would have looked dramatically different employing only four colors — and the majority of the pencils would be one color. Rather than the pencils being fit into a pegboard, they would have been individually suspended on strings from the ceiling.

I placed this interactive experience at the entrance of the gallery space. This was because of the impressive the visuals and the ease in which the piece communicated its concept. This is the most contemplative of all of the pieces. Walking under the hanging pencils encourages users to look up but requires no further engagement. This was acceptable because the piece worked as
a representation of data and as the entrance of the entire gallery that enticed the general public through its bold visuals.

IV. Graphic Design:

A. Gathering Context:

The American Institute of Graphic Arts (AIGA) is a professional organization for graphic designers. Members take part in communication design, graphic design, typography, interaction design, branding and identity. The organization creates professional ethics and practices for the design profession (AIGA About, 2017). Their Diversity & Inclusion Initiative focuses on the impact of diversity within the graphic design industry and celebrates a diverse range of impactful designers, including figures of historical importance and contemporary role models. The initiative encourages AIGA members to apply critical thinking to societal forces and systemic issues (AIGA Diversity and Inclusion Learning Basics, 2017). From their diversity scholarships to diversity and inclusion events, the group works primarily to educate about diversity in design.

In 2016, The American Institute of Graphic Arts (AIGA) reported practicing graphic designers in the United States as 86 percent White, 6 percent Asian or Pacific Islander, 4 percent Latino and 2 percent African American (see chart 2) (Litts, 2017). As non-White minorities make up only 14 percent of all working graphic designers, this presents challenges for the design
The role of a graphic designer is to capture ideas and experiences using visual and textual content (Cezzar, 2015), and because the majority of graphic designers are White, the ideas and experiences captured are more likely influenced by a White cultural perspective. Minority cultures have less influence than that of the majority — especially given the multitude of different cultures within the term minority. Experimental results indicate that the influence of a majority’s belief system is stronger than that of the minority (Moscovici, 1976).
Audience members viewing design work do not always reflect the culture of those who created it. This is not to suggest that designs can only be viewed by someone who shares the same culture as the designer, but when one group of people who share a similar culture is the only group creating the majority of designs for a diverse audience, minority cultures and aesthetics are more likely to be disregarded or used incorrectly. As design is the practice of being able to reach people and communicate with them in a way they can understand (Rock, 2017), designers could work to connect with a more diverse audience by developing empathy towards others’ situations. Whether it be culturally, financially, spiritually or another form of identity, developing this empathy will provide designers with a better understanding of how to communicate and solve for an audience’s needs (Norman, 2005). Increasing racial diversity is
not the only way for designers to connect with audiences, but it’s a needed area to start in.

Cultural insensitivity is more likely to occur when minorities aren’t present to participate in dialogue about the work. Dove’s 2011 Visible Care advertisement for shower gel showed women standing beneath before and after titles. The African American woman was placed under before and the White woman, after (see image 1). Dove quickly stated that they do not “condone any activity or imagery that intentionally insults any audience.” Yet this could have been a case in which the inclusion of a minority creative member (keen and likely to detect derogatory
imagery based on his or her own experiences) could have helped the beauty brand avoid this incident.

Chart 7: The Changing Face of America, Pew Research Center

In the 2010 United States census, 70 percent of Americans identified as White. The remaining 30 percent identified as a person of non-White origin — or minority. Pew Research Center predicts that by 2055, the United States will no longer have a single racial majority (see chart 1) (Cohn, 2016). Whites will still be the largest race among all races, but there will be an equal number of minorities as a collective group. Given this data, graphic designers will soon be responsible for connecting with a more diverse audience of different views, beliefs, backgrounds and cultures. By including a diverse range of creators in the design process, the work produced
will be more thoroughly checked to confirm that it’s connecting more kinds of people, as well as responding to the contexts of these minority designers, and thus becoming more representative.

Chart 8: Graphic Design Statistics
According to estimates by the U.S. Bureau of Labor Statistics, White graphic designers were the majority race in 2014, followed by Hispanic, Asian and Black.

**B. Designing the Installation:**

**i. Concept 1: Grid**

**Interactive Experience**

**SCATTER CHART**

Out of 50 balls

- 39 balls representing White (77.3%)
- 6 balls representing Hispanic/Latino (12.3%)
- 2 balls representing Black (3.5%)
- 3 balls representing Asian (6.9%)

Figure 24: Scatter Chart

A graphic of a grid would be printed on the ground for users to walk on. Placed among these lines would be colored balls that represented pixels. There would be four colored balls — each
color representing a different race. The number of balls would be proportionate to the data. This entire concept would represent pixels on a grid — alluding to digital work on screen.

Figure 25: Chart Sketch

Critical Thinking:
1. Need no entrance/exit to the piece. This will likely not change based on signage location.
2. Users are able to walk the room with no destination path.
3. The "pixels" are not adhered to the floor; they may be "shuffled" by users.

Questions for Artists:
1. I believe that the larger this is, the more effective it will be. Would a larger canvas/grid make more opportunities for "reading" pieces to appear more times. Do you think large scale is effective?
2. Do you have suggestions as to how users can be encouraged to interact with this (at least walk on it)?
Figure 26: Critical Thinking

Bar Chart

Figure 27: Bar Chart
ii. Concept 2: Grid with Strings

Interactive Experience

- 39 balls representing White (77.3%)
- 6 balls representing Hispanic/Latino (12.3%)
- 2 balls representing Black (3.5%)
- 3 balls representing Asian (6.9%)

Figure 28: Interactive Experience
Through sketching, I explored ways the concept of pixels aligning on a grid could be turned into an interactive experience. The experience’s objective was to create a fluid space that users had to navigate. Slightly chaotic, this experience had potential to be disorganized by user manipulation. The pixels were not planned to be attached to the ground in any way — as the pixels on a grid in digital work are fluid and able to appear anywhere on the screen. I placed this piece towards the middle of the back of the gallery. This would allow it to be seen from outside the gallery space.

Figure 29: Digital Representation of Concept

In putting this concept through its paces, safety became a common worry. Users could be hurt by tripping over one of the balls on the floor — especially since they weren’t adhered. I worked on a new solution that was safer for users. In order to address this clear problem of interactivity, in the next version, I moved the grid on the ground to the area around the user —
as the colored balls were hung from the ceiling on string. In this manner, I referenced the work of 3D artist Michael Murray and his piece, Perceptual Shift, but gave it an interactive dimension. The ground would still have a grid but the representative pixels would no longer be rolling on the ground. I wanted the balls to hang on strings from the ceiling to add another layer of interactivity that users needed to navigate through — similar to the work of a graphic designer overwhelmed in pixels. This change increased safety for users while representing the data just as compelling.

Figure 30: Perceptual Shift, Michael Murray, 2016
V. Photography:

A. Gathering Context:

Photography as an industry lacks diversity, but that has not stopped individual efforts to bring attention to racial disparities. "I Am None of This" was a 2016 campaign by London-based portrait photographer, Slater King. The entire campaign’s message was based around the idea that, “race has no basis in reality,” King photographed individuals: one picture normal and the other a transformed makeover that used makeup and wigs to create an alternative appearance. King’s goal was to educate viewers of the dangers of judging others based on exterior appearances. Makeup artist Babs Forman and wigmaker Alex Rouse helped these transformations. “Prejudice becomes powerless,” was the tagline of each of the photographs.

![I am Ad Campaign, Slater King, 2016](image)

King states that the campaign’s message, “encourages people to suspend their stereotypical beliefs and to refrain from ascribing values, motives, or personality traits based solely on an individual’s appearance.”
Deddeh Howard is an African American model who felt the photography industry needed more diversity. Howard was tired of seeing so few fashion campaigns showcasing models of color. African American Mirror is Howard’s photography campaign with photographer Raffael Dickreuter in which she recreated famous advertising campaigns—reflecting the same poses as White models in advertisements like Guess, Calvin Klein and Victoria's Secret. “I felt it was time to do something inspiring about my race,” she stated during a Good Morning America interview. “I want girls to look at this and see that if those brands don’t want you, you should do your own thing.”

The African American Mirror campaign gained national attention, encouraging other minority photographers to recreate iconic photographs including people of color. “More creativity would be amazing and would also provide great opportunities for us photographers. I hope this project brings some awareness to the issue and just opens up the creative space in the world of advertisement a bit,” stated photographer Raffael Dickreuter.

Through this research, I realized that I needed to make the installation I created involve the human form. Photography’s relationship with race was evidently personal. The photograph was much less about the technical picture and more about the subject and story behind it. As I began brainstorming designs, I made kept this in mind.
Chart 9: Photography Statistics

202,000 photographers in the US:

<table>
<thead>
<tr>
<th>ETHNICITY</th>
<th>PERCENTAGE</th>
<th>JOBS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian:</td>
<td>7.8%</td>
<td>15,756</td>
</tr>
<tr>
<td>Black:</td>
<td>10.5%</td>
<td>21,210</td>
</tr>
<tr>
<td>Hispanic/Latino:</td>
<td>9.5%</td>
<td>19,190</td>
</tr>
<tr>
<td>White:</td>
<td>72.2%</td>
<td>145,844</td>
</tr>
</tbody>
</table>

Photographers in the US

U.S. BUREAU OF LABOR STATISTICS, 2014
B. Designing the Installation:

i. Concept 1: Polaroids

The first concept for the photography installation provided a Polaroid camera for exhibit participants who identified as photographers to take pictures of themselves. The picture of the participant’s face would be immediately printed and added to a large wall of other pictures that would show the racial makeup of all participating photographers at Kent State. On the wall, the photographs would be pinned up, grouped by skin tone. This display of colors would highlight racial majorities, minorities and anomalies. Next to this, a non-interactive chart display would project statistics of photographers based on race in the United States from the Bureau of Labor Statistics’ database. Showing static data next to an interactive and dynamic display, viewers would be able to compare and contrast Kent State’s racial representation of photographers with that of the United States’. Allowing this comparison would give the viewer opportunities to question what they see and watch the interactive data transform and develop patterns.

While exploring this concept, it became clear that using a camera to capture the participants’ faces would not be conducive to a comfortable interactive experience. As race refers to a person's physical characteristics, such as bone structure, skin, hair, or eye color [ref], capturing a photograph of these features for a public installation would have been invasive to the participants’ privacy and be asserting a statement on their behalf just by virtue of them being in the space, which could not fairly be deemed consent.. For interactive experiences, participants need to feel safe while relinquishing personal information. Participants may become distrustful
of the tester if anything collected infringes upon their privacy (Kuniavsky, 2003). Becoming aware of this, privacy became a high priority throughout the exhibit.

ii. Concept 2: Light

Figure 32: Photography Sketch
Figure 33: Critical Thinking

This concept for the space viewed photography with a new perspective. Instead of a literal representation of photography with cameras and printed pictures, the exhibit space would use colored light, shadow and depth. Four different colored spotlights would be evenly spaced and projected onto a large, White wall. The amount of light displaced onto the wall would be proportionate to the represented statistics collected from the Bureau of Labor Statistics. On each spotlight, a custom made cover would be designed to control the amount of light being displaced. These covers would be opaque and circular — restricting percentages of the light from shining onto the wall. As White people make up 72.2% of all photographers in the United States, the colored light representing White people would displace a proportionate 72.2% of its light while covering the remaining 27.8%. Spaced out equally, the lights would show four differently colored circles, descending from largest to smallest. This order would be White (72.2%),
Hispanic (9.5%), African American (10.5%) and Asian (7.8%) (Bureau of Labor Statistics, 2013).

Shadows are an important part of this concept. The spotlights projecting onto the wall would be placed against a large panel which would make walking in front of the spotlights the only way to view the display in its entirety. Walking in front of the lights, participants’ own shadows would appear large and intentionally obtrusive atop the projected colored circles. As participants would walk through the display, the lights would shine in their faces, similar to the sudden brightness of flash photography.

Figure 34: Perspectives: a Look through Cultural Lenses, Joyce Yu-Jean Lee, 2012
This concept combines colors, light and depth which are referred to as the core principles of photography (Bogre, 2015). If subjects walk in front of the lights, based on their location or depth within the space, they will appear either blurry (positioned further away from the spotlight), sharp (positioned closer to the spotlight) or somewhere in between. Manual versus automatic focus is often contested among photographers. Sharp focus is notably difficult to achieve and requires impeccable craftsmanship. Tacky adhesives are often used to reduce film buckle — which causes film to sag and lose sharp focus (Stroebel, 1986). This complicated relationship between the photographer, camera and the subject makes precision (or lack) of shadows within the exhibit space feel appropriate as they reflect a common frustration among photographers. In this concept, no longer were there cameras, printed pictures and the requirement for participants to adhere their pictures onto a wall. This concept and execution was simpler and more effective; a lesson that I would also apply to the rest of spaces in the exhibit. I referenced *Perspectives: a Look through Cultural Lenses* by Joyce Yu-Jean Lee. Her use of space was similar to my own and I wanted to emulate the way she made the light into different shapes.

A participant’s introduction to the photography installation would be towards the middle of their experience. While there is no defined path through the exhibit, I intended that a loose structure would naturally be followed due to the placement of each installation (one could not reach the photography installation first, as it is inaccessible from the entrance and exit, for example). Entering the installation from either the left or right of the wall, participants would be able to stand in the space or walk in front of the lights. While tight, this would be an unstructured area for observation and reflection. This installation depends on interaction for the metaphor of
photography to be fully realized. Participants walking in front of the spotlights is part of the experience for that participant and the surrounding viewers.

The photography installation worked optimally for the large wall in the back corner of the art exhibit gallery. In this location, the display would be mostly hidden from the entrance and dark enough to turn off the overhead lights to draw attention to the spotlights’ colored projections.

Conclusion:

Through the process of developing the solutions, I realized how many different design considerations there were for each of the different installations. It was helpful to learn about the context and background of each industry to better understand what visuals and influences I could draw upon for inspiration. From a user experience perspective, there were multiple considerations I had to make for safety, which I had not expected. Transforming my research into ideas, and ideas into installations that could be physically reproduced introduced problems I had to answer.

The purpose of the entire exhibit is to educate and publicize diversity statistics in the arts through public art. I believe that my solutions achieved this in a realistic way. My solutions were created with the mindset that the materials could be obtained and produced easily. Because I thought about how these solutions could be brought to life easily, I would be excited to continue this project into the future. I see this research continuing to create more exhibitions that tackle different social problems like gender roles in certain industries.
I see my research as the beginning of a solution to help bring attention and eventually persuade more people to value diversity within the arts. Because this issue is complex and layered, future research will be required to continue moving forward. Additionally, there may be changes that occur that affect the problem in the future. For now, I am excited to see how these solutions could be implemented to begin to make real change.
Works Cited:


