Salon: Performance and Interpretive Expressions of Creative Scholarship

Salon Sessions replaced the sessions previously known as Seminar Sessions.

Salon organizers:
Kelly L. Reddy-Best, Iowa State University
Jessica Ridgway, Florida State University
Tameka Ellington, Kent State University

Topic: The purpose of the salon was to show juried creative scholarship that would benefit from supplemental presentations such as performance or other interpretive expressions in order to better explain the research associated with the creative scholarship. The main goal of this salon was to enhance the dissemination of knowledge for creative scholarship and explore the possibility of new options of dissemination. The current juried design exhibition, while a great display, is static and does not allow for the display and presentation of some of the in-depth or performative aspects of the creative scholarship that is shown at the conference. We recognize the reasoning behind some of these limitations due to the scale of the current exhibition gallery and the numerous logistics required to put on the gallery. This salon would allow designers a space to show their creative scholarship in an innovative format that includes some type of performance or interpretive expression, allowing for a more in-depth understanding of the research and a way to re-think what creative scholarship is or could be in our field.

Designers:
My Beautiful Annabel Lee, Belinda T. Orzada, University of Delaware
Fried Transformation, Brianna Plummer, Independent Scholar
DearHeart: A Circus Costume, Jenny Leigh Du Puis, Cornell University
The "Moving" Skirt, Bingyue Wei, Iowa State University (Mentor: Brendan Reddy-Best, Iowa State University)

My Beautiful Annabel Lee

Belinda T. Orzada, University of Delaware

"It was many and many a year ago,
In a kingdom by the sea,
That a maiden there lived whom you may know
By the name of Annabel Lee; And this maiden she lived with no other thought
Than to love and be loved by me." From *Annabel Lee* by Edgar Allan Poe

The impetus for this costume design was a commission from a choreographer to design costumes for her premiere production of a ballet inspired by Poe's (1849) poem, "Annabel Lee." This hauntingly emotional poem was expressed through contemporary ballet during a dance festival in June 2018.

I was asked to design costumes in two styles; one for 'Annabel Lee' and another for the female 'Angels'. The design process began with the choreographer sharing a few inspiration images of styles she liked, as well as a conversation about her vision. I was challenged to incorporate a loose historic inspiration for the 'Annabel Lee' costume, and one that would incorporate the flexibility needed for dance, but be visually more similar to 'real' clothing than a classical ballet costume. For the 'Angels', the choreographer wanted a flowy, ethereal mood, but not too literal an interpretation. I provided sketches based on our discussion for her consideration and sourced fabric for approval.

Patterns for the costumes were drafted using knit patternmaking techniques. Standard measurements for a 'Small' were used for two reasons. The dancers had not been cast yet, and by not using personal measurements there is more flexibility for future use.

The 'Annabel Lee' costume has a squared neckline with a pointed waist, center front panel. The center panel has rows of elastic cording which provides the needed stretch and also a decorative visual and textural detail. Sleeves feature gathered caps and elastic at the bicep for a ruffled edge. The skirt wraps across center front allowing ease of movements such as kicks and jumps. Fabric selection also contributed to FEA needs; a soft blue color connected with the sea (AE), while the 4-way stretch torso (F) addresses movement requirements and allows for some variation in dancers' personal measurements for future use of the costume. The center panel and skirt are a polyester crepe.

The 'Angel' costumes have lowered, curved necklines, fitted torsos with a slightly dropped waist, and triple-layer handkerchief hem skirts. The lower sleeve also features a handkerchief draped panel. Natural white stretch lace (polyester/lycra blend) was used in the torso and upper sleeves. Silk 'soft' organza was used for the lower sleeves and the skirt layers. A 4-way stretch fabric backs the lace in the torso area. FEA needs were met through the movement allowed by the stretch fabric and flowing skirt (F), the light, flowing fabric giving the sense of otherworldliness as the dancers move (E), and the color and silhouette (A).

Costumes and choreography go hand in hand (with the music) to communicate the mood to the audience. The FEA Model (Lamb & Kallal, 1992) provided a guiding theoretical foundation for the costume design development. Figure 1 shows the concentric rings of the model and demonstrates its application for costume design. The dancer (target consumer) is at the heart of the figure. The costume is built with the character or role of the dancer and the vison of the artistic director/choreographer constantly in mind. The costume also must contribute to the communication with the audience. The second layer (cultural context) builds in the contributing factors of music, set and choreography that make this type of

design challenging, purposeful and deeper than a standard garment design. The FEA design characteristics from the outer layer are affected by each of the components of the interior rings.

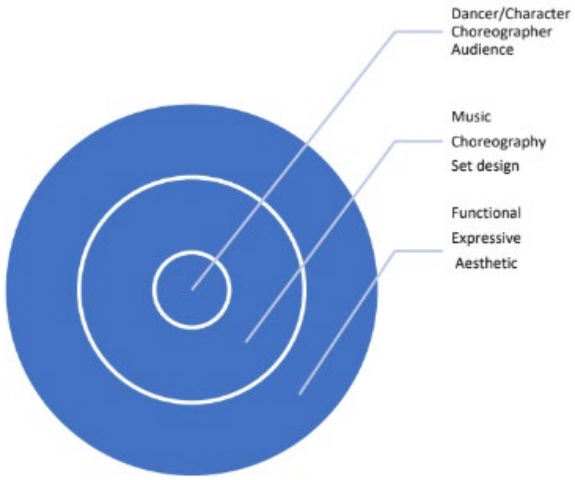


Figure 1. FEA Model interpreted for ballet costume design

A costume designer must work with the artistic director or choreographer to create a design that completes his/her artistic vision of the ballet and for each dancer's character. Considerations of aesthetics (particularly choices of color and line), expressive qualities of the costume, as well as functional aspects must combine for a successful realization of the costume through application of FEA criteria. This submission contributes to the understanding of creative design practice for ballet costume design (Bye, 2010) and demonstrates the usefulness of the FEA Model as a theoretical framework for creative practice.

Link to designs in motion.

References

Bye, E. (2010**).** A direction for clothing and textile design research. *Clothing and Textiles Research Journal, 28*(3), 205-217.

Lamb, J.M., & Kallal, M. J. (1992). A conceptual framework for apparel design. *Clothing and Textiles Research Journal, 10(*2), 42-47.

Orzada, B. T. (2013). Ballet costume design – The ultimate challenge in function and sustainability. ITAA Proceedings.

Poe. E. A. (1849). Annabel Lee.

Image 1. Annabel Lee performance

Image 2. Angels performance

Image 3. Annabel Lee front

Image 4. Annabel Lee back

Image 5. Annabel Lee side

Image 6. Annabel Lee detail

Image 7. Angel front

Image 8. Angel back

Image 9. Angel side

Image 10. Angel detail

Fried Transformation

Brianna Plummer, Independent Scholar

Transformative products enable the creator to design multiple uses for a single artifact. The design process for transformative products inherently places a focus on the user's experience with the product. The empathetic evaluation of the user's experience has been associated with the growing interest in Design Thinking (Elverum, Welo, & Tronvoll, 2016) and Experience Prototyping (EPing). Buchenau and Fulton Suri (2000), IDEO designers, coined the term experience prototype (EP) and recognize "understanding existing experiences and context, exploring and evaluating design ideas, and communicating ideas to an audience" (p. 424) as the three important tenets of EPs. In order for creative research on transformable products to be communicated, it is necessary to present the user experience with the transformation as well as the product in transformation. In traditional design exhibitions, the artifact is typically viewed in a static state; with transformative designs there is a need to view artifacts differently, especially in transformative garments.

Transformable garments designed by professional designers Miyake and Ohya, and student designers Waibel and Plummer are inspired by the ancient practice of origami. These innovative designers sculpt folds, shapes, and silhouettes through creative folding and pleating (Plummer, 2016?) for transformative garments. Plummer (2016) expressed the need to find alternative ways to present transformative creative scholarship by stating:

> *Origami Transformation* not only adds to the existing knowledge of origami fashion but more importantly assists in recognizing the need to present design scholarship using alternative methods, such as video or sequential photography. Waibel also disseminates her work as video (Waibel, 2015) and Miyake and Ohya have shown their work in interactive exhibits (Mitchell, 2005). As the creative scholarship for transformative designs increases so will the need for a less static evaluation of the work (p. 2).

The purpose of *Fried Transformation* was to create a transformative theatrical fashion design that is inspired by the intersections of origami with art, digital textile printing, theatrical fashion design, and creative pattern cutting and practiced the live edge technique to emphasize trompe l'oeil effects. The biggest challenge of the garment design was the nontraditional patterning techniques of using a geometric shape and forcing it onto a body. The creative pattern cutting technique started with a shape, albeit proportioned to a body, which was not drafted or draped from body measurements. A great deal of experimentation went into the slashing of the egg shapes. By placing intersecting slashes, altering the lengths of the slashes, and altering the angles of the slashes, different reactions occurred when the shapes were worn. In order to keep the shapes intact as much as possible, the flat garment relies on the drape and tension created by the placement of the slashes to manipulate the silhouette. The only fabric removed from the egg shapes occur at the armholes, all other openings were straight slashes that were finished off by a full facing.

Through multiple mock-ups and adjustments to the scale of the shapes and placement of the slashes, the pattern pieces were finalized on gridded pattern paper. Due to the fact that the pattern pieces were essentially a simple geometric shape with specific proportions, it was quicker to digitally draw the pattern pieces rather than to digitize the paper pattern pieces. The shapes were drawn, without the slashes and armhole cutaways, to actual scale using the pen tool in Illustrator.

Only two unique egg-shaped pattern pieces were needed for the shirt. Figure 1 represents the bodice and the sleeves.

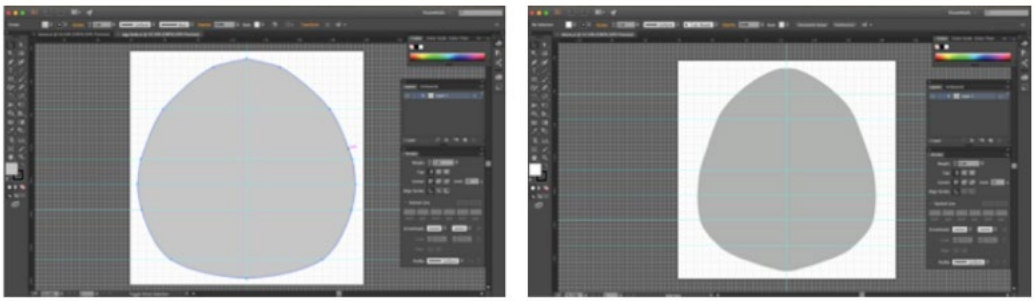


Figure 1. digital drawing of geometric shapes in Illustrator

The shape of each pattern piece was emphasized by digitally engineering a single large-scale fried egg image. The image was obtained by a web search for a high- resolution image of a fried egg, which was free to use. Resources, such as Adobe stock, provide high-resolution images available for purchase. The png image of the fried egg was opened in Photoshop; there was no need to remove the background because the png file already had a transparent background before it was downloaded. Since this prototype is part of a series, the first step was to check the coloration of the image with the coordinating color story and fabrics. A new layer was added to the file and filled with one of the coordinating digital textile surface designs (Figure 2). This layer made it easy to compare the colors while the adjustments were made using the hue/saturation toggles. The coordinated print layer was deleted after the adjustments were made. The fried image was placed and scaled so that the image was the close to the pattern piece shape so it could be finished using the live edge technique. The image was strategically warped with digital tools so that the fried egg edge lined up as close to the pattern piece edge as possible.

Figure 2. Egg motif

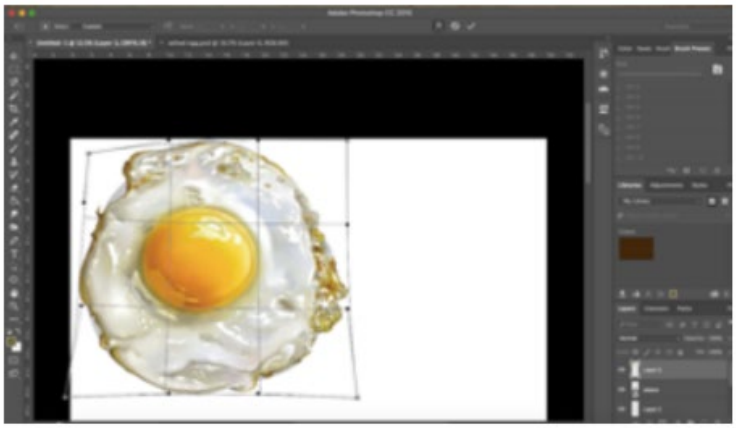


Figure 3. Warped egg motif to fit pattern shapes

Once the fried egg image was manipulated to the bodice and the sleeve pattern pieces, they were digitally placed into the Photoshop marker. The bodice layer was copied once and flipped horizontally so the front and back were mirrored. The sleeve layer was duplicated three more times and two of those layers were flipped horizontally. While all of the pieces were still on their separate layers, the pieces were moved to create a marker with as little waste as possible, keeping in mind the space required for seam allowance (Figure 4).

Figure 4. EP B3 #14 DTP engineered marker

After the arrangement was set, layers were merged, flattened, and saved as a different file. The file was then saved in the format required by the DTP university lab. The DTD was printed on silk habotai, processed, and shipped. The researcher/designer flat lined each garment piece along the live edge of the egg. The slashes on bodice front were faced, and then the front and back were stitched together. It was critical that the live edges mirrored perfectly and this was hard to do with both pieces backed with the felt. Therefore, the backing was temporarily removed from the bodice back so the front and back imagery could be lined up (Figure 5). The printed fabric was sheer enough that it was easy to line up the edges properly and hand basted exactly along the live edge outline. The first iteration of the origami shirt had the sleeves attached to the bodice, but during the construction and fitting checks it was decided to make the sleeves as a detachable feature. The sleeves attach to the shift dress with snaps and fit through the sleeve opening of the jacket. The slashes on the jacket work on the body to form the silhouette. Figure 6-10 show the finished artifact during its transformation and as stages. The following link is to the video transformation for the first iteration of origami transformation and fried transformation will be presented in the same fashion: https://www.youtube.com/watch?v=0EnloLGdkrg

Figure 5. Live edge line up

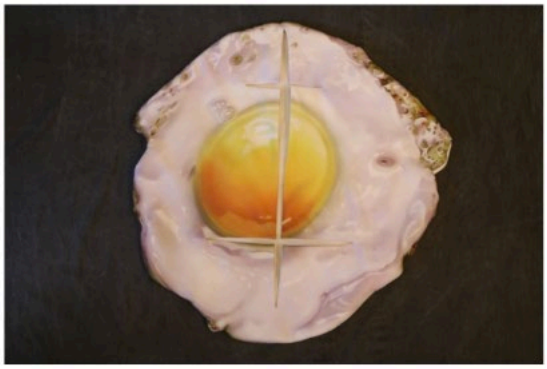


Figure 6. Step 1 fried transformation

Figure 7. Step 2 fried transformation

Figure 8. Step 3 fried transformation

Figure 9. Step 4 fried transformation

Creative research for transformative garments is better understood when presented in alternative formats compared to static gallery exhibits. Video or real time demonstration provides context for how the garment transforms and provides insight into the design thinking for the garment in various stages as well as in transition. As the need for innovative formats becomes accepted in terms of transformative, performance, and functional design the possibilities of how to participate in juried exhibitions and design scholarship dissemination will continue to evolve. The experience of designer designing, the wearer wearing, and even the viewer viewing the garment becomes paramount.

Figure 10. fried transformation

References

Buchenau, M & Suri, FJ. (2000). Experience prototyping. In: Boyarski D, Kellogg AW, editors. Designing Interactive Systems. New York: ACM 2000 p.424-433.

Choi, J. & Choi, Y. (2013). The Expressive Characteristics of Origami Fashion based on Functionality

Elverum, C., Welo, T., & Tronvoll, S. (2016). Prototyping in new product development: Strategy considerations. 26th CIRP Design Conference doi:10.1016/j.procir.2016.05.010.

Fukai, A., Vinken, B., Frankel, S. , Kurino, H., & Nii, R. (2010). Future Beauty: 30 Years of Japanese Fashion, London, England: Merrell Publishers Limited.

Nakamichi, T. (2010). Pattern Magic. London, England: Lawrence King.

Nakamichi, T. (2011). Pattern Magic 2. London, England: Lawrence King.

Nakayama, E., Ishida, S., Liao, Y. J., & Hagiwara, I. (2013). Clothing skirt designed on conical truss model. Advances in Manufacturing, 1(2), 130-135.
Mitchell, L. (Ed.). (2005). The cutting edge: Fashion from Japan. Powerhouse Publishing.
Plummer, B. (November 11, 2016). Origami transformation. International Textile and Apparel Association Annual Conference. Vancouver, British Columbia.
Waibel, J. (2015). Retrieved from http://www.julewaibel.com/Entfaltung-Unfolded-paper-dresses.

DearHeart: A Circus Costume

Jenny Leigh Du Puis, Cornell University

The *DearHeart* unitard was developed as a designed result of qualitative interviews with circus costume designers, technicians, and performers, in addition to drawing on extensive personal and professional work experience in circus and theatrical costume. While much knowledge exists in the field of professional costume for dance and theatre, little to none has been documented for circus outside of the industry. There are a myriad of resources available to students and professionals regarding the development of period costume such as Cunningham (2009), however, information related to developing costumes for circus performers is restricted to industry knowledge and the occasional blog post online. This field comprises not only the look of the costume in relation to the overall design of the show in which the acts are performed, but also the functional and safety needs of extreme movement and consideration for other elements not typically found in other types of performance such as straight plays or dance.

Circus performers engage in movement types that would put excessive strain on everyday garments - some basic examples include the following: a contortionist in full bend needs room for expansion of torso length; an aerialist requires consideration for a safety harness; a tightrope walker needs specialty shoes to be able to feel the wire through the soles of their feet. In all of these types of acts (and so many more), there are specific requirements made of the clothing they wear, whether while training or performing.

As a former circus costume designer and technician, experiential and tacit knowledge informed my work, providing valuable insights into the construction techniques and functional considerations needed in the creation of garments for circus performers. Additionally, qualitative data was collected via video and in-person interviews with circus costume designers, technicians, and performers, so as to gain insights from multiple perspectives and backgrounds. Participants were recruited from my existing professional network and through online postings. The research is ongoing, and preliminary analysis of interview data yielded further information and details such as the consistent use of stretch fabrics, consideration for movement, and the need to plan for body position such as inversion. As RE, a circus costume technician stated:

> "these aren't people that are going to be walking around and standing there, these are people that are going to be doing very physical things, and it's very demanding on their bodies, and on the clothes that they wear while they do it" (RE, personal communication, January 3, 2019).

As a result of these interviews coupled with my own professional career experience, the following statement can be made: the functional apparel needs of circus artists are related to the types of apparatus used and movements performed, in addition to consideration for safety. How are circus garments developed? What are the elements that comprise their design and construction? What are some of the specific considerations that need to be made in the development of a circus costume? These and other questions arose, and as a direct result I decided to engage in design research to develop a circus costume.

DearHeart is a unitard made of metallic 4-way stretch spandex, finished with 1⁄4" braided elastic at the neckline, wrists, and ankles. It is comprised of 42 pattern pieces, and is cut and constructed with extreme movement in mind. Examples of use include aerial work such as trapeze or silks, and floor-based performance such as tumbling, dance, contortion, or balancing. Specific considerations involved in

the construction of the garment include cutting panels in different directions so that greatest stretch is vertical in addition to the typical horizontal direction around the body. In this way, panels in specific areas enable expansion or extension without restriction. For example, the leg panels are cut and seamed in such a way to as to provide support around the upper thigh and increased mobility over the knee. Additionally, a gusset in the crotch (a foregone conclusion in circus costuming) permits performers extended range of motion and extreme movement without needing to worry about split seams. Due to the extreme range of motion exercised by circus performers in the course of their acts, body lengths can expand and contract dramatically, which necessitates room for stretch in the garments worn. A common issue for trapeze artists occurs when they are balanced on their stomach on the horizontal bar of the trapeze and execute a forward roll around the bar – the fabric of the garment covering their stomach can become wrapped around the trapeze bar if it is too loose, causing discomfort and a potential safety hazard. The seaming at the center front of the *DearHeart* bodice is constructed so as to fit as closely to the body as possible, and create a smooth-looking yet subtly textured surface that will ideally help to prevent wrapping around the trapeze.

The garment was constructed based on collective and personal experience, and further physical research is needed. While the garment can currently be used for ground-based work such as tumbling/acrobatics, contortion, or balancing, testing will be needed in any aerial work. The next steps to take will be to recruit an aerial circus performer who can put the garment through its paces and ensure that the movement and safety considerations and needs have been met. From that point, many alterations are possible (and encouraged) depending on the needs of their act. Potential modifications include the addition of neoprene padding to the upper thighs to accommodate for impact and compression stemming from silks or rope wrapping around the leg and supporting an aerialists's weight mid-air, alteration of wrists to include a finger loop to keep sleeves in place or stirrups to the pant hem to secure pant legs around ankles.

I am proposing this garment for inclusion in the "Performance and Interpretive Expressions of Creative Scholarship" because while it could potentially be displayed on a static dress form, a circus costume of this type cannot be fully understood by an audience until it is observed in motion. I propose to showcase the garment on a professional circus artist who can demonstrate the garment through body movement such as contortion, balancing, or tumbling, and answer questions from a lived perspective. There is a tremendous lack of documentation or information available to the field - existing information includes a scant few publications (Bicat, 2012), and most are primarily written in French (ICiMa, 2018). Thus, this design research stems directly from primary sources in the circus community, and is part of the first steps towards documenting and developing knowledge for the field.

References

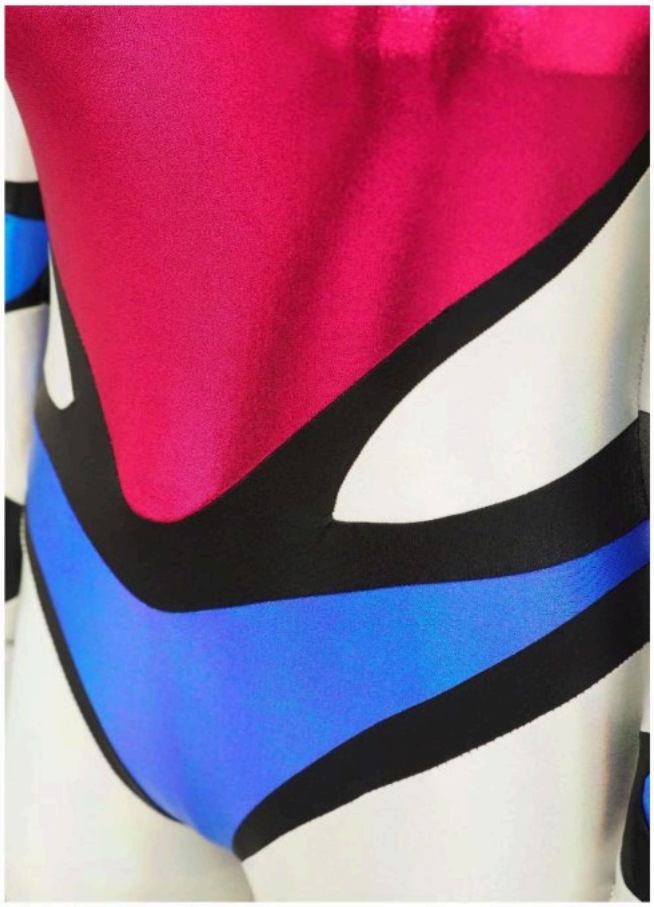
Bicat, T. (2012). *Costume and design for devised and physical theatre.* Ramsbury, UK: Crowood Press.

Cunningham, R. (2009). *The magic garment: Principles of costume design.* Long Grove, IL: Waveland Press, INC.

ICiMa. (2018). *Costumes de cirque: Creations contemporaines.* Chalons-en-Champagne, France: Centre national des arts du cirque.

DearHeart Front and Back

DearHeart Side



DearHeart Detail

The "Moving" Skirt

Bingyue Wei, Iowa State University
Mentor: Brendan Reddy-Best, Iowa State University

Contextual Review and Concept Many fashion retailers and designers and have integrated technology into clothing and provided smart clothing in the market for the consumers (McCann & Bryson, 2009). Hussein Chalayan is a British/Turkish fashion designer and focuses on using technology to create transformational garments. In 2006, he transformed a coffee table into a wooden skirt (Sykes, 2000). Levi's and Google created a smart jacket, which can connect with wear's mobile phone to allow the wearer to know the information from the phone (Molina, 2017). Behnaz Farahi created a 3-D printed garment that can recognize and respond to the gaze of the people (Farahi, 2015). The smart clothing methods used are too experimental and complex for most interested fashion designers or students to use. Currently, fashion and apparel teaching curriculum does not involve much knowledge about technology into patternmaking (Maddux & Cummings, 2004). The purpose of this design research process was to invent a new low- hassle way to integrate high-tech products in a garment. Also, the designer wanted to separate the technology package and the garment, therefore, the garment can be washed. This experimental design was achieved a goal of separating the technology package and the garment. Specifically, the designer wanted to invent a way to make the garment respond to sound with motion. Future students and designers who are interested in interactive garments should be easily able to implement the technology.

Aesthetic Properties and Visual Impact The inspiration for the design came from the colors and movement found in nature. The designer took a digital photo of a field of trees and flowers blowing in the wind. The photo was manipulated into a print design to further visually convey the concept of movement. Pleats were used as the main surface design element through the design. By folding the printed fabric into pleats, the original print design became the interleaved design, and the spacing between each pleat achieved the concept of moving of this design research.

Process, Technique, and Execution The designer used Photoshop to manipulate the nature photograph into a repeating textile design of two different scales. Prior to printing, the designer tested the color penetrability by setting different steam times to achieve the desired printed colors. A total of four samples were tested. Both fabrics were digitally printed onto cotton fabric and steamed in a vacuum pressure steamer.

The design was separated into five parts: a scarf, a reversible crewneck tank top, a circle skater-skirt, an electric belt and a battery holder (see Figure 1). The scarf and the crewneck tank top design process began by creating flat patterns, and the circle skater-skirt construction process began by draping on a U.S. six-size dress form. The outside of the crewneck tank top was decorated with box pleats form by heat and pressure and the circle skater-skirt was created with six vertical pleats by directly draping on the dress form. The electronics and motors for the project are carried on a belt worn as an under-layer. The belt features six servo motors that are controlled by a small microprocessor. The servo motors are held in a custom designed, 3D-printed housing that was then sewn onto the belt. The motion of the garment is achieved through an attachment to the servo motors' actuators that holds strips of synthetic boning. The designer tested the direction and spacing of the pleats of the circle skater-skirt to ensure each section of boning could be positioned neatly within each pleat with enough range of motion to create the desired effect. The microphone as a sensor was sewn on the skirt at the pleats placement lines. A total of

four microphones were sewn onto the circle skater-skirt in order to monitor the sound levels from each side of the wearer. After testing the connections and programming for the connected aspect of the design on a breadboard, the final project was soldered together in order to make it more durable. When the sensors (microphones) received the signal (sounds), the motors move in a variable range and speed, depending on the strength of the signal. The end result of this effect is that the pleats in the skirt will undulate along with the sounds from different directions. The microprocessor and battery for the belt's motors are carried in a compact, removable package that can be worn in a pocket or on an auxiliary garter.

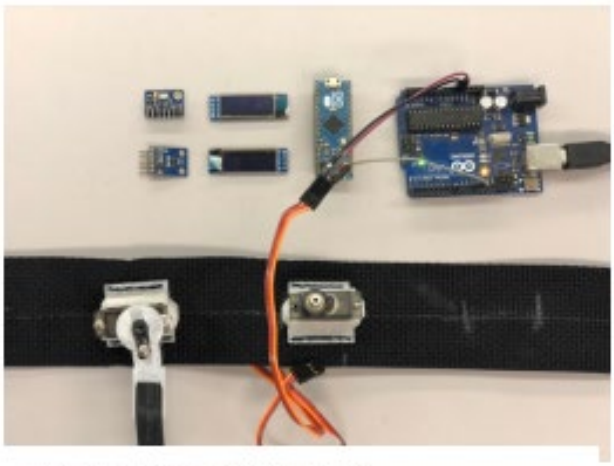


Figure 1. Electric belt

Cohesion The concept of print design is cohered with the "moving" concept of the garment. Specifically, the textile design was developed by studying moments of movement in nature: the trees and the flowers move when the wind passes through; the circle skater-skirt is able to respond to the sounds from the wear's environment. Continuity in theme is preserved through the sections of the top and skirt by changing the direction of the box pleats.

Design Contribution, Originality, and Innovation This experimental design was achieved one of the goals of the design project, which was to separate the technology package and the garment. This design features separate technological components from the physical garment, the skirt could be worn by the wearer in the different circumstances with or without the mechanism for creating movement. The garment also can be washed by the wearer. The second goal of the design project was to popularizing the tech package to the future students and designers who are interested in interactive garments. The tech package is easy to understand, and based on free, open-source hardware and software, in the hopes that it might inspire future designers to branch into wearable tech garments. The designer intends to expand this project to incorporate additional sensors: for example, creating garments that respond to the wearer's temperature or proximity to others. This type of experimental garment might also have applications for heightening the experience of the environment around the wearer specifically for people who have hearing impairment. The garment can tell the wearer the environmental circumstances when the sensors receive different signals.

References

Farahi, B. (2015). Caress of the gaze. *Farahi Behnaz.* Retrieved from http://behnazfarahi.com/caress-ofthe-gaze/ Maddux, C., & Cummings, R. (2004). Fad, fashion, and the weak role of theory and research in information technology in education. *Journal of Technology and Teacher Education, 12*(4), 511-533. McCann, J., & Bryson, D. (Eds.). (2009). *Smart clothes and wearable technology*. New York, NY: Elsevier. Molina, B. (2017, Sept 7). Levi's and Google made a smart jacket, and you can buy it now. *USA Today*. Retrieved from https://www.usatoday.com/story/tech/talkingtech/2017/09/26/levis-andgoogle-made- smart-jacket-and-you-can-buy-wednesday/703138001/ Sykes, P. (2000). Fall 2000 Ready-to-Wear Chalayan. Retrieved from http://www.vogue.com/fashion-shows/fall-2000-ready-to-wear/chalayan