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## "The Story of the Wind" Represented: Experiencing Stories Through Wearable Technology

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As we immerse ourselves deeper into a technological world, how will old stories be represented or retold? Today, stories are transforming into interactive experiences. Along with reading static books, children's stories are created into mobile applications. The Story of the Wind was created to push the idea of interactive stories forward from being screen based to actual physical experiences, which adults as well as kids can enjoy. With this goal in mind, the project explores modern ways of illustration. Our experimentation was inspired from an old Danish tale written by Hans Christian Andersen in 1859 entitled "What The Wind Told About Valdemar Daae and His Daughters". In addition to reading Andersen's story, the reader is able to illustrate it through a performance, shifting the user from a passive consumer to an actual contributor to the story, producing a dynamic, immersive experience of the tale.

To generate this experience, "The Story of the Wind" explores the current capabilities of wearable electronics. The dress has large folds of fabric that capture the wind along with sensors that create ambient music depending on the movement of the dress and the harshness of the wind. In our search for inspiration, we identified that the wind is a strong part of the culture in Copenhagen. The city experiences large winds that generate 20% of their energy through wind turbines. Andersen's story shows the importance of the wind for the city. The dress we created is a reflection of the story and within this many interpretations of "represent" can be reached.

To summarize, the tale is about an upper class family that loses a great amount of money. The father, Valdemar, spends the rest of his life trying to gain his riches back. The whole story is told from the perspective of the wind, who sometimes intervenes to tell the man that life is short and that he should not focus on money to make him happy. We based our project specifically on the

beginning portion which says:

'When the wind runs across the fields, then the grass ripples like water and the fields of grain form waves like the sea. That is the dance of the wind. But try to listen to it when it sings. Its songs sound differently according to where you hear them, whether you are in a forest or listening when the wind makes its way through cracks and crevices in a wall. Look up and watch how the wind is chasing the clouds, as if they were a flock of sheep. Listen as it howls through the open gates; it thinks it is the nightwatchman blowing a horn. Now it is coming down the chimney; the fire in the fireplace burns higher and sparks fly. The light from the flames illuminates the whole room for a minute. It is so nice and warm and cozy in here, just right for listening. Let the wind tell us what story it wants to, it knows so many more tales and stories than we do'. (Andersen, 1859, pp. 1)

Acting as the narrator, the wind takes the reader on a journey through the time and life of Valdemar in order to reflect on how his life was wasted running after money. The author used his story as a metaphor or a representation to teach others morals, and life lessons so that others do not make the same mistakes.

We wanted people to experience the same wind that Hans Christian Andersen wrote about many years ago. Our goal was to tell this tale in a new way for a younger millennial generation. Instead of the usual illustrations and drawings that come along side many great works of literature, we decided to make a physical performance which brings a different experience every time the user puts on the dress. This experience creates a perception in the same way his story did for others many years ago. However, by using technology to retell the story, we modify the represented object, bringing new relevance. In addition to reading the story, people can experience it for themselves through the dress, creating a stronger connection between the person and the meaning behind the narrative. This digital mediation brings new feeling and experiences about the story.

Specific parts of our dress represent different characters from the story. Valdemar's daughter, Anna, has a large presence in the story. Because of her connection with nature, the wind has a soft spot for her. The dress represents Anna, playing and experiencing the nature of the wind. When someone puts on the dress today, they are putting themselves in the character's shoes, taking them back into the fantasy world that Hans Christian Andersen created. Beyond the dress, ambient sounds are generated to create a representation of the voice of the wind. Throughout the story the wind says "Whoop, whoop! [...] All will pass!" to show the reader the foolishness of Valdemar. The wind is also represented in a physical way as the user sculpts shapes out of the fabric by catching the wind.

"The Story of the Wind" has a unique system helping the user to experience the wind in a deeper way through the interface of wearable technology. The dress has two main inputs. First, there is input from the movement when the user sculpts the shape of the dress to capture the wind. The other input is the strength of the wind as it is captured by the fabric. As the user experiences the gentleness or forcefulness of the wind, they are able to get a reflection of the wind's mood at a specific moment by hearing the loudness or softness of ambient sounds. We were able to achieve this system by using a LilyPad Arduino and sensors connected by conductive thread. With the intensity of the wind, data is collected by a piezo sensor that is then translated into sound. Depending on the shape that the user creates to capture the wind, data from tilt sensors also change the expression of this sound. The combination of the shapes and sounds generates a new illustration of the narrative.

With this technology, "The Story of the Wind" becomes a new way of storytelling that connects heavily with the word RE:PRE:SENT. It is related with the Latin prefix RE- when a classic becomes available to be read again. The Latin prefix PRAE- is found when the story is opened for new interpretations through the performance. With the actions of sculpting shapes and generating ambient sounds to match the story, the experience created through the performance is connected with the Latin verb SEDERE. The performance illustrates the story over and over, differently with each user and type of wind blowing that day. In this

way, The Story of the Wind delivers multiple interpretations and representations creating a new experience each time a user wears the dress.

The dress originally was created for a performative design course at Copenhagen Institute for Interaction Design. During a seven day workshop, Associate Professor David Gauthier and visiting faculty member Di Mainstone helped us explore the physical potential and expressive nature of the human body.



**Shape 01 - Into a performance the user sculpts shapes out of the fabric by catching the wind.**



**Shape 02 - Into a performance the user sculpts shapes out of the fabric by catching the wind.**





**Shape 03 - Into a performance the user sculpts shapes out of the fabric by catching the wind.**

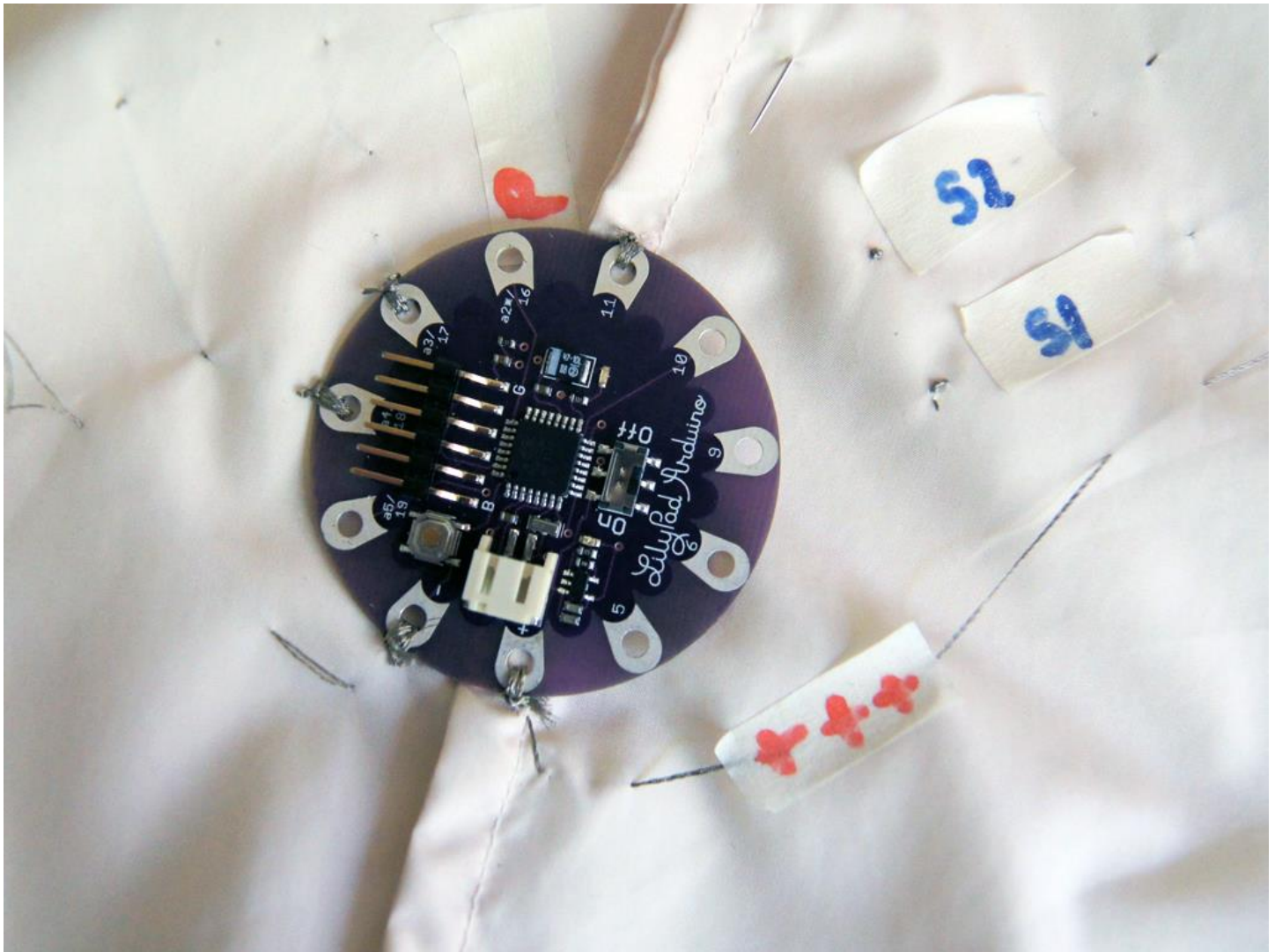


**Shape 04 - Into a performance the user sculpts shapes out of the fabric by catching the wind.**



**Shape 05 - Into a performance the user sculpts shapes out of the fabric by catching the wind.**





Lilypad - the electronic inside the dress

Video reference: <https://vimeo.com/42981972>

Documentation: <http://ciid.dk/the-story-of-the-wind/>

References:

Andersen, H. C., 1859. What the Wind Told About Valdemar Daae and His Daughters - Vinden fortæller om Valdemar Daae og hans Døttre. [online] Scott Mellor. Available at: <http://scandinavian.wisc.edu/mellor/hca/texts/valdamardaae.hca.html> [Accessed 7 May 2012].