

HUGGABLE NATURE WORKSHOP

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Huggable Nature is a public workshop in which participants create wearable interfaces using simple arts and crafts materials to express playful affection towards nature. Specifically, participants design and construct tangible interfaces, which enable them to leave voice messages that play back when they hug trees wrapped with fabric interfaces.

Motivation and Background

MOTIVATION

In the past, when various workshops entailing mechanical electronic parts, including software and hardware, were introduced, organizers often encountered difficulties. For example, at times, their participants felt that they needed to have an equivalent knowledge of computer science or electronic engineering prior to attending the workshop. [6] Simple micro-controllers such as Arduino and LilyPad facilitate participants' engagement with interaction design. [7] However, with such platforms, users still need to have a basic knowledge of programming.

The *Huggable Nature* workshop is intended to provide participants with playful interactions with nature. Because *Huggable Nature* entails the use of simple arts and crafts, with which most participants can use easily and quickly to create interfaces, it is designed for general audience. *Huggable Nature* is a forum for providing playful experiences and for examining participants interacting with nature rather than producing refined results.

BACKGROUND

Do-it-yourself (DIY) practices have been explored in several fields such as sustainable design, fine arts, politics, and health. [1] The general definition of DIY in design and arts is making a product oneself. Broadly, when people create, fix, reuse, and assemble materials, we call it DIY. Popular culture has reflected these movements in TV series and magazines. However, recently, the meaning of DIY has often been used for sharing information, following printed instructions, and collaborating actively. It includes not only the final outputs but also the experience of sharing knowledge and techniques with others. [7] Through DIY, activities become more like playful leisure. People become more engaged and creative when they are enjoying themselves. Such an enjoyable environment is embodied in *Huggable Nature*.

- Popular Culture

The British television series *Barry Bucknell's Do It Yourself* and *Bucknell's House* in the 1950s and 1960s and American action adventure television episodes such as *MacGyver* (1985) and *The A-Team* (1983-1987) played an important role in the popularization of DIY activities. [6] Fan magazines (fanzines) are

also DIY activities, but ones that actively build underground communication channels related to music and sports. [10] A number of fanzines were generated during the first wave of the punk movement in the United Kingdom (1976-1979). Psychiatrist Frederic Wertham has described fanzines as “a special form of communication” in *The World of Fanzines* (1997), and the American writer and academic Stephen Duncombe has characterized fanzines as small publications in which producers create their own unique culture. [2] As independent, self-published publications, fanzines build identities of freedom and resistance in their contents and graphics influenced by the self-empowerment aspect of DIY activities.

- Do-It-Yourself practices

Traditionally, *leisure* has meant the opposite of *labor*. Leisure is regulated by the individuals themselves, whereas labor is structured by other supervisors. British neo-Marxist scholar Edward P. Thompson describes how people’s understanding of leisure time changed as a result of industrialization in the late eighteenth-century. He states that “In all these ways - by the division of labor; the supervision of labor; fines; bells and clocks; money incentives; preachings and schoolings; the suppression of fairs and sports - new labor habits were formed, and a new time discipline established (p.394).” [9] American author Steve Gelber points to the value of DIY activities as hobbies or creative endeavors, noting that “the ideology of the workplace infiltrated the home in the form of productive leisure (p.2).” [4] In this context, he claims that labor could be viewed as leisure. Creative DIY activities bring all the qualities of leisure to labor. Participants in *Huggable Nature* do creative activities individually, share opinions with each other and design arts and crafts to express their affection towards nature. In these activities, they are self-motivated; they do not experience it as labor, but as leisure.

- Playful Interaction

Interaction designer Bill Gaver states in his essay “Designing for Homo Ludens” that “play is not just mindless entertainment, but an essential way of engaging with and learning about our world and ourselves.” [3] He emphasizes the importance and the power of engaging in and learning from play that accompanies intrigue and delight at all ages. For example, in one of the *Huggable Nature* workshops in an Istanbul high school, a senior high school student designed interactive lingerie for hugging trees, thoroughly enjoying the process of creative design. Sometimes she shouted or giggled with her friends while she created and interacted with her devices. In another *Huggable Nature* workshop in the Atlanta Mini Maker Fair, a five-year old boy participated. As he was too young to sew fabrics, he painted conductive inks onto pre-cut wearable devices. After he finished his paintings and left voice messages on the trees, he was excited that his voice messages played from the trees. He commented, “The tree is talking to me.” He seemed to treat the trees as conscious beings. Because the *Huggable Nature* workshops are based on creative ideas and physical activities applicable with all ages or interests, participants are excited about expressing themselves, connecting with nature, and interacting with one another.

Workshop Principles

The *Huggable Nature* workshop is designed to accommodate participants with different abilities and skill levels. The beginning of the workshop leaves time for the exchange of opinions among participants. Then, participants rapidly and easily create playful devices that interact with trees using arts and crafts within a limited time frame. The workshop follows two general principles:

- Openness and collective ideas

People sometimes take nature for granted. In the *Huggable Nature* workshop, participants look for ways to appreciate nature. For example, participants often say that they have never communicated their affection and appreciation to trees before *Huggable Nature*. Also, when they discuss their experience with nature in the workshop, they exchange their ideas and improve their designs. With the success of open software such as *Processing* or *Openframeworks* and web participatory models such as Wikipedia or YouTube in Web 2.0, [8] we can see the evolution of “shareability” and the power of openness in other media. The concept of shareability is similar to Henry Jenkins’ “collective intelligence” or the ability to pool knowledge and compare notes with others toward a common goal. [5] The *Huggable Nature* workshop reflects the concepts of shareability and collective intelligence through active discussion and collaboration, both of which create synergy. As the workshop progresses, unrefined ideas are articulated and implemented into concrete outcomes. Since the *Huggable Nature* workshop is held outside in a park or community garden, more people participate in discussing ideas and creating wearable devices to interact with nature.

- Simple processes and immediate feedback

The *Huggable Nature* workshop focuses on enjoyable and creative designs that are interactive with nature. Simple crafts and DIY practices allow participants to concentrate on their prototypes and minimize the fear of and the need to learn extra technologies. When participants see immediate results, they maintain their interest. In the workshop, they use conductive threads, yarns, fabric or ink to create wearable devices. While touching and hugging trees with their own devices, they close electronic circuits. When the circuits close, participants immediately hear their own or previous participants’ recorded voice.

Workshop Structure

The *Huggable Nature* workshop has been developed over the past two years and presented in three different countries. *Huggable Nature* consists of four steps: set-up, discussion, design, and interaction.

SET-UP

Before the workshop, organizers wrap fabric interfaces around trees. The wrapped felt fabric contains micro-controllers, sound recorders, and speakers. Some interfaces are decorated with words such as “I Love you” or “Hug Me” or with figures of smiling or whispering human faces (Fig 1).

DISCUSSION

In the beginning of the workshop, participants talk about their interactions with nature in their daily life and discuss how they make their surrounding environment happier.

DESIGN

Participants create devices crafted from art materials that they can wear to touch or hug the fabric on the trees while expressing their affection. Some make bracelets or gloves, and others create t-shirts or masks.

INTERACTION

The participants leave voice messages on a recorder attached to the fabric. Then they put on their own designs to touch or hug trees to listen to their own or other participants' messages.

Workshop Results

The *Huggable Nature* workshop has been held in four places: Washington Square Park in New York City on October 9, 2010, as part of the Conflux Festival, the Sao Paulo Cultural Center in Brazil on July 19 and 20, 2011 as part of FILE (Electronic Language International) festival, at the Georgia Institute of Technology in Atlanta on September 10, 2011, as part of the Atlanta Mini Maker Fair, and at an Istanbul high school in Turkey on September 12, 2011 as part of the ISEA (International Symposium on Electronic Art) conference. The first and the third workshops lasted about three to five hours and were attended by about 30 people, including families and local community members, all of whom spontaneously participated in the workshop. The second and the fourth workshop were spread over five hours in one or two days and were attended by around 10 people. All the participants were pre-registered. The following section contains a selection of workshop results:

INTERACTIVE BRA

In the Istanbul workshop, a senior high school student designed an interactive bra for hugging trees. It had two fabric pieces connected with two strings. One was tied in the middle of the back and the other tied behind the neck like a swimsuit. She designed heart shaped conductive fabric and attached it to the printed fabric. After she finished her interactive bra, she recorded her voice messages to the trees. Then she put on her conductive bra. When she hugged the tree, the conductive fabric closed the circuit in the interfaces wrapped in the trees to play her voice messages.

INTERACTIVE GLOVES AND MITTENS

Participants created various gloves and mittens in the workshop since most participants touch the trees with their hands. Some made mittens to avoid sewing a space for each fingers, while some fashion major participants decorated their gloves with letters from "LOVE" or added complicated designs or fasteners (Fig 2).

INTERACTIVE BRACELETS

When participants made interactive bracelets, they needed only rectangle shaped fabric and Velcro tape. Since this is the easiest way to contact trees, young children who are too young to sew fabric as well as adults who do not want to sew paint conductive inks on the pre-cut bracelets (Fig 3).

After they made their designs, they recorded messages, including "Hello trees, I love you and I love hugs," or "You are the earth and so am I." Then, they put on their own designs. When they hugged or touched the trees with their designs, they heard their recorded voice. Some of them became excited

and shouted. Other participants giggled. Many of them urged their friends to participate. After their interactions, the participants gave feedback about their experience. Most said they felt closer to the trees or at least had a positive experience.

Conclusion

The goal of *Huggable Nature* is to have participants reflect on their feelings about nature. By including easy to use arts and crafts materials and techniques, participants can comfortably get involved in the workshop. Whereas many other similar workshops focus on groups of people with similar abilities, the *Huggable Nature* workshop is open to all individuals regardless of their experience, age, income, or technical skill. Currently, participants can only interact with trees in limited interactions. In future workshops, we will add other objects in nature and other modes of interaction.

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