tern and the alarm sound allow for so many variations there is ambiguity in what the exact relation between the two is. This ambiguity can invoke curiosity and stimulate exploration, keeping the interaction engaging and fun.

**Why Industry Doesn’t Pick Up**

In modernity we are driven by the premise that time costs money, the assumption being that money is the measure of all things—especially a thing’s value. But economic value, technological value, cultural value, and therefore human value are not only measured in terms of money or financial capital—perhaps they should never be measured in such terms. The values of modernity also stress that faster is better—the assumption being that speed equals efficiency, time-savings, and therefore, money. In fact, these attributes are favored in humans as well as machines: acceleration, efficiency, order, linearity, simplicity, binary logic, and “machine” like operation, even to the extent that people should reflect these qualities in their behavior and (reflective) relationships with others at all times.

Each one of the “higher” or “emotional” or “humane” qualities which we endeavor to design into our products, flies in the face of modern ideals. The paradox, exemplified by the knowledge that we instinctively want more of these “qualities of life” and yet cannot scientifically prove that they have economic value, is what stops many companies from positioning themselves in this context today. Such qualities are simply measured as too expensive, too complex, too inefficient, too time consuming, and not well organized—even to chaotic.

Most of the world’s “corporate” manufacturers and technology development institutions are still evolving in the value environment, driven by the metrics of economic, rather than human value. Despite the fact that this is especially true in the areas of “high” or “intelligent” technology there are glimpses of significant progress in other contexts.

The objects and systems, which have hitherto made us think, remember, imagine the future, feel or simply be, rather than efficiently “do,” have been considered mechanically or technologically simplistic, even though on closer inspection, they are seen to be as complex as we can imagine. Things such as clothes, paint brushes, pencils, time pieces, musical instruments, cooking utensils, craft tools, and pieces of furniture have all regained appreciation as sources of enjoyment, objects of expression and creativity. They have enabled us to grow and participate in our personal, local, and global culture.

In the worlds of embedded computational complexity and the everyday tool we simply haven’t reached the point yet where the objects are rewarding enough to use, cheap enough to make, and ubiquitous enough in our everyday cultures for them to take on the mantle of cultural carrier, commentator, or in time even protagonist. Perhaps this is because these technologies have not yet moved fully from the state of scientific instrument to fetish object to the embedded every day.

When this happens and the metrics of “value” are fully human-centered we will be free of the modernist restraints, and the tools of “happiness” will be democratized.

**REFERENCES:**


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**It Felt Like Clown Sparkles**

By Kristina Andersen

Studio for Electro Instrumental Music (STEIM)

kristina@tinything.com

A small group of children are playing in a theatre space. One of them, a four year old boy is carefully investigating a man’s hat. The hat is making a singing sound that changes pitch when it is moved. He plays on his own for a long time turning the hat slowly or shaking it and listening to the different qualities of the sound. Then he gives the hat to another child and goes back to where he left his shoes and jacket when he first arrived. There he picks up first one shoe, and then the other. He turns them over and shakes them a bit—but they just don’t make a noise like the hat.

The hat is part of a set of dress-up clothes made for a project called ensemble. The other garments are a dress, an umbrella, a bag, a pair of suspenders and...
two suit jackets. Each piece of clothing hides a sensor of a different type. The dress has an accelerometer at the hem. The hat houses two tilt switches reacting to any change in position from the horizontal plane. The suspenders hold two linear expansion sensors on each shoulder which are activated by pulling. The umbrella has a pressure sensor at its tip. The handbag has two small light sensors reacting to the light-levels inside the bag. The suit jackets share a sonar that measures the distance between their sleeves. All the sensors are modifying sound in real time.

Ensemble is a speculative project created to investigate how analogue sensors in tangible interfaces are perceived and understood through the emerging intuitions of children. For this purpose we created a workshop environment where the sensors/garments were made available to children and we observed how they played with them. The workshops focused on pre-school children because their understanding of the world is still being developed and they accept and learn new causalities quickly. The observations described here are from an initial set of workshops.

The framework is dressing up, and having fun is the main driver for the experience. Children know everything about dressing up, so they are already experts when they arrive. Paper and pens are available in the room and the children alternate between drawing and playing. This is a way to collect feedback but also to create some relative silence in which some children can experiment with a particular garment and sound while others draw. By using familiar objects and activities like dressing up and making drawings the children enter into the experience with a confidence that supports them when the objects respond in unexpected ways. They investigate the garments through informal social play and appear to remain in control as they modify and develop their intuitions about “how the things work.”

After a while the garments/sensors are redefined as sound controllers and the workshop becomes an exploration of their affordances and capabilities rather than the original game of dressing up.

By using the drawings as feedback the children get a chance to contemplate how they think the garments work. After the workshop they have the opportunity to explain the drawings to the adults if they feel like it. Children draw to make sense of the world and when drawing they have the opportunity to develop the intuitions they have about the experience. As the experience moves forward from discovering the sounds and testing the boundaries of their control, the drawings are often explorations of this control and the role of the garment as the controlling object.

The drawing above shows a picture of the bag. The girl who made it is seven and, as she explains afterwards, the bag works in the following way: Stuff (the crisscrossed lines) comes into the bag and then clown sparkles (the wavy lines) come out. On the drawing she has added in writing: “It felt like clown sparkles.” All the sound from the garments came from two speakers mounted in the ceil-
Taking Fun Seriously

By Alan Dix
alan@hcibook.com

Have you watched a child at play? Small hands carefully pile blocks one upon another, tongue tip protruding between clenched teeth, lost totally, concentrating. Children know how to take play seriously.

Often people feel that play, fun, and aesthetic experience should not be analyzed too deeply; by dissecting them, subjecting them to formal reasoning, even just talking about them, they are somehow diminished. There can be a playfulness and a pleasure in understanding the patternings of experience, but for most this is different from being in the “flow” of that experience.

Many feel a sense that trying to uncover the “whys” and “hows” of human experience will (like some sort of Heisenberg observer effect) dissolve those experiences in the watching. In contrast, the producers of artworks often feel less constrained. Some compose or construct in the heat of focused passion, but most craft and recraft their ideas and inspirations. The poet Stephen Spender, in his essay “the making of a poem” reflects on this long, often torturous process and quotes Paul Valéry “une ligne donnée” (the poet is given one line from God, the rest is human graft (Spender 1946).

Some years ago, I was one of the directors of aQtive, a dotcom Internet company. It was approaching Christmas and we wanted to send something seasonal to our registered users and commercial contacts. Electronic greetings cards seemed both passé and boring; everybody does those...and they hardly reflecting the spirit of “aQtive” (pronounced “active!”)

Somehow the idea came...why not electronic Christmas crackers? Une ligne donnée!

Now for those readers without some British connection I will probably need to explain the Christmas cracker. It is party time! Around the Christmas dinner table at each place is a “cracker” (a brightly colored paper and cardboard tube with the ends pinched so that the contents do not fall out. As the food arrives you take your cracker and offer it to someone else. You each take an end and pull. The paper breaks and a small strip of gunpowder-coated card makes a loud bang as the cracker tears apart and

<table>
<thead>
<tr>
<th>REAL CRACKER</th>
<th>VIRTUAL CRACKER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>cheap and cheerful</td>
</tr>
<tr>
<td>Play</td>
<td>plastic toy and joke</td>
</tr>
<tr>
<td>dressing up</td>
<td>paper hat</td>
</tr>
<tr>
<td>Experienced effects</td>
<td>offered to another</td>
</tr>
<tr>
<td>co-experience</td>
<td>pulled together</td>
</tr>
<tr>
<td>excitement</td>
<td>cultural connotations</td>
</tr>
<tr>
<td>hiddenness</td>
<td>contents inside</td>
</tr>
<tr>
<td>suspense</td>
<td>pulling cracker</td>
</tr>
<tr>
<td>surprise</td>
<td>bang (when it works)</td>
</tr>
</tbody>
</table>

Table 1. Elements of the cracker experience.