

Summaries - Jurre van Rijswijck

Summary 1 - Emerging Technology in Toy Design

Every item in your daily miserable life can be treated like a toy. If a person wants to play with his fork or knife he is totally free to do that. But seeing normal day objects as things you can play with is different than a specific product which is designed for playing purposes. This chapter elaborates on the process of toy design and emerging technologies within it.

Besides form, function and manufacturability the products need to be in line with parents and children their needs. Since children are very fragile beings toy products need to pass all sorts of safety rules. Beside the (end)-user needs toy design tends to be influenced by time and money. The toy market is a seasonal and thus the process around toy design has to be constructed carefully because a product can be a hit or a miss. To overcome these challenges designers needs to create low-cost, robust products which appeal to the whole user base in a short time.

Emerging technologies in toy design is a fragile but promising niche in the toy market. This concept of toy design is quite young but the possibilities are endless. Instead of the timeless toy design designer incorporate emerging technology in toys. For example Disney infinity which blurs the border between the physical - and digital world is a thing right now. People can buy the real-life objects which get translated to a digital environment by connecting it to the computer.

But, besides incorporating electronic technology in toys, it is also about toys which use analog innovations. The author gives a great example with nerf guns. The concept of a toy which shoots is a known thing, but the author helped creating a new, better firing mechanism which enables users to shoot further.

Finally, the manufacturing process changed too through the years. Technologies like 3D printing and laser cutting are getting more affordable for the public. Instead of submitting an order to create a prototype of a design to a distant fabric in China, you can just print it at home with a relatively affordable 3D printer.

Summary 2 - Intelligent Materials: Designing Material Behavior

Objects consist of certain material, most of the times people tend to use know, classical material which have been around for a relatively long time. But there has been a mental breakthrough in willing to use new innovative material which could broaden our spectrum of design. In the coming decades we will see a fundamental evolution in the word material. Since we have advanced technologies to adapt material on molecular level we can create new materials literally from scratch. This combined with involving smart technology could lead to a whole new way of creating a object.

With the use of 3D printers we have greater control over how to create product. For example, ideally a 3D printer could print a smartphone from scratch just by stacking the right materials. Right now printers are just able to prints in single material with color options (just like a laserjet). But in the future integrating form and function is the next big thing to happen.

As stated earlier involving smart technology with material design could be a next big thing. With the use of emerging technologies we can create algorithms which can be the foundation for programmable matter and dynamic structures. The text gives a great analogy with an octopus, an octopus is able to manipulate his own skin in order to blend in with the environment. With use of computing technologies this can be translated to actual functional objects, an existing example would be a simple LCD screen. But for future purposes think of adaptable materials which act to their surroundings.

In the last section the writer considers possible scenarios in which he elaborates how the intelligent material age could go. His scenarios range from managing how rain water is contributed on a building to actual implementing physical behavior in product.

Summary 3 - Embeddables: The Next Evolution of Wearable Tech

Evolution is a wonderful thing, evolution made us, and all other living entities what they are now. Evolution is a continuous ongoing process which is happening unnoticeable for us. A process which is uncontrollable for us, it just happens. But what if we can play our own God and control and modify our own nature on a (meta)physical or even mental level?

As long as we, humans, are part of this earth we have been modifying our bodies. Ink, rings and implants have been around for ages. Until the 21st century they all shared the same purpose: esthetics. Beside esthetics we also used it for repair and improvement. Take for example skin transplants and plastic surgery. But now, with our new emerging technologies we are close to being able to do more than just "simple" modifications for esthetics and repair/maintenance.

The ways of body modifications as described above have been around for ages and are, especially now, ready to be innovated. Since the recent human generation has the ability to use a wide spectrum of possible "embeddable" technological advantages. With embeddable tech we can create a whole new language of interaction. For example body integrated tech which interfaces the user with tactile signs, immersive displays embedded in the eyes and even thought control. Though control works on a mental level which is quite scary to be honest, we all could become remote-controller zombies if used wrong.

Of course all sort of ethics come with those evolution controlling modifications, it is our job to be very secure and thorough in what we do. Personally, disregarding the fact that embedded tech is very interesting, I think that we should just let nature her work.

Summary 4 - Musical Instrument Design

Musical instruments deliver upon the ability to create an experience not only for the user. This is called Experience Design. Instrumental design illuminates Experience Design, Musical instruments have been around for ages and are thus far refined that they are sort of a second nature for us.

But over time the world of music changed, nowadays it is not just about learning how to play and compose songs. Today's music is also about repackaging recordings for DJ purposes and designing your environment for the best music experience. This new era of ubiquitous music is here and the output remains the same as it is all about the sound. But what changed regarding the input? Input can be physical, digital or even with gestures or mind control.

With the help of sensors and computers we can measure and control sound as accurately as we want. We can design Software instruments which rely on gestural input, which is mapped by a computer to corresponding sounds. The input can also be through a screen and directly composed into music. The possibilities are endless but the output through mapping should have three things in common.

- Consistency. The same input gesture should produce the same output sound
- Continuity: Changing a gesture slightly should change the sound slightly.
- Coherence: The direction that the sound changes should not be astonishing.

Since about every object in the world can be a musical instrument we need to have some notion of rules regarding the output. The rules as described above help us to remain contributing to our broad spectrum of diverse music.