

Tools of the trade

Nowadays, almost everything has to digital. You can barely go through a day without being in contact with something digital at least once. Better yet, the very first thing you'll be in contact with on a day will probably be your alarm clock or the alarm on your mobile phone waking you up. Electronics are slowly replacing all kinds of things; you can read the paper on your tablet, you talk to your friends on the phone and even cars are now being built so that they can park themselves. But not only the things we use are becoming digital, also the things to create with are becoming digital. You can model a shape, send it to the 3D-printer and within a few hours time you will be able to hold your modelled shape in your hands. Everything is becoming easier and more convenient. Electronic instruments are programmed to do all the calculations and translate your input in order to create the thing you desire.

Also, everything becomes more equipped and gets a wider range of functions and options. Take for example the mobile phone. The main purpose of it was to have a portable phone so that you would be able to call someone from wherever you are. Though now it also comes with games and a camera and you can listen to music and check your email. So not only are a lot of things becoming digital, the already digitalised objects themselves are also still evolving and becoming more advanced.

For my project I decided to take something analogue and turn it into something digital and even try to enhance it. To stay in my theme of choice, audio to visual, I took the music box as my starting point for the audio part. A nice little instrument that found its origin in the early 19th century. It consists of a cylinder with little pins on it that brushes against a little metal comb with tunes teeth cut out in different lengths while spinning the cylinder, creating a range of tones that will sound the melody. A few of the earlier models used to have a disc with little holes in them to generate the tones. Another close related instrument to the music box is the barrel organ. It either operates with a cylinder like the one from the music box or with an organ book, which are cardboard shades with stripe-like holes in them.

For my music box I started thinking on how I was going to generate my sounds in a digital way. I wanted to work with the organ book idea, so I had to find a way to ready the stripes and gaps. So I decided to use light sensors. The paper would slide over the sensors and once the light would hit the sensor through one of the gaps you would be able to hear the tone. To achieve this, I wrote a script that would be sent to an Arduino, which would activate the system. After the base was set, I could start and look in which way I could improve my digital music box and create the visual aspect of my theme. I started playing around with it and notices that by just waving your hand above the sensors it would create odd and random kind of melodies, but you would also be able to control which note would be heard and you could start jamming with it. That's when I came with the idea to 'write down' the music while you're playing it so you could read back and save

what you just played. So for the visual part of my theme I decided I would print the notes in the way that is used in the organ books. The sensors are linked to servos which have markers attached to them, so that once a sensor would be activated you would hear the note and at the same time the servo will set the marker down on a piece of paper, that will be rolled through the box by using a little motor, and create the stripe that represents the note. Each sensor has their own note therefore their own servo and marker. So while playing your song the notation of it will come rolling out of the box.

And just as with a music box, all the mechanics are hidden away inside the box. The only things that are visible are the sensors and the slot where eventually the paper will roll out off. This will keep some mystery to it and people will have to come and try it out for them selves in order to see what the box does.

So now I have created my new and improved digital music box, which lets you create your own tunes and at the same time make a print of this. But now my question really is; is it really that much better then the original or is it not even better at all?

This brings me to the main core of my project; is it really necessary and better to turn everything into electronic and digital devices? I personally have this love-hate relationship towards everything electronic. On the one hand I can't go without it, I even so much as rely on it. I need my laptop and my camera and all the software in order to work within my discipline. I need the Internet to do my research on for school projects. I need my phone to stay up to date about changes in schedules or to arranged meetings. I basically wouldn't be where I am today without it. It has even come to a point where you barely can even avoid it anymore. You have to digitally check in for the train, you have use you debit card if you want to pay or get cash from the ATM, you can't even go into a grocery store without having the doors automatically open for you. But I do find it fascinating. I for example loved making the music box and figuring out where which wire should go and trying to write the right script in order to make it work. It is amazing to see how much is possible today and how fast it is developing.

But at the same time this scares me. What would the world look like in a few decades? Will it all be machinery and flickering light, where there is barely any human interaction left? I mean look at us now; we can't go a day without our phones. Go to any arbitrarily, slightly crowed train station, park, square or even café or bar and it would be a miracle if you would not see even one person on their phone. And I know, I'm guilty of this behaviour too but sometimes do wish it wasn't that way. Sometimes I wish we would still live in a world without all these developments, where train tickets were still nicely print on a piece of paper, where coffee would still be made with a coffee grinder, where you still had to do the pushing yourself in a revolving door or that we would even still only used candles for light. Okay maybe the last one might be a bit extreme, but still. And I know these are just small things, but a lot of small things make a big thing. These old little things romanticised the world a bit more, kept it a bit more human instead of this cold society driven by electronic equipment's. And for some of the developments I'm even wondering why it would even exist or be necessary at all. Why would you want a washing

machine with a wifi connection so you can turn it when your not at home?! Okay yeah so you can time when it turns on so it will be done at the very same second as you get home so you can take it out straight away. But why! Is it really such a problem that if you put your clothes in, turn it on right away, leave, come back and it will have been done for a couple of hours? It's not like it will decide to eat it if you do not take it out within 10 minutes after it has given you the sign that he is done. Or why would you need a heart rate sensor on your phone or a toothbrush with a internet connection so it can show your statistics of how you are brushing your teeth and what you're doing wrong? Everything has to become more extensive, just so it can be 'more' and better to climb up in the market, because for some reason this is what people want.

And maybe that is exactly the point; things need to evolve. Everything. I mean the very core of life is evolving. Without evolution we wouldn't be where we are today. And maybe this rule is the same for electronic equipment. Whether you want it or not, things will grow and change, because everyday we're learning more and more about these techniques. And some things are actually getting better for a good cause. Take for example the equipment in hospitals. We have been able to save so many lives due to the evolutions in electronic technologies. But also the quality of education has improved because of it. Or think of another important aspect like entertainment. Movies are getting bigger and more impressive. There are all these virtual reality systems being developed and games are getting more depth and can even be played without using any controllers. I think life would also get rather boring without all these technologies and developments.

But also for the art industry it is important to have all these techniques. It comes with a new form of creativity, new ways to create and new ways to think. Like I said earlier on, my discipline, audio-visual design, wouldn't be the same without the digitalisation of equipment, footage and post-production techniques. It has become such a crucial part of the practise that you almost can't go back to the old ways, also because people keep expecting more and better results.

So as you can see I'm quite torn between my idea's of things becoming digital. Is it better to keep things the way they are to keep it 'more human' or is it actually better to let thing evolve so it stays up-to-date and give better results? And the same goes for crafting, is it better to keep craftsmanship or to get digital equipment involved? And this is what I want to achieve with my project, letting people think about this concept. I took the music box, digitalised it, gave it extra functions and in this way I let it evolve. It could even become more extensive, so it could be used as a tool by musicians to create and capture their songs and jam sessions. If you adapt it even more you could create a now kind of audio-visual instrument out of it. But now the question is, which one do you think is better? The new thing or the old little music box which could be thought of as authentic and romantic? Or maybe we have to find a way to create the right balance between them, of analogue and digital, digital and craft. Maybe that way the world can still evolve but won't be overruled by technologies and keep its authenticity.