How breakdancing taught me to be a technical artist

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Hello ladies and gentlemen, my name is Robbert-Jan Brems. I'm currently technical artist at Codemasters and here to present you my talk : "How breakdancing taught me to be a technical artist"

I only have been working as a professional technical artist in the video game industry for just over a year, but I have been breakdancing for almost nine years, and dancing for almost seventeen.
The reason I am telling you this will become more apparent later on.

Just out of curiosity, are there any breakdancers in this room? Well, the good news is that you do not need any breakdance related experiences to understand this talk.

The main reason why I wanted to do this talk was because I have the feeling that as a person it is really easy to be looking through the same window as everybody else. What I mean with that is when we follow the same route to find knowledge as everybody else, we end up knowing the same things while missing out on other potentially important knowledge.

By telling you my life story as a breakdancer and a game developer I want to illustrate how I reflect the knowledge that I obtained through breakdancing to my profession as a technical artist.
So, the goal of my talk is to hopefully inspire people to start looking for knowledge by looking at learning from a different perspective.

Once upon a time ...

I started dancing when I was around 7 years old. So this gives me almost 17 years of experience in dancing, with 9 years of breakdance included.
I started with hip-hop and this evolved to many other dance styles like streetdance, house, popping and locking, electric boogie, ...

To the people who have no idea what popping and locking is or electric boogie. To put it simply popping and locking is where you pop your body on the beat and electric boogie is where you try to get waves through your body.

My dance school eventually introduced breakdance as a course and because of my other dance styles were all urban dance related, I was definitely interested in learning how to breakdance.

In those breakdance classes I met a couple of guys who told me they were also training at an underground train station. Every week there were breakdancers from different cities coming together to train and share their knowledge. So I started joining these training sessions and I quickly I became

part of an amazing hip-hop community where dance and respect are very important.

One of the breakdancers who became a good friend of mine, taught me how to play Counterstrike at a cyber cafe. After some time I decided to buy my own computer so I could become a Counterstrike addict and compete against others.

After playing a lot of Counter strike I discovered that I could create my own levels with Hammer, the level editor of the half life engine. This was a complete new and exciting world for me. My imagination went nuts when I realised I had the power to create my own virtual worlds.

But after a lot of playing around with the level editor, I noticed that I could not create what I wanted with only the standard assets. So I decided to learn how to texture and model, so I could create more detailed worlds.

This quickly evolved in working on modifications, starting my own projects and then becoming frustrated that it was so hard to find a programmer. So,I ended up deciding to learn how to program so my project had a chance of surviving. This quickly evolved to learning how to make websites, UI, graphical design, drawing and many related projects.

Then I went to University where I learned even more different skills like: animation, rendering, VFX, ...
At the end of my studies I had a big variety of different skills and experiences. Nothing specialized, but a basic understanding of different skills in computer graphics.

Foundation

I think many people would agree when I say that having a good foundation is very important. Whether it is art, programming, design or any other discipline.
It is foundation that makes you who you are and what you do.

When breakdancing I found out that foundation is not only necessary to build from and to maintain, it could help you out in many other other ways.
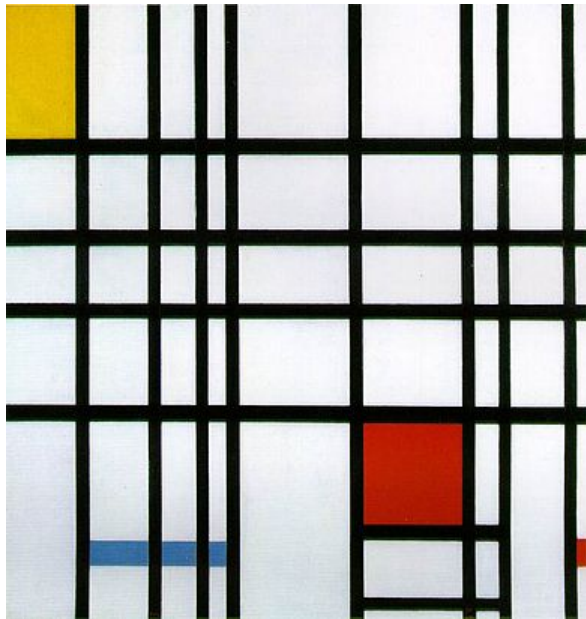
Simplify

I used to have the tendency to see things too complex. Sometimes I still do...

It is quite easy to get stuck on an advanced move in breakdance whilst not making too much progress. At these moments my friends made me realised that when I have too much trouble with a certain move, I should return back to the foundation of the move... This forces me to simplify what I was doing and use the knowledge that I already had to see more clearly what was going on. In some cases I find out that my foundation is lacking and I should spend more time refining it, rather than the advanced move that I was trying to learn.

In technical art you come into contact with a lot of problems. When looking for a solution, it is really easy to see things too complexly. Forcing myself to simplify and return to basics helps me avoid frustrations and wasting time. When keeping it simple, it is also easier for other people to see the solution more clearly and makes it easier to understand.

I recently had to make a tool for placing light probes on a

track. My first thought was to create a tool that automatically generates these light probes along a spline, as we already had the spline data from the artist and designers. But this meant having to code all the different possible situations that I had to take care off. And there was just not enough time to create this kind of tool and to bugfix it.

So with this first thought as a starting point, I started to simply and ended up still using the splines, but just making a tool that creates a box with the light probes placed between 2 points.
These 2 points were just some knots selected on the spline. This tool then was quickly extended with setters and getters for all the properties of the boxes. But overall I was reusing what was already there and not having to spend time on creating new features.

I have done a lot of breakdance battles before I went to university.

A breakdance battle is a competition where you are competing alone, or with other people against your opponents. This can be 1vs1, 2vs2, crew vs crew, ... When having done your runs, a jury (most of the time 3 people) decides who has won. The jury gives points on different skills like power moves (which is the acrobatic stuff), freezes (holding your body in a very uncomfortable pose), footwork (doing steps while keeping your body close to the floor), ... But not only the different skills are important, also the way you **reply to your opponent**.

Having a basic knowledge of all the different skills in breakdance gives you the opportunity to reply in a effective way. When my opponent does some crazy move, I have the choice to reply with the same move, by executing it better, or to make a better combination with a different move, or I would do something that the opponent could not reply to. If I can not do both, my opponent will make a lot better impression on the jury and possibly win.
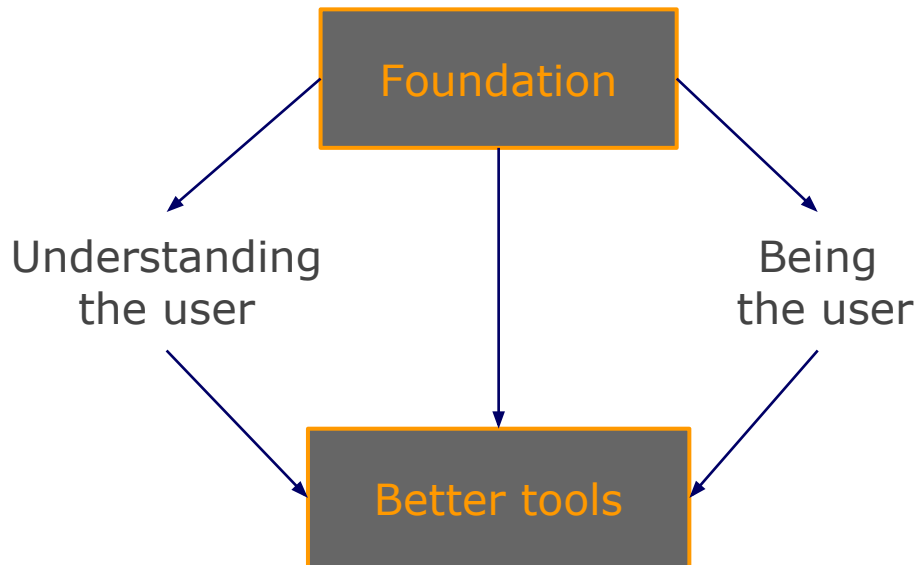
As a technical artist I am not in a competition, but I am on a mission to solve problems and help my colleagues. When someone from art, programming, design or any other discipline comes to me with a problem, I will try to reply with all the knowledge I got from my different skills. This knowledge gives me the opportunity to understand the problem and to help out directly. If not, I can use my basic knowledge from the specific discipline to do more research or ask someone to help me out with the problem.

Another situation could be that the person teaches me how to replicate the problem so I can experience the problem/frustration and become the user myself. Having a basic knowledge of all the disciplines gives me the opportunity to have an understanding of what the user is experiencing when he has a problem. I can avoid a lot of misunderstandings or having an unclear view on the situation.

It is very helpful to be able to experience the problem or the whole process myself so I construct a good image of what is going on. This is especially helpful when designing tools for the user. Too often tools are made by programmers who do not have a lot of contact with the end user or have never used the tool as the end user would do. I see myself being very close to the user and the perfect person to find out what kind of tools is necessary and what we do not need.

So maintaining your foundation of the different skills will help you communicate better and improve your problem solving skills, resulting in saving time and less frustration.

Personalities

When I went to an official breakdance battle for the first time, I was asked to join a breakdance crew called "Rafaga de Viento" This was the breakdance crew from my hometown "Leuven" in Belgium with whom I have been training with for a long time. When I started competing in breakdance I was quite the introverted guy, not really confident in expressing myself and mostly trying to stay away from the spotlights. But you can imagine that is not easy when you do breakdance and while being expressive and confident is very important to be a successful dancer.

After many breakdance battles, performances and events, I noticed that because I had to push myself to become more expressive in my dancing, my personality evolved from an introverted to a more extroverted person.

Not only did my my personality evolve, I started to notice all the different personalities that were existing around me.

Teamwork

When I look back at my own breakdance crew, I discovered a lot of differences: the way someone thinks, the way someone moves, the way someone expresses himself, the way someone communicates .. Even though we had our moments of conflict, there was this glue that kept us together and helped us to communicate. And that glue was our passion for dance. Through dance, we communicated and resolved many issues.

When making games, I see myself as that glue between all the different disciplines.The guy who can communicate will all the different personalities and bring all the information together.

I think the best example is the difference between an artist and a programmer.
An artist tends to think with his feelings, while a programmer thinks logical. A programmer wants a clear direct answer, while with an artist you have to be more tactful. This is off course just a simplification of the matter, but learning to bridge this personality gap is an essential skill for a technical artist. You are the translator between two groups that often don't communicate using the same language.

Body Language

As I mentioned before, a dancer communicates through his expression and movement. So body language plays a huge role in this process.

Dancing did not only teach me how to use my body language to send a message, but I also learned how to read other people's body language and use that information.

Observation

In my role as a technical artist, the user with a problem or request can be a designer, programmer, artist, animator, … They all have their unique body language that tells a lot about who they are and how they react to certain situations.

These reactions become the information that I can use for making my tools better. Their body language becomes an extra way of finding feedback about what I am doing wrong, what I am not aware of and maybe even what I am doing right.

For example: The speed of movement of the user. The first time when the user uses a new tool, his reactions will be quite slowly. What is important for me is observing how fast his pace changes to a more faster speed. The end result should be a good pacing where the user sits comfortably and can work at his own pace again.

The user does not always tell you what is wrong or gives you valuable feedback. Most of the time they even do not know what they want or need. It is for me to find out by not only asking the right questions but by observing what their body language is trying to tell me.

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Attitude

In a breakdance battle it can become quite rough. You are standing in front of each other, ready to battle and find out who is the strongest. Not only is your dancing important, but also your **attitude** towards your opponent, the jury and the public.

Attitude is about changing your body language so people can understand why you are here and what kind of place you want to take in the current scene.

At a breakdance battle my attitude would be to show confidence and be fearsome so I do not give my opponent the freedom to beat me mentally.

As a technical artist, I want to show the attitude of being someone ready to help, listen and make people's life easier to create games. This can create a great **atmosphere** to work in and develops the right **trust**, so communication becomes more **efficient** and effective.

A white canvas is for me the perfect example of fear of failure. Maybe the artists in the room already recognise what I am going to say.

When I began learning how to draw ,I had so much trouble with starting the drawing. Every line, stroke or even erase felt like it could ruin the whole picture. This put a lot of pressure on me as I was trying to become a better artist.

Not only I did I have a fear of failing at drawing, this fear of failure was also influencing my studying, sports and even dance.

Breakdance taught me the perfect solution for this problem.

While observing all the people around me, I noticed a lot of breakdancers were hiding their mistakes by using it to create their next move. For example: If the breakdance made a mistake with his move and fell , he used that fall to roll into another pose so it looked like this was part of the trick. The breakdancer was keeping a continuous flow even while something went wrong.

There were even cases that the dancer by accident created a new move that he never thought about.

This teached me that instead of wasting time on being frustrated about a mistake or being afraid of making mistakes, you can use the mistakes to create something new.

" You do not know, what you do not know "

Use the negative to create the positive.

Once I became **aware** of my fear of failure it changed the way I lived my life. Knowing that you are going to fail is the first step.The second is knowing that you can learn from it and then can use that knowledge to discover new things. This was a blessing for me.

From originally having fear to begin or doing something wrong,I now anticipate it. I use my failed attempts to experiment, learn and discover. Because "you do not know, what you do not know"
This saves me both time, frustration and lets me generate a good end result without having to know perfectly what I want in the beginning.

Tool Dev

Allowing a user to fail and to learn about it is now an important design value I put in the tools that I develop.

For Example: With every tool I make in 3ds max, I have some standard UI elements I add so the user can recognise these and already feel a bit more comfortable. On of these UI elements is a big listener on top of the dialog that uses background colour indication to let the user know whether he has done something wrong or not. This way I interact with the user without having to use any message boxes that the user would not even read.
When the user does something wrong, I let him know what to learn from this and how to continue.

If you interact with the user when he fails and give him the possibility to learn from it, you can have a more enjoyable tool for the user.
This can remove or lower the fear for the user of using a new tool.

Design Constraints

There is this amazing breakdancer from Belgium, called Sam. He once did a workshop for everyone to attend. In this workshop he gave us the task to make a dance out of 8 counts. But there was a catch. He told us that we had to put a physical constraint on ourselves, like : Do not use your left leg, or do everything while being upside down.

The results were amazing. Because of these constraints, people were starting to think out of the box. This whole process boosted their creativity and made people discover things they never thought about. This is again a good example how you can plan your failure by putting constraints on yourself, learn from your mistakes and evolve faster..

 For me this was the evidence that too much freedom can just hold you back
 By putting a constraint on yourself, you define a more efficient way of working with even better results.

Freestyle

When I am breakdancing I am most of the time **freestyling**. This means that I do not prepare my dance , but I will anticipate right there and then make the best out of it by using my surrounding, the music, the people around me, the moves I know to create the most interesting movement I can think/feel of. You can compare it with improvisation, but then for dance.

It is really about making the best out of the things you have.

I have to be creative with the tools, limitations and knowledge that I have at my disposal. A lot of my work is solving problems that can happen on any moment., so creating a solution with the skills and tools I have is essential for a technical artist.

Almost every game developer has been doing this as the computers we use have their limitations, and we have to make the best game out of it despite those limitations.
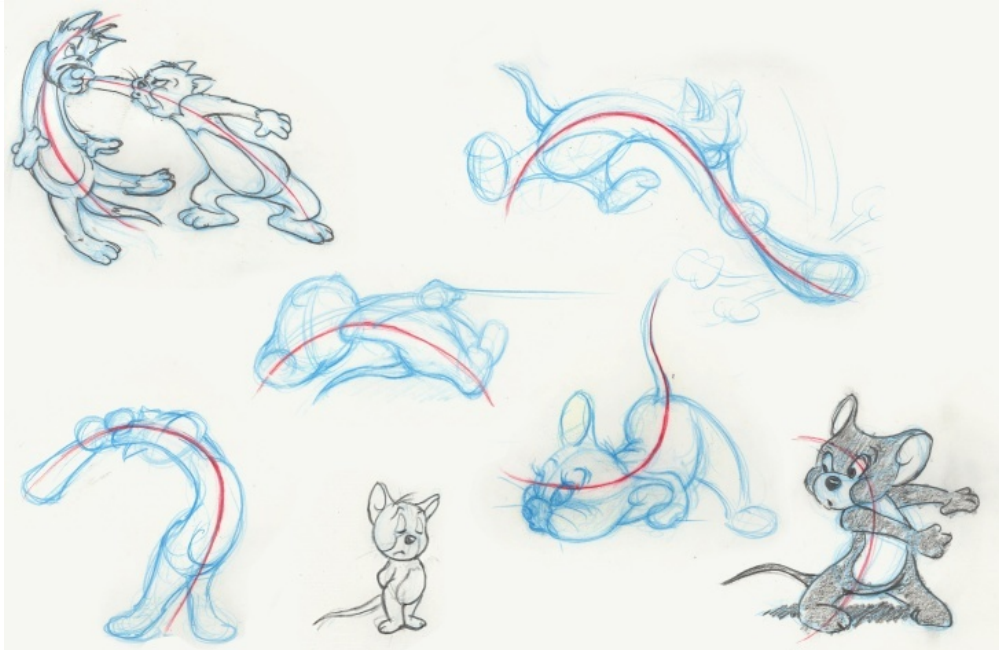
Now, I could have named this presentation "How animation taught me to be a dancer", because animation had a huge positive impact on my dance performances.

My research and practice in animation has given me a new insights in how to make my dancing more interesting to the viewer.

While an animator uses animation techniques bring life to a character, I use these techniques to improve my dancing.

Foundation is key for communication

Beware of the differences in personalities

Body language as a tool

Use failure to succeed

Constrain yourself to be more creative

To wrap up, here are again some of the lessons I learned from breakdance that I now apply at my job as a technical artist.
Hopefully this has proven that finding another perspective to look at can give you a different insight or make you more aware of things in your professional lives.

Questions?

Thank you for listening!