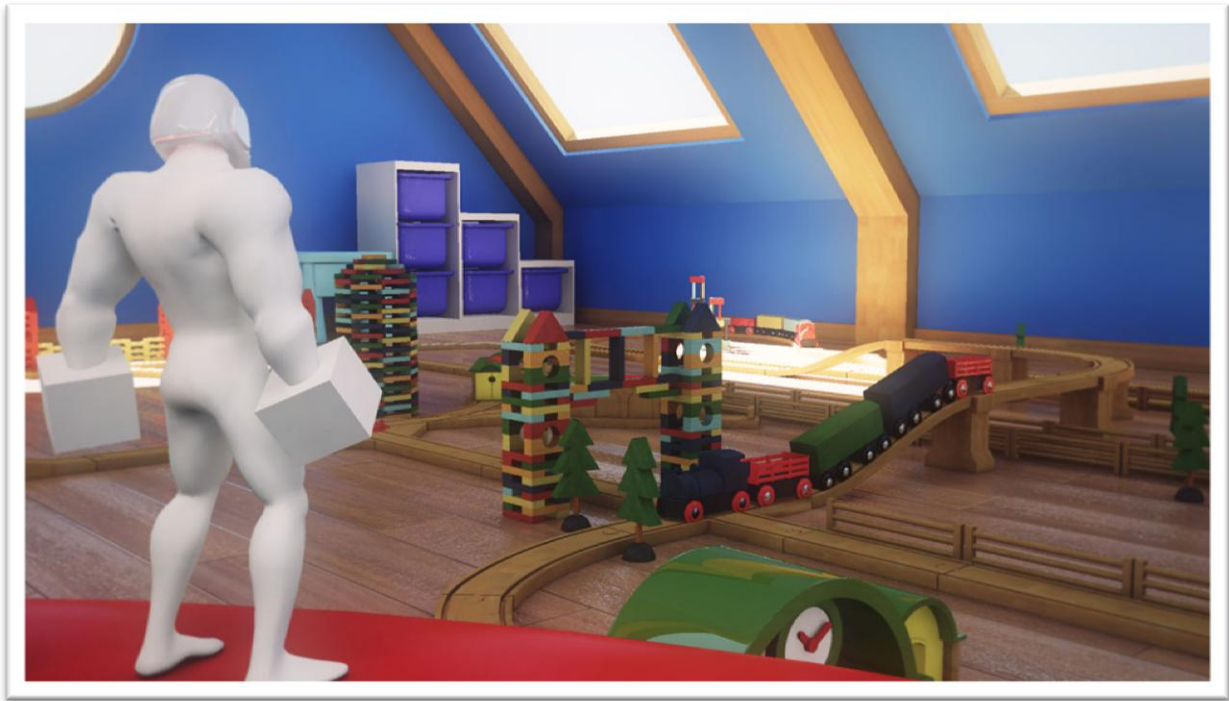




THE MAKING OF WALKMAN 2

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Walkman is a long way from home. Crash-landing on Earth, he has already fought off an army of toy soldiers thanks to his customised suit that sends powerful sound-waves from the speakers attached to his hands. Now he faces his most dangerous foe yet, a toy tank, and Walkman must use the environment around him to overcome his opponent.

This 'Making Of' will explain some of the creative decisions and technical processes behind the animation.

Why Walkman 2?

The aim was to enhance my portfolio and demonstrate a varied and accomplished skillset. Rather than produce several separate pieces of work that showed modeling, animation, lighting, and texturing skills, I wanted to concentrate all efforts into a single project.

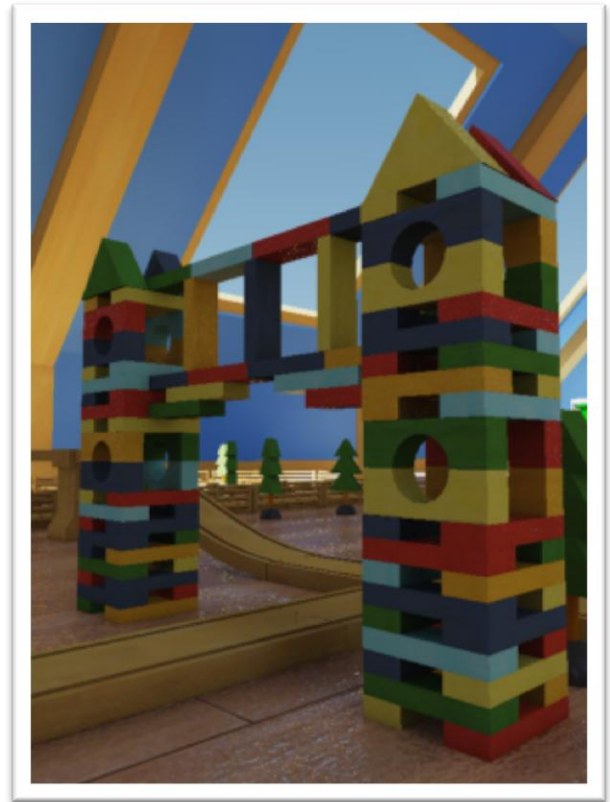
The original Walkman (WM1) was my first introduction to animation, and was created at The University of Bolton in under 10 weeks. Since its creation, the desire to produce a sequel had always been there. Upon graduating, I started the creative process for Walkman 2 (WM2).

Environment and Lighting

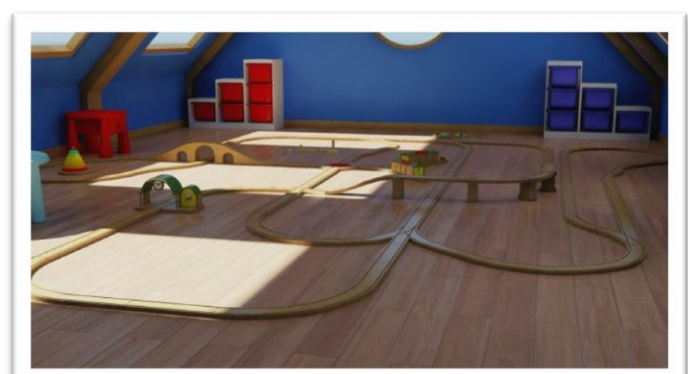
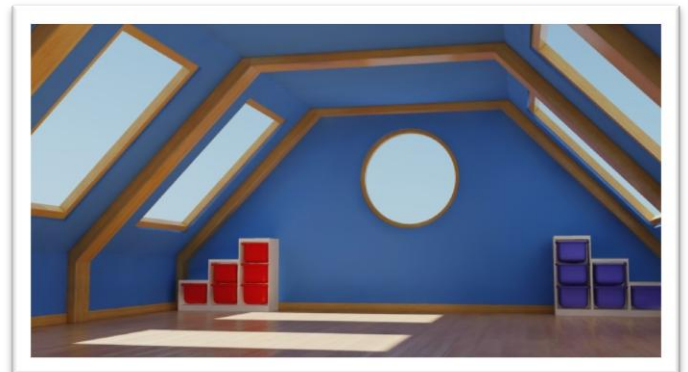
Walkman 2 was designed to be a bigger and better version of the original, and this is reflected in the setting of the animation. Instead of a lounge/sitting room area, the sequel takes place in a child's playroom populated with building blocks and toy trains. The room is similar in shape and size to the original with a large toy train set covering most of the floor, so this was modeled first.

WM1 used Duplo-style bricks to create some interesting set-pieces and also add a variety of colour. WM2 replaces these with wooden building blocks, allowing for the creation of more complex and varied structures. The lower poly-count per brick meant hundreds could be used with a minimal impact on system resources.

The room is lit via a Mental-Ray Sun and a standard skylight with manual positioning. No artificial light was used to illuminate specific areas, nor was Global Illumination activated in the render settings. The Final Gather settings are also fairly low; with a typical FG point density of 0.9 and Rays per FG point of 850 for static objects and scenes. These settings are lowered for animated objects to reduce flickering on the final render.



The switch from Duplo bricks to wooden blocks meant that this structure comprises of just 742 polys.





Planning and Storyboarding

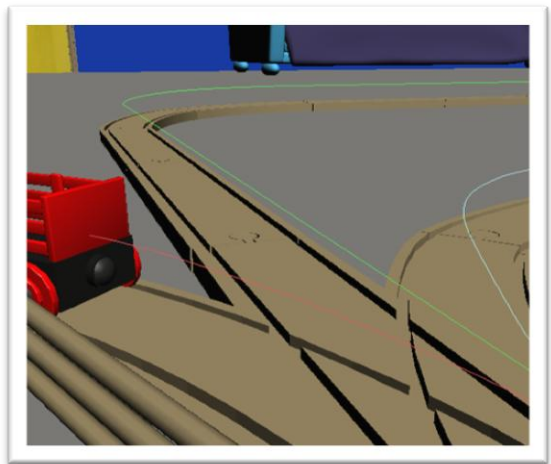
As with WM1 I started planning the story by visualising different set-pieces that I'd like to implement. Some of the early scenes planned include the single-camera shot of Walkman running alongside a brick wall as it quickly becomes destroyed.

Aspects of the story change to reflect the development of the modeling phase and vice-versa. These two aspects of the animation are not mutually exclusive; they evolve at the same time. For example, after modeling the London Bridge-style structure, I wanted to include a scene that involved Walkman evading its collapse.

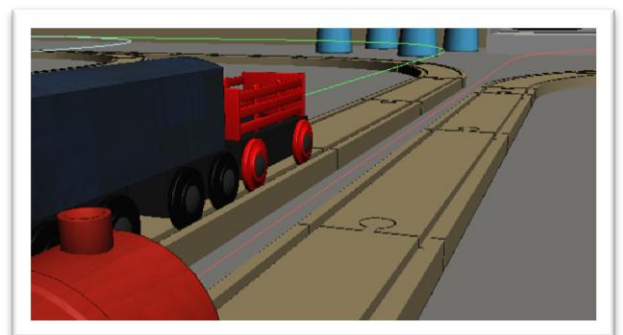
The soundtrack is also finalised at this stage as it is crucial to the pacing of the animation. The opening track ("Tank!") served as a suitable introduction as it matches the playful tone of the animation, but also adds an element of danger towards the end.

Most of the animation in WM2 is to the tune of One Vision by Queen. As with ELO's Don't Bring Me Down in WM1, I wanted to use a recognisable song that suited action-orientated scenes.

One part of the story that wasn't planned until the midway through production was the ending. In hindsight this was a massive error, and I was lucky to have come up with a suitable conclusion. It was always my intention to include the remote control car as part of the story, but its ultimate use was not decided until late in development.



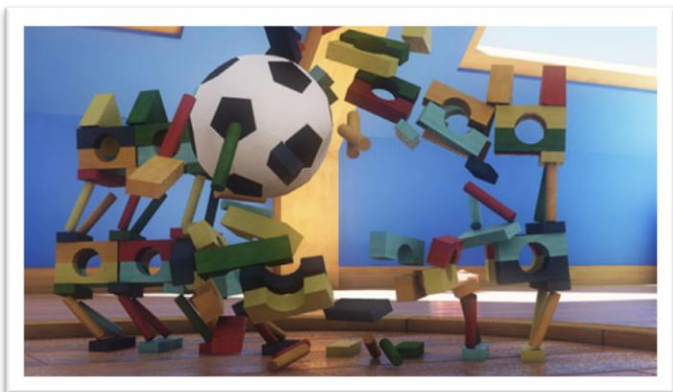
The trains were animated using a path constraint, meaning that each carriage only needed two keyframes to travel along multiple corners, straights, and bridges.



Multiple splines were used to cover every inch of the toy train track.



Early physics test using the Rayfire plugin.



Animation and Physics

The early scenes of WM2 have Walkman fitted with a standard bones rig with IKLimb solvers in his legs and arms. However, it soon became apparent that a biped-rigged Walkman would allow a much more efficient workflow. Poses could be copied and pasted, motion-capture files could be imported, and animation layers could be used.

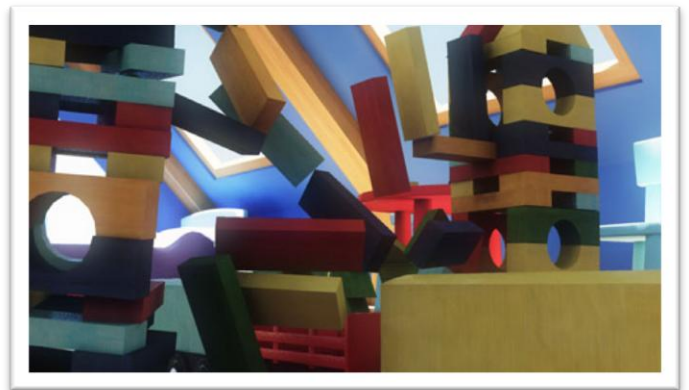
Animation layers proved useful when Walkman interacted with a moving train. Firstly, the original animation was produced with a static train, which allowed for the use of planted and sliding keys. This was saved out as a .bip file with every frame as a keyframe. The .bip was then imported onto the character as the base layer, and a second layer transformed and rotated Walkman to match the position of the moving train.

The RC car and the toy tank were both rigged with Craft Director Tools. The basic bone structure for both vehicles consisted of a chassis, and four wheels. And each vehicle was animated via a Microsoft Xbox 360 controller for Windows.

Rayfire

The Rayfire plugin was used to animate most the physical collisions in WM2. Impacts in WM1 were animated by hand, which took a lot of time to make look natural. Rayfire eliminated this problem and allowed me to create more elaborate demolitions with a greater number of objects.

Proxy meshes were created for the RC car and the tank so that they too could collide with wooden blocks, fences and the model trees.



What Went Wrong

From a technical perspective, the failure to include a skybox means that the room looks too remote. I didn't actually see the problem until it was pointed out to me halfway through production, at which point I would have had to re-render dozens of shots.

There's an inconsistency to the smoke effects used throughout the animation, particularly from the tank. Early shots show the tank emitting lots of thick, dense smoke. Whereas the later instances are more controlled and lighter.

Planning. The project wasn't planned as thoroughly as it should have been. I concentrated heavily on set-pieces, which worked to a degree, but the fact that I didn't have an ending planned until halfway through production is fairly damning. In the end, I was lucky that the ending fitted in with the animation as well as it did.

From a creative point of view, I regret not having Walkman use his 'speaker gloves' more often. Despite being the major feature that makes Walkman, they are only put to use on two occasions. In WM1, there were numerous foes that Walkman could use his gloves against, whereas in WM2 there was only a solitary tank which was too powerful to be defeated this way. Adding a couple of toy soldiers, or using the gloves to alter the environment more often maybe should have been implemented.

What Went Right

Render times for WM2 were well managed. Exporting in layers helped keep render times to a minimum. I exported the animation from 3D Studio Max using the PNG file format, mainly because they had the alpha channel embedded within them, making them easier to layer in Adobe Effects. Rendering out each frame as an image also helped with post-production when wanting to remove unwanted shadows or black marks from within Photoshop.

Character and camera animations in WM2 are a massive improvement over those in WM1. The walk/run cycles are convincing, and there is a lot of interaction between Walkman and the environment. I am particularly pleased with the use of cameras in WM2, especially in the scene where Walkman launches himself from the toy train to the green container. In WM1 the cameras felt static, and slowed down the pace of the animation. With WM2 however, the cameras pan, orbit, and zoom in/out of focus more without being disorientating.



Conclusion

I am both satisfied and proud of the work completed in Walkman 2. It served a very useful purpose in being both a learning curve, and a prominent portfolio piece.

I feel that I made the right choice in concentrating on a single body of work, rather than multiple projects. And I'm also glad that I chose to do a sequel, because I believe that Walkman is a strong, unique character that will resonate (no pun intended) with a mass audience.

The door has been left open for a further sequel, but who knows when Walkman will be back!

Thanks for reading, feel free to get in touch at:

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