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Innovations project report

For my Innovations project I decided I wanted to focus on portraying a specific idea. The idea is related to my final year project which is about the life cycle of the planet Earth in a semi-abstract form. My project uses various symbolism and metaphor to communicate certain ideas related to the growth of our planet, such as evolution and exploration. Towards the end of my animation occurs the concept of 'manufactured enemies or threats'. This is a concept which is important in my animation as I see it as very relevant in the world today. It is important that I convey this idea effectively, which is why I have chosen the problem of portraying the theme of 'manufactured threats' for my innovations project.

As mentioned my animation follows a semi-abstract form, meaning the ideas are communicated not only through accurate visual representation, but through metaphor, colour and suggestive shape. Abstraction is a concept which I am very interested in- how to convey an idea or even how to portray a real world event or object, in a form which is not necessarily instantly recognisable, but that harbours more meaning and feeling than an accurate, real-world representation. This is something I wish to focus heavily on.

The starting point for my project, as mentioned, is to represent the idea of 'manufactured threats'. Before making any design decisions or implementing any solutions, it is important to establish what is meant by the term with regards to my project. It is a phrase which could have several connotations, however I am looking at it from a global point of view, and how war has been used for ulterior motives, which I think has enormous relevance in the world today.

The idea itself is by no means new. I first encountered it personally when reading the George Orwell classic '1984'. Giving a brief summation for context purposes it focuses on one man's struggle to overcome the oppression of the state that he lives in. No aspect of his life is personal except for the thoughts in his head, and we are told that war is continuous, the enemy rarely seen but revered none the less. War is used as a constant justification for poor living standards, oppressive and intrusive control into ones daily life. This is the context in which I am viewing the theme of 'manufactured threat'. However, rather than

portraying this threat as invisible (i.e. as just an idea) and showing the effect on peoples lives (as it does in '1984'), I want to convey this idea in a more metaphorical sense. I wish to represent this threat, its effects, and it's absurdity in one four-second sequence. This required coming up with a visual representation for the themes I wanted to portray.

 I wanted the idea to be very simple, but instantly recognisable. I wanted to portray the ridiculous nature of this unseen threat, its blatant transparency and even it's comedy value. From the start I had a rough idea how I was going to achieve this, and the idea came directly from one of those purveyors of misinformation, Hollywood. The iconic images of spaceships and giant robots destroying cities, in fabulously low-budget B-movies of the 1940's sprang instantly to mind. The panic induced as screaming ladies ran away from dinner plates suspended on wires, the hysteria as giant blobby entities go on a killing rampage at four miles an hour. The absurdity, the silliness, the mass-panic. These are exactly the kind of traits I wanted to associate about this subject. The fact that if one actually stepped back, they would see the wires and they would see the polystyrene, rendering the monster powerless, as it is nothing without fear. It is easy to look at these films today and laugh at the low-budget effects and the wooden acting. However in their day they were considered realistic, and actually caused genuine panic amongst those who watched. It is only with over sixty years in technical advancements that we can look upon such things and ridicule them with such ease. However if our skills of perceptibility are improving, then it is sure that the skills of fear-mongering have improved with it. This is to say that in the future we will look back at the present day and think 'how were we duped', however this is a statement easily made with hindsight. This is why I think the iconic images of B-movies are so relevant, because it will be how we look upon our past in years to come.
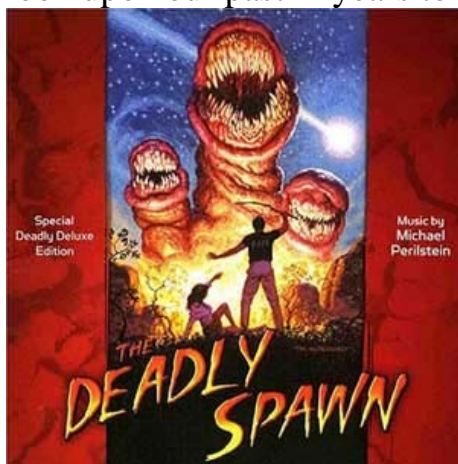
Figure 1

Film poster from the cinematic treat 'The deadly spawn'

Figure 2

Iconic image of the robot, similar to the style I wish to adopt.

So I decided that the way I wanted to portray the theme of 'manufactured threat' was through the instantly recognisable image of a robot destroying a city. It has the implausibility, the absurdity, the fear and the drama that I wanted to associate with my chosen subject. However this is to be a modern retelling. What worked sixty years ago will not work now, and in order to make the audience empathise with the idea, the idea needs to be brought up to date. The city must be modern, but still incorporate everything that I want that scene to represent.

As well as using this modern classic to portray a theme, I wanted the very look of the piece to enforce the fictional nature of this threat, which is why I thought of comic books. A comic is pure fiction, were anything is possible but all is completely false. Again these are exactly the kind of ideas I want to associate with the term 'manufactured threat'; the fact that these threats are so absurd they could very well be a comic, and most

definitely fictionalised. Once I had decided how to represent my chosen theme, I then had to focus on how, visually, to communicate my ideas. I did not want to replicate an old movie scene, I wanted to bring the idea up to date.

There are three distinct sections to my final animation, these are;

- The growth of the Earth and its inhabitants
- The peak of it's existence
- The decline and eventual death

Each of these themes is treated in a different way in order to distinguish the stages. The first section has a very organic, almost painterly look, as though the story is being read out of a children's illustrated novel. This is because I am dealing with times past, something which has already been written and in which nature has had the dominant say. The middle section mixes organic structure with man-made form, they cohabit as one and each has an effect on the other. The final section, the death of the Earth and its inhabitants, is much more physical and man-made in appearance, in order to reflect the perpetrators of the demise and the tipping of the balance of power. This section is set in the future (though not too distant), as it is my own personal opinion and visualisation, and therefore I wanted to remove it in a certain sense from the real world. I see the future as a very sterile place, devoid of feeling and emotion, just like the fictional reality of '1984', therefore I wanted this sterility to be a strong aesthetic feature in my depiction of this future environment.

The problem with portraying the future is that one's ideas are heavily influenced by various factors such as film's they have seen and other people's general representations. This tends to make such depictions rather cliché, and devoid of any innovation. I was aware that it is important to stay away from stereotypes wherever possible. Flying cars and space-cities are proven visual que's , however they are very done-before. I wanted something which conveyed all my above ideas, and a sense of futurism, without being so obvious. In contrast I am not using the well established cliché of a robot destroying a city, just to show a robot destroying a city. I am using it for the connotations that that scene represents today (such as the absurdity of it) to make a point. So visual que's and cliché's can be used innovatively but with regards to stylistically portraying the future, I wanted to be a little more abstract in my thinking, in keeping with the rest of my animation.

The use of shape and suggestion to convey an idea, essentially tricking the brain into perceiving what you wish it to perceive, is what I am interested in. This is not difficult, as I only need to look at myself to understand how the average brain works (presuming I am an average human-being of course). The way we look at a photograph for example, is a good starting point. If we take a photograph of a New-York skyline, shot from a fair distance, its tall, extremely complex physical structures become simple blobs of colour and shade, piled on top of one another and mixed about. The thousands of individually lit-windows, with their thousands of employees sitting behind them, become little more than points of light. The point is that it is not necessary to think in real-world terms when looking to depict something in two dimensions, and thinking non-real-world is the kind of thinking that needs to be employed when hypothesising over the future.

Figure 3
A typical photo of the New York skyline. Fine detail becomes suggestive patterns and tones, when viewed from such a distance.

I started to favour simple line drawings in my design, using blocks of stark, contrasting colour in order to force the viewers' eye into perceiving something grander, rather than looking for recognisable individual detail to ground our decisions. The work of Roy Lichenstein is what I had originally thought of when confronted with this design problem- the way he uses simple line and colour suggestions, which upon close inspection are nothing but unrecognisable marks. He also employed a somewhat comic style in his artwork, however this was not for simplicity, but the comic style in itself is telling us a great deal. In figure 4 we see a couple

riding in a car. However this is not simply a couple going for a drive, it represents a whole way of life; dating amongst young men and women, demure ladies which remind us of your typical Hollywood goddess, the Cadillac car (a prominent symbol of life at the time)- he manages to capture a whole society in a single image and then trivialize it somewhat with the use of a bland but current technique such as comic-illustration. This is not through dialogue or by showing a sequence of events, it is instead showing us the end result, and we as human beings then know what this scenario represents, it is much more descriptive and a much grander concept than two people sitting in a car. This is the kind of logic I wish to apply to my scene, I wish to emulate what he does in his work which is to epitomize things, but in a way that is not obvious, but that requires a certain amount of thought.

Figure 4

Roy Lichensteins 'In the car' (1963) manages to capture an entire society in one picture.

So there were definite ideas I wanted my innovations piece to convey:

- Through the narrative of the scene itself I wanted to convey an outlandish, fantastical and ridiculous situation.
- I wanted the audience to correlate this situation with the supposed threats we face in our lives today.
- I wanted them to associate this well known scene with overstated, laughable fear and therefore associate that fear and threat with the 'threats' that we face today.
- I want to depict this scene in a semi-abstract way so as not to draw any attention whatsoever to any particular place or specific time. I want it to be about the general idea without getting into political details etc.
- I also want to experiment with visual abstraction because it is innovative in itself and something of particular interest to me. I think it is also necessary to apply semi-abstract logic when dealing with unknown entities, such as the future, because this is a much

more honest approach- not trying to quantify things and pin down certain aspects such as style or function, rather communicating the overall state of consciousness of that society.

After firmly establishing my motives and ideas it was then time to visualise them. This process I find is a simple matter of deducing which methods are plausible, and then establishing which method gives you the most creative control over your ideas, allowing for the most accurate translation from head to screen. I knew that I wanted to involve some three dimensional elements because I wanted to show some movement in the scene. One of the movements I wanted to include was a camera move which belittled the viewer. Basic cinematography deduces that if we are seen looking down on something, the audience perceives themselves to be superior to that entity, and vice versa. I wanted a camera move which started on the eye level of the robot but then dropped down to street level to emphasise the enormity of the threat and the inferiority of the viewer. This again is meant to highlight the sense of over-hyped fear, making the viewer feel more helpless as the shot goes on. This again is a reference to the way the public are made to feel helpless, made to feel as if they need protecting. For this to be achieved I needed a 3d camera move. This also dictated that I would need to model my scene, or at least part of it. The robot would also need to be a 3d model as I envisaged it moving.

At this stage, three main solutions became apparent. The first was to model all the scenery and characters, and then produce a 'Renderman' shader which would achieve the certain look I was after. I soon abandoned this idea as it seemed to me too rigid. The setup time, creating accurate and visually interesting future cityscapes, seemed too laborious and inflexible, and relying on my programming skills to produce a shader, which in turn produced a line drawn style which was accurate to my vision, was not a safe bet.

The second solution would be to model and texture everything how I wanted it to be. However the setup time for this again would have been time misspent. It would have given me a certain level of creative control but the actuality of this approach was that it was inefficient.

 The third solution, and the one I decided to employ, was a technique I had learnt recently in my Masterclass project, the technique of Matte-painting. Matte-painting is a technique devised in early theatre where they would have painted backgrounds on stage, along with a few props, in order to convey a setting. Today, and when applied to 3d, the technique is very similar. It involves projecting a 2d image onto 3d models, so that

when there is camera movement, the perspective of the 2d image is changed accordingly because it is applied to three-dimensional geometry. This technique enables most of the work to be done in a 2d paint package and that has many advantages. As I mentioned before, I am coming from an artistic starting point and I want to adhere to those principles as much as possible. As for directly translating an idea from my head onto the computer screen, I think this is the most intuitive and versatile way, which is why I decided to use it. It allowed me to refine my designs with ease and achieve the exact look I was going for. Projecting it onto the 3d geometry then allowed me to have the camera move I desired.

When I decided to use this method, I then set about thinking how to construct my scene. The foreground would definitely have to be modelled to a certain extent because of the moving camera, however I managed to get away with using very simple shapes (see figure 5), as most of the detail would be derived from the 2d texture. The robot I already knew had to be modelled, but again it was modelled quite simply because most of the detail would be texture-based. For added depth and detail I wanted lots of structure on the horizon, to suggest a massively concentrated population. Again I wanted to portray this idea not through large detailed structures but through simple suggestions of colour. These secondary details would again be done with 2d textures, however in keeping with my 'comic' style, and also as not to distract too much from the foreground, I decided to use 2d images animated in a compositing package. This gives a simple but effective look, and helps to balance and focus the motion of the piece.
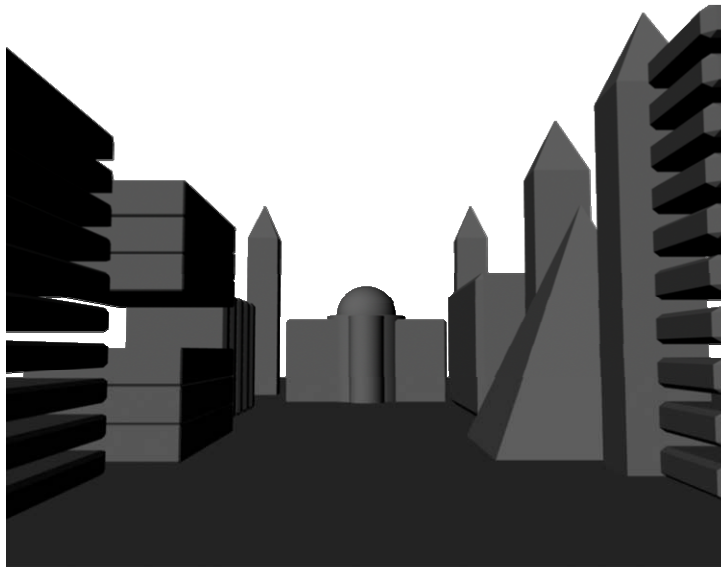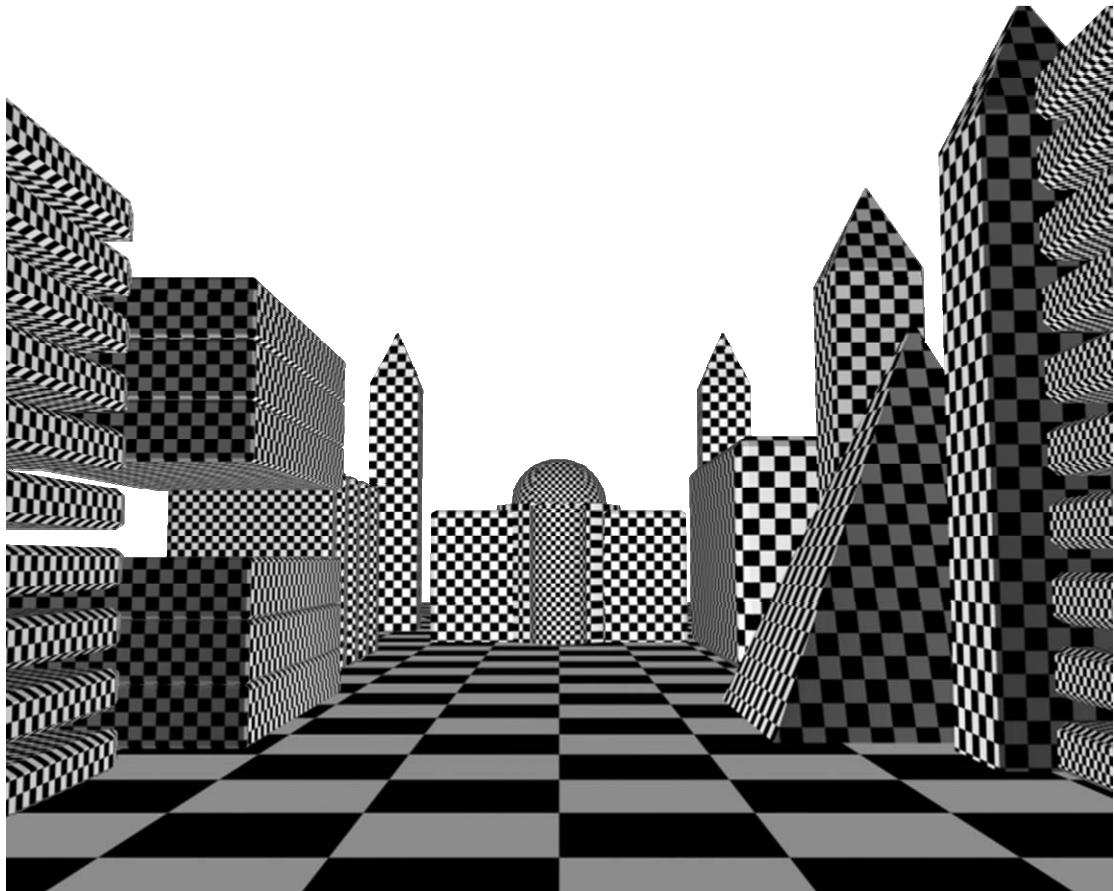

Figure 5

Simple blocks were used to model the scene. Detail in the models was not essential as most of the detail would be derived from textures.

Once I had constructed my basic scene, I then set up my projections for the matte-painting. It required 3 separate projections overall, however this just meant splitting the detail over 3 textures instead of 1. As I was concentrating on completing the design and implementation of the foreground first, I then went into the 2d package to start creating the foreground textures (now that all the projections were set up). This is where most of my stylistic choices had to be made. As I previously decided, I wanted suggestion of colour and shape, almost to the point were there were no physical objects as such, but rather deriving it's detail and form from the singular elements (the whole is far greater than the sum of its' parts). I went for a design which consisted of simple window lights, using a colour palette of black, white and shades of grey (in keeping with a comic style). I wanted these windows to be placed randomly over the buildings in interesting patterns. I also wanted the whole picture to be viewable only with movement, as in the grouped movements of all these dots would signify the movements of something larger. I wanted the foreground to be more visually diverse as to keep the concentration of the viewer and I wanted the composition of the foreground to point into the middle of the screen, forcing the eye of the viewer to focus on the robot in the centre of the piece. The type and placement of buildings was also an important element. I wanted to create a sense of division in the piece, which is why I constructed the buildings in separate segments. Each building has natural layers, to suggest the importance of which floor one works on. The inclusion of a pyramid reinforces that idea as the pyramid symbolises hierarchy, amongst other things.

The biggest problem I encountered at this stage was the problem of perspective. In order to construct buildings out of light, which are visible as buildings through movement, it was important to get the perspective of these windows correct in order to define a shape. I had the idea of simply texturing my 3d scene with a chequered, black and white texture. What this achieved was uniform blocks of colour, which were distorted with the correct perspective (doing this by hand would have been nearly impossible to do accurately). I then took this render into the 2d package and simply started erasing, shaping and adding blocks of colour to establish the overall aesthetic. I had considered for a time including flat areas of grey shading to show shadow, however I opted for dimming the windows on the sides facing away from the light. This was a good decision as it meant that not only did you get the same effect of depth and angular surface, but I was still keeping true to my brief by using simple shape and form to describe a grander idea (in this case a building). I also

think that I achieved the sense of sterility I was looking for. Everything is very clean and clinical, and in my mind futuristic, without relying on obvious metaphor or objects.

Figure 6

Chequered texture applied to the simple model. Note the blocks follow the correct perspective

Figure 7

Once I had finished refining the chequer texture, the illusion of tiny windows is created, which in turn define the bigger structure.

The secondary building design followed along the same vein. I used simple blocks to depict silhouettes of buildings, simple tonal variation to create depth and interest. These secondary elements were then animated in a compositing package to coincide with the perspective change of the foreground.

Figure 8
These silhouettes define the mid detail of the shot, separating the foreground from the robot.

My last main task was the robot. This as mentioned was constructed relatively simply from blocks, and the rest of the detail was texture based. I wanted the robot to be simple in styling, as I wanted it to hark back to the days of the B-movie. It was also there to serve a metaphorical point, rather than be a cool robot model. It had to be simple and stark, which I think added striking contrast, and it's simplicity also gave it a sinister quality. As an extra I decided to have cogs on his chest rich rotate, just to heighten the sense of ridiculousness, and also to suggest that this monster is man-made.
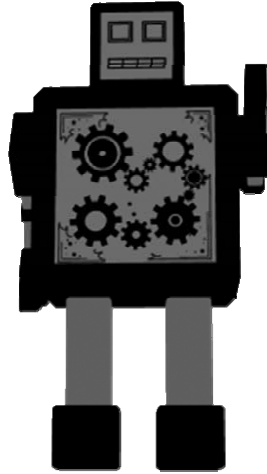
Figure 9

*Completed robot with animated cogs on his chest.*

Once all of these elements were completed, the rest of my work lie in compositing. My next task was to show the robot firing on the city. This firing had to coincide with the piece of music I am producing my animation to. I wanted to again, keep it simple, therefore I decided to use 2d graphics to represent the destructive rays coming from its eyes. At the end of the shot I wanted the whole city to blow up, revealing the next scene in my animation. Unfortunately I had not thought about this too much in the initial process, and by choosing to construct the scene via matte-painting, it was impossible to produce some kind of explosion in 3d (without starting again). Taking this oversight in my stride I decided to show the destruction of the city, and transition to the next scene, in a slightly unorthodox way (at least not the way I planned). Instead of the city blowing up I would instead create damage-holes in the texture, holes which you can see the next scene through- as if every time the robot shoots a part of the city, it tears the fabric of space itself, revealing an alternate reality underneath. This I thought would make a good transition into the next scene, and as the last shot of the robot is aimed directly at the camera, the transition could be completed by the whole scene melting away.

Figure 10

Robot shooting destructive laser beams through his eyes.

For final touches I wanted to depict panicked people on the streets, running away from the robot. As I wanted to keep true to my theme (and also due to time restrictions) I thought it completely unnecessary to have animated characters, or even recognisable figures. Instead I opted for particle effects which simply created white dots, moving towards the camera. I think this was a very successful way of portraying this aspect of the modern B-movie as they are not in themselves anything recognisable, however when running away from the threat in unison, one gets the impression of a panicked mass. For this element of the scene I utilised a script which a fellow student named Robin Myers was working on for his own Innovations project. The script sets up a nice user interface and various presets for creating swarms. As this is the kind of action I wanted these dots to assume, I decided to use his script. It was very helpful and made it easy to create the effect.
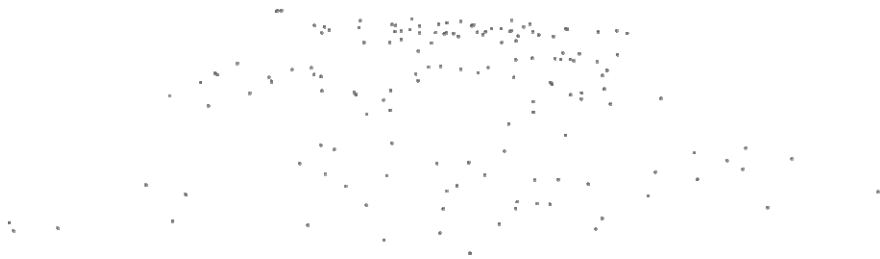
Figure 11
Picture of the swarming particles. They are designed to swarm around in a panicked run, giving the impression that they are running away from something, and they are terrified.

To finish the scene I included a circular framing, with a soft circle around the screen. This not only is a reference to the films of old, but also serves to concentrate the viewers' attention on the important aspect of the scene which. I think this added a nice touch of fantasy.

In conclusion I would say that I am happy with the overall results I have achieved. I was trying to portray a cold, sterile, future environment, without the use of obvious recognisable form. I wanted to utilise suggestion of colour and tone to depict shape and movement. I also wanted the scene to represent false threats to society, through the use of the clichéd giant robot. I think the aesthetic of the scene works well, and I especially like the contrast. However I do feel the scene is a little overcrowded, and needs some refinement before it goes into my final animation. The picture has a well balanced composition but I think the camera movement could also be improved slightly, to add more dynamic to the scene, making it more effective.

I had a very definite point to say with the scene, however I'm not sure that I have realised this aspect to its full potential. I had many ideas I

wanted to communicate with the piece, and to a certain extent I have incorporated all the ideas I wanted to. However I think the fact that the shot is only 4 seconds long and also that it does feature a lot of ideas in such a short space of time, has meant that it may be over too quickly for the messages to be readable. Saying this, I wanted the scene to incorporate complex ideas which would not be apparent on first inspection, I wanted to arouse interest, and make people review the scene to extrapolate the meaning. So I think it is a mixed success with regards to this aspect.

As for my methods I am pretty pleased with the direction I took from the start. I chose a method which allowed most creative control, but in many respects required the least work. I think most importantly I achieved the overall visual style I was looking for. The technique of matte painting has some limitations, namely that once projections are set and painting has started, it is impossible to then go and change the layout and camera movement of the scene (without effectively starting again). This can become less of a problem with proper forward planning, and would have worked perfectly if I had not overlooked the destruction of the city at the end. As things transpired it forced me to come up with a solution that was equally valid and perhaps a little more inventive and true to my brief than showing the physical blowing-up of abstract shapes!

I chose this idea for my innovations project because I wanted a creative challenge. One of the most useful things I have learnt is how to think laterally when it comes to representing shape and form. Abstraction provides limitless opportunity to alter perception and to use artistic license. I have enjoyed the process of creating this scene and I believe it does my idea justice.
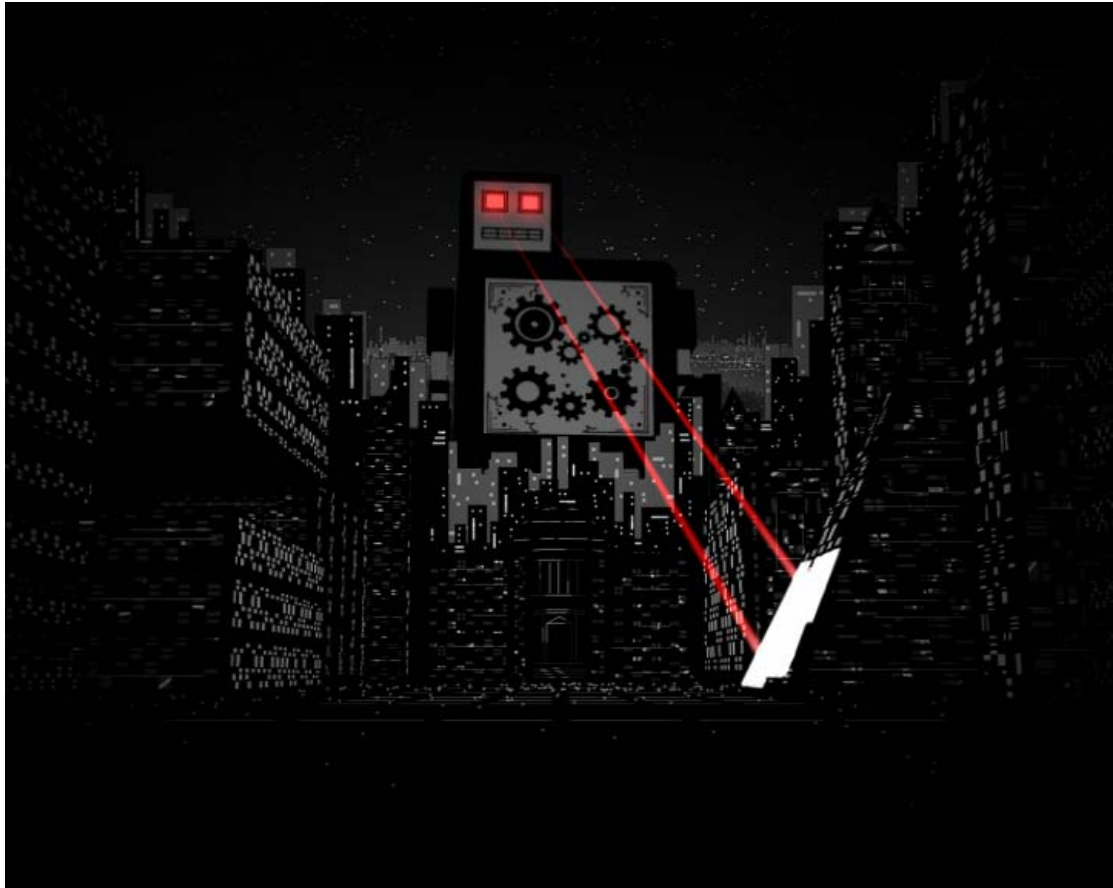
Figure 12

The robot destroys the city and everyone is happy.

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