HOW SCIENCE AND TECHNOLOGY IS APPLIED IN THE MOVIE INDUSTRY USING 3D ANIMATION SOFTWARE

Abstract

As people are getting used to using social media to create , share or exchange information, ideas, and pictures/videos in virtual communities and networks in their everyday life or the watching of 3D movies not only in theatre and at home, so our aim is to explore ways in which technology can be used in modern-day movies to create realistic visual effects

Introduction

Main Objectives

-To explore new ways of creating realistic visual effects in movies through the use of MAYA software to create interactive models

-To create two more complex models using MAYA software involving the different basic functions which we have learnt.

-To learn about the physics of animation such as how the dynamicsfunction in the software

The two new complex models created are

a landscape involving rain and

an erupting volcano

Methodology & Development

Step 1: Research

To get a better understanding on how 3D visual effects are applied in movies, we did the following:

-Used Wikipedia and Google to get a rough understanding about how these 3D effects are produced and applied.

-Watched several behind-the-scenes clips on YouTube from world-famous animation companies such as Pixar, Dreamworks, Columbia and Paramount.

How MAYA works

MAYA software has many different components and features:

a) Fluid Effects: Fluid simulator

b) Fur: Fur simulator for large areas covered in short hair or hair-like materials

Step 2: Development (Creating simple models)

We created things like the bishop, mug and cup of coffee

Step 3: Development (Creating the volcano)

Had to create the model of the volcano before adding in the explosion effect.

Used the shaping tool to create the basic form of the volcano.

Model of the volcano we created was not entirely smooth as we lacked the experience and practice with the software.

To create the explosion effect we,

Search online for tutorials

Used the fluid effect and dynamics functions

Picture below shows the end result of the explosion effect.

Step 4: Development (Adding in more effects)

As we tried to add in more effects to beautify the animation, the computer became overwhelmed and the animation could not be played smoothly, causing the whole project to look extremely choppy.

We decided to do another animation on a landscape with rain and blooming flowers.

The main reason why we decided to do the scenery was because it used different effects as compared to the erupting volcano, enabling us to show the other skills we have learnt in NYP.

Step 5: Development (Creating the rain & landscape)

To create the rain, we used the particle emitter

After rendering, the rain looked like this:

After we are satisfied with the creation of the rain, we decided to add in some grass and blooming flowers.

After adding in our desired effects, we had to render the entire MAYA file and convert the file into an mp4 or .mov file so that it will be able to be viewed without using the software.

Also we used iMovie to add in sound effects and edit animations.

Conclusion

From the above examples, we can see that the MAYA software is not only capable of creating models, but also other visual effects such as the fireworks and snow, using the particle emitter function.

Skills we have picked up during this programme would be useful in the future.

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