Backstage view of 'the avengers'

CMT 2325 PROJECT 3 – ESSAY Backstage view of ' The Avengers' The primary objective of this essay is to elaborate on the creation of the different special effects in a movie. I chose the movie " The Avengers" to research and report on which is an American superhero fiction movie directed by Joss Whedon. The criterion on which I selected this movie was because it is a recent movie using all the latest techniques of cinematography and graphics.

Plus, since it is a superhero fiction, there are a number of scenes, particularly the stunt scenes which need to be executed using features like CGI VFX, green/blue screens and edited using software like Adobe Photoshop, Adobe After Effects, Adobe Creative Suite Production Premium, Adobe illustrator etc. which have been discussed further in the essay. Green screens are being used extensively in almost all movies these days. " The technique is called Chroma Keying, where someone is filmed standing in front of a green screen and any green colors are digitally filtered out and replaced by the desired video. (Green Screen: Environmentalism and Hollywood Cinema, David Ingram). One of the many logistical challenges on the production of The Avengers involved dealing with the multitude of main characters. Each actor had specific needs in regards to blue or green screen. The character that played Black Widow is red hair, Thor is blonde, and Captain America's costume was almost chroma blue. Thus, there were a variety of different requirements for each. The scenes were worked out with both green and blue screens and the lesser of two evils were taken for the final shoot.

Example in the movie - For hulk's punch to Thor, they put Chris Hemsworth(Actor playing Thor) in front of a bluescreen standing on top of a real section of a downed Leviathan that they built. And they attached

Hemsworth to a cable pull that they retimed, so he could look like he was knocked sidewise. They then replaced the blue screen with the apt background for the final look. They also cut a few frames out of the footage, so it looks like Hulk's punch has " instant impact". The movie had an extraordinary job of making the CGI (Computer-generated Images) realistic and incredibly clever.

ILM played an important role in contributing to the visual effects of The Avengers. They were responsible for creating many of the film's digital assets – from the Helicarrier, to New York streets and buildings, to digi-doubles of the characters, plus the Hulk and Iron Man. (Creating A 3D Animated CGI: by Michael Scaramozzino)The surprise of many perhaps the scene stealer of the film is the Hulk played by Mark Ruffalo. This is due to the less than fully successful earlier attempts at digital Hulks.

Ang Lee's 2003 Hulk and Louis Leterrier's The Incredible Hulk both failed, for many people, in producing a Hulk that could walk the digital tightrope of impressive near undefeatable strength, huge body mass, fast agile movement, raw anger and likable performance. ILM did a lot of animation work in terms of selling the weight and that was hard slog to get it right and to get all the pieces working together to make his mass believable, beyond that they did several rounds of simulation as far as the muscle dynamics and the skin – to help make that all work together.

To achieve this ILM deployed advanced motion capture and a new facial animation system. The face of the Hulk was built out from a life cast / scan of actor Mark Ruffalo's face. It was then modified in ZBrush to become the Hulk, while still retaining an essence of the original actor. They also studied simian

motions for the Hulk — and when Mark Ruffalo came to the studio to experiment with different motions in the mo-cap suit, he started to tend to go towards more apish motions, giving him that animalistic quality that gives you a feeling that he's not quite in control. (http://latino-review. om/2012/04/05/avengers-cgi-ruffle-hulk/) For the creative director, graphics ; HUD supervisor, and the screen designer/animator, the most challenging on-screen graphics job was the creation of the heads-up displays (HUDs) in the film, used for two versions of Iron Man's suits. The team also created the on-screen graphics to fill in countless digital computer screens throughout the movie. Simultaneously they created the two Iron Man HUDs (the Mark 6 and the Mark 7) and ended by animating and compositing all the final 2D and stereo comps for the HUD interior shots and the POVs.

The new HUD had to look and feel like previous Iron Man HUDs, but with amplified sophistication and detail. The designing of all the widgets, icons and panels was done on Illustrator, converted to layered Adobe Photoshop files and then brought into After Effects for animation. (http://provideocoalition. com/adobe/story/Marvels_The_Avengers_Taking_the_HUD_to_new_heights/)T he Avengers was the first time the HUD had been done in stereo. On the previous Iron Man films, there was a lot of blurred graphics for depth, but in stereo depth of field doesn't work as well.

They focused a lot of time on how widgets and graphics would actually function because everything was clearly readable. Everything in the HUD, even down to the tiny micro-text, relates precisely to the current story-point. A system was devised and rig on Iron Man 2 that was upgraded for stereo

within After Effects. It utilized a virtual representation of the character's head in a 3Denvironmentsurrounded by the HUD graphics. Once we got the footage, we tracked it in 2D using the point tracker in After Effects.

We put point trackers on the inside corners of both of his eyes and the end of his nose. From that, we averaged those tracks and shifted out the average in z space to get rotational values. The movie The Avengers has used numerous animation and graphic techniques which have opened up a whole new realm of exciting opportunities for future work; the creation of the Hulk character being my personal favorite. The recreation of a computer model of New York City using a huge number of photographs edited was done amazingly as well.

Also the camera shots, angles, lighting, and editing, all aid into the brilliant cinematography of The Avengers. REFRENCES 1. http://latino-review. com/2012/04/05/avengers-cgi-ruffle-hulk/ 2. http://www. studiodaily. com/2012/05/previs-techvis-and-postvis-on-the-avengers/ 3. http://provideocoalition. com/adobe/story/Marvels_The_Avengers_Taking_the_HUD_to_new_heights/ 4. Green Screen: Environmentalism and Hollywood Cinema: by David Ingram 5. Creating A 3D Animated CGI: by Michael Scaramozzino