



CS4340 Digital Special Effects

Project Proposal
AY 2010 / 2011 Semester II

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Breakthrough

1. Special Effect

A realistic shattering effect of a glass window coupled with time freeze of the scene. The character and the shattered glass pieces will remain stationary, but camera motion is continued.

A camera motion of a frozen scene composited with 3D glass will require the special effects to be done cleanly and realistically. The viewer will have more time to scrutinize the scene and notice any mistakes or inaccuracies of the special effects. There are also multiple interactions with the glass piece and the characters. One character will have to break through the window and another will be cut by a glass piece.

2. Synopsis

A super hero receives a call for help to rescue a young woman, who is held hostage in a room by two villains. He takes off from the ground, and breaks through the glass window of the room. The villains are taken aback by the super hero's sudden appearance. They get into a fight with the super hero and are defeated. The super hero rescues the young woman, and leaves the two villains wrenching in pain.

3. Storyboard

Scene No. 1 (5 sec)



Description: Superhero picks up a phone call.

Audio:

[Superhero voice]: Hey, what's up?

Camera: Medium Close Up

Scene No. 2 (5 sec)



Description: Superhero starts to fly.

Audio:

[Superhero voice]: No problem. I am coming.

Camera: Medium Close Up

Effect: Simulate dust and blasts

Scene No. 3 (4 sec)

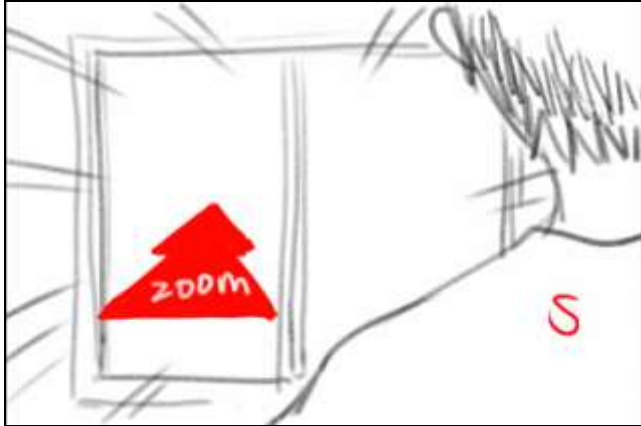


Description: Superhero flies towards the higher level of a building.

Camera: Wide Shot, Low-angle

Effect: Green Screen

Scene No. 4 (3 sec)



Description: Superhero reaches the level and floats outside the window.

Camera: Over-The-Shoulder; Zoom in to the window

Effect: Green screen

Scene No. 5 (4 sec)



Description: Superhero rushes into the room and breaks the window.

Audio: Window breaking sounds effect

Camera: Medium Shot

Effect: Green screen; Model the window and animate the movement of glass pieces

Scene No. 6 (5 sec)



Description: Time-Freeze; Villain-A got shocked; glasses stop in the air first, and then fly towards Villain-A.

Camera: Medium Close Up; Rotate

Effect: Model the glass pieces and animate the movement of glass pieces; Match move

Scene No. 7 (2 sec)



Description: The glass cut Villain-A's face.
Audio: Shouts of Villain-A.
Camera: Close Up
Effect: Model the glass pieces and animate the movement of glass pieces; blood with fluid simulation.

Scene No. 8 (5 sec)



Description: Superhero lands on the floor; Villain-A rolls on the floor and cries, because of the pain.
Audio: Screaming of Villain-A.
Camera: Medium Shot

Scene No. 9 (6 sec)



Description: Victim is kidnapped; Villain-B is angry. He holds a knife and runs forward in order to attack Superhero.
Audio: Cries of Victim; Shouts of Villain-B.
Camera: Over-The-Shoulder

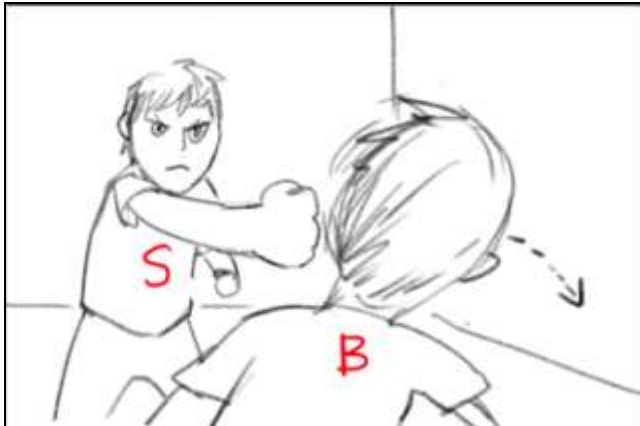
Scene No. 10 (2 sec)



Description: Superhero moves up his head, and sees Villain-B.

Camera: Medium Close Up

Scene No. 11 (5 sec)



Description: Superhero punches Villain-B. Villain-B falls off.

Audio: Punch sounds effect; Screaming of Villain-B.

Camera: Over-The-Shoulder

Scene No. 12 (6 sec)



Description: Superhero beats the two villains and rescues the victim. END

Camera: Wide Shot

4. Production Ideas

** Main Effects*

4.1 Super hero flying from the ground (scene 2 & 3)

There will be two shots showing superman taking off. The first shot is a close-up that focuses on the super hero's feet as he is lifting off the ground. The second shot is a medium shot of superman flying up a building.

Scene 2:

We will use particle effects to simulate the blast and the smoke as the super hero takes off.

Scene 3:

We will take a video of the super hero doing a flying pose with the green screen behind him. The video will be taken at the actual location that we will be compositing the super hero with. This will ensure that the lighting of the super hero will match the scene after colour keying. The super hero footage will then be composited with the background footage of a tall building. To show the super hero flying up the building, we will add motion blurring and a trail effect as the super hero is scaled and translated.

4.2 Superman outside the window (scene 4)

We will need footage of the super hero's back view from over his shoulder with a green screen in front of him. We will also fan the actor to make his hair move realistically.

An image of a window taken from outside will be used as the background image. After keying out the green screen from the back view footage of the super hero, we will composite it with the background image.

To make the super hero appear to be hovering, we will adjust the translation values with time using an AE expressions.

4.3 *Super hero breaking through the window (scene 5)

We will get footage of the super hero's side view, with the green screen behind. There will be a prominent physical marker present in the video. This will make it easier for us to motion track the actual camera movement, allowing us to add a 3d camera when making the special effects.

We will use a photograph of a window frame as a background and composite the super hero footage onto it. The glass shattering effects will be created separately in Maya and composited in after effects later on.

Using Maya, we will first create a fake glass window which is going to be shattered. This will involve modeling, texturing and lighting etc to make a realistic piece of glass. Utilising a plugin, Blastcode, we will be able to create a glass shattering effects. The refraction of the background by the glass pieces will require additional texturing and lightings settings. The shattered glasses can collide with human, floor and other objects, making it look more realistic. We will also need to match the camera movement of our actual superman footage with the 3D camera in Maya to produce a convincing freeze frame with camera motion.

4.4 *Flying drop of blood after villain is cut

Using the same technique as described in 4.4 to create the glass. The blood splash will be created in Blender using fluid simulation and composited with the footage of the villain in after effects. We will also require motion tracking of the footage of the villain to match the 3D camera in Blender. Adjustment of the colour and adjustment curves will help the blood look more realistic.

5. Roles of team member

Luo Lan	Storyboarding Director Special effects – match move Special effects – glass effect for super hero Video editing – colouring & sweetening
Huang Jin Jerilyn	Assistant Director Special effects – flying drop of blood Special effects – glass effect for villain Video editing – colouring & sweetening
Cai Nannan	Special effects – glass effect for super hero Video editing – cutting Sound effects
Liu Danqing	Cameraman Green screening Compositing super hero to main effect Casting Video editing – cutting

6. Schedule

Week	Task
4	Brainstorm for ideas
5	Decide on story Research on how to do effects
6	Proposal Story boarding (story line and camera movement) Finding location Testing out the effects
7	Filming & making-of footages Video editing – cutting and colouring Green screen for the super hero
8	Compositing the super hero with the window scene Match move of the camera movement of scene with 3d camera Creating the 3d glass Shattering the glass Flying blood drop
9	Review by lecturer Refine and polish up main effects Project update
10	Decorative effects – super hero lifting up from ground Decorative effects – super hero flying up a building Final cut of the video
11	Sounds Create making-of Video
12	Project update 2
13	Submission & presentation