

NATIONAL UNIVERSITY OF SINGAPORE

School of Computing



CS5245 Vision and Graphics for Special Effects

Cleaner Cleaned

Project Update 1



A. Project Update

Title:

Cleaner cleaned

Team members:

- | | | | |
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Special effects:

- Match moving, CGI, explosions, blue-screen

The Story:

The video clip is a sequel to Hunter Hunted. Agent X works for an organization known as Cleaner4D, specialized in exterminating and cleaning up 3D monsters created by amateur 3D modelers and special effects creators.

Monsters exist as life forms and Cleaner4D cannot just 'delete' them away. Instead, they sent agents to kill them with physical means. As most of the missions involves damaging the surrounding, Cleaner4D agents are equipped with special tools to re-create the damaged parts of the world.

Hunter Hunted ends when the SOC Bridge was destroyed. Cleaner Cleaned shows the process of re-creating the bridge itself. The video features a better version of the destruction up of the bridge, cool virtual interfaces used by Agent X as well as interaction between real actor and CGI elements.

Production technique:

All footages will be shot against blue-screen and overlay on top of CGI in After Effects.

Full digital set are created in Cinema4D, textured with real photos to create realistic models. With the digital set, camera can be positioned in various interesting angles. Also, there is no need to worry about bridge removal when the bridge is destroyed.

Tracking data of actor's arm movement is used to control the size, position of 3D objects in certain scene to create the interaction between the actor and the 3D object.

Progress so far:

- Script for recording footages (see appendix).
- Recording raw footages (with blue-screen) for the entire clip.

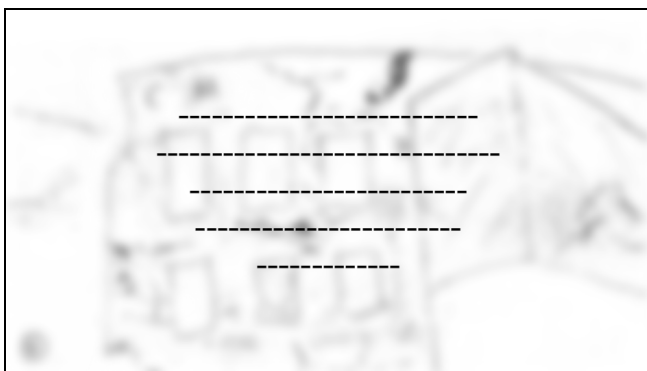


- Modeling the digital set (the SOC Bridge and the immediate surrounding).
- Finalized the destruction procedure of the bridge with physics engine (can be rendered from various angles)
- Tweaking & render the destruction of the bridge for the first scene with various layers for compositing (see appendix).

Problems & Difficulty:

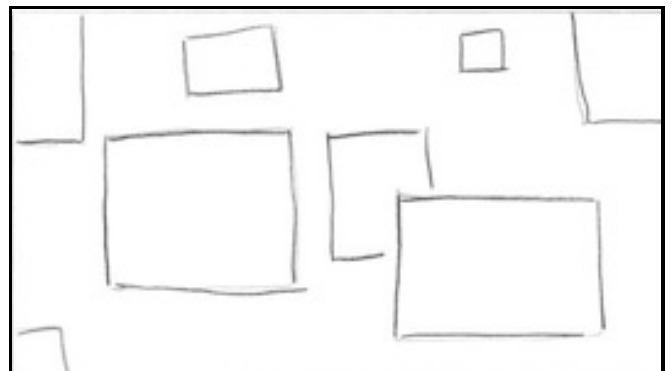
- Rendering of digital scene (with realistic shadow, ambient occlusion, global illumination) takes very long time. Hence, the parameters are downgraded and a blurry/dreamy effect is applied to the rendered sequence in order to reduce the amount of visible artifacts.
- Mistakenly use of Standard Definition instead of High Definition camera. SD footages will be used for compositing for the moment. If it is possible, the footages will be re-shot using HD camera.
- Too many scenes are required for the original script. Some scenes in the script are cut away.

C. Storyboard



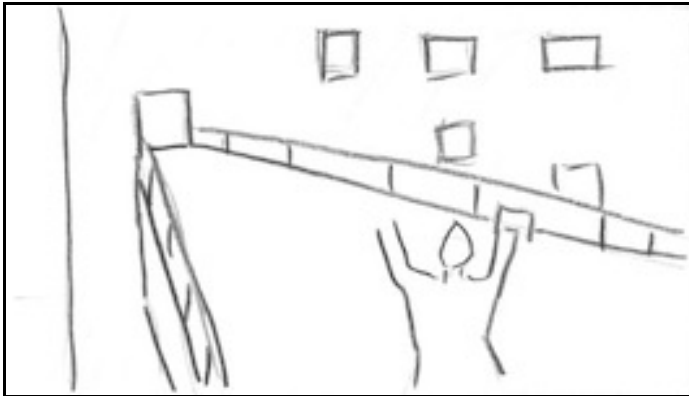
Scene 1:

A text scene showing a short description about the Cleaner4D



Scene 2:

Virtual images flying around showing monster projects done by previous CS5245 students



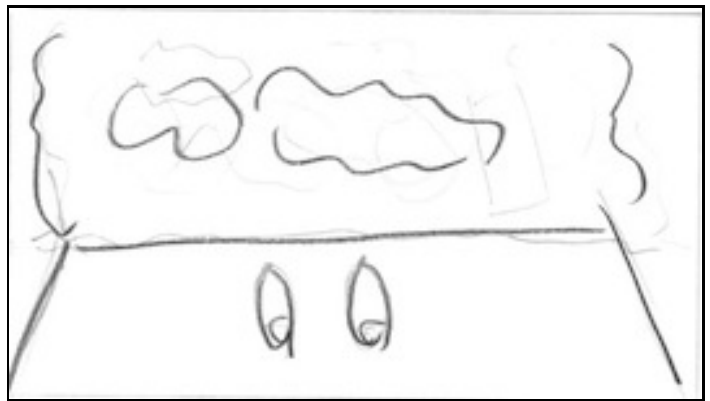
Scene 3: Wide shot
Agent X pressing the button to destroy the bridge



Scene 4: Wide shot
The bridge is falling apart



Scene 5: Medium shot
Agent X is talking with his boss about the mission



Scene 6: Medium shot
Showing the bridge debris on the road



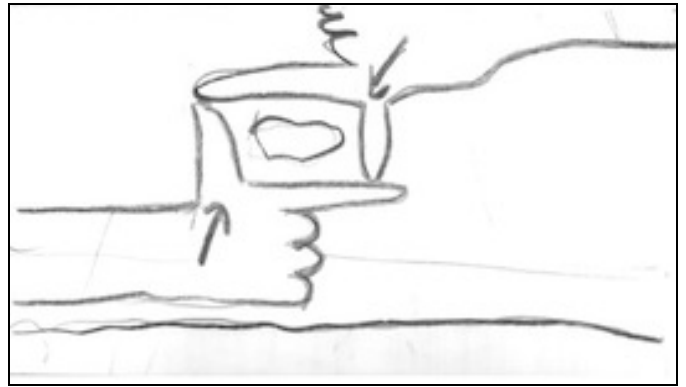
Scene 7: Wide shot
Agent X stretches himself preparing for the cleaning up



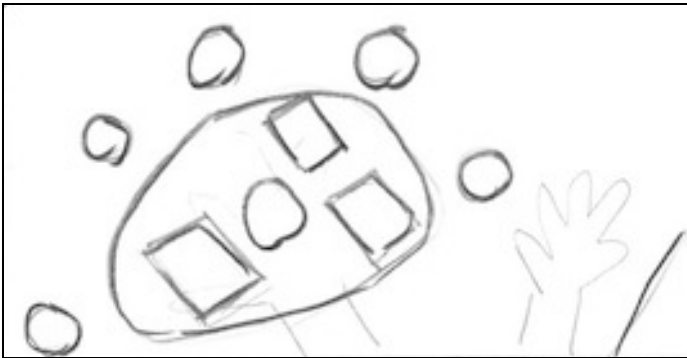
Scene 8: Wide shot
He activates his 'ring' tool...



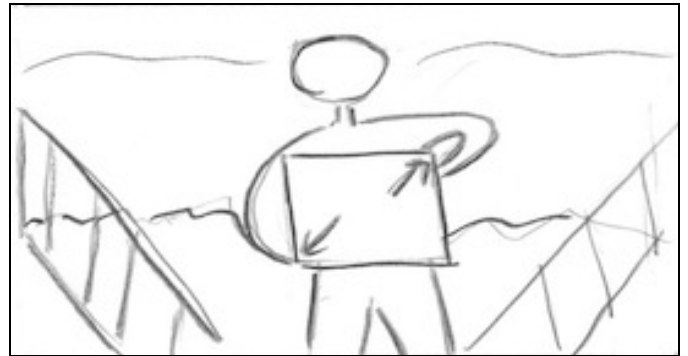
Scene 9: Wide shot
And the environment changes to a 3D blue-print working environment



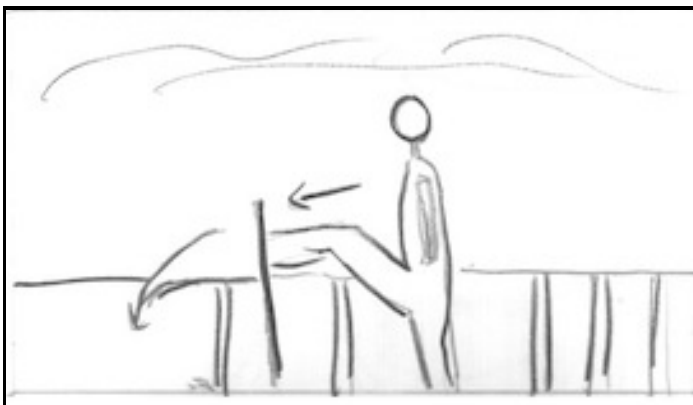
Scene 10: Close up shot
Putting his hands together, Agent X is aiming at the debris



Scene 11: Close up shot
Opening up a control tools/buttons and deleting the debris



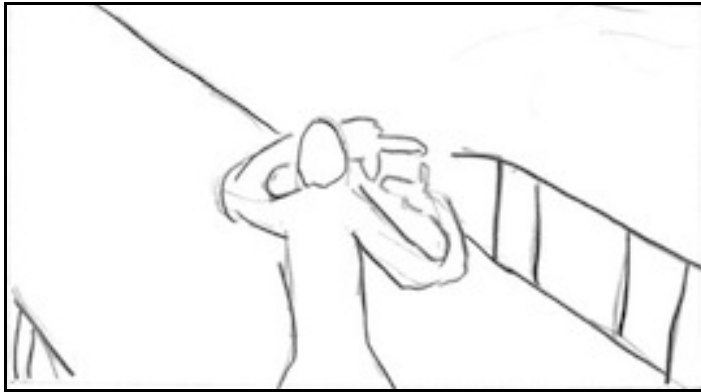
Scene 12: Medium shot
He also using his tool to create a plane from nothing



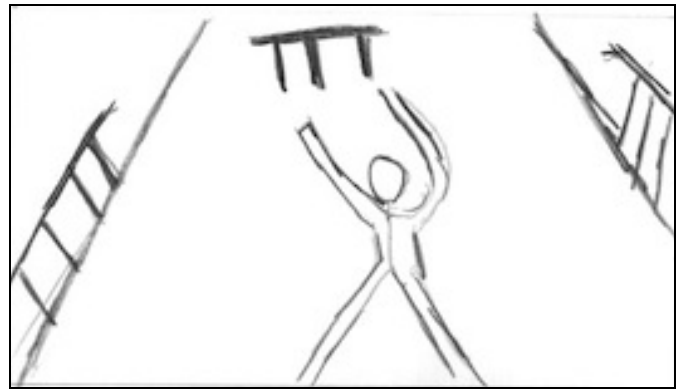
Scene 13: Wide shot
Dropping the plane down, he kicks the plane for it to lie down on the floor



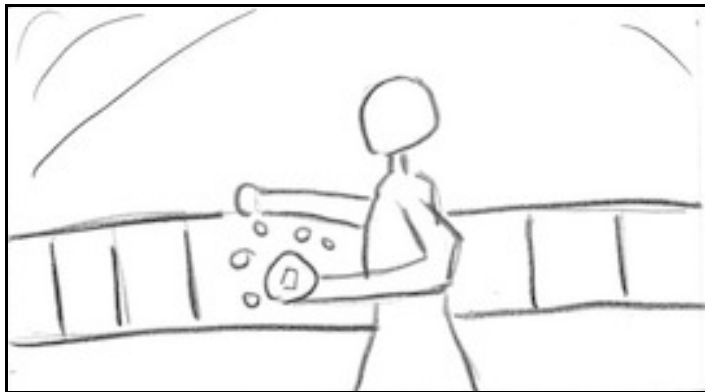
Scene 14: Medium shot, high angle
He adjust the size of the plane



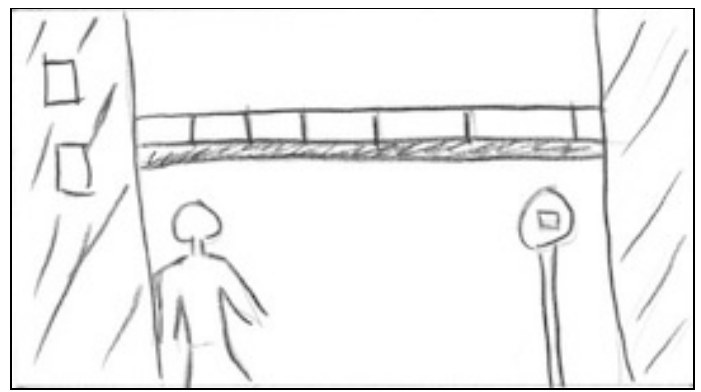
Scene 15: Medium shot
Agent X aims for the fence to copy it



Scene 16: Wide shot
And paste it at the correct position



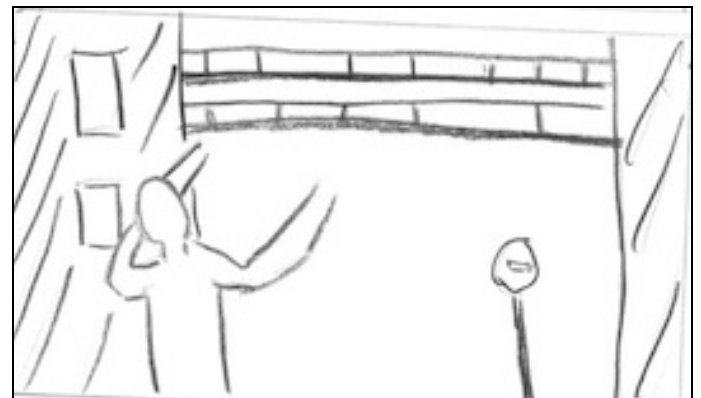
Scene 17: Medium shot
Agent X is choosing the textures and applying them on to the fences and the floor



Scene 18: Wide shot
Agent X is looking at the almost finished bridge, realizing that the bottom section is missing



Scene 19: Close-up shot
He is aiming for the top section and try to copy it



Scene 20: Close-up shot
And paste it right below the bridge



Scene 21: Wide shot

Agent X is leaving the place with a smile on his face. Everything change back to normal

D. Screenshots

Various footage captured with bluescreen



M2U00709.MPG



M2U00712.MPG



M2U00713.MPG



M2U00715.MPG



M2U00724.MPG



M2U00726.MPG



M2U00730.MPG



M2U00734.MPG



M2U00738.MPG

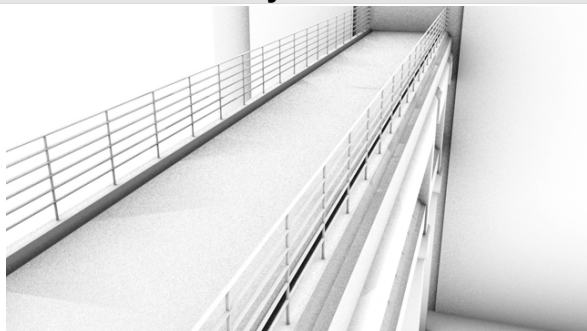


Full digital set in Cinema4D

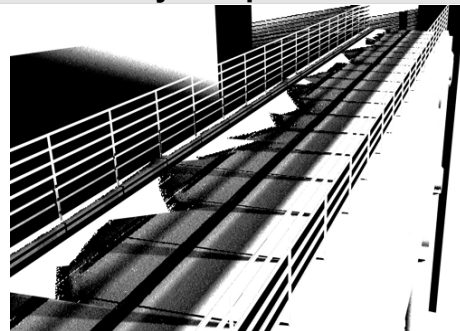


Bridge sections are cut manually and destroyed with physic simulation

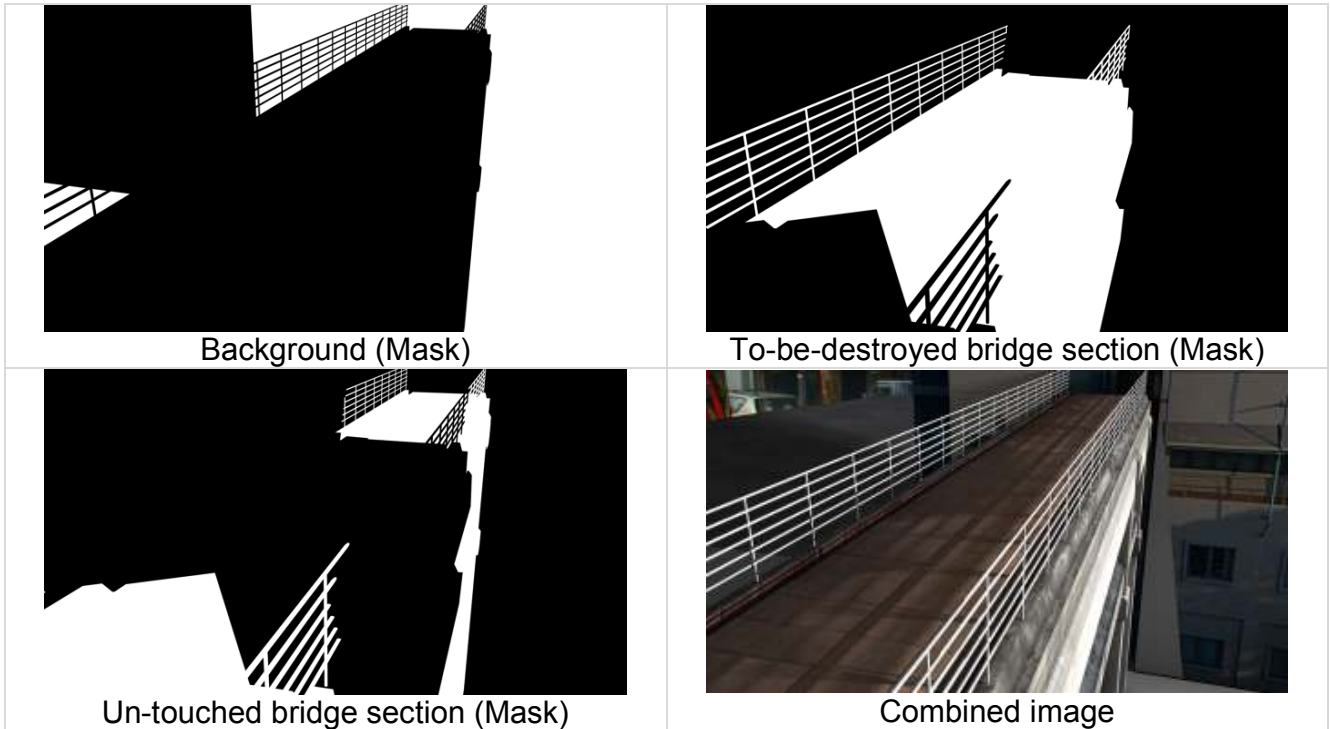
Layers rendered from digital set for easy composition



Ambient Occlusion



Shadow



E. Script

WIDE: the bridge from behind Agent X
Agent X presses a button on his device to activate the bomb on the bridge.
Camera pans from left to right, showing cracks start to appear on the bridge. The camera then follow the debris as they fall down.

MEDIUM CLOSE UP: Agent X from behind
Agent X is talking to his boss through cell phone.
BOSS (on phone): Well done! Any damage done to surroundings?

AGENT X (while looking at the surrounding)
Erm... Well... You don't want to know...

BOSS: Never mind. Just clean it up.

AGENT X: Roger that.

MEDIUM: Agent X from behind
Agent X keeps his phone into his pocket and do some stretches.
Then, he raises his wrist to look at his ring and press a button. As soon as he presses the button, the whole world around him turns into 3D models (simply plain blue buildings with white edges, no texture).

WIDE: from behind of Agent X
Agent X looks around as the world turns into 3D models.
Camera pans left to right: Agent X looking at the surrounding

OVER THE SHOULDER:

He looks down and rectangle gesture with his thumbs and forefingers aiming towards the debris.

MEDIUM CLOSE UP: of the debris
The debris starts blinking.

OVER THE SHOULDER: Agent X

Agent X activates a Delete Tool from the interface. There's text shown on the interface, "Are you sure to delete this? Yes, No (buttons)" Agent X clicks on yes.

MEDIUM: Agent X

Agent X makes a clapping gesture to activate his tool to re-create the floor floating on top of the bridge. The process: First, he make gesture with his 2 hands to create a rectangle plane. Then, he lets the plane falling to the floor. After that, he kicks the plane to change the plane position.

MEDIUM: Agent X

The bridge is half done, thick enough but not long enough.
So, agent X kneels down and makes a slide gesture with his left hand to makes the bridge longer until it fits the hole.

MEDIUM CLOSE UP: from behind Agent X

Now, Agent X needs to re-create the fence. He makes a rectangle gesture with his thumbs and forefingers to copy the existing fence and create the new one to replace the broken one.

MEDIUM CLOSE UP: from the front of Agent X

Agent X activates an interface similar to a painting palette. Then, he chooses a color by touching on the interface.

MEDIUM: Agent X

Agent X touches the bridge floor.

WIDE: He slowly stands up while takes a look at the bridge floor that slowly change color.

MEDIUM CLOSE UP: from the left of Agent X

Agent X walks along the fences and touch it (Agent X keep walking after the touch). The color of the fence changes.

ZOOM: Agent X rectangle hand gesture

Now, Agent X is at the lower level of the bridge. The bridge at the bottom part has similar features with the upper part. So, Agent X makes a rectangle with his hand to copy the upper part of the bridge.

MEDIUM CLOSE UP: from behind of Agent X

Then, Agent X uses hand gesture to bring down the duplicated copy of the upper part of the bridge down to the lower gap.

WIDE: Agent X

Lastly, Agent X takes a look at the bridge that he just finished. Then, he turns around, makes the last hand gestures using his thumb and middle finger to return to the real world, and walks away.