

CIS Vancouver
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—Mark Breakspear
Visual Effects Supervisor
CIS Vancouver

Invisible FX.

CIS Vancouver uses Autodesk Maya software to create transparent effects for *Salt*, starring Angelina Jolie.



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Summary

In a review of *Salt*—the movie starring Angelina Jolie as a possible Russian agent running amok in Washington, D.C., *The Hollywood Reporter* referred to the film as “a better Bond movie than most recent Bond movies, as its makers keep the stunts real and severely limit CGI gimmickry”. That description could only make the visual effects team at CIS Vancouver proud.

“We always aim to make our effects as seamless and invisible as possible,” says Mark Breakspear, visual effects supervisor at CIS Vancouver. “Whatever else happens, we don’t want people coming away from the film saying: ‘Wow, those were amazing visual effects!’ If they are doing that, we haven’t done our job well.”

In fact, while there is certainly no gimmickry to the visual effects in *Salt*, neither are they severely limited. CIS Vancouver made use of Autodesk® Maya® software—the studio’s longtime tool of choice—to create some 250 effects shots for the film, including realistic versions of both Washington, D.C., and the famous house of its most important resident. Along the way, they also made some stunts much easier for the star to perform.



The Challenge

During initial discussions, director Philip Noyce and production supervisor Robert Grasmere asked Breakspear and the CIS team for just one thing: an entirely convincing CG version of the front of the White House.

“It was daunting, because the White House is familiar to just about everyone,” says Breakspear. “At the same time, it was a very exciting challenge. We worked with the art and set departments to come up with a way to seamlessly combine a small physical set of a guardhouse and driveway with CG versions of the White House grounds: trees, grass, roadway, people, and of course, the White House.”

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It wasn't long, however, before the director and production supervisor decided they wanted more of what CIS had to offer, including more bluescreen composites, gun flashes, and bullet hits. A particularly intense scene involving Jolie jumping in a three-story elevator shaft initially called for the shaft to be digitally extended and for some complex rig removal.

One monumental challenge came after Breakspeare and his team thought they had finished: "It was late in the project when the director let us know he wanted to change the ending of the film," says Breakspeare. "They wanted complete coverage of the White House, because the Angelina character had to take off in a helicopter from the back of the building. The back perspective was much trickier than creating the front of the building, which is easier to photograph and reference for our models."

Moreover, since the scene involved a helicopter taking off, extensive vistas of surrounding Washington streets would also have to be created. To get the job done, Breakspeare turned to his favorite tool for creating convincing environments.

"For environments especially, Autodesk Maya is always my tool of choice," he says. "There is no substitute. Maya has everything you want in a software package, and it has an unparalleled pool of people who know how to use it. Maya has become the central hub for the reality we are trying to build. We know what we want to accomplish, and Maya gets us there."

The Results

For the sequence in the elevator shaft, the filmmakers and CIS soon realized that the complicated rig work that would be necessary to make Jolie's acrobatics believable was going to make some of the planned shots impossible.

"Instead of just extending the physical set, we ended up replacing the entire elevator shaft digitally," Breakspeare explains. "We scanned the shaft and reproduced it in great detail, and then roto-scoped Angelina into the scene with our own digital moves. Once we'd rebuilt the sequence, the director transformed the scene from a quick look at her climbing to a much more important sequence in the film. He also said it was one of his favorite parts of the finished film."

The team also decided to build a complete 3D White House and surrounding views of the city. After viewing

Google Earth™ mapping service for reference, Breakspeare discovered that the U.S. government provided a free digital model of the city that included every building.

"The models were in an archaic format, but they did provide us an accurate base to work from," says Breakspeare. "We mapped onto it, allowing for lens distortion, and it worked perfectly. Of everything we did on *Salt*, I'm most proud of the build we did of the city. It's so seamless that most people will think we composited the White House into a plate of the city. It is those invisible effects that make us most proud."

For more information about Autodesk Maya software, visit www.autodesk.com/maya.



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