Project 0x05: Return of FX
(Mitch, Mark, Greg, Eric, Sean)

Before   After[1]

Your destiny is not that of your classmates. You will work in a **team of five** on a special assignment: combine the best aspects of everyone's FX assignment from last week into a coherent, visually striking short film. You are the Jedi of CS371 and we are depending on you.

The ultimate goal of this assignment is to develop your graphics presentation skills. In computer graphics it is not sufficient to achieve a technically correct solution. You must be able to apply your solution to achieve impressive results and polish your presentation to perfection.

A secondary goal of this assignment is to produce a video that can be shown to faculty and future computer science students to impress them with your awesome abilities.

Spend some time watching sequences of the original Star Wars films and the high-quality fan films based on them in order to pick up the visual style, pacing, and feel of the films. You should mimic the actual Star Wars as closely as possible. You may need to alter the speed of individual clips or alter their length to conform to this and make the editing feel sharp.

Given appropriate notice, Dan Fast '10 may be able to render custom 3D scenes for you if no-one on your team has expertise with 3D modeling software.

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[1] Special thanks to Kathleen Creel (female sith), Daniel Fast (stunt double), Scott Olesen (male jedi), Bartley Tablante (video code), Morgan McGuire (mercenary), and Kate Foster (costumes) for helping to create the video input sequences for this project.

Return of FX Specification

Your film must have the following properties:

1. At least 640x480, 24-bit color, MP4/MOVcompressed (no file size limit this week—target is 50 MB with no noticeable compression artifacts)
2. Bilinear or Malvar Bayer interpolation; whichever you determine looks better
3. Gamma correction with $1.8 < \text{gamma} < 2.2$
4. Excepting for the logos, which could be edited off, you must satisfy the guidelines from:
   http://www.atomfilms.com/2007/starwars/challenge/infoguide.jsp
5. Thick colored light sabers with white core, glowing consistently in all frames
6. Matting must be *perfect* for every frame
   a. Sabers and hands must never be cut off
   b. The original set background must never be visible
   c. When the mercenary and sith enter, they must be properly matted from filling the whole screen to when they are completely on the green screen set
   d. This probably requires custom garbage mattes and retouching for many frames!
7. For the shot where the female sith is walking, the background must scroll behind her and defocused objects must move past in the foreground.
8. Female sith's wound must glow in the final shot
9. Appropriate sound effects and music for all shots, including theme music and voices, with nice cuts and blends
10. A sequence of three shots contains the mercenary firing on the jedi while the jedi reflects the shots back, ultimately killing the mercenary. For this sequence, blaster laser bolts must appear as appropriate in all shots. You can either draw these in by hand (which will be tedious), or write software to programmatically color the appropriate pixels in subsequent frames. Note that you can use photoshop to find the coordinates of the beginning and end of the appropriate rays and then save those coordinates to input text files.
11. Reflections of the actors in the floor where appropriate.
12. Attractive, consistent, and appropriately different sci-fi backgrounds for each shot.
13. For the shot where the jedi first enters, he is supposed to be walking through a doorway into a hall. You will need a custom garbage matte to frame the doorway. Animate a door opening vertically in the doorway (with the appropriate sci-fi door sound) before he enters and have it close behind him.
14. Contain these shots, in this order:
    a. 20th century fox logo replaced with "CS371" and "Let there be light"
    b. "Williams Films" logo that parodies the Lucas Film logo.

c. Blue text, "A long time ago in a galaxy far, far away…"
d. Yellow STAR WARS logo
e. Yellow trapezoidal scrolling text over a starfield explaining that in episode 371, <female sith> and <male bounty hunter> have hunted <male jedi> to <planet> for their final encounter.
f. As text fades, camera shifts down on the starfield to reveal a planet surface. X-wing flies past camera and down to planet, followed slightly later by an imperial shuttle (with appropriate theme music for each).
g. Wipe to the planet surface.
h. Wipe to a building interior.
i. Numbered clips, in order, with straight cuts between them. The final two clips don't splice together well; you may need to be creative to hide that transition. The ideal transition is to create a new sequence of a closeup on the wound to go between them.
j. Credits (names and roles, including actors, all of you, and everyone in the class whose code/video you used—you should end up with everyone's name in there; list Prof. McGuire as "producer", thank Williams and Lucasfilm, say something about this being a parody and various trademarks being owned by Lucasfilm).
k. Slight black screen delay
l. Behind the scenes video title
m. With appropriately cool non-starwars music, show the various stages of the process on a video sequence, advancing it through effects as it plays. Intersperse code and equations; your goal is to convince viewers that you are masters of computer science and that this stuff is hard. You can use the sequences of Jedi McGuire here or of the other actors.

You are not required to submit your code, only the movie. You may use any tricks, code, third party software, and hand retouching necessary to achieve optimal results. The behind the scenes video should make clear the difference that each level of processing and hand retouching added.

You will be graded solely on presentation quality for this assignment!

Submitting Your Solution

Put your final film on the CS filesystem in a public directory and e-mail me the name and location. Do not e-mail the file or use the submission script.