

Studio In A Box: Low Budget Filmmaking in Maya

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Class summary

- The time is right to break into low budget animated content.
- New tools are being developed that allow for real guerrilla filmmaking.
- To be successful, the old paradigms must be discarded.
- New pipelines and workflows will lead the way to breakthroughs in CG animation.

Key learning objectives

At the end of this class, you will be able to:

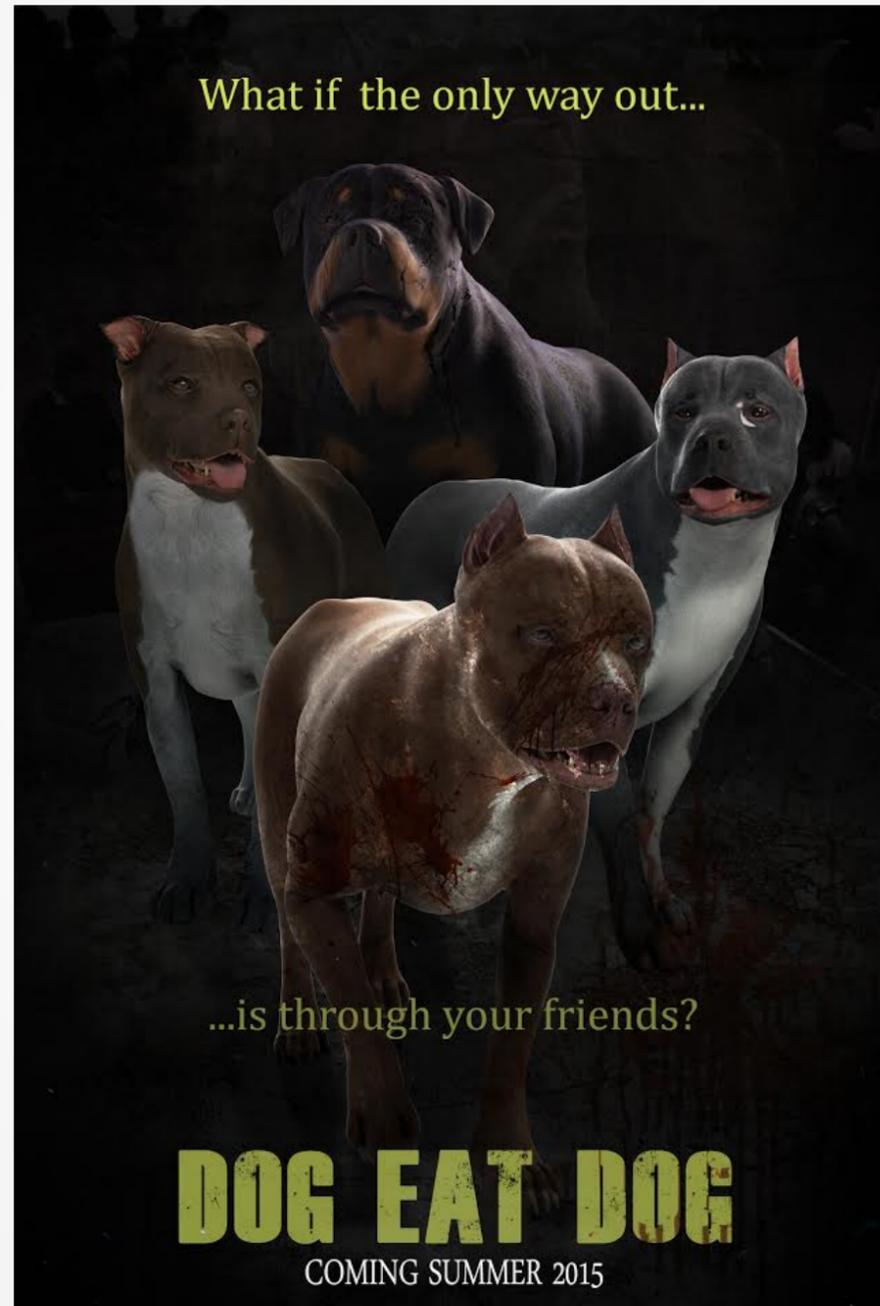
- Learn how to plan your film production properly
- Learn how to use timesaving techniques in character creation
- Learn how to employ efficient animation practices
- Discover some of the most valuable plug-ins and tools to bolster the Maya software toolset

Demonstrating the Power of Pipeline

- 10 second shot
- Good animator 1 week, + light + render + comp.
- We're going to do it live.

Planning The Production

Step 1: Get a film and a budget



Step 2: Make it!

- Has it been done before?
- What can be improved?
- What cannot be improved?
- <https://vimeo.com/99996773> (19:00)
- Our pipeline has been through the paces already, but let's take it even further.

Value in Your Pipeline

- Plan the entire production around the “high value” aspects of the film.
- Value is a combination of ROI on effort but stems largely from the disproportionate way some visual elements appeal to audiences.
 - Lens Flares
 - Fuzzy Characters

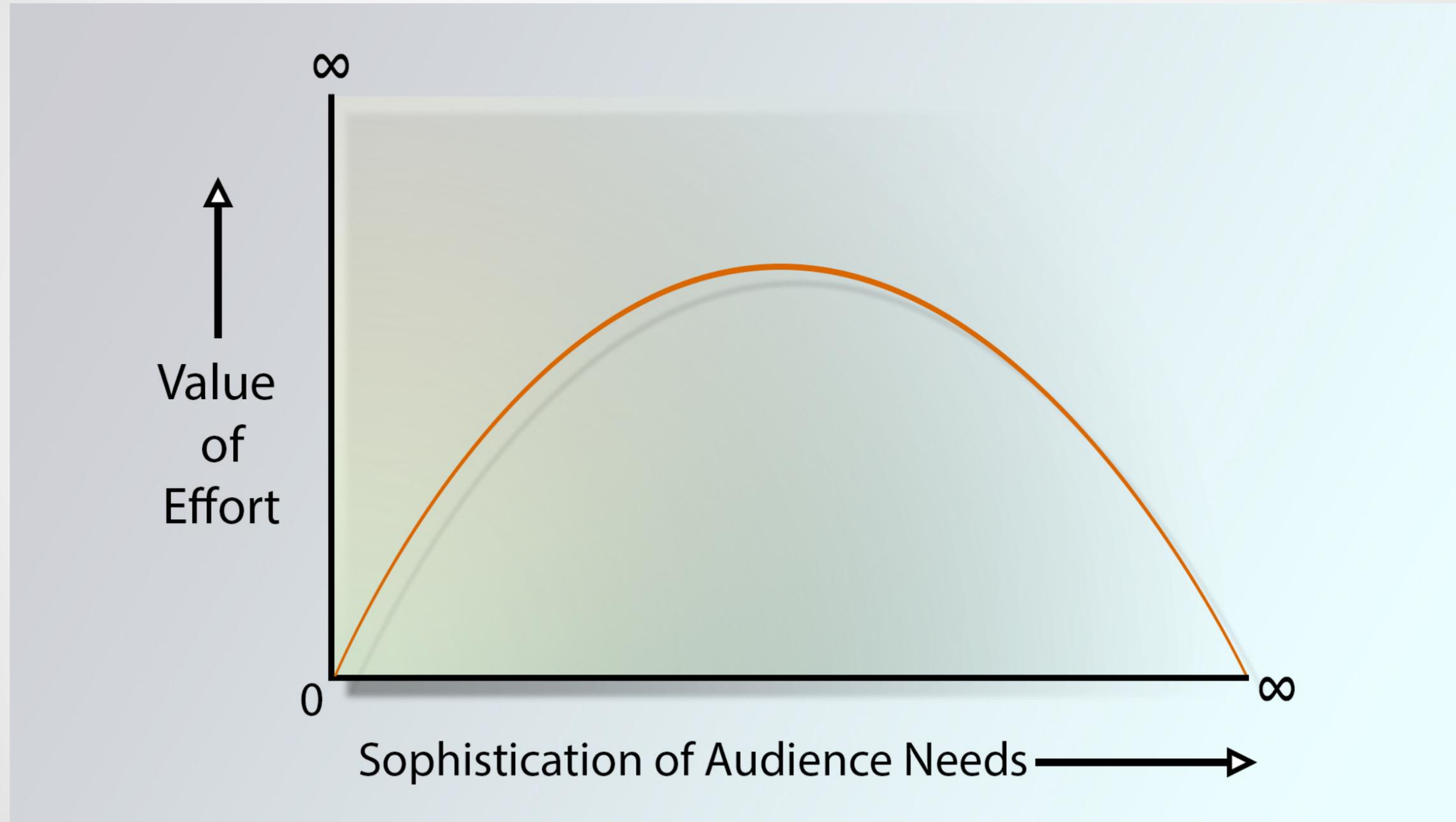
- Eyes...



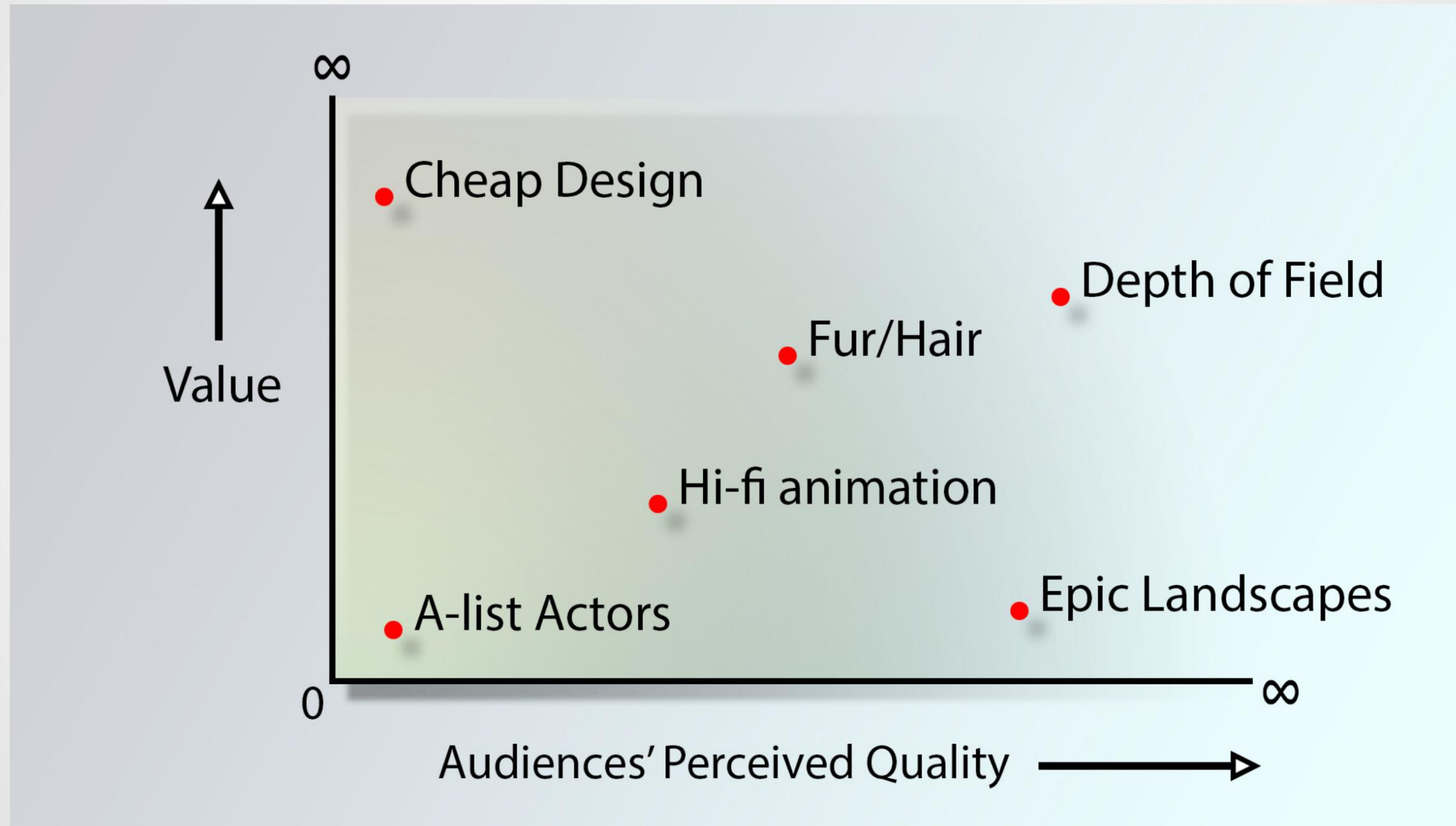
Avoid Low Value

- There are categories of elements that are notoriously low value.
 - Crowds
 - Destruction
 - Epic Landscapes

Value Curve



Perceived Quality



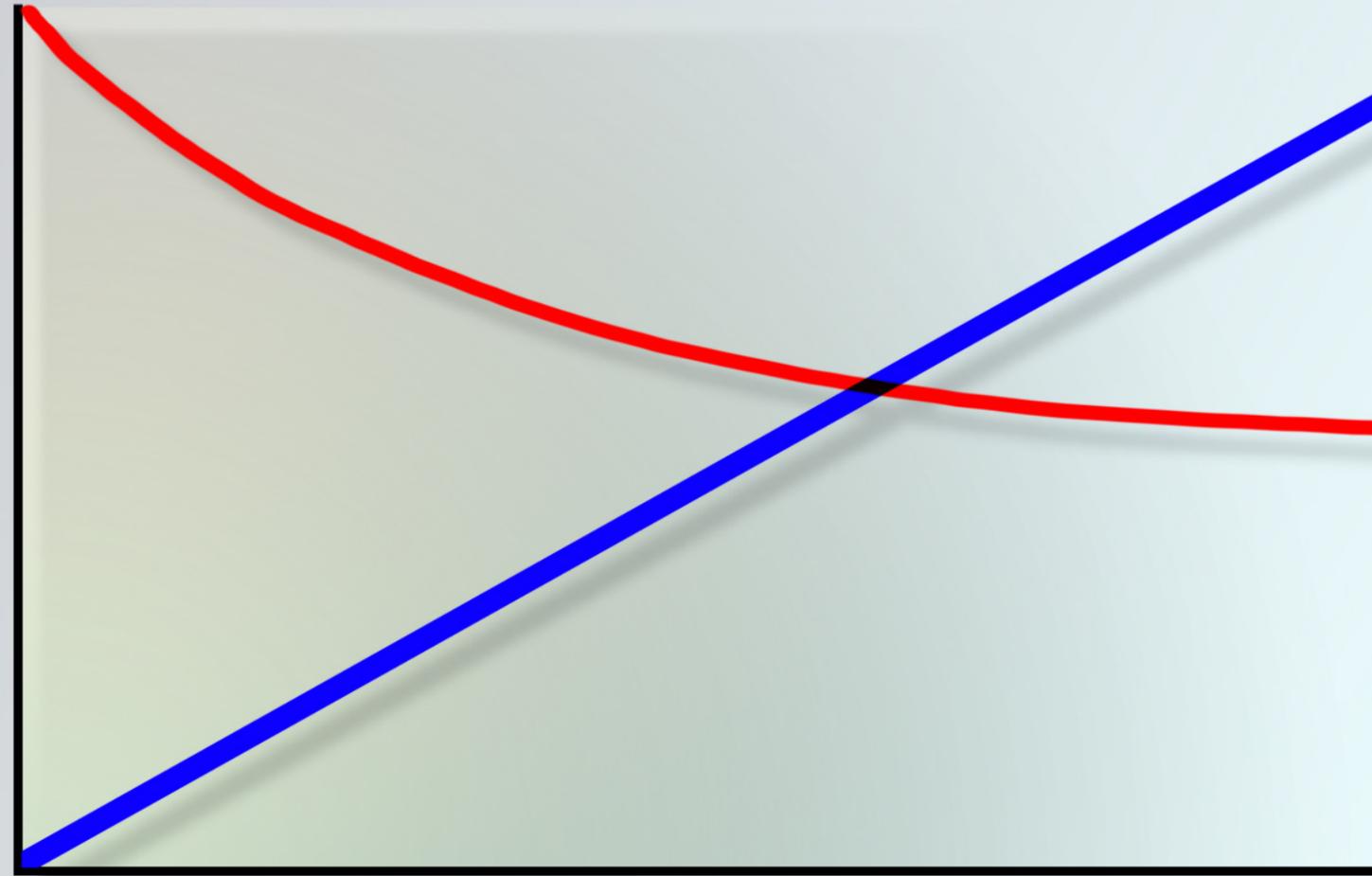
Old Pipeline v.s New Pipelines

- Major studios have tens or hundreds of millions of dollars poured into their pipelines.
 - This is a double-edged sword.
- With so much investment, and such large overhead, agility is extremely low.
- Old Pipeline = slow to move

The NEW Workflow

- WYSIWYG
- We surprised ourselves that we were bringing CG back to Live Action.
- Our results goals are so much more probable to obtain than budget goals, and MUCH more fun

Quality vs. Budget



New Workflow Quality Gains Old Workflow Budget Reductions

New Pipelines

- With enough novel technology assembled to achieve what you want, it's time to create an entirely new pipeline.
- Be not afraid of:
 - Emulating old workflows
 - Replicating what 'works'
 - Keeping up with others

Maximize Your Story

- We cannot tell the same stories at low budgets!
- That is not a bad thing.
- “Blink”
- Working within constraints breeds ingenuity.

Asset Creation

Reusing Assets

- One of the most time and cost-saving practices is to create everything to be reusable.
- This applies to all of the aspects of asset creation, but also with production.

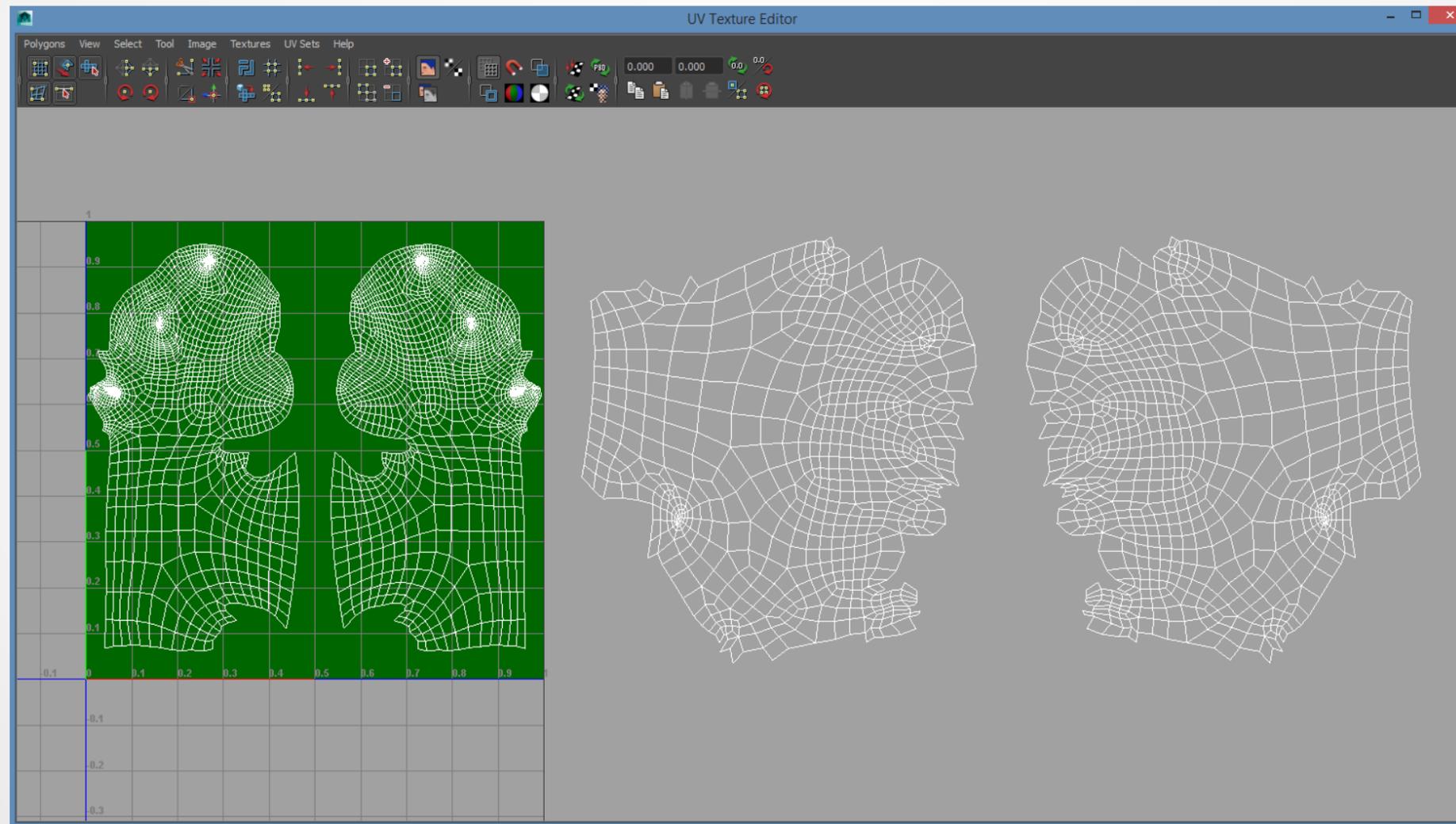
Models

- Our dogs are all based off the same base model.

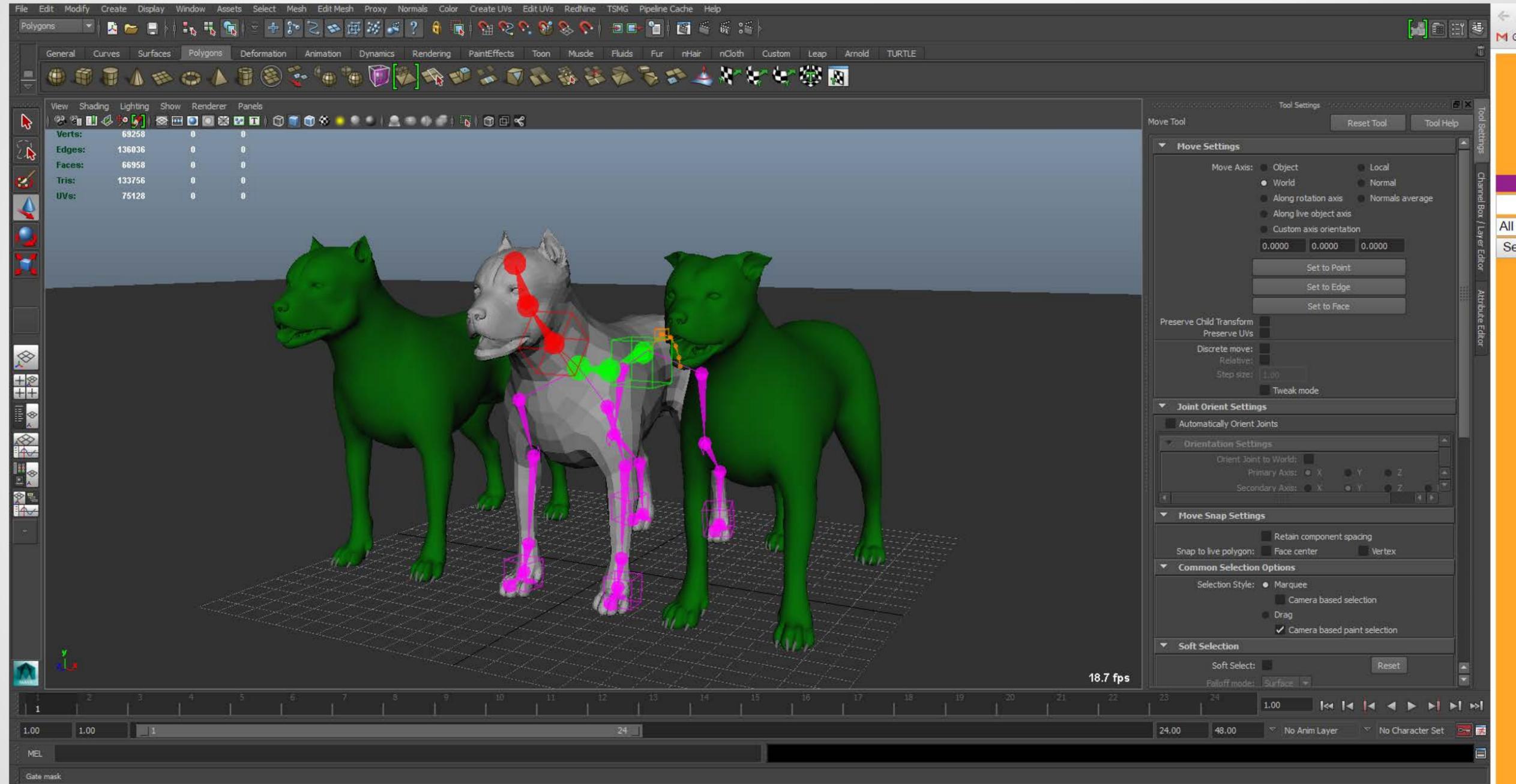


UVs

- With the same model to start, UV'ing is copy and paste.



Rigging For Efficiency



Sticking to the Workflow

- Custom Models, overly complex texturing, all begins to pull you back towards Old Workflows.
- Story is King

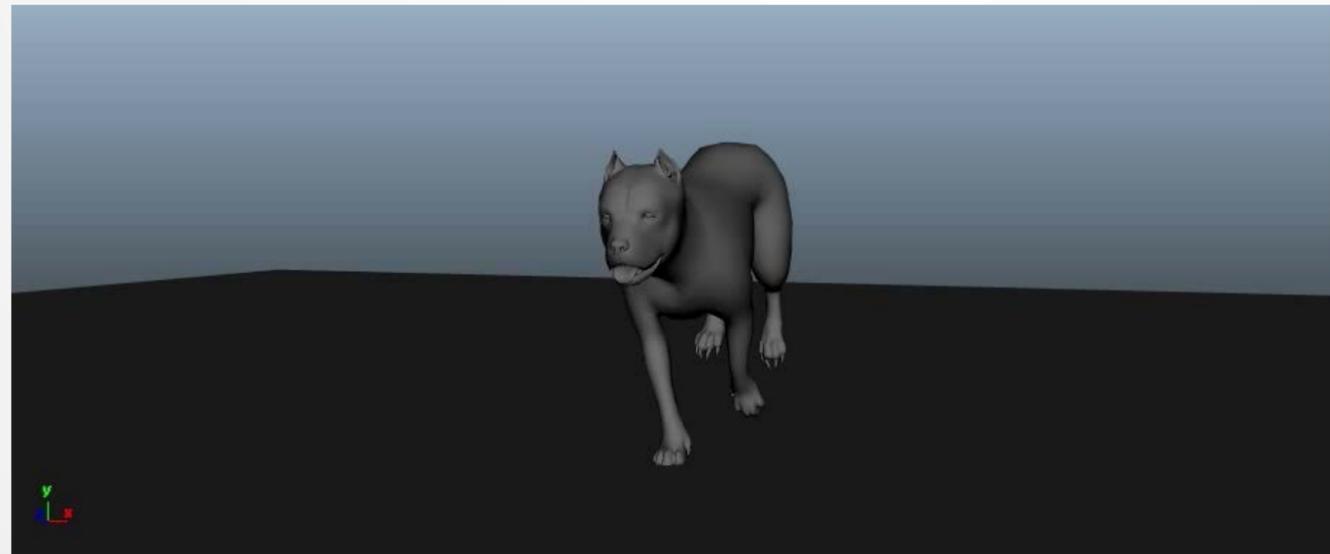
The Production

Animation

- Cannot keyframe
- Other, more efficient, better ways of creating performance.
- Remember the quality goals!

Animate in Layers

- Creating animation that can be mixed and matched means you are creating dozens, hundreds, thousands of possible permutations with each additional motion you add to your library.



Layout and Scene Assembly

- Script anything that you do manually more than once.
- Referencing saves time in the long run but adds some steps.

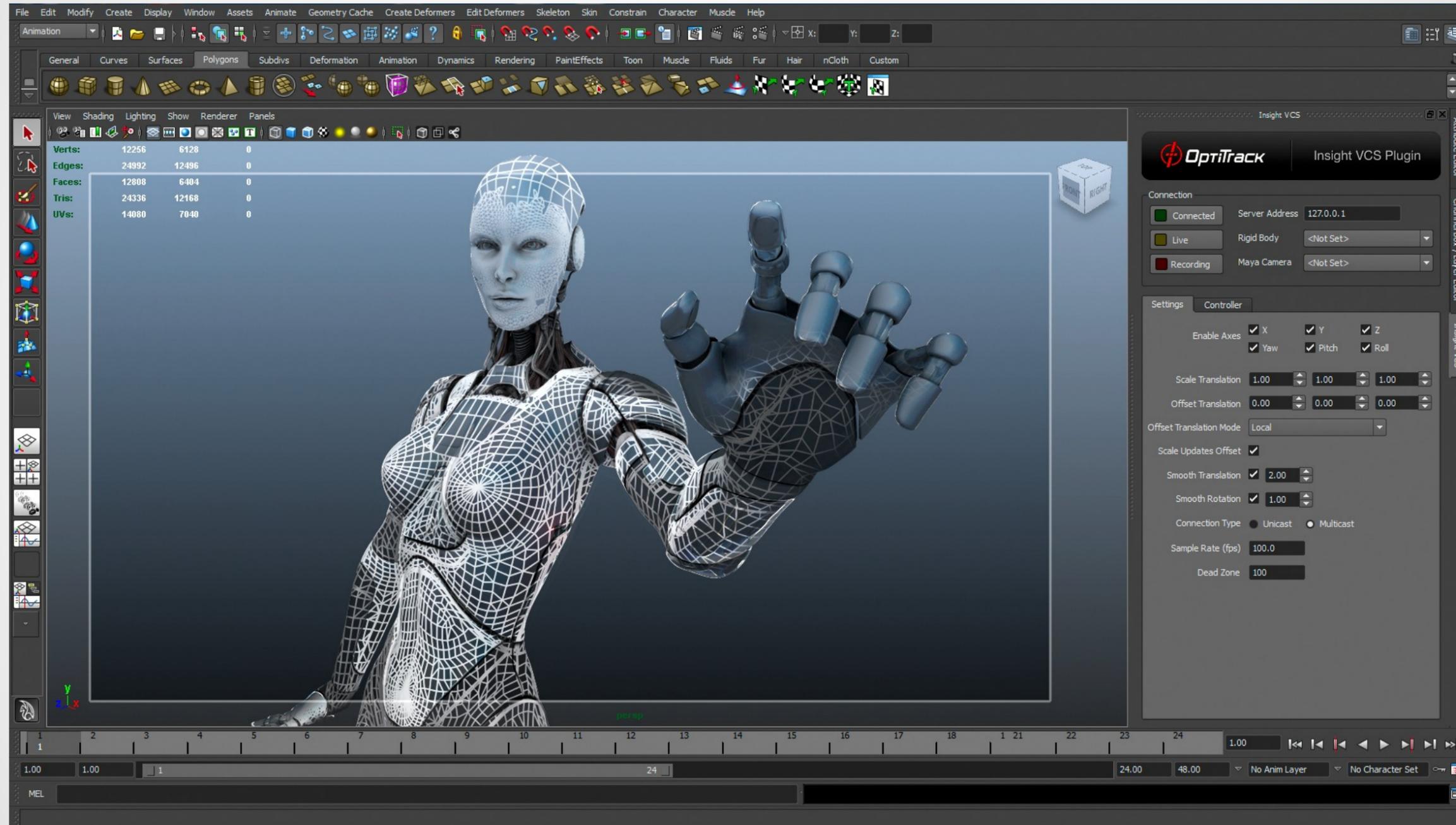
Examples of Automation

- Time to reference all chars, props and sets:
4:00 x 1500 shots = 6000 minutes = 2.5 WEEKS!
 - Batch Script to create entire sequences of shots reduced the creation time to about 2 hours.
- Applying Octane Materials to all of our objects:
2-3 minutes per object, and we have ~1000.
 - Batch Script that reads a directory and will apply an Octane material with the associated textures automatically.

Motion Capture

- Until a keyframing paradigm breakthrough happens, Mocap is still the most efficient.
- Consider products that will give you the feedback you need.

Realtime Feedback

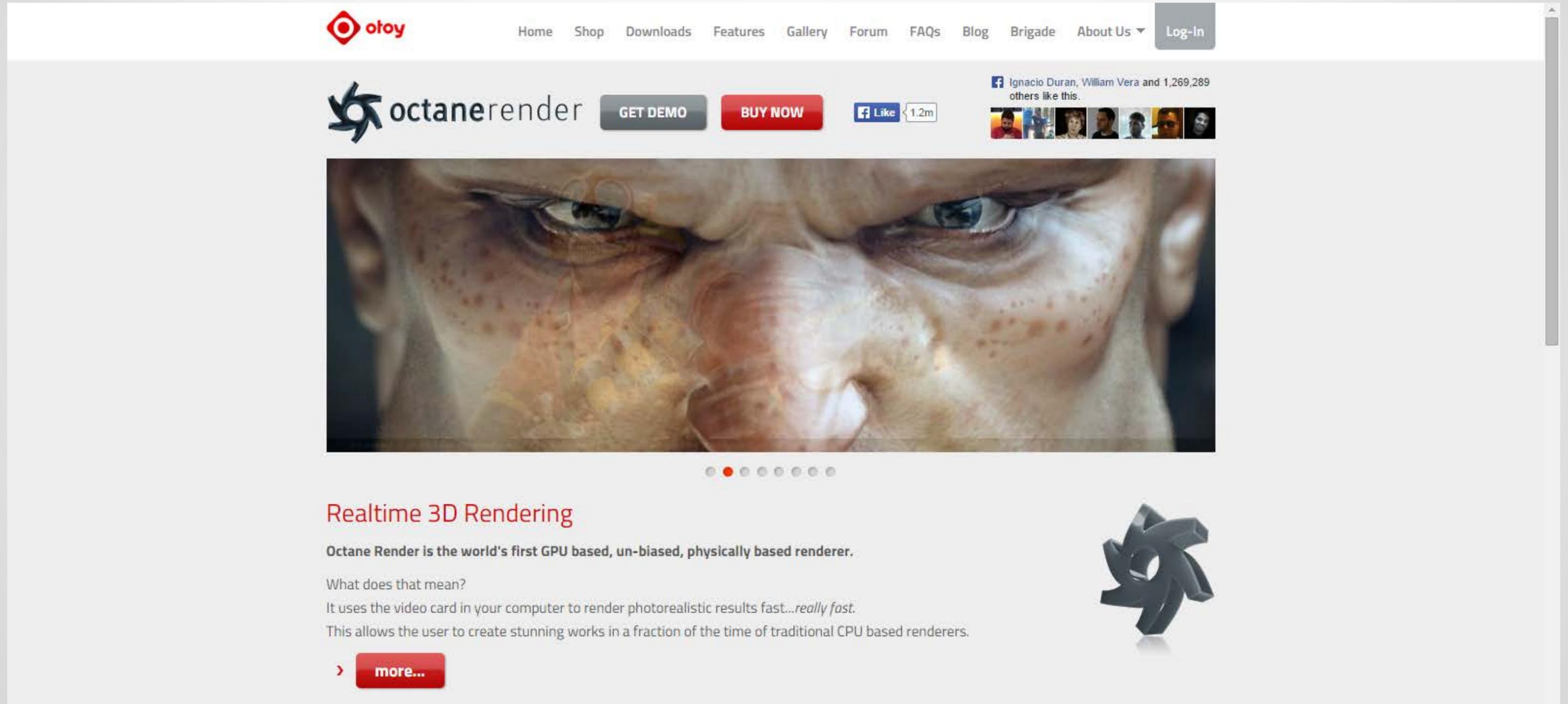


Hand Held Camera

- Early testing of a truly “hand held” camera.

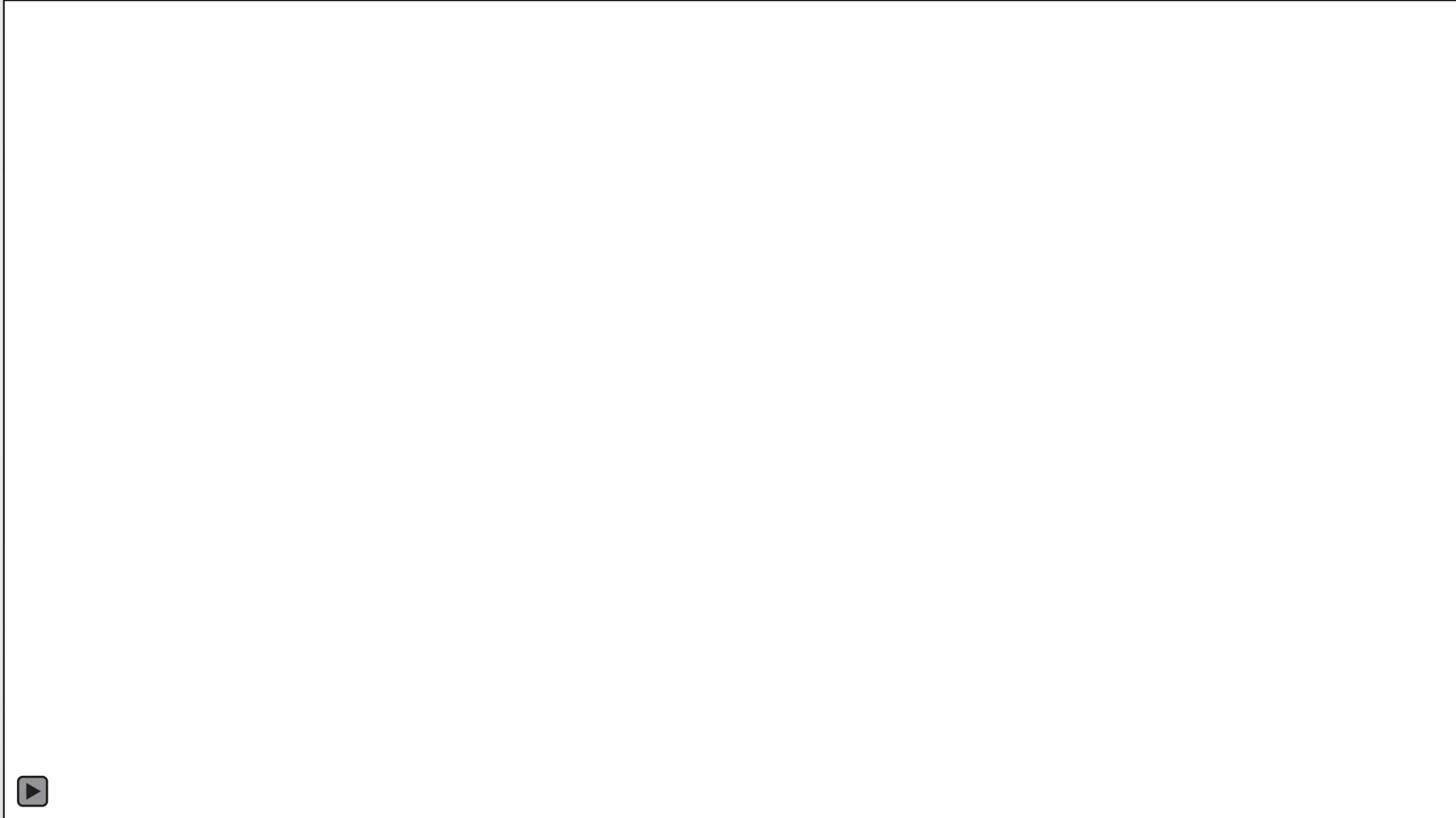


Lighting + Rendering



The screenshot shows the Octane Render website homepage. At the top left is the 'otoy' logo. The navigation menu includes 'Home', 'Shop', 'Downloads', 'Features', 'Gallery', 'Forum', 'FAQs', 'Blog', 'Brigade', 'About Us', and 'Log-In'. Below the navigation is the 'octanerender' logo, a 'GET DEMO' button, and a 'BUY NOW' button. A Facebook social widget shows '1.2m' likes and a list of profile pictures. The main content area features a large, detailed 3D rendered image of a character's face with freckles and intense eyes. Below the image is a carousel indicator with the first dot highlighted. The text below the image reads: 'Realtime 3D Rendering', 'Octane Render is the world's first GPU based, un-biased, physically based renderer.', 'What does that mean?', 'It uses the video card in your computer to render photorealistic results fast...really fast.', and 'This allows the user to create stunning works in a fraction of the time of traditional CPU based renderers.' A red 'more...' button is located at the bottom left of the text area. To the right of the text is a 3D rendered gear icon.

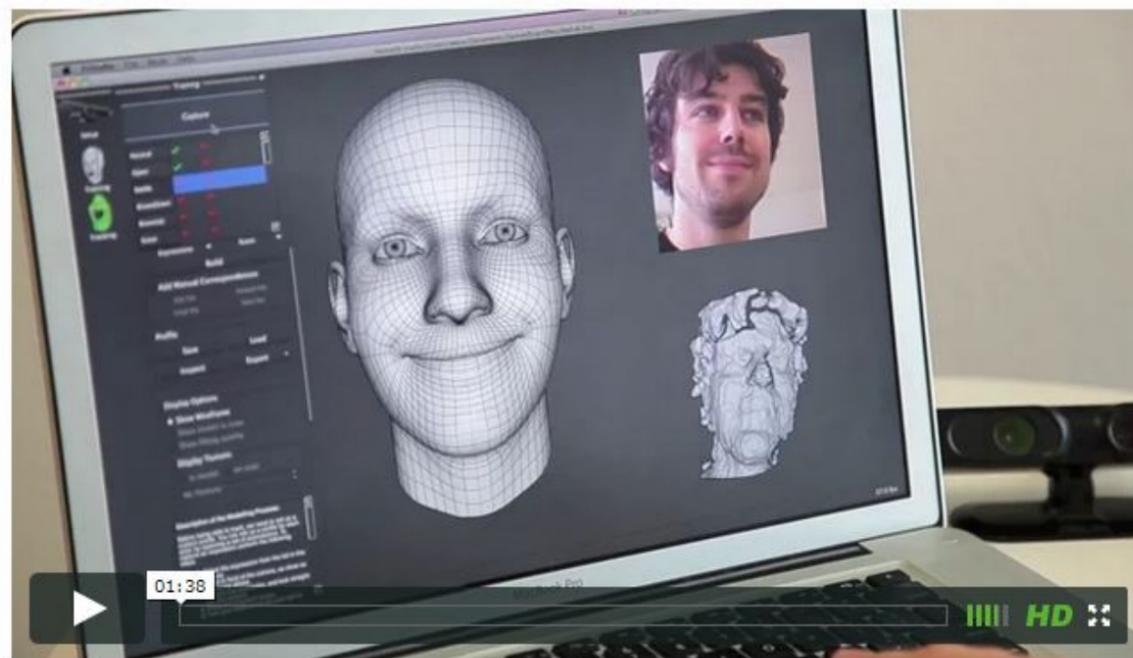
GPU rendering in Maya means ITERATIONS



GPU Rendering in Maya Means OPTIONS



FaceShift

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MARKERLESS MOTION CAPTURE

We believe that technology should enable *creativity*, that it should be at the same time *simple* and *powerful*, and that it should be *accessible* to everyone.

Capture facial animations that are realistic and emotional, with a system that is affordable and easy to use.

[Read more about our product →](#)[Download the trial →](#)

WHAT WE DO

Our software analyzes the face motions of an actor, and describes them as a mixture of basic expressions, plus head orientation and gaze. This description is then used to animate virtual characters for use in movie or game production. We have astonishing real time tracking and a high quality offline post-processing in a single, convenient application.

OUR USERS

Our customers come from the television, movie, commercials, and game production, where faceshift is employed for virtual production, post-production, and content creation. Faceshift also supports live streaming, which lead to a fast adoption by artists using it for interactive installations.

At your desk, markerless facial motion capture

- Game changer
- 100% on BG and MG characters, 85% for hero characters
- Used with modular geometry and reused assets, one artist can create the facial performance for a minute long sequence with up to a dozen characters, in as short as a DAY.

Maya and Mudbox Working Together

- Demonstration of Updating Character

Parametric Controls and Faceshift

- Drive any channel or set up any relationship we want.



In Summary

- Buy all your models
- Reuse everything
- Never do the same manual task more than twice
- Build animation in layers
- Mocap your face
- Render with GPUs
- Focus on Story

Oh wait, almost forgot...

- Remember that dialogue we recorded earlier?

Thank You
www.Arconyx.com

