



Photoshop Dream Girl

The Making of the Music Video

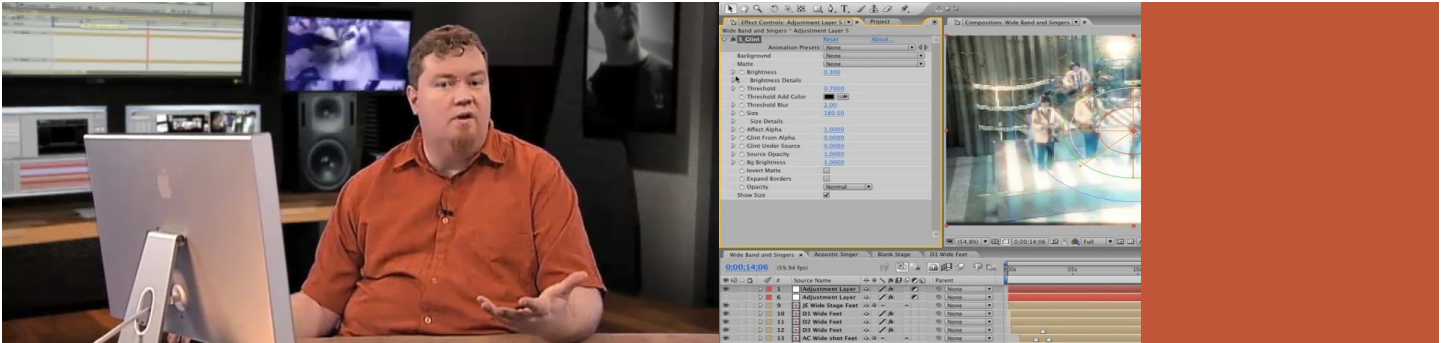
By Kush Amerasinghe

Introduction

This document outlines the creation of the short form music video “Photoshop Dream Girl” featured in the show “Short and Suite” on Adobe® TV. Adobe® tools used in this project include Adobe® Photoshop® CS4 3D capabilities including Ray-tracing and Photoshop live 3D import into Adobe® After Effects® CS4.



Background of the Show



Adobe TV is a portal for web video content focused on Adobe products and services. Video content is made by Adobe and third party partners and most content focuses on instructional tutorials, product demonstrations, Adobe events and inspirational content. Adobe TV is available as a self contained web portal linked to adobe.com (tv.adobe.com) and also available as a Network on Adobe Media Player.

Short and Suite is a Digital Video and Audio centric edutainment series featuring a fictional band (Johnny Encore and the Acrobats) producing original short form 30-90 second songs. Lead singer “Johnny Encore” is played by Karl Miller while the video tutorials are presented by Video Evangelist Karl Soule. Audio engineering is performed by Evangelist Jason Levine who also demonstrates the audio workflow during certain segments of the show. The actual music videos are produced by Kush Amerasinghe. The tutorial backdrop virtual sets creation and program editing is currently performed by third party vendor Splash Media.



The Song

Photoshop Dream Girl was written and performed by Karl Miller and recorded at a studio in Sacramento CA with Jason Levine. Members of Karl Miller's real life band “Warp 11” performed guitar and drums. Jason Levine also performed some of the backing vocals later on.



Music Video Concept

The original concept called for a transformation of a person from “ugly” to “dream girl” while she was walking across a fictional western style town while Johnny Encore sang in the background. Several challenges including performing a moving morph while matching a moving camera called for this concept to be revised.

With the introduction of the new 3D capabilities in Adobe Photoshop CS4 and Adobe After Effects CS4, the attention shifted to an entirely 3D animated music video. The next concept called for a “Guitar Hero” like abstract 3D animated characters performing the song while a 3D animated girl underwent the transformation. Several test animations were created to investigate how well characters could be animated only using Photoshop 3D features. While skinning is not supported, initial tests successfully translated simple 3D object movements into the pre-released versions of Photoshop CS4 Extended. However complex IK linking and parenting failed to translate correctly into Photoshop when intermediate file formats available at the time were used. Therefore the 3D character concept was suspended for CS4.

A new concept consisting of a tropical island setting illustrated using a simplified 3D world where all objects are stationary while the camera is moving was formed to fully take advantage of the Photoshop 3D and After Effects 3D object import features. The original transformation concept also blended into it as a dramatized Photoshop retouching demonstration but using two different before and after pictures.

The Dream Girl

Due to the sensitivity involved in deciding who would play the role of the “ugly girl” or the before photo, it was decided to opt for a clearly outrageous starting point such as a goofy looking man instead of a girl. Karl Soule volunteered to play this role.

After considering several options ranging from stock photo models, celebrities etc the team decided it would make the most sense to ask Zorana Gee – current Product Manager of Adobe Photoshop – to pose as the Photoshop girl. She graciously agreed!

The Pictures



Zorana provided a number of photographs of herself as options for the image to be used. This particular picture and another one of her in a bikini was chosen as candidates due to the beach atmosphere in the music video. Due to the low exposure of the other picture this picture was chosen. The picture was retouched by Kush to eliminate the other person behind her and to make minor enhancements to make the picture more interesting.

Karl Soule posed in front of a green screen mimicking Zorana's posed and later composited onto her background to create the fictional "Before" picture.



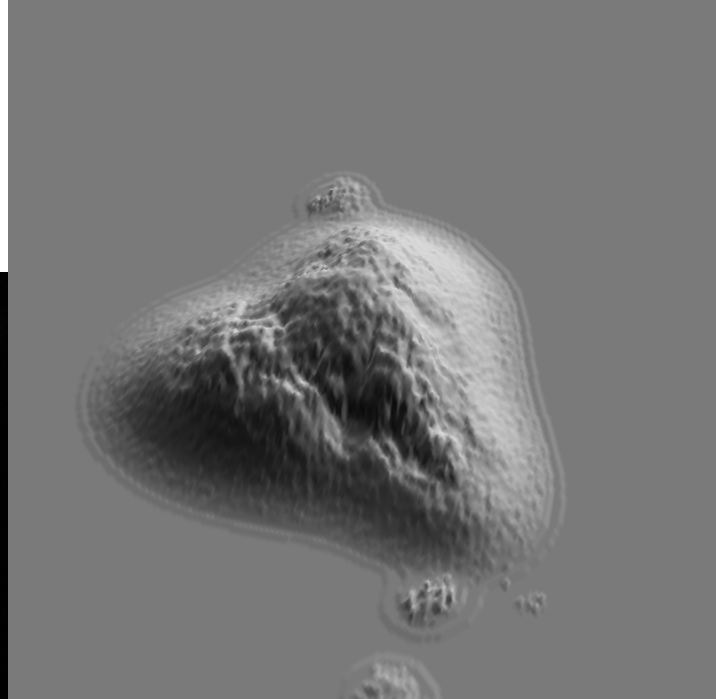
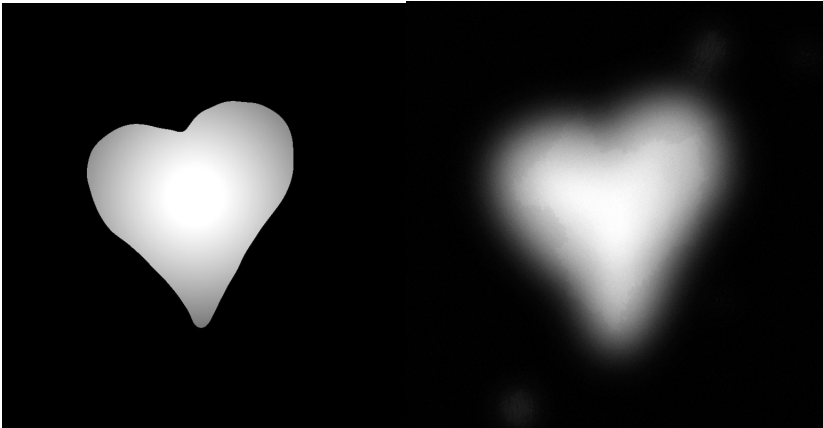
Several fictional intermediate transformational stages where different parts of the image belong to either picture were created to simulate the transformation process. This series of images were later run through the Adobe Premiere Pro time warp effect to achieve the smoother transformations while a fictional cursor was animated in After Effects.

The Video Shoot

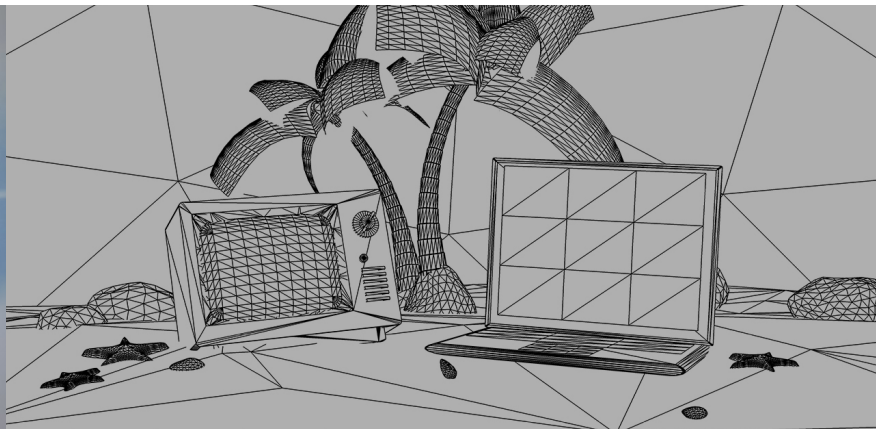
Karl Miller after being dressed and accessorized to match the setting was filmed in front of a green screen behind a glass window to mimic the TV screen he is supposed to be trapped inside. Several takes with different angles where he is interacting where the Laptop with the girl would be were filmed. This footage was later keyed using Keylight in After Effects and color corrected with Color Finesse to resemble a dreamy fake television showt.

The 3D Environment

Modeling



An image that is heart shaped with a radial gradient extending from its center to the edges created in Photoshop was further hand painted and processed to introduce organic variations and imperfections to make it resemble a naturally occurring land mass when converted to a 3D shape. Various Photoshop brush presets were used to introduce these subtle variations. This image was then converted into a 3D object using the Mesh from Gray Scale > Plane command in Photoshop CS4. The resulting mesh was scaled using 3D object editing tools then painted on using Photoshop brushes including the clone tool where photographic references of sand, grass, submerged beach areas etc were used to create the texture of the island 3D object. A large sphere and a reflective sea surface were also created to complete the scene. Further details such as the palm trees and rocks were borrowed from the other scene where the more detailed close ups of the TV on the beach were made.



The close up shots of the TV and the Laptop required more complex 3D objects. Due to the greater control needed, these 3D geometry files were created using Autodesk 3D studio max 3D modeling software. The resulting objects were exported as Collada files using the Feeling Collada exporter for 3dsmax (Collada is a 3D geometry interchanging file format supported by both Photoshop CS4 and 3D Studio Max which can define 3D vector geometry information).

When imported using the “New 3D layer from 3D file” command, Photoshop correctly recognized the 3D forms, relative position, object names, grouping, lights and original material assignments defined in 3D Studio Max.

Texturing



All texture maps were painted in Photoshop. While some objects needed to be painted as 3d objects, some were painted while still a flat image then later applied to the object. Some objects had several texture layers such as diffuse, specular, bump, reflectivity etc. These could be either defined at the 3D Studio Max modeling stage or later applied or modified in Photoshop using the 3D materials panel. Both Max and Photoshop support video textures (a texture map that is a moving video instead of a static image). This was helpful when defining moving texture maps such as the content in the TV screen or the waves (animated bump map) in the ocean.

Note: While the UVW mapping coordinates translated into Photoshop correctly, UV settings defined in the Max materials themselves weren't recognized making materials appear with the wrong tiling setting or if they were inverted in Max materials with a negative tile or mirror value. Also, while Max supports multiple UVW channels, only the first channel was recognized in Photoshop (or exported Collada file) making it impossible to define several tile settings for a single texture (eg: large diffuse tile for sand color while a smaller bump map tile setting for the graininess)

Real reflections worked well in Ray traced rendering mode in Photoshop.

Note: If reflection was not defined in Max, the material in Photoshop assumes it is a 100% reflective mirror (maybe a Collada issue) which makes the scene look completely blown out in ray trace mode. Also, while in max a reflection map reflects that image using world UVW coordinates on to the objects, in Photoshop that image becomes a reflectivity map where different areas are reflective (reflecting what is around it) depending on the luminosity values in the different areas of the image using fixed object UVW coordinates.

Opacity maps worked well after some tweaking. Examples of opacity map usage include detail in the palm leaves and the island's edge fading off into deeper waters.

Note: By default objects with opacity were automatically defined as 0% opacity. In Photoshop this setting overrides the opacity map making the object invisible regardless of the values in the opacity map image. This can be corrected by manually changing the value to 100% in Photoshop.

Lighting

While the light position and other basic properties seem to translate correctly into Photoshop from Max, tweaking the light settings in Photoshop was necessary to achieve the desired appearance. In ray-trace mode, opacity maps correctly casted shadows taking transparent areas defined in the map into account. Using the softness setting in the lights, soft shadows could be created.



Camera

While the original camera in the Max file served as starting point, the camera was re-animated in either directly in Photoshop or using the After Effects 3D camera.

Note: The orientation of the camera failed to translate into the scene correctly resulting in a scene that is adversely rotated when importing a new scene into Photoshop (could be a Collada exporter problem).

Rendering

The advantage of working directly with 3D geometry as opposed to rendered image output from the traditional 3D applications such as 3D Studio Max include the flexibility and power given by the superior painting capabilities in Photoshop in regards to texture maps. Also, a huge advantage of using 3D objects instead of images is the ability to change camera angle and movements when compositing a scene with other elements such as 2D images and videos in 3D planes.

This was also true when integrating the stylized 2D sketch elements featured in the video which were actually created in Flash and directly imported into after effects as vector animations. (These Flash elements were drawn inside Flash and animated using the new bone tool in Flash CS4)

In some cases, the entire 3D movement was directly rendered from Photoshop in ray-trace mode using the Export > Render Video command (after key framing PS camera in animation timeline window). In other cases where more compositing was needed, the Photoshop file was imported as a live 3D composition into After Effects then rendered from there. While interacting smoothly with the 3D scene may not be possible when the scene is complex, in Photoshop setting the render setting to “wireframe” solves this problem.

Once the camera movement is finalized, the setting can be reverted to full solid or ray-trace rendering before the final export. (Working with viewports that are in wireframe only and then rendering the final output with a more complex renderer is a common practice in traditional 3D applications).

Note: The same can be done in After Effects by changing the setting in Photoshop then saving it but a more direct way of switching between render modes directly from After Effects could be very useful. A setting where the rendering mode automatically changes to draft wireframe when the user interacts with them and then automatically reverting to the full render mode when the interaction stops could also be very useful.

Some scenes that didn't have complex 3D camera moves were rendered as a still image each from Photoshop (to save time) then 3D composited in After Effects to create fake camera moves. Ability to quickly turn 3D objects on and off in Photoshop was useful when these compositions were taken in as separate 2D planes in After Effects to enhance the illusion of depth during the fake camera move.

Final Edit

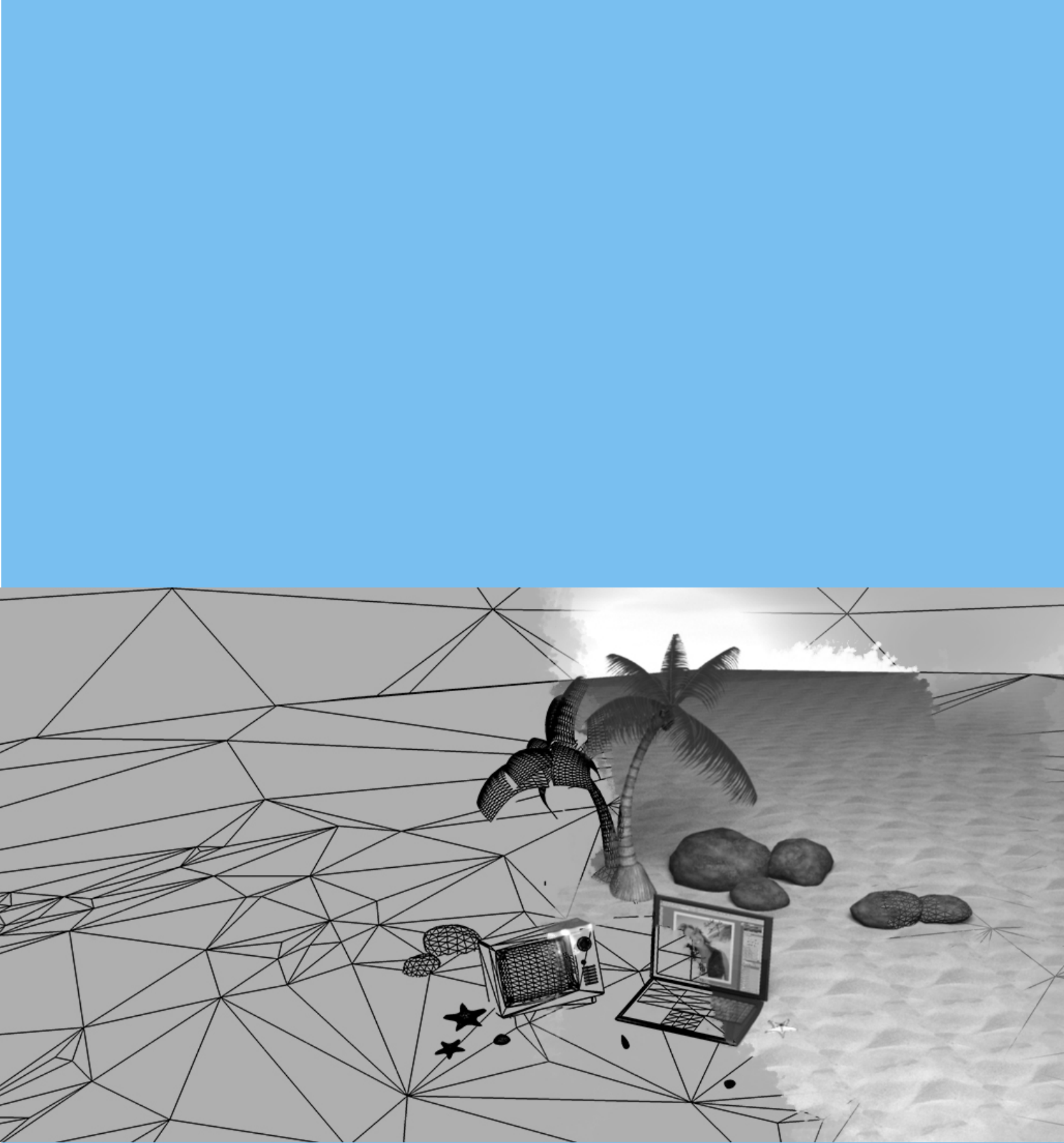
Filters such as glow, grain, and film scratches (some third party plug-ins) were added in After Effects and Premiere Pro to further stylize the look of the video. The final edit was performed in Premiere Pro CS4 then encoded using Adobe Media Encoder.



For more information or inquiries regarding this video and workflow, please contact Kush:

ask@adobe.com

To watch "Short and Suite" on Adobe TV, visit:
<http://tv.adobe.com/#pg+1519>



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