Project Description

Immediately to the North East of the Architecture building is the Burdette Keeland Center. Although the building was renovated fairly recently, imagine you have been tasked with recladding it. For your design presentation, the client is asking for **THREE** images - **ONE** perspective matched against a photograph and **TWO** rendered elevations.

Perspective Image

We have discussed three methods of matching perspectives - "Eye-balling", "Perspective Match" and "Camera Match". "Eye-balling" is easy, but frequently inaccurate. "Perspective Match" is good for matching a camera with a background image. The third method is "Camera Match" and is the best when the background needs to match a model. I would like you to use this for your project.

Thus, this process involves three parts: Preparation, Matching and Rendering:

1. Preparation - This step involves two basic parts. Preparing an Image and building a Model of the existing building. You already have a fairly accurate model from the third project. To reduce rendering overhead, take this file and delete the interior lights, cameras and art work. Your next responsibility is then to take a photograph (image) of the existing Burdette Keeland Center that you wish to match the perspective with.

   A few thoughts about the background image. Avoid photograph ing a straight elevation as MAX needs points both near and far to effectively match the perspective. Also, any parts of the image that are in front of the building will need to be extracted and placed on a foreground layer in Photoshop. Doing this success fully requires more work, but will be viewed favorably.

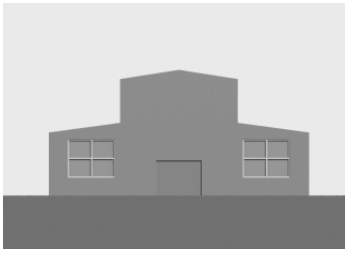
2. Perspective Matching - Next take this image and place it in the viewport background of your model. Using the tools you have learned, match the perspective of the image, thus creating a virtual version of the camera you used. Of the three mechanisms we discussed, I'd like you to use the **"Camera Match"** method, which involves setting **"Camera Point"** helper objects and matching them to the viewport background image.

3. Rendering - Because we are using a background image and the "Sun Positioner" with the Arnold renderer, you need to use this image as a "Backplate". For the camera, the one created in step 2 is a "**Free**" camera, which requires you to set the **"Global Exposure Control"** for an exterior setting, like **14** or **15**. NOTE: The rendered background will likely appear quite dark once the "sun" and exposure control are active. To fix this, you'll need to boost the background map's "Output". Try working with increments of 10 before fine-tuning.

   Next, create a palette of **"Physical Materials"**, including at least one using a texture map, and reskin the building. For the ground plane, use the Arnold "Shadow Matte" map (use the "Map to Material" material) so that the model will appear to cast shadows on the ground. Finally, you'll likely want to reduce the "Output Size" to speed up both testing and the final rendering. Make sure your pixels are the same proportion of the image used for the viewport background.

(Continued on Page-2)

Elevation Image



For the elevation images, place Standard "Free" cameras in the desired orthographic viewports. Make sure to check "Orthographic Projection" and adjust the lenses until the building is the desired size. Because the camera is orthographic, the distance from the building doesn't matter. Although these are not scaled elevations, as that would require knowing the print size, make them the same "scale" by using the same lens setting for both. HINT: The longer elevation will determine the lens setting. Finally, to make the elevations at the same vertical height, use the same "Z" for both cameras.

The background image used for the perspective match is no longer valid for the elevations, so you'll want change the environment to either a solid color (uncheck "Use Map") or a gradient (change Arnold's "Background (Backplate) Source" to "Custom Map"). Since the ground plane needs to extend below the building, adjust the ground object's extrusion height (negatively) and assign a material with a neutral color. You should be able to reuse the "sun" that you used for the perspective match, although you may need to adjust the angle to create nice lighting. The golbal exposure control set for the perspective match should work with the elevation cameras.

Project Requirements

1. Use the model from Project #3 and delete the interior lights, cameras and artwork to reduce overhead.

2. Next nice day you are on campus, take several pictures of the existing Burdette Keeland Center. Take note of the sun and any foreground elements. Avoid creating "elevations" by capturing the far dimension.

3. Use the "Camera Match" tool to recreate a virtual copy of the camera used to take the photo.

4. With the image in the backplate, use the "Sun Positioner" and "Physical Materials" with at least one using a texture map. Render the camera-matched camera.

4. Create two rendered "orthographic" elevations.

3. You are going to turn in a minimum of **FIVE** files:

    1. Geometry (**MAX** file),
    2. Original image you used for your viewport background (**JPG** file).
    3. Final rendered perspective image (**JPG** file).
    4. Elevation 1 (**JPG** file).
    5. Elevation 2 (**JPG** file).

    Include any map files that you may create and are needed to render your image. You can zip everything together before uploading to Blackboard.

Schedule

Your **MAX** and (4) **JPG** files are due by 11:59 pm April 3rd. Please upload all files (you can ZIP them together) to Canvas. If you have issues, you can send them as an attachment to me electronically at **pnoldt@uh.edu**