Report of Blender Animation

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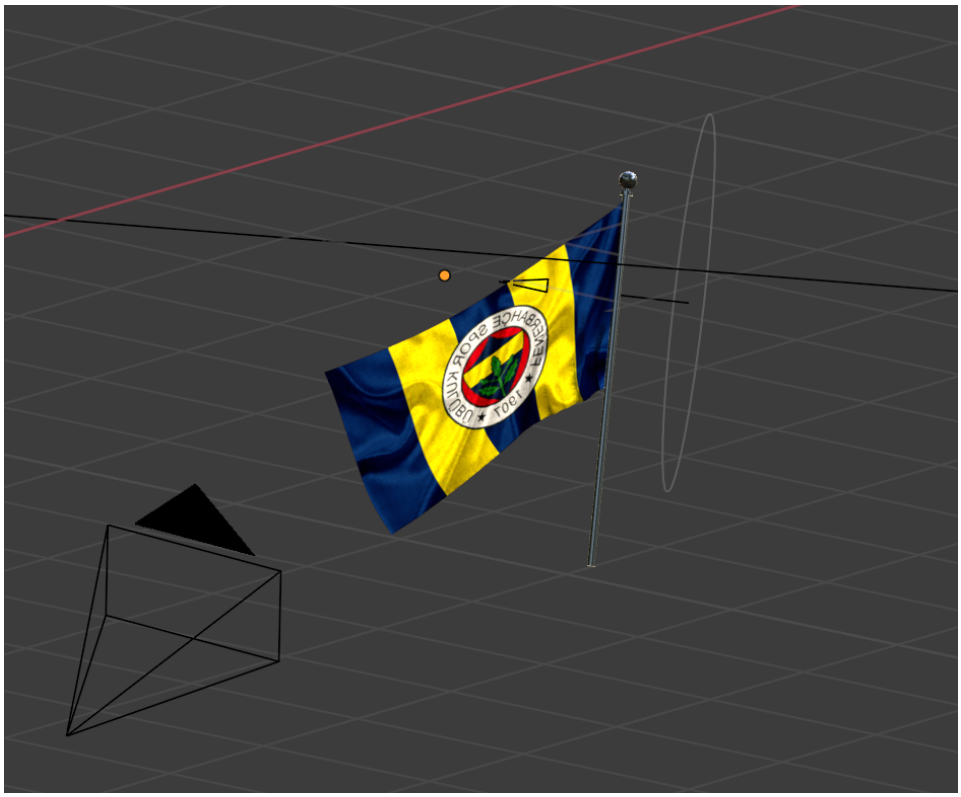
Flag Animation

I need to have an object to create a flag and I choose an image plane as a first step. The reason I use this is because it creates a plane which is exactly the same dimension with texture when I click import. It is important to match exact UV coordinates of the object. I rotate it along the X axis. Next step, I need to give it more geometry. Then, I add a loop cut by hitting control r and then, clicking so that it places one vertically. With this process, I want to make it so that I have got two squares essentially. Theni I subdivide it to get squares. At the subdivide panel, I turn them all the way up 10 and I divide them faces again in order to have small portions.

After we have geometry, it is time to add a cloth simulator. At the physic panel click on cloth. I pin the flag at the left hand corner, which is where the flagpole is going to be. About the flag, everything might move but this part just should be stucked.



Thus, I assign the left hand side of the flag to make it stationary. At the physics panel, we chose cloth collision to make the flag animation more realistic when we compare it to the real world.

Obviously, I want to make the flag stay upright. To make it happen, I add force field wind to the screen. The circular looking object with an arrow which shows its direction can be seen on the screen. Then, I rotate it 90 degrees from the front view. To avoid a weak wind, its strength might be increased to around 2000 value and change setting to smooth shading for better view.

Settings

The "mash" value decides how the flag will stay in its initial position. Since I fixed it to 0.5, the flag is positioned slightly down.

The “structure” value decides the stiffness of the flag so I set it to 1000 values. That is why it looks like melting cheese at the end when animating it.

The “bending” value decides the size of wrinkles of the fabric so I set it to 0.05 values. It is because the flag is probably made from nylon or cotton so that small values are appropriate for that section.

I have got 32,380 vertices on the flag so that it makes the flag heavier or lighter. Instead of changing the subdivision setting, I increase the steps to get more detail even if it increases the bake or render time. However, I think it is the best way for it when I compare it to the increase of subdivisions.

Another effect on the flag is that the “spring” value decides the jiggleness of the flag. It is actually more appropriate for heavy fabrics. Thus, I have decided not to give any spring value.

The “air” value decides the dampening effect on the flag when it goes through the air. When I increase it, the flag looks like slow motion (low gravity).

The “multiplier” value exaggerates the speed of the flag. I have decided not to change it and set it to 1000 values.

Wind

With different kinds of wind effects, we can get different results and baking time. It starts to elongate and stretch the fabric. I set it to 2000 values first but it was so heavy then, I decided to reduce it to 1000 values in order to give it a gentle breeze.

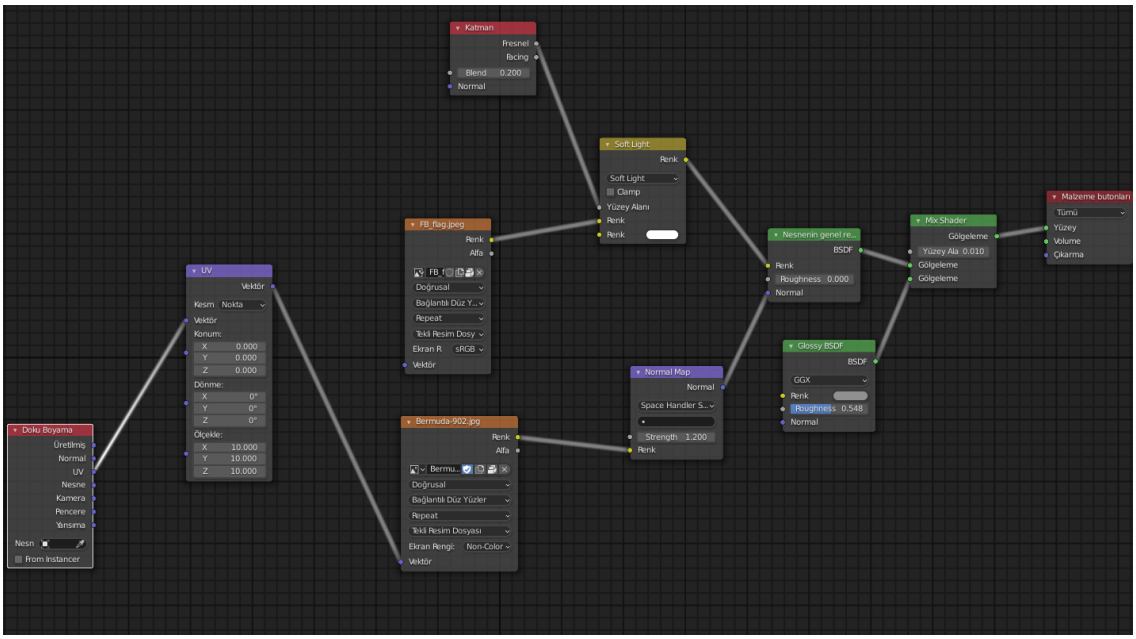
Light

After all, the first thing that I need to add is lighting. I do that by adding a sun lamp and adjusting coloRamp, background and its strength. Then, simple lighting is set up and I think it looks good enough.

Shader Editor

Texture Painting -> UV -> Flag Texture -> Soft Light and Normal Map -> Real Color of the Object -> Mix Shader

The map can be seen below as a screenshot.



In order to feel real fabric or have details in the flag like fine wrinkles when we look at the flag moving in the breeze, I add another texture right here (Bermuda). To make an effect on this object, I need to basically drag the arrow into the normal input. After that, I want to reduce the scale of the fabric so that the fabric looks stretched so that for the image, it automatically UV unwrapped as a plane but, the other one is a square map. Thus, I have added another UV map.

Stick

Stick is the last component (cylinder) to add the screen. On the top of it, I keep the pole there and by hitting i-button to insert that point, move it up. Finally, I created a flag pole by adjusting the roughness of it.