

ASSET S3D

Documentation

Package : Modular Medieval Warrior 01

version. 2.0.1



Check out my [facebook page](#), and Unreal Engine [forum](#) for news

Short Description

Medium armored warriors with 11 modular body parts, 21 changeable color masks and customizable face blend-shapes. Endless possibilities creating new characters with random face generation. Clothes and hair using simulation.

Long Description

Preview video : <https://youtu.be/mwzHyWjDAhA>

Medium armored warriors with 11 modular body parts, 21 changeable color masks and customizable face blend-shapes. Endless possibilities creating new characters with random face generation. Clothes and hair using simulation. Easy to create new character using Character Creator Blueprint via UE variables. Camera in TPP and FPP mode. Good for medieval ages or fantasy games.

Modular Medieval Warrior 01 pack contain:

- Character Creator Blueprint with endless possibilities - 76 variables you can change !
- Changeable 12 body parts (helmet, hood, hair, beard, chest, shoulder, gloves, skirt, pants, boots, shield, weapon) with different models and materials
- 21 body parts where you can change HSL color (Hue, Saturation, Lightness)
- Face Creator using Character BP variables (blendshapes and material instance)
- Hair and Cloth simulation
- Optimized textures using one RGB texture with channels for - roughness, AO, metallic. Textures in DXT1 format - 2x less VRAM usage (normal map BC5)
- 176 PBR textures (albedo, normal, RGB)
- 54 models with 2 levels of details
- Rigged and scaled to epic skeleton
- 2 camera types - TPP and FPP
- 4 sockets for shields and weapons
- Rig contain twist bones - a lot better transformations in animations
- Character blueprint - ready to play
- Animations (Epic animations, modified inside Persona)
- Documentation file with tutorial !

////////// update v2.0

- entirely new face model with textures - a lot better quality
- age and racial control on face
- naked models divided into parts (hands, arms, chest, all) - auto change visibility according to armor visibility
- added body proportion control
- new armor set
- +48 new textures
- new gloves and pants types + 7 models
- added easy way to add custom meshes and materials to randomization BP
- better hair and skin shader
- small fixes
- option to disable/enable Jaw
- new demonstration map
- updated documentation
- new video

Technical Details:

Scaled to Epic skeleton: Yes

Rigged: Yes

Rigged to Epic skeleton: Yes

Animated: Yes

Number of characters: 1

Vertex counts of characters: lod0 = ~29k (fully equipped)

Vertex counts of characters: lod1 = ~9k (fully equipped)

Texture Resolutions: 1024x1024 - 4096x4096

Number of Animations: 6

Animation types (Root Motion/In-place): 2/4

Engine Compatibility: 4.12 - 4.15

Intended Platform: Windows, Mac, PS4, iOS, Android, Xbox One

Platforms Tested: PC

Important\Additional Notes:

Price can change in the next updates when I will add additional textures and models.

Short Description	1
Long Description	1
Overview	4
Name convention:	4
Folder structure:	4
Models	5
Textures	6
Animations	8
Blueprints	9
BP_PickUpItem	9
BP_MM_Warrior_01	10
Construction Graph	10
Event Graph	13
Character creator	16
Clothes/armor customization	16
Face creator	19
Issues	21
Contact	21
License	22

Overview

Name convention:

Models:

SK_objName_type_version_lodX

Example: SK_Chest_01_03

SK - skeletal mesh, SM - static mesh

Chest - object name

01 - type

03 - version

Textures:

T_objName_type_version_texType

TexType are: diff - diffuse/albedo, norm - normal map, RGB (roughness, AO, metallic), masks

- RGB mask used for coloring

Example: T_Chest_01_01_diff

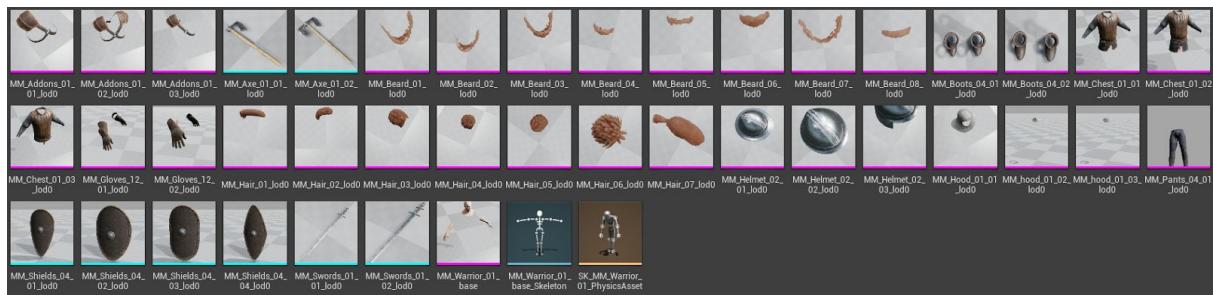
Folder structure:

Content

MedievalWarrior_01

- Animations
- Blueprints
- Materials
- Meshes
- Textures

Models



54 models with lod0 and lod1:

4 body: all, arms, chest, hands

3 Addons (Shoulders)

2 Axes - one and two handed

8 Beards

2 Boots

4 Chests - 2 materials, skirt and chest, skirt using apex cloth

7 Gloves - 2 types

7 Hairs - 03-07 using apex cloth for simulation

3 Helmets

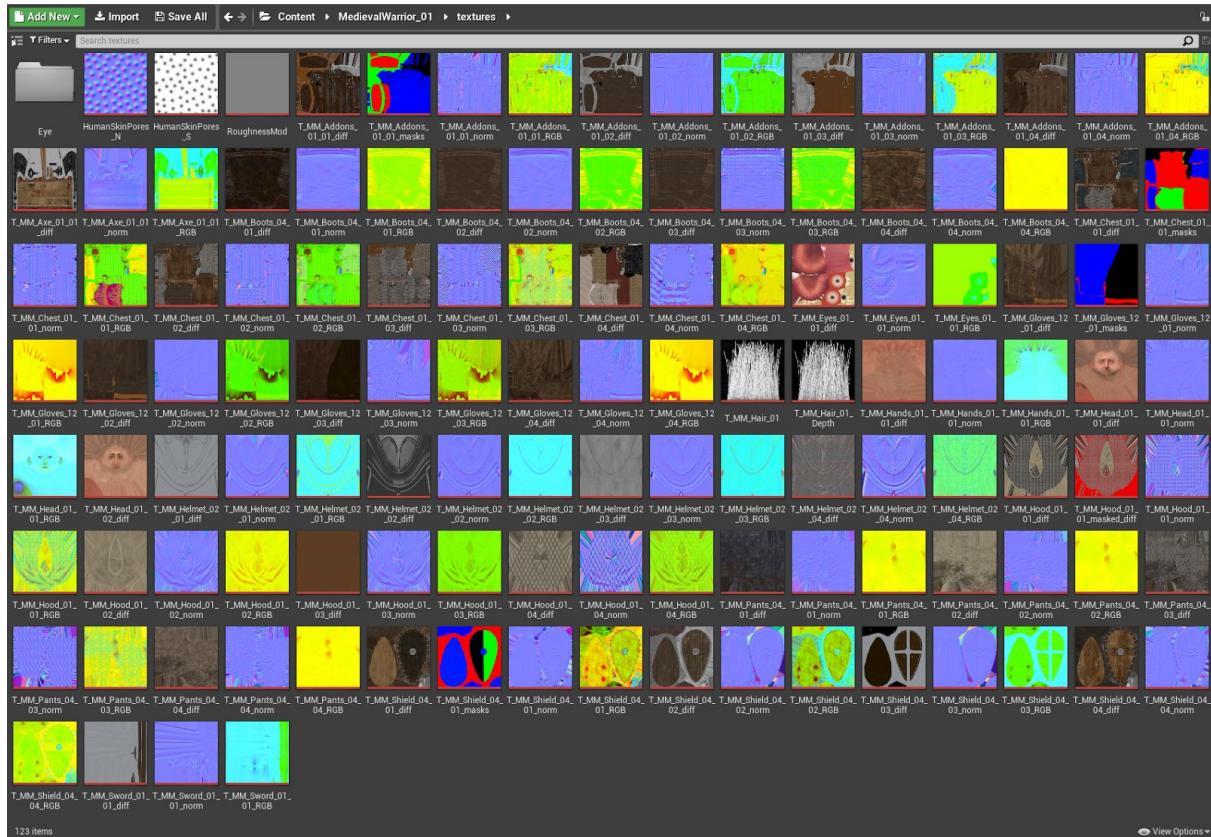
3 Hoods

2 Pants - 2 types

4 Shields

2 Swords - one and two handed

Textures



Eye - Epic Eye Textures

2x - HumanSkinPores - Epic Skin additionally textures

15x - Addons(Shoulders) - 5x3 (diffuse, normal, RGB) - 2048x2048

3x - Axe - 1x3 (diff, norm, RGB) - 4096x1024

15x - Boots - 5x3 (diff, norm, RGB) - 2048x2048

15x - Chest - 5x3 (diff, norm, RGB) - 4096x4096

15x - Boots - 5x3 (diff, norm, RGB) - 2048x2048

3x - Eyes_01_01_diff - 1x3 (diffuse, normal, RGB) - 2048x2048 - it's used for Jaw

27x - Gloves - 5x3 + 4x3 (diff, norm, RGB) - 2048x2048

2x - Hair - 1x2 (opacity, depth) - 1024x1024

3x - Hands - 1x3 (diff, norm, RGB) - 2048x2048

3x - Body - 1x3 (diff, norm, RGB) - 2048x2048

7x - Head - 4+3 (diff1, diff2, norm, RGB) - 4096x4096

15x - Helmet - 5x3 (diffuse, normal, RGB) - 2048x1024

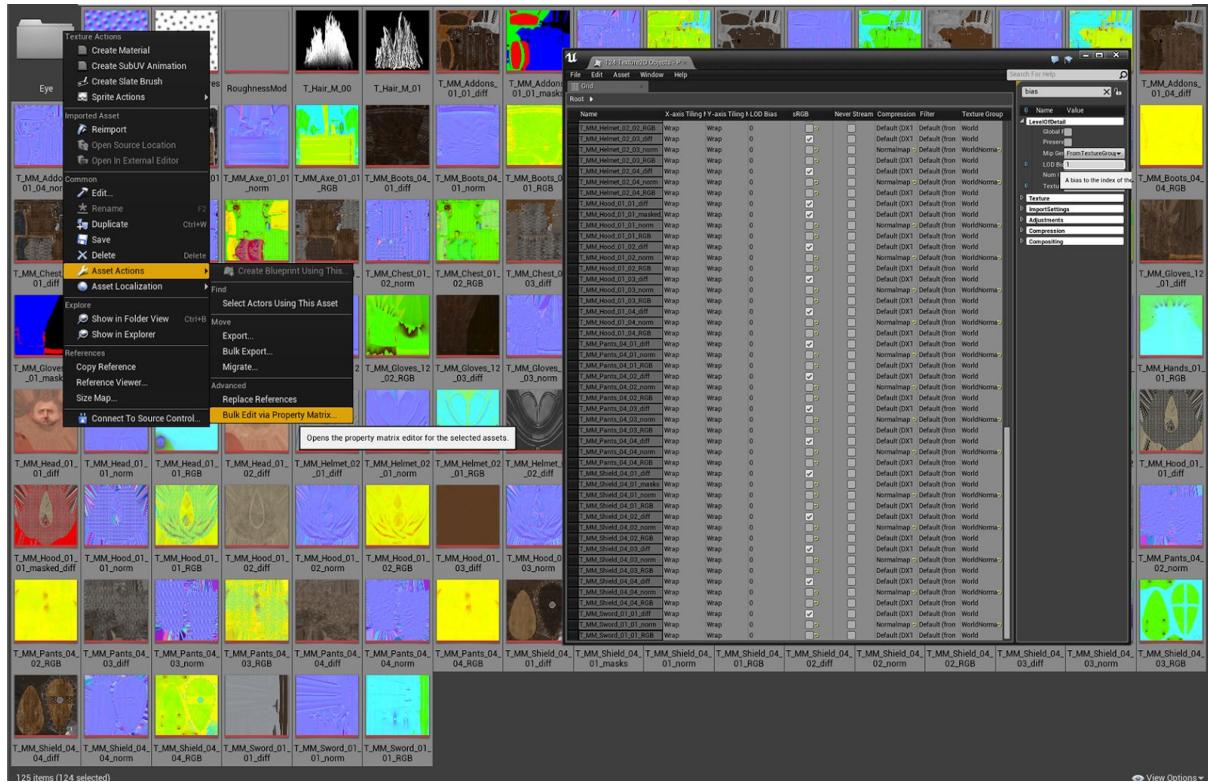
15x - Hood - 5x3 (diffuse, normal, RGB) - 2048x1024

27x - Pants - 5x3 + 4x3 (diff, norm, RGB) - 4096x4096

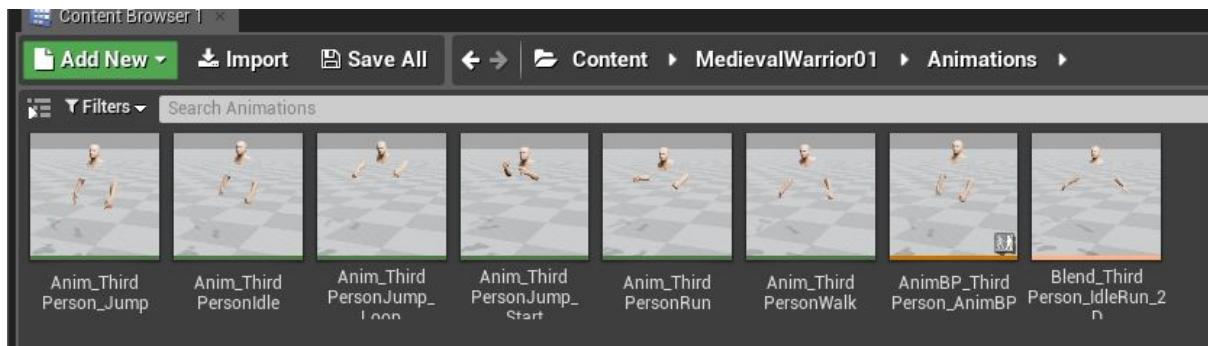
12x - Shields - 4x3 (diff, norm, RGB) - 4096x4096

3x - Swords - 1x3 (diff, norm, RGB) - 4096x512

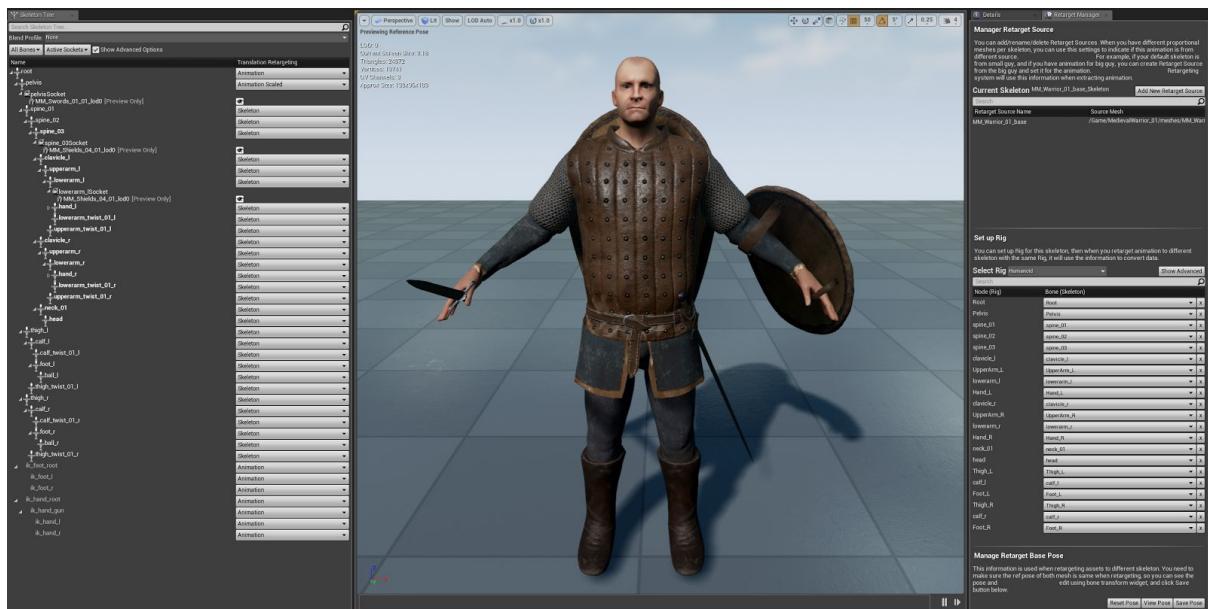
You can easily downscale texture with “LOD Bias” texture variables set to 1 or higher:



Animations



Jump, Jump_Loop, Jump_Start, Idle, Run, Walk - modified within Persona - epic animations
MM_ThirdPerson_IdleRun_2D - blendspace for walk - run blending



Skeleton tree setup for retargeting.

Retarget Manager configured for retargeting using humanoid rig.
Character is in Epic Tpose as a Ref Pose for best retargeting.

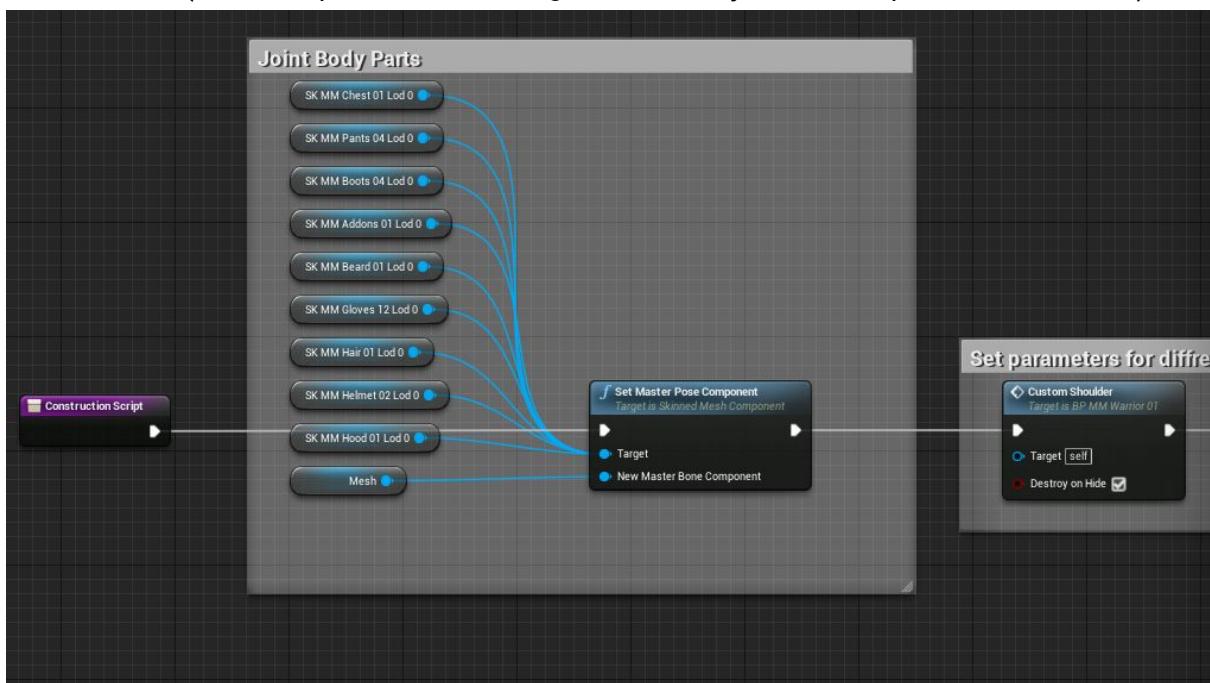
Blueprints

BP_MedievalWarrior_01

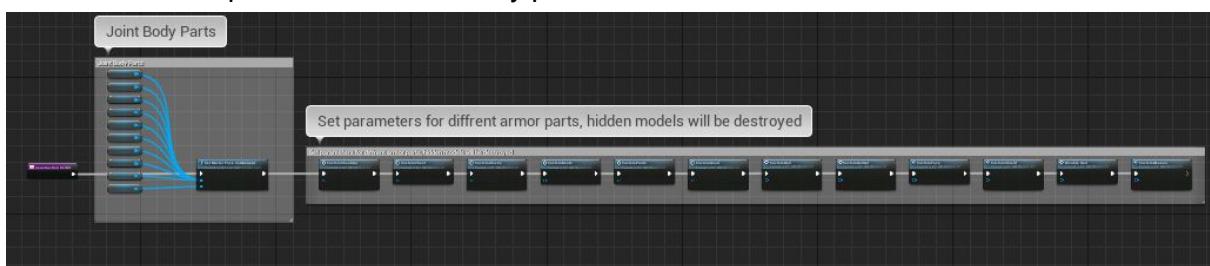
This BP inherit from Character class - you can use this for your player OR you can change parent class to your custom character class - then it will inherit from your class and by your class also from Character class.

Construction Graph

In the beginning of construction script, BP join different skeletal meshes to be controlled by one skeleton. (BP_PickUpItem is also using this node to join models placed in the world)



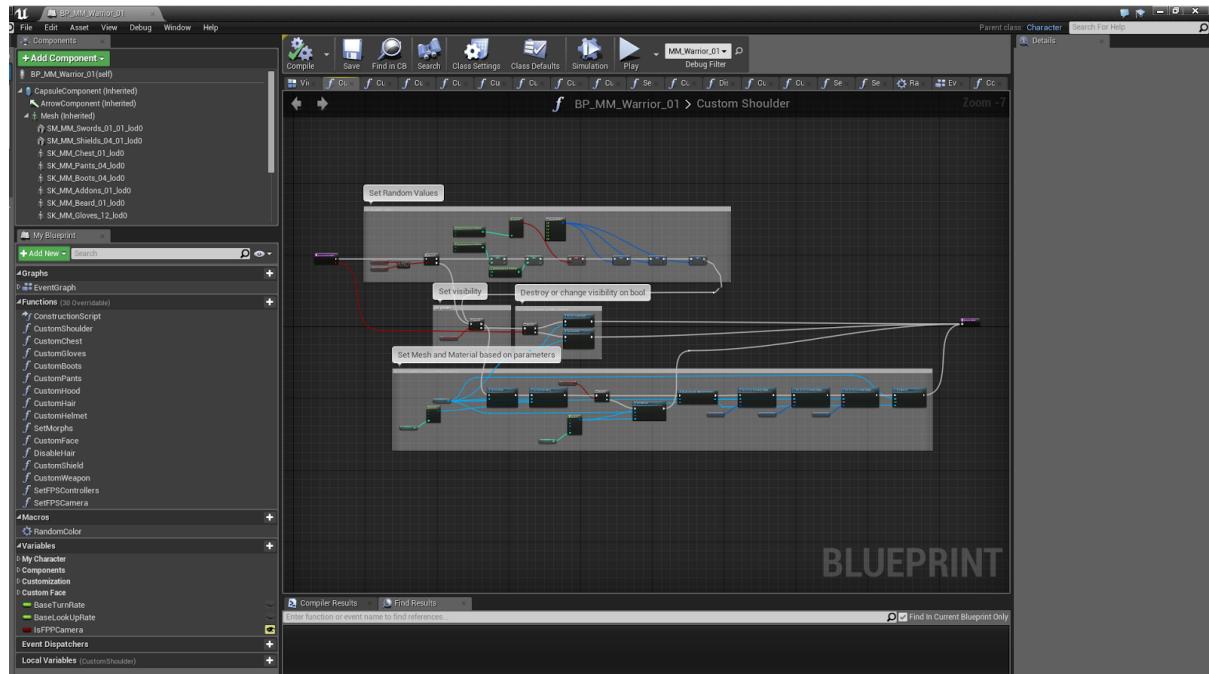
Each body parts have his own variables to control randomization. Construction script launch each function responsible for each body part.



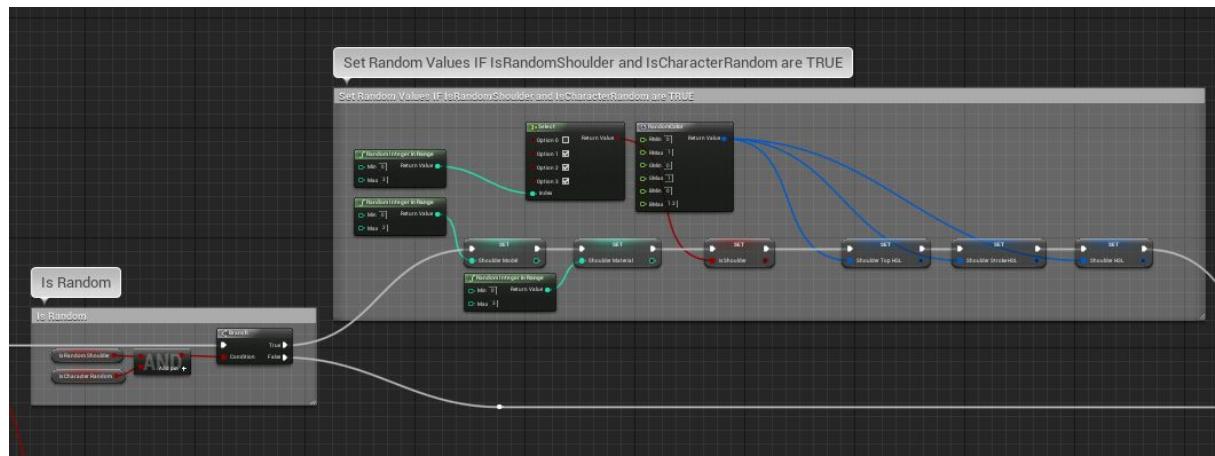


Functions(CustomShoulder, CustomChest, CustomGloves, CustomBoots, CustomPants, CustomHood, CustomHair, CustomHelmet, CustomShield, CustomWeapon)

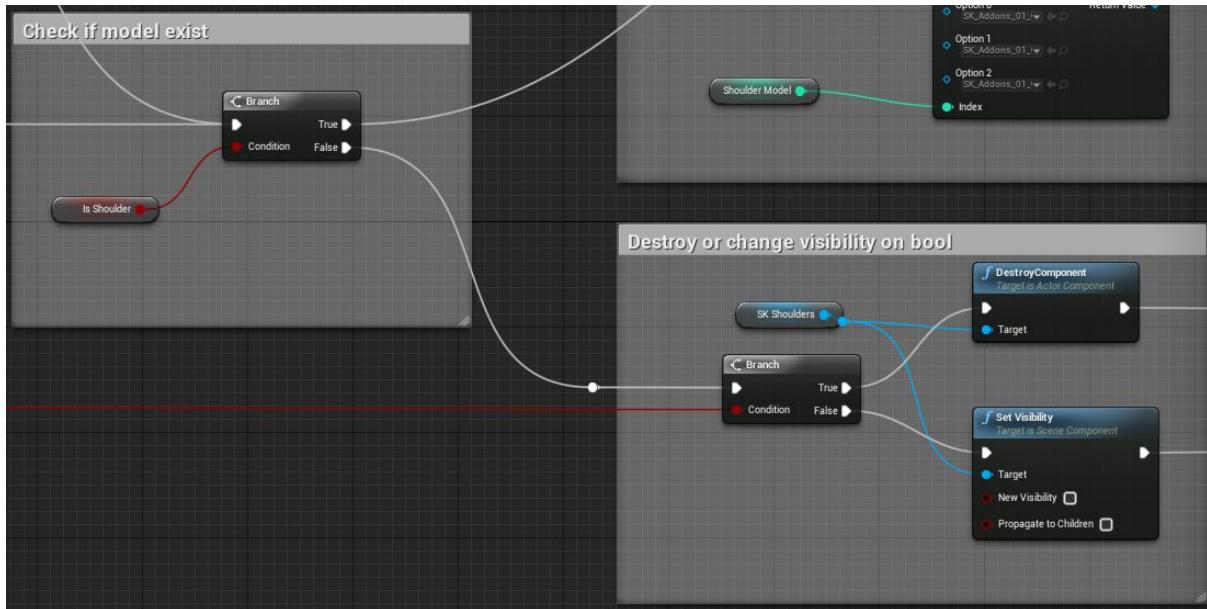
Are divided into two or three parts:



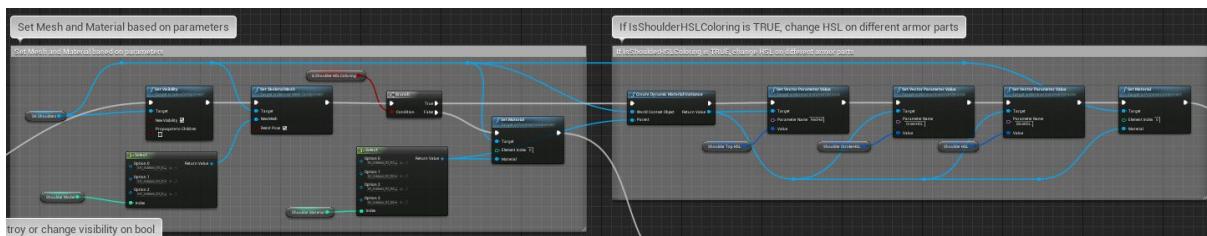
1. Generate random variables.



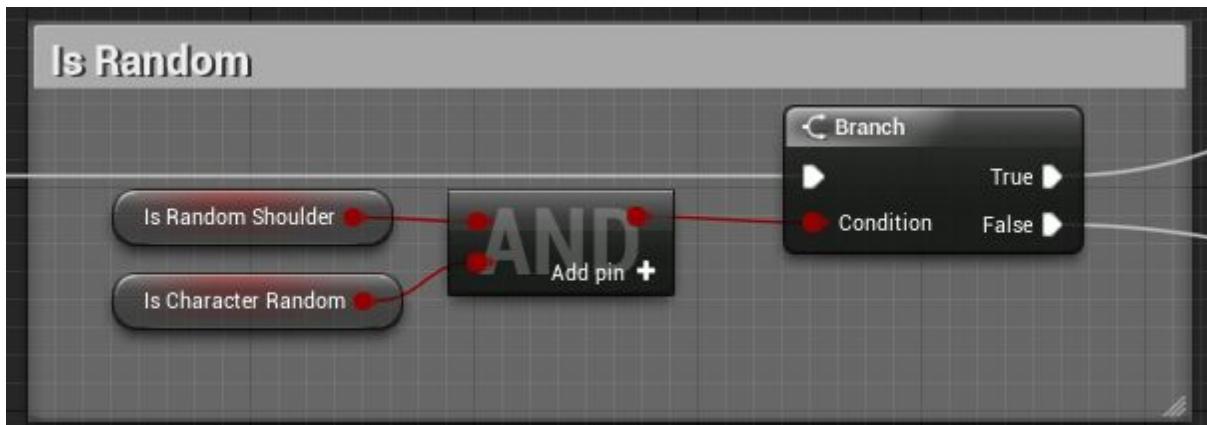
2. Set visibility (only shoulders, gloves, boots, hood, hair/beard, helmet, shield, weapon)



3. Set mesh and material instance parameter based on variables (it doesn't have to be random, you can change them also manually)



Variables random depends on 2 bools:



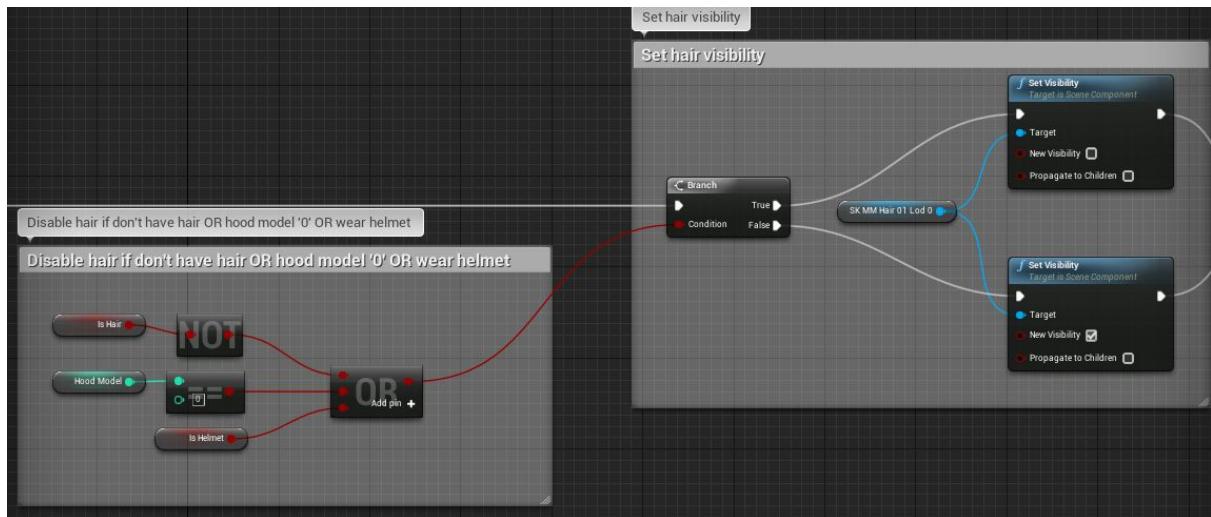
Is Random "Item" - e.g randomise everything except chest and shield (to create random character with one common characteristics)

Is Character Random - to control if the character will randomise variables in every recompile (note: any little change in character - for ex. moving character will recompile BP)



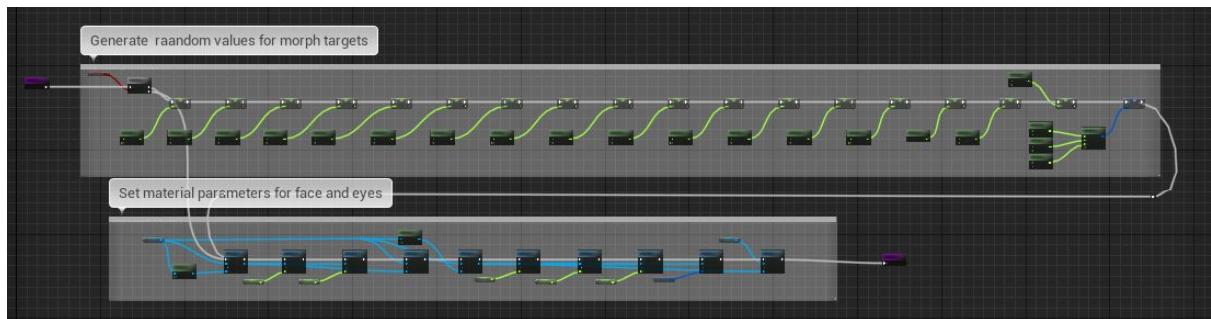
"Destroy on Hide" bool will control if the model should be destroyed. It's better to destroy models preventing some of the calculations. But if you want to randomize character in Play model I suggest you to leave these on OFF (model will be hidden), OR make sure character is fully equipped before play. "Destroy on Hide" is not so important.

DisableHair function:

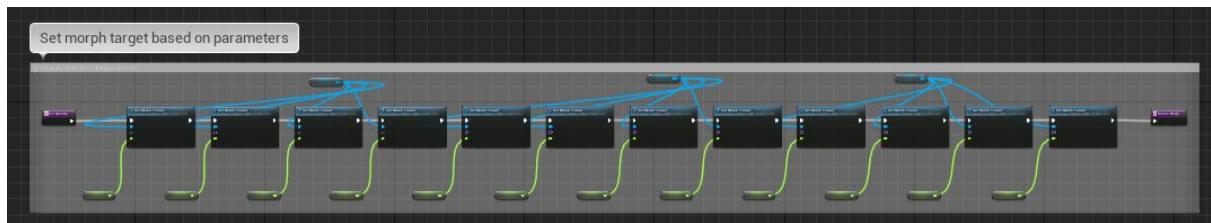


It's used for hide hair if character have helmet or specific hood model (nr 0). You can use this node also after character pick helmet (or hood model nr 0)

CustomFace function:

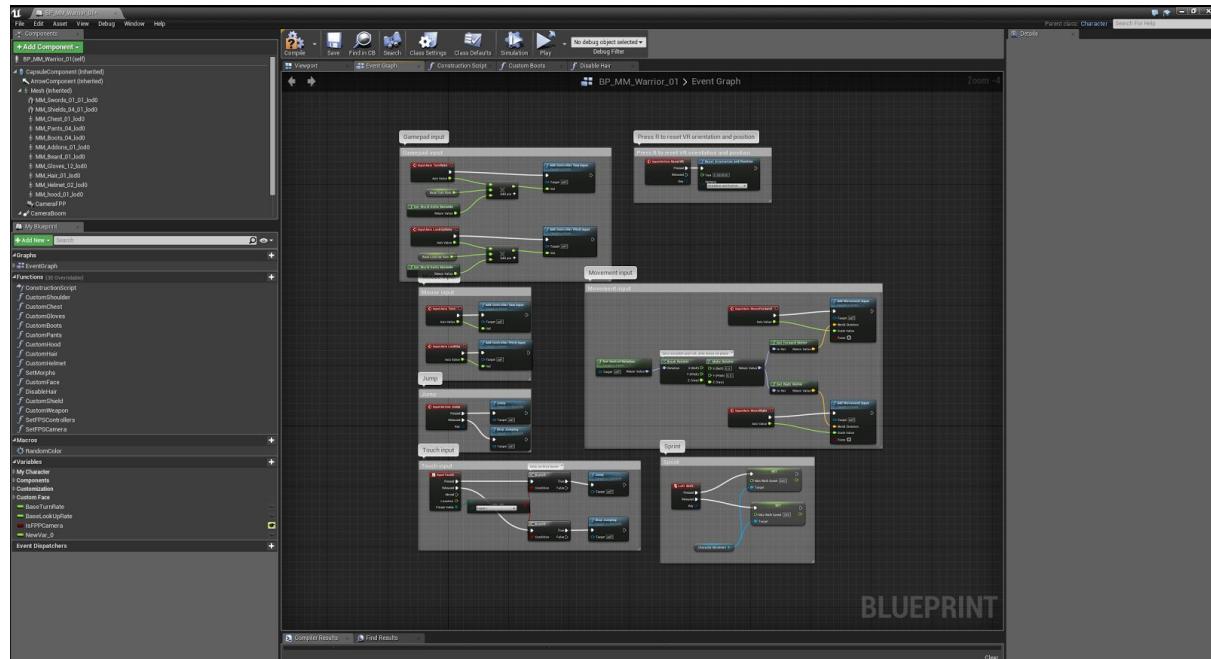


CustomFace generate random values for materials instance and morph target then set material instance parameters. Values for morph target are used in **SetMorphs** function:

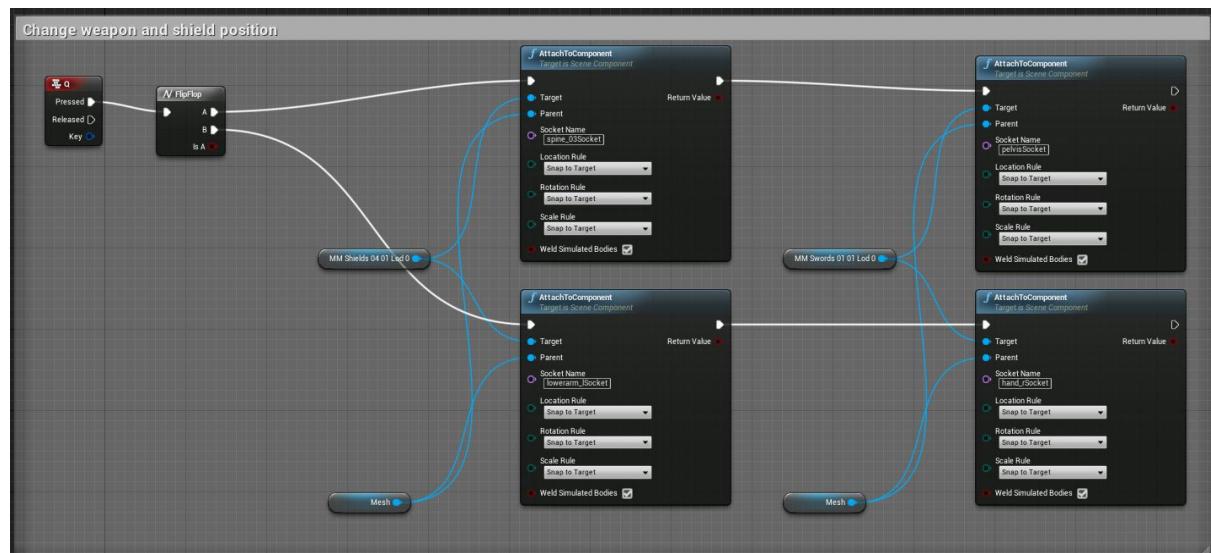


Event Graph

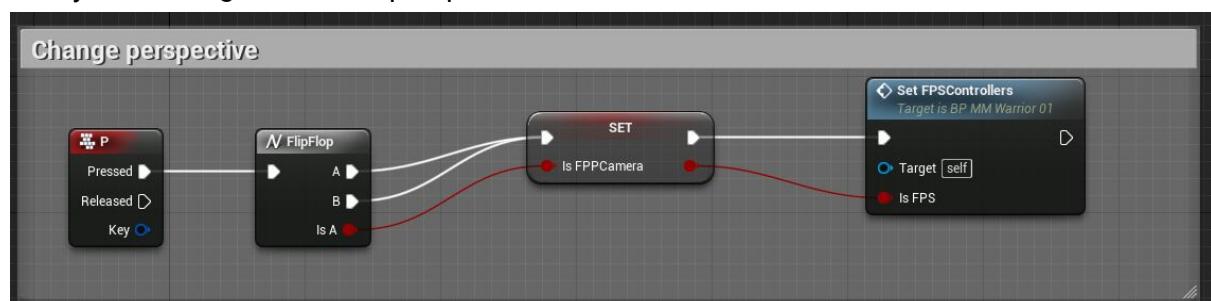
Standard Epic Third Person Character nodes:



"Q key" will change weapon and shield position to different socket.



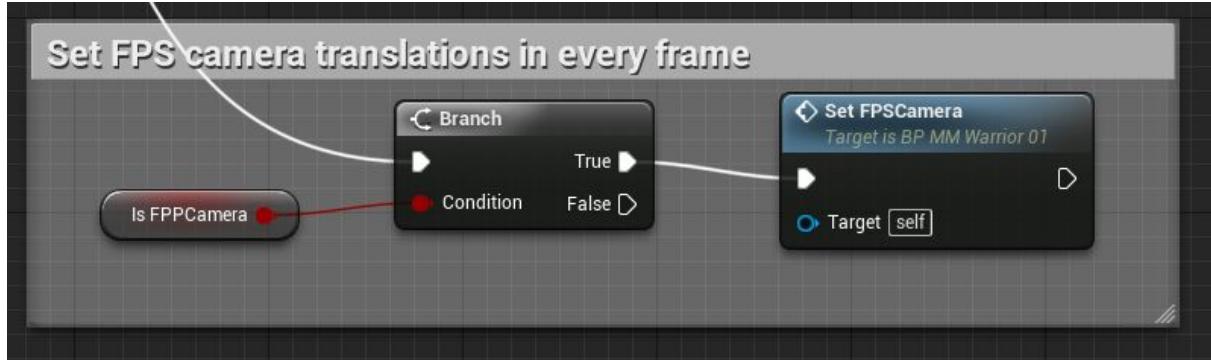
"P key" will change character perspective



Set FPS Controllers function change Character variables:

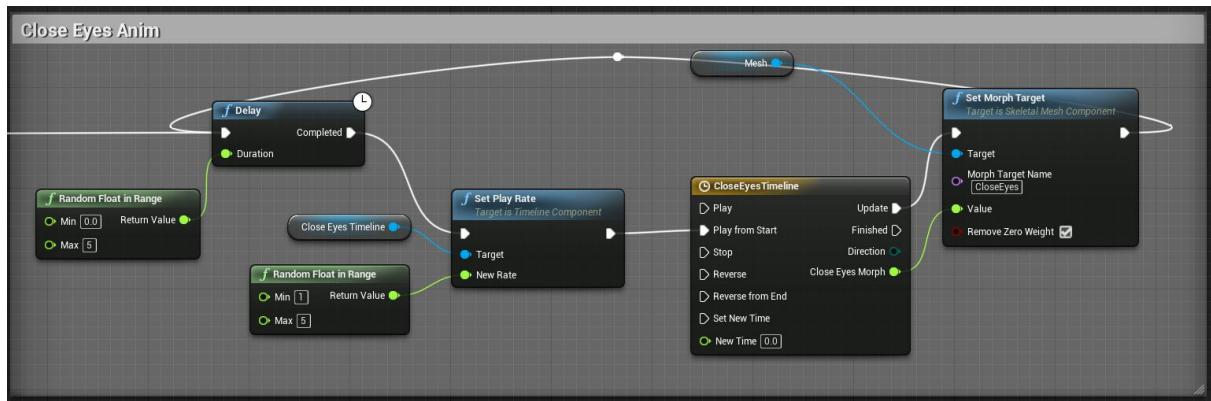
- Use Controller Desired Rotation
- Orient Rotation to Movement
- Set Active Camera
- Use Controller Rotation Yaw

It also set camera correct position in every Tick (to have nice camera shakes - but not too much)

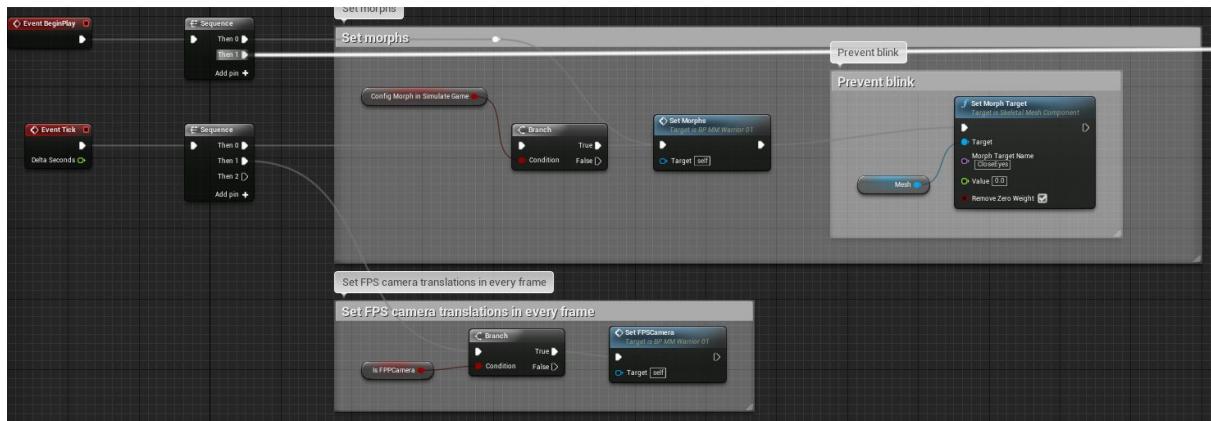


Close Eyes Animation:

Character in random delay with random play rate use morph target to blink character eyes.



Face morphs



There are few very important things to remember:

1. In UE4 morph target need Tick to update - it can't be setup in construction graph :|

2. If you are changing face shape in simulation you have to set Config Morph In Simulate Game to ON to command UE to refresh morphs.



3. If you are not changing face shape in runtime it's important to disable Config Morph In Simulate Game to OFF (for better optimization) .

Character creator

Clothes/armor customization

Is Character Random	<input checked="" type="checkbox"/>	Pants Material	2	<input type="button" value="▼"/>
CLICK TODO RANDOM!	<input checked="" type="checkbox"/> <input type="button" value="▼"/>	Is Pants HSLColoring	<input checked="" type="checkbox"/>	<input type="button" value="▼"/>
Is Shoulder	<input checked="" type="checkbox"/>	▷ Pants HSL	<input type="button" value="▼"/>	<input type="button" value="▼"/>
Is Random Shoulder	<input checked="" type="checkbox"/>	Is Hood	<input type="checkbox"/>	<input type="button" value="▼"/>
Shoulder Material	1 <input type="button" value="▼"/>	Is Random Hood	<input checked="" type="checkbox"/>	<input type="button" value="▼"/>
Shoulder Model	2 <input type="button" value="▼"/>	Hood Material	1 <input type="button" value="▼"/>	<input type="button" value="▼"/>
Is Shoulder HSLColoring	<input checked="" type="checkbox"/>	Hood Model	2 <input type="button" value="▼"/>	<input type="button" value="▼"/>
▷ Shoulder Top HSL	<input type="button" value="▼"/>	Is Hood HSLColoring	<input checked="" type="checkbox"/>	<input type="button" value="▼"/>
▷ Shoulder Stroke HSL	<input type="button" value="▼"/>	▷ Hood HSL	<input type="button" value="▼"/>	<input type="button" value="▼"/>
▷ Shoulder HSL	<input type="button" value="▼"/>	Is Hair	<input checked="" type="checkbox"/>	<input type="button" value="▼"/>
Is Random Chest	<input checked="" type="checkbox"/>	Is Beard	<input checked="" type="checkbox"/>	<input type="button" value="▼"/>
Chest Material	0 <input type="button" value="▼"/>	Is Random Hair	<input checked="" type="checkbox"/>	<input type="button" value="▼"/>
Skirt Material	1 <input type="button" value="▼"/>	Beard Model	0 <input type="button" value="▼"/>	<input type="button" value="▼"/>
Chest Model	1 <input type="button" value="▼"/>	Hair Model	5 <input type="button" value="▼"/>	<input type="button" value="▼"/>
Is Chest HSLColoring	<input checked="" type="checkbox"/>	Is Hair Color Mod	<input checked="" type="checkbox"/>	<input type="button" value="▼"/>
▷ Chest HSL	<input type="button" value="▼"/>	▷ Beard Color	<input type="button" value="▼"/>	<input type="button" value="▼"/>
▷ Chest Upperarm HSL	<input type="button" value="▼"/>	▷ Hair Color	<input type="button" value="▼"/>	<input type="button" value="▼"/>
▷ Chest Arms Bottom HSL	<input type="button" value="▼"/>	Is Helmet	<input checked="" type="checkbox"/>	<input type="button" value="▼"/>
▷ Chest Belt HSL	<input type="button" value="▼"/>	Is Random Helmet	<input checked="" type="checkbox"/>	<input type="button" value="▼"/>
Is Gloves	<input checked="" type="checkbox"/>	Helmet Material	2 <input type="button" value="▼"/>	<input type="button" value="▼"/>
Is Random Gloves	<input checked="" type="checkbox"/>	Helmet Model	2 <input type="button" value="▼"/>	<input type="button" value="▼"/>
Gloves Material	0 <input type="button" value="▼"/>	Is Helmet HSLColoring	<input checked="" type="checkbox"/>	<input type="button" value="▼"/>
Gloves Model	1 <input type="button" value="▼"/>	▷ Helmet HSL	<input type="button" value="▼"/>	<input type="button" value="▼"/>
Is Gloves HSLColoring	<input checked="" type="checkbox"/>	Is Shield	<input checked="" type="checkbox"/>	<input type="button" value="▼"/>
▷ Gloves Stroke HSL	<input type="button" value="▼"/>	Is Random Shield	<input checked="" type="checkbox"/>	<input type="button" value="▼"/>
▷ Gloves Arm HSL	<input type="button" value="▼"/>	Shield Material	2 <input type="button" value="▼"/>	<input type="button" value="▼"/>
▷ Gloves HSL	<input type="button" value="▼"/>	Shield Model	2 <input type="button" value="▼"/>	<input type="button" value="▼"/>
Is Random Boots	<input checked="" type="checkbox"/>	Is Shield HSLColoring	<input checked="" type="checkbox"/>	<input type="button" value="▼"/>
Boots Material	0 <input type="button" value="▼"/>	▷ Shield Stroke HSL	<input type="button" value="▼"/>	<input type="button" value="▼"/>
Boots Model	0 <input type="button" value="▼"/>	▷ Shield Front HSL	<input type="button" value="▼"/>	<input type="button" value="▼"/>
Is Boots HSLColoring	<input checked="" type="checkbox"/>	▷ Shield Half HSL	<input type="button" value="▼"/>	<input type="button" value="▼"/>
▷ Boots HSL	<input type="button" value="▼"/>	▷ Shield Back HSL	<input type="button" value="▼"/>	<input type="button" value="▼"/>
Is Random Pants	<input checked="" type="checkbox"/>	Is Weapon and Shield	<input checked="" type="checkbox"/>	<input type="button" value="▼"/>
Pants Material	2 <input type="button" value="▼"/>	Is Random Weapon	<input checked="" type="checkbox"/>	<input type="button" value="▼"/>
Is Pants HSLColoring	<input checked="" type="checkbox"/>	Weapon Model	1 <input type="button" value="▼"/>	<input type="button" value="▼"/>
▷ Pants HSL	<input type="button" value="▼"/>	Is Weapon HSLColoring	<input type="checkbox"/>	<input type="button" value="▼"/>
		▷ Weapon HSL	<input type="button" value="▼"/>	<input type="button" value="▼"/>

Is Character Random - set this to OFF to stop randomise (on every recompile construction graph).

CLICK TODO RANDOM! - this bool does nothing :) but if you change any variable it always force BP to recompile, in this case it will generate new character.

Is "Item" - set if this item is visible (only for: shoulders, gloves, helmet, hood, hair, beard, shield, weapon)

Is Random "Item" - if you set this to OFF, blueprint in recompile will NOT generate random variables for this type of item (you can create random character with similar parts OR change one type of item manually and leave rest to random).



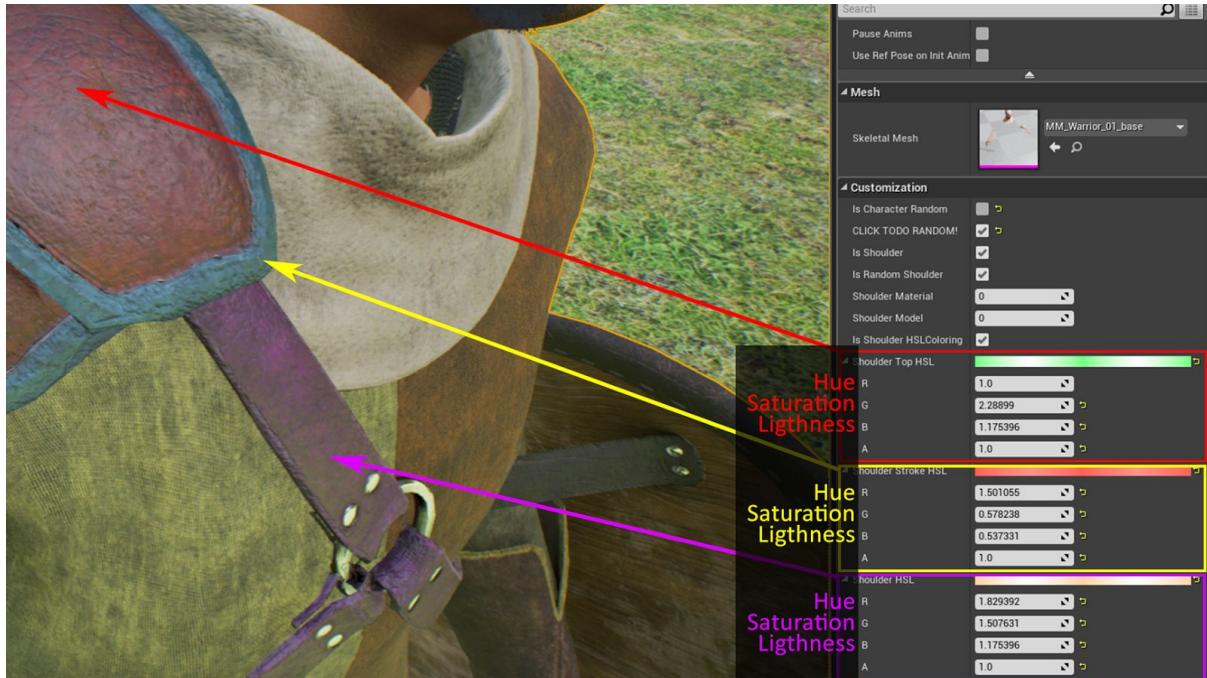
"Item" Material - change material for this item

"Item" Model - change model for this item

Is "Item" HSL Coloring - set this to OFF to disable item coloring using Hue, Saturation, Lightness transformation.

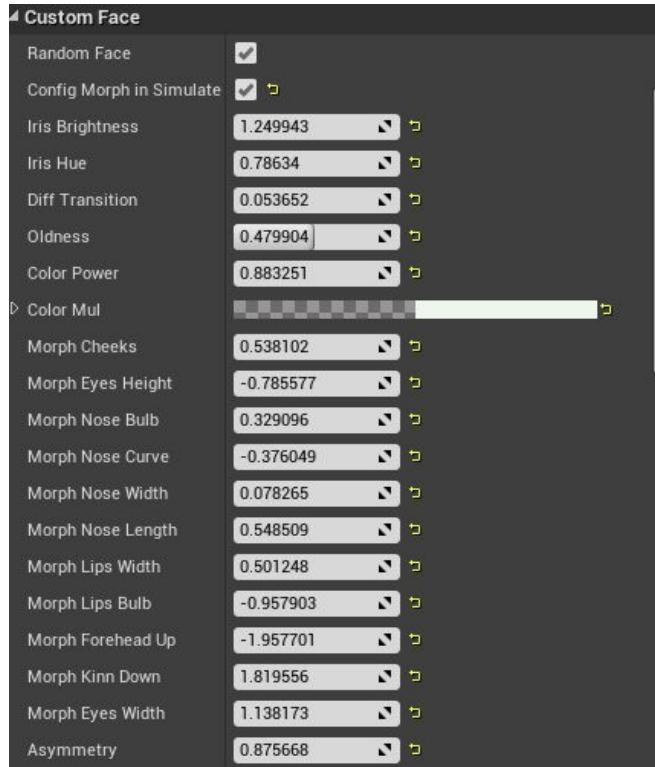


"Item" HSL - R - Hue, G - Saturation, B - Lightness



I decided to use HSL instead of Color Multiply - HSL gives you more control and do not replace texture information.

Face creator



Random Face - set this to OFF to prevent BP from randomising variables

Config Morph in Simulate Game - set this to ON while you are changing morphs in simulation. Set this to OFF when you are happy with morph setting. (it will prevent UE from updating morph in every frame)

Iris Brightness - self explanatory

Iris Hue - self explanatory

Diff Transition - control transition between diffuse 1 and 2

Color Power - change color contrast using power

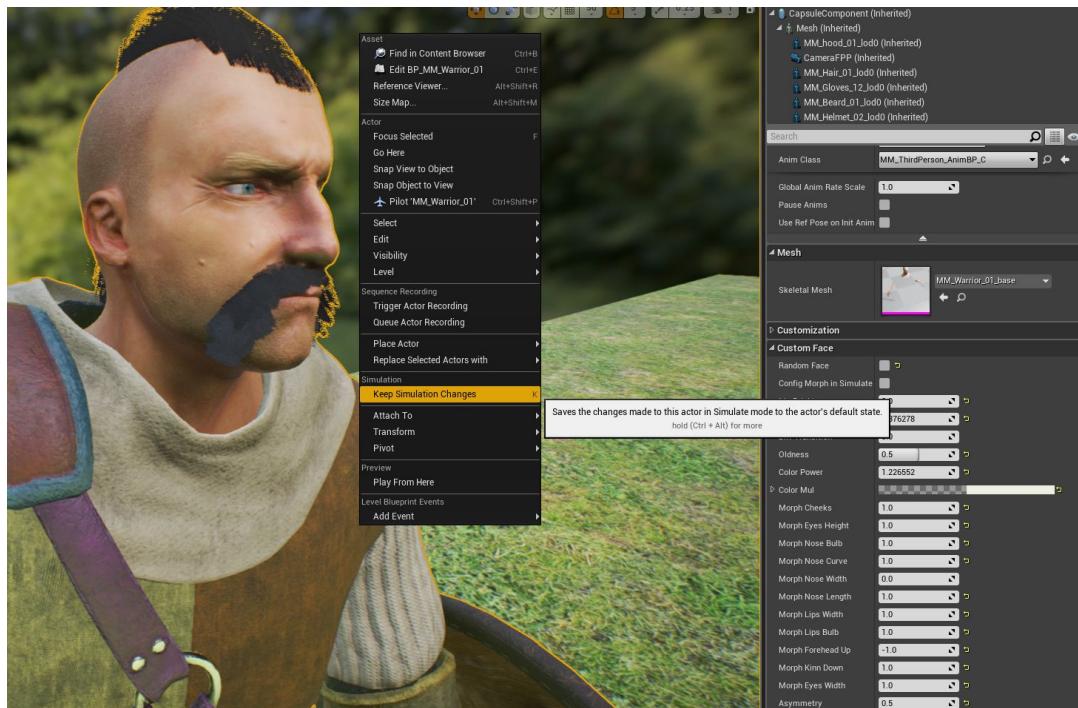
Color Mul - color multiply

Morphs:

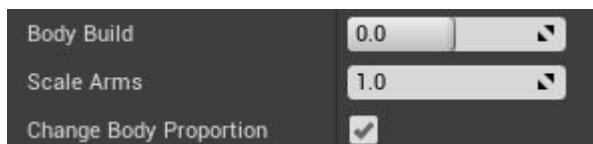
It's important to know that UE need tick to set morph targets. You can't set up morph's in construction graph.

The best way to change morph variables is to set them **in simulation mode**.

Important: After changing variables press "K" or Right Mouse - choose "Keep Simulation Changes"

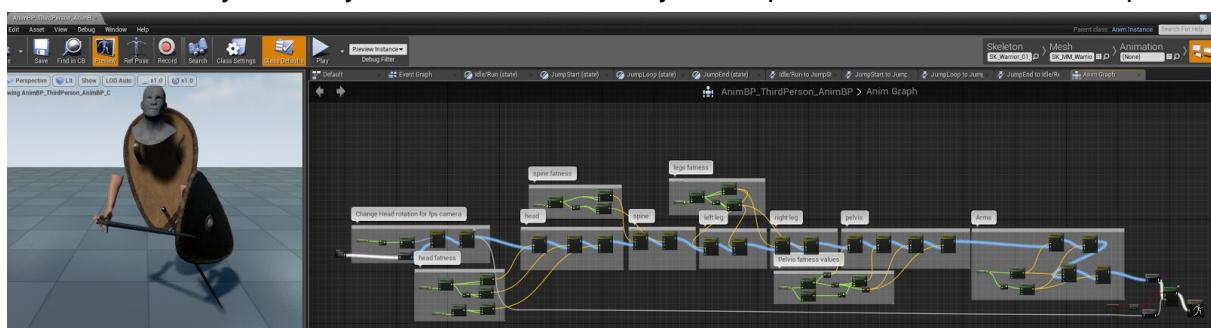


Body Proportion - new feature



This option is available after update to v2.0.

Body Build scales spine character, Scale Arms scales arms. To scale skeleton I used Animation BP. If you have your own animation BP, you can paste nodes from Anim Graph:

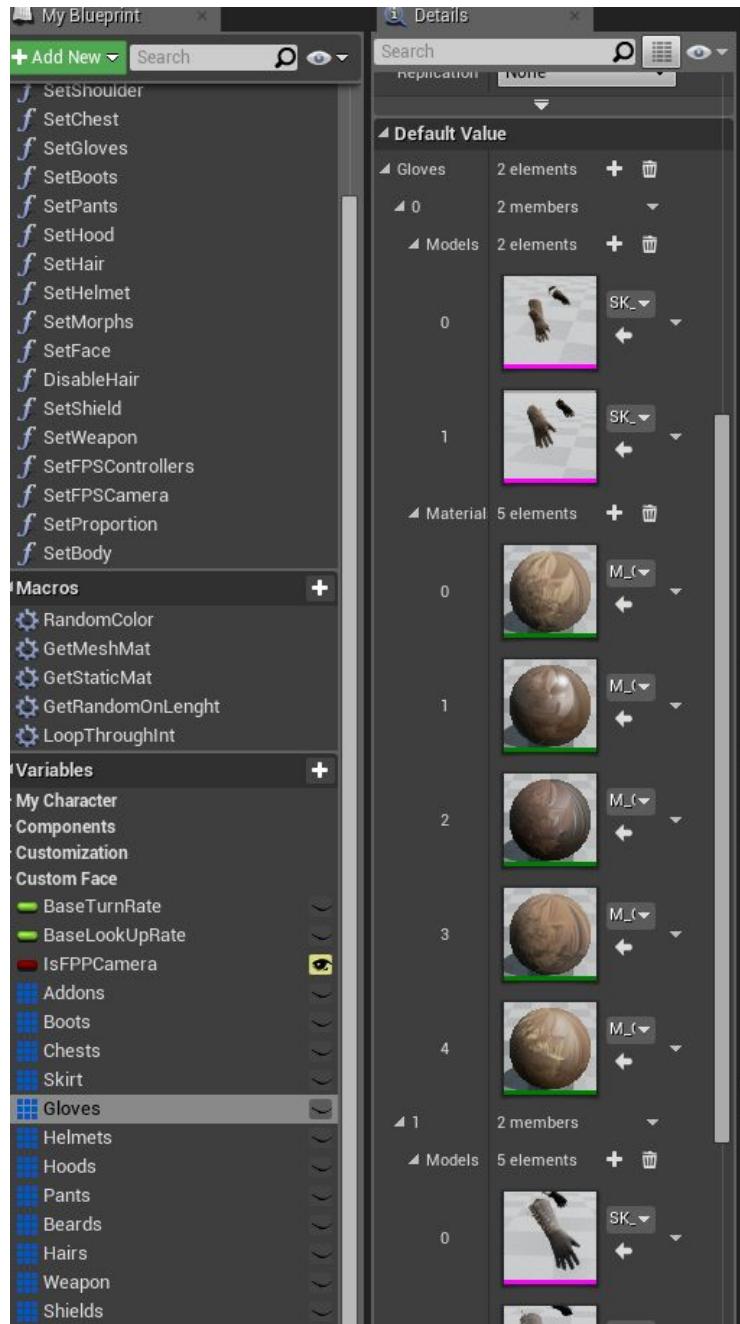


Add custom mesh to BP - new feature

This option is available after update to v2.0.

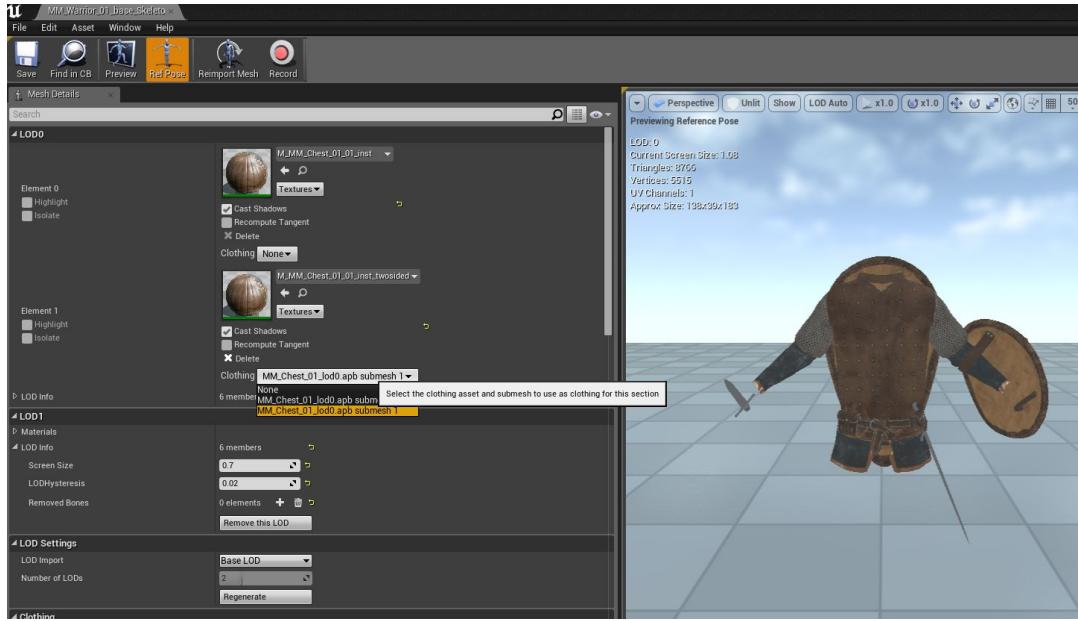
If you want to add your own meshes and materials to customization script.

1. Open BP and find appropriate structure: like gloves
2. Add child in structure root
3. Add models in array
4. Add materials in array



Issues

If you fell fps droping on Lod0 it because of cloth simulation. You can easily disable cloth in skeletal meshes: **Hair 03-07** and **Chest 01-03** and **Helmet 03**



Hair nr5 may look a little bit crazy, but after simulate it will look better.



This hair may act weird - but I personally like it, so I added this to the package. (this is only hair type that need cloth to look right)

Contact

Thanks for buying my asset :) It took me almost 1 year to finish this, working after hours.

That's a lot of time :D

If you have any question, feel free to contact me at Assets3d <3dasset@gmail.com>

Facebook: <https://www.facebook.com/assets3d/>

Youtube: https://www.youtube.com/channel/UCP-Y5dj9apJBepq2U_R6JwQ

Homepage: <http://assets3d.com/>

License

Modular Medieval Warrior 01 pack can be purchased via Unreal Engine Marketplace. All 3d models can be used for commercial purposes only by owners who bought this package. The sharing or selling of package data is strictly prohibited.

All rights reserved to Assets3D.