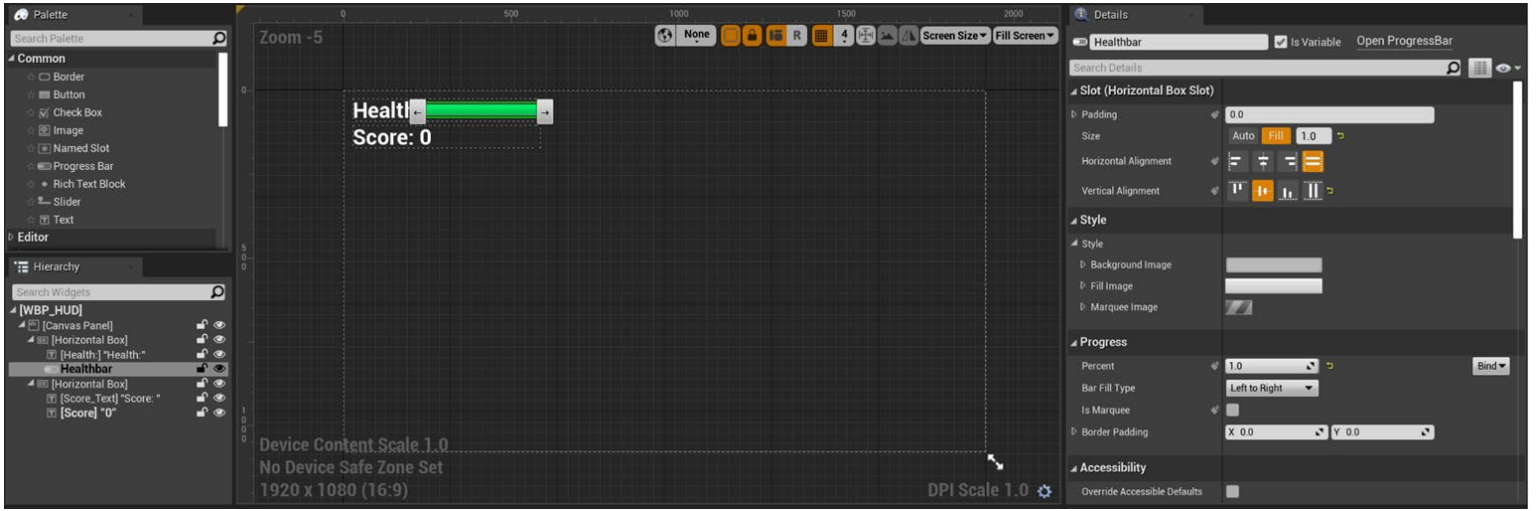
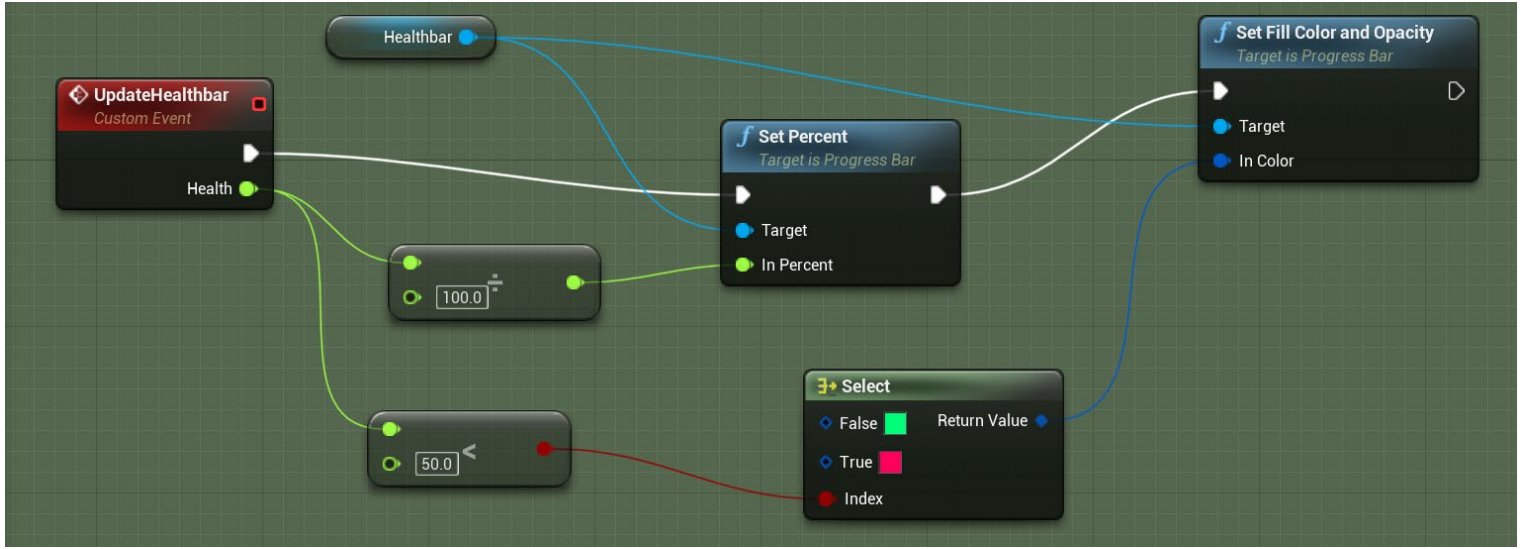
MP1 - Health System

Note: the following blueprints are just a possible way to implement the health pack. Some arbitrary constants are being used (e.g. assumptions about the player's max health, health deduced, etc). Better practice would likely involve accessing the player variable for more information first.

WBP_HUD



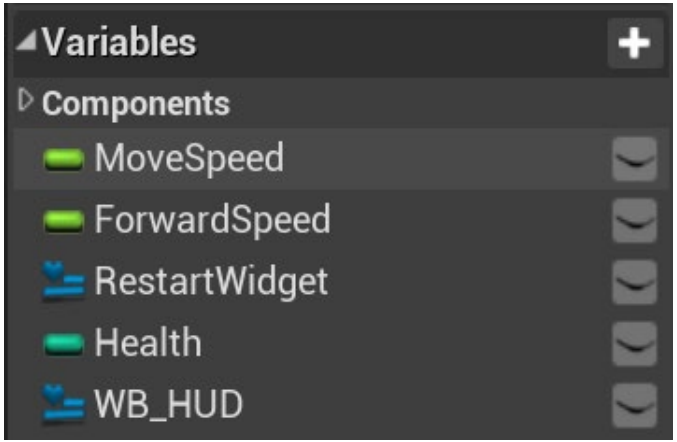
- Progress Bar widget is set to a variable we can access and update
- BP_Player gets a reference variable to WBP_HUD to access it

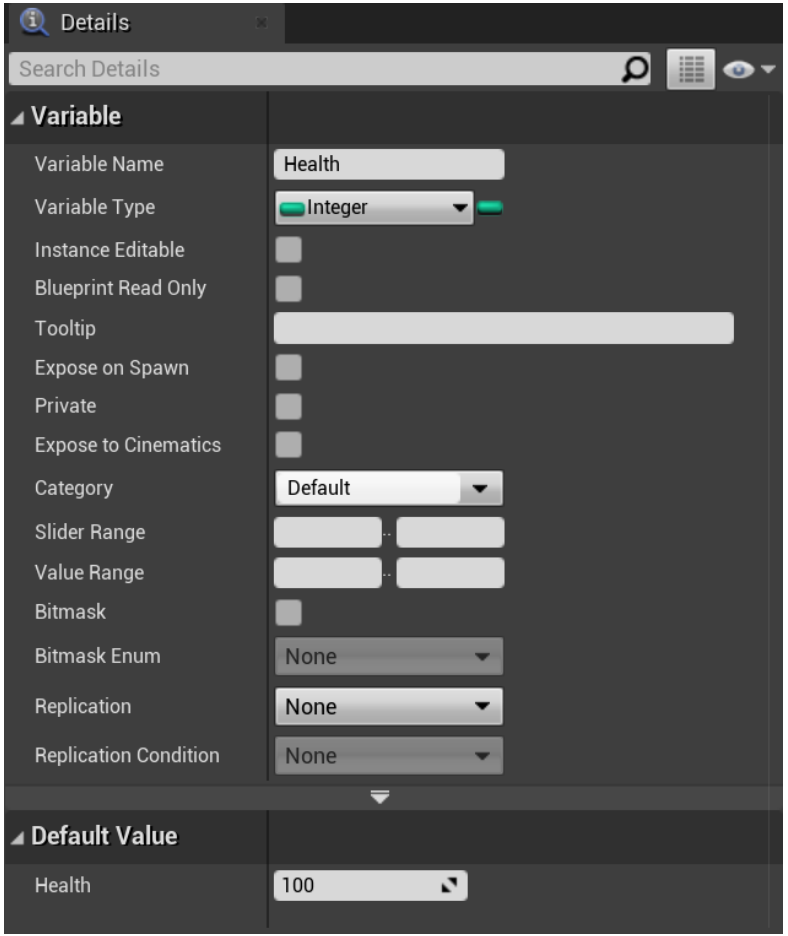


- WBP_HUD has custom event “UpdateHealthbar” with input float
  - Convert float to percentage out of 100 to set Progress Bar percent
  - Optional: set the color based on health

BP_Player Health

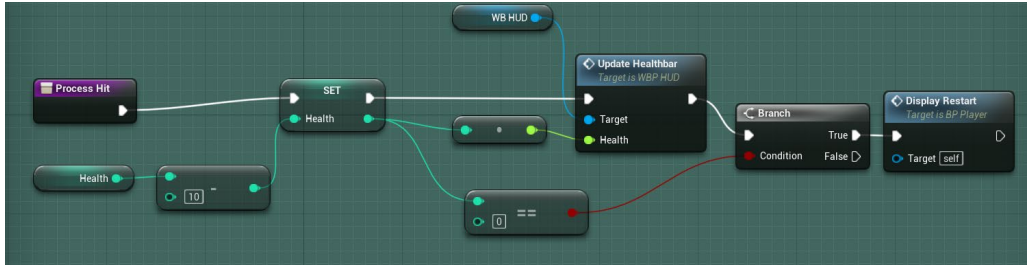
- variable stores the current health
  - Max health is 100
  - Health is an integer
- “isDead” variable is now redundant

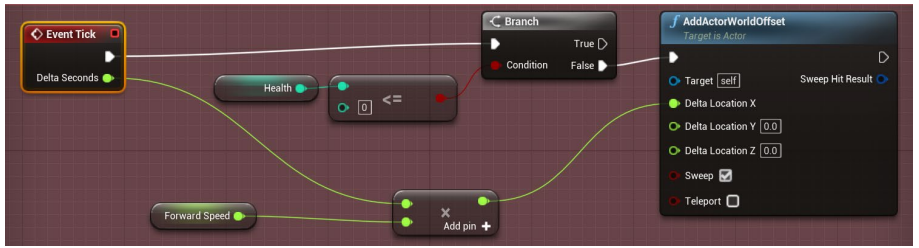


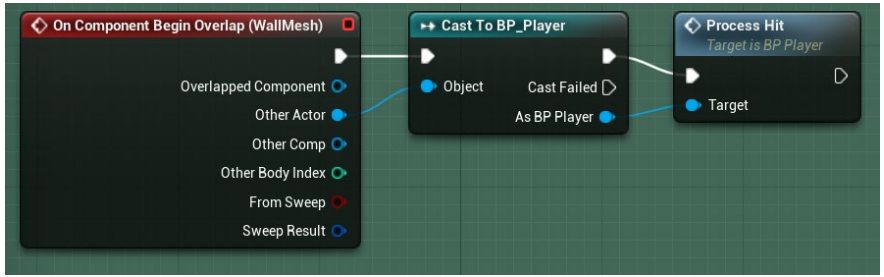


Handling Player Collisions with Wall

- Custom function to decrement health by 10 and update HUD
  - Display restart and stop moving if the health reaches 0
  - Collision with WallMesh only needs this function now

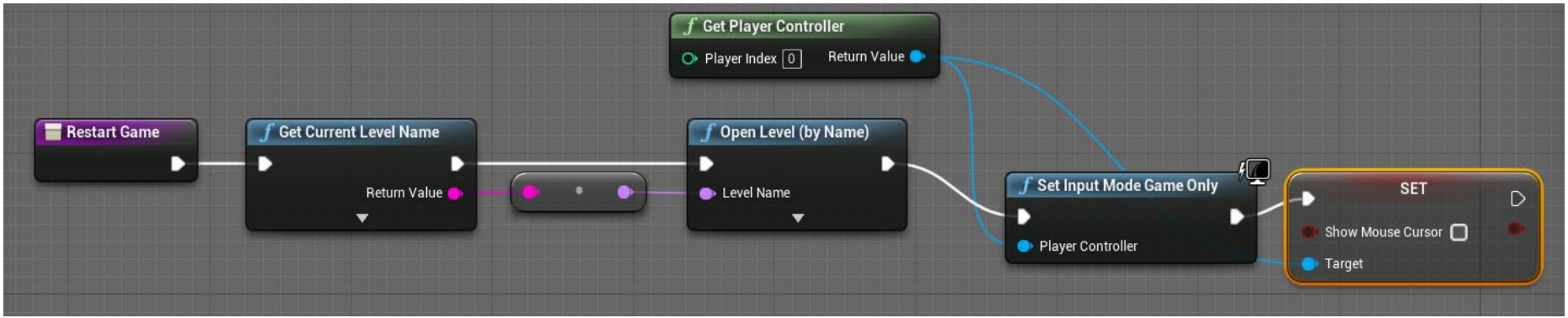






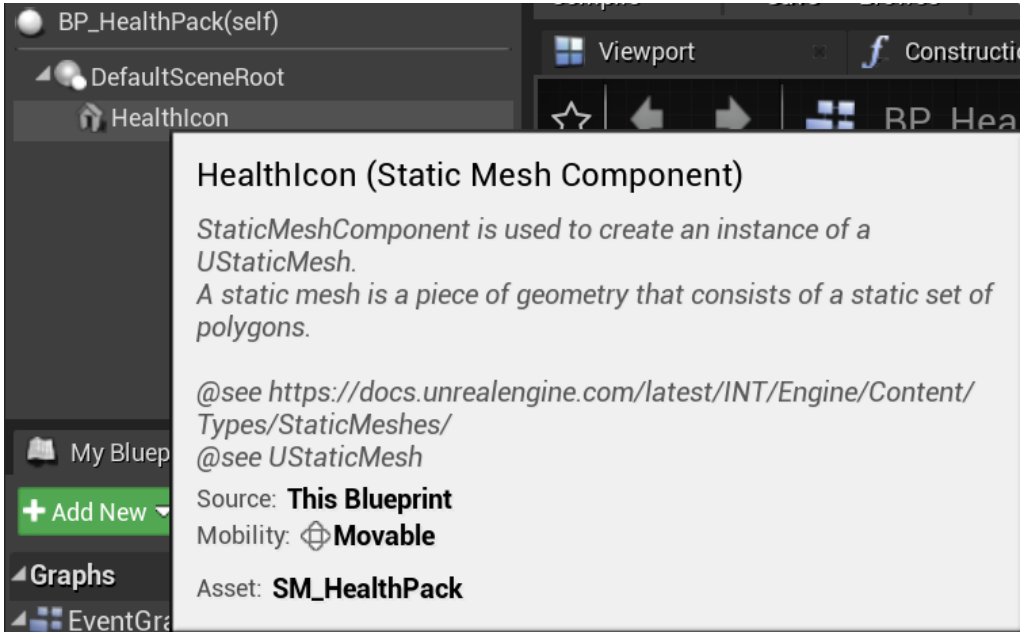
Handling Game Restarts

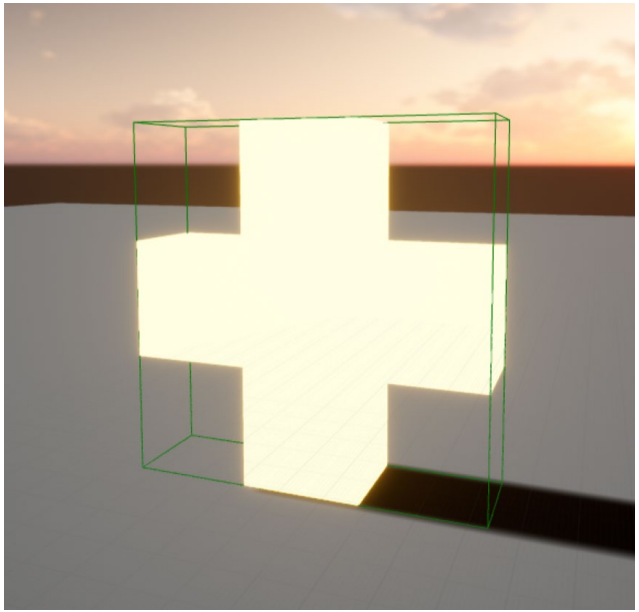
- An easier way to handle game restarts is to simply reload the level
  - Feel free to manually reset things if some mechanic you implement requires it!



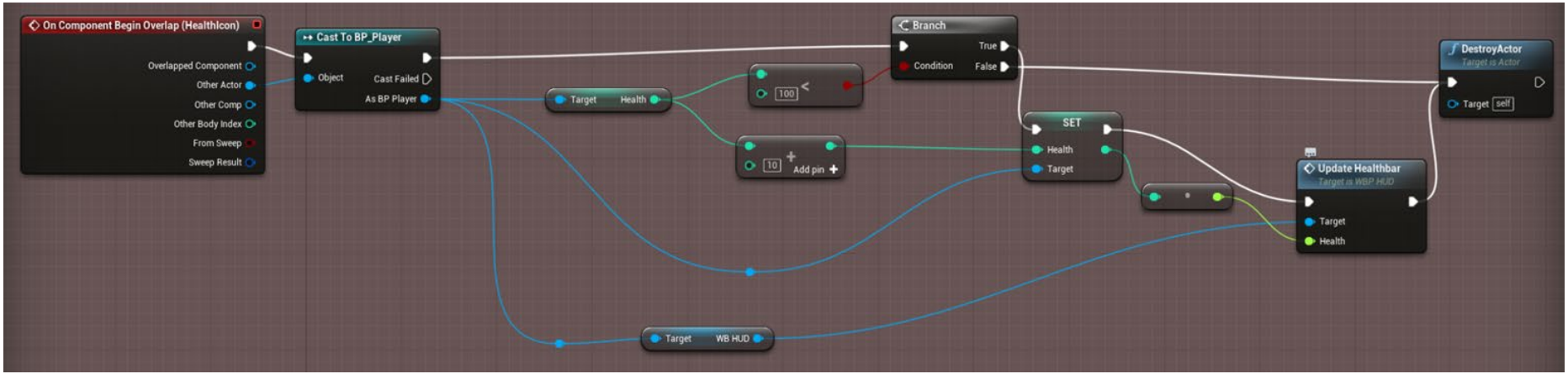
BP_HealthPack

- Actor contains a single Static Mesh Component
  - Attached Static Mesh MUST have a collision box





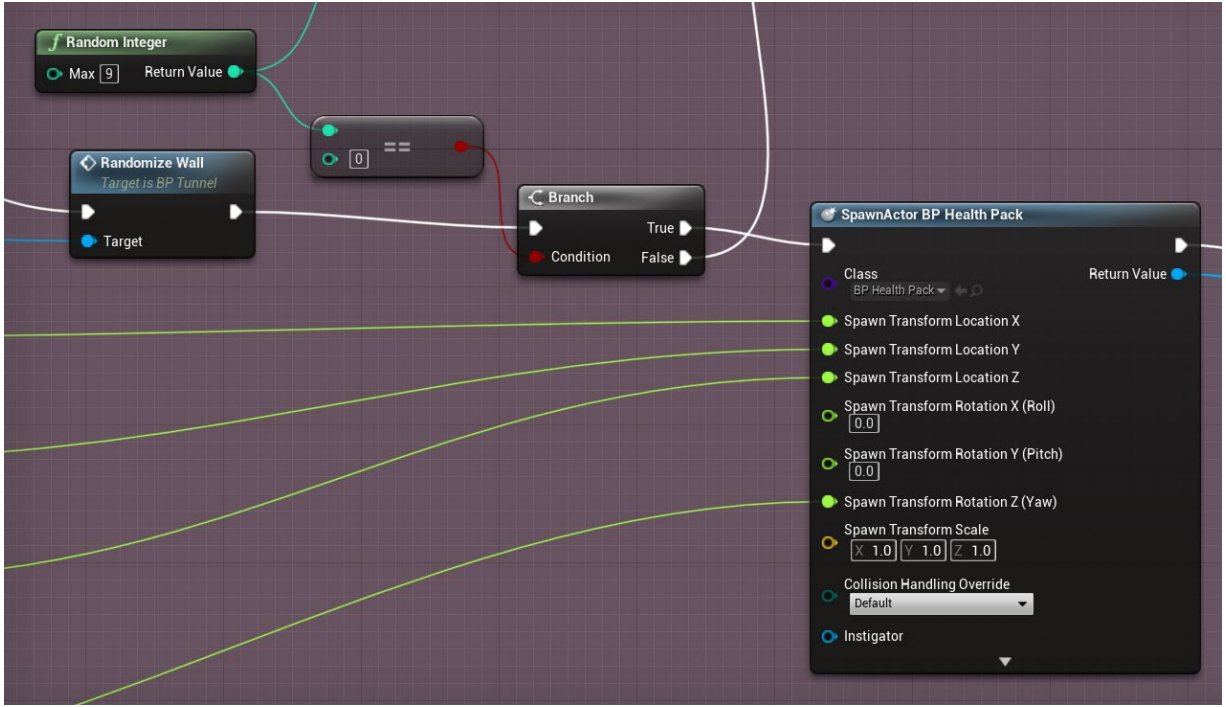
Example Static Mesh
- Green grid is UE4's auto-generated collision box



- Check if the Static Mesh has overlapped with the player
  - Get player's current health
    - If the health is less than 100, increment by 10 and update HUD
      - In this example, we assume damage is always 10 health (equal to health gained back)
      - Other implementations may need to clamp increased health to max
  - Delete the actor at the end

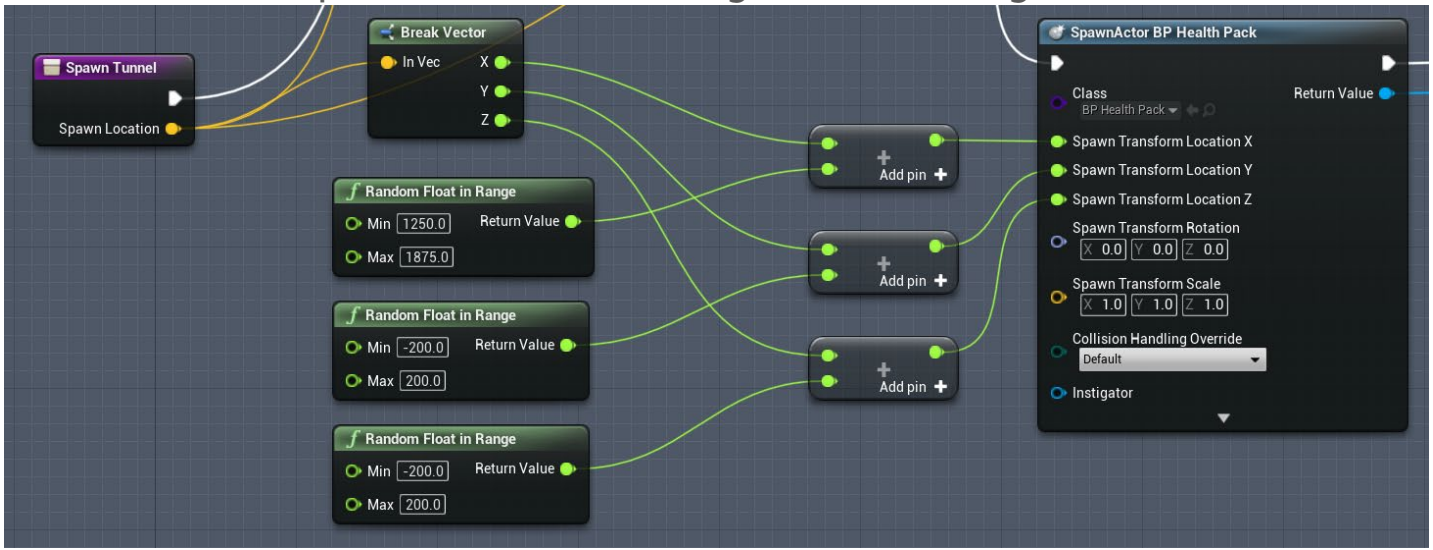
Spawning Health Packs

- In BP_TunnelSpawner after randomizing the wall:
  - Generate a random int int in range [0,9]
    - If random int is 5, spawn health pack



Randomizing Location

- Get Tunnel Spawn Location
  - Add random X, Y, Z components (but within bounds of tunnel)
    - Spawn actor at resulting location (using the same randomization as discussed)



- Consider using the “Random Point in Bounding Box” for a cleaner blueprint