**AG 131  
Lab 4 – Live, Die, Repeat**  
<https://www.youtube.com/watch?v=P0cm1Sv3-2Y>  
<https://www.youtube.com/watch?v=2vmmTnDJnH0>

**Recap:** At the end of the last lab:

* You have pawns that can move around.
* They can shoot at each other.
* The Damage is reported to the pawn.

This lab builds upon the work you have done in previous labs.

**Code Work**

* When your possessed pawn health drops below zero
  + Ignore any more damage
  + Call a method on its controller.
    - Controller will release this pawn
    - Controller takes control of a spectator pawn.
  + PWPawn should have protected virtual method OnDeath()
    - It’s stub code in PWPawn
    - Override it in CarPawn and do something interesting to indicate the pawn is dead.
    - We’re not removing dead car pawn *(not right away, at least)*
* New Spectator Class
  + Inherits from PWpawn
    - Does not take damage
* When controlling a spectator, fire1 will respawn the player.
  + Call a Method on the Controller
* PWPlayerController has a Respawn Method
  + Spectator becomes unpossessed
  + New pawn is created (via factory from the game class)
    - Use a Spawn Point to place the pawn in the world
  + The new pawn is possessed by the controller.
* You will access Spawn Points from a Game Class
  + Your Game Class populates a list of spawn points in the scene at Start
  + If no Spawn Points are found, create one at <0,0,0>
* You will not have any pawns in your game map
  + Have the player spawn into the map
  + PWPlayerController should start with a Spectator Pawn
* You will have spawn points placed in your map
  + Create a new script “SpawnPoint”
    - Inherits from actor
  + You need to create a prefab to place in the map

**Out of Scope\Of Note:**

* Don’t worry about a HUD showing health (or shields or energy)
* Don’t worry about having a camera or viewports for each player

**EXTRA CREDIT:**

* Implement a Weapon Class
  + Use to encapsulate weapon fire.
  + Implement an Instant Fire Weapon
  + *If you did this already in Lab 3, you can’t take credit for this again.*
* Clean up the Dead
  + Implement states for your car pawn
    - Alive
      * Pawn Starts in this state
    - Dead
      * Moves to this state when health is below 0
      * Ignores Damage in this state
      * Stays in this state for set amount of time (use a variable member) then moves to Derezing
    - Derezing
      * This state removes the game object from the scene appropriately
      * If you have any effects, you might have to be in this state to let them end properly.