Notes

This is a series of notes that Ryan has made to help guide him through the development of the basic game. This is not a step by step guide - if you need to see that, there will be a recording made after the lesson you can review.

Structure:

- [ ] Intro to Unreal
- [ ] Intro to Third Person Template
- [ ] Basic Controls
- [ ] Importing static meshes for use in the level
- [ ] Development of the level experience
- [ ] Creating a Game Instance
  - [ ] Add a pickup function
  - [ ] Project Settings>search for Instance>Change Game Instance to our new instance
- [ ] Blueprints 001 - Creating a pick up
  - [ ] Create a Pickup Blueprint (e.g., BP_Pickup)
    - [ ] Base class: Actor
    - [ ] Add a static mesh.
    - [ ] Add collision on original static mesh.
    - [ ] In BP, ensure collision is set to Overlap All Dynamic
    - [ ] In EventGraph, On BeginOverlap:
      - [ ] Cast to the player (to confirm it's the player).
      - [ ] Get the Game Instance and call AddToPickupCount() function.
        - [ ] Right click in free area and search for Get Game Instance
        - [ ] From the node, search for Cast To... and our Game Instance name
        - [ ] From the blue pin on Cast To...Game Instance, search for Function and you should see your function name you made earlier
      - [ ] Call DestroyActor.
- [ ] Placing the resources for picking up
- [ ] Testing pickups
- [ ] Blueprints 002 - Adding a win state
  - [ ] Go back into our Game Instance blueprint and find the function we wrote earlier
  - [ ] Let's check if we have enough resources collected to win the game
  - [ ] Add another variable to say how many items we need to collect (e.g. AmountRequired)
  - [ ] Compile the BP and then set Default Value of this variable to the amount you want (e.g. 10)
  - [ ] Drag from the green pin on the ObjectCount set and search for ==
  - [ ] Drag the variable for AmountRequired to the other green pin on the == node
  - [ ] Drag from the red node on the == and search for Branch

- Connect the EXEC pins
- If TRUE - we have enough resources, show a You Win message; if FALSE, we don't, so show current count of ObjectCount

- Refine level layout so resources are spread around
- If we have time, we will add an AI character:
  - Create a new BP of class Character
  - Name it NPC_BP
  - Open it and look for the mesh component (left hand side of the screen)
  - Right hand side look for Skeletal Mesh section and browse for SKM_Manny_Simple
  - In the Animation area, just above the section from the previous step, change Anim Class to ABP_Manny
  - With Mesh selected on Components (top left) move mesh down if needed so that it is within the pink collision capsule
  - Rotate mesh if needed so arrow is pointing correctly
  - Select the mannequin object in the main viewport
  - Change Element 0 material to another material (e.g. AnimSharingRed) to ensure we can tell the characters apart!
  - Add Component (top left) and choose Pawn Sensing
  - In the window list below the Add Component button, select the new Pawn Sensing item
  - Scroll down bottom right panel until you see the events
  - Add the On See Pawn event
  - Go into the Event Graph and see the new event
  - EXEC pin dragged out to Cast To ThirdPersonCharacter
  - Join Pawn pin on Event to Object pin on Cast To...
  - EXEC pin right side of Cast To... and search for AI MOVE TO
  - Cast To... right side As TopDown... pin to Target Actor on AI MOVE TO
  - Drag from Pawn on left side of AI MOVE TO and search for SELF - under variables GET A REFERENCE TO SELF
  - Compile/Save
  - Back to Content Browser, drag out NPC into game world
  - Test
  - If the NPC does not run/walk when moving to the player, you need to go back into the NPC_BP and look for Character Movement on the left hand side of the screen
  - Select that, then look for the Nav Movement setting group on the right side of the screen
  - Tick Use Acceleration for Paths
  - If the AI still doesn't run to you, check that you have a NavMesh Bounds volume in the level and if not add it from the Place Actors panel
  - Save/Compile/Test