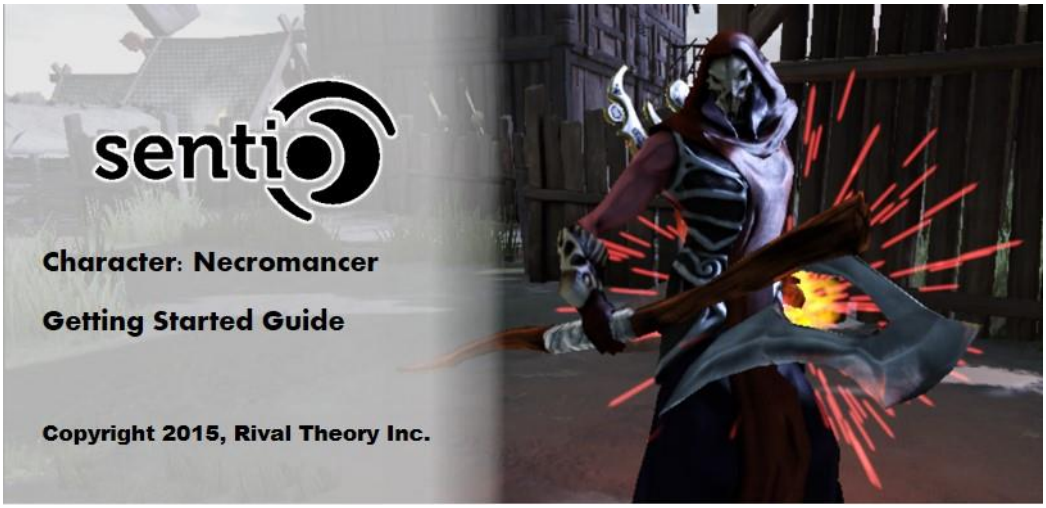


Welcome to the Getting Started Guide for the Sentio™ Character: Necromancer!

This guide has two major sections: Installing and Unpacking your Sentio Character, and Using the Necromancer Character.

If you are familiar with Sentio Characters and how to install them, feel free to skip ahead to the second section. For those of you new to Sentio Characters, don't worry – we'll have you up and running in minutes.

Installing and Unpacking your Sentio™ Character

Sentio Characters are extremely easy to install and integrate into your Unity project. Even so, if you haven't used a Sentio Character before, these step by step instructions can help walk you through the process.

Step 0: Make sure there are no errors or warnings in your Unity console

Make sure you resolve any errors before importing assets.

Make sure your project doesn't generate any errors when you hit the Play button. You should always check for warnings and errors before importing Assets, especially when the imported Assets include code (Sentio Characters do come with code.) Note: Check the status bar at the bottom of the Editor window.

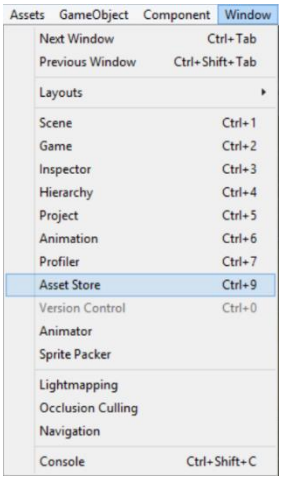
Step 1: Make a backup of your project.

We always recommend doing this before importing any new assets.

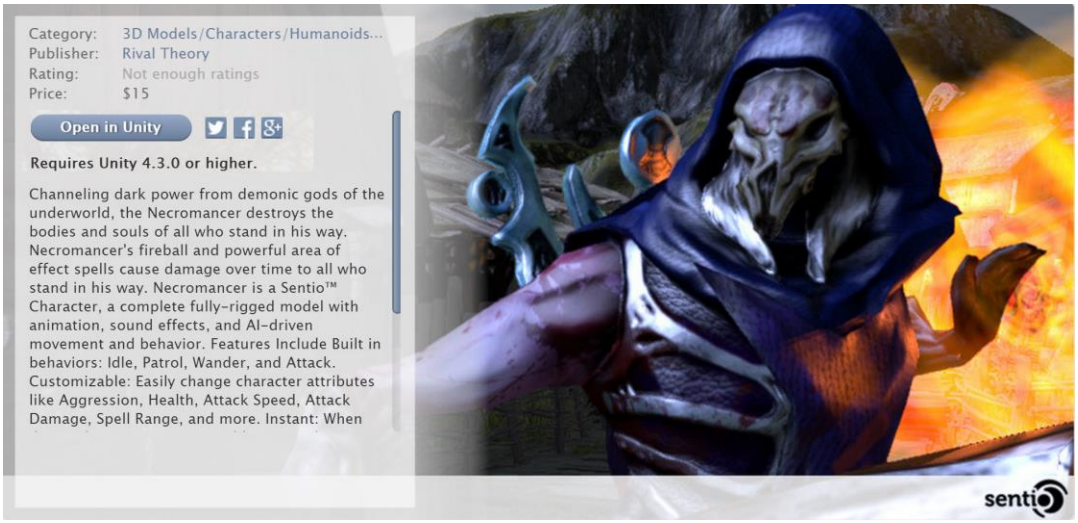
It's better to take a few minutes to make a backup than to accidentally wreck your hard word because of a code conflict, import error, or some other minor glitch. Copy your project, do a git commit, whatever it takes…

Step 2: Import the Sentio Character Package from within Unity

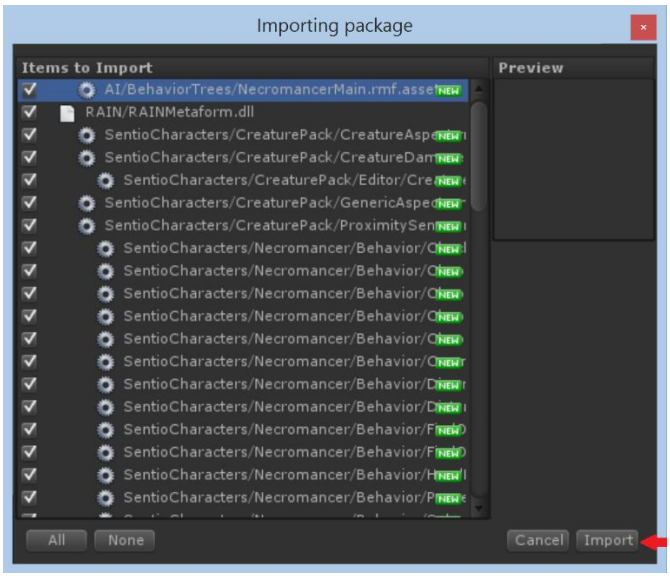
1. Open the Asset Store Window in Unity (Ctrl-9).



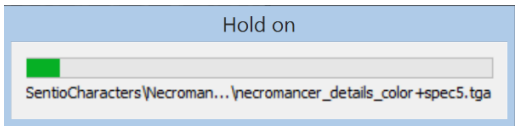
2. From within the Asset Store window, browse to find the Sentio Character that you have purchased. (If you haven't already purchased a Sentio Character, now might be a good time.) Click Open in Unity (or Import) to begin importing the package into your scene.



3. When the Import Package window appears in Unity, leave all the files selected and click the Import button.



4. Importing the Sentio Character Package may take a minute or two depending on the size of the package and the speed of your machine. You should see a status bar during import:



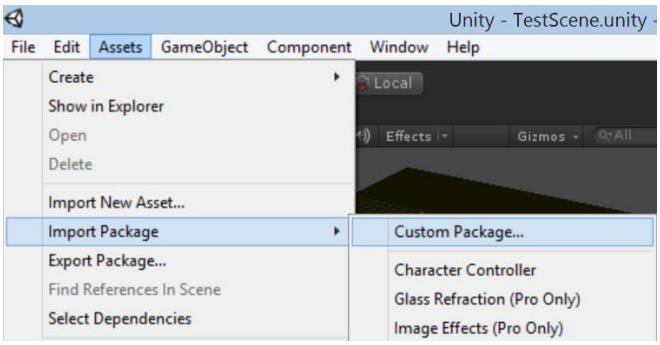
NOTE: Some Sentio Character Packages will generate Import warnings like the one below – these can be safely ignored.

Step 3: Import RAIN™ 2.1.10 or higher

Sentio Characters require RAIN to run properly. RAIN is a free package available from the Unity Asset Store or through the Rival Theory Website.

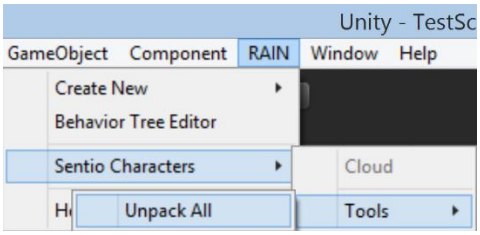
1. Asset Store Import- Follow the same steps that you did to import your Sentio Character. https://www.assetstore.unity3d.com/en/#!/content/23569

2. Rival Theory Import- The latest version of RAIN is http://rivaltheory.com/rain/download/.
   a. To import a downloaded package from the Rival Theory website, use the Assets→Import Package→Custom Package… option to import the downloaded .unityPackage file.

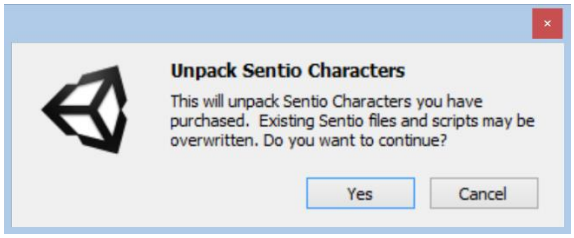


Step 4: Unpack your character

1. After importing RAIN, clicking your mouse in the Menu area will cause the RAIN menu to appear. From there, choose the RAIN→Sentio Characters→Tools→Unpack All.



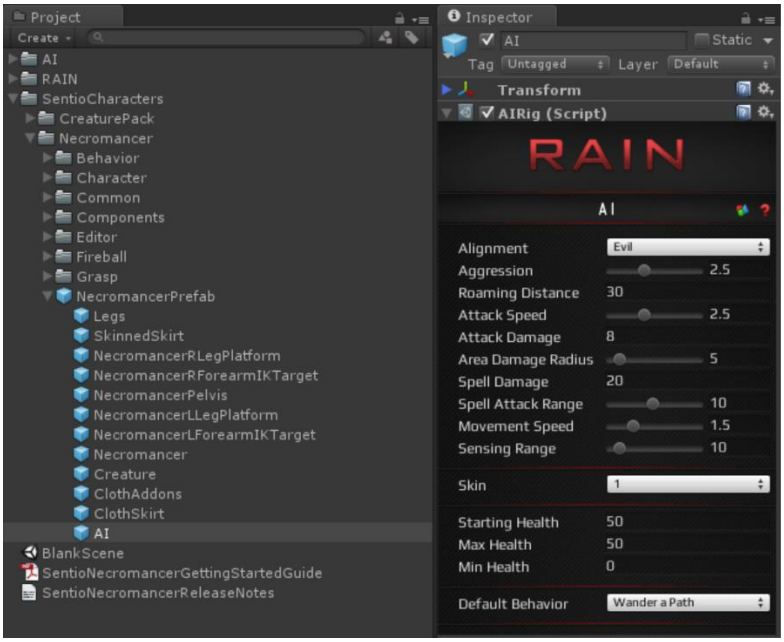
2. You will see a message telling you that Sentio Assets may be overwritten. If you already have Sentio assets in your project and have made significant modifications to any Sentio files, make sure you have a backup before continuing. Click "Yes" to unpack Sentio Characters in your project.



Step 5: Check to make sure the unpack process was successful.

The unpack process was successful if:

- ✓ There are no errors (red) in the Unity status bar or console window.
- ✓ Your character prefab appears in the Sentio Characters →(Your Character) folder.
- ✓ Clicking on the character prefab "AI" sub-object shows the RAIN Character interface.



Trouble Unpacking your Character?

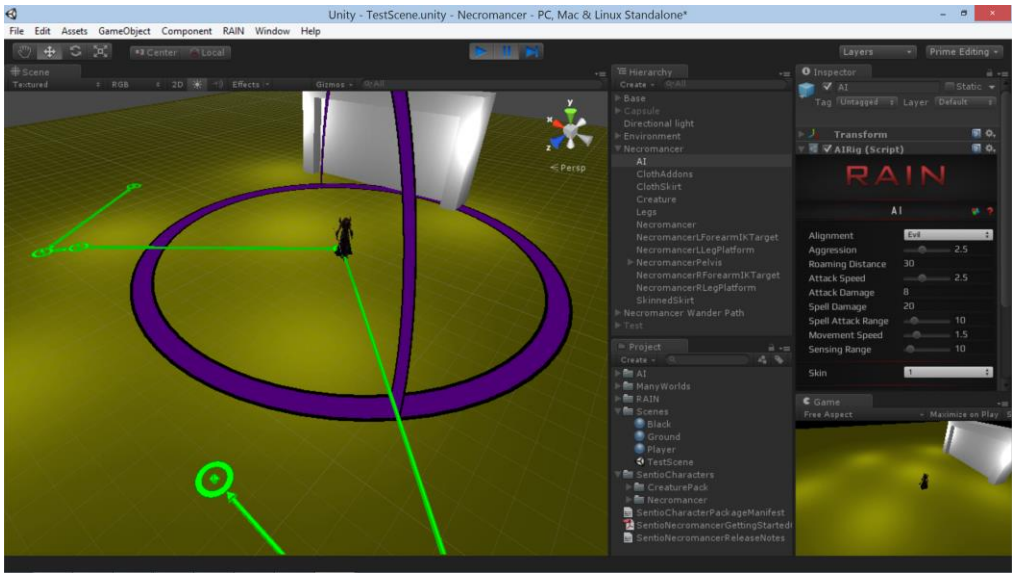
If you run into any trouble unpacking your Sentio Character or installing it into your games, please contact Rival Theory support at support@rivaltheory.com or check our active community forums at http://rivaltheory.com/forums.

Using the Necromancer Character

The Necromancer is a Sentio™ Character, and that means it is ready to run out-of-the-box. This Starter Guide describes basic usage of the Necromancer character but does not delve into details for customizing behavior, modifying code, or swapping the character model. Join the Rival Theory forums to discuss advanced usage and customization. http://rivaltheory.com/forums

Just go for it!

The Necromancer Character already comes with built-in behavior. This means you can drop the character prefab into any scene (even a running scene) and it should begin acting in a believable manner. Go ahead and drag-and-drop the prefab into your scene, hit Play, and see what happens.

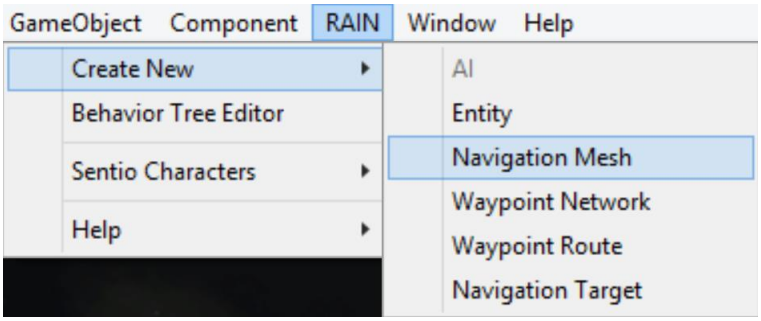


In most cases, you'll get a result similar to the screenshot above. The Necromancer character will create a path and begin wandering along the path.

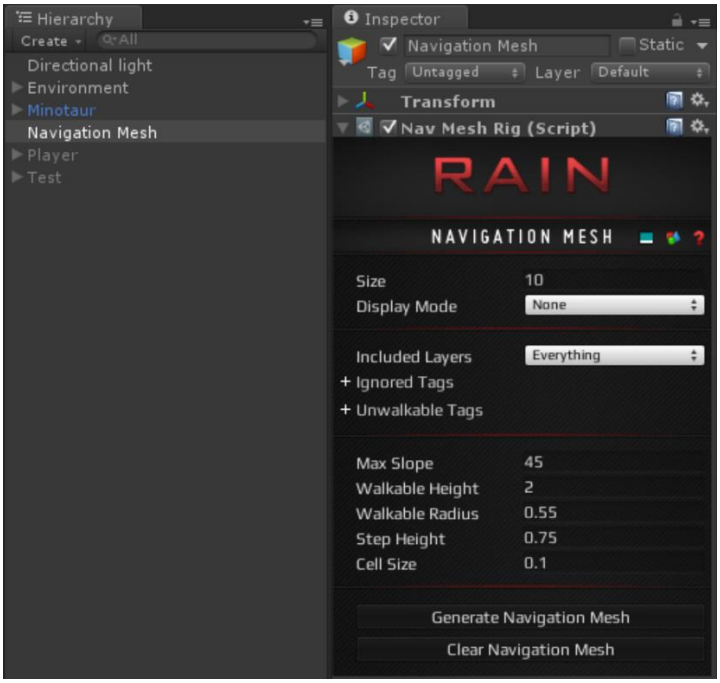
However, in some cases the character may not be able to generate a path. This could happen if he is not on level terrain, or if there are structures or other collidable objects nearby. To help him understand how to move better, you can use RAIN to generate a Navigation Mesh for the character to walk on.

Generate a RAIN Navigation Mesh

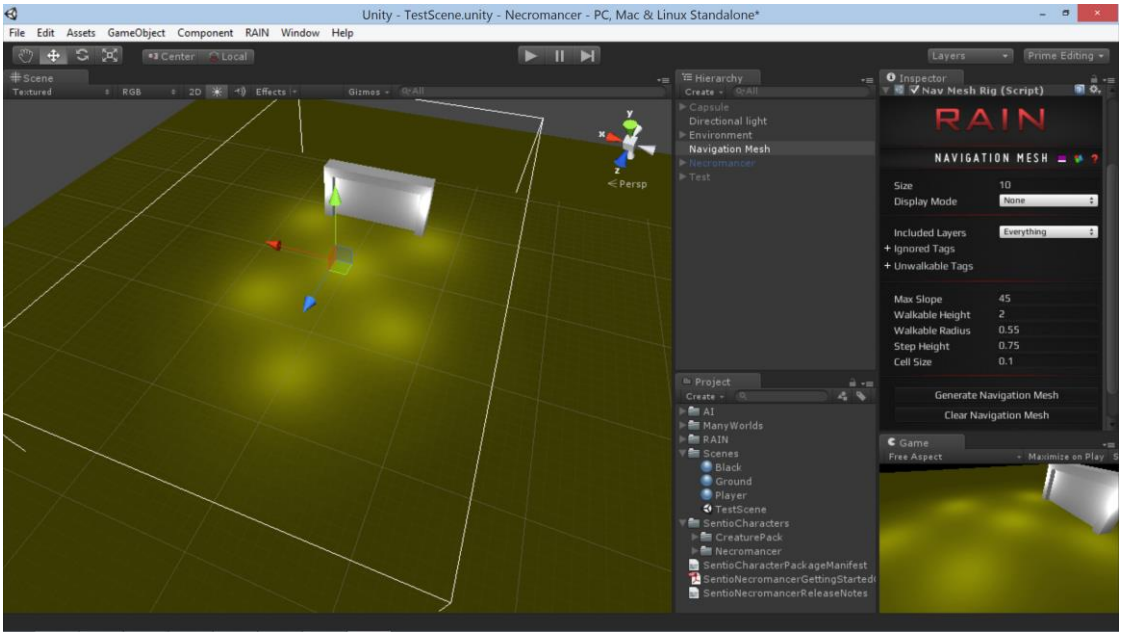
1. To generate a Navigation Mesh in RAIN, go to the RAIN menu and click RAIN→Create New→Navigation Mesh.



This creates a new Navigation Mesh object in your scene. You will see the Nav Mesh Rig in the Inspector.

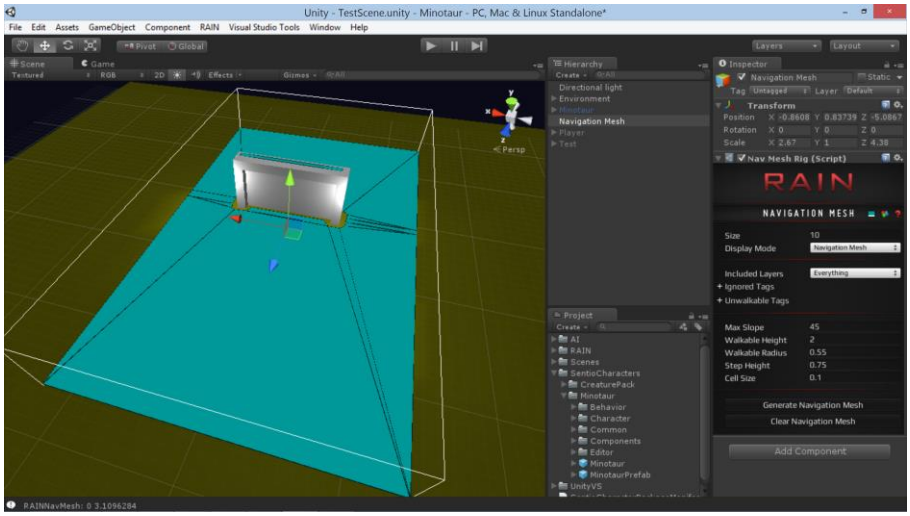


2. Select the Navigation Mesh object, then position the bounding box of the NavMesh by adjusting its Position and Scale. Make sure the bounding box covers the area you want the character to walk in.



3. Once you have the Navigation Mesh positioned, make sure the character is not accidentally included in the NavMesh. Normally you would use Tags or Layers to specify which objects are ignored by the NavMesh. See http://rivaltheory.com/wiki/rainelements/navmeshrig

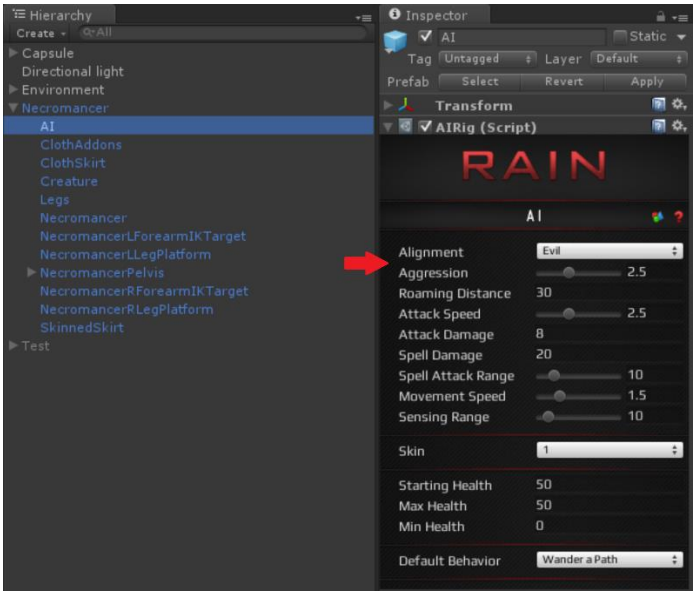
Let's shortcut that for now by simply disabling the Necromancer character in the Inspector. Do that, then click Generate Navigation Mesh. This process can take a few seconds to a few minutes, depending on the complexity of your scene and the size of the mesh bounding box. Once the mesh is generated, it will appear something like the following:



Re-enable the Necromancer character in the Inspector and hit Play again. This time the character will create a path that stays on the Navigation Mesh, and will remain on the mesh as he walks between points.

Setting up Attack Behavior

The Necromancer character's behavior is defined by a number of attributes, which can be accessed by clicking on the AI sub-object parented to the main Necromancer object. Two of the attributes you have available are Alignment (whether the character is Good, Evil, or Neutral) and Aggression.



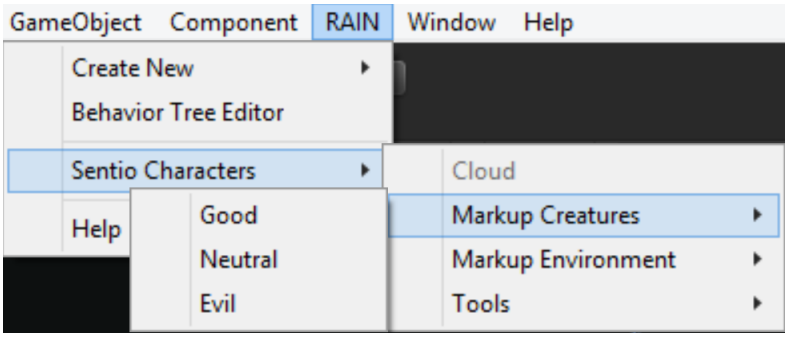
These aspects control how and when the Necromancer will attack another creature:

Evil Necromancer: Will always attack Good creatures. Will attack Neutral creatures if aggression is elevated. May also attack Evil creatures if aggression is set very high.

Neutral Necromancer: Will only attack Good and Evil creatures when aggression is set high. May also attack Neutral creatures if aggression is set very high.

Many Sentio Characters already have Aspects that identify their alignment to other creatures. For example, the Sentio Darkness Warlord character is preset to Evil, while the Sentio Minotaur character is preset to Neutral. However, other characters that you create in the game, including the player, need to be marked as well. You can mark creatures in your scene through the RAIN menu system.

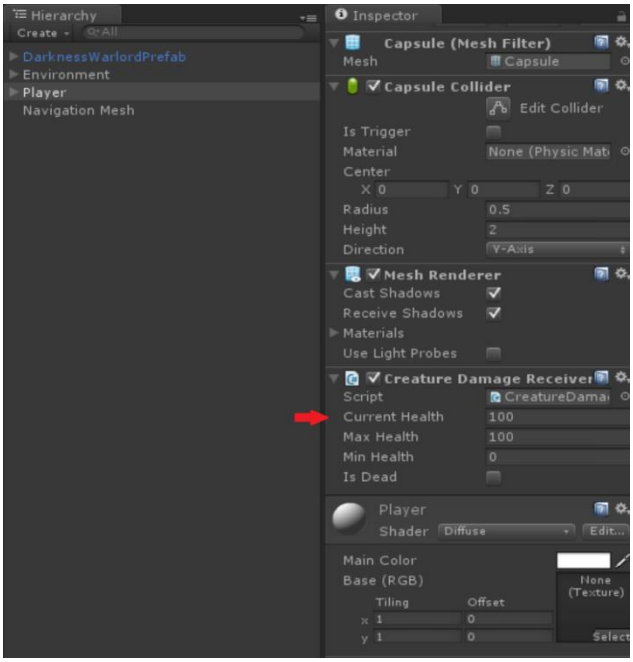
To mark a creature in your scene, select the creature's game object. Then go to the RAIN menu, and select RAIN→Sentio Characters→Markup Creatures-->Good/Neutral/Evil.

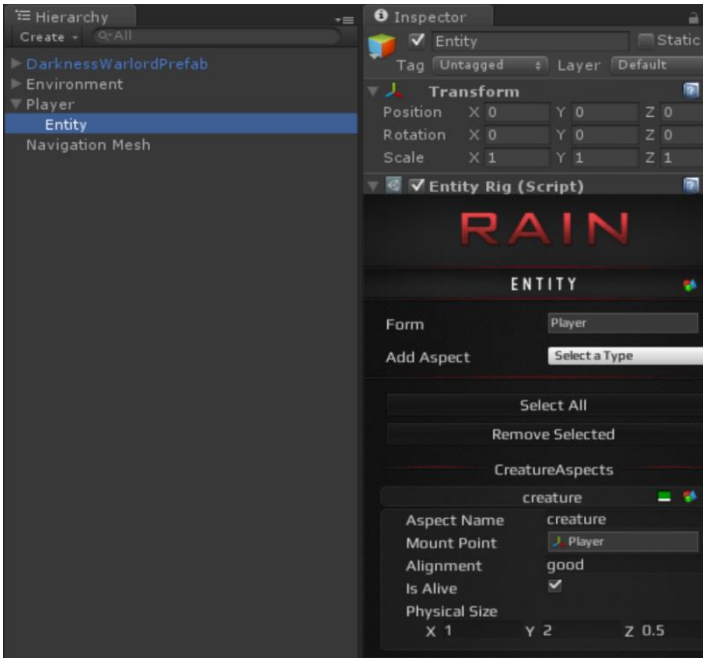


This does two things to your selected object:

1. A CreatureDamageReceiver component is added to the object. This component manages the health (and eventual death) of the object.

2. A RAIN Entity is added as a subobject. This Entity contains a "Creature" aspect that lets other RAIN/Sentio characters recognize your object as a Creature.





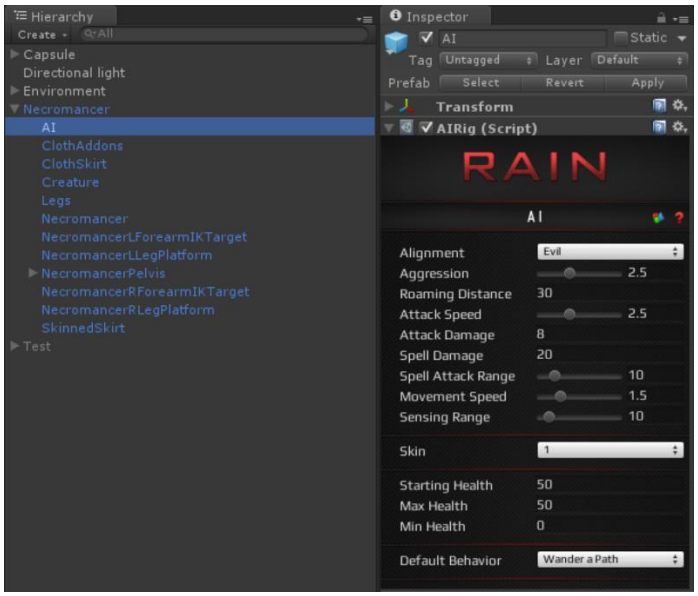
To test this, mark a creature in your scene as Good, and leave the Alignment of your Necromancer as Evil. Make sure your Necromancer is reasonably close to the object you marked (within 5-10 units), then hit Play. This time your character will begin attacking the object. You can watch the CreatureDamageReceiver component as the health drops. Once the creature dies, the Necromancer should resume his default behavior

Changing Behavior

The Necromancer character's behavior can easily be modified simply by changing his attributes in the AI Inspector.

1. Click on the small triangle next to the Necromancer character in the Unity Hierarchy Pane to expand the object and view its sub-objects.

2. Select the AI object to view the AI inspector in the Unity Inspector Pane.



The character behavior can be adjusted by changing these values:

Alignment: Alignment impacts both what the Necromancer attacks, and what creatures are likely to attack him. You may notice the Creature sub-object of the main Necromancer object. This RAIN Entity/Aspect will be automatically updated at runtime depending on how you set the Alignment value.

Aggression: Aggression impacts what the Necromancer attacks, how frequently he attacks, and when/if he will run away from a fight. (More details under Setting Up Attack Behavior).

Roaming Distance: The Necromancer always patrols near his home base. If a base is already marked in the scene (see Tagging Locations) then he will use that base. Otherwise, he will mark his own territory and never roam too far away. Roaming distance is the maximum distance the character will stray from his base while wandering or patrolling. Roaming distance also impacts attack distance, which is typically 50% greater than Roaming Distance. (The character will disengage from a fight if he is outside his fighting range and is not actively being damaged.)

Attack Speed: Impacts the speed at which the Necromancer swings his Scythe and the time between attacks. A higher number means faster attacks.

Attack Damage: The base damage transmitted by the character's weapons to enemies. This damage is transmitted automatically to creatures using the CreatureDamageReceiver component.

Spell Damage: The base damage transmitted by the character's spell attacks. This damage is transmitted automatically to creatures using the CreatureDamageReceiver component. Damage over time effects, like the Necromancer's secondary spell, will deal double this amount of damage over the lifetime of the spell.

Spell Attack Range: The maximum distance between the character and an enemy for using a spell attack.

Movement Speed: The standard walk speed of the Necromancer. The character may move faster or slower in some situations (e.g., chasing, attacking).

Sensing Range: The distance around the Necromancer that creatures can be sensed. This impacts the range of the attached RAIN "Visual Sensor" (notice how the ring around the character expands and contracts in scene view when you adjust the slider.)

Starting Health: The initial health of the Necromancer on scene start.

Max Health: The maximum health the Necromancer can have, even if "healed". (Note, you can heal the character by giving him negative damage.)

Min Health: The minimum health the Necromancer can have. When he reaches this level or lower, he will die.

Default Behavior: The behavior exhibited by the Necromancer when he is not engaged in battle:

> **Idle and Wait:** The character will idle without moving until an enemy approaches.
>
> **Wander a Path:** The character will create or use an existing patrol path, wandering randomly between connected points.
>
> **Wander Randomly:** The character will wander around the base, disregarding preset paths.
>
> **Patrol:** The character will create or patrol a nearby patrol route, moving from start to finish repeatedly.

Head Look

As a bonus feature for the Necromancer, we've added a Head Look rig. You will notice that the Necromancer will occasionally pause and look around while patrolling. He also focuses his gaze on whatever character he is attacking during battle. Unity Pro is not required for this feature.

*Advanced users: If you are making custom modifications to the behavior of the Necromancer in the RAIN Behavior Tree Editor, you can specify where you want the Necromancer to look by setting the headLookTarget variable to a location or object target.

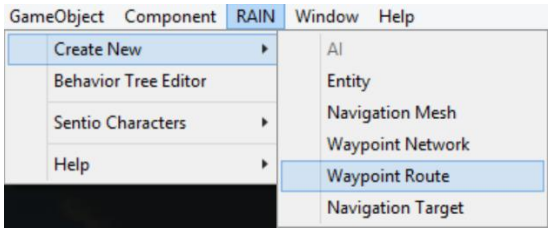
Tagging Locations

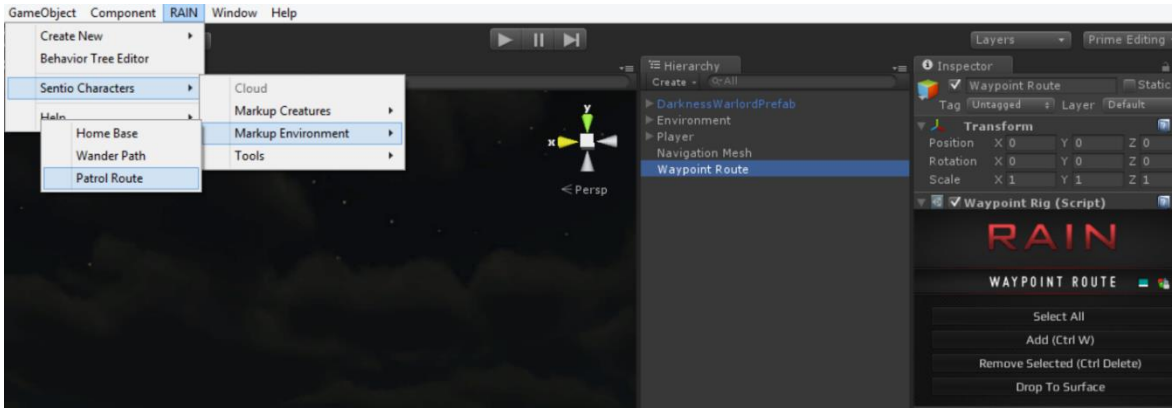
In addition to customizing the character behavior directly, you can also customize aspects of your scene to set where the Necromancer patrols or wanders, and where he chooses his base.

Patrol Routes

You can create your own patrol routes using RAIN:

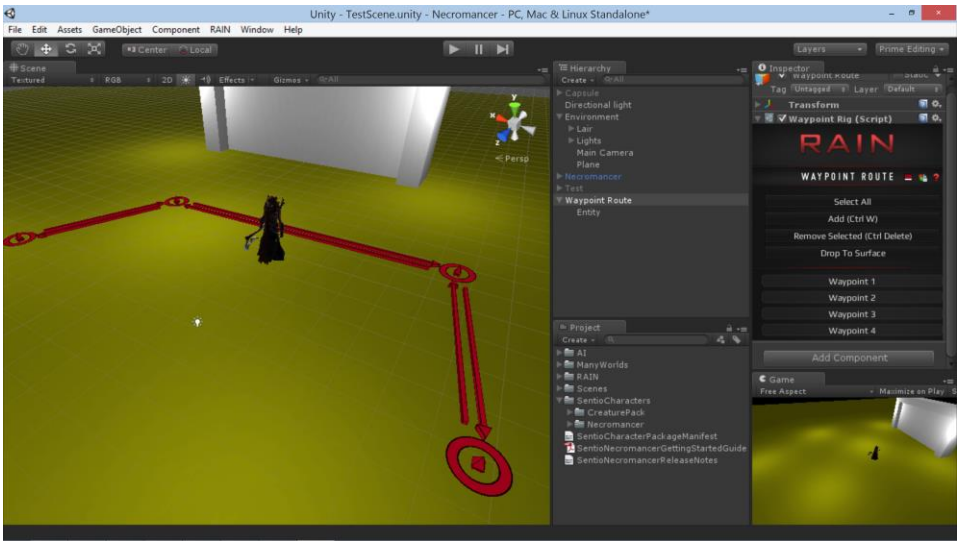
1) Add a patrol route by choosing RAIN→Create New→Waypoint Route from the RAIN menu.
2) Select the newly created Waypoint Route in the Hierarchy Pane, the choose RAIN→Sentio Characters→Markup Environment→Patrol Route. This adds a RAIN Entity to the Waypoint Route, marking it as a usable patrol route.





3) Move the Transform position of the Waypoint Route to the Necromancer starting position. This is important because Waypoint Routes default to a position at the origin, which may be too far away for the Necromancer to sense.

4) Add Waypoints to the Waypoint Route. With the Waypoint Route still selected, aim your scene view camera at locations along the ground/floor/terrain and hit the Ctrl-W key. As Waypoints are added, they are automatically connected together.

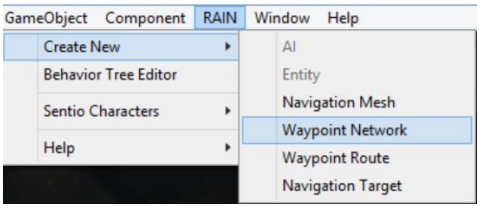


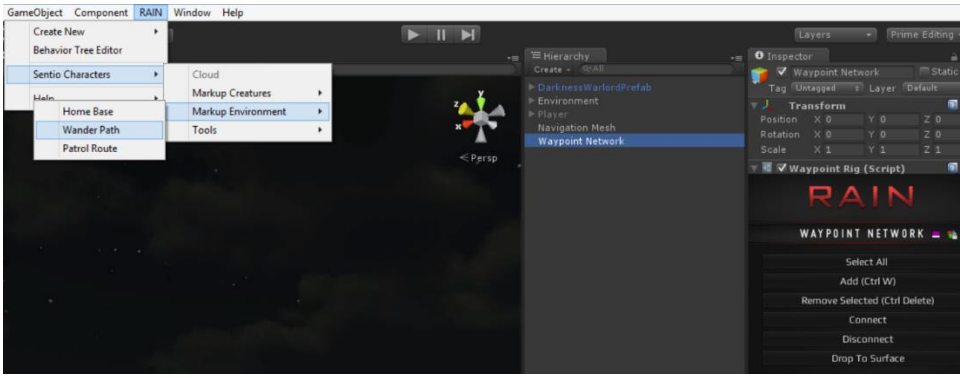
That's it! If your Necromancer default behavior is set to Patrol, he should begin patrolling the route you created once you hit Play.

Wander Paths

You can create your own wander paths using RAIN:

1) Add a wander path by choosing RAIN→Create New→Waypoint Network from the RAIN menu.
2) Select the newly created Waypoint Network in the Hierarchy Pane, the choose RAIN→Sentio Characters→Markup Environment→Wander Path. This adds a RAIN Entity to the Waypoint Network, marking it as a usable path.

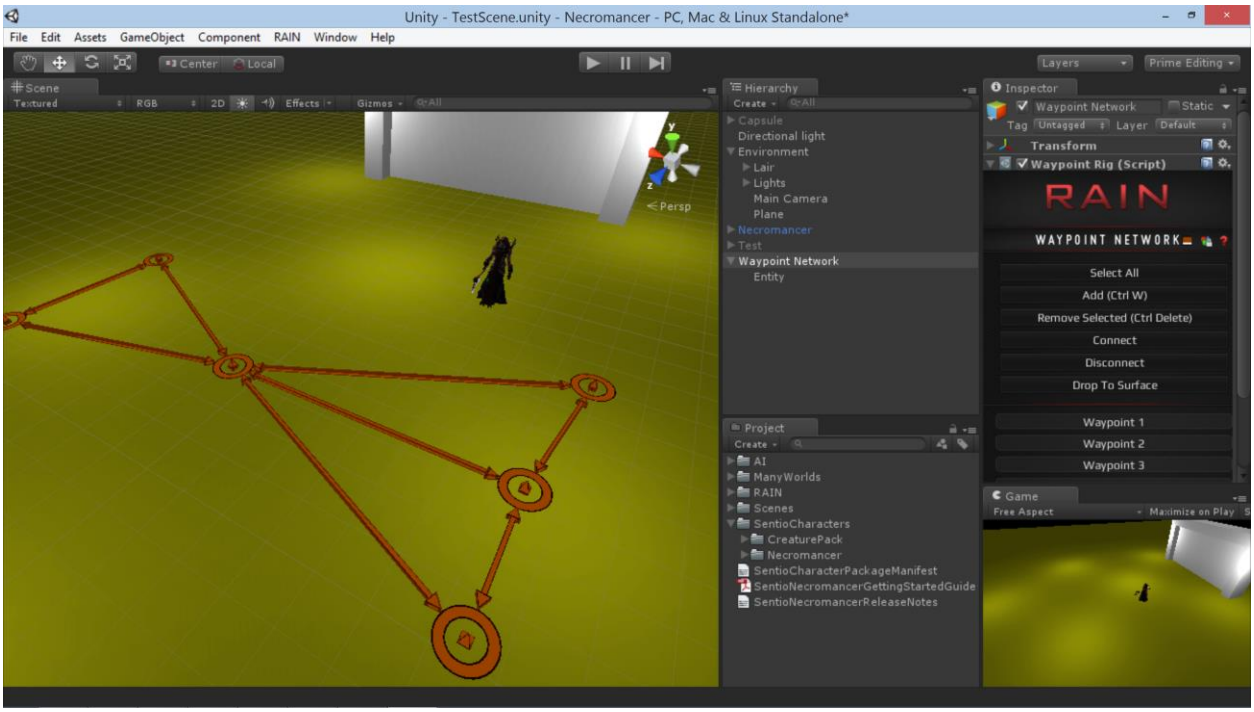




3) Move the Transform position of the Waypoint Network to the Necromancer starting position. This is important because Waypoint Networks default to a position at the origin, which may be too far away for the Necromancer to sense.

4) Add Waypoints to the Waypoint Network. With the Waypoint Network still selected, aim your scene view camera at locations along the ground/floor/terrain and hit the Ctrl-W key. As Waypoints are added, they are automatically connected together.

You can add multiple connections to a waypoint by selecting an individual waypoint, then adding another connected waypoint via Ctrl-W. You can connect or disconnect multiple waypoints by selecting them as a group in the Scene view, then clicking the Connect or Disconnect buttons in the Inspector pane.



That's it! If your Necromancer default behavior is set to Wander a Path, he should begin walking along the path you created once you hit Play.

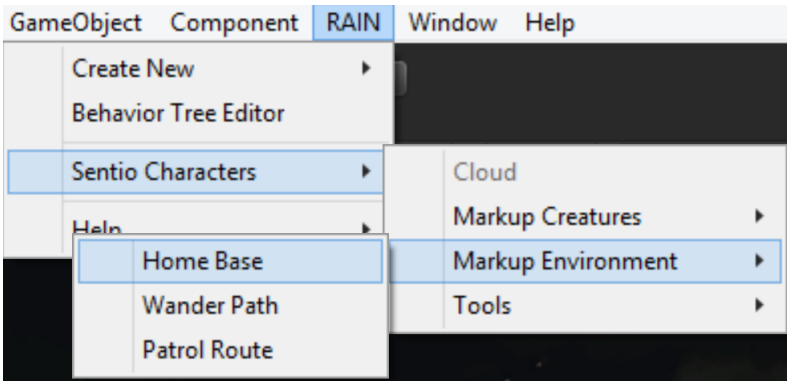
Setting a Base

You can mark a base for the Necromancer to defend.

1. Select an object at his base's location,

2. Then choose RAIN->Sentio Characters->Markup Environment->Home Base from the RAIN menu. This will add a RAIN Entity to the selected object, and make the base visible to the character's senses.

Once an object is marked as the base, the Necromancer will attempt to stay within Roaming Distance of the base.



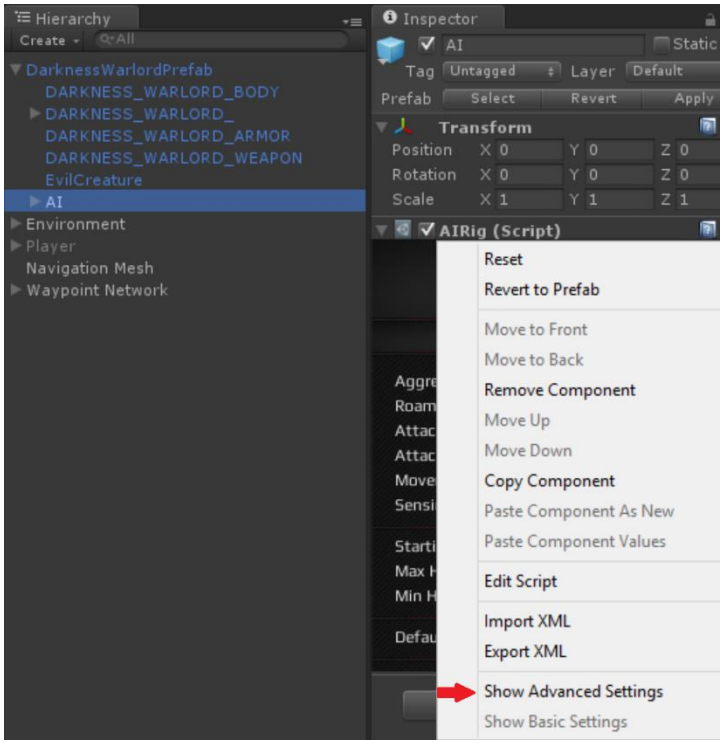
Next Steps

Now you can begin to have fun with your Sentio Character. Things to try:

1) Add another Necromancer to the scene. Change the Alignment and increase the Aggression of your characters until they attack each other.

2) Mark a player as "Good" and set the Necromancer's Alignment to Evil. Watch the Necromancer attack the player. Take a look at the CreatureDamageReceiver.cs script. See the Damage(DamageMessage aDamageMessage) method? You can use Unity messaging to send Damage messages to the Necromancer. See if your player can kill the character.

3) Click the gear icon next to the RAIN Inspector on the Necromancer AI object. Click on "Show Advanced Settings." This switches the RAIN interface to give you full access to customization. Feel free to look at the code, behavior tree, and AI rig. *Click on "Show Basic Settings" to just see the basic Necromancer interface.



4) **Look for additional Sentio Characters in the Unity Asset Store.** Get a few and throw them into a scene together. See what happens!

Thanks again from everyone at Rival Theory. Visit us at http://rivaltheory.com

