

Hit Detection

What happens if the AI Agent gets attacked from behind? In this case it would be a good idea to retaliate as, otherwise, the AI might seem unresponsive.

The hit detection is a little different from the previous sensors. The main logic is for the projectile that hits a target to call a specific function inside it.

This will alert the AI Agent that hits are taken and it will prompt a defensive or offensive action.

For this we need to prepare a couple of things:

1. Create a bullet instead of the target
2. Use an Area to detect collisions
3. Attach a collision shape to match the bullet

In the bullet's code, we first need to set up the signal coming from the area, called `body_entered`. Now we know that a collision was detected. The next step is to find out if the object we hit has the function called `register_hit`.

The collision is detected at the `KinematicBody` level so we need to get the parent which is the AI Agent. Next, we check if there is a function and call it.

In the AI Agent register it needs to be implemented as well.

Once everything is in place, let's test the project and see the result. Every time the projectile enters the AI's physics body it will trigger a hit event.

This can be further processed into decisions.

Now that we covered how to deal with sensors, state machines, let's head over to the last step in this course: creating a fully-functional AI Agent that will use all of this.