# VR LOCOMOTION

## ADD SNAP TURNING:

**You will next set up the ability to turn around in place so that you can experience the room without physically moving and rotating.**

1. **Give your XR Rig locomotion capabilities:**

    - **In the Hierarchy, select the XR Rig object and add a Locomotion System component.**
    - **For the XR Rig property, select and drag the XR Rig component from the Inspector onto the slot that says “None”.**
    - **Note: You can also select the circular select button and double-click the XR Rig object.**

2. **Allow your XR Rig to turn around:**

    - **With the XR Rig object still selected, add a Snap Turn Provider (Action-based) component.**
    - **For the System property, drag and drop the Locomotion System component onto the slot.**

3. **Fine-tune the snap turning experience:**

    - **Experiment with the Turn Amount and Debounce Time properties.**
    - **Select the Enable Turn Around property to allow the user to turn 180 degrees when they press the joystick down.**

4. **Experiment with continuous turning:**

- **Remove the Snap Turn Provider component and add a Continuous Turn Provider (Action Based) component.**

**You should now be able to use the joysticks on either hand controller to rotate by a certain number of degrees. This makes your project possible for a stationary experience.**

**Note: If you are using the XR Device simulator, you can simulate movement by using T or Y to toggle one of the controllers, then A or D to simulate snap turning.**

**CREATE A TELEPORTATION AREA ON THE RUG:**

**Now that you can rotate, you should also be able to teleport  anywhere within a specific area.**

1. **Allow the user to teleport:**

- **Select the XR Rig object and add a Teleportation Provider component.**
- **For the System property, drag and drop your Locomotion System component to assign it to the property.**

2. **Make the rug a teleportation area:**

- **Select the Rug object and add a Teleportation Area component.**
- **At the bottom of the Teleportation Area component, for the Teleportation Provider property, drag and drop the XR Rig object from the Hierarchy to the empty slot to assign it to the property.**

**Now, when you point anywhere on the rug, the line renderer will turn white, and you can use the grip button on the controller to teleport there. The grip button is the lowermost button on the inside of the controller, usually pressed with the middle finger.**

**Note: If you are using the XR Device simulator, you can use T or Y to toggle one of the controllers, use the middle mouse button to aim your ray, then press G to simulate pressing the "Grab" button.**

**CREATE TELEPORTATION ANCHORS ON MATS:**

**Sometimes, you want the user to teleport to a specific spot, facing a specific direction.**

**1. Add Teleportation Anchors to the scene:**

- **Go to Course Library > Prefabs > Rugs, then add smaller "Mat" objects at key locations around the room.**
- **Rotate these objects so that their local Z axis (blue) arrow is facing the direction you want the user to be when they teleport there.**
- **Note: You must be using Local coordinates to see the local forward direction of the objects.**

**2. Save changes to all of the mats at once in Prefab Mode:**

- **Select one of the mat objects and click the Open button at the top of the Inspector.**
- **To make sure your changes are saved in the top-right corner of the Scene view, enable the Auto-save setting.**

**3. Turn the mat prefab into a teleportation anchor:**

- On the mat Prefab, add a new Teleportation Anchor component.
- Note: It's not actually necessary to assign the Teleportation Provider property - it is assigned automatically when the app runs.

4. Match the orientation of the anchor when you teleport there:

   - In the Teleportation Anchor component, set the Match Orientation property to Target Up And Forward.

5. Exit Prefab Mode:

   - Select the Back arrow in the top left corner of the Hierarchy.

You should now be able to teleport to the rugs around the room, re-orienting to the direction of the rug when you arrive.

Note: To hide the colorful outlines of the objects in Scene view,: in the top-right corner of the Scene view window, click the Gizmos button to hide the scene view gizmos. You can also click the drop-down arrow next to the Gizmos button to show/hide specific elements.

## CUSTOMIZE THE RETICLES FOR TELEPORTATION:

The Line Renderers from your hands change color when you are able to teleport somewhere. We can provide more visual feedback to the user with reticles.

1. Find the reticle you want to use:

- **Go to Course Library > Prefabs > Reticles > VR, and determine which Reticle you prefer.**

2. **Assign a custom reticle for the Teleportation Area rug:**

- **Select the large Rug object with a Teleportation Area component.**
- **At the bottom of the Teleportation Area component, for the Custom Reticle property, drag and drop your chosen Reticle to assign the property.**

3. **Assign a custom reticle for the Teleportation Anchor mats:**

- **Open the prefab of one of your mat objects.**
- **In the Teleportation Anchor component, for the Custom Reticle property, assign the Reticle.**
- **Exit Prefab Mode.**

**The custom reticle should now appear at the location where the line renderer meets the teleportation destination.**