# **NAVIGATING ON A BOAT:**

Step 1: Set Up Your Project:

* Open Unreal Engine and create a new project with the desired settings.
* Choose a template or start with a blank project.

Step 2: Create the Boat Model:

* Import or create a 3D model of your boat.
* Ensure the boat has collision geometry for accurate interactions.

Step 3: Set Up Player Character:

* Create a new Blueprint class for your player character (e.g., "BP\_PlayerCharacter").
* Open the Blueprint and add a Skeletal Mesh component for your character (the player).
* Attach the boat model to the character as a child component.

Step 4: Implement Boat Controls:

* Inside the Blueprint, add Input functions for boat controls (e.g., MoveForward, MoveRight).
* Add nodes to control the boat's movement based on player input.
* For simplicity, use the "Add Movement Input" node for basic forward and sideways movement.
* Adjust boat speed and responsiveness by tweaking input scales.

Step 5: Set Up Water Material:

* Create a water material or use one from the marketplace.
* Apply the material to the water surfaces in your level.

Step 6: Implement Buoyancy:

* Add a Skeletal Mesh Component for the boat in the Blueprint.
* Enable "Simulate Physics" for the boat component.
* Add a Box or Capsule Collision Component to act as the buoyancy volume.
* Adjust the buoyancy volume to cover the submerged part of the boat.
* Tweak the physics settings (Mass, Damping, etc.) for realistic buoyancy.

Step 7: Adjust Camera for Boat:

* Add a Camera Boom Component to the Blueprint.
* Attach a Spring Arm Component to the Camera Boom.
* Position the camera above and behind the boat for a good view.
* Adjust parameters like Arm Length, Socket Offset, and Lag for smooth camera movement.

Step 8: Implement Docking Mechanism:

* Create Dock Blueprint classes for interaction points.
* Add collision components to represent docking locations.
* Implement logic in the player character to detect and interact with docks.

Step 9: Handle Environmental Challenges:

* Create obstacles and challenges in your level.
* Implement collision detection and response to handle obstacles.
* Add logic for the player to navigate around or through environmental challenges.

Step 10: Test and Iterate:

* Playtest your level to ensure smooth boat navigation.
* Iterate on controls, physics settings, and environmental interactions for better gameplay.