Gyro Flow

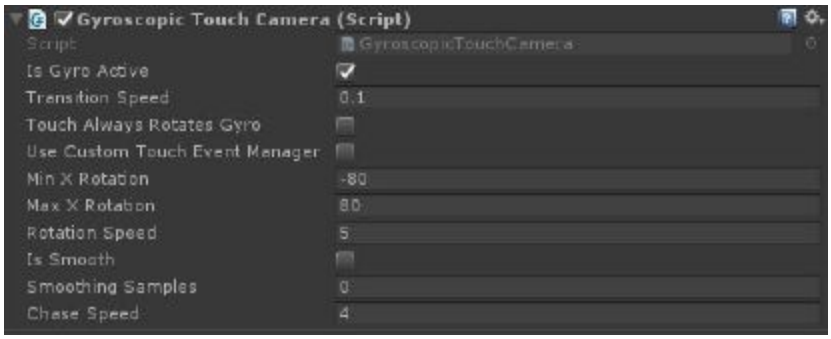
Read Me V 1.0
By Peter Mills
peter.mills@khemistry.com.au

Example Scene

The included example scene (Assets/HeliumDreams/Tools/GyroFlow/ExampleScene/Scene/GyroscopicTouchCameraExample.scene) has a preset up camera and Settings Menu.

Gyroscopic Touch Camera

The Gyroscopic Touch Camera script on the Camera Prefab can be used to change multiple settings on the camera.



Is Gyro Active

Toggles between the camera being controlled by the gyroscope or touch and swipe

Transition Speed

When transitioning between Gyro and Touch modes the Camera lerps from one state to the other at this speed.

Touch Always Rotates Gyro

If set to true, users can still swipe to rotate the camera left and right while Gyro is active. When set to false touch input does nothing while Gyro is active.

Use Custom Touch Event Manager

If set to true Gyroscopic Touch Camera will only receive touch events from Game Objects with the GyroTouchEventManager attached. If false, all touch events will be used.

Set Custom Y Offset To Y Rotation At Startup

Will set Custom Y Offset to equal the Y rotation of the objects transform at Start

Custom Y Offset

This offset is applied to the Y rotation of the camera allowing Tare() to set the object to rotations other than (0,0,0)

Min X Rotation

Sets the minimum X rotation that can be reached with Touch mode. Prevents Crossing the south pole and ‘flipping’ the camera.

Max X Rotation

Sets the maximum X rotation that can be reached with Touch mode. Prevents Crossing the north pole and ‘flipping’ the camera.

Rotation Speed

Speed multiplier applied when swiping to rotate.

Is Smooth

Used to toggle whether the smoothing settings are applied to the Gyro Rotation.

Smoothing Samples

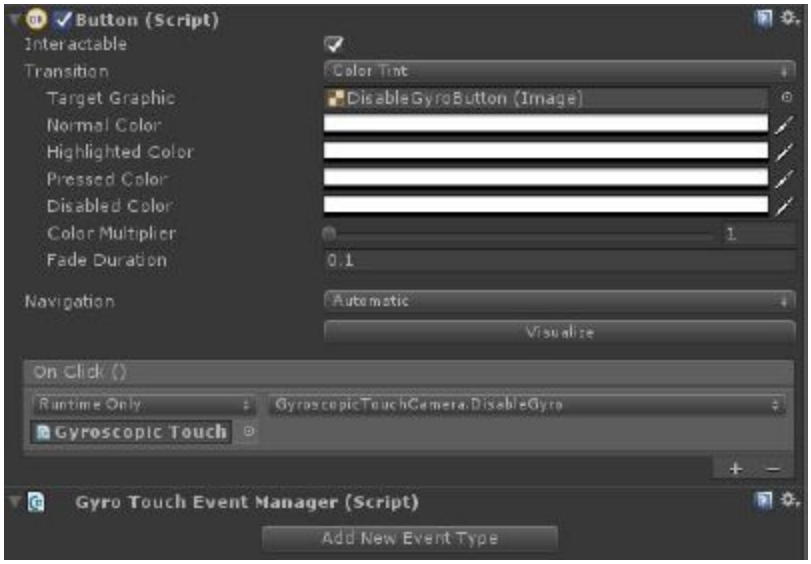
The number of smoothing samples to keep track of and average. A larger number should equal a Smoother Camera with larger delay.

Chase Speed

The speed at which the camera moves from its current position to the current smoothed average.

Disable Gyro Button

The Disable Gyro Button shows how to implement the Gyro Touch Event Manager and a technique to automatically Go to Touch control if the screen is touched.



Gyro Touch Event Manager

Gyro Touch Event Manager overrides Event Trigger and sends relevant touch data to Gyroscopic Touch Camera if Use Custom Touch Event Manager is true.

Invisible Button

A Button, with 0 Alpha, calling Disable Gyro on the Gyroscopic Touch Camera will cause the gyroscope to disable if the user presses it. This button is set to take up the entire background of the camera, so if the user touches the screen anywhere not covered by a menu Gyro will be disabled.

Scripts

GyroscopicTouchCamera.cs

This is the main camera controller. There are a number of Public Methods accessible though scripts or UI elements. Though scripts the methods are accessible though HeliumDreamsTools.GyroscopicTouchCamera.Instance.MethodName( );
If you include a “using HeliumDreamsTools;” statement in your script then you can call the GyroscopicTouchCamera directly.

The gyroscopic data can be smoothed. The Smoothed Rotation is calculated as the weighted average of the last few rotations. The number of previous rotation sampled is defined by public int smoothingSamples. The current rotation of the camera then moves toward the smoothed rotation. The speed it moves at is defined by public float chaseSpeed. These variables can be accessed directly or through the public methods public void SetSmoothingSamples(float numberOfSamples) and public void SetChaseSpeed(float newChaseSpeed).

public void ResetZeroToCurrentCameraRotation()

Resets The Zero point for both the Gyroscope and Touch Rotations to the current camera rotation

public void ToggleGyro()

Use to toggle the camera between Gyro and Touch modes

public void ToggleGyro(bool isActive)

Use to Set the camera to Gyro or Touch modes

public void DisableGyro()

Disable the Gyro and start using Touch mode

public void EnableGyro()

Enable the Gyro and stop using Touch mode

public void ToggleSmoothing()

Use to Toggle smoothing on and off

public void ToggleSmoothing(bool newIsSmooth)

Set is smooth to new value

public void SetSmoothingSamples(float numberOfSamples)

Set the smoothing Samples to a new value

public void SetChaseSpeed(float newChaseSpeed)

Set the chase Speed to a new value

public void SetUseChaseWithGyro(bool useTouch)

Set touch Always Rotates Gyros to true or false.

GyroTouchEventManager.cs

Attach the GyroTouchEventManager to any object which you would like to send touch events to GyroscopicTouchCamera, assuming useCustomTouchEventManager is true.
In the shipped implementation, Touch events are only sent if the initial touch is on this object. This means that touching away from object and moving your finger into it will not then start using touch swipe. If this is your desired behaviour you can move the SetupNewTouch call from OnPointerDown to OnPointerEnter.
In the same way, moving your finger off of the object with GyroTouchEventManager won't stop the control immediately. This is because the EndOldTouch call is in OnPointerUp. If you move it to OnPointerExit, the touch control will end as soon as your finger leaves the object.