

Handheld Controller Plugin for HoloLens

v1.0.0.0

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Release Notes

1.0.0.0

- Original release

Plugin Overview

Connect a Bluetooth Low Energy handheld controller with a Microsoft HoloLens™ (currently works exclusively with Google Daydream™ controller). Data from all 5 buttons, touchpad coordinates, accelerometer, gyroscope and magnetometer relayed from the controller to HoloLens at 60+ fps.

Sample Project - Advanced

The included sample project demonstrates laser pointer implementation and all buttons and touchpad interactivity. A bridge class is included that handles connection to the handheld controller and converts the raw data into a usable rotation Quaternion and press/release Actions for each button. With this plugin it is simple to incorporate natural laser pointer control input into your HoloLens project.

Once a handheld controller device is connected calibrate it by pressing the Home button while pointing the device in the Forward direction. Align your real-world controller with the on-screen controller when calibrating.

Press the App button to cycle through debug display options.

Pop balloons by pointing the laser pointer at them. Turn the pop sound on and off with the volume buttons on the controller.

Configure the on-screen controller to be located near your left or right hip for natural intuitive laser pointer simulation. Or, place it on the screen so you may observe it rotating with your hand gestures.

Pair your HoloLens device with any nearby handheld controller devices you would like to connect with. Bluetooth pairing settings may be found in the HoloLens Settings menu > Devices > Bluetooth. Your HoloLens device may be paired with more than one handheld controller device, and the plugin may connect with one of the paired devices at a time.

Sample Project – Quick

The included Quick sample project demonstrates the essentials needed to connect with a handheld controller device. A connection with a handheld controller device is established automatically then the user may press the Main button to pop random balloons.

Pro and Lite Versions

The Lite version of the plugin permits unrestricted use of the controller for 2 minutes. After 2 minutes the Accelerometer, Gyroscope, Magnetometer and raw data values are no longer transmitted, however all other buttons remain functional. The Pro version includes all features.

Plugin Installation

Find the Plugins folder. Copy the whole Plugins folder and all of its contents into the Assets folder of your Unity Project.

Unity Project Configuration

- Set all the HoloLens settings as described in the HoloLens documentation (camera, publishing settings, etc.)
- To enable Bluetooth, select the following checkbox in the publishing settings: Edit>Project Settings>Player>Publishing Settings>Capabilities>Bluetooth
- Place the plugin files in the Assets folder. The WSAControllerPlugin.dll file should be in the Assets>Plugins folder and the similarly-named WSAControllerPlugin.dll file inside the WSA folder should remain in the WSA folder (the WSA folder should be in Assets > Plugins).
- The sample Unity project requires the HoloToolkit from Microsoft. It was built with the HoloToolkit 5.5.0f3. The toolkit has been included in the sample project. The most recent toolkit may be downloaded here: <https://github.com/Microsoft/HoloToolkit-Unity>
- Drag a copy of the HandheldControllerBridgePrefab from the Assets > Prefabs folder into the scene. In your own script make a reference to the HandheldControllerBridge script in the HandheldControllerBridgePrefab you just added to your scene and use the properties and methods of the HandheldControllerBridge script to connect with and communicate with the handheld controller device.

API

- See the Documentation folder for API documentation.

Notes

- After the connection to the handheld controller has been made there will be a 5-10 second delay before values are received.
- The plugin works with HoloLens devices and is not expected to work with a HoloLens emulator.