Unity plugin

- This project will help integrate bHaptics' haptic devices into Unity environments.
- Current version is 1.4.13

1. Prerequisite (Only for Windows)

The bHaptics Player needs to be installed

- The apps can be found at
  bHaptics homepage: http://www.bhaptics.com

2. How to install

(1) Download from the Unity Asset Store

- https://assetstore.unity.com/packages/tools/integration/bhaptics-haptic-plugin-76647

(2) Download the package file, then import it into a Unity Project

- https://github.com/bhaptics/haptic-library/releases

3. Tutorial Videos

- Tutorials : https://www.youtube.com/playlist?list=PLfaa78_N6dlvd0Ha0s0Y_LT62-Oqp8N2A

4. How to use

- Please refer to the examples scenes in Assets/bHapticsManager/Examples/Scenes/

4.1 [bHaptics Manager] Prefab

> Add the [bHaptics Manager] Prefab to your scene.
> [bHaptics Manager] is located in Assets/bHapticsManager/Prefabs

image

4.2 TactSource

> Add TactSource to the GameObject in the inspector
> You can select FeedbackType in the inspector

4.2.1 FeedbackType(DotMode, PathMode)

- Specify position, motors to be vibrated and duration in milliseconds.

4.2.2 FeedbackType(TactFile)

- Specify tact file(generated from bHaptics Designer)
- Duration Multiplier: change duration of haptic feedback dynamically.
- Intensity Multiplier: change intensity of haptic feedback dynamically.
- Angle(X) and Offset(Y): change location of haptic feedback dynamically.
  This allows you to make only one tact file effect and then reuse it at any location.
  Only for the Tactot.

(3) How to use it in your script.

```
GetComponent<TactSource>().Play();
```

5. Options in [bHapticsManager]

(1) visualizeFeedback

- Enable/disable visualization of haptic feedback (Recommended only for dev)

(2) LaunchPlayerIfNotRunning (Windows only)

- Enable/disable launching bHaptics Player if it is installed and it is not running.

(3) IsActivateWidget (Android Only)

- This widget is equivalent to the bHaptics Player for maintaining pairing devices.
- If you click or touch the logo, the widget will be activated for maintaining pairing.

6. Android Issues

(1) Prerequisite

- Make sure that all the android settings with unity are finished.
- https://unity3d.com/kr/learn/tutorials/topics/mobile-touch/building-your-unity-game-android-device-testing
- The version of the Android device must be higher or equal to 4.3(API level 18)
    - https://developer.android.com/guide/topics/connectivity/bluetooth-le
- For Oculus Quest, check this documentation

(2) AndroidManifest.xml for permission

- Add the following permissions into the AndroidManifest.xml.

```
<manifest>
    <!--Bluetooth related permissions to connect bHaptics devices. -->
    <uses-permission android:name="android.permission.BLUETOOTH" />
    <uses-permission android:name="android.permission.BLUETOOTH_ADMIN" />
    <uses-permission android:name="android.permission.ACCESS_COARSE_LOCATION" />
    <uses-permission android:name="android.permission.ACCESS_FINE_LOCATION" />

    <!--File related permissions share paring device information with other apps. This
    <uses-permission android:name="android.permission.READ_EXTERNAL_STORAGE" />
    <uses-permission android:name="android.permission.WRITE_EXTERNAL_STORAGE" />
</manifest>
```

- Otherwise, copy AndroidManifest-bhaptics.xml into your project
  >Assets/Plugins/Android/AndroidManifest.xml.

(3) Samples

- https://github.com/bhaptics/unity-examples
- sample game demo apk: http://release.bhaptics.com/oculus-quest/latest-solodemo-oculusquest

7. Notes

Overview

- For migration, remove Assets/bHapticsManager/ folder and import latest plugin.
    - If you want to use haptic feedback files, just delete all except the feedback file's folder
- After importing files, just press Unity editor's play button once, and feedback files will be restored.

(1) Migration from 1.4.4

- Tact File setting may be broken. Please reconnect the tact file in TactSource.

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(2) Migration from 1.3.1

- Namespace changed from Bhaptics.Tac to Bhaptics.Tact

```
Bhaptics.Tac --> Bhaptics.Tact
Bhaptics.Tac.Unity --> Bhaptics.Tact.Unity
```

(3) Migration from 1.3.0

```
 // from
BhapticsManager.HapticPlayer.SubmitRegistered("BowShoot");

 // to
BhapticsManager.HapticPlayer.SubmitRegistered(BhapticsManager.GetFeedbackId("BowShoot"))
```

(4) Migration from 1.2.2

```
 // from
SubmitRegistered(string key, TransformOption option)

 // to
SubmitRegisteredVestRotation(string key, RotationOption option)

 // from
SubmitRegistered(string key, float intensityRatio, float durationRatio)

 // to
SubmitRegistered(string key, ScaleOption option)
```

(5) Migration from 1.0.3 to 1.0.4

```
 var hapticPlayer = FindObjectOfType<BhapticsManager>().HapticPlayer();

 // To
 var hapticPlayer = BhapticsManager.HapticPlayer;
```

Last update of README.md: Dec 17th, 2019.