Unity plugin

- This project will help integrate bHaptics' haptic devices into Unity environments.
- Current version is 1.4.14

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

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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.

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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.

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(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.

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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
</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.