Request #:	HUTRR118
Title:	Haptics Expansion
Spec Release:	1.6
Requester:	Matthew Williams
Company:	Microsoft

Current Status:	**Approved**
Priority:	Normal

Required Voter:	Wacom
Required Voter:	Intel
Required Voter:	ELAN

Voting Begins:	14th-January-2026
Voting Ends:	21st-January-2026
Voting Result:	7-0

Summary:
Adding new Usages to the Haptics Page to expand additional user-level scenarios.

Background:
The original Haptics Usage Page (HUTRR63) standardized the reporting and control of haptic feedback in Human Interface Devices. This ratification request expands this foundation and introduces a broader set of contextual tactile feedback for user-level scenarios such as window snapping and object alignment across haptic devices including but not limited to: haptic touchpads, mice, and pens.

Proposal:

Add to Table 17.1: Haptics Page

Usage Id	Usage Name	Usage Type
0x1012	Waveform Collide	SV
0x1013	Waveform Align	SV
0x1014	Waveform Step	SV
0x1015	Waveform Grow	SV

Add to 17.1 Simple Haptic Controller

Usage Name	**Usage Type**	**Description**
Waveform Collide	SV	A soft haptic signal used to simulate collisions between UI elements such as screen boundaries or the ends of sliders and scrollbars.
Waveform Align	SV	A crisp haptic signal to confirm object alignment during drag, scale or rotate interactions with guides or canvas edges.
Waveform Step	SV	A firm haptic signal **used for stepping through** items in sliders, lists, or scrubbers.
Waveform Grow	SV	A **dynamic** ramp signal to convey motion or transitions.

Sample Descriptor .wara:

```
[[unit]]
name = 'millisecond'
second = [0.001, 1.0]

[[applicationCollection]]
usage = ['Haptics', 'Simple Haptic Controller']

# Host-initiated waveform information feature report
[[applicationCollection.featureReport]]
id = 0x11

    [[applicationCollection.featureReport.logicalCollection]]
    usage = ['Haptics', 'Waveform List']

        # The new usages would be returned here
        [[applicationCollection.featureReport.logicalCollection.variableItem]]
        usageRange = ['Ordinal', 'Instance 3', 'Instance 12']
        logicalValueRange = [0x1003, 0xFFFF]

    [[applicationCollection.featureReport.logicalCollection]]
    usage = ['Haptics', 'Duration List']

        [[applicationCollection.featureReport.logicalCollection.variableItem]]
        usageRange = ['Ordinal', 'Instance 3', 'Instance 12']
        logicalValueRange = [0, 200]
        physicalValueRange = [0, 200]
        unit = 'millisecond'

    # Host-initiated waveform manual trigger output report
    [[applicationCollection.outputReport]]
    id = 0x12

        [[applicationCollection.outputReport.variableItem]]
        usage = ['Haptics', 'Manual Trigger']
        logicalValueRange = [1, 12]

        [[applicationCollection.outputReport.variableItem]]
        usage = ['Haptics', 'Intensity']
        logicalValueRange = [0, 4]
```

Sample Descriptor:
A SimpleHapticController that has a waveform list mapping the various ordinals to the new waveform IDs:

```
0x05, 0x0E,                     // UsagePage(Haptics[0x000E])
0x09, 0x01,                     // UsageId(Simple Haptic Controller[0x0001])
0xA1, 0x01,                     // Collection(Application)
0x85, 0x11,                     //     ReportId(17)
0x09, 0x10,                     //     UsageId(Waveform List[0x0010])
0xA1, 0x02,                     //     Collection(Logical)
0x05, 0x0A,                     //         UsagePage(Ordinal[0x000A])
0x19, 0x03,                     //         UsageIdMin(Instance 3[0x0003])
0x29, 0x0C,                     //         UsageIdMax(Instance 12[0x000C])
0x16, 0x03, 0x10,               //         LogicalMinimum(4,099)
0x27, 0xFF, 0xFF, 0x00, 0x00,   //         LogicalMaximum(65,535)
0x95, 0x0A,                     //         ReportCount(10)
0x75, 0x10,                     //         ReportSize(16)
0xB1, 0x02,                     //         Feature(Data, Variable, Absolute, NoWrap,
Linear, PreferredState, NoNullPosition, NonVolatile, BitField)
0xC0,                           //     EndCollection()
0x05, 0x0E,                     //     UsagePage(Haptics[0x000E])
0x09, 0x11,                     //     UsageId(Duration List[0x0011])
0xA1, 0x02,                     //     Collection(Logical)
0x05, 0x0A,                     //         UsagePage(Ordinal[0x000A])
0x19, 0x03,                     //         UsageIdMin(Instance 3[0x0003])
0x29, 0x0C,                     //         UsageIdMax(Instance 12[0x000C])
0x46, 0xC8, 0x00,               //         PhysicalMaximum(200)
0x66, 0x01, 0x10,               //         Unit('millisecond', SiLinear, Seconds:1)
0x55, 0x0D,                     //         UnitExponent(0.001)
0x15, 0x00,                     //         LogicalMinimum(0)
0x26, 0xC8, 0x00,               //         LogicalMaximum(200)
0x75, 0x08,                     //         ReportSize(8)
0xB1, 0x02,                     //         Feature(Data, Variable, Absolute, NoWrap,
Linear, PreferredState, NoNullPosition, NonVolatile, BitField)
0xC0,                           //     EndCollection()
0x85, 0x12,                     //     ReportId(18)
0x05, 0x0E,                     //     UsagePage(Haptics[0x000E])
0x09, 0x21,                     //     UsageId(Manual Trigger[0x0021])
0x45, 0x00,                     //     PhysicalMaximum(0)
0x65, 0x00,                     //     Unit(None)
0x55, 0x00,                     //     UnitExponent(1)
0x15, 0x01,                     //     LogicalMinimum(1)
0x25, 0x0C,                     //     LogicalMaximum(12)
0x95, 0x01,                     //     ReportCount(1)
0x75, 0x04,                     //     ReportSize(4)
0x91, 0x02,                     //     Output(Data, Variable, Absolute, NoWrap, Linear,
PreferredState, NoNullPosition, NonVolatile, BitField)
0x09, 0x23,                     //     UsageId(Intensity[0x0023])
0x15, 0x00,                     //     LogicalMinimum(0)
0x25, 0x04,                     //     LogicalMaximum(4)
0x75, 0x03,                     //     ReportSize(3)
0x91, 0x02,                     //     Output(Data, Variable, Absolute, NoWrap, Linear,
PreferredState, NoNullPosition, NonVolatile, BitField)
0x75, 0x01,                     //     ReportSize(1)
0x91, 0x03,                     //     Output(Constant, Variable, Absolute, NoWrap,
Linear, PreferredState, NoNullPosition, NonVolatile, BitField)
```

```
0xC0,                           // EndCollection()
```