

HUTRR76 - Gesture Characters

Request #: HUTRR76
Title: Gesture Characters
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Summary:

We would like to propose adding new usages to the HID specification to enable character recognition on touch digitizers.

NOTE: This HUTRR originally assigned Usage 0x000D:0x00060 which is also proposed in HUTRR83. HUTRR83 (in work) describes usages already deployed in Windows by Microsoft. HUTRR76 has been changed to avoid using 0x000D:0x0060 but some OS vendors may elect to support both 0x000D:0x0060 and 0x000D:0x006A to support products built using the original revision.

Background:

Basic character gesture recognition allows a device to convey a single character string as a result of interpreting transducer movement on a digitizer surface.

In order for the host to properly detect support for these gestures, the accessory must declare a logical collection with the following usages:

- Character Gesture
- Character Gesture Data Length
- Character Gesture Data
- Gesture character enable

Additionally, the device must also include string encoding information. If more than one encoding type is supported, they must be placed in a selector array. Otherwise, the accessory may declare individual encoding support via a static item. Using the following usages:

- Character Gesture Encoding

HUTRR76 - Gesture Characters

- UTF8 Character Gesture Encoding
- UTF16 Little Endian Character Gesture Encoding
- UTF16 Big Endian Character Gesture Encoding
- UTF32 Little Endian Character Gesture Encoding
- UTF32 Big Endian Character Gesture Encoding

There can be situations in which the recognition system generates more than one interpretation of a gesture motion. We are proposing the ability to convey alternate gesture interpretations from a single device which will allow the host device to select the appropriate string based on its current application context.

Each gesture item follows the requirements detailed in Basic Character Gesture Recognition, but must also include a declaration for Character Gesture Quality in each logical collection. This will give the host device additional qualitative information so that it can select the appropriate interpretation.

In addition, if no alternative interpretations are available, the recognition system must inform the host device by ensuring that only the first character is populated and all subsequent characters are cleared.

Proposal:

Changes are in the "16 Digitizers (0x0D)"

New usages to be added to Table 18: Digitizer Page.

24	Character Gesture	CL
16.5		
25-2F	Reserved	
61	Gesture Character Quality	DV
62	Character Gesture Data Length	DV
63	Character Gesture Data	DV
64	Gesture Character Encoding	NArY
65	UTF8 Character Gesture Encoding	Sel
66	UTF16 Little Endian Character Gesture Encoding	Sel
67	UTF16 Big Endian Character Gesture Encoding	Sel
68	UTF32 Little Endian Character Gesture Encoding	Sel
69	UTF32 Big Endian Character Gesture Encoding	Sel
6A	Gesture Character Enable	DF
6B-6F	Reserved	

Additions referenced by the above usages:

Section 16.5

HUTRR76 - Gesture Characters

16.5 Digitizer Character Gesture Usages

Basic character gesture recognition allows an accessory to convey a single character string as a result of interpreting transducer movement on a digitizer surface. The device must include string encoding information. If more than one encoding type is supported, they must be placed in a selector array. Otherwise, the accessory may declare individual encoding support via a static item.

Character Gesture CL Character gesture controls. Multiple interpretations of a character gesture must be declared as multiple logical collections

Gesture Character Quality DV If there are multiple interpretations available, this usage conveys the confidence of a particular interpretation.

Character Gesture Data Length DV Length of character data

Character Gesture Data DV Character data. If there is no valid interpretation to be reported this value must be cleared to zero.

Gesture Character Encoding NARy An array that identifies the character encoding used

UTF8 Character Gesture Encoding Sel UTF8 Character Gesture Encoding

UTF16 Little Endian Character Gesture Encoding Sel UTF16 Little Endian Character Gesture Encoding

UTF16 Big Endian Character Gesture Encoding Sel UTF16 Big Endian Character Gesture Encoding

UTF32 Little Endian Character Gesture Encoding Sel UTF32 Little Endian Character Gesture Encoding

UTF32 Big Endian Character Gesture Encoding Sel UTF32 Big Endian Character Gesture Encoding

Gesture Character Enable DF Enable or disable gesture character recognition