

Request #: HUTRR107
Title: Human Attention Detection
Spec Release: 1.22
Requester: Sathya Karivaradaswamy
Company: Microsoft

Pages Affected: Sensors (0x20)
Values checked: Matthew Williams (Chair)

Current Status: **Approved**
Priority: Normal

Required Voter: Dell
Required Voter: Intel
Required Voter: Lenovo
Required Voter: STMicro

Voting Begins: 30th November 2021
Voting Ends: 9th December 2021
Voting Result: 6-0

Summary:

Add a new Usage to the Sensors Page (0x20) to support Human-Presence sensors with Human-Attention-Detection capability.

Scenario:

Human-Presence sensors detect the presence of humans in the sensor's field-of-view using diverse and evolving technologies. Some presence sensors are implemented with low-resolution video cameras, which can additionally track a subject's attention (i.e. if the user is 'looking' at the system with the integrated sensor).

A Human-Presence sensor, providing a Host with the user's attention state, allows the Host to optimize its behavior. For example, to brighten/dim the system display, based on the user's attention to the system (potentially prolonging battery life).

Proposal:

Add sensor Usage to allow HIDs to send Human-Attention-Detection state.

Add to Table 21: Sensors Page

Usage Id	Usage Name	Usage Type
0x04BD	Data Field: Human Attention Detected	MC

Add to Table 21.6 Biometric Sensor Field Usages

Usage Name	Usage Type	Description
Data Field: Human Attention Detected	MC	Indicates the user's attention has been detected. (e.g. when the user is facing towards the system integrated with the sensor).

Sample Descriptor:

A simple Human-Presence sensor that reports attention state.

```
0x05, 0x20,          // UsagePage(Sensors[32])
0x09, 0x01,          // UsageId(Sensor[1])
0xA1, 0x01,          // Collection(Application)
0x85, 0x01,          //   ReportId(1)
0x09, 0x11,          //   UsageId(Biometric: Human Presence[17])
0xA1, 0x00,          //   Collection(Physical)
0x0A, 0xBD, 0x04,    //     UsageId(Data Field: Human Attention Detected[1,213])
0x15, 0x00,          //     LogicalMinimum(0)
0x25, 0x01,          //     LogicalMaximum(1)
0x95, 0x01,          //     ReportCount(1)
0x75, 0x01,          //     ReportSize(1)
0x81, 0x02,          //     Input(Data, Variable, Absolute)
0xC0,                //   EndCollection()
0x75, 0x07,          //   ReportSize(7)
0x81, 0x03,          //   Input(Constant, Variable, Absolute)
0xC0,                // EndCollection()
```