Interface Design Description (IDD) – SensorValue

**Abstract**

This document defines the template for the Interface Design Description of Arrowhead compliant Interfaces.

It provides a detailed description of how the SensorValue service is implemented to fetch the sensor data value from the application system.

All Arrowhead Interface Designs should be specified using this template and stored on a common repository (available on the SVN server), in order to document and formalize the pilot demonstrators and the common Arrowhead framework.

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1. Interface Design Description Overview

This document describes the HTTP/{TLS}/JSON variant of the SensorValue service with REST interface. This allows for arbitrary Arrowhead Framework systems to fetch the Sensor data from each sensors present in the application system (fischertechnik Indexed line with two machining stations controlled with a Siemens S7-1500 PLC as asset via an OPC-UA server).

1. Service Interfaces

This section describes the interfaces that must be exposed by SensorValue services. In particular, the below subsection first names the HTTP method and path used to call the interface. The interface is expected to respond with HTTP status code 200 OK for all successful calls.

1. **GET {baseURL}/sensors**

* **Interface: getSensors**
* **Output: Sensor JSON Objects**

Called to acquire the value read from all the sensors in the assembly line.

Example of valid invocation:

GET /sensors HTTP/1.1

Accept: NA

Response: application/json

Example of valid response:

HTTP/1.1 200 OK

Content-Length:

Content-Type: application/json

[

{

"Id": "I1",

"value": "false",

"Description": "I1 Push-button slider 1 front"

},

{

"id": "I2",

"value": "true",

"Description": "I2 Push-button slider 1 rear"

},

{ ----------------

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}

]

1. **GET {baseURL}/sensors/{sensorId}**

* **Interface: GetSensor**
* **Output: Sensor JSON Object**

Called to acquire the sensor value read from the particular sensor.

Example of valid invocation:

GET /sensors/I1 HTTP/1.1

Accept: String

Response: application/json

Example of valid response:

HTTP/1.1 200 OK

Content-Length:

Content-Type: application/json

{

"Id": "I1",

"Value": "false",

"Description": "I1 Push-button slider 1 front"

}

1. Information Model

Here, all the data objects that can be part of SensorValue service calls are listed in alphabetic order.

**Sensor**

JSON object with the following fields.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Type** | **Description** | **Mandatory** | **Default** |
| Id | String | The Id of the individual sensor | True |  |
| Description | String | The OPC UA Variable name of the particular sensor | False |  |
| Value | Boolean | The value read by the particular sensor | False |  |

1. Revision history

# Amendments

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Date | Version | Subject of Amendments | Author |
| 1 | 2020-04-15 | 0.1 | First Draft | Aparajita Tripathy |

# Quality Assurance

|  |  |  |  |
| --- | --- | --- | --- |
| No. | Date | Version | Approved by |
| 1 |  |  |  |