Interface Design Description (IDD) Template

**Abstract**

This document describes the IDD of the Windmill service’s.

This document describes the interfaces, communication profiles and other desirable information about using the Windmill system’s.

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## Interface Design Description Overview

This describes how to use the system’s wm-data services together with relevant information.

**Table 1 Pointers to SD documents**

|  |  |
| --- | --- |
| **Realised Service Description** | **Location** |
| wm-data | documentation/SD\_wm-data.docx |

* Protocol
  + HTTPS
* Encoding
  + JSON
* Compression
  + None
* Base path: /wm-data-json
  + Example path: https://<IP>:<Port>/wm-data

## Service Interfaces

The Windmill system only provides on service **wm-data**. The wm-data service provides sensor data from a connected windmill. The provider utilizes a first in first out queue for the data sent by the windmill.

## Service 1: wm-data

Specifications for this interface:

* The data model is application/json.
* No ontologies are in use.
* No schemas are currently defined.
* No payload encryption is used.

**Table 4 INTERFACE description**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Interface name** | **Relative URL path** | **Method** | **Input** | **Output** |
| wm-data | /wm-data-json | GET | Param: next | One measurement of sensor data from the windmill. |

## Data Model

After a GET request with the correct parameter the below output is expected.

Output:

{”timeStamp”: <time>, ”speed” : <speed>, ”accelerometer” : <value1> ,…. , ”accelerometer” : <value16384> }

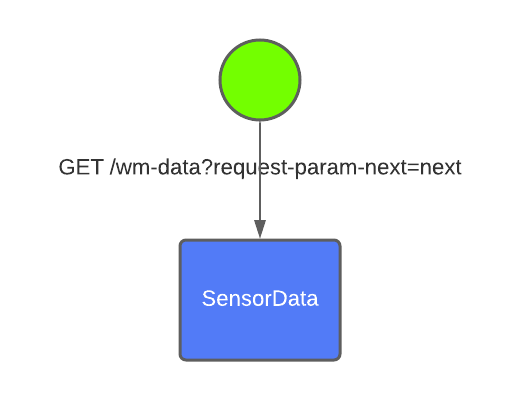
**Table 5 Data Object description**

|  |  |  |  |
| --- | --- | --- | --- |
| **Object Field** | **Description** | **Format/limitations** | **Required** |
| timeStamp | Time of measurement | Double | Yes |
| speed | Speed at measurement | Double | Yes |
| accelerometer | Timeseries of Gs measured | List<Double> | Yes |

## Status and Error handling

|  |  |  |
| --- | --- | --- |
| **Code** | **Meaning** | **Comment** |
| 200 | Successful request | Succes |
| 401 | Unauthorized | Access Denied |
| 400 | Bad request | Wrong parameters |
| 500 | Internal server error | Error getting sensor data etc |

## Interaction with consumers



## Security

This service uses HTTPS with token based authorization provided by the Authorization core system.

## Certificate

The service uses client certificates.

## Payload protection

No separate payload protection is used.

## Audit of service exchange

None

## References

## Revision history

## Amendments

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Date | Version | Subject of Amendments | Author |
| 1 | 20-2-2015 | 1.0 | Revision of text | Michele Albano / Luis Ferreira |
| 2 | 30-09-2015 | 1.1 | Refinement of the structure | Michele Albano / Luis Ferreira |
| 3 | 2020-06-10 | 2.0 | Major update | Jerker Delsing |
| 4 | 2020-06-15 | 2.1 | More verbose help text | Emanuel Palm |
| 4 | 2020-08-17 | 4.2 | Cleaning and minor update | Jerker Delsing |
| 5 | 2020-01-25 | 4.3 | Added Windmill information | Robin Jonsson |

## Quality Assurance

|  |  |  |  |
| --- | --- | --- | --- |
| No. | Date | Version | Approved by |
| 1 |  |  |  |
| 2 |  |  |  |