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| Project | **Standard for Actuator Interface for Cyber and Physical World**<https://sagroups.ieee.org/2888/ **>** |
| Title | **Olfactory Related Actuator Capabilities** |
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| Source(s) | Yegi Lee zxcasd312@naver.com (Konkuk University)Shin Kim new.xin22@gmail.com (Konkuk University)Eunji Choi c950707@gmail.com (Konkuk University)Kyoungro Yoon yoonk@konkuk.ac.kr (Konkuk University) |
| Re: |  |
| Abstract | This contribution proposes syntax, semantics and example of the olfactory related actuator capability. |
| Purpose | To start discussion on purpose of the standard |
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# Introduction

This Clause describes syntax and semantics of the olfactory actuator capability description vocabulary which comprises the following actuators:

* Scent capability type

# Data formats for olfactory related capabilities

* 1. Scent capability type
	2. Introduction

This Subclause specifies syntax and semantics of olfactory capabilities of scent actuators.

### **Syntax**

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| "scentActuatorCapabilityData": { "type": "object", "properties": { "actuatorCapabilityBaseData": { "$ref": "#/definitions/actuatorCapabilityBaseData" }, "scent": { "type": "array", "items": { "$ref": "#/definitions/scentType" }, "minItems": 1, "uniqueItems": true }, "maxIntensity": { "type": "integer", }, "unit": { "$ref": "#/definitions/unitType" }, "numOfLevels": { "type": "integer", "minimum": 1 } }, "required": [ "scent" ], "additionalProperty": false }, |

### **Semantics**

Semantics of the scentActuatorCapabilityData:

| *Name* | *Definition* |
| --- | --- |
| scentActuatorCapabilityData | Provide a structure for describing a command for a scent actuator. |
| Scent | Describes the list of scent that the perfumer can provide. Describes the scent unit of the command value as a reference to a term that shall be using the scentType. |
| maxIntensity | Describes the maximum intensity that the perfumer can provide in terms of ml/h. |
| unit | Specifies the unit of the intensity, if a unit other than the default unit specified in the semantics of the maxIntensity is used, as a reference to a term that shall be using the unitType. |
| numOfLevels | Describes the number of intensity levels of the scent that the actuator can provide in between zero and maximum intensity. |

### **Examples**

This example shows the description of a scent actuator capability with the following semantics. The maximum intensity of the scent amount is 5 millilitres per hour with two levels of control. As this actuator takes 0 milliseconds to start and 0 milliseconds to reach the target intensity, it is not specified explicitly. The location of the scent actuator is the center side according to the position model described in locationType. The type of scent is rose according to the scentType.

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| { "actuatorCapabilityBaseData": { "locater": "center" }, "scentActuatorCapabilityData": { "scent": [ "rose" ], "maxIntensity": 5, "numOfLevels": 2 }} |