|  |  |
| --- | --- |
| Project | **Standard for Actuator Interface for Cyber and Physical World**  <https://sagroups.ieee.org/2888.2/ **>** |
| Title | **Data Format for Charater Display Actuator Capabilities** |
| DCN | **2888-22-0015-00-0002** |
| Date Submitted | **Jan 31, 2022** |
| Source(s) | Tai-Gil Kwon [tgkwon@keti.re.kr](mailto:tgkwon@keti.re.kr) (Korea Electronics Technology Institute),  Changseok Yoon [csyoon@keti.re.kr](mailto:csyoon@keti.re.kr) (Korea Electronics Technology Institute),  Tae-Beom Lim [tblim@keti.re.kr](mailto:tblim@keti.re.kr) (Korea Electronics Technology Institute),  Kwanghyun Ro [khrho@hansung.ac.kr](mailto:khrho@hansung.ac.kr) (Hansung University) |
| Re: |  |
| Abstract | This contribution proposes syntax, semantics, and an example of the character display actuator capabilities. |
| Purpose | To start a discussion on the purpose of the standard |
| Notice | This document has been prepared to assist the IEEE 2888 Working Group. It is offered as a basis for discussion and is not binding on the contributing individual(s) or organization(s). The material in this document is subject to change in form and content after further study. The contributor(s) reserve(s) the right to add, amend or withdraw material contained herein. |
| Release | The contributor grants a free, irrevocable license to the IEEE to incorporate material contained in this contribution, and any modifications thereof, in the creation of an IEEE Standards publication; to copyright in the IEEE’s name any IEEE Standards publication even though it may include portions of this contribution; and at the IEEE’s sole discretion to permit others to reproduce in whole or in part the resulting IEEE Standards publication. The contributor also acknowledges and accepts that IEEE 2888 may make this contribution public. |
| Patent Policy | The contributor is familiar with IEEE patent policy, as stated in [Section 6 of the IEEE-SA Standards Board bylaws](http://standards.ieee.org/guides/opman/sect6.html#6.3) <[http://standards.ieee.org/guides/bylaws/sect6-7.html#6](http://127.0.0.1:4664/cache?event_id=757737&schema_id=1&s=5X0vID10lu_E6yrIkWkNd4Wz2H8&q=hancock)> and in *Understanding Patent Issues During IEEE Standards Development* <http://standards.ieee.org/board/pat/faq.pdf> |

# Introduction

This contribution proposes syntaxes, semantics, and examples of character display actuator capability description vocabulary.

# Data formats for describing actuator capabilities

### **5.2.13 Character display actuator capability**

5.2.13.1 General

This subclause specifies the syntax and semantics of the capabilities of character display actuators.

5.2.13.2 Syntax

|  |
| --- |
| "characterDisplayActuatorCapabilityData": {  "type": "object",  "properties": {  "displayMode": {  "$ref": "#/definitions/displaymodeType"  },  "width": {  "type": "integer"  },  "height": {  "type": "integer"  },  "colorNumber": {  "type": "integer"  },  "colors": {  "type": "array",  "items": {  "$ref": "#/definitions/colorType"  }  },  "textSizeNumber": {  "type": "integer"  },  "textSizes": {  "type": "array",  "items": [  ]  }  },  "required": [  "displayMode",  "width",  "height",  ]  }  } |

5.2.13.3 Semantics

The semantics of the characterDisplayActuatorCapabilityData:

| *Name* | *Definition* |
| --- | --- |
| characterDisplayActuatorCapabilityData | Provide a structure for describing a command for a character display actuator. |
| displayMode | Describes the type of display mode for displaying text on the screen as a reference to a classification scheme term provided by displaymodeType. |
| width | Describes the horizontal resolution on a display screen. If displayMode is text\_mode, it is represented in units of columns. If it is graphics\_mode, it is represented in units of pixels. |
| height | Describes the vertical resolution on a display screen. If displayMode is text\_mode, it is represented in units of rows. If it is graphics\_mode, it is represented in units of pixels. |
| colorNumber | Describes the number of supported colors. If displayMode is text\_mode, it is ignored. |
| colors | Describes a list of all supported colors. If displayMode is text\_mode, it is ignored. |
| textSizeNumber | Describes the number of supported font sizes. If displayMode is text\_mode, it is ignored. |
| textSizes | Describes a list of all supported font sizes. The font size has a horizontal x vertical format. If displayMode is text\_mode, it is ignored. |

5.2.13.4 Examples

This example shows the description of a character display capability with the following semantics. The character display actuator supports a resolution of 320x240 pixels, 16 colors (black, red, green, blue, cyan, white, etc), and three font sizes (6x8, 12x16, 18x24).

|  |
| --- |
| {  "actuatorCapabilityBaseData": {},  "characterDisplayActuatorCapabilityData": {  "dispalyMode": "graphics\_mode",  "width": 320,  "height": 240,  "colorNumber": 16,  "colors":["black","navy\_blue","green\_html/css\_green"," maroon\_html/css","purple\_html/css","olive","grey","blue"," lime\_web\_x11\_green","cyan","red","magenta","yello","white","pink"," green-yellow"],  "textSizeNumber":3,  "textSizes":["6x8","12x16","18x24"]  }  } |