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| Project | **Specification of Sensor Interface for Cyber and Physical World**<https://sagroups.ieee.org/2888/ > |
| Title | **API examples for microphone and color camera sensor** |
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| Re: |  |
| Abstract | In order to transfer sensor data from the physical world to the cyber world, an application programming interface (API) is required to acquire sensor data. This contribution suggests an example of writing an API for passing data from the microphone and color camera to the cyber world. |
| Purpose | To start discussion on purpose of the standard |
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# Introduction

In order to transfer sensor data from the physical world to the cyber world, an application programming interface (API) is required to acquire sensor data. This contribution suggests an example of writing an API for passing data from the microphone and color camera to the cyber world.

# APIs for A/V sensors

## API for microphone sensor

Table 1 - Microphone API

|  |
| --- |
| Nested Classes |
| Modifier and Type | Method and Description |
|  |  |
| Constructor |
| Constructor and Description |
| Microphone() |
| *Default constructor.* |
|  |
| Microphone(String id) |
|  |
| Microphone(String id, String serverIPAddress, integer serverPort) |
|  |
| Fields |
| Modifier and Type | Field and Description |
|  |  |
| Methods |
| Modifier and Type | Method and Description |
| JSONObject | getMicrophoneSensorData() |
|  | *This function returns sensor data from a microphone in JSON format.* |
|  |  |

## API for color camera sensor

Table 2 – Color Camera API

|  |
| --- |
| Nested Classes |
| Modifier and Type | Method and Description |
|  |  |
| Constructor |
| Constructor and Description |
| ColorCamera() |
| *Default constructor.* |
|  |
| ColorCamera(String id) |
|  |
| ColorCamera(String id, String serverIPAddress, integer serverPort) |
|  |
| Fields |
| Modifier and Type | Field and Description |
|  |  |
| Methods |
| Modifier and Type | Method and Description |
| JSONObject | getColorCameraSensorData() |
|  | *This function returns sensor data from a ColorCamera in JSON format.* |
|  |  |

# Conclusion

It is recommended to adopt the API examples proposed in this contribution as the API implementation of IEEE 2888.1. In addition, it is recommended to improve the APIs in the future by adding more APIs actually needed in the industry