

Beware of hand-made examples for self-description formats

Self-description formats

IoT needs self-description

- One component needs to find out what another does

Describing complex reality

- Part: mirroring physical reality
- Part: even more complex human imagination

Developing a data format

How do we know the format is good?

Develop format by **testing** it

— For now, we discuss **examples**

Generating examples

Who makes these examples?

Humans do:

- To test out the language
- To check how a feature works
- To advertise a feature

Criteria for examples

Must **look good** (or possibly **bad**)

Designed to be comprehensible by humans

- Need to exhibit abstraction and **surface structure**
- Cannot be as complex as reality would be

```

{
  "@context": ["http://w3c.github.io/wot/w3c-wot-td-context.jsonld"],
  "@type": "Thing",
  "name": "TestThing",
  "interactions": [{
    "@type": ["Property"],
    "links": [{
      "href": "http://127.0.0.1:8080/TestThing/properties/bool",
      "mediaType": "application/json"
    }],
    "name": "bool",
    "outputData": {
      "valueType": {
        "type": "boolean"
      }
    },
    "writable": true
  }, {
    "@type": ["Property"],
    "links": [{
      "href": "http://127.0.0.1:8080/TestThing/properties/int",
      "mediaType": "application/json"
    }],
    "name": "int",
    "outputData": {
      "valueType": {
        "type": "integer"
      }
    },
    "writable": true
  }, {

```

```

{
  "@type": "http://iot.linkeddata.es/def/wot#Thing",
  "http://iot.linkeddata.es/def/wot#name": "TestThing",
  "http://iot.linkeddata.es/def/wot#providesInteractionPattern": [
    {
      "@type": "http://iot.linkeddata.es/def/wot#Property",
      "http://iot.linkeddata.es/def/wot#hasOutputData": {
      },
      "http://iot.linkeddata.es/def/wot#isWritable": {
        "@value": true,
        "@type": "http://www.w3.org/2001/XMLSchema#boolean"
      },
      "http://iot.linkeddata.es/def/wot#name": "bool"
    },
    {
      "@type": "http://iot.linkeddata.es/def/wot#Property",
      "http://iot.linkeddata.es/def/wot#hasOutputData": {
      },
      "http://iot.linkeddata.es/def/wot#isWritable": {
        "@value": true,
        "@type": "http://www.w3.org/2001/XMLSchema#boolean"
      },
      "http://iot.linkeddata.es/def/wot#name": "int"
    }
  ],
}

```

The trap

- Hand-made examples will exhibit some common **style**
- Naive tools processing them may react to common superficial structure
 - which may or may not actually be semantics-bearing!

The challenge

Need to process interchange formats with tools

- Generate from model
- Consume and test for actual semantics

→ WISHI