

API Support for Semantic Annotation

Example WoT API Interactions using
Semantic Annotation from Thing Description

Michael Koster, May 7, 2018

WoT Scripting API Teleconference

Workflow

- Discovery
- Configuration
- Operation

Index is a Thing Directory, or a local cached list of interesting TDs, wrapped in an accessor class with filter methods.

Discovery – Category Classes and Filters

```
index.thing({filter})
```

- Return one or more reference to a thing that occurs in the index and which satisfies the filter criteria

```
index.thing({filter}).interaction({filter})
```

- Return one or more reference to an interaction which satisfies the filter criteria

```
index.thing({filter}).interaction({filter}).data({filter})
```

- Return one or more reference to a data item which satisfies the filter criteria

Filter Structure

Keywords: *thing, interaction, data, value, anyof, allof*)

```
{
  thing: {
    @type: iot:light,
    interaction: {
      @type: iot:setlevel
      data: {
        @type: iot:leveldata,
        value: 177
      }
    }
  }
}
```

Example filter with link selector

```
{  
  thing: {  
    @type: {anyof:[iot:light, iot:levelcontrol]},  
    interaction: { @type: iot:setlevel },  
    link: { rel:location, href: iot:garage },  
  
    {...etc...}  
  
  }  
}
```

Configuration - Get a reference to an instance of an Interaction

```
setgaragebrightness = index.thing({  
  @type: iot:levelcontrol,  
  link: { rel:location, href: iot:garage }  
}).interaction({  
  @type: iot:setlevel  
})
```

Configuration - Data Introspection

```
setgaragebrightness.data() ==  
[  
  {  
    @type: iot:leveldata,  
    type: integer,  
    minimum: 0,  
    maximum: 255  
  }, {  
    @type: iot:transitiontimedata,  
    type: integer,  
    minimum: 0,  
    maximum: 65535  
  }  
]
```

Operation – Invoke Action using Data Selectors

```
setgaragebrightness.invokeAction([  
  {  
    @type: iot:leveldata,  
    value: 20  
  },  
  {  
    @type: iot:transitiontimedata,  
    value: 100  
  }  
])
```


Or using a formula...

```
index.thing({  
  @type: iot:levelcontrol,  
  link: { rel:location, href: iot:garage }  
}).interaction({  
  @type: iot:setlevel  
}).invokeAction([  
  { @type: iot:leveldata, value: 20 },  
  { @type: iot:transitiontimedata, value: 100 }  
])
```