Extended information of Semantic Definition Format (SDF) for Digital Twin

draft-lee-asdf-digital-twin-02

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SDF Location extension of an SDF model (1/2)

- The sdfLocation is described
  - using GPS coordinates or postal addresses for physical locations,
  - which enable extensive reuse and interoperability.
  - is also described by strings or integers for relative locations.

SDF Location extension of an SDF model (2/2)

- **Thing: boat (hasLocation)**
  - ➢ **geoLocation: ex) GPS**
  - ➢ **postal address : if exists**
- **Objects: Heaters (hasLocation)**
  - ➢ **Location of boat**

    + relative address

    (for indoor location)

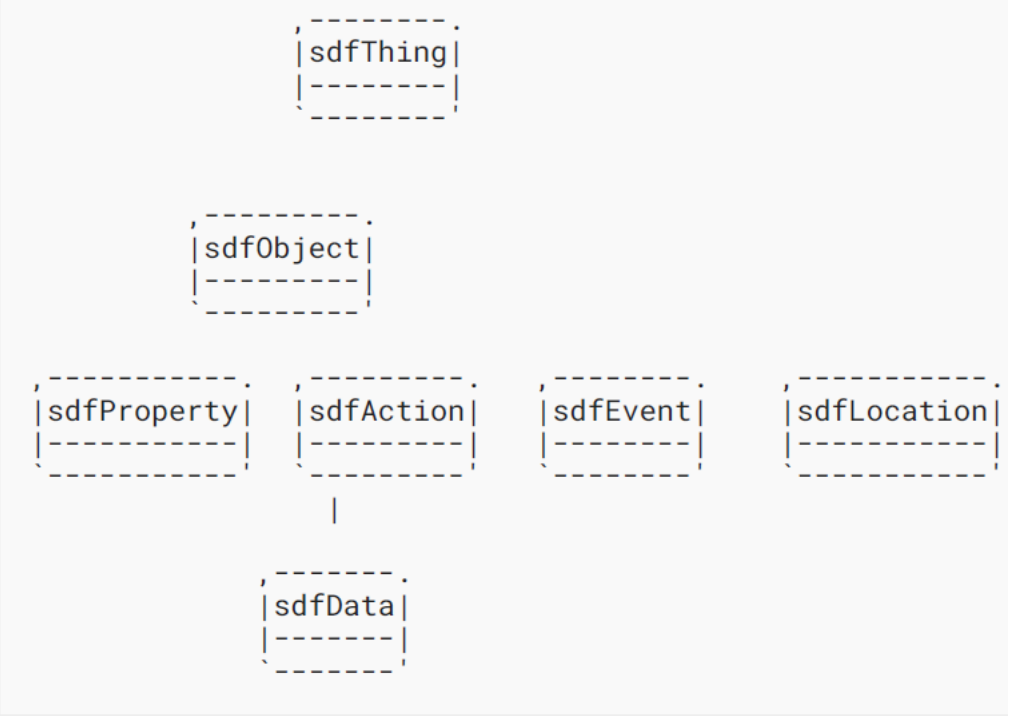

Figure 1: SDF Location Extension of an SDF Model

Location description (remind)

```
sdfObject: {
  "sdfLocation": {
    "sdfData": {
      "geoLocation" : {
          "latitude": "string",
          "longitude": "string"
          "altitude": "string"
      }
        ...
      "Boat_#1": {
          "latitude": "35.5188233791372",
          "longitude": "129.37308376484913",
          "altitude": "0.0"
      }
    }
  }
}
```

[Geographical information]

```
sdfObject: {
  "sdfLocation": {
    "sdfData": {
      "geoLocation" : {
          "latitude": "string",
          "longitude": "string"
          "altitude": "string"
      }
       "relativeLocation" : {
          "relative-x": "integer",
          "relative-y": "integer"
          "relative-z": "integer"
          "unit":"cm"
      }
        ...
      "Boat_#1": {
          "latitude": "35.5188233791372",
          "longitude": "129.37308376484913",
          "altitude": "0.0"
      }
      "Heater_A_in_the_Boat_#1": {
          "latitude": "35.5188233791372",
          "longitude": "129.37308376484913",
          "altitude": "0.0"
          "relative-x": "7215",
          "relative-y": "1324"
          "relative-z": "217"
      }
    }
  }
}
```

[Geographical and relative information]

Conclusion and future plans

- More information to represent an object as a digital twin
- Requirements of SDF model for digital twin, if needed
- **The detailed Figure 1**