Draft1 - Attributes

In this document, we will specify how the following attributes should be written in the database:

- Address

- Duration

- GPS
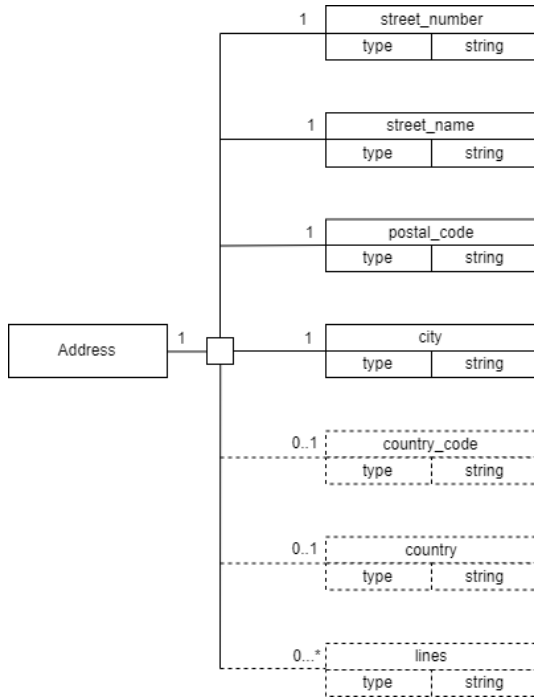
- Quality

- ROI

- Time

I - Address

An address can have the following attributes:

- **street_number**, the number of the building in the street.

- **street_name**, the name of the street, like "Avenue Général Leclerc".

- **postal_code**, the postal code of the city, like "35000".

- **city**, the name of the city, like "Rennes".

- **country_code**, a string containing the country code corresponding to the Alpha 3 code of the ISO3166-1 reference. For an example, France is identified by the string 'FRA'

- **country**, the name of the country, like 'France' or 'Belgium'.

- **lines**, additional information lines, to specify some details about the localization of the building.

Figure 1: Graphical representation of an address

Name	Type	Expected length	Optional	Significant
street_number	string	~3	No	1
street_name	string	~100	No	1
postal_code	string	~5	No	1
city	string	~20	No	1
country_code	string	3	Yes	3
country	string	~20	Yes	3
lines	List<string>	-	Yes	2

Table 1: Description table of an address

```json
 6  { "street_number" : "263",
 7    "street_name" : "Avenue Général Leclerc",
 8    "postal_code" : "35000",
 9    "city" : "Rennes",
10    "country_code" : "FRA",
11    "country" : "France",
12    "lines" : {"E218 Office", "Table 3"} }
```

Figure 2: Example of an address in json

II - Duration

Source : `https://www.digi.com/resources/documentation/digidocs/90001437-13/reference/r_iso_8601_duration_format.htm`

A duration D follows the ISO-8601 definition for a duration:

$$D = P(n)Y(n)M(n)DT(n)H(n)M(n)S(n,p)S$$

Where:

- P is the duration designator (referred to as "period"), and is always placed at the beginning of the duration.

- Y is the year designator that follows the value for the number of years.

- M is the month designator that follows the value for the number of months.

- W is the week designator that follows the value for the number of weeks.

- D is the day designator that follows the value for the number of days.

- T is the time designator that precedes the time components.

- H is the hour designator that follows the value for the number of hours.

- M is the minute designator that follows the value for the number of minutes.

- S is the second designator that follows the value for the number of seconds.

For example:

"P3Y6M4DT12H30M5,254S"

Represents a duration of three years, six months, four days, twelve hours, thirty minutes, five seconds and two hundreds and fifty four milliseconds.

III - GPS

GPS coordinates must have the following attributes:

- **altitude**, the altitude of the object if it is not on the ground. The altitude 0 is the base on the ground.

- **latitude**, the latitude in degree, following the structure "±ddd,dddddd". If the first character is a number, we assume that the latitude is positive.

- **longitude**, the longitude in degree, following the structure "±ddd,dddddd". If the first character is a number, we assume that the longitude is positive.

IV - Quality

Source : sismer, the data architecture from IFREMER, Brest, France

The quality attribute specify the quality of the data. Is there some field missing or incorrect? Do the sensor values correspond to a standard measure, are there outliers?

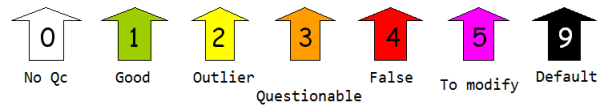The quality control score is an int between 0 and 9.

Figure 3: Different values for the quality control score

- 0 : We don't have any appreciation of the quality of the data yet

- 1 : All the attributes that should be filled are specified, and all sensor measurements are corrects

- 2 : Some measurements could be wrong or considered as outliers

- 3 : Some measurements are wrong

- 4 : Some values are missing

- 5 : The file has not the right structure

- 9 : Default

V - Region of interest

A **R**egion **O**f **I**nterest is a way to identify an area of the frame (a bounding box).

A ROI should have the following attributes:

- **x_ini**, the initial horizontal coordinates (i^{th} pixel) of the upper-left corner of the area
- **y_ini**, the initial vertical coordinates (j^{th} pixel) of the upper-left corner of the area
- **x_length**, the horizontal length of the area (in pixels)
- **y_length**, the vertical length of the area (in pixels)

VI - Time

A time T follows the ISO-8601 definition for a time: T = "YYYY-MM-DDThh:mm:ss,SSSTZD"

where :

- YYYY is the Year

- MM is the number of the month (01-12)

- DD is the number of the day (01-31)

- hh is the number of hours (00-23)

- mm is the number of minutes (00-59)

- ss is the number of seconds (00-59)

- SSS is the number of milliseconds

- TZD is the time zone duration, like "+02:00" or "UTC"

related to the time T