Draft1 - Intervention

I - Definition

We call an **intervention** any operation in which data can be collected by sensors. An intervention can involve several persons, vehicles, drones with embedded sensors. All data about an intervention are given directly by the user via the user interface.

II - Attributes

II.1 - Definitions

An intervention can have the following attributes:

- **intervention_address**, the address of the intervention. If the scene includes more than one buildings, the address field should include all the buildings' addresses.
- **ground_base_location**, the GPS coordinates of the location of the ground base.
- **first_drone_arrival_time**, when the first drone arrives in the intervention place.
- **first_drone_deployed_time**, when the first drone is ready to fly or the first sensor is ready to collect data.
- **intervention_description**, a brief description of the intervention. The attribute description can contain what the S&R team has to do, how they interact with the drones, or what are the constraints and the problems to deal with, etc.
- **end_of_intervention_time**, when the intervention is finished, e.g. the goals of the intervention are reached.
- **intervention_limits**, the geographical boundaries of the intervention. If the intervention takes place in more than one area, the user should give all the limits of the areas. The limits can be drawn by the user at the beginning of the intervention. In some case, an intervention could happen in a middle of a non-flying zone. In that case, we may want to split the intervention area into two sub-areas, and keep these linked with the intervention.
- **intervention_name**, if the user wants to give a name to the intervention, to keep in mind what have been done during the intervention.
- **intervention_start_time**, when the first search and rescue member arrives in the scene.
- **type_of_intervention**, the type of intervention. It could be the type of accident, or some common operation type, like one of the following examples : "Fire", "Avalanches", "IED", etc.

II.2 - Description

II.2.1 - Graphical representation

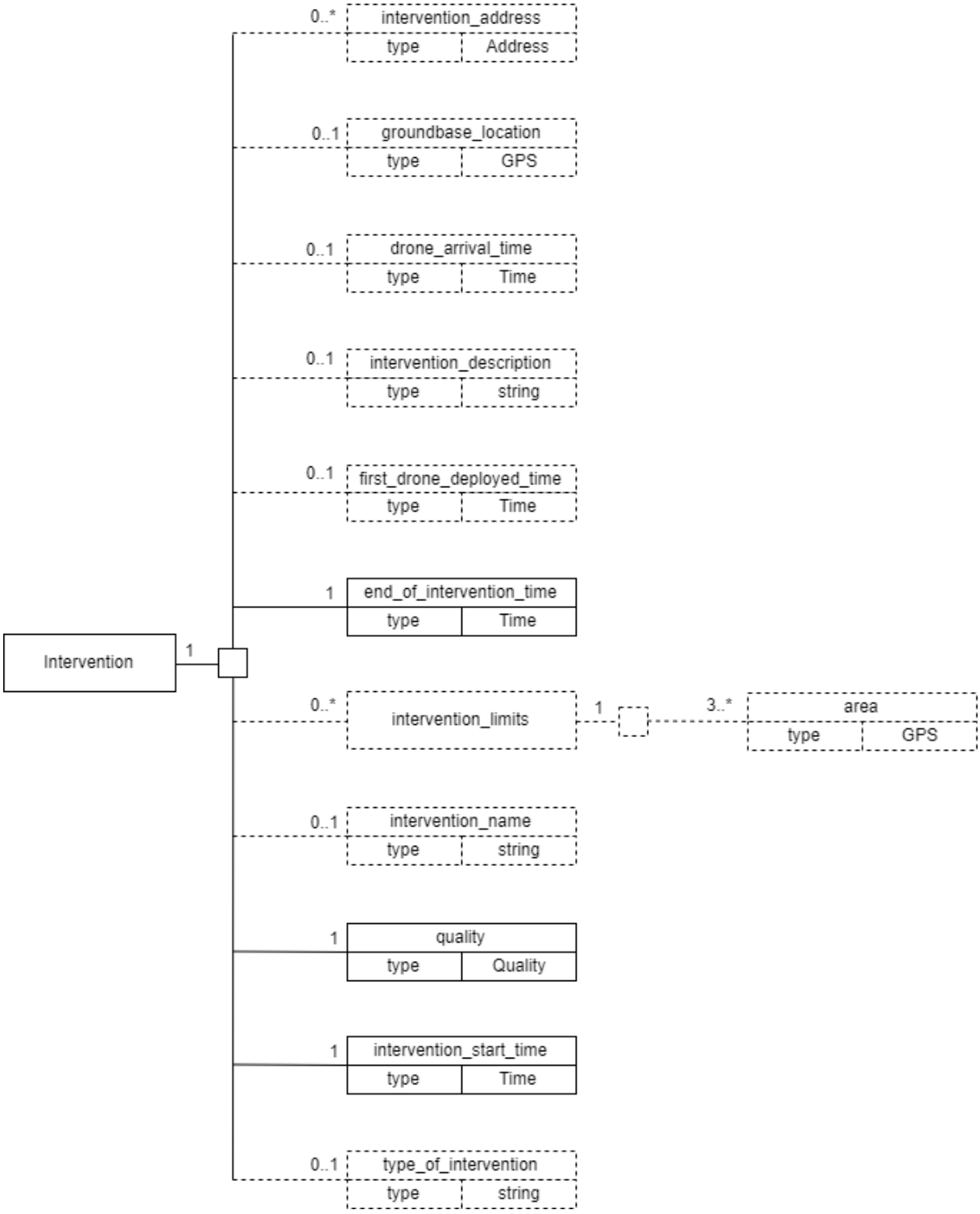

Figure 1: Graphical representation of an intervention

II.2.2 - Description table

Name	Type	Expected length	Optional	Significant
intervention_address	List<Address>	-	Yes	3
ground_base_location	GPS	-	Yes	3
first_drone_arrival_time	Time	-	Yes	2
first_drone_deployed_time	Time	-	Yes	2
intervention_description	string	~300	Yes	3
end_of_intervention_time	Time	-	No	1
intervention_limits	List<List<GPS>>	-	Yes	2
intervention_name	string	~50	Yes	4
quality	Quality	-	No	-
intervention_start_time	Time	-	No	1
type_of_intervention	string	~30	Yes	2

Table 1: Description table

III - Examples


```
{ "intervention_id" : ObjectId("5bedabbce92e0f1838941fcf"),
  "intervention_address" : { "street_number" : "263",
                             "street_name" : "Avenue Général Leclerc",
                             "postal_code" : "35000",
                             "city" : "Rennes",
                             "country_code" : "FRA",
                             "country" : "France",
                             "lines" : {"E218 Office",
                                        "Table 3"} },
  "groundbase_location" : { "altitude" : 0.00,
                            "latitude" : 048.452670,
                            "longitude" : -001.6406853},
  "drone_arrival_time" : "2019-05-02T16:30:00,000+02:00",
  "intervention_description" : "Fire on the second and third floors, 3 victims saved",
  "first_drone_deployed_time" : "2019-05-02T16:35:00,000+02:00",
  "end_of_intervention_time" : "2019-05-02T17:50:00,000+02:00",
  "intervention_limits" : {  { "altitude" : 0,
                               "latitude" : 048.452670,
                               "longitude" : -001.640683},
                             { "altitude" : 0,
                               "latitude" : 048.452120,
                               "longitude" : -001.640684},
                             { "altitude" : 0,
                               "latitude" : 048.452610,
                               "longitude" : -001.640685}},
  "intervention_name" : "general_leclerc_may2019",
  "quality" : 2,
  "intervention_start_time" : "2019-05-02T16:30:00,000+02:00",
  "type_of_intervention" :"fire"}
```


Figure 2: Example of an intervention in json