

1 Transmission Format

patient side sends

```
RESCUEME; [telephone]; [lat]; [lon]
CANCELRESCUEME; [telephone]
```

volunteer side sends

```
LOCATION; [telephone]; [lat]; [lon]
DECLINEREQ; [patientTel]; [volunteerTel]
ACCEPTREQ; [patientTel]; [volunteerTel]
```

server side sends

```
UPDATERESCUERS; [numAccepted]
REQUEST; [telephone]; [lat]; [lon]
CANCELRESCUEME; [telephone]
```

2 Behaviour

Throughout the lifespan of the event, a volunteer will receive notification of a event if and only if

This is the first time he is found to be entering the range of interest

We achieve that by:

- volunteers regularly report their locations
- for each location report, check if it's within any event range
 - if it is and he is not informed (here we check it in server so that minimize network stuff): by check if he in the set of informed mans, send him the result: potential problem is very large amount of memory? assume 5e6 user all go through all 1e3 events creating 5e8 ints: ~1GB mem, should be fine
 - for each further update to event,
 - inform everyone who ever received notification.