Annex 4: On-Track Timekeeping and reporting for the primary mission

* Each team will have two attempts on two distinct but similar tracks;
* Both tracks are in a confined natural environment (cave), close to each other;
* The final score is the maximum of the two scores;
* Each team will have a upeer time limit for performing the tasks. Expect around 10-15 minutes but precise details will be communicated during technical inspection;
* Along the track electronic checkpoints will be installed:
  + Each echpoint will be represented by a digital LCD/OLED display showing a dynamically generated QR code;
  + Teams/Robots will have to programiatically read the code, decode the contents (it will be a URL), replace some fields and perform a HTTP(S) request.
  + URL requests are logged and represent proof of passing the specific required checkpoint alog the corresponding timestamp;

Working example for development and testing pourposes:

* You open: <https://iovanalex.ro/sec/qr.php?checkpoint=T1>
  + During the contest organisers will set and configure the the checkpoints;
* You get QR code similar to (actual one you get might differ as it’s generated dynamically):



* This would be store: [https://iovanalex.ro/sec/checkin.php?team=YOUR\_TEAM&p=t1&s](https://iovanalex.ro/sec/checkin.php?team=YOUR_TEAM&p=T1&secret=11039a6e74&t=FILL_HERE&h=FILL_THERE) [ecret=11039a6e74&t=FILL\_HERE&h=FILL\_THERE](https://iovanalex.ro/sec/checkin.php?team=YOUR_TEAM&p=T1&secret=11039a6e74&t=FILL_HERE&h=FILL_THERE)
* Your have to replace the uppercase fields with their corresponding values: YOUR\_TEAM is the team name you chose during registration, FILL\_HERE is the value of the measured temperature in Celsius degrees and FILL\_THERE will be replaced with measured relative humidity
* One possible example is of updated URL is: [https://iovanalex.ro/sec/checkin.php?team=UPT-SEC1&p=t1&se](https://iovanalex.ro/sec/checkin.php?team=UPT-SEC1&p=t1&secret=11039a6e74&t=12.5&h=37) [cret=11039a6e74&t=12.5&h=37](https://iovanalex.ro/sec/checkin.php?team=UPT-SEC1&p=t1&secret=11039a6e74&t=12.5&h=37)
* You open the URL (using your preferred programmating way) and you will get a JSON response. In this case:

{

"team": "UPT-SEC1",

"checkpoint": "t1", "secret": "11039a6e74", "temperature": "12.5",

"humidity": "37",

"status": "OK"

}

* + The relevant part is represented by the status field. If everything is **OK** and the answer was stored in the database you will get **OK**. If too much time passed between the QR code reading and requesting the URL (more than 1 minute) you will get **INVALID\_SECRET**. If more status code will be implemented we will update you.
  + The other fields of the JSON are the values you passed just for cross checking purposes.
  + Feel free to experiment with this setup during development.