WORLD (persons, devices and legacy sw)	SHARED`	MACHINE (programs, computations)
Smartwatches or similar devices	Location and Health status	allow third-parties to monitor individuals (→ new data subscription automatically and real-time)
Third-party customers	Request to share data (individuals can accept/refuse)	database queries (to get specific individuals data, return anonymized data of groups of people)
Ambulance	Hospital contact data	previously saved data availability checking (constraints)
Athletes Location (GPS)		
		third-parties monitoring elderly people health status through AutomatedSOS
		ambulance notification when parameters are below the threshold (reaction time of less than 5 seconds)
		athletes tracking through Track4Run (those participating in a run)
	Run path	Path definition (organizers)
		Notify registered users to enroll to the run (time-to-reply constrain → expiration)
		See on a map the position of all runners during the run

Data acquisition

- Through smart devices: location and health data
    - **Assumption**:
        - Devices count on an interface capable of connecting to Data4Help
        - Data collected by devices is accurate

        - Devices are up and running
        - The data sent is directly related to the individuals' by their SSN
    - **Model**:
        - Steps
        - ...
    - Location and health status
    - Which parameters are useful to define health status and thresholds (critical parameters).

Users: abstract class

- **Model**:
    - Username
    - Password

Individuals: inheritance

- **Assumptions**:
    - The data they are providing by registering is valid and trustable (SSN or fiscal code)
- **Model**
    - Name
    - Gender
    - Date of birth
    - Current location: default null
    - Contact of their closest hospital
    - SSN (or fiscal code in Italy)
    - Country, province and city
    - Basic data: height and weight, blood type
- Individuals can access to a restricted dashboard to reject/accept received requests, and check which third parties are subscribed to their data.
- Rejection should

Third-party customers: inheritance

- **Assumptions**:
  - Registering constraint: The system validates the file uploaded to complete registration:
    - Legal certificate of the company was provided and checked
  - **Model:**
    - Company name
    - Contact data
    - Tax code
    - Certificate
    - URL for receiving data
- **Constraints**:
  - Only third-party customers can request stored data
    - **Request:**
      - **Status:** pending, approved or reject.
      - Several third-parties requesting data of the same individual:
        - queue of requests (one maximum by day) with a status
        - This company is asking for your data

Third-parties filtering data

- **Assumptions:**
  - When requesting data of a specific individual,
    - the requester knows that individual by his/her social security number.
    - When requesting anonymized data of a group of individuals

Legal issues: check privacy policies and data treatment, maximum number of requests/day

Requirements → requests:

- if a request is approved by the individual,
  - the third-party receives the data
- If a request is rejected:
  - the third-party receives a generic message: your request has been rejected by the user or data was not found

- Only store data which is compatible with TrackMe data schema, otherwise reject it.

The third-party is automatically subscribed to get more real-time data that will be displayed to the third-party profile as notification

we assume that TrackMe will accept any request for which the number of individuals whose data satisfy the request is higher than 1000.
→ **Individual-third party relationship:** save which individual is related to which third-parties companies.

AutomatedSOS and Track4Run used for exploiting Data4Help

Assume that AutomatedSOS and Track4Run were though because they count on that data when registering users in Data4Help → Track4Run will exploit the features offered by Data4Help.

Third parties register and access into the system to request and access the data.

Goals

[G1] The system must allow third parties to access the data of some specific individuals.
r1 TrackMe send requests to specific individuals based on their social security number
r2 Specific indivuals will choose to refuse or accept received requests
r3 Notify third-parties when the status of the request changes accordingly.

[G2] The system must allow third parties to access anonymized data of a group individuals.
r4 Third-parties can only filter data based on certain country, age, gender and blood type ranges.
r5 The system should be able to provide anonymized data to third-parties as (anonymized by sending only location, health status and timestamp of the individuals)

r4 The individuals should be able to register to the system