

Progetto di ingegneria del software (5 CFU)
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1 Introduction

1.1 Purpose

The Data4Help system is designed as a distribute software application which can be installed on smartwatches, smartrings and smartphones that dispose of a NFC sensor and a GPS system inside for monitoring the position and the health of the owner. This application is thought for all people that want keep under control their health during the day or who want to always know the position and the status of health of a particular person in the world. Indeed with this system you can send a request to access to the data of some specific individuals, by knowing their social security number, and if the receivers agree to the request you can see in real time the last information registered on the system about that persons. The service support the registration of individual who, by registering, agree that the company TrakMe acquires their data, which will anonymously be used by third parties for making statistic on groups of people.

In addition to the basic Data4Help system, if you want, you can add two features. First the AutomatedSOS service, thought for persons that have serious problem health and, in case of illness, the system contact within 5 second an ambulance. Secondly the Track4Run service, developed for the organizers of sport events that want monitor the runners in the race. The service allow organizer to define the path for the run, participants to enroll to the run, and to the spectators to see on the map the exact position of all runners during the run.

Now we will go to define the essential goals that guarantee that Data4help can be availed for all features described above. The goals can be distinguished in two family: regarding the users and regarding the third part customers.

The goals of the project, regarding the subscribed users, are the followings:

- [G1] Allow a subscribed user to share his location and health status to third parties of his choice
- [G2] Once the health parameters of a subscribed user have been observed below the threshold, an ambulance is sent to the user location. (requires further specifications and assumptions: e.g. who owns the ambulances?)
- [G3] The time experienced between the moment in which the health parameters of a subscribed user are observed below the threshold and the time in which the ambulance is sent to the user location is equal or less than 5 seconds.
- [G4] Allow a subscribed user to enroll in a run, as athlete
- [G5] Allow spectators too see on a map the positions of all athletes taking part in a run
- [G6] Allow an organizer to set up a run, by defining its path

The goals of the project, regarding the third part customers, are the followings:

- [G7] Allow a third party to access the data on a certain individual, only if he accepts. This is satisfied as soon as the request is approved

- [G8] Allow a third party to access statistical and anonymized data on group of individual greater than 1000. This is satisfied as soon as the request is approved
- [G9] Allow a third party to subscribe to non-existing data. They will have access to them, as soon as the data is generated.

1.2 Scope

As already mentioned, the basic Data4Help service allows to monitor the position and the health status of individuals. When you sign up to the service you agree the application's contract that permit the acquirement from TrackMe company of the data from your device and store them into the system.

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