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Software Engineering 2 Project

Requirement Analysis and Specification Document

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Chapter 1

Introduction

1.1 Purpose

Data4Help is a service that TrackMe company is willing to develop. The basic idea is allowing third parties to monitor the location and health status of individuals through many sensors. The service is based on the retrieval of data sent by registered users. Every user has one or more sensor that sends the information to TrackMe. Then, data can be directly sent to a third party client that pays for the service and had obtained the authorization of the user, or can contirbute to a anonymous dataset (composed by at least a thousands people due to company policy).
On top of Data4Help's infrastructure are built two products that are offered by TrackMe: AutomatedSOS and Track4Run.

AutomatedSOS: It's a service that guarantees (within a certain amount of time - 5 seconds according company policy) the call of an ambulance if the health data that is received is under a given threshold.

Track4Run: It's a service that it can be used during a running competition: organizers can define a path and runners can enroll to it enabling spectators to track them in a map.

1.1.1 Goals

TO DO LIST OF GOALS

1.2 Scope

TO DO SUMMARY OF THE WORLD (SCOPE)

1.2.1 Analysis of shared phenomena

TO DO LIST OF SHARED PHENOMENA

1. users move (or run in Track4Run)
2. users can have health problems
3. sensors collect data
4. sensors communication
5. sensors break
6. third parties collect data from the system
7. third parties registration to data4help
8. user grant direct usage of personal data
9. user registration (data4help and/or services built on top of it)
10. organizers of run define path
11. partecipants of run enroll to it
12. run spectators see on a map the position of runners

1.3 Definitions, Acronyms, Abbreviations

TO DO DURING THE WRITING OF THIS DOCUMENT

- Third Parties: companies that want to buy people's sensors' data
- Wearable: ... TODO ...

1.4 Revision history

1. v. 1.0 - ????

1.5 Reference Documents

TO DO DURING THE WRITING OF THIS DOCUMENT

1.6 Document Structure

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Chapter 2

Overall description

2.1 Product perspective

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2.1.1 Goals

G1 Allow a person to register as Individual after his agreement of acquirement of data by TrackMe.

G2 Allow a person or a company to register as Third Part of Data4Help.

G3 Manage individual request of a Third Part.
[*G*3.1] Allow a Third Part to select a person whom want to access data through his fiscal code or his social security number.
[*G*3.2] Allow the Individual to accept or refuse the request.
[*G*3.3] If the Individual accept the request, his data are sent to the Third Part which made the request.
[*G*3.4] If the Individual does not accept the request, the Third Part which made the request is not able to see his data.

G4 Manage groups of individuals request of a Third Part.
[*G*4.1] Allow a Third Part to select a group of people linked by one or more data.
[*G*4.2] If the request refers to 1000 Individuals or more, the request is accepted and the data are anonymized before being sent to the Third Part which made the request.
[*G*4.2] If the request refers to less than 1000 Individuals, the request is refused and the Third Part is not able to access to the data.

G5 Allow to a Third Part to access to data of Individuals of whom it have permission as soon as they are produced

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2.2 Product perspective

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2.3 Product functions

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2.4 User characteristics

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2.5 Assumptions, dependencies and constraints

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Chapter 3

Specific requirements

3.1 External Interface Requirements

3.1.1 User Interfaces

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3.1.2 Hardware Interfaces

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3.1.3 Software Interfaces

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3.1.4 Communication Interfaces

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3.2 Functional Requirements

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3.3 Performance Requirements

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3.4 Design Constraints

3.4.1 Standards compliance

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3.4.2 Hardware limitations

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3.4.3 Any other constraint

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3.5 Software System Attributes

3.5.1 Reliability

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3.5.2 Availability

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3.5.3 Security

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3.5.4 Maintainability

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3.5.5 Portability

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Chapter 4

Formal analysis using Alloy

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Chapter 5

Effort spent

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Chapter 6

References

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