

RASD

1. Introduction

1. Purpose DATA4HELP

1. Get data (location and health status)
2. Contact user with third parties (request)
3. Enables third parties to search anonymously people's data by using some parameters (age, km, geographical area, heartbeats, ...). The result is given only if the number of people is > 1000
4. Two UI, one for companies and one for private users

2. Scope

1. description of the given problem

1. The world: user moving, **user illnesses**, biomedical user's data
2. Shared phenomena: gps monitoring current position, access to anonymous data (third parties & track me), **ambulance call**, access to biomedical user data

2. Goals

1. [G1] the user can be recognized by providing a form of identification
2. [G2] (the user can see his data)
3. [G3] Companies can see anonymized data of a group of users
4. [G4] Companies can see data of a specific user through his social security number
5. [G5] user is able to accept or reject the request of access to his data by third parties
6. [G6] the system allows user to create a user profile
7. [G7] the system allows companies to create a company profile (**partita IVA etc ...**)
8. [G8] the system calls an ambulance if the user is old and his parameters are below the thresholds

3. Definition, acronyms, abbreviations

1. Definition

1. Thresholds: value that must not be crossed
2. State:
3. Cluster: group of people with similar physical characteristics (only elderly)

2. Acronyms

1. Ssn: social security number

3. Abbreviations

1. [Gn]: n-goal.
2. [Dn]: n-domain assumption.
3. [Rn]: n-functional requirement.

4. Revision history

5. Reference documents

1. GPS Performances: "<http://www.gps.gov/systems/gps/performance/accuracy/>"
2. biomedical reference: ...

6. Document structure

2. Overall description

1. Product perspective

2. Product functions

3. User characteristics

1. User
2. Administrator (TrackMe)
3. Third parties

4. Assumptions, dependencies, constraints

1. Domain assumptions

1. [D1] a safe user has heartbeat between x and y depending on the state (rest, running ecc...)
2. [D2] **5 seconds are necessary to send user location and call an ambulance when parameters are above the threshold**
3. [D3] usernames used in the system are unique
4. [D4] users position is determined by using the gps inside the smartwatch
5. [D5] when the system shows the position of a user it means that the user is actually there

6. [D6] during the registration process the user inserts his main physical data (height, weight, ...)
7. [D7] we assume that the user has the physical characteristics that he inserted in the system
3. Specific requirements
 1. External interface requirements
 1. User interfaces
 2. Hardware interfaces
 1. GPS
 2. Bluetooth
 3. **LTE (?)**
 4. Photoplethysmography (PPG)
 5. Accelerometer
 3. Software interfaces
 1. Google maps
 2. **Ambulance service**
 4. Communication interfaces
 2. Functional requirements
 1. [R1] (if user's heartbeat overcome the threshold the system must call an ambulance within 5 seconds (...)) **THE DOCUMENT SAYS BELOW → ASK!)**
 2. [R2] The system allow users to create an account to use data4help by selecting a username and a password
 3. [R3] The system allow users to login to the application by providing a username and the password corresponding to that username
 4. [R4] the system allows companies to see data of a specific individual providing his ssn
 5. [R5] the system allows companies to access anonymized data of a group of at least 1000 people
 6. [R6] the system creates clusters of people with similar physical characteristics
 7. [R7] the system calculates the Thresholds for elderly people
 3. Performance requirements
 1. **AutomatedSOS** answers within 5 seconds
 4. Design constraints
 1. Standards compliance
 2. Hardware limitations
 3. Any other constraint
 5. Software system attributes
 1. Reliability
 2. Availability
 3. Security
 4. Maintainability
 5. Portability
4. Formal analysis using alloy
 1. Polygon inside of which there must be at least 1000 people
5. Effort spent
 - 2,30 h first day
 - 2.30 h second day
6. References