



**POLITECNICO**  
**MILANO 1863**

# TrackMe

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SOFTWARE ENGINEERING II – DI NITTO Elisabetta

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# RASD

*Requirements Analysis and  
Specification Document*

# Structure of the system to be



DATA4HELP

*Web Browser*



*Mobile App*



*Web Browser  
and  
Mobile App*

# Shared Goals

1. Allow unregistered user to sign in to access to the application;
2. Allow registered user to log in and access to the application;
3. Allow registered user to manage his/her profile;



0143 PM



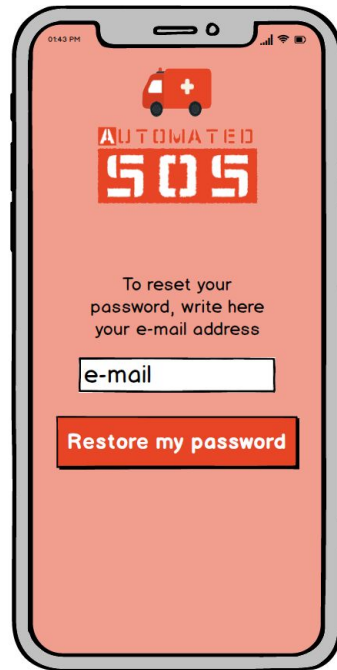
TRACK4RUN

E-Mail


Password



[Forgot password?](#)



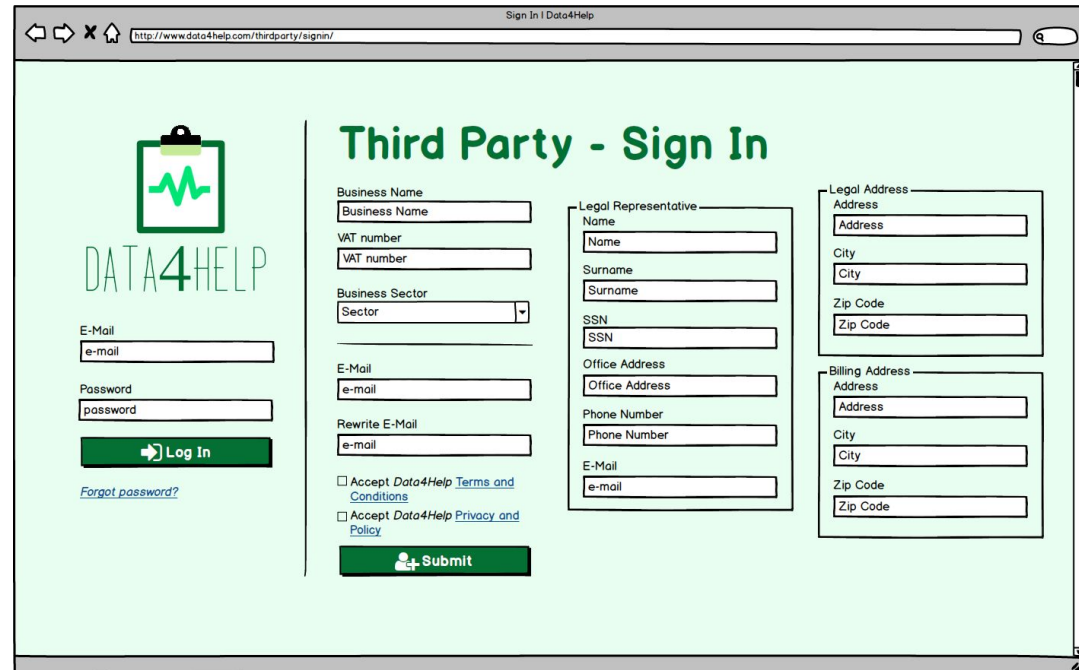
0143 PM



AUTOMATED  
SOS


To reset your password, write here your e-mail address

**Restore my password**



Sign In | Data4Help


<http://www.data4help.com/thirdparty/signin/>



DATA4HELP

E-Mail

Password

 Log In

[Forgot password?](#)

### Third Party - Sign In

Business Name

VAT number


Business Sector

E-Mail

Rewrite E-Mail

☐ Accept Data4Help [Terms and Conditions](#)

☐ Accept Data4Help [Privacy and Policy](#)

 Submit

Legal Representative  
Name

Surname

SSN

Office Address

Phone Number

E-Mail

Legal Address  
Address

City

Zip Code

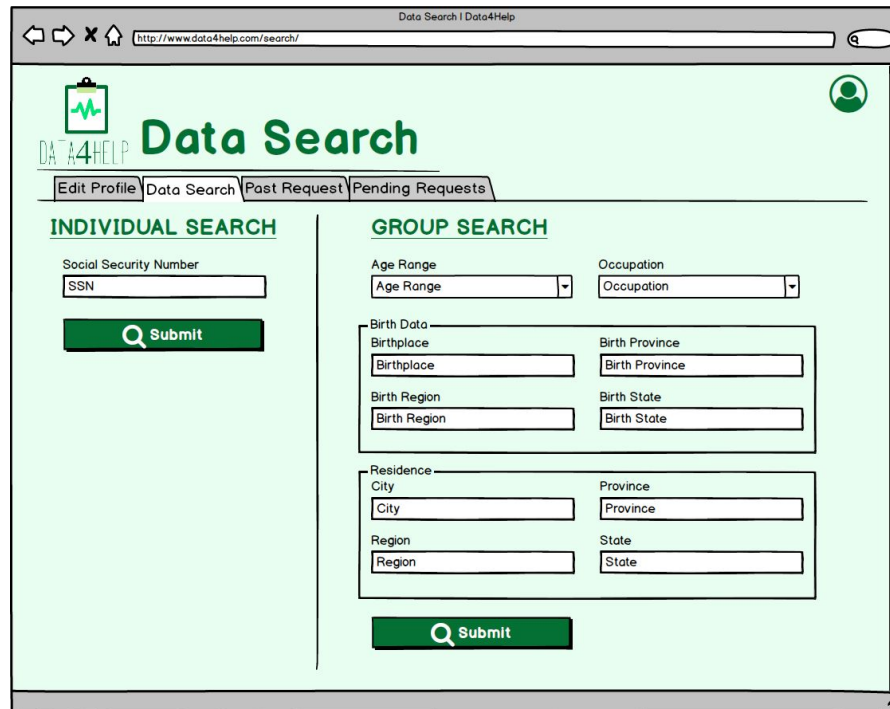
Billing Address  
Address

City

Zip Code

# Data4Help Goals

1. Allow registered third parties to request data of a single individual;
2. Allow registered third parties to request data of a group of people;



The screenshot shows a web browser window with the URL <http://www.data4help.com/search/>. The page title is "Data Search | Data4Help". The main heading is "Data Search" with a logo on the left. Below the heading are four tabs: "Edit Profile", "Data Search", "Past Request", and "Pending Requests". The "Data Search" tab is active. The page is divided into two main sections: "INDIVIDUAL SEARCH" and "GROUP SEARCH".

**INDIVIDUAL SEARCH**

Social Security Number  
SSN

**GROUP SEARCH**

Age Range  Occupation

Birth Data

Birthplace  Birth Province

Birth Region  Birth State

Residence

City  Province

Region  State

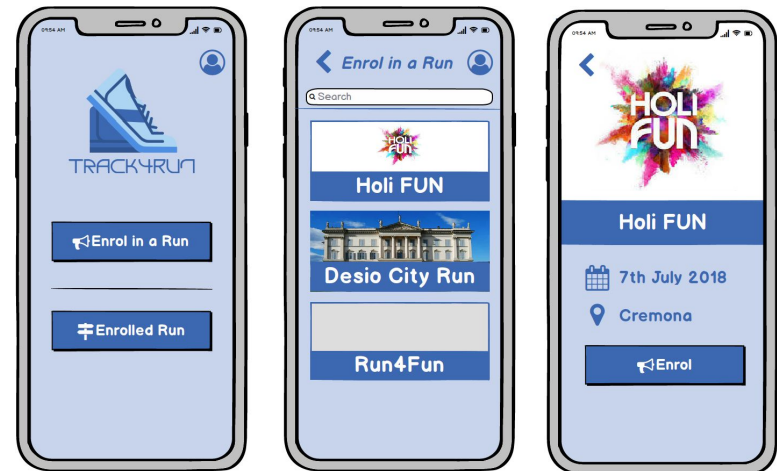
# AutomatedSOS Goals

1. Allow data acquisition through smartwatches (or similar);
2. Allow monitoring the health status of an individual registered user;
3. Allow sending location of an individual registered user to an ambulance if his/her parameters are below a certain threshold;

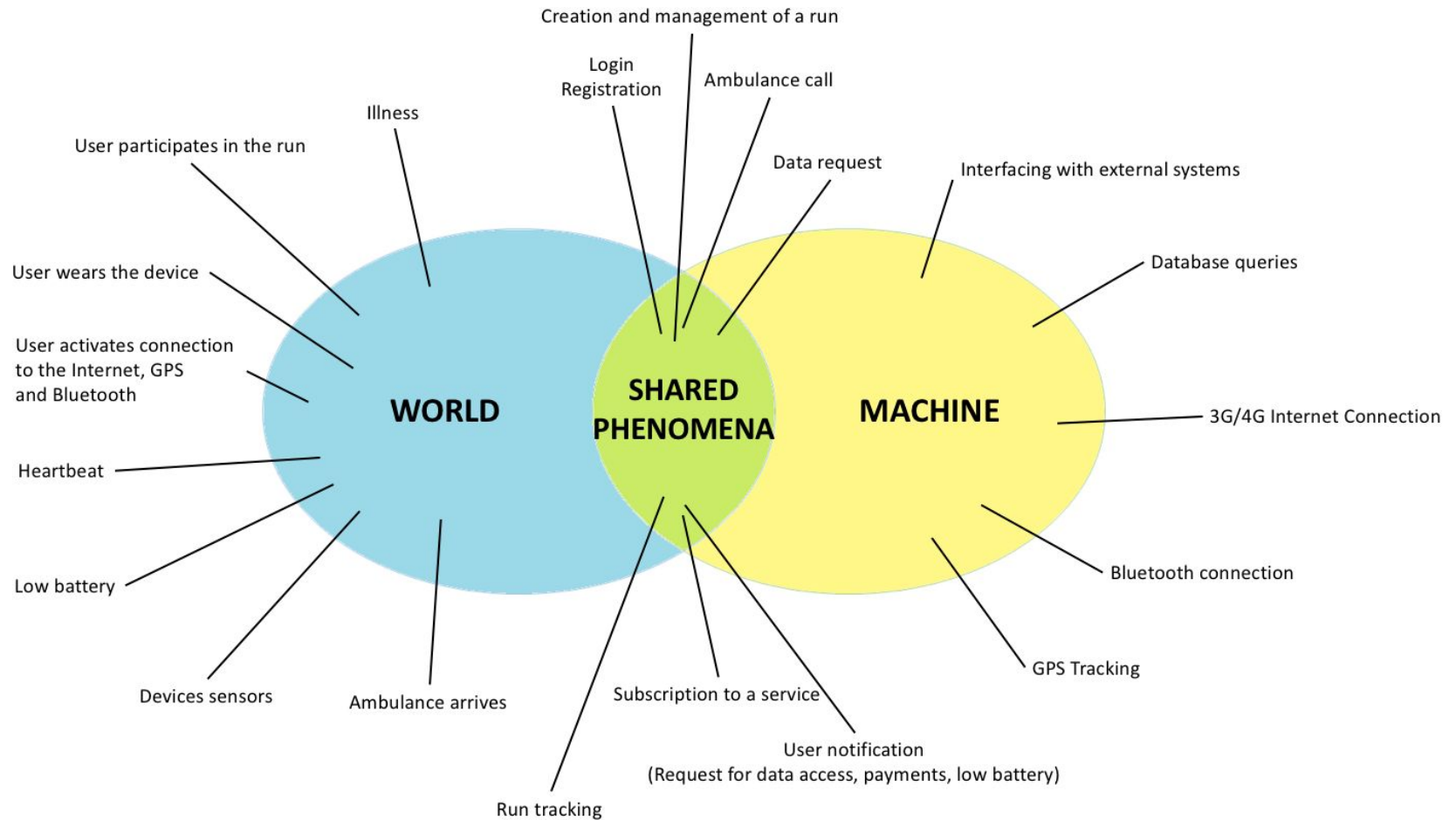


# Track4Run Goals

1. Allow registered user to become organizers or athletes of a run;
2. Allow organizers to define the date and the path for a new run;
3. Allow organizers to delete a run;
4. Allow registered athletes to enrol in a run;
5. Allow registered athletes to delete an enrolment of a run;
6. Allow unregistered user to access as spectator;
7. Allow registered/unregistered user to see on a map the position of all runners during a run;

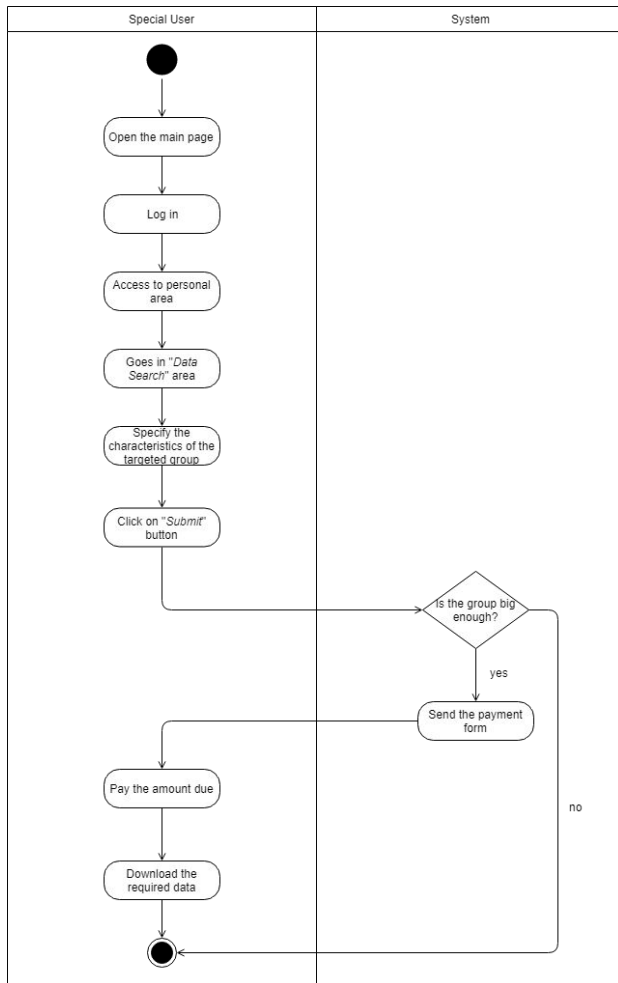


# World & Machine phenomena





# Group Data Requirement Use Case



Web Interface Mockup for Data Search (Data4Help).

URL: <http://www.data4help.com/search/>

Navigation: Edit Profile | **Data Search** | Past Request | Pending Requests

### INDIVIDUAL SEARCH

Social Security Number

### GROUP SEARCH

Age Range:  Occupation:

Birth Data

Birthplace:  Birth Province:

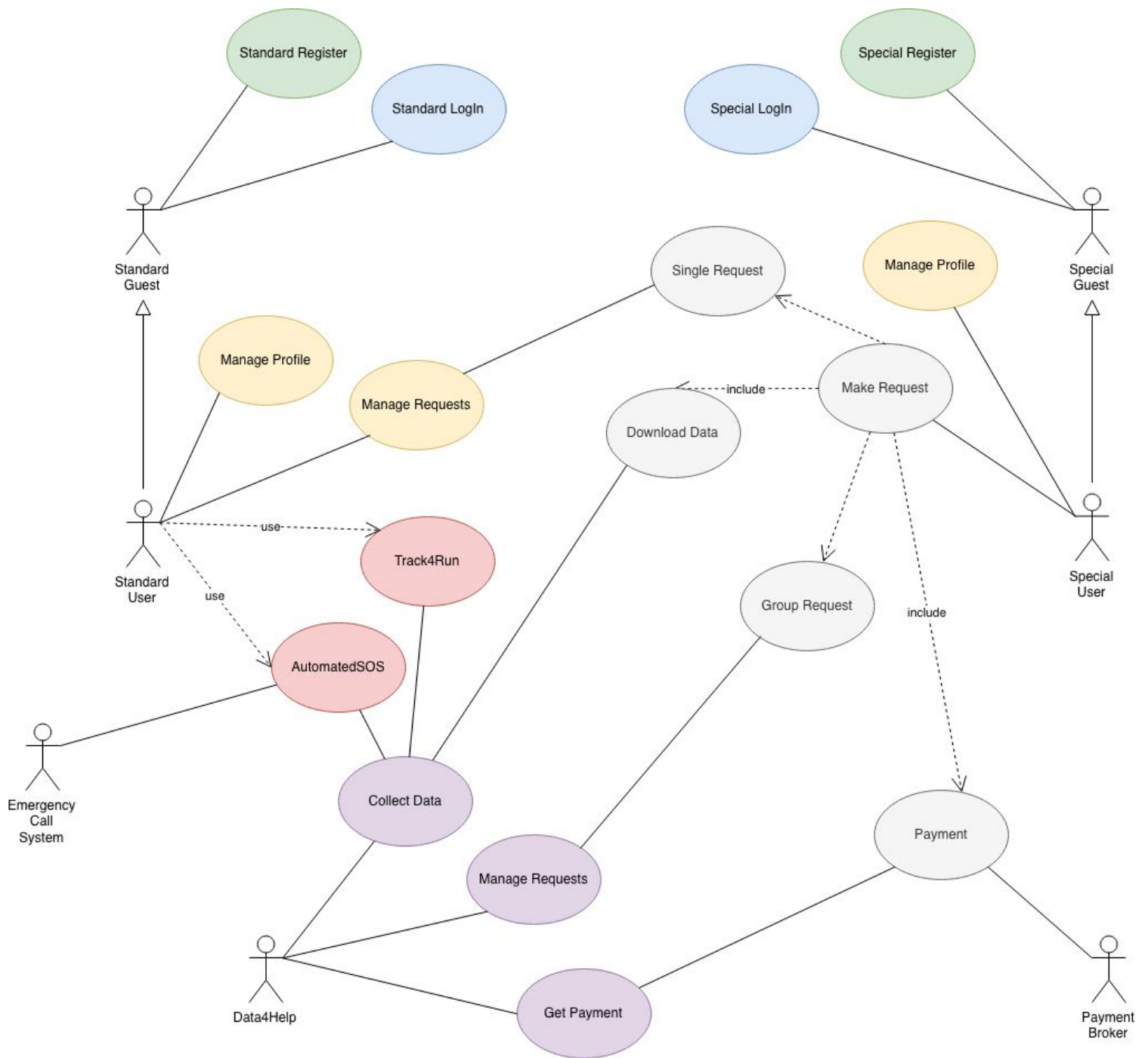
Birth Region:  Birth State:

Residence

City:  Province:

Region:  State:

# Most important Requirements



# Most important Requirements

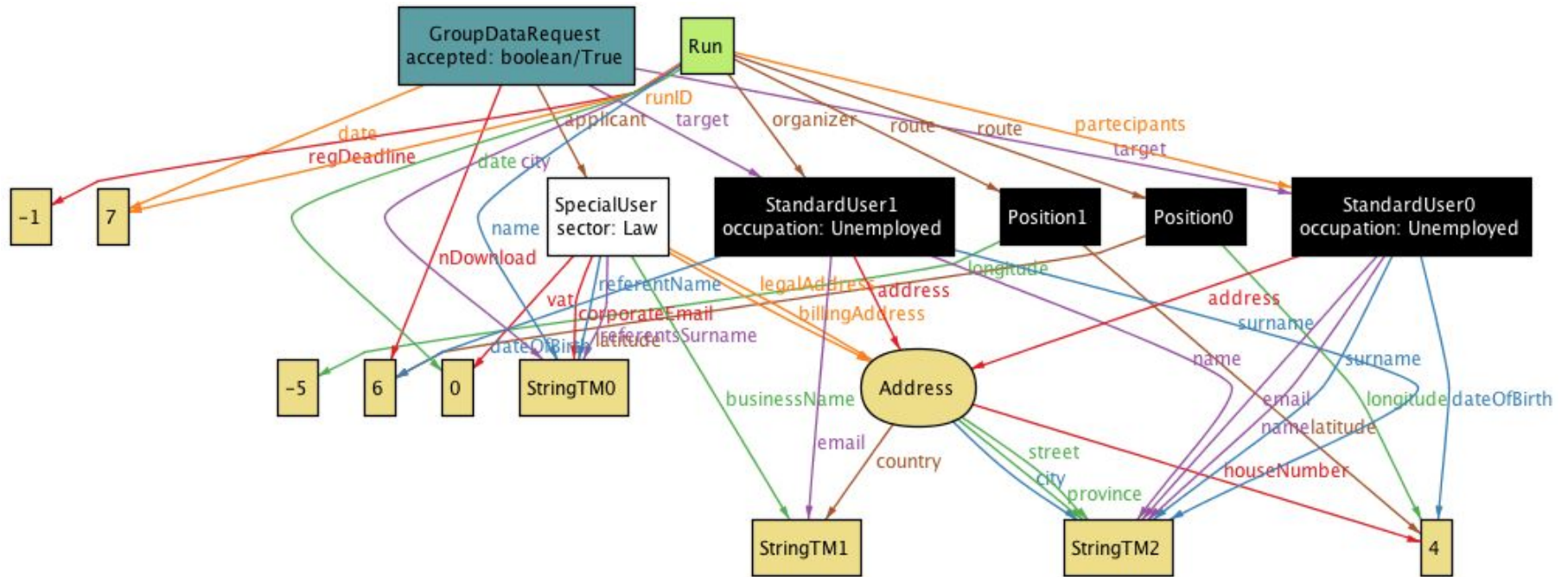


1. Anonymous data collection
2. Privacy
3. GDPR regulations for the protection of users' personal data
4. Hardware limitations
5. Parallel operations
6. Reliability requirement
7. Availability requirement

# Most important Assumptions

1. Users of the app have a phone with an iOS or Android operating system. The phone has a working GPS module with an uncertainty of  $\pm 1$  meter and a stable Internet connection;
2. The user autonomously recharges the smartphone and the smartwatch when its battery is low;
3. Every request for access to user's personal data from a third party must be explicitly accepted by the user;
4. If a user does not accept a request for access to his data within 24 hours the request is considered rejected;
5. Once a request is accepted by a user, the system provides the applicant with the required data within 24 hours;





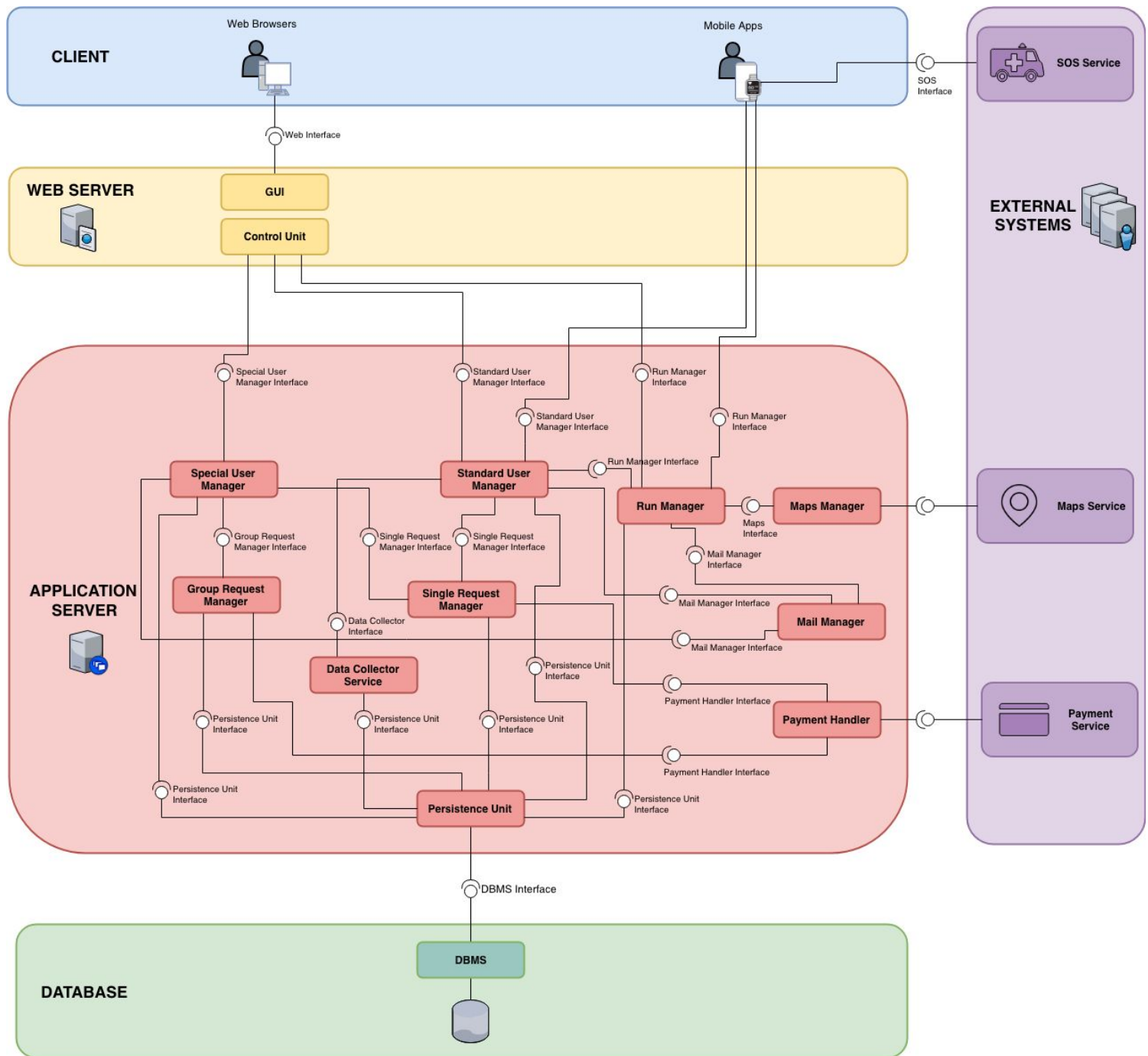
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**DD**

***Design Document***

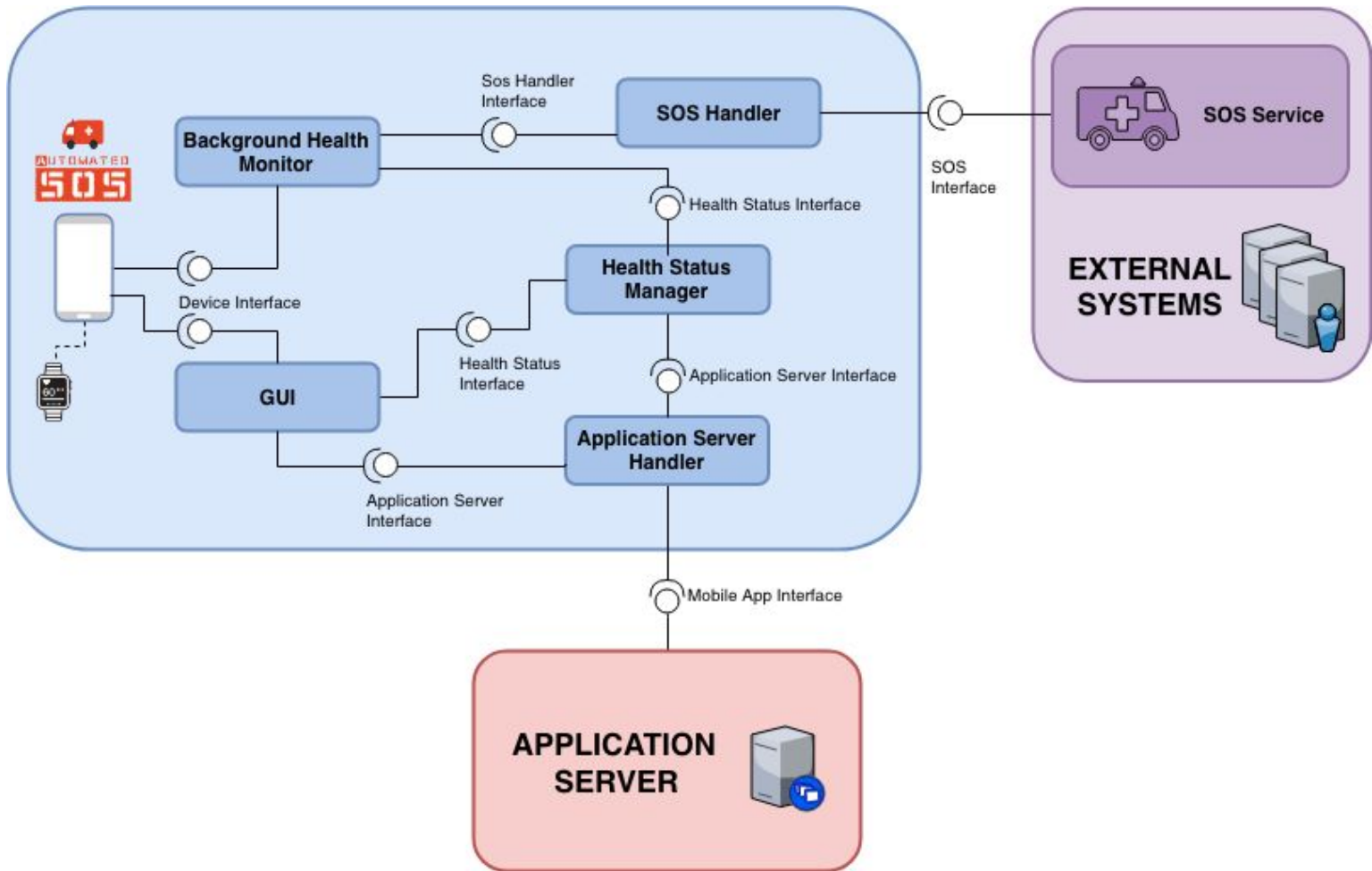


# System Components

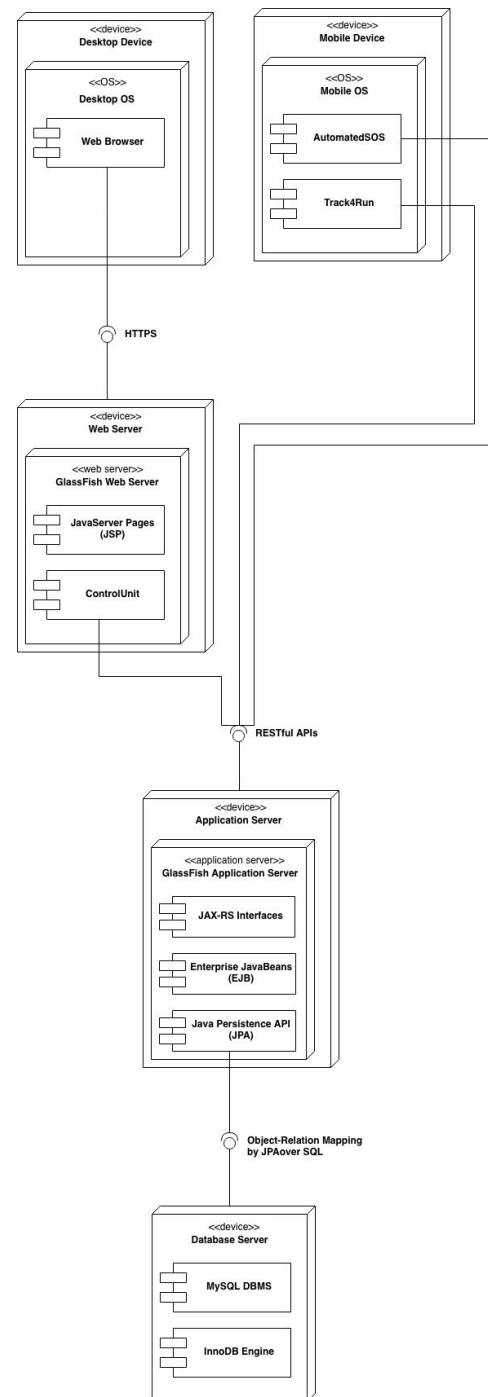




# Automated SOS Components

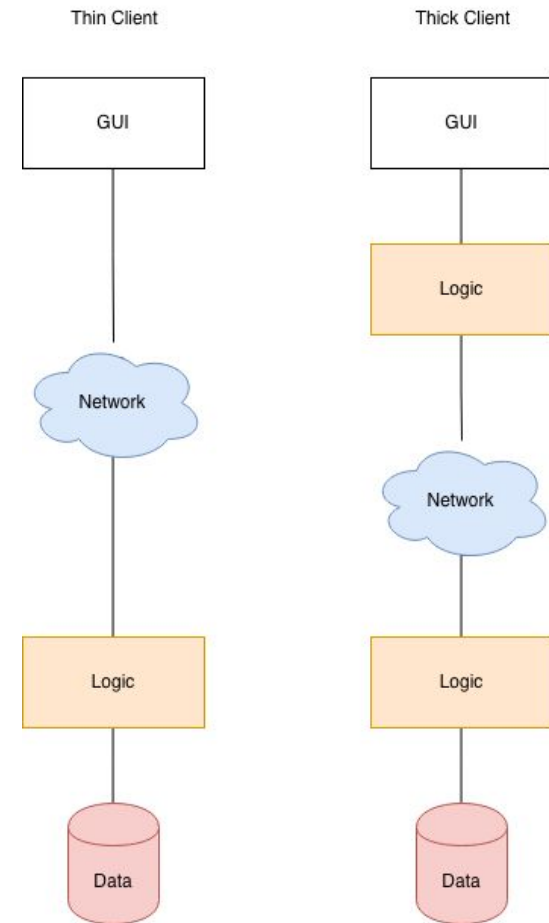


# System Components Interfaces

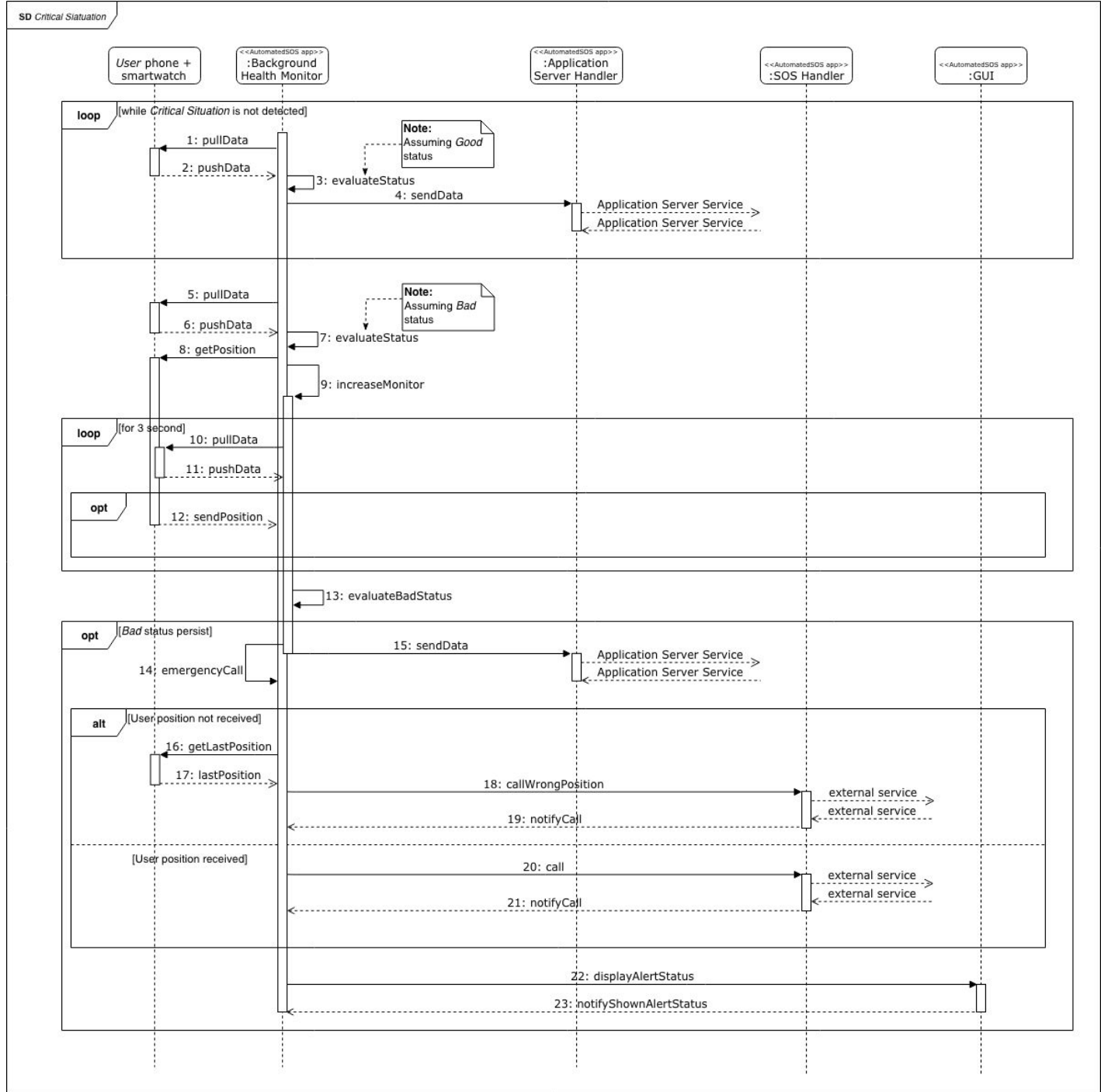


# Architectural styles

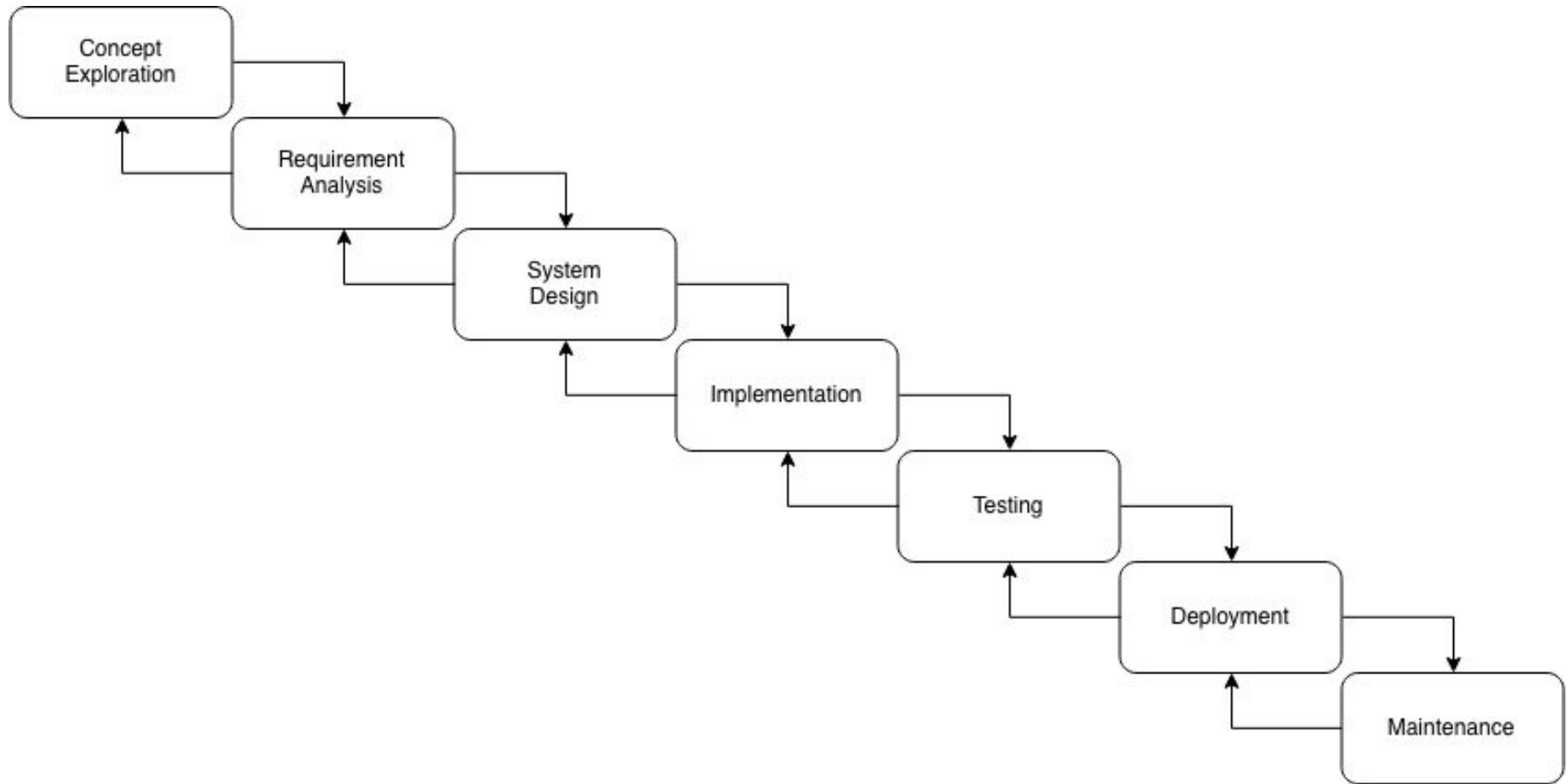
1. Client-Server Model
  - a. Thin Client
  - b. Thick Client
2. Multi-Layer Architecture
3. MVC model levels (Model, View, Controller)



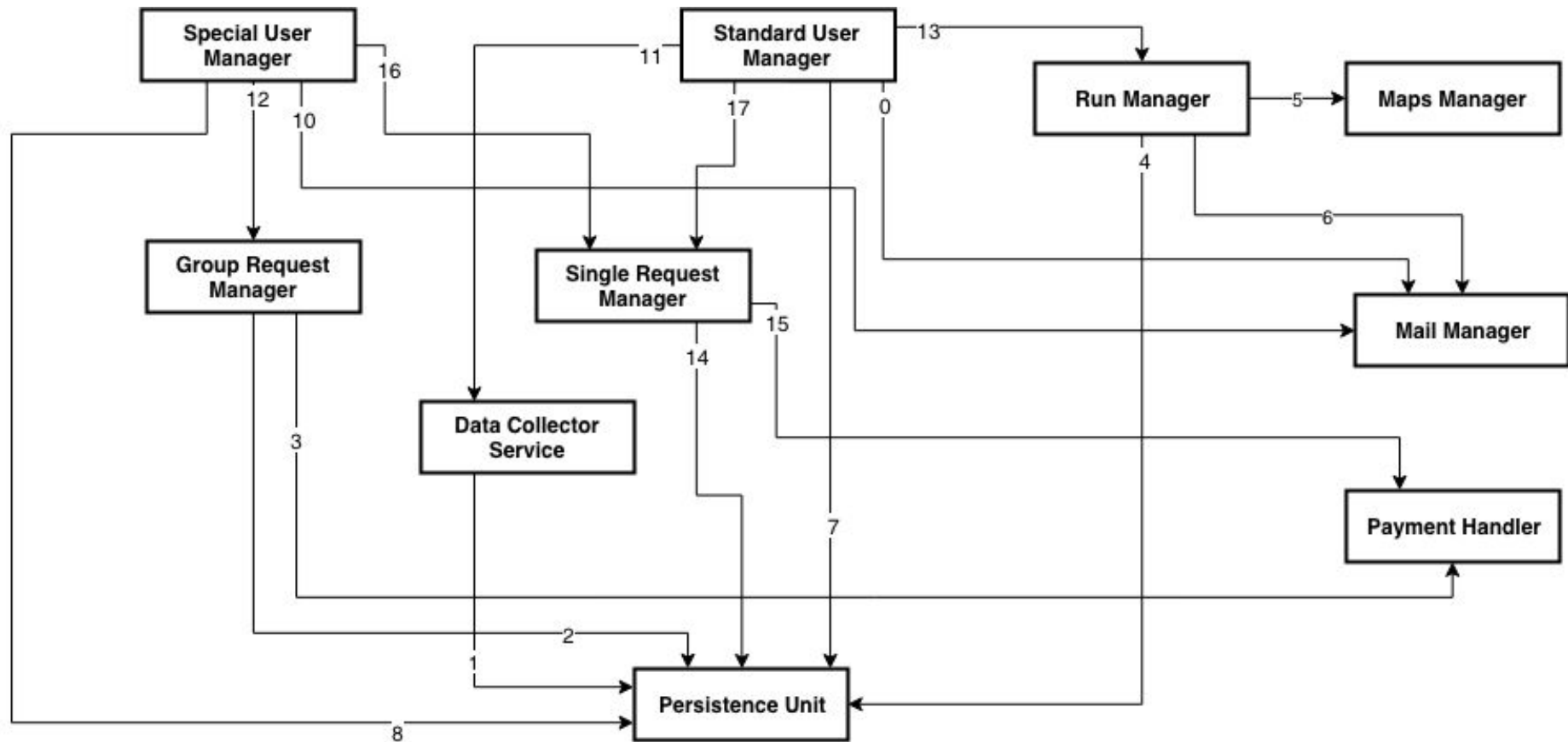
# Sequence Diagram



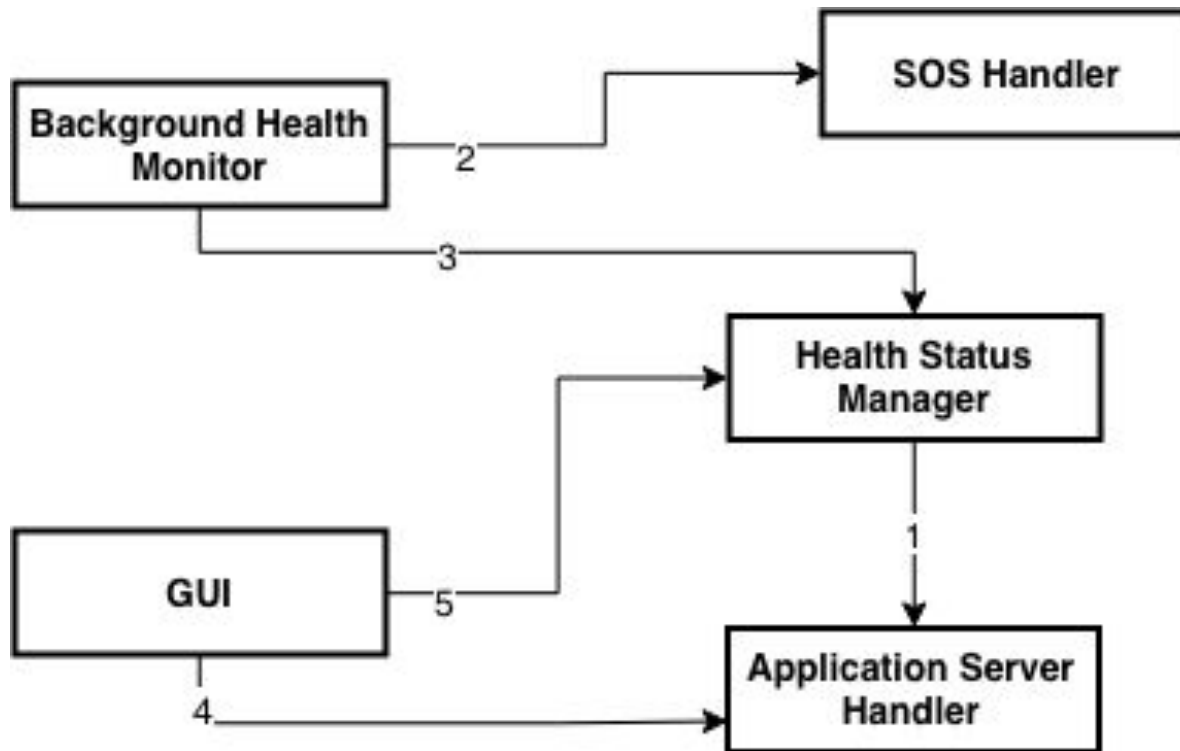
# Software Development Process



# Application Server Plan Strategy



# AutomatedSOS Plan Strategy



# Plan Strategy

#	Subsystems	Component	Integrated with
I01	Database, Application Server	Persistence Unit	DBMS
I02	Application Server, External Services	Maps Handler	Maps Service
I03	Application Server, External Services	Payment Hendler	Payment Service
I04	Application Server, Web Server	Special User Manager	Control Unit
I05	Application Server, Web Server	Standard User Manager	Control Unit
I06	Application Server, Web Server	Run Manager	Control Unit
I07	Application Server, Mobile Client	Standard User Manager	Application Server Handler
I08	Application Server, Mobile Client	Run Manager	Application Server Handler
I09*	Mobile Client, External Services	SOS Handler	SOS Service

Table 5.3: *Subsystems integration* table. \*:this integration activity is valid only for *AutomatedSOS* application



