



SOFTWARE ENGINEERING 2 DATA4HELP

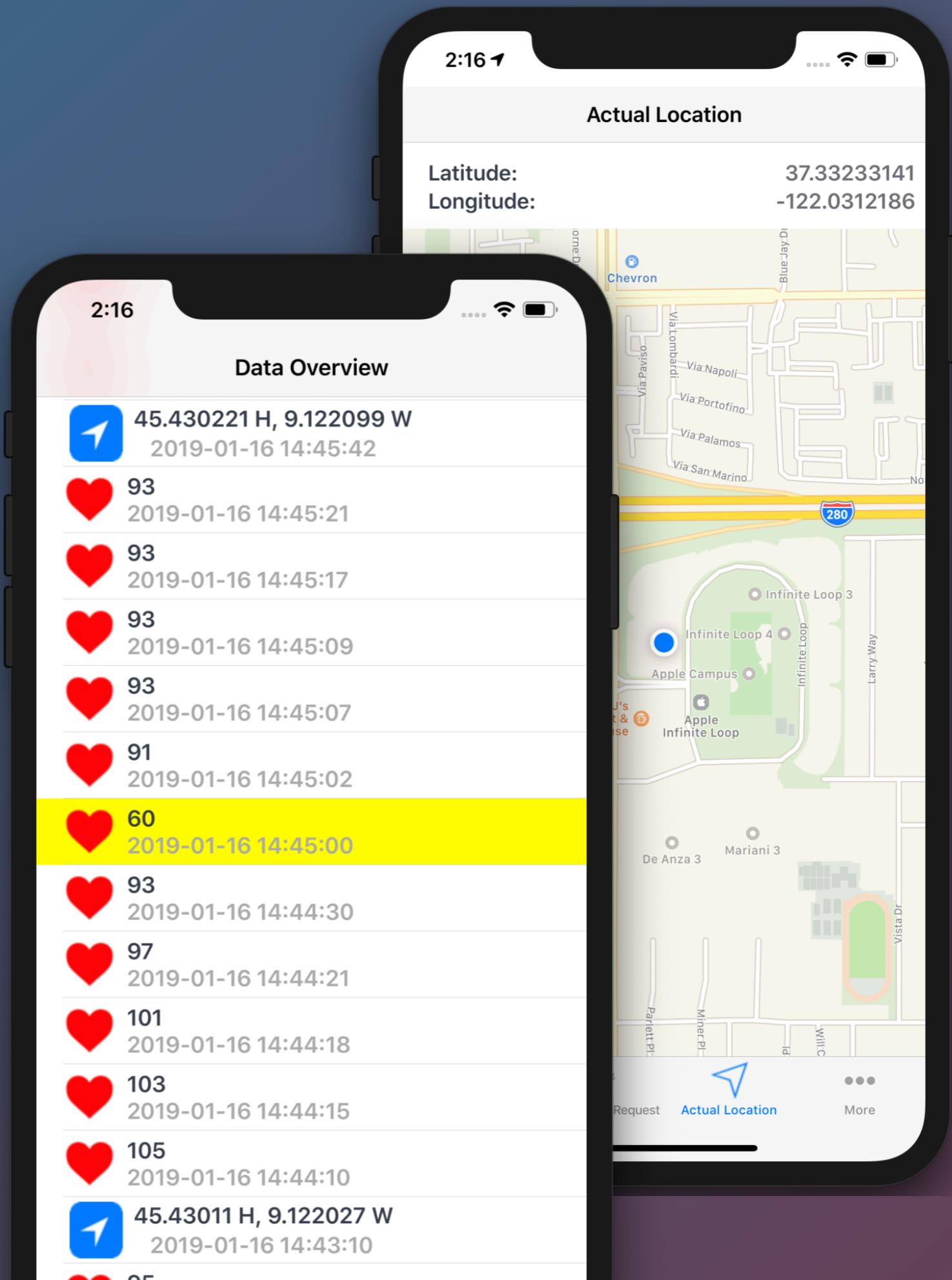
Stefano Martina
845696
stefano.martina@mail.polimi.it

Alessandro Nichelini
919880
alessandro.nichelini@mail.polimi.it

Francesco Peressini
843323
francesco.peressini@mail.polimi.it

A FIRST LOOK

Data4Help is a software-based service allowing third parties to monitor the location and health status of individuals



MAIN GOALS





USER LOGIN AND REGISTRATION SYSTEM

Unique user, multiple devices

The image shows two smartphones side-by-side against a dark blue gradient background. The phone on the left displays the 'Welcome to Data4Help' screen with a sign-in form. The phone on the right displays the 'Registration' screen with a data entry form.

Welcome to Data4Help

Sign in to continue

Username

Password

Sign in

Registration

Insert your data to continue

First name

Last name

Username

Password

Confirm password

Fiscal Code

Gender

Birth date

Birth place

Register

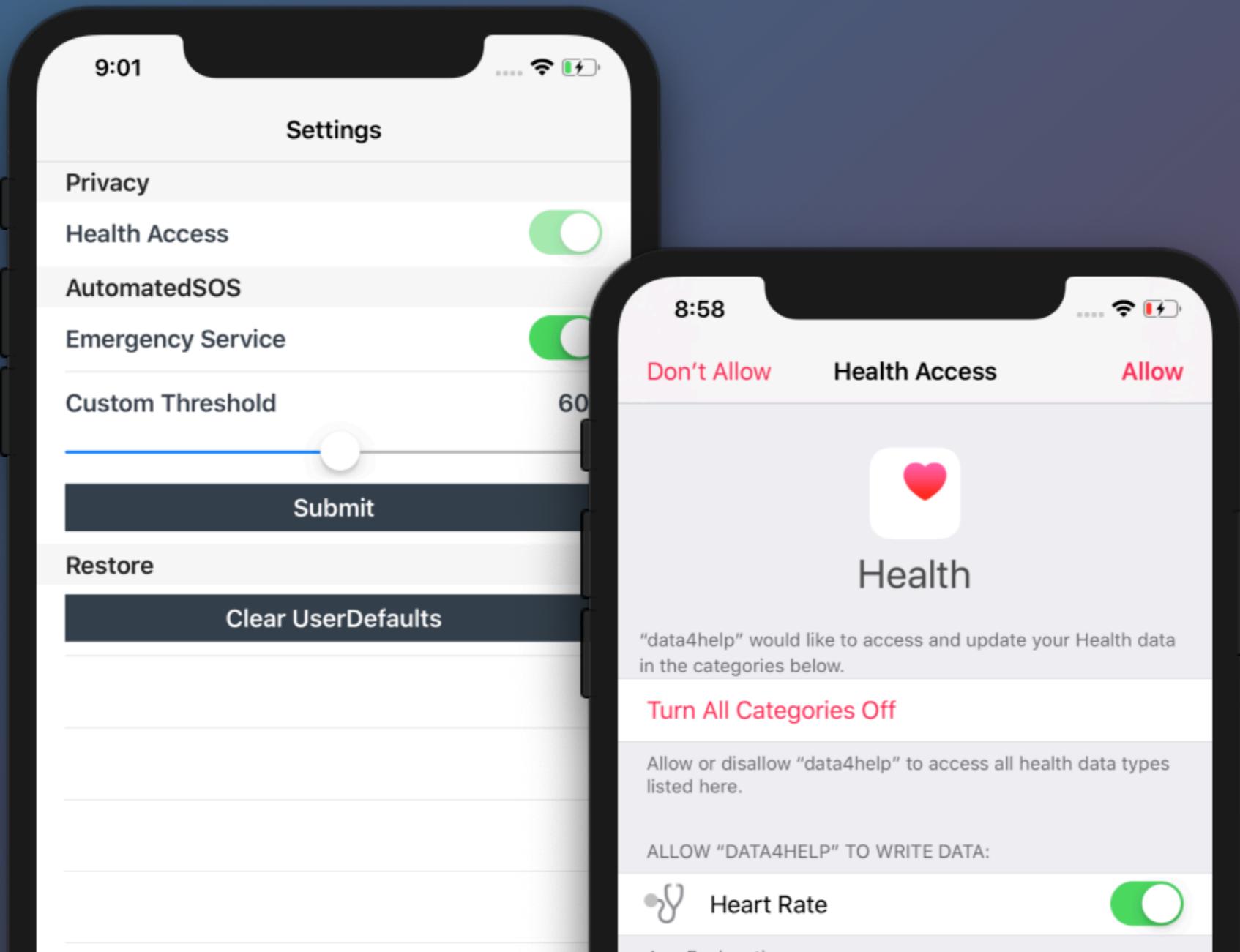
MAIN GOALS





SOPHISTICATED HEALTH DATA HANDLING

Precise loading from HealthKit environment
Background* data-retrieve and upload



MAIN GOALS





DATA OVERVIEW

Human readable data are presented to the user
Data consistency through multiple devices

2:16

.... WiFi Battery

Data Overview

	45.430221 H, 9.122099 W
	2019-01-16 14:45:42
	93
	2019-01-16 14:45:21
	93
	2019-01-16 14:45:17
	93
	2019-01-16 14:45:09
	93
	2019-01-16 14:45:07
	91
	2019-01-16 14:45:02
	60
	2019-01-16 14:45:00
	93
	2019-01-16 14:44:30
	97

2:16

.... WiFi Battery

Actual Location

Latitude: 37.33233141
Longitude: -122.0312186

280

76

Apple Wellness Center

Infinite Loop 3

Infinite Loop 4

Apple Campus

BJ's Restaurant &

Larry Way

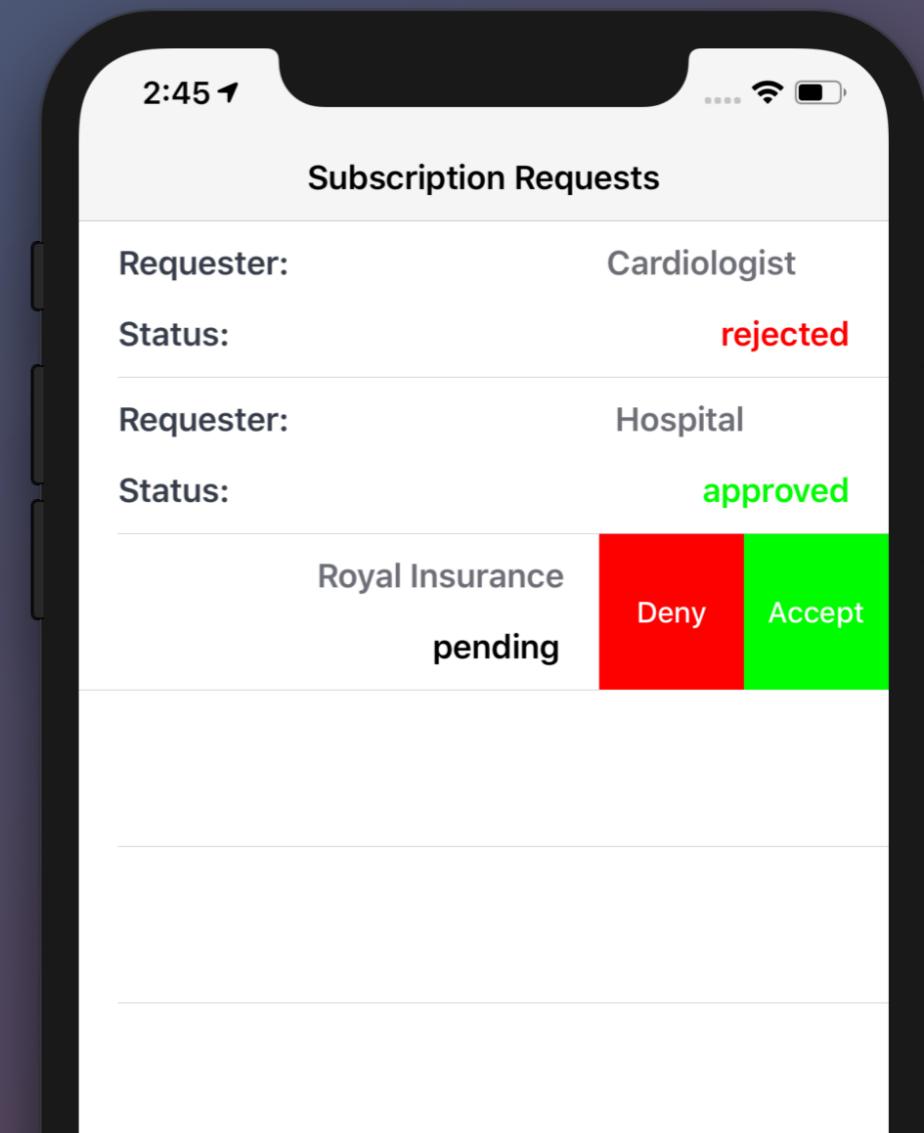
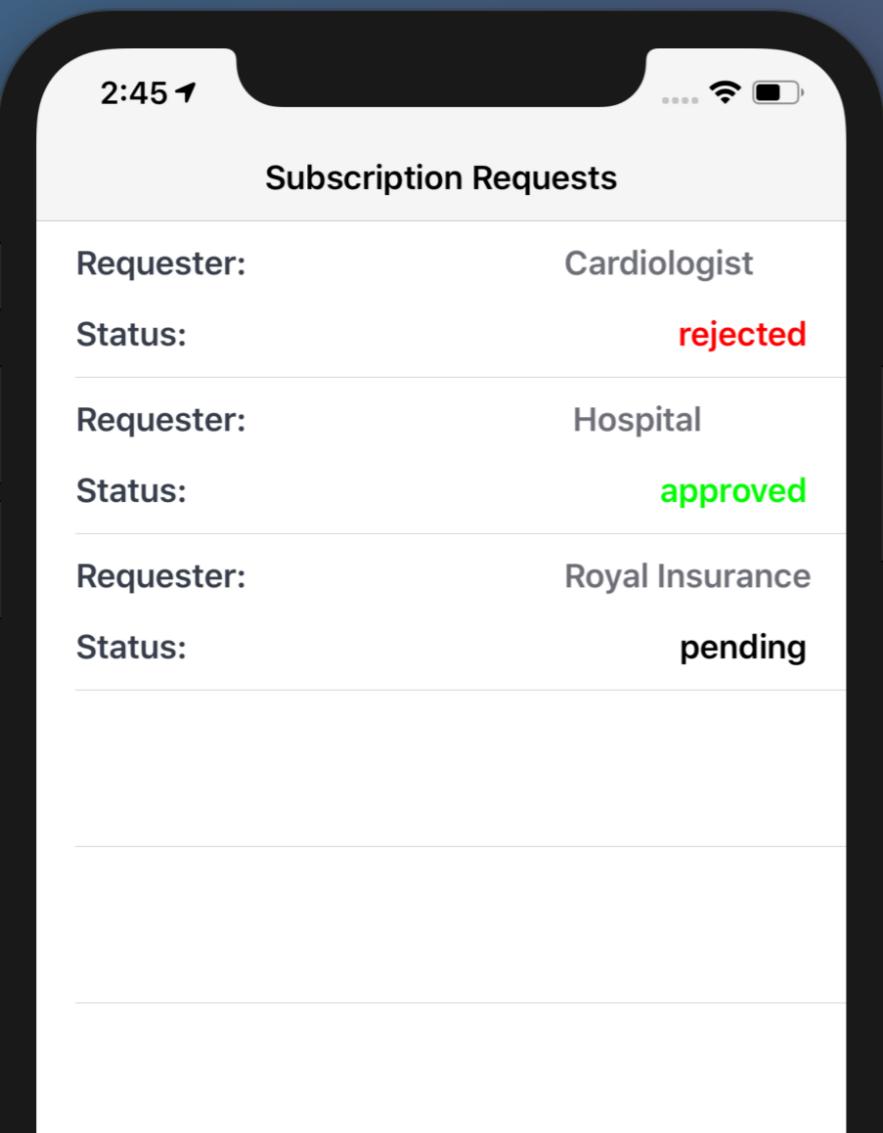
MAIN GOALS





SMART REQUEST SYSTEM

Users can accept/deny requests at any time



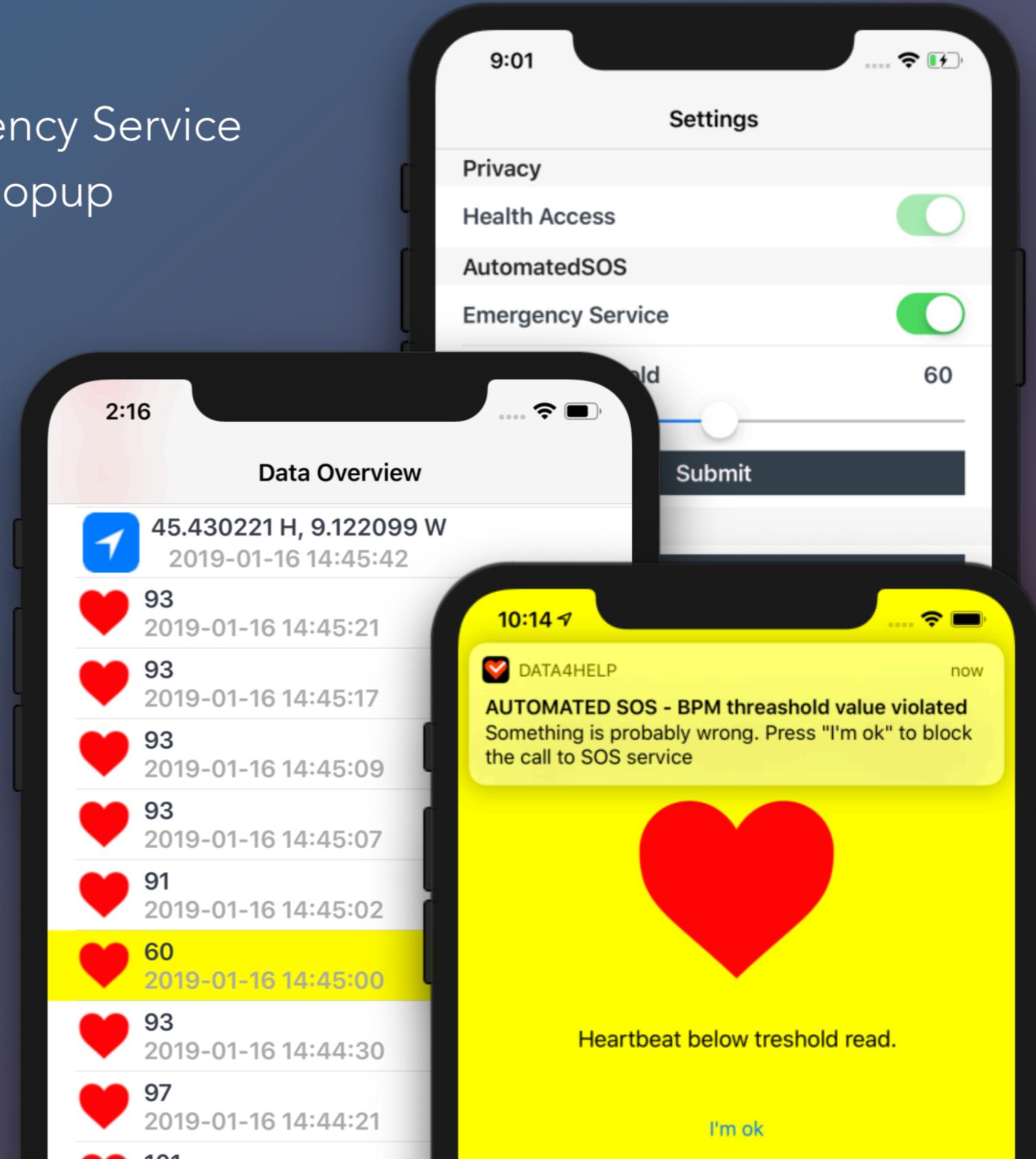
MAIN GOALS





AUTOMATED SOS

Users can activate the Emergency Service
In case of anomalies a popup
will be displayed



MAIN GOALS





THIRD-PARTIES

Third-parties can access user's data after registration and an approved request by the user

The image displays three screenshots of the Data4Help application:

- Top Left:** A "Sign Up" page with fields for Username, Password, and Company Name.
- Bottom Left:** A "Sign In" page with fields for Username and Password, and a "Remember Me" checkbox.
- Right:** A "Welcome To Data4Help" page listing API endpoints for third-party access. The endpoints are numbered 1 through 7 and include parameters like fiscalCode, birthPlace, and year, with placeholder values like "USER_FC", "YOUR_USERNAME", and "YOUR_SECRET".

#	Endpoint	Method	Port	Individual/Group	Response
1	/api/thirdparties/subscribe? fiscalCode=USER_FC&username=YOUR_USERNAME&secret=YOUR_SECRET	GET	443	-----	JSON
2	/api/thirdparties/get_location_by_fc? fiscalCode=USER_FC&username=YOUR_USERNAME&secret=YOUR_SECRET	GET	443	Individual	JSON
3	/api/thirdparties/get_heart_rate_by_fc? fiscalCode=USER_FC&username=YOUR_USERNAME&secret=YOUR_SECRET	GET	443	Individual	JSON
4	/api/thirdparties/groups/heart_rate_by_birth_place? birthPlace=USER_BIRTH_PLACE&username=YOUR_USERNAME&secret=YOUR_SECRET	GET	443	Group	JSON
5	/api/thirdparties/groups/location_by_birth_place? birthPlace=USER_BIRTH_PLACE&username=YOUR_USERNAME&secret=YOUR_SECRET	GET	443	Group	JSON
6	/api/thirdparties/groups/heart_rate_by_year_of_birth? year=USER_YEAR_OF_BIRTH&username=YOUR_USERNAME&secret=YOUR_SECRET	GET	443	Group	JSON
7	/api/thirdparties/groups/location_by_year_of_birth? year=USER_YEAR_OF_BIRTH&username=YOUR_USERNAME&secret=YOUR_SECRET	GET	443	Group	JSON

THIRD-PARTIES: WHY THIS PARADIGM?

Our future partners will use our data and enhance their value

MAIN GOALS





TRACK4RUN

A LOOK INTO THE FUTURE

Path definition for a new run
Enrolment to already existing running events
Live positioning of runners during a run

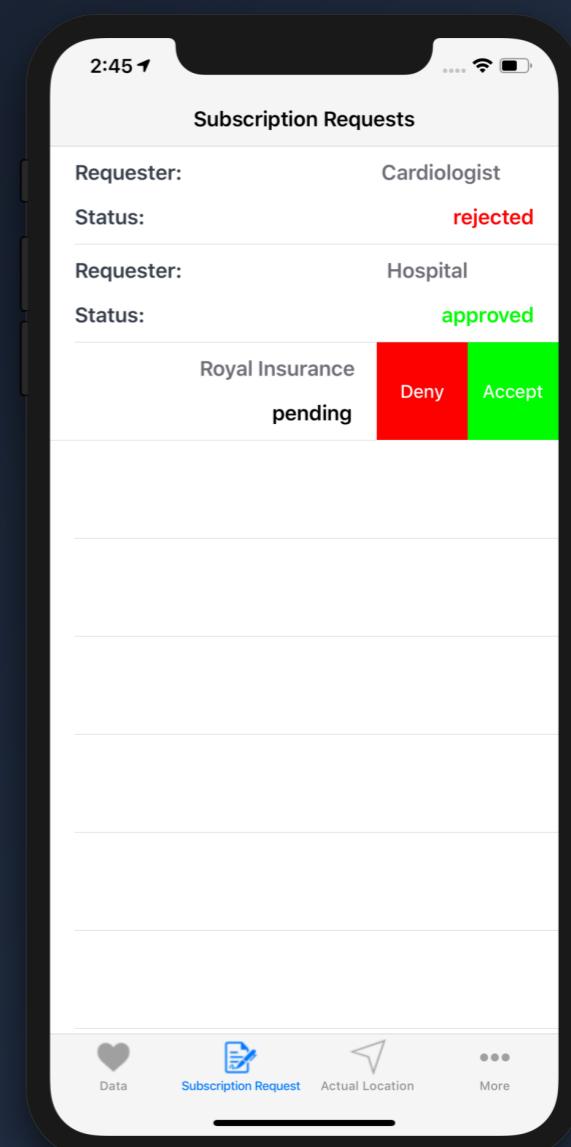
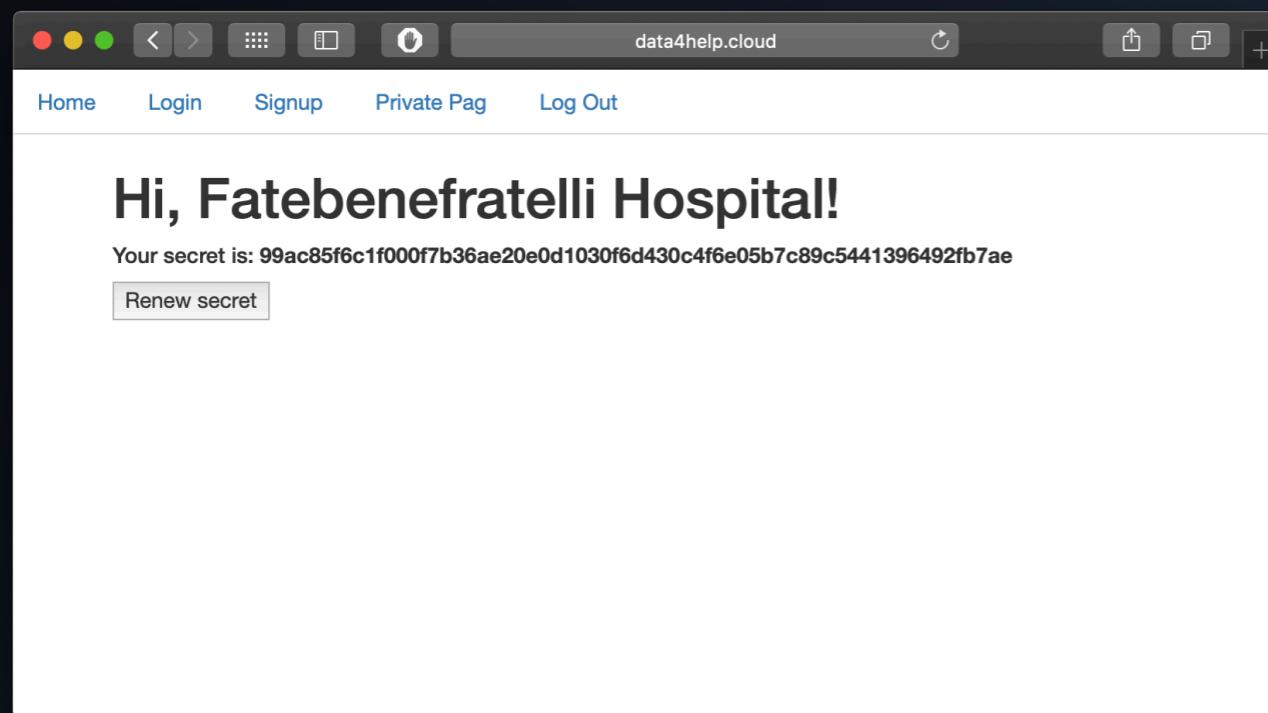
TECHNICAL SIDE

THIRD-PARTIES: REST ARCHITECTURE

Secret: third-parties can operate only with an assigned secret token

Transparency: users really know with whom they are sharing data

Anonymisation: data are anonymised in group requests



SYSTEM ARCHITECTURE

THREE TIER ARCHITECTURE

PRESNTATION

On **iOS devices** and
served through
a **web APP**



LOGIC

On **OVH servers**



DATA

On **Google Cloud Platform**

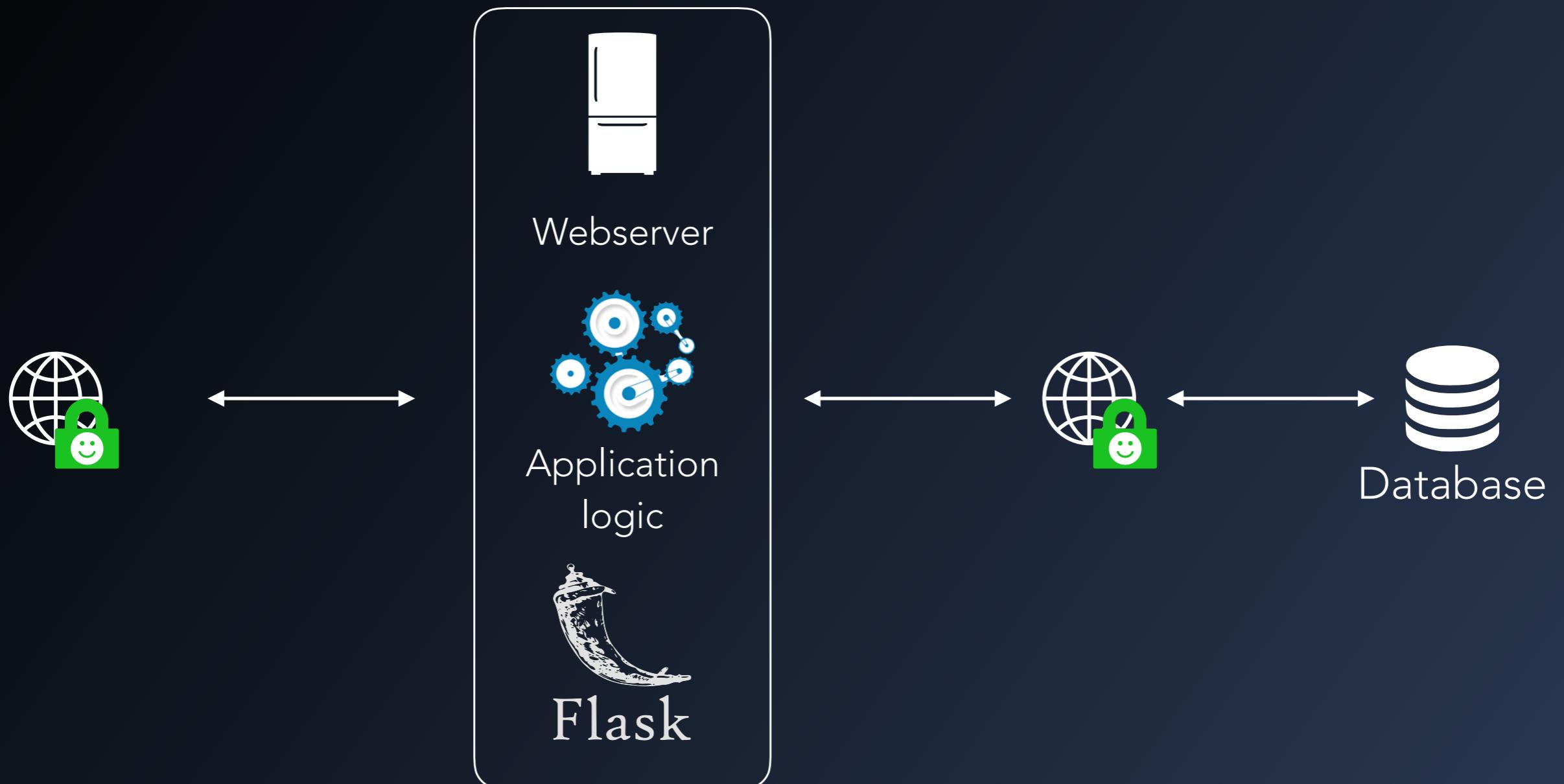


- Always accessible
- Customisable plans

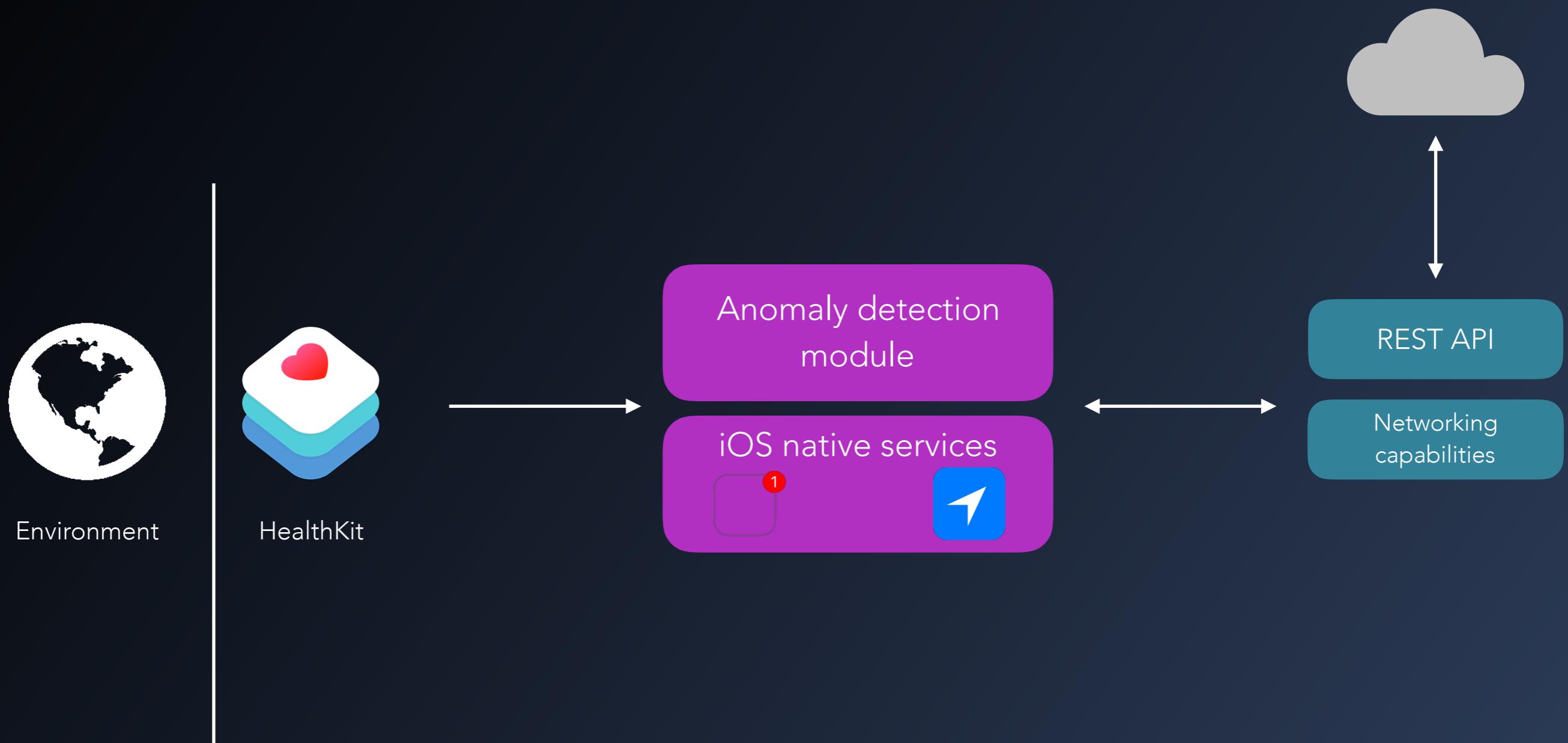
- Availability of low budget plans
- Availability of Europe located facilities

- 24/7 available
- Customisable plans

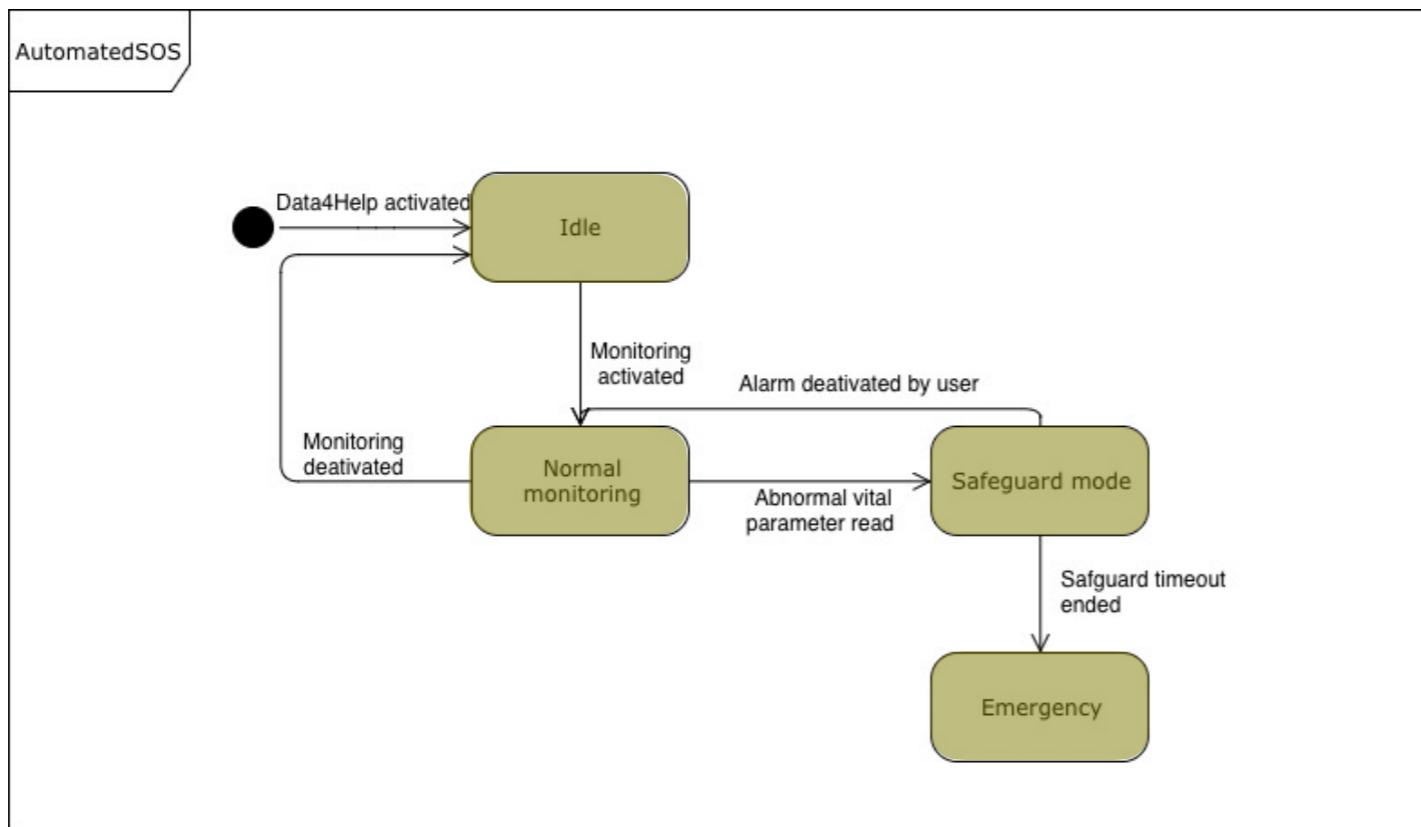
SERVER SIDE - LOGIC & DATA LAYERS



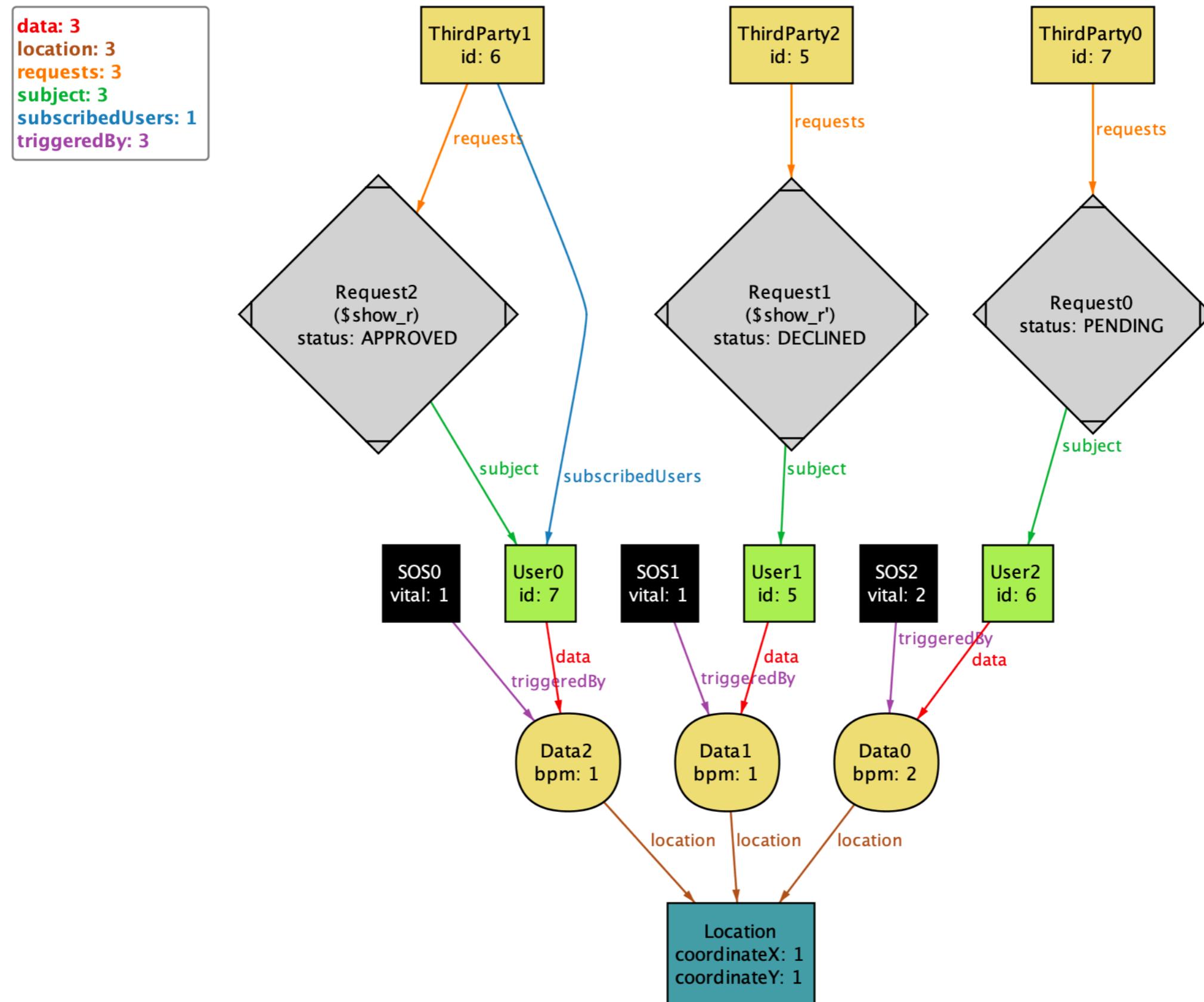
CLIENT SIDE - PRESENTATION LAYER



FOCUS: ANOMALY DETECTION MODULE



ALLOY MODEL AS GUIDELINE



DEMO

THANKS FOR THE ATTENTION!

Stefano Martina
845696
stefano.martina@mail.polimi.it

Alessandro Nichelini
919880
alessandro.nichelini@mail.polimi.it

Francesco Peressini
843323
francesco.peressini@mail.polimi.it