POLITECNICO
MILANO 1863

TrackMe project - Argiro' Anna Sofia,
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Design Document

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Title:	Design Document
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Download page:	https://github.com/BernardoCasasole/ArgiroBattagliaCasasole.git

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1.1 Purpose

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1.3 Definitions

- *User*: a person, third-party or user, that has registered;
- *Individual User*: every registered person from whom the system collects data;
- *Third-Party User*:every entity registered with the purpose to request data for external use;
- *Live Data*: the data on a IU produced in real time.
- *Stored Data*: the data on a IU collected so far.
- *Data Request*: a request for data made from a TPU.
- *Stored Data Request*: a data request for stored data.
- *Subscription Request*: a request for subscribing to newly generated data.

1.4 Acronyms

- API: Application Programming Interface
- TPU: Third-party User
- D4H: Data4Help
- ASOS: AutomatedSOS
- T4R: Track4Run

1.5 Abbreviations

- Ab: abbrevation

1.6 Revision history

- **v0.1 - 27/11/18** Document created
- **v0.2 - 30/11/18** Component view

1.7 Document Structure

Introduction

Architectural Design

User Interface Design

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Implementation, Integration and Test plan

Effort Spent

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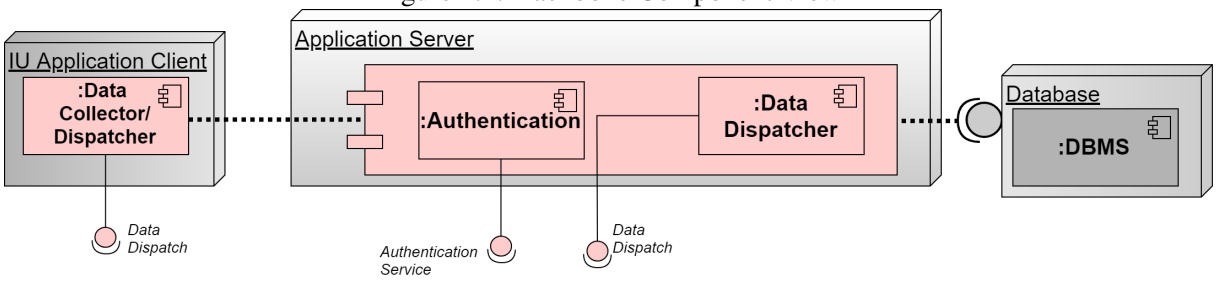
2. Architectural Design

2.1 Overview

2.2 Component view

2.2.1 Backbone

Figure 2.1: Backbone Component View



This is the backbone of the system: collects the data on the device, keep it syncronized though the system and provide functionality to receive Live Data and to access to Stored Data; furthermore provide functionality concernig authentication.

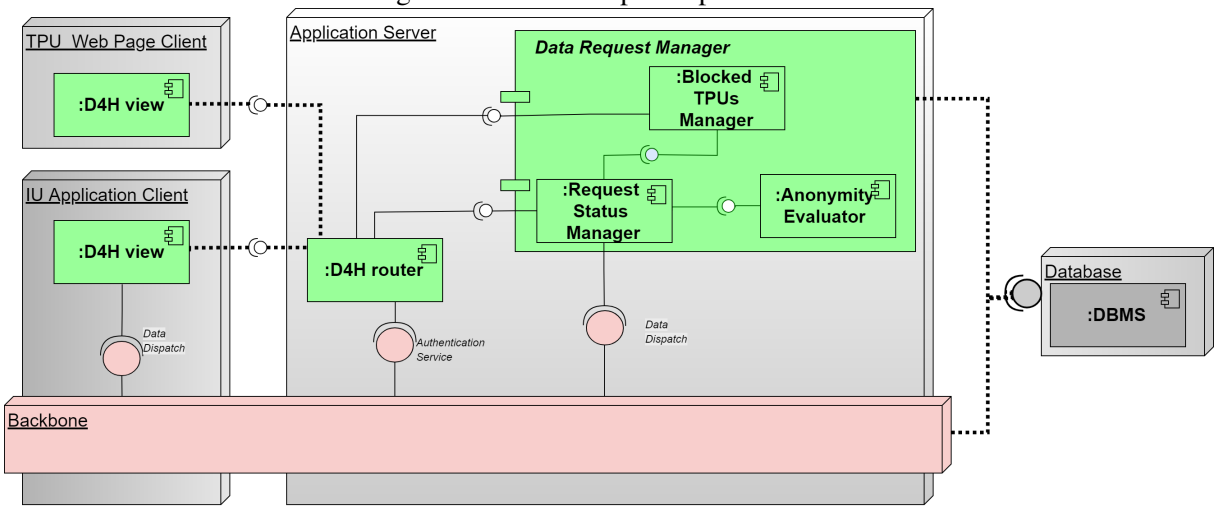
Data collector/dispatcher Allow subscribtion and publishes/dispatches the collected Live Data.

Autenthication Offers services related to User authentication.

Data Dispatcher Allow subscribtion and publishes/dispatches the collected Live Data. Offers the functionality to access Stored Data.

2.2.2 Data4Help

Figure 2.2: Data4Help Component View

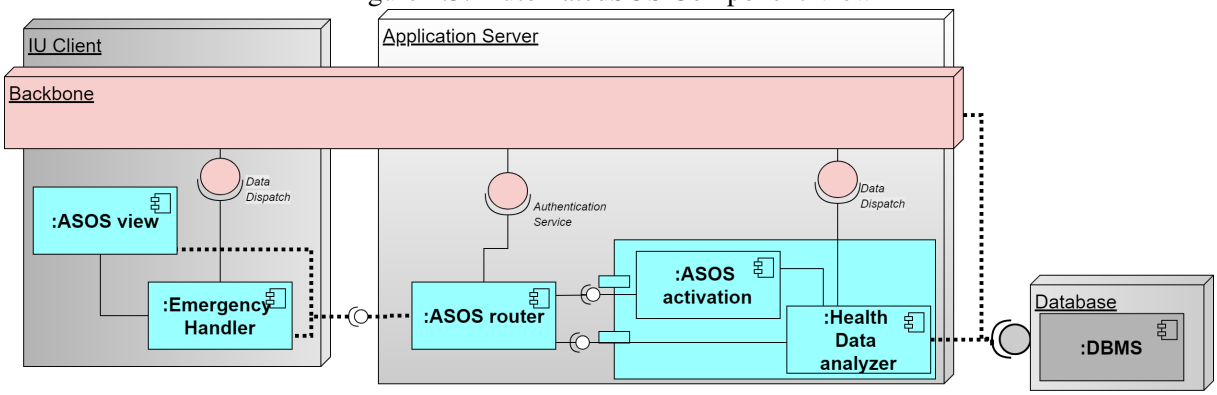


D4H router Validate the requests received from the client and dispatch them to the corresponding module or component.

Data Request Manager Provides functionality to create, approve, deny requests, block users and provide the relative data; Anonymity Evaluator is responsible to check anonymity constraints.

2.2.3 AutomatedSOS

Figure 2.3: AutomatedSOS Component View



ASOS router Validate the requests received from the client and dispatch them to the corresponding module or component.

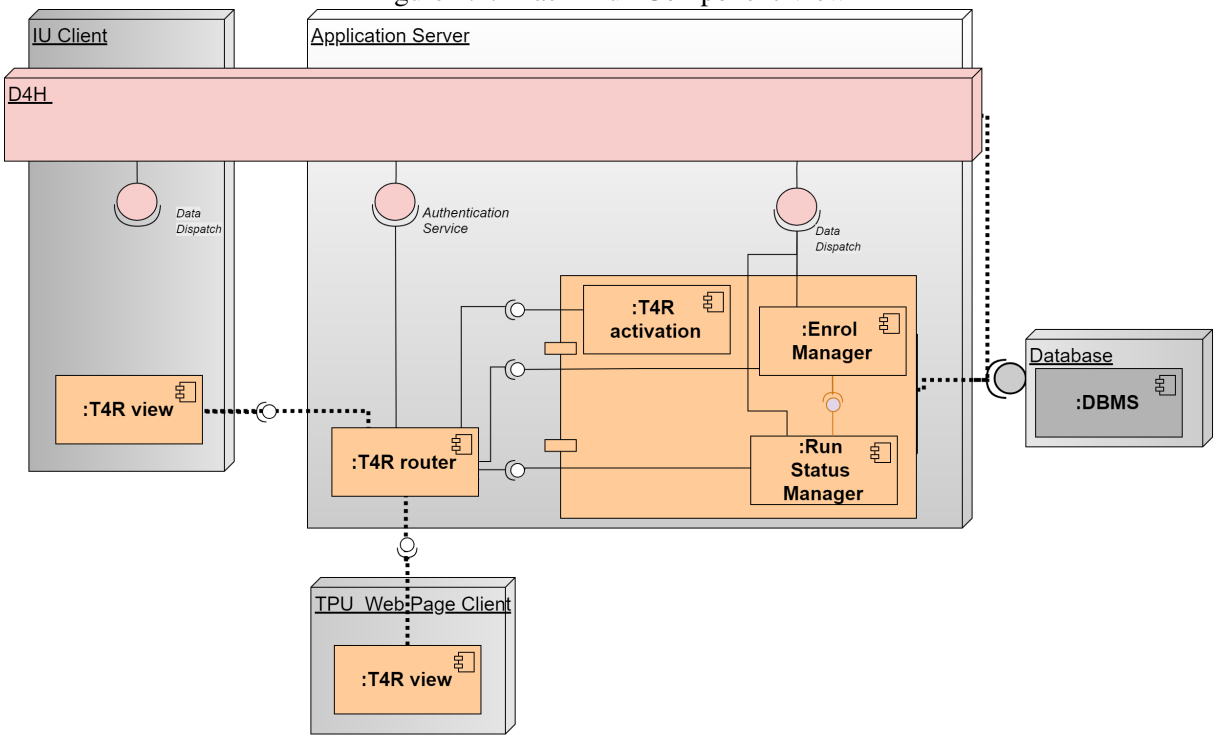
ASOS Activation Offers the functionality for the activation and deactivation of the ASOS service.

Health Data analyzer Offers functionality to extrapolate the critical health parameters for every Individual User;

Emergency Handler Responsible to handle critical health conditions based on the data published by the *Data collector/dispatcher*

2.2.4 Track4Run

Figure 2.4: Track4Run Component View



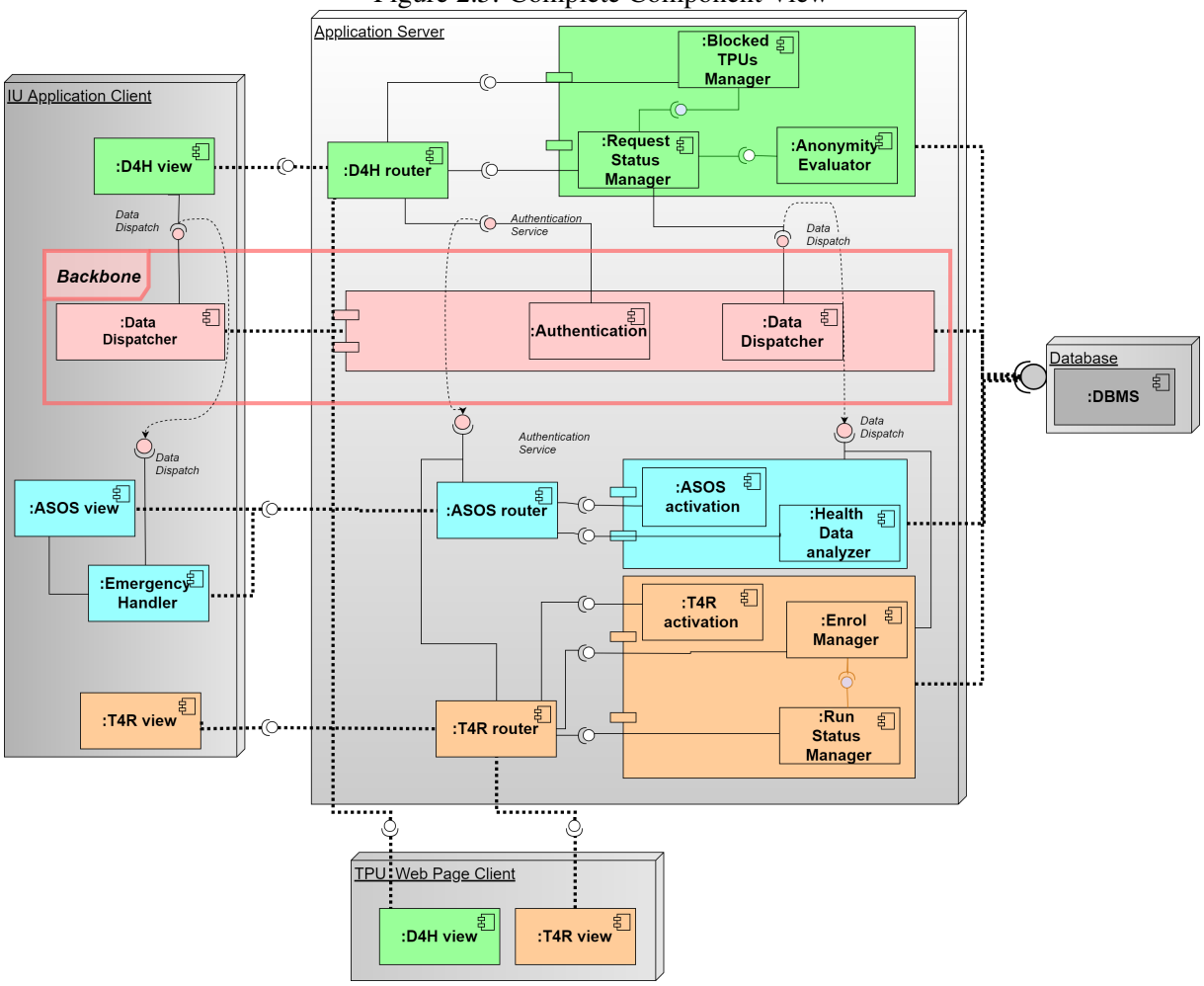
T4R router Validate the requests received from the client and dispatch them to the corresponding module or component.

T4R Activation Offers the functionality for the activation and deactivation of the T4R service.

Run Manager Provides functionality to create, cancel, enrol in and spectate runs;.

2.2.5 Full system

Figure 2.5: Complete Component View



Data Managing From a more high level point of view, the backbone provides services to retrive the Individual Users data, stored or live.
This makes the red components and modules of the architecture the backbone, collecting and dispatching data, while the other subsystems can handle their unique authorization condition: D4H authorizing data dispatching based on approved requests, ASOS on the activation of the service and T4R on the enrollement in competitions.
This way all subsystem will work independently from each other.

2.3 Deployment view

2.4 Runtime view

2.5 Component interfaces

2.6 Selected architectural styles and patterns

2.7 Other design decisions

3. User Interface Design

4. Requirements Traceability

5. Implementation, Integration and Test plan

6. Effort Spent

6.1 ARGIRO' ANNA SOFIA

DATE	DESCRIPTION OF THE TASK	HOURS SPENT
27/11/18	group work	3

6.2 BATTAGLIA GABRIELE

DATE	DESCRIPTION OF THE TASK	HOURS SPENT
27/11/18	group work	3
30/11/18	component view	4

6.3 CASASOLE BERNARDO

DATE	DESCRIPTION OF THE TASK	HOURS SPENT
27/11/18	group work	3

7. References

7.1 Reference Documents

7.2 Software

- TeXWorks v0.6.2
- Umlet v14.2
- Draw.io v9.4.1
- proto.io v6.3.2.3