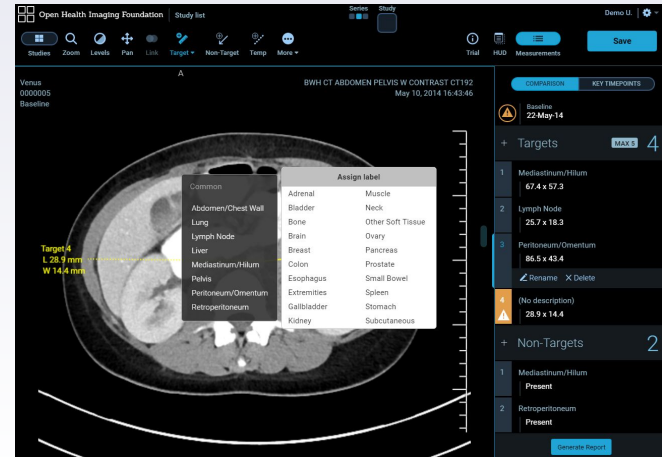


# MI4WEB

## Elaboration phase

Projeto em Informática - Group 7  
LEI / Universidade de Aveiro  
2021/2022



# Team Roles



## Architect

**André Freixo**

Nº mec 98495



## DevOps Master

**Daniel Figueiredo**

Nº mec 98498



## Team Manager

**Eva Bartolomeu**

Nº mec 98513



## Product Owner

**Marta Fradique**

Nº mec 98469



## Architect

**Pedro Sobral**

Nº mec 98491

# Website

<https://thescorpai.github.io/>



# Requirements gathering

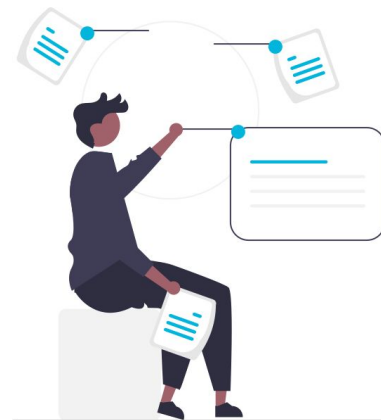
- ▶ Read documentation about medical images.
- ▶ Brainstorming.
- ▶ Research about the state of art in this area.
- ▶ Discussion with coordinators.
- ▶ Decide the system boundaries.
- ▶ OHIF, ORTHANC, DICOM, DICOMWeb.



# Context

Technologies are important to govern the heavy dataflows. In this project we are going to:

- ▶ Create a Web platform to visualize medical image studies;
- ▶ Develop extensions to add functionalities to visualize and process medical images.



# State-of-Art

- ▶ OHIF
- ▶ DICOOGLE
- ▶ ORTHANC

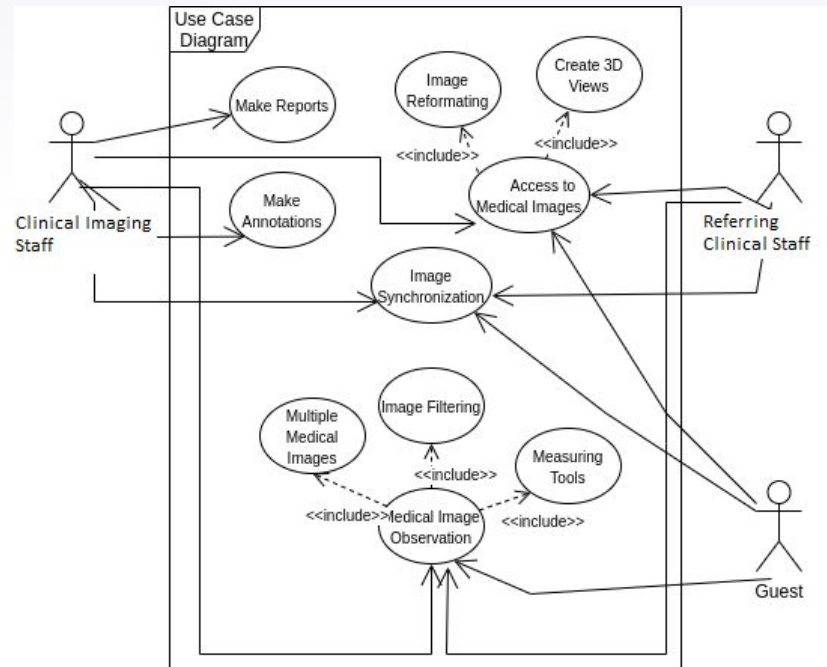
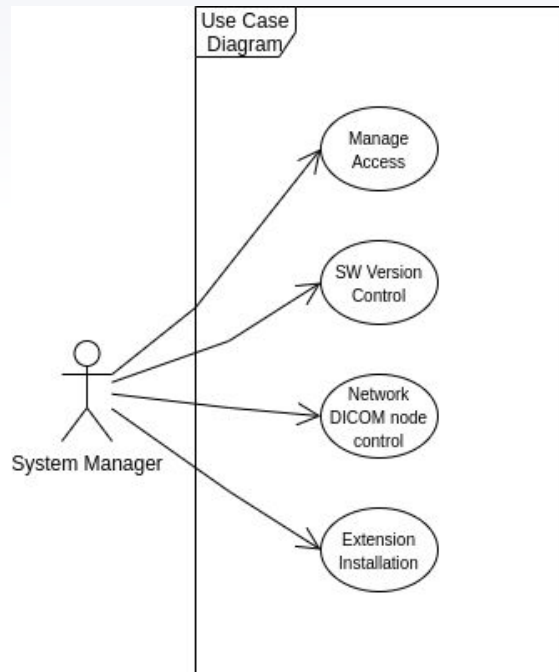


# ▶ Actors

- ▶ Clinical Imaging Staff
- ▶ Referring Clinical Staff
- ▶ Guest
- ▶ System Manager



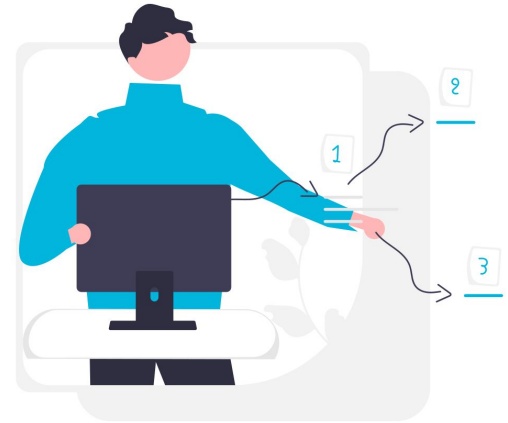
# Use Cases





# Functional Requirements

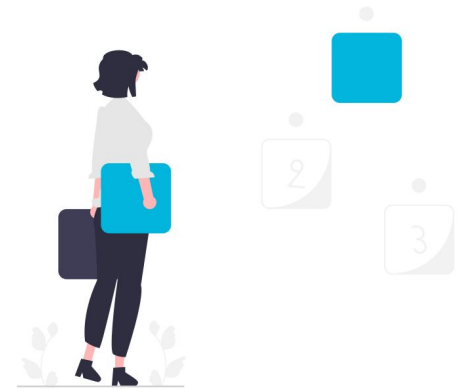
1. Business Rules
2. Administrative functions
3. Authentication



# Functional Requirements

## 6. Regulatory Requirements

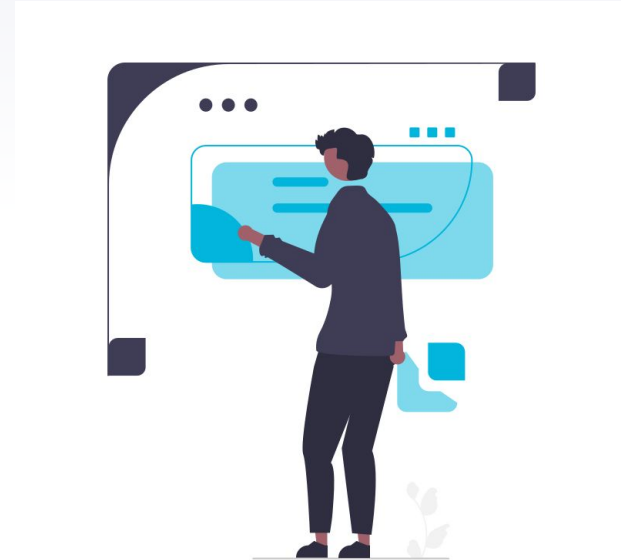
- ▶ Requests to the ORTHANC server through the DICOMWeb API.
- ▶ DICOM image import and export.
- ▶ All the images that are retrieved from the server can be accessed through the application.



# Functional Requirements

## 6. Regulatory Requirements

- ▶ Off the shelf plugins to be readily integrated.
- ▶ Admin interface.
- ▶ Clinical Staff 1 should be able to edit, make annotations and store those images.
- ▶ Multiplanar Reformation (MPR) and 3D visualization: Volume Rendering, Surface Shading, Maximum Intensity Projection (MIP).



# ► Non-Functional Requirements

High priority requirements:

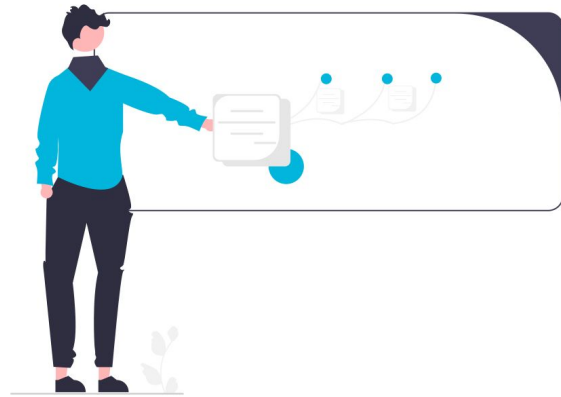
- ▶ Usability
- ▶ Reliability
- ▶ Security
- ▶ Interoperability
- ▶ Availability
- ▶ Performance



# ► Non-Functional Requirements

Medium priority requirements:

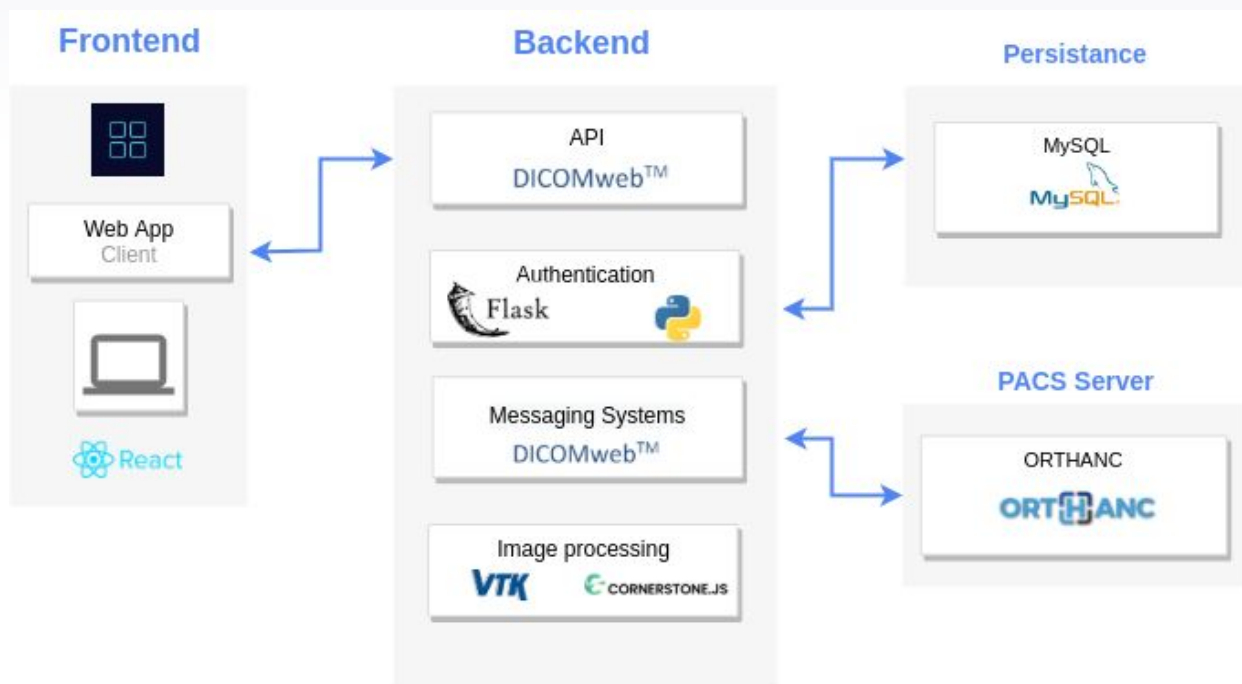
- Scalability
- Portability
- Maintainability



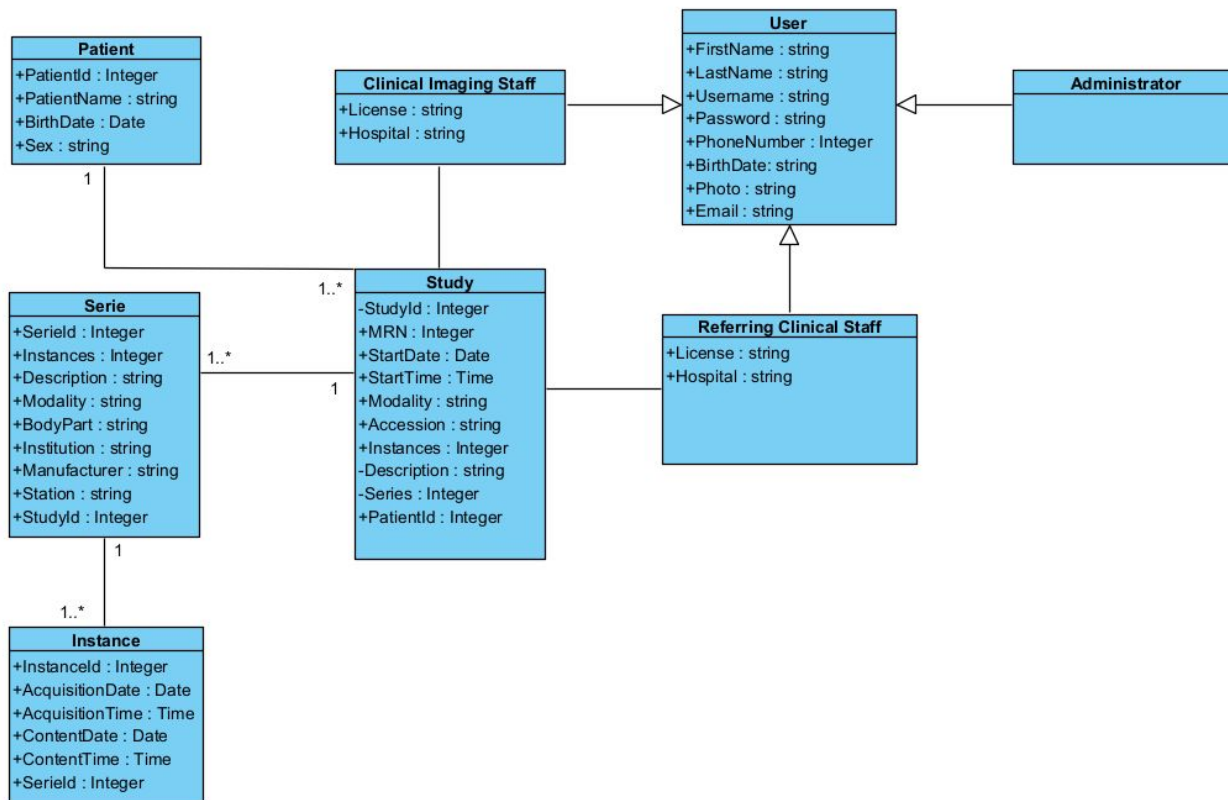
# ► Assumptions and dependencies

- ▶ Minimal Knowledge about medical image modalities (e.g.: CT, MR, PERT)
- ▶ Internet connection
- ▶ The system must run on any operating system and in any browser

# System Architecture

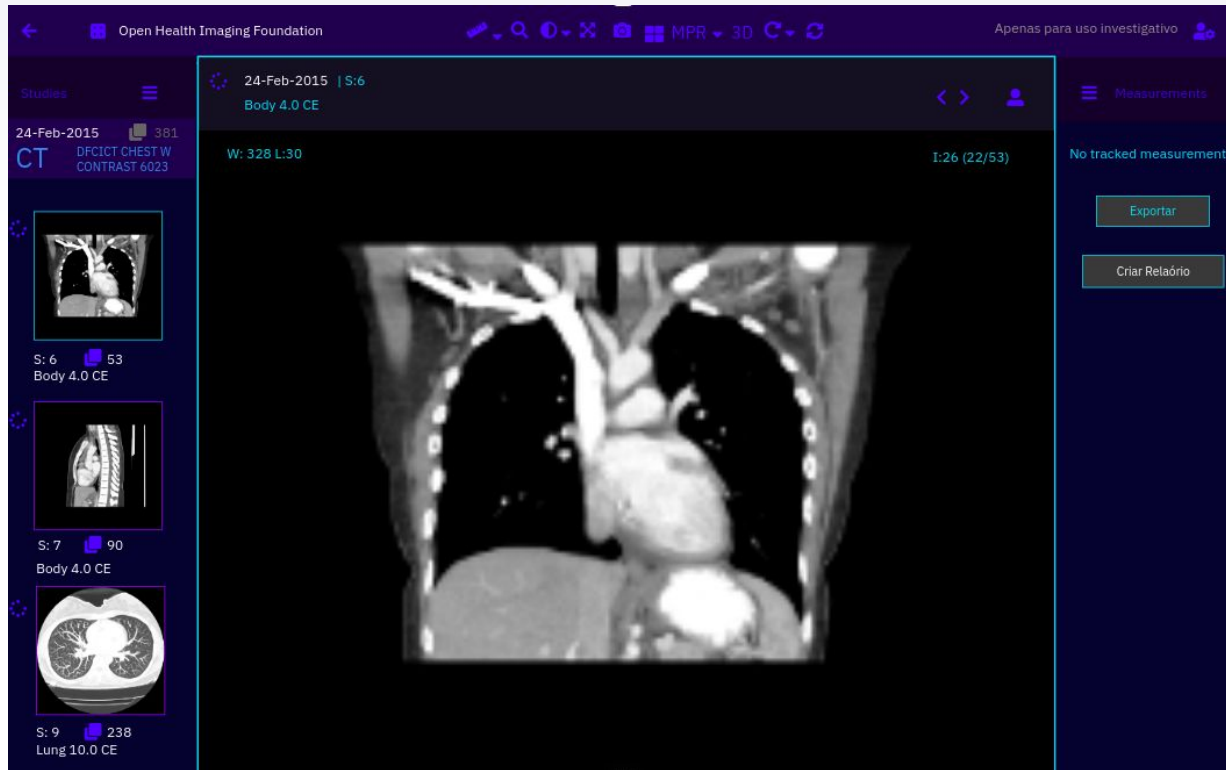


# Domain Model





# Design mock-ups



Open Health Imaging Foundation

MPR 3D

Apenas para uso investigativo

Studies

24-Feb-2015 381

CT DFCICT CHEST W CONTRAST 6023

S: 6 53  
Body 4.0 CE

A

S: 7 90  
Body 4.0 CE

B

S: 9 238  
Lung 10.0 CE

A 24-Feb-2015 | S:6  
Body 4.0 CE

W: 328 L:30 Coronal View I:26 (22/53)

B 24-Feb-2015 | S:7  
Body 4.0 CE

W: 328 L:30 Sagittal View I:26 (22/53)

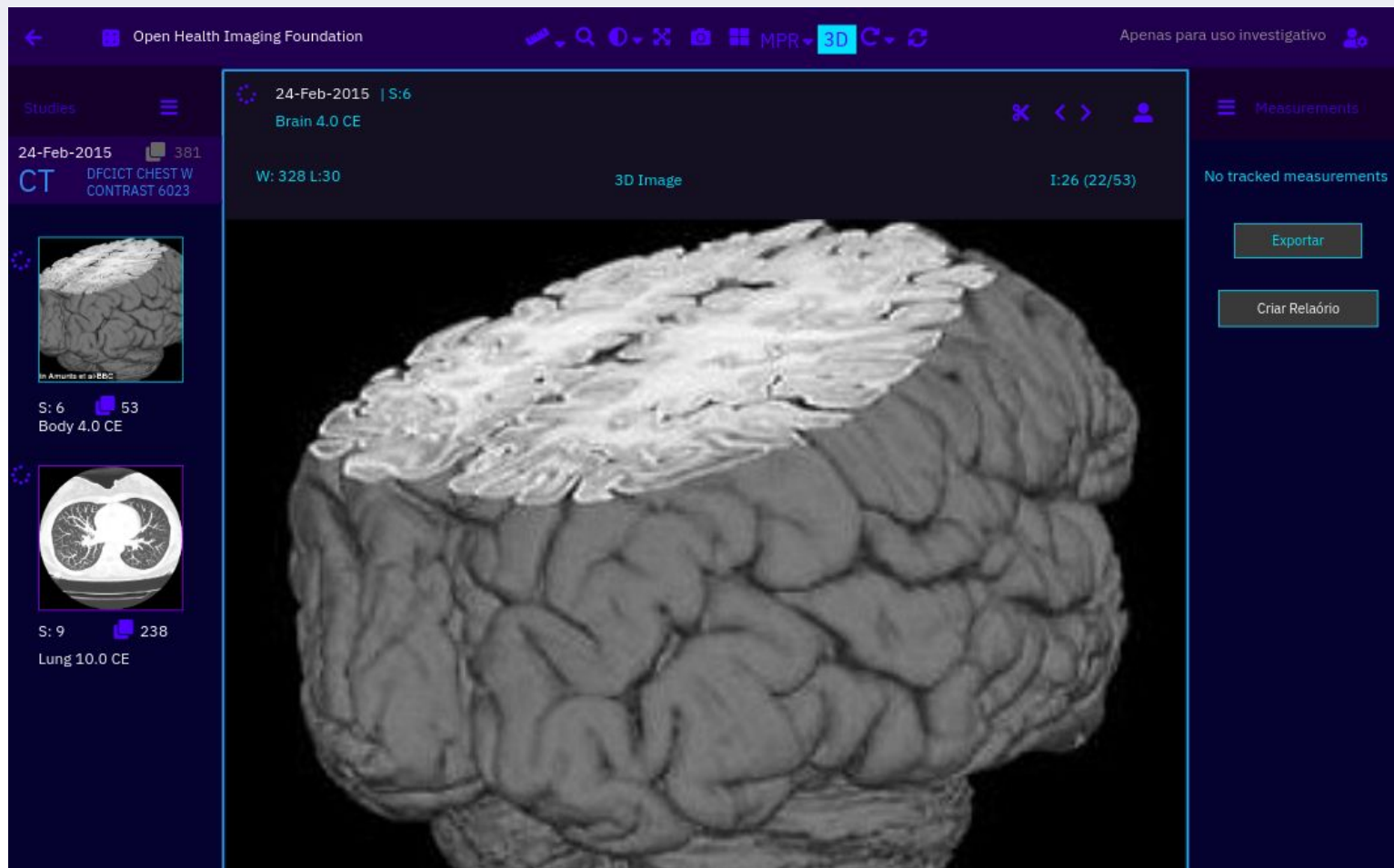
Axial  
Coronal  
Sagittal

Measurements

No tracked measurements

Exportar

Criar Relatório



System Manager Dashboard

Dashboard

Manage Access

SW Versions

DICOM nodes

Extensions Installation

### Manage Access

Request Accounts Current Accounts

Virgílio Mendonça

Hospital: Hospital da Luz

Num Licença: 23546753567

Email: virgilio@io.p

Accept Decline

Pedro Proença

Pedro Silveira

André Luisa

Vera Silva

Ana de CT Sobral

Diana Freixo

Evangelina Rosália

Page 1 Previous Next

System Manager Dashboard

Dashboard

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### Manage Access

Request Accounts Current Accounts

Virgílio Mendonça

Hospital: Hospital da Luz

Num Licença: 23546753567

Email: virgilio@io.p

Eliminate

Activate

Deactivate

Pedro Proença

Pedro Silveira

André Luisa

Vera Silva

Ana de CT Sobral

Diana Freixo

Evangelina Rosália

Page 1 Previous Next

Dashboard



Manage Access



SW Versions




DICOM nodes



Extensions  
Installation



## DICOM nodes

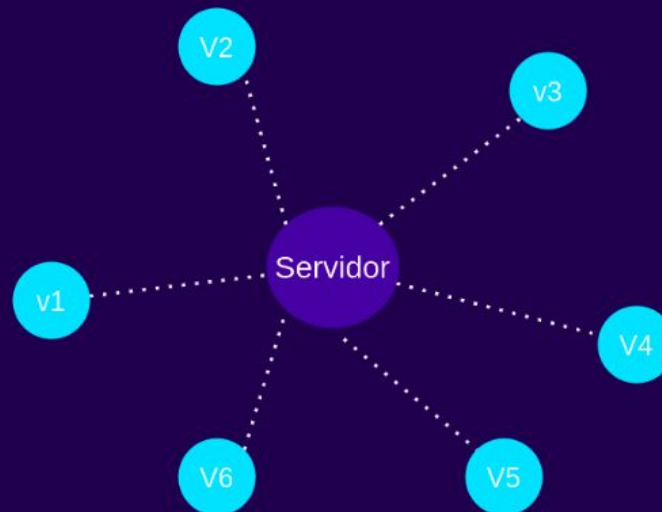
Description: cute node 

AE title: nodezinho

Hostname: hostinho

Port: 11111

Usage type: Storage



# THANKS!

## Any questions?

